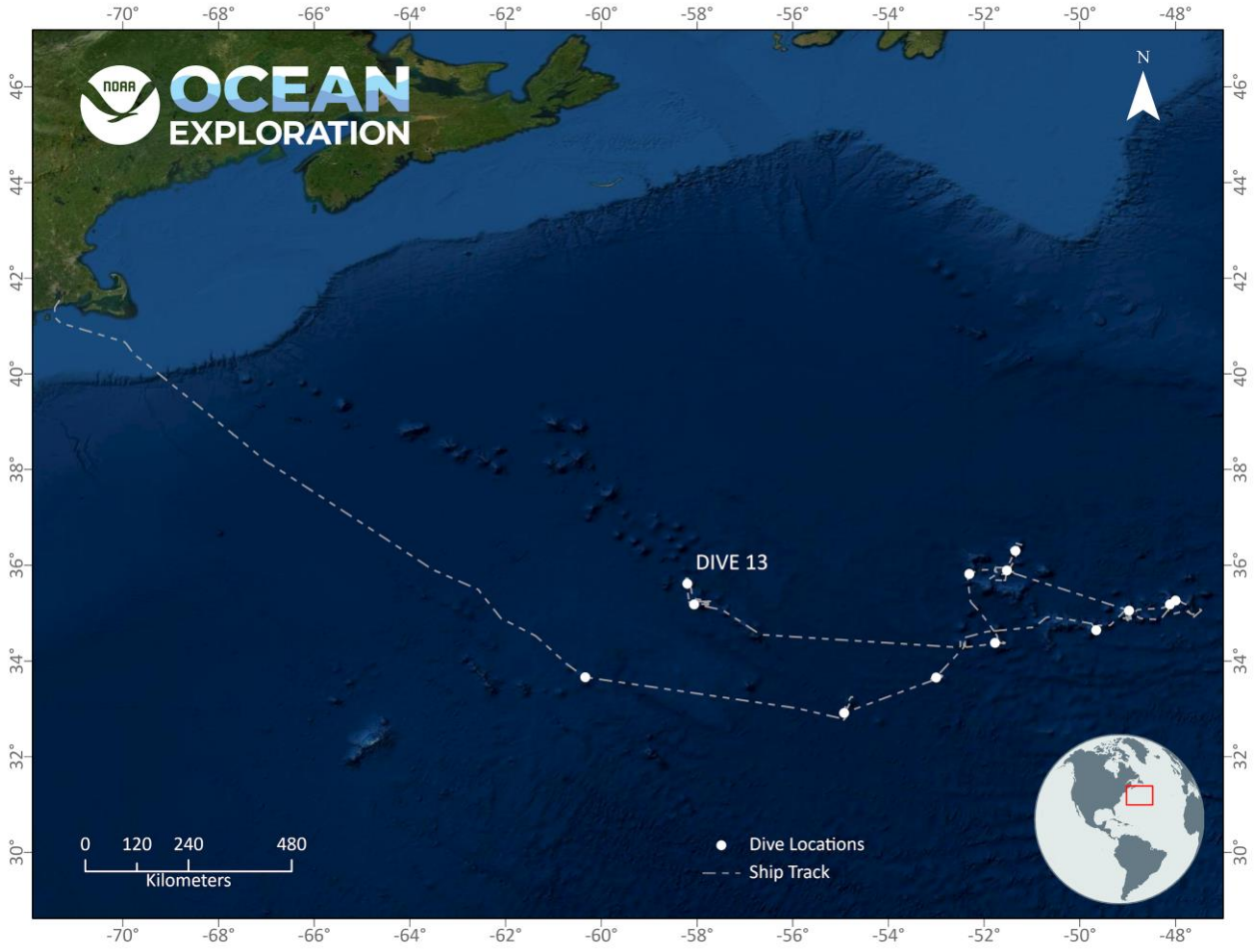
ROV Dive Summary, EX-21-04, Dive 13, July 18, 2021

General Location Map



Dive Information

Site Name	”Near Hodgsen” seamount (unmapped, unnamed)
General Area Descriptor	New England Seamounts, Eastern End
Science Team Leads	Rhian Waller, Kira Mizell
Expedition Coordinator	Kasey Cantwell, Kimberly Galvez (Expedition Coordinator in Training)
ROV Dive Supervisor	Chris Ritter

