

## EPSP 2002 Meeting Minutes

### Meeting Introduction

Meeting was called to order by Barry Katz, EPSP Chair, at 08:30 at IODP at Texas A&M University, College Station Texas.

Mitch Malone, host, presented a safety moment and meeting logistics.

Self-introductions were conducted.

Panel Members present - Earl Doyle, Brandon Dugan, Lisa Hawkins, Martin Hovland, Barry Katz (Chair), Philippe Lapointe, Jacek Lupa, Ingo Pecher (remote) Donald Potts, Craig Shipp, Dieter Strack.

Guests and Liaisons - Peter Blum, Calvin Campbell, Laurel Childress, Dru Clark, Brad Clement, Sean Gulick, Tobias Hofig, Christian Huebscher, Paul Knutz, Leah Levay, Mitch Malone, Tim McHargue, Stephen Midgley, Greg Mountain (remote), Katerina Petronotis, Sverre Planke, Jonas Preine, Brittany Stockmaster, Lori Summa, Estella Weigelt, Alan Yang, and Carlos Alvarez Zarikian.

Minutes from the September meeting were corrected and approved. A needed revision to the May 2017 EPSP minutes was also identified. Requests for the corrections has been forward to the Science Office.

The preliminary meeting agenda was modified to accommodate proponents scheduling needs.

### Proposals Reviewed

IODP ID	Short Title	Submitted	Summary Result
851-SRR2	Cenozoic Western North Atlantic Transect	2020-01-28 15:01:11	Reviewed; no changes
944-SRR2	Mid-Norwegian Continental Margin Magmatism	2020-02-02 05:08:42	Reviewed; changes requested
890-SRR2	Walvis Ridge Hotspot	2020-02-03 10:53:50	Reviewed; no changes
909-SRR2	NW Greenland Glaciated Margin	2020-02-01 08:07:19	Reviewed; no changes
708-SRR2	Central Arctic Paleooceanography	2020-01-20 09:01:13	Reviewed; changes requested
932-SRR	Hellenic Arc Volcanic Field	2020-01-24 14:43:08	Reviewed; changes requested
834-SRR2	Agulhas Transkei Transect	2020-02-10 15:40:40	Reviewed; changes requested

### Summary Remarks

\* Mitch Malone provided an update of JRSO activities of relevance to EPSP. He reported on results from Expedition 383 (Dynamics of Pacific Antarctic Circumpolar Current). He noted that drilling was reduced as a result of weather in the region and that the ship's transit deviated significantly from that originally planned. He reported on Expedition 379T the first JR100 expedition. This work examined the sensitivity of the Patagonia icefield to regional and global climate. This expedition was carried out outside of IODP and hence the panel did not review the program. Expedition 385T attempted to remove the CORK infrastructure from Holes 504B and 896A. Packers could not be removed and no downhole measurements were made. Expedition 385 (Guaymas Basin) drilled into organic-rich sediments impacted by a series of igneous sills. Elevated levels of methane were observed in the sills compared to the organic-rich sediments. Hole U1545A was terminated because of the presence of elevated heavy (C2+) hydrocarbons. Issues were identified with the JR's derrick limiting the total drill-string to less than 2000m (34 members of the derrick needed to be strengthened to permit full operation.) This limited Expedition 378 (South Pacific Paleogene Climate) to a single site. Although total gas concentrations were low at this site C2+ hydrocarbons were detected resulting in its termination.

\* The panel has continued its discussion on the suitability of the presentations made to EPSP and the resulting issues that are raised during the review. Craig Shipp will review the current guidelines and make any necessary revisions. The panel has also requested that the current check list used when the safety presentation is uploaded be included along with the guidelines when they are scheduled to attend the EPSP meeting. The panel has recommended that the safety presentation used for Proposal 708 be used as the example for future submissions. Estella Weigelt has approved this request.

\* The panel has recommended that the panel formally meet twice per year - February and September. The February meeting will be reserved for previews and carryover from the September meeting. The September meeting will be for formal reviews. The agenda for the February meeting will be finalized at the January SPE meeting. The agenda for the September meeting will be finalized following the JRFB and June SEP meeting.

\* The next meeting is tentatively scheduled for September 1-2, 2020 at IODP in College Station, TX.

\* The meeting was adjourned at 13:45 on February 19th.

