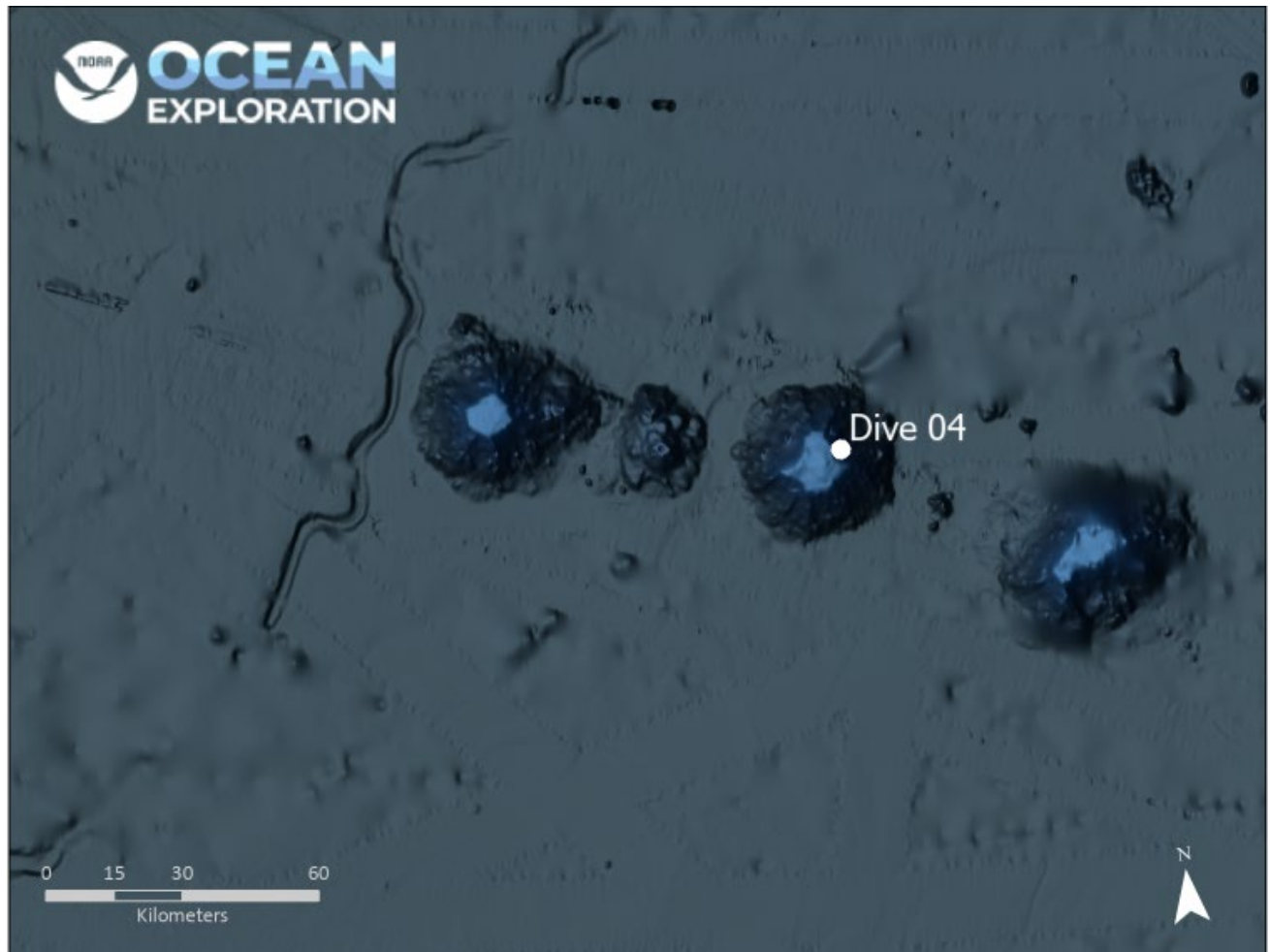


ROV Dive Summary

EX2306, Dive 04, August 27, 2023

General Location Map



Dive Information

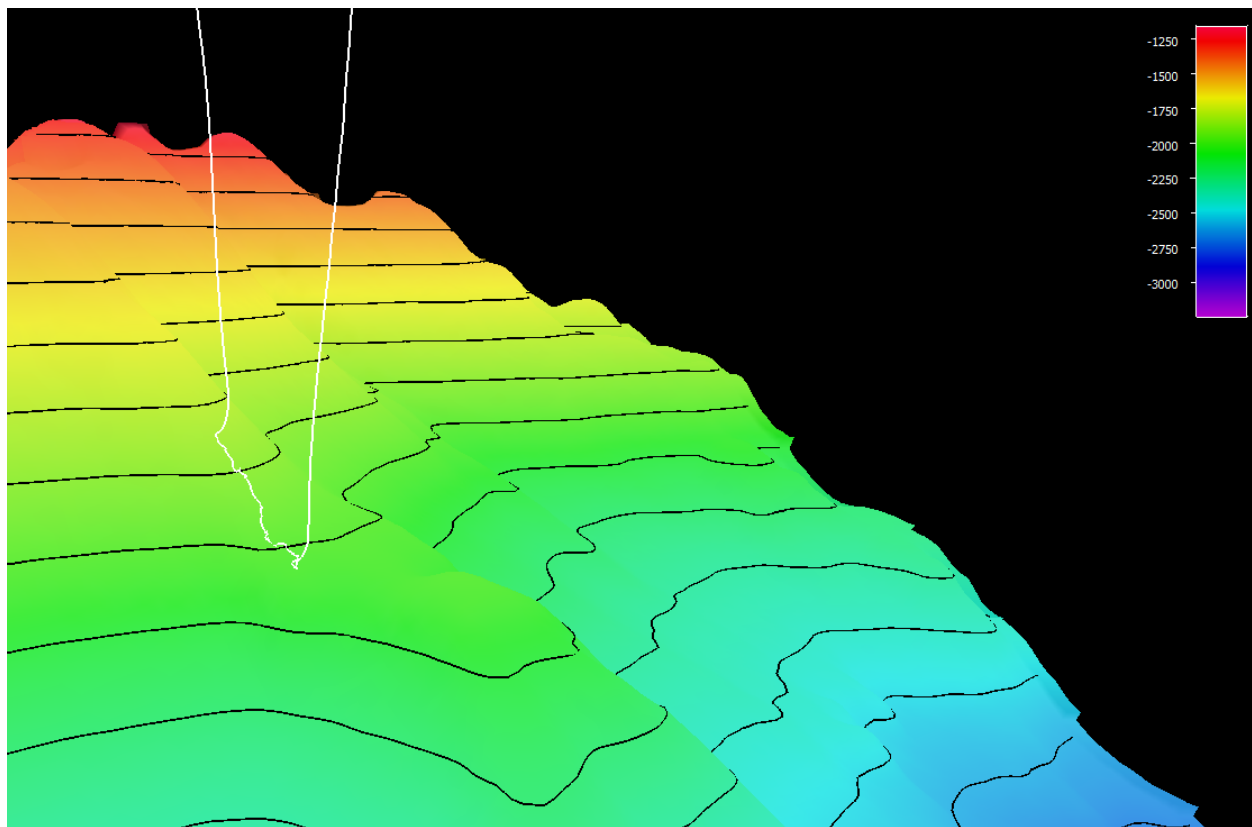
Site Name	Quinn Seamount
General Area Descriptor	Gulf of Alaska
Science Team Leads	Merlin Best (Bio); Jamie Conrad (Geo)
Expedition Coordinator	Sam Candio
ROV Dive Supervisor	Lars Murphy
Dive Purpose	To dive on Quinn Seamount, one of the volcanoes in the Kodiak-Bowie seamount chain that has not been previously explored.
Maritime Heritage Restrictions	No
ROV Dive Summary Data	<p>Dive Type: Normal</p> <p>In Water: 2023-08-27T17:41:52.491814 56.357048 ; -145.125796</p> <p>On Bottom: 2023-08-27T18:58:22.611956 56.354603103007214 ; -145.13042382416612</p> <p>Off Bottom: 2023-08-27T23:27:23.137941 56.35411903828202 ; -145.13721833079873</p> <p>Out Water: 2023-08-28T00:41:09.578251 56.34819374811637 ; -145.14544702186754</p> <p>Dive Duration: 6:59:17</p> <p>Bottom Time: 4:29:00</p> <p>Max Vehicle Depth: 2022.8 m</p> <p>Min Seafloor Depth: 1838.0 m</p> <p>Distance Traveled: 475.6 m</p>