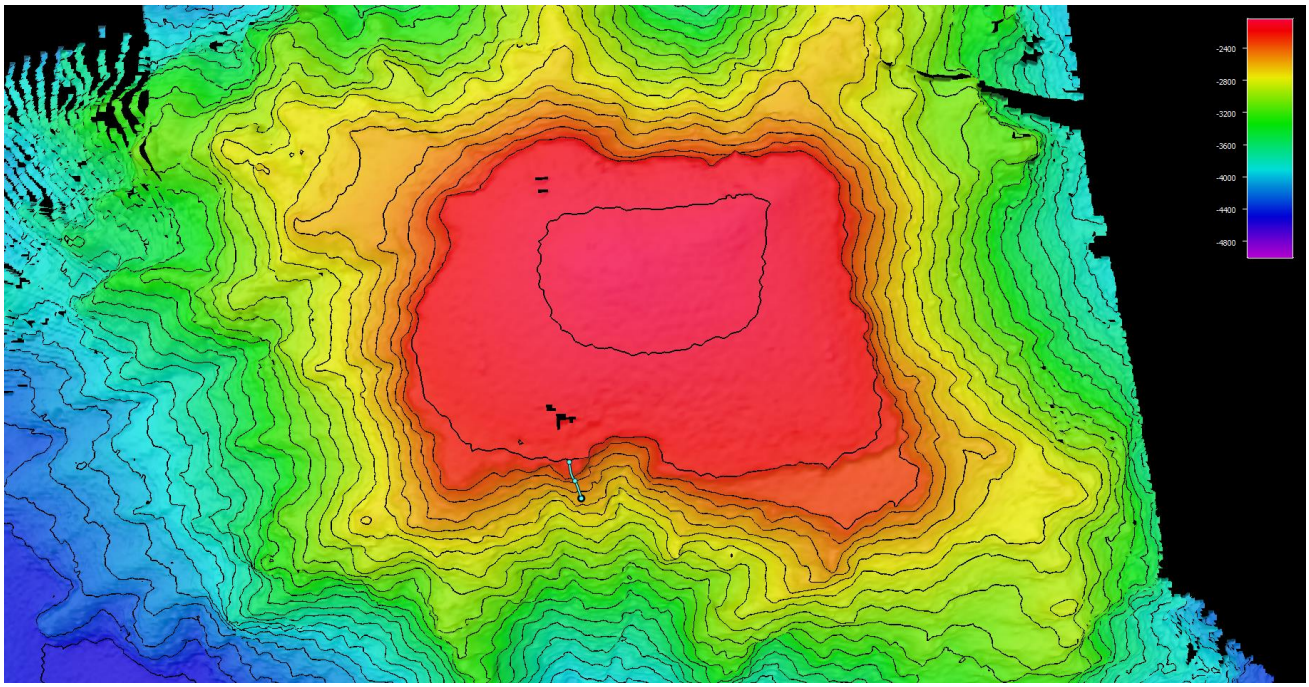
Mapping Lead	Shannon Hoy
Dive Purpose	Explore new seamount area
Was the dive restricted for Underwater Cultural Heritage?	No
ROV Dive Summary Data	Dive Summary: EX2104_DIVE13 ^^ Dive Type: Normal In Water: 2021-07-18T12:21:57.954728 35.61094755088276 ; -58.203508752420845 On Bottom: 2021-07-18T13:57:21.127312 35.611444556240585 ; -58.20640851124812 Off Bottom: 2021-07-18T19:11:32.780980 35.61376065747822 ; -58.20656150382403 Out Water: 2021-07-18T20:52:39.278166 35.609328066666684 ; -58.21799749473694 Dive Duration: 8:30:41 Bottom Time: 5:14:11 Max Vehicle Depth: 2531.2 m Min Seafloor Depth: 2359.3 m Distance Travelled: 330.7 m

