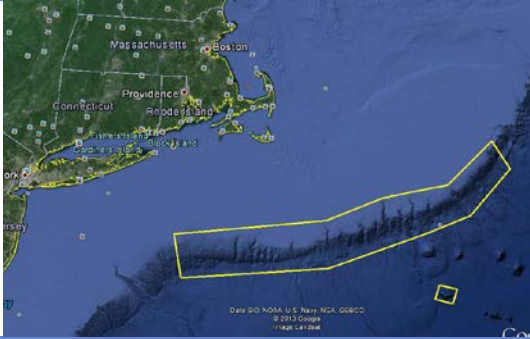


# OKEANOS EXPLORER ROV DIVE SUMMARY

<b>Site Name</b>	Block Deep			
<b>ROV Lead/Expedition Coordinator</b>	Brian Bingham/ Kelley Elliott			
<b>Science Team Leads</b>	Tim Shank (Shore) Andrea Quattrini (Ship)			
<b>General Area Descriptor</b>	Northwest Atlantic Ocean; Northeast U.S. Canyons			
<b>ROV Dive Name</b>	Cruise Season	Leg	Dive Number	
	EX1304	1	DIVE14	
<b>Equipment Deployed</b>	ROV:	Deepwater Discoverer		
	Camera Platform:	Seirios		
<b>ROV Measurements</b>	<input checked="" type="checkbox"/> CTD	<input checked="" type="checkbox"/> Depth	<input checked="" type="checkbox"/> Altitude	
	<input checked="" type="checkbox"/> Scanning Sonar	<input checked="" type="checkbox"/> USBL Position	<input checked="" type="checkbox"/> Heading	
	<input checked="" type="checkbox"/> Pitch	<input checked="" type="checkbox"/> Roll	<input checked="" type="checkbox"/> HD Camera 1	
	<input checked="" type="checkbox"/> HD Camera 2	<input checked="" type="checkbox"/> Low Res Cam 1	<input checked="" type="checkbox"/> Low Res Cam 2	
	<input checked="" type="checkbox"/> Low Res Cam 3	<input checked="" type="checkbox"/> Low Res Cam 4	<input checked="" type="checkbox"/> Low Res Cam 2	
<b>Equipment Malfunctions</b>				
<b>ROV Dive Summary (From processed ROV data)</b>	In Water at:	2013-07-22T00:17:40.686000 39°, 47.962' N ; 069°, 36.367' W		
	Out Water at:	2013-07-22T20:15:15.601000 N/A ; N/A		
	Off Bottom at:	2013-07-22T19:31:27.376000 39°, 39.784' N ; 071°, 11.776' W		
	On Bottom at:	2013-07-22T14:44:50.912000 39°, 39.939' N ; 071°, 11.798' W		
	Dive duration:	19:57:34		
	Bottom Time:	4:46:36		
	Max. depth:	2135.2 m		
<b>Special Notes</b>				
<b>Scientists Involved</b> <i>(please provide name / location / affiliation / email)</i>	<b>Primary</b>			
	Tim Shank, Woods Hole (shore-based science team lead), WHOI, <a href="mailto:tshank@whoi.edu">tshank@whoi.edu</a> Andrea Quattrini, EX (onboard science team lead), Temple, <a href="mailto:Andrea.Quattrini@temple.edu">Andrea.Quattrini@temple.edu</a> Brendan Roark, EX, TAMU, <a href="mailto:broark@geos.tamu.edu">broark@geos.tamu.edu</a> Taylor Heyl, Woods Hole, MA; WHOI, <a href="mailto:theyl@whoi.edu">theyl@whoi.edu</a> Scott France, Lafayette, LA, U. Louisiana at Lafayette, <a href="mailto:france@louisiana.edu">france@louisiana.edu</a> Bob Carney, Baton Rouge, LA; LSU, <a href="mailto:rcarne1@lsu.edu">rcarne1@lsu.edu</a> Jason Chaytor, Inner Space Center, USGS at Woods Hole, <a href="mailto:jchaytor@usgs.gov">jchaytor@usgs.gov</a> Mike Vecchione, Washington, DC; SI/NOAA, <a href="mailto:vecchionem@si.edu">vecchionem@si.edu</a> Les Watling, Darling Marine Center, Maine; U. Hawaii, <a href="mailto:watling@hawaii.edu">watling@hawaii.edu</a>			
	<b>Passive</b>			
	Cheryl Morrison, Kearneysville, WV; USGS; <a href="mailto:cmorrison@usgs.gov">cmorrison@usgs.gov</a>			

Jay Lunden, Philadelphia, PA; Temple; [jlunden@temple.edu](mailto:jlunden@temple.edu)  
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David Ritter, Bozeman, MT; MSU; [thomas.ritter@msu.montana.edu](mailto:thomas.ritter@msu.montana.edu)

