



# Okeanos Explorer ROV Dive Summary

Dive Information	
Dive Map	
<b>Site Name</b>	Unnamed Guyot ( nicknamed Batfish Guyot)
<b>Expedition Coordinator(s)</b>	Brian RC Kennedy
<b>ROV Lead(s)</b>	Dan Rogers
<b>Science Team Lead(s)</b>	Chris Kelley and Jasper Konter
<b>General Area Descriptor</b>	Wake Atoll unit of PRIMNM
ROV Dive Name	
<b>Cruise</b>	EX-16-06
<b>Leg</b>	0

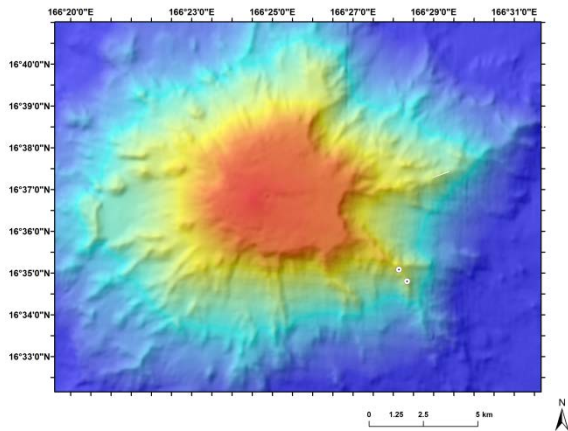


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	<b>Purpose of the Dive</b>	<p>The dive plan targeted a seamount located ~189 miles south of Wake Island, and near the southern boundary of the monument. We have named the seamount “Batfish” for its appearance on the map. The dive was situated on the southeasterly ridge around 3100m, and was intended to progress upward along the ridge crest. The objective of the dive was similar to other dives conducted on guyot rift zone ridges, namely to survey the deepwater coral and sponge communities. This dive differed from the other ridge dives in being deeper than the optimal depth range for Mn crust formation. Furthermore, the intent of the dive was to understand the maximum depth range for high density communities, which we believe is between 2500-3000 m. The final objective of this dive was to provide data and samples for use in determining the geologic history of this seamount. This geology of the seamounts in this area of the Pacific is poorly understood. The dive plan start and end points were at 3109m and 2818 m.</p>	
<b>Description of the Dive</b>	<p>This dive was hampered by weather conditions; a squall directly prior to ROV deployment caused a delay in initial deployment, and a second one forced a holding pattern above the seafloor. Due to increasingly poor weather conditions, the decision was made to not extend the dive as originally planned, resulting in approximately 1.5 hours of time on the bottom due to the depth of the dive. The bottom was reached at 00:43UTC, at 3115m. After careful navigating, it became clear that the multibeam system had not mapped the steep hole or cutout along the ridge that the ROV first reached. We carefully made our way up the slope, in the direction of the planned dive track, and found clear signs of volcanic structures.</p> <p>Given the short amount of bottom time, the dive focused on doing some collections rather quickly, and spending a limited amount of time between collections for exploring. The bottom appeared to consist mostly of pillow and tube lavas, thickly coated in Mn crust. The steep terrain might suggest pillow mound-type structures. After the ROVs ascended about 20m, a small clearing was found between the steep rock formations, and a rock was collected, probably a pillow lava fragment (3096m). About an hour into the</p>		

