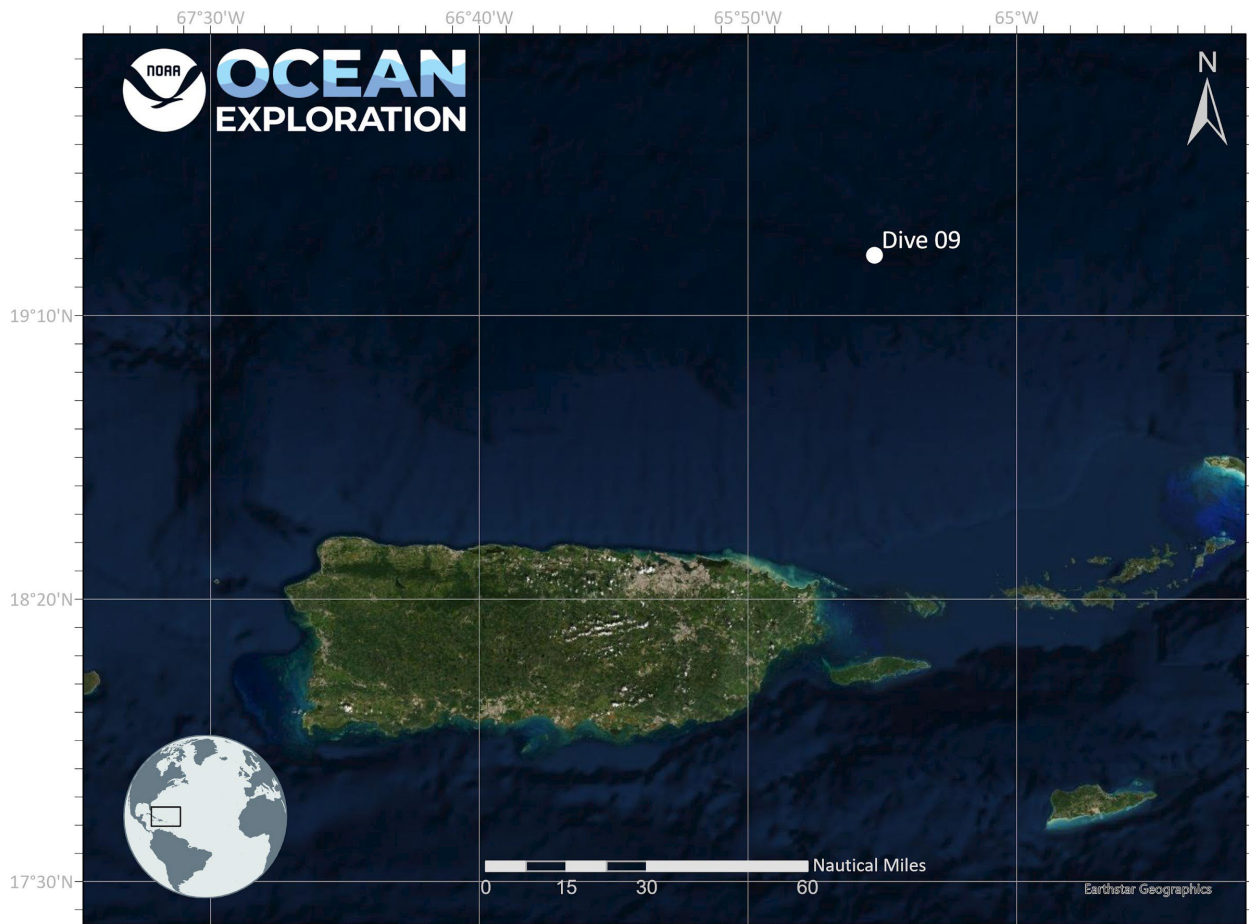


ROV Dive Summary, EX-22-06, Dive 09 August 31, 2022

General Location Map

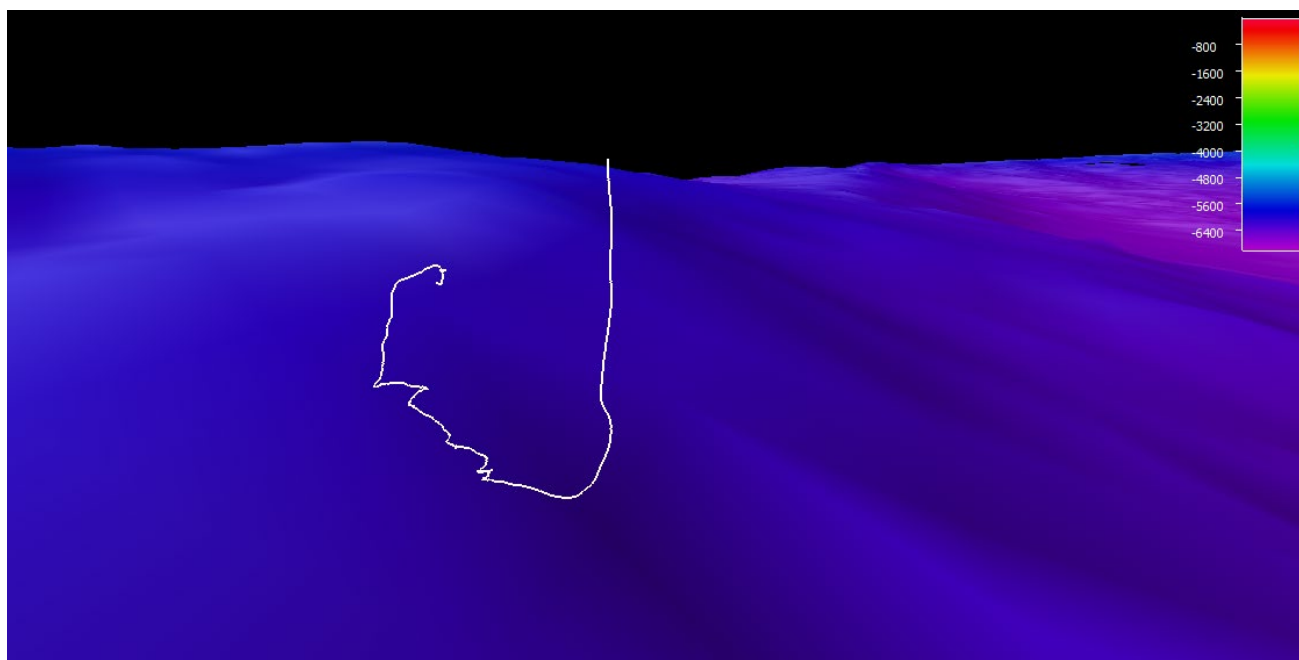


Dive Description	<p>This was the deepest dive of the expedition, to the full operation depth of D2 at 6000 m. We saw a visual of the bottom at 1545 UTC. It was highly sedimented, with some areas that looked like small platy outcrops that could be rocks or consolidated sediment. We landed on bottom at 1548 at 5995 m and immediately saw an old can covered in rusticles, which could have been biologically mediated. The sediment was very soft and covered almost everything, which led to a series of sediment clouds kicked up by D2. We took a water sample at the bottom (01W).</p> <p>At 1556/5990 m we saw a few small, light colored rocks and some sargassum. One of the rocks had what looked like an Mn crust. We also saw a small sea urchin and a cusk eel (Ophiid). We came upon a tube anemone perched on a rock. Upon an attempt at sampling, the rock crumbled and the anemone was lost. Our second attempt at sampling a similar anemone was successful at 1612/5983 m (02B). Soon after at 1619/5079 m, we saw a brisingid (Freyaster) and two small sea urchins. At 1626/5964 m, we tried to collect a rock, but after trying to sample at least four of