Dive Description	This dive followed a transect along a ridge feature just west of the bite-shaped slump on the southern face of the squared upper plateau of the unnamed seamount we called "Near Hodgsen" and nicknamed "Lumpy." We started the dive at ~2550 m where the ROV landed on a sedimented slope that appeared to be a chute of debris from above. Early in the dive, flat-topped slabs were observed that appeared to have detached from the upper summit and fell in-tact downslope. Large igneous boulders and Fe-Mn coated lobate flow tops dominated the geologic setting for the rest of the dive. Medium-grained sediments built up on flat spots and created erosional features on the upper surfaces of large boulders and outcrops. Between boulders and cobble fields, small-scale sediment flows were consistently observed. All igneous rocks appeared coated in thick Fe-Mn crusts and some outcrops looked to host crusts more than 10 cm thick. Two rocks were sampled in igneous boulder fields in the hope of getting igneous rock for dating this unsampled feature, but Fe-Mn coating obscured positive ID of rock type. Biological observations were sparse on this dive track though with some notable fauna seen throughout. We closely observed a Rhodaliid dandelion siphonophore attached to the seafloor with multiple threads, and potentially throwing out more threads, or spawning. *Desmophyllum dianthus* cup corals, plus a second solitary scleractinian species, were observed in multiple locations throughout the dive. Xenophyophores were observed throughout the track on any areas of sediment and were quite abundant. A large pycnogonid was observed feeding on a hemicorallium and fish fauna were represented by a large antimora, frog fish and two (potentially the same) white halosaurs. Bamboo octocorals were locally abundant on large boulders and more spread throughout the dive through different hard bottom habitats (large forms (potentially Narella) and bramble forms), intermixed with hemicorallium, Primnoid, Bathypathes, Chrysogorgia, and at the very end of the dive a single mature metallogorgia colony was observed.
Notable Observations	Rhodaliid dandelion siphonophore
Community and habitat observations	Corals and Sponges - (Present) Chemosynthetic Community - (Absent) High biodiversity Community - (Absent) Active Seep or Vent - (Absent) Extinct Seep or Vent - (Absent) Hydrates - (Absent)
CMECS Feature Type(s)	Rock, Sediment (coarse unconsolidated)
SeaTube Link (science annotation system)	https://data.oceannetworks.ca/SeaTubeV3?resourceTypeId=600&resourceId=2363

Equipment Deployed

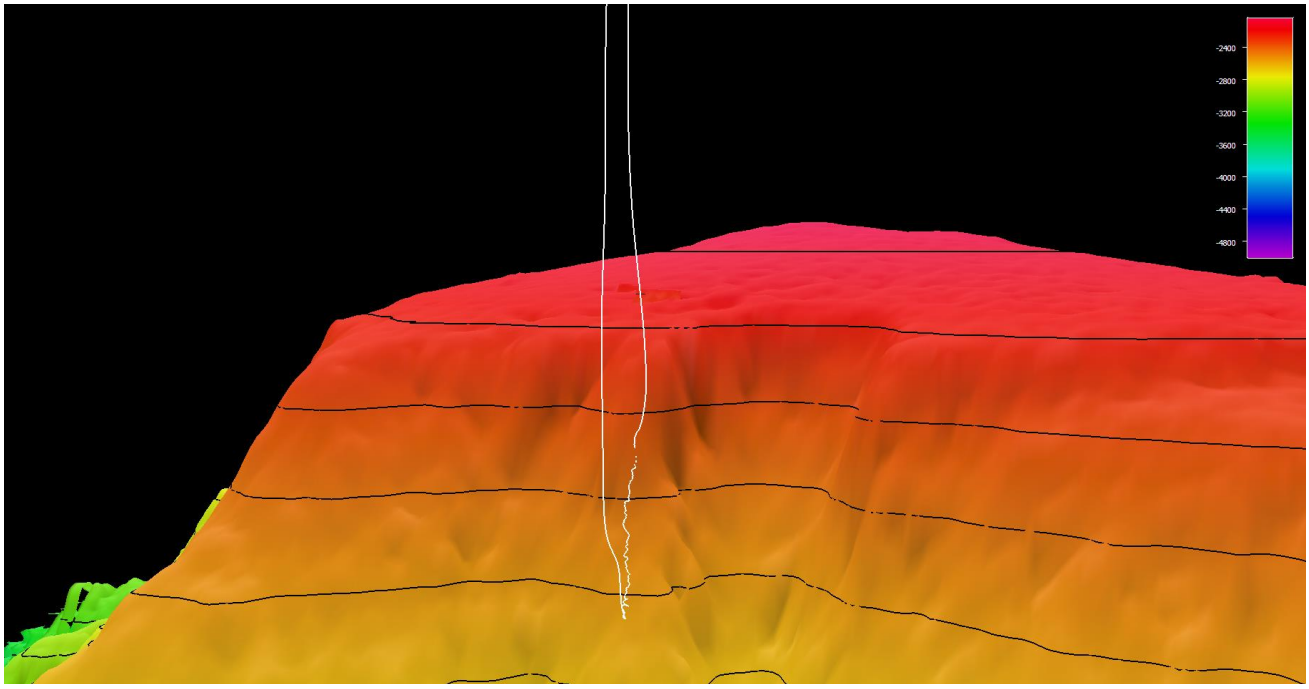
ROV	*Deep Discoverer*
Camera Platform	*Seirios*
ROV Measurements	The following ROV measurements, data streams and equipment are used on each ROV deployment: CTD, depth, scanning sonar, USBL position, altitude, heading, attitude, high-resolution cameras, low resolution cameras, manipulator arms, suction sampler, sample drawers and thrusters. The section below notes if any of these sensors were malfunctioning or not operational
Equipment Malfunctions	none