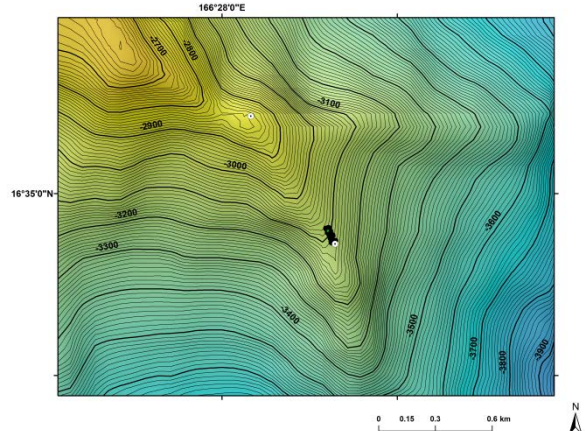
dive, we observed several near-vertical rock formations that appeared to have cracks running all the way through (left to right). These looked like dikes, and they were oriented up and down the rift zone. The cracks looked somewhat like columnar joints, and the presence of dikes with cooling cracks suggests that a significant amount of material that used to cover these dikes is missing here. The most likely scenario is that the jagged, steep terrain was partly formed or modified by landslides. After the dikes, we reached a slightly more sedimented area that was somewhat level, before the next steep hillside started. A second rock sample was picked up from the cobble and boulder selection at the bottom of the hill (3059m). However, due to time constraints this was the end of the dive track. The dive ended at 2:52, leaving bottom around 3050m.

As expected from the depth range, the fauna at >3000m was sparse. However, the relatively short time of the dive and consequently the short distance covered was also partially responsible for a short list of observed animals. Only one fish was seen, a synphobranchid eel, approximately 100 m off the seafloor. Corals included only 2 species of primnoids (*Narella* sp and possible *Candidella* sp), 2 species of antipatharians (*Stauropathes* sp and *Heteropathes* sp), an unbranched isidid (collected) and hydroids. Sponges included both demonsponges (*Stelodoryx* sp? that was collected, a kebab sponge, and a cladorhizid) as well as several species of hexactinellids (*Corbitellinae* vase, *Bolosoma* sp, *Crateromorpha* sp?, *Caulophacus* (*Oxydiscus*) sp, *Caulophacus* (*Caulodiscus*) sp.). Other animals included shrimp, a brisingid seastar, ophiuroids, and commatulids.

**Overall Map of the ROV Dive Area**



**Close-up Map of Main Dive Site**



Overview of the dive site on Batfish Seamount	Closeup of the dive site showing the actual track.
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**Representative Photos of the Dive**




Rugged terrain encountered at the dive site.	Stauropathes sp observed at the dive site.
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**Samples Collected**


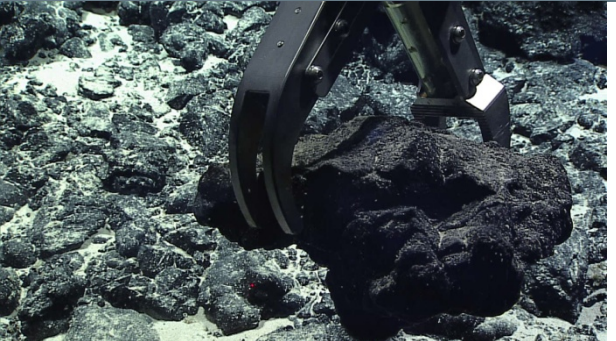
**Sample**

<b>Sample ID</b>	D2_DIVE13_SPEC01GEO	
<b>Date (UTC)</b>	20160815	
<b>Time (UTC)</b>	1:43:20	
<b>Depth (m)</b>	3096.8367	
<b>Temperature (°C)</b>	1.59987	
<b>Field ID(s)</b>	Mn rock	
<b>Comments</b>		

**Sample**

<b>Sample ID</b>	D2_DIVE13_SPEC02BIO	
<b>Date (UTC)</b>	20160815	
<b>Time (UTC)</b>	2:15:58	
<b>Depth (m)</b>	3067.6163	
<b>Temperature (°C)</b>	1.56416	
<b>Field ID(s)</b>	Stelodoryx sp.?	
<b>Comments</b>		



Sample		
Sample ID	D2_DIVE13_SPEC03BIO	
Date (UTC)	20160815	
Time (UTC)	2:28:33	
Depth (m)	3065.5112	
Temperature (°C)	1.58107	
Field ID(s)	unbranched octocoral	
Comments		
Sample		
Sample ID	D2_DIVE13_SPEC04GEO	
Date (UTC)	20160815	
Time (UTC)	2:38:50	
Depth (m)	3059.6537	
Temperature (°C)	1.5973	
Field ID(s)	Mn coated rock	
Comments		

**Please direct inquiries to:**

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