them, we found that they were all poorly consolidated clays that broke apart upon trying to grab it with the manipulator arms. There were a number of these rock-like clays, which looked like they had internal structures and angular edges. It was surprising that all of them were unconsolidated. We also saw 2 or 3 bright white, curved pieces of unknown origin (1635). It was suggested that these could be plastic, ceramic, or methane clathrates.</p> <p>At 1649, we had to pull 50 m off the bottom to deal with an oil leak from the winch. While they were working on this, the sea strainer alarm again went off due to Sargassum. Due to these two issues, the decision was made to end the dive. 05 Water samples were taken as we ascended through the water column.</p>
Notable Observations	Carnivorous sponge, tube anemone, sea urchins, poorly consolidated sediment
Community and habitat observations	<p>Corals and Sponges - Present</p> <p>Chemosynthetic Community - Absent</p> <p>High biodiversity Community - Absent</p> <p>Active Seep or Vent - Absent</p> <p>Extinct Seep or Vent - Absent</p> <p>Hydrates - Absent</p>
CMECS Feature Type(s)	<p>Tectonic Trench</p> <p>Trench</p> <p>Flat</p>
SeaTube Link (science annotation system)	https://data.oceannetworks.ca/SeaTubeV3?resourceTypeId=600&resourceId=2733