Overview of Dive Site



Smoothed ROV dive track (blue) on an overview bathymetry of the seamount, 3x vertical exaggeration.

Close-up Map of Main Dive Site



Smoothed ROV dive track in white on 25x25 cell size bathymetry, 3x vertical exaggeration, depth in meters, 100m contours.

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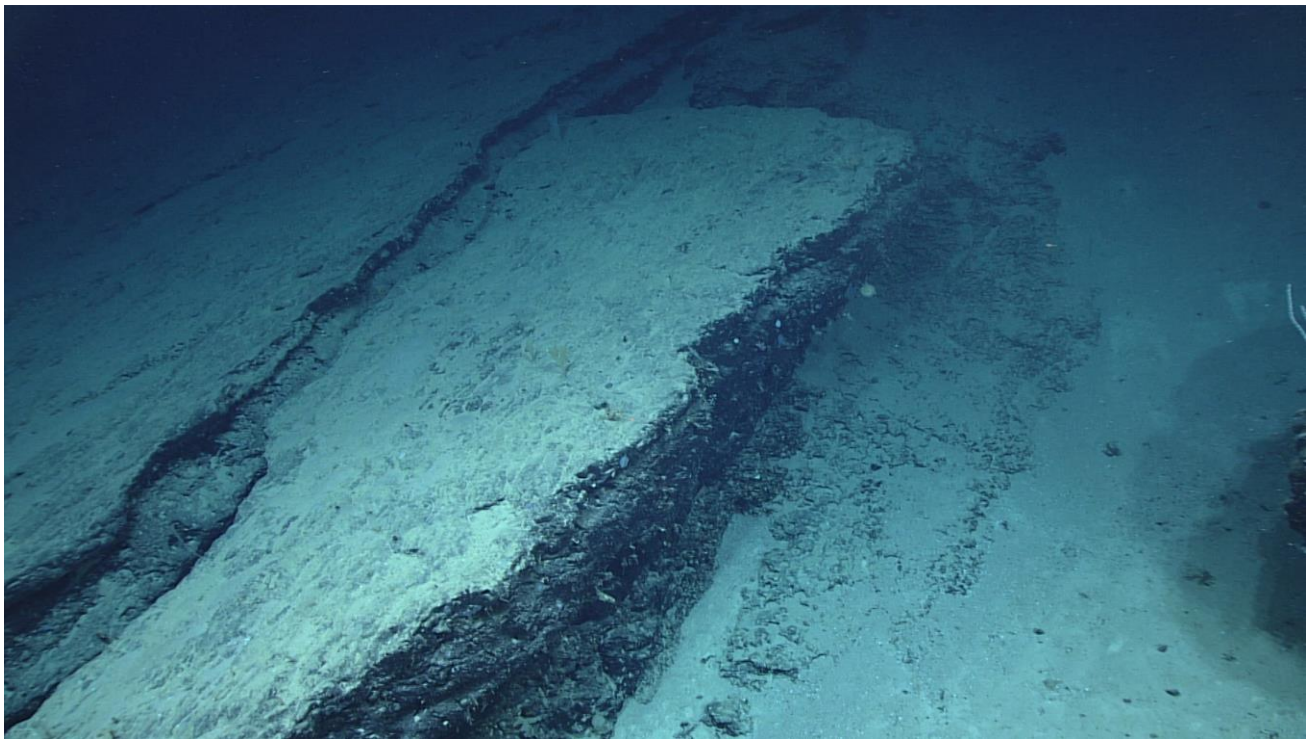
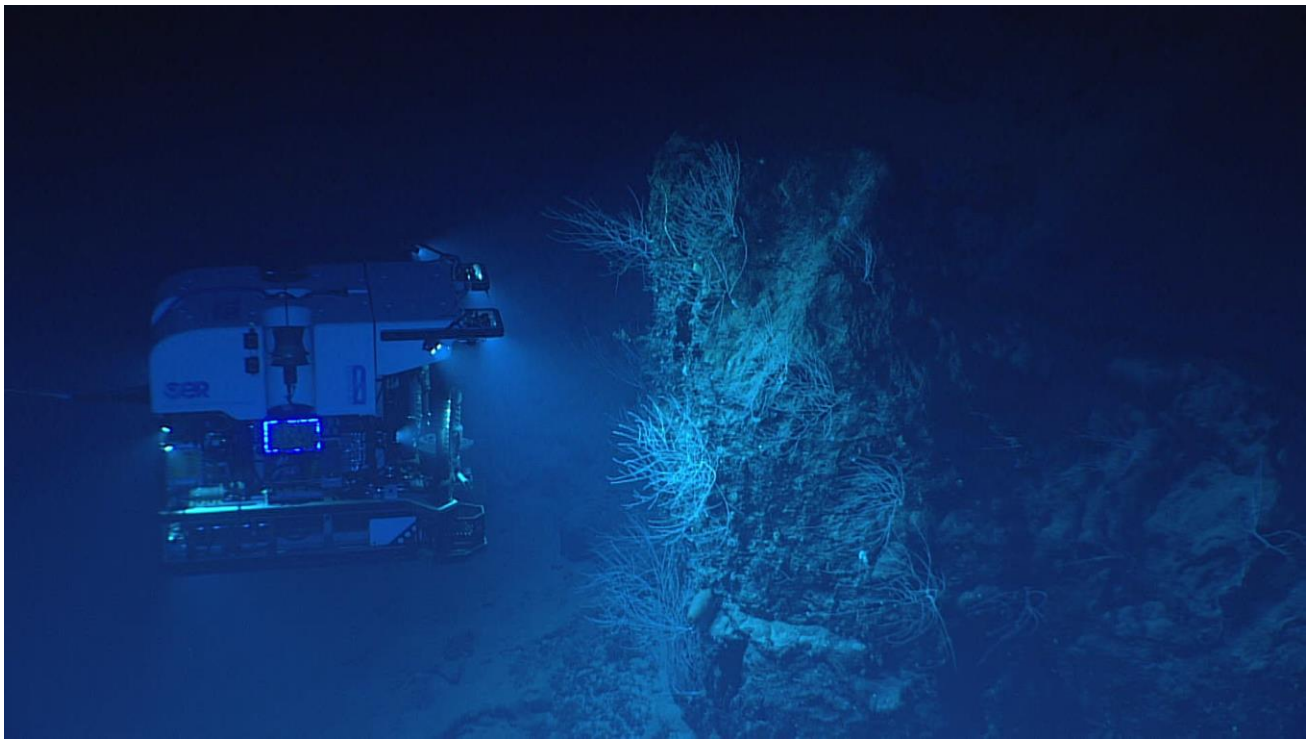
Representative Photos of the Dive