## EPSP Proposal Summary

## Proposal Review

Greg Mountain presented an addendum to the approved drill sites. A brief reminder was presented on the goals of the proposed drilling plan: 1- evaluate the role of the western North Atlantic ocean in global climate change through the drilling of a north-south transect; 2 - recover continuous Milankovitch-cycle records of surface, thermocline and deep water flow during the Eocene through the Miocene; and 3- document the history of north-south heat exchange due to North Atlantic circulation and evaluate its impact on atmospheric CO<sub>2</sub> and the intensity of glaciation. A site-by-site review of only the proposed modifications was presented.

## Proposed Sites

Site Name	Position (Lat, Lon)	Water Depth (m)	Requested Drilling Depth (m)	Approved Depth (m)	EPSP Decision	Remarks
LABS-01A (Primary)	53.3313 -45.2620	3862	450	450	Approved	Redrill of Site 647 (shallower penetration). Wash down to 150 mbsf of hole B is approved.
WNAT-13A (Alternate)	33.8303 -49.2403	4809	625	625	Approved	If required, drilling can be extended to confirm basement.
WNAT-21A (Alternate)	38.1979 -38.3940	3705	540	540	Approved	If required, drilling can be extended to confirm basement.
WNAT-22A (Alternate)	38.1913 -38.3943	3705	540	540	Approved	If required, drilling can be extended to confirm basement.
WNAT-62A (Alternate)	53.2815 -41.4757	3356	450	800	Approved	

## Additional Remarks (optional)

## EPSP Proposal Summary

## Proposal Review

Sverre Planke returned to EPSP to follow-up on three sites that were deferred at the September 2019 meeting and to clarify the ribbon at VMVM-56A.

## Proposed Sites

Site Name	Position (Lat, Lon)	Water Depth (m)	Requested Drilling Depth (m)	Approved Depth (m)	EPSP Decision	Remarks
VMVM-40A (Primary)	65.3584 003.0528	1696	200		Declined	Repositioned to AMN17-PRCMIG-Inline_3992 // AMN17-PRCMIG-Xline_1565.
VMVM-41A (Alternate)	65.3762 003.0632	1686	200	200	Approved	
VMVM-42A (Alternate)	65.4086 003.0735	1695	200	300	Approved (to revised depth)	Deepened from the proposed request. Appears better imaged than 41 and less problematic than 40.
VMVM-55B (Alternate)	65.8316 002.0289	2186	200	800	Approved (to revised depth)	Depth reconsidered at this location.
VMVM-56A (Alternate)	65.8303 001.9928	2220	200	200	Approved	Start and end latitudes and longitudes are required. Drilling approved between CDPs / shot points 15300 (latitude, longitude) and 15460 (latitude, longitude), along seismic line CFI_MNR07-7319.

## New Sites

Site Name	Position (Lat, Lon)	Water Depth (m)	Requested Drilling Depth (m)	Approved Depth (m)	EPSP Decision	Remarks
VMVM-40B (Primary)	65.3602 3.0538	1696	200	200	Approved (to revised location)	Positioned at AMN17-PRCMIG-Inline_3992 // AMN17-PRCMIG-Xline_1565.

## EPSP Proposal Summary

### Additional Remarks (optional)

An addendum has been filed as a result of the new site VMVM-040B and the conversion of VMVM56 to ribbon. VMVM-55B from the September meeting was included in the addendum.

## EPSP Proposal Summary

## Proposal Review

Wil Sager presented 14 proposed additional sites to the panel. These sites were the result of newly acquired seismic data and would supplement those that were originally presented to the panel. The original review was held in September 2018. Prior sites were not reconsidered.

## Proposed Sites

Site Name	Position (Lat, Lon)	Water Depth (m)	Requested Drilling Depth (m)	Approved Depth (m)	EPSP Decision	Remarks
CT-01B (Alternate)	-32.4912 -0.1419	1934	586	613	Approved	
CT-05A (Alternate)	-32.328059 -0.643115	3795	267	550	Approved (to revised depth)	Panel extended depth into basement.
CT-06A (Alternate)	-32.418908 -0.579560	2757	297	550	Approved (to revised depth)	Panel extended depth into basement.
TT-03A (Alternate)	-30.368460 1.0855190	1871	235	550	Approved (to revised depth)	Panel extended depth into basement.
TT-04A (Alternate)	-30.166925 1.177510	3454	252	550	Approved (to revised depth)	Panel extended depth into basement.
TT-05A (Alternate)	-30.606835 0.976147	2832	244	550	Approved (to revised depth)	Panel extended depth into basement.
VB-07A (Alternate)	-26.295785 4.973920	1887	408	650	Approved (to revised depth)	Panel extended depth into basement.
VB-08A (Alternate)	-26.269156 4.958304	2066	371	650	Approved (to revised depth)	Panel extended depth into basement.
VB-09A (Alternate)	-26.194484 5.108462	2143	384	650	Approved (to revised depth)	Panel extended depth into basement.
VB-10A (Alternate)	-26.007816 4.812774	2886	502	750	Approved (to revised depth)	Panel extended depth into basement.