Equipment Deployed

ROV	<i>Deep Discoverer</i>
Camera Platform	<i>Seirios</i>
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	There was oil leaking from the winch once we reached full operating depth of 6000 m. There were also at least 3 instances of having to clear Sargassum from the engine's sea strainers. Finally, there appears to be an oil leak on the ship's A Frame. These issues led to early termination of the dive.

Close-up Map of Main Dive Site

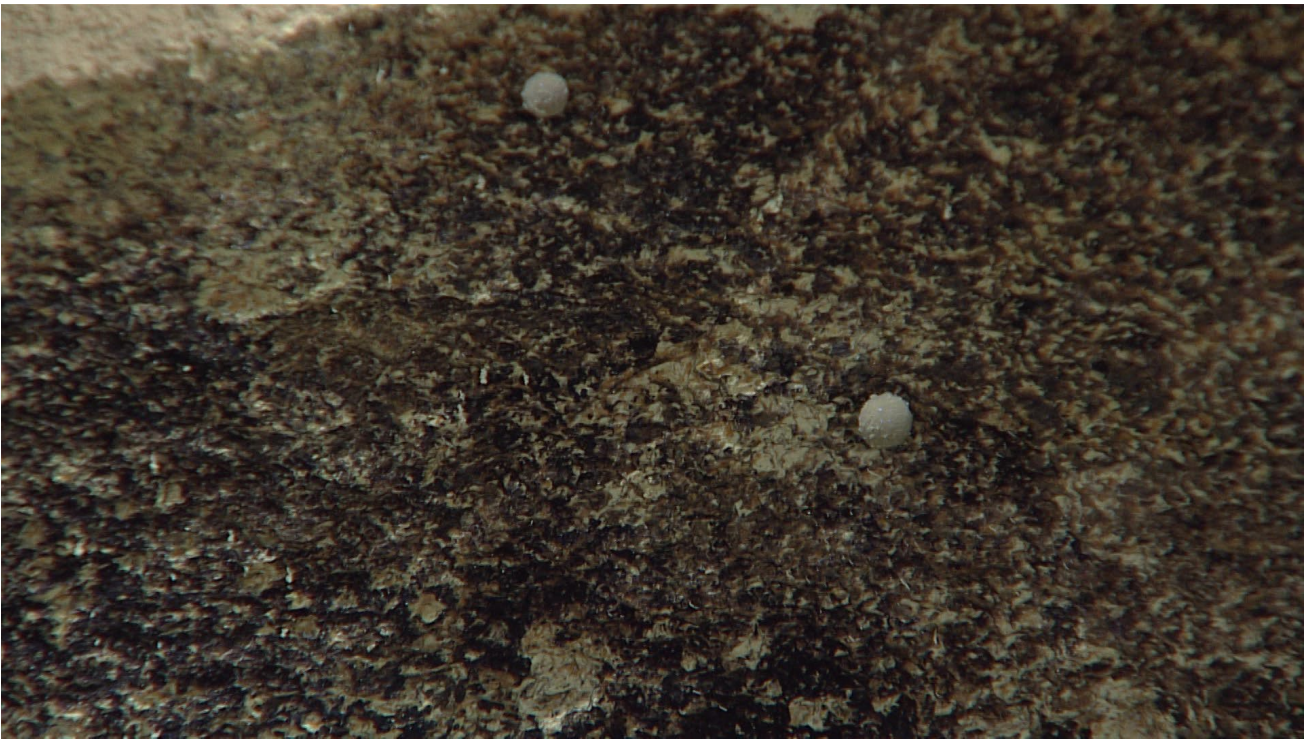


Smoothed ROV dive track in white on a 100 m resolution bathymetric grid, 1x vertical exaggeration, depth in meters.