#### Purpose of the Dive

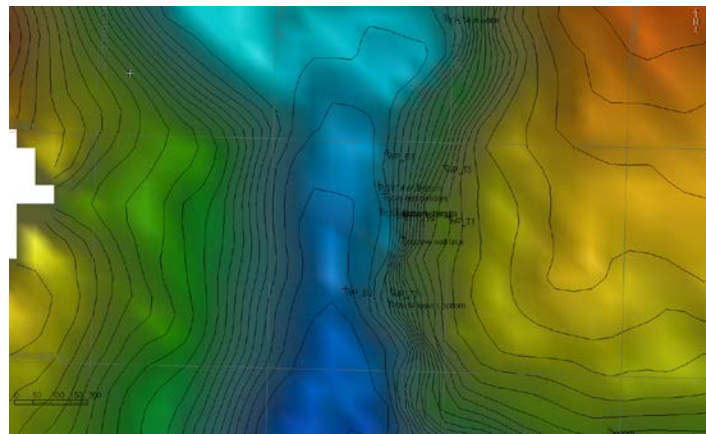
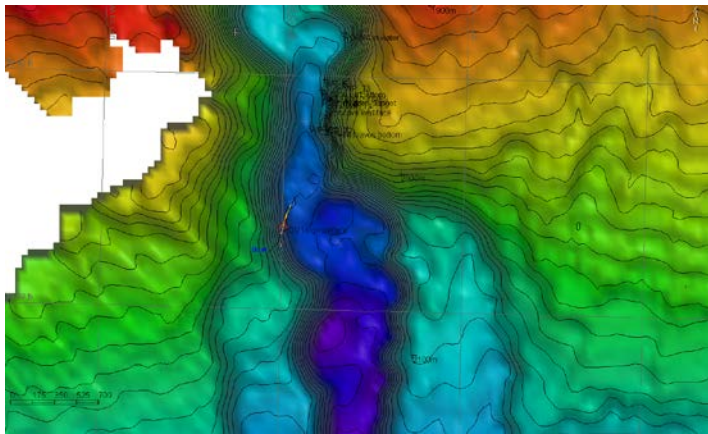
The purpose of the dive was to explore a deep portion of Block Canyon and describe the geomorphology and biological communities along the east wall at a depth of ~2000 m.

#### Description of the Dive:

As the ROV D2 was descending in the water column, numerous salps were encountered at a depth of ~700 m. The ROV reached bottom at 14:44 UTC over soft sediment composed of silt and silty clay at a depth of 2131 m. A few medium size boulders consisting of perhaps mudstone or siltstone were scattered over the bottom. Pebbles of various colors were noted on the seafloor. Ophiuroids (*Ophiomusium* sp.) were extremely abundant along with white sea urchins in this area. A squat lobster not seen on other dives was noted in this habitat as well. The ROV moved across large mudstone blocks boulders, with sparse faunal colonization. *Chrysogorgia* and glass sponges were the dominant sessile fauna. Some of the faces of the rocks were extensively bioeroded and bored, and surface staining from oxidation was apparent. A few small cup corals were attached to the sides of the blocks. At least two species of crinoids were noted throughout the dive, including stalked crinoids. A solitary hydroid *Corymorpha* was also observed. The ROV reached the base of the canyon wall at ~15:56 UTC and continued to move up slope. At a depth of 2043 m, a *Bathypathes* black coral was observed. It was noted that this wall feature appeared younger, and weaker and very dynamic. Portions of the surface had collapsed, and extensive debris fields were noted at the base of the wall. As the ROV continued to move up slope, fewer attached fauna were noted on the wall face. At 17:00 UTC, the ROV moved off the top of the wall and moved down slope toward the next waypoint where there was a promontory. At 17:29, what appeared to be a jaw from a shark was observed. Trash was observed on this dive at 17:42UTC. Toward the base of the slope *Chrysogorgia* were apparent again at a depth of 2087 m. At 19:25 UTC a small overhang with cup corals was observed. Toward the end of the dive, the ROV moved along a contour across the promontory. In this area, brisingid seastars were very abundant, and were all facing east into the current. The ROV left bottom at a depth of 2062 m at a time of 19:37 UTC Overall, few fishes and megafauna were noted and sessile fauna were sparse throughout this dive. A moderate current from the south was noted.

Overall Map of ROV Dive Area

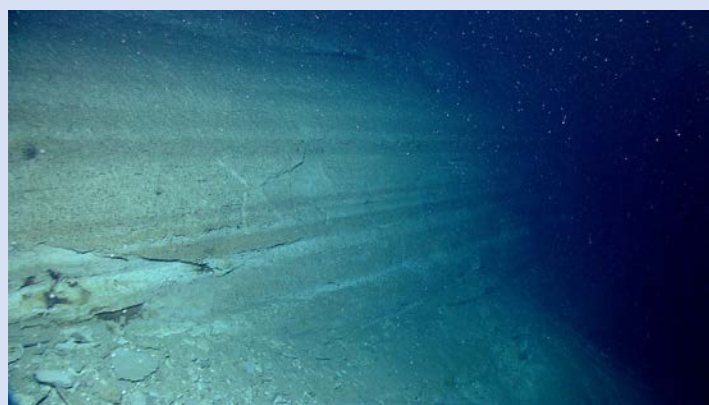
Close-up Map of Main Dive Site



**Representative Photos of the Dive**



Rock rubble, blocks and debris toward the base of the slope.  
Time 18:03. Depth 2106 m.



Vertical wall with apparent horizontal layering. Time 18:53.  
Depth 2063 m.

**Please direct inquiries to:**

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