## EPSP Proposal Summary

## Proposed Sites - Continued

Site Name	Position (Lat, Lon)	Water Depth (m)	Requested Drilling Depth (m)	Approved Depth (m)	EPSP Decision	Remarks
VB-11A (Alternate)	-26.125066 4.998272	2607	280	550	Approved (to revised depth)	Panel extended depth into basement.
VB-12A (Alternate)	-25.43308 6.95619	3656	393	650	Approved (to revised depth)	Panel extended depth into basement.
VB-13A (Alternate)	-25.202772 7.496033	3943	233	500	Approved (to revised depth)	Panel extended depth into basement.
VB-14A (Alternate)	-24.595881 5.121919	3035	410	650	Approved (to revised depth)	Panel extended depth into basement.
VB-15A (Alternate)	-23.82739 5.57044	1995	447	700	Approved (to revised depth)	Panel extended depth into basement.

Additional Remarks (optional)

## EPSP Proposal Summary

## Proposal Review

Paul Knutz, and Calvin Campbell co-presented the proposal, which was reviewed in 2018. The drilling was planned to answer a series of questions concerning the Greenland ice sheet. 1-When did glaciation initiate. 2- When did the ice sheet expand on to the margins? 3-What were the controlling factors? 4-What was the dynamic behavior of the ice sheet across the mid-Pleistocene? 5- What has been the interaction between the ice sheet and oceanic circulation? 6- What are the differences in expansion histories between the eastern and margins. 7-How has the ice sheet behaved during previous warm periods. To answer these questions regional glaciation chronologies are needed that can only be obtained through drilling. Current drilling plan is to drill a transect in Melville Bay. It is believed that sedimentary process can be linked to circulation and ice sheet dynamics. The proponents provided an explanation of the velocity structure utilized to estimate depths. They also addressed potential issues to be addressed during the EPSP review: potential hydrocarbons; drilling in glacial sediments; presence of icebergs, and biologic communities.

## Proposed Sites

Site Name	Position (Lat, Lon)	Water Depth (m)	Requested Drilling Depth (m)	Approved Depth (m)	EPSP Decision	Remarks
MB-01C (Alternate)	73.0001 -63.0065	1809	473	473	Approved	
MB-02C (Primary)	73.1150 -63.7904	1957	522	522	Approved	Panel wishes to acknowledge the dramatic change in seismic character below 3100ms (410 m) representing a change in lithology which may impact drilling leading to a stuck drill string.
MB-03B (Alternate)	73.5032 -62.4861	498	375	375	Approved	
MB-04C (Alternate)	73.8734 -62.0528	628	305	305	Approved	
MB-05B (Alternate)	74.2116 -61.3397	704	520	520	Approved	
MB-06D (Primary)	74.1283 -60.9744	614	561	561	Approved	
MB-07B (Primary)	74.4925 -60.5832	736	978	978	Approved	
MB-08A (Alternate)	73.4870 -62.2682	497	370	370	Approved	
MB-10A (Alternate)	74.4584 -61.1792	698	1200	1288	Approved	Confirmed depth at 2200ms twt.
MB-11A (Alternate)	74.4283 -60.4086	747	1015	1200	Approved (to revised depth)	Approved site deepened.
MB-12A (Alternate)	74.4597 -60.5049	739	971	1186	Approved (to revised depth)	Confirmed depth in meters for 2175 ms twt. Site deepened.
MB-13A (Alternate)	74.2118 -61.3958	707	540	540	Approved	
MB-14A (Alternate)	74.2109 -61.2704	663	510	510	Approved	
MB-15A (Alternate)	74.1217 -60.9909	605	582	648	Approved (to revised depth)	Confirmed depth in meters for 1500 ms twt. Site deepened.