Representative Photos of the Dive



Rusticles on an old can.



Two small white things that might have been fish eggs(?).



An isopod.



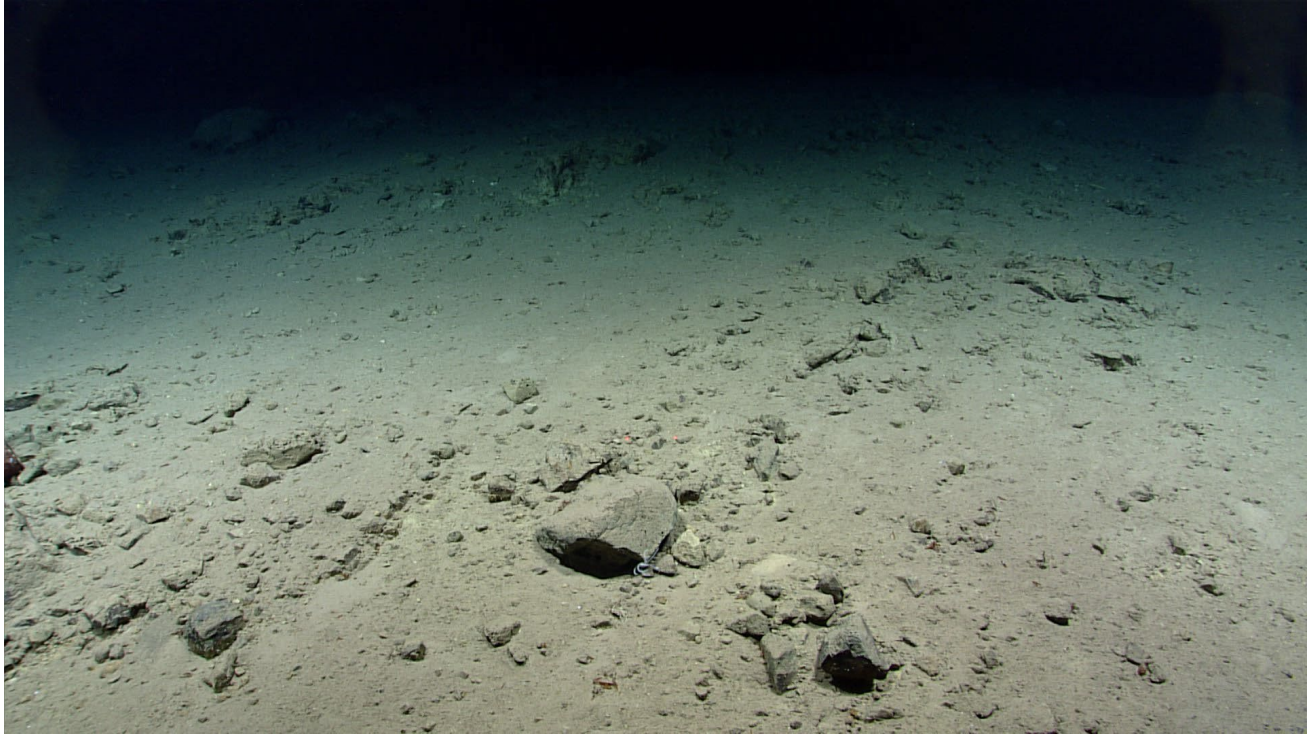
A small sea urchin.



Platy layering seen on the rocks.