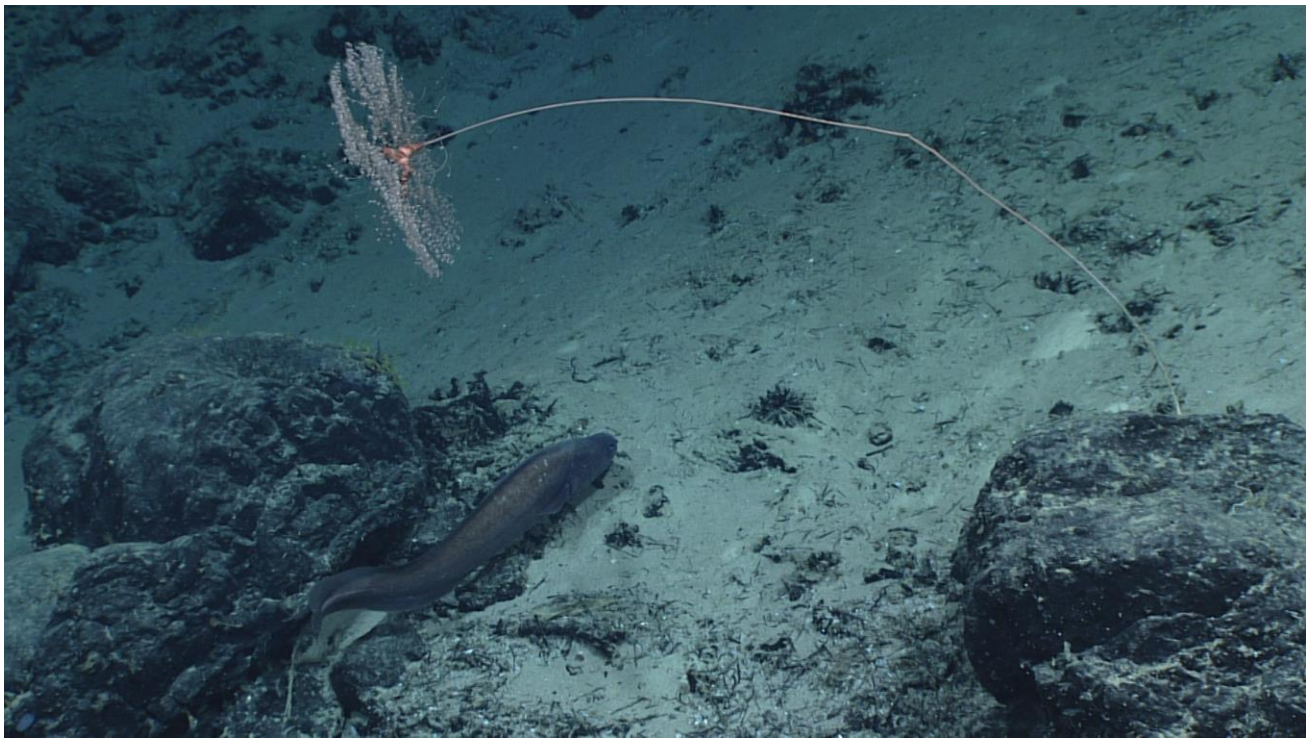


[Flat-topped slabs observed near the beginning of the dive that appeared to have detached from t he upper summit and fallen in-tact downslope along with sediments; erosional features caused by sediments flowing downslope across the top of the slabs are seen as vertical stripe-like patterns, and fresher, blacker Fe-Mn crusts are precipitating on the side]

[A Rhodallid dandelion was observed midway through the dive. It appears this same species of siphonophore was also observed during the 2017 Laulima O Ka Moana NOAA Ocean Exploration expedition, potentially making it a widely distributed species]