## EPSP Proposal Summary

## Proposed Sites - Continued

Site Name	Position (Lat, Lon)	Water Depth (m)	Requested Drilling Depth (m)	Approved Depth (m)	EPSP Decision	Remarks
MB-16A (Alternate)	74.5507 -60.7990	734	1089	1089	Approved	
MB-17A (Primary)	74.2323 -61.0374	655	230	411	Approved	Approved to requested revised depth (Option B).
MB-20A (Alternate)	72.9118 -63.0642	1928	464	450	Approved (to revised depth)	Shallow to 3000 ms TWT
MB-22A (Alternate)	73.1388 -63.6402	1850	611	611	Approved	
MB-23A (Primary)	72.9840 -62.9805	1821	422	422	Approved	
MB-30A (Primary)	73.9013 -61.8540	618	303	303	Approved	
MB-31A (Primary)	73.5607 -62.1512	531	282	282	Approved	

## Additional Remarks (optional)

\* Proponents are asked to provide to the operator additional information of the biologic community protected zones.

## EPSP Proposal Summary

## Proposal Review

Estella Weigelt reminded the panel of the proposal's primary objectives. The overall objective of the proposal was to investigate the Arctic Ocean's rapid and dramatic environmental changes and the associated feedbacks. Detailed objectives are to establish: 1- the history of the Arctic ice sheets, sea ice, and global climate; 2- the history of Arctic circulation; 3- the history of Arctic river discharge; 4- a high resolution Pliocene record; and 5- the hiatus history. The aim is to obtain higher resolution records than ACEX, without a hiatus. It was noted that the age model is problematic, with the nearest control being about 1000 km from the transect position. A discussion on deeping error based on velocity uncertainty was held. Issues associated with sea-ice conditions, deviations in water depths, and strong bubble artifacts were also discussed. The panel was asked to review data from four proposed sites.

## Proposed Sites

Site Name	Position (Lat, Lon)	Water Depth (m)	Requested Drilling Depth (m)	Approved Depth (m)	EPSP Decision	Remarks
LR-04B (Alternate)	81.3544 141.2930	890	1020		Declined	AWI-20140298 CDP5230 2.1twt time
LR-05B (Alternate)	81.3256 141.4248	906	1050	1050	Approved	
LR-10A (Primary)	81.4810 140.5997	878	50		Declined	AWI-20180310 CDP 700 50 meters
LR-11B (Primary)	81.4365 140.8405	794	900	900	Approved	

## New Sites

Site Name	Position (Lat, Lon)	Water Depth (m)	Requested Drilling Depth (m)	Approved Depth (m)	EPSP Decision	Remarks
LR-10B (Primary)	81.4836 140.585	878	50	50	Approved (to revised location)	Located by EPSP to AWI-20180310 CDP 700 to a depth of 50 meters
LR-04C (Alternate)	81.3531 141.2484	890	1020	930	Approved (to revised location)	Located by EPSP at AWI-20140298 CDP5230 to a depth equivalent to 2.1 twt time

## Additional Remarks (optional)

An addendum has been filed to complete LR-10B (positioned at AWI-20180310, CDP 700 to 50 meters) and LR-04C (positioned at AWI-20140298, CDP5230 to the depth corresponding to 2.1 sec TWT time).

## EPSP Proposal Summary

## Proposal Review

Christian Hubscher presented the proposal to the panel. The planned drilling was aimed at: 1- reconstructing the volcanic history in an active rift environment; 2- reconstructing the subsidence and tectonic histories and the relationship between volcanism and major tectonic events; 3- reconstructing magma petrogenesis in the CSK volcanic field; 4- obtaining a more complete understanding of the products inside and outside of the caldera and potential impact during the Late Bronze age; 5- studying the histories, dynamics and hazards of the Kameni and Kolumbo submarine volcanoes; 6-examining the transition from continental to marine environments in the southern Aegean; and 7 the reaction of biological systems to volcanic eruptions and seawater acidification. A site-by-site review followed.