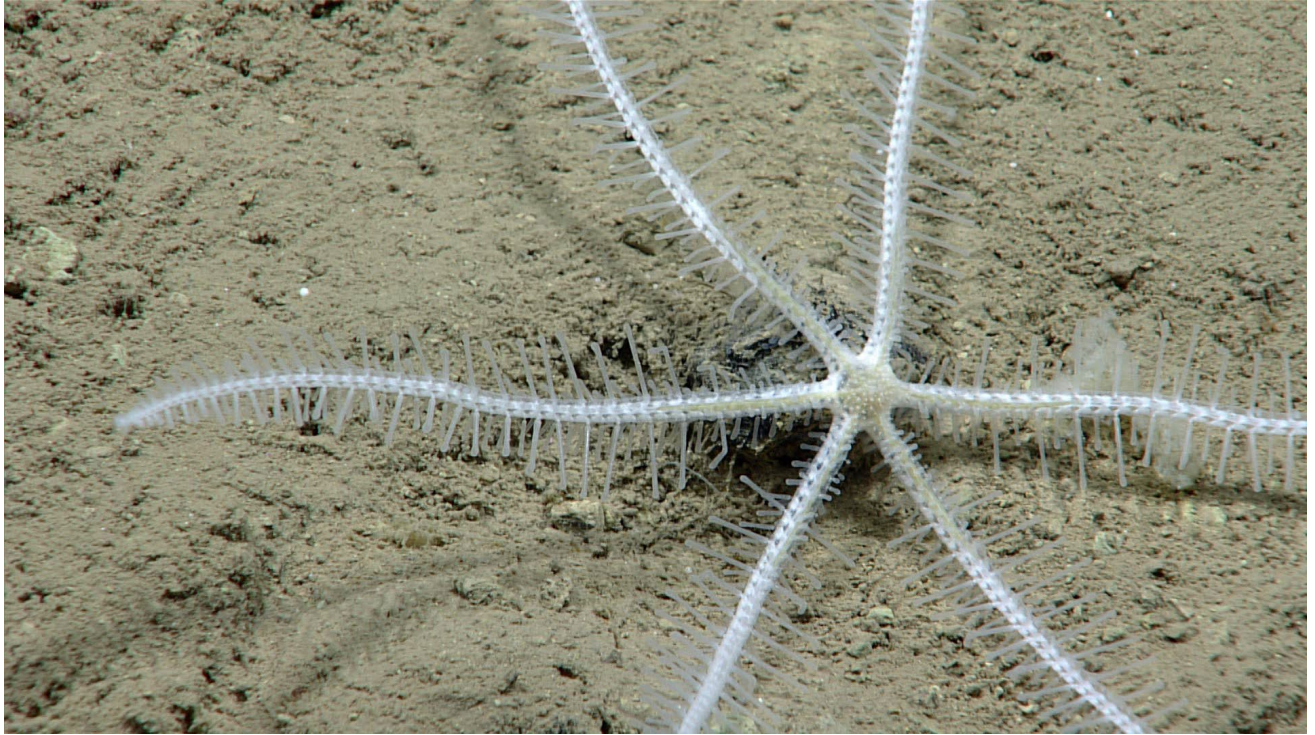
Tube anemone on consolidated sediment.



A field full of what look like rocks, but are actually consolidated sediment.



The clayey inside of a “rock,” which was actually consolidated sediment.



Brisingid.



Cusk eel.