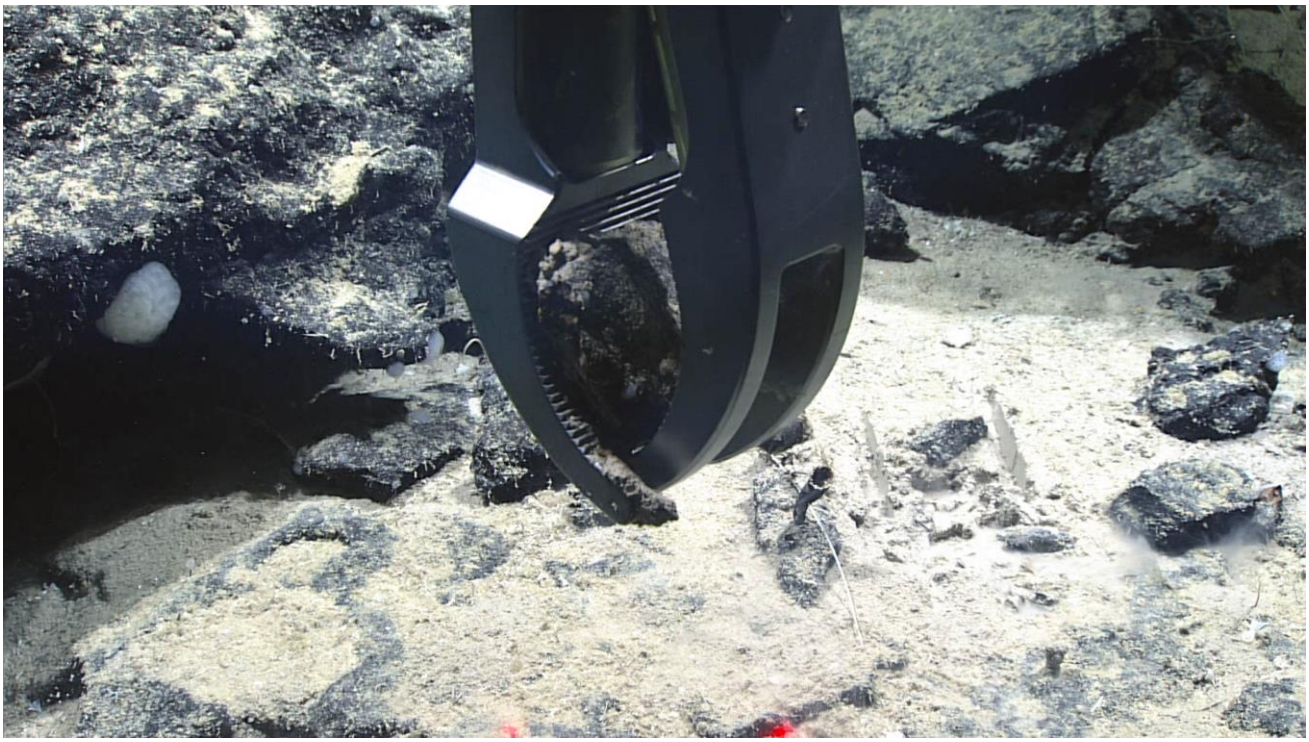


[Several large igneous boulders were encountered midway through the dive covered in Bamboo corals]



[At the very end of the dive we encountered a mature *Metallorgia* sp.on a cobble encrusted with Fe-Mn crust and a fish]

Samples Collected -



Sample ID	EX2104_D13_01G

Date (UTC)	20210718
Time (UTC)	141940
Depth (m)	2533.666992
Latitude (decimal degrees)	35.6113205
Longitude (decimal degrees)	-58.20640945
Temp. (°C)	3.292000055
Field ID(s)	Large FeMn coated rock
Comments	FeMn coated rocks below giant igneous boulders. 10cm long x 8 cm wide x 5cm tall. Not actually large.

Associates Sample ID	Field Identification	Count
N/A	N/A	N/A

Sample ID	EX2104_D13_02G
Date (UTC)	20210718
Time (UTC)	170744
Depth (m)	2422.97998
Latitude (decimal degrees)	35.61301804
Longitude (decimal degrees)	-58.20668411
Temp. (°C)	3.572000027
Field ID(s)	Botryoidal FeMn
Comments	FeMn coated rock on all sides from basalt pillow pile. Fissile (crumbly), fossilized coral stalks, worm tubes, sedimented bottom (sediment attached). 22cm long x 20cm wide x 10cm tall.

Associates Sample ID	Field Identification	Count
N/A	N/A	N/A

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