## Proposed Sites

Site Name	Position (Lat, Lon)	Water Depth (m)	Requested Drilling Depth (m)	Approved Depth (m)	EPSP Decision	Remarks
CSK-01A (Primary)	36.7293 25.6482	489	765	765	Approved	Approval to confirm basement.
CSK-02A (Alternate)	36.7438 25.7146	488	447	533	Approved	Approved to confirm basement.
CSK-03A (Primary)	36.5549 25.4398	397	566	566	Approved	
CSK-04A (Alternate)	36.5728 25.4092	402	545		Declined	Relocated to Line HH06-44 CDP1670 to a depth of 1150ms twt.
CSK-05B (Primary)	36.4356 25.3806	385	360		Declined	Relocated to Line GEOMAR_P1006 CDP 20245 to a depth of 750ms.
CSK-06B (Alternate)	36.4423 25.3752	383	360	360	Approved	
CSK-07B (Primary)	36.38895 25.41713	292	360	360	Approved	
CSK-08B (Alternate)	36.38161 25.40606	293	375	375	Approved	
CSK-09A (Primary)	36.5656 25.7613	694	595	595	Approved	Approved to confirm basement.
CSK-10A (Alternate)	36.5494 25.7714	672	377		Declined	Relocated to Line HH06-04 CDP 1925 to a depth of 1630ms twt. Basement confirmation is approved.
CSK-13A (Primary)	36.3243 25.1826	489	857	857	Approved	Approved to confirm basement.
CSK-14A (Alternate)	36.3049 25.1286	523	756	756	Approved	Approved to confirm basement.
CSK-15A (Alternate)	36.7320 25.6463	490	800	800	Approved	Approved to confirm basement.
CSK-16A (Alternate)	36.5480 25.4517	372	565	565	Approved	
CSK-17A (Alternate)	36.4339 25.3819	386	420		Declined	Potential CO2 accumulation speculated by proponents.
CSK-18A (Alternate)	36.3755 25.3942	291	380	380	Approved	

## EPSP Proposal Summary

## Proposed Sites - Continued

Site Name	Position (Lat, Lon)	Water Depth (m)	Requested Drilling Depth (m)	Approved Depth (m)	EPSP Decision	Remarks
CSK-19A (Alternate)	36.5563 25.7503	688	740	740	Approved	Approved to confirm basement.
CSK-20A (Alternate)	36.3127 25.1501	515	909	909	Approved	Approved to confirm basement.
CSK-21A (Alternate)	36.5068 25.5053	309	730	630	Approved (to revised depth)	Depth decreased to 1100 ms twt.

## New Sites

Site Name	Position (Lat, Lon)	Water Depth (m)	Requested Drilling Depth (m)	Approved Depth (m)	EPSP Decision	Remarks
CSK-04C (Alternate)	36.5752 25.4146	402	545	581	Approved (to revised location)	Located at Line HH06-44 CDP1670 to a depth equivalent to 1150ms twt. Proponents need to confirm latitude and longitude and drill depth.
CSK-10B (Alternate)	36.5507 25.7668	672	377	363	Approved (to revised location)	Located at line HH06-04 CDP 1790 to a depth equivalent to 1630ms twt. Proponents need to confirm latitude and longitude and drill depth. Approved to confirm basement.
CSK-05C (Primary)	36.4375 25.3789	385	234	234	Approved (to revised location)	Located at Line GEOMAR_P1006 CDP 20245 to a depth equivalent to 750ms twt. Proponents need to confirm latitude and longitude and drill depth.

## Additional Remarks (optional)

As a result of the addition of three new sites CSK-04C, CSK-05C and CSK-10B and addendum has been filed. Latitudes, longitudes and approved drilling depths need to be provided.

## EPSP Proposal Summary

## Proposal Review

Denise Kulhanek, staff scientist, requested the deepening of two sites and changing one to a ribbon. The original EPSP review was in May 2017. It was also noted that there were errors in the approved latitude/longitudes of two locations. The correct positions are for AP-08A -37.1655011S 24.7980995E and AP12A - 40.0681992S 24.5436993E

## Proposed Sites

Site Name	Position (Lat, Lon)	Water Depth (m)	Requested Drilling Depth (m)	Approved Depth (m)	EPSP Decision	Remarks
AP-09B (Primary)	-40.7859001 26.6068993	2620	540	550	Approved (to revised depth)	Changed to ribbon to permit drilling along line AWI-98015 between CDP 5750 - 5665. Drilling approved between CDPs / shot points 5750 (-40.7859001 latitude, 26.6068993 longitude) and 5665 (-40.7873993 latitude, 26.6243992 longitude), along seismic line AWI-98015.
TB-01A (Primary)	-35.6805992 29.6501999	4500	950	1100	Approved	Revised from the previously approved depth.
TB-02A (Alternate)	-35.4749985 29.6793995	4300	1050	1200	Approved	Revised from the previously approved depth.

## Additional Remarks (optional)