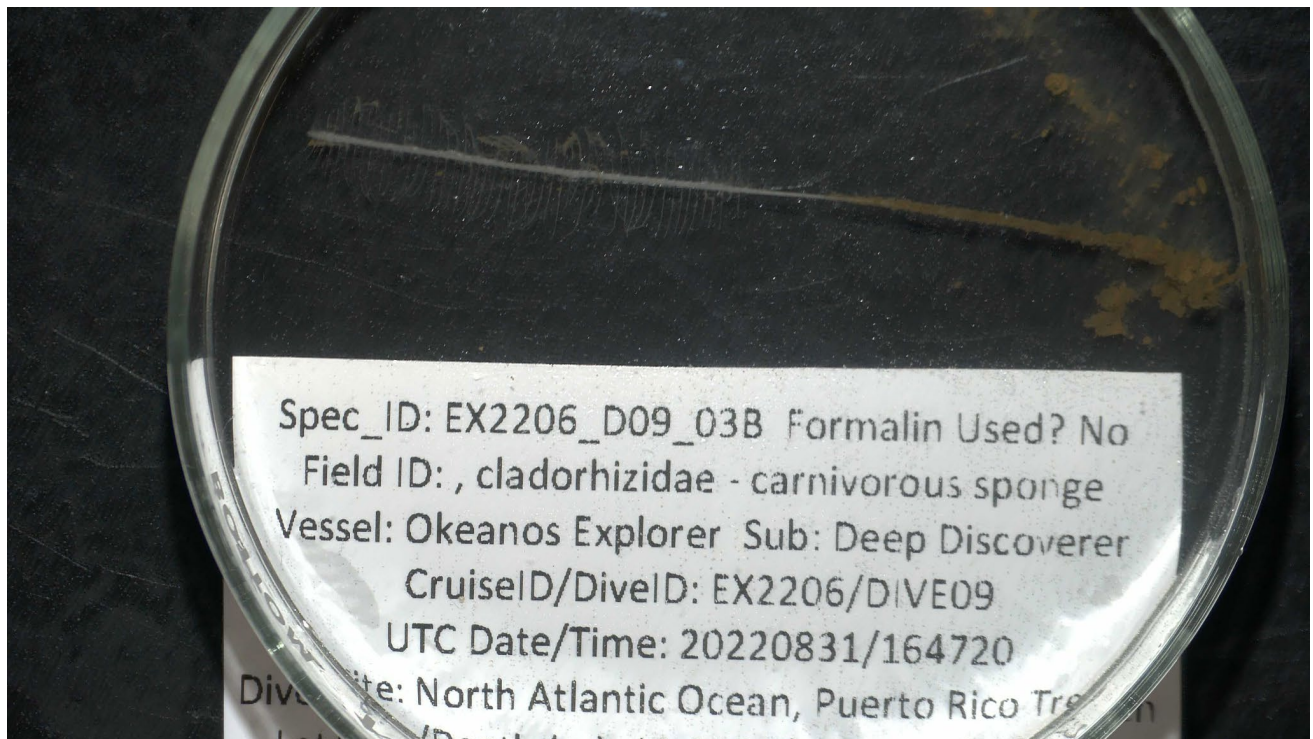
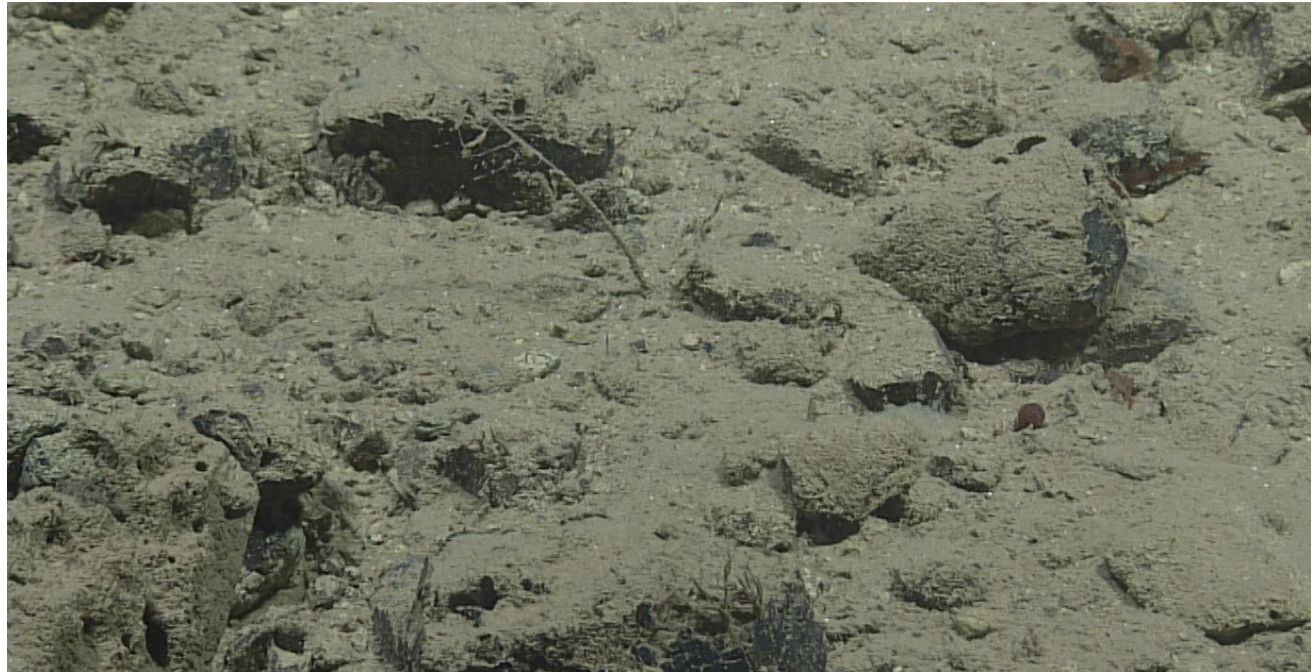
Samples Collected



Sample ID	EX2206_D09_02B
Date (UTC)	20220831
Time (UTC)	161632
Depth (m)	5981.181
Latitude (decimal degrees)	19.36364
Longitude (decimal degrees)	-65.329380
Temp. (°C)	2.032
Field ID(s)	Anemone

Comments	Dense, but compressible cup. Striated. Apical and central papillae. Funnel, brown and striated, area with tentacles is white with brownish skin.
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Associates Sample ID	Field Identification	Count
EX2206_D09_02B_A01	Sediment (heavily biology)	1



Sample ID	EX2206_D09_03B
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Date (UTC)	20220831
Time (UTC)	164720
Depth (m)	5951.049
Latitude (decimal degrees)	19.36423
Longitude (decimal degrees)	-65.329180
Temp. (°C)	2.021
Field ID(s)	Asbestopluma
Comments	Cladorhizidae. Main axis, filaments planar direction. No filaments from the base.

Associates Sample ID	Field Identification	Count
EX2206_D09_03B_A01	Sediment	1

Niskin Sampling Summary

Sample ID	EX2206_D09_01W
Date (UTC)	20220831
Time (UTC)	155119
Depth (m)	5994.385
Latitude (decimal degrees)	19.36349
Longitude (decimal degrees)	-65.32948
Bottle number	NISKIN 1
Temperature (°C)	2.06
Dissolved Oxygen (ml/L)	7.288
Treatment	eDNA

Sample ID	EX2206_D09_04W
Date (UTC)	20220831
Time (UTC)	173551
Depth (m)	5002.987
Latitude (decimal degrees)	19.36276
Longitude (decimal degrees)	-65.329440
Bottle number	NISKIN 2
Temperature (°C)	2.186
Dissolved Oxygen (ml/L)	7.427
Treatment	eDNA

Sample ID	EX2206_D09_05W
Date (UTC)	20220831
Time (UTC)	182351
Depth (m)	3526.795
Latitude (decimal degrees)	19.35872
Longitude (decimal degrees)	-65.32742

Bottle number	NISKIN 3
Temperature (°C)	2.399
Dissolved Oxygen (ml/L)	7.843
Treatment	eDNA

Sample ID	EX2206_D09_06W
Date (UTC)	20220831
Time (UTC)	192911
Depth (m)	1500.843
Latitude (decimal degrees)	19.35774
Longitude (decimal degrees)	-65.317500
Bottle number	NISKIN 4
Temperature (°C)	4.413
Dissolved Oxygen (ml/L)	7.664
Treatment	eDNA

Sample ID	EX2206_D09_07W
Date (UTC)	20220831
Time (UTC)	195926
Depth (m)	531.479
Latitude (decimal degrees)	19.35792
Longitude (decimal degrees)	-65.313040
Bottle number	NISKIN 5
Temperature (°C)	12.143
Dissolved Oxygen (ml/L)	3.922
Treatment	eDNA

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