<p>Dive Description</p>	<p>Geology This dive ascended a ridge on the east side of the Quinn Seamount at depths of about 1800-2000 m. The dive began on a flat bench lying about halfway up the side of the flank of the seamount, which was covered with abundant bouldery basaltic debris, but also including patches of finer sediment. Above this bench, ascending a spine or ridge up the flank of the seamount were nicely exposed basalt flows, flow-top surfaces, and pillow basalt, including a chilled margin on a fractured boulder. Four samples of basalt were collected for geochemical and geochronologic study, and a sample of a friable pebbly sandstone was also recovered.</p> <p>Biology Collected valuable data on seamount biodiversity within a deeper depth band than the previous seamount dive (Giacomini Seamount). There were many individuals of Macroregonia macrochira at various life stages, Antiaphtharia, Ophidiidae, at least two species of Cirripedia, and a variety of Anthomastinae. A variety of biological samples were collected for further study.</p>
<p>Notable Observations</p>	<p>Anthomastus sp., likely an undescribed species; Macroregonia macrochira juvenile on a holothurian, abundant but highly-localised juvenile Cirripedia</p>
<p>Community and Habitat Observations</p>	<p>Corals and Sponges — Present Chemosynthetic Community — Absent High biodiversity Community — Present Active Seep or Vent — Absent Extinct Seep or Vent — Absent Hydrates — Absent</p>
<p>CMECS Feature Type(s)</p>	<p>Boulder Field Flat Ledge Outcrop/Rock Outcrop Ridge Seamount Slope Terrace</p>
<p>SeaTube Link (science annotations)</p>	<p>https://data.oceannetworks.ca/SeaTubeV3?resourceTypeId=600&resourceId=6650</p>

Equipment Deployed

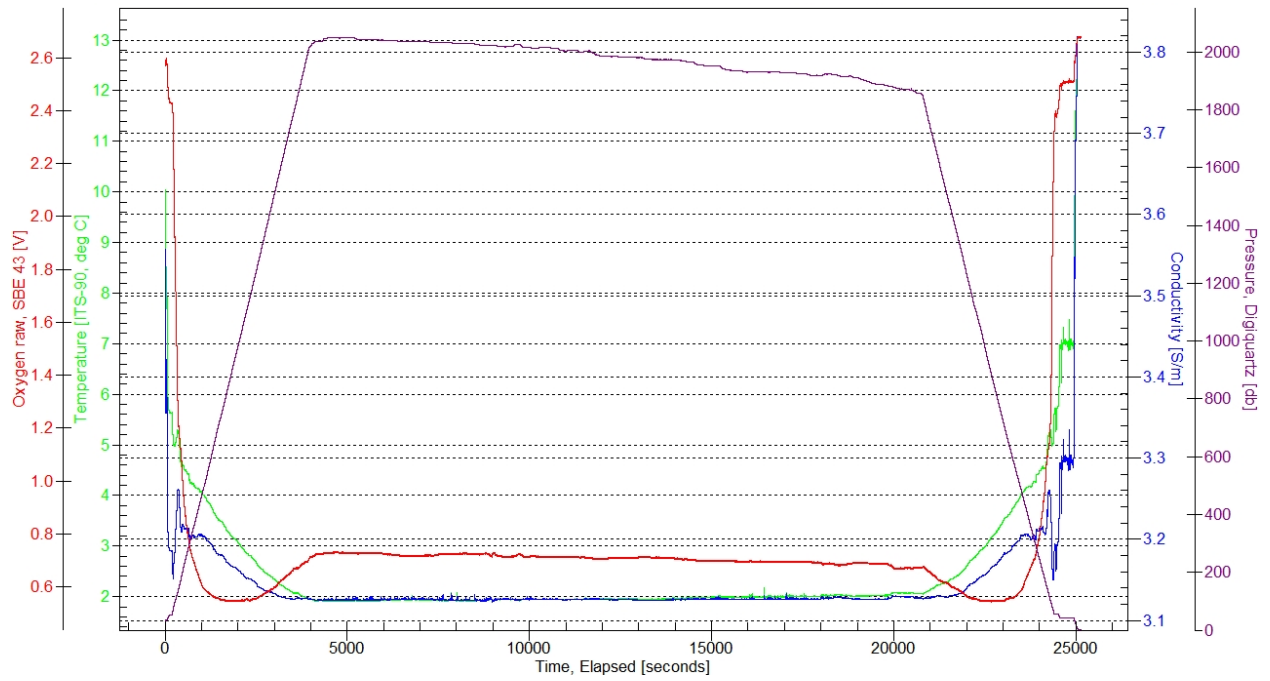
ROV	<i>Deep Discoverer</i>
Camera Platform	<i>Seirios</i>
ROV Measurements	The following ROV measurements, data streams and equipment are used on each ROV deployment: CTD, depth, scanning sonar, USBL position, altitude, heading, attitude, high-resolution cameras, low resolution cameras, manipulator arms, suction sampler, sample drawers and thrusters. The following row notes if any of these sensors were malfunctioning or not operational
Equipment Malfunctions	Tasman DVL data were erratic. Niskin #3 leaked a portion of contents after recovery.

Close-Up Map of Main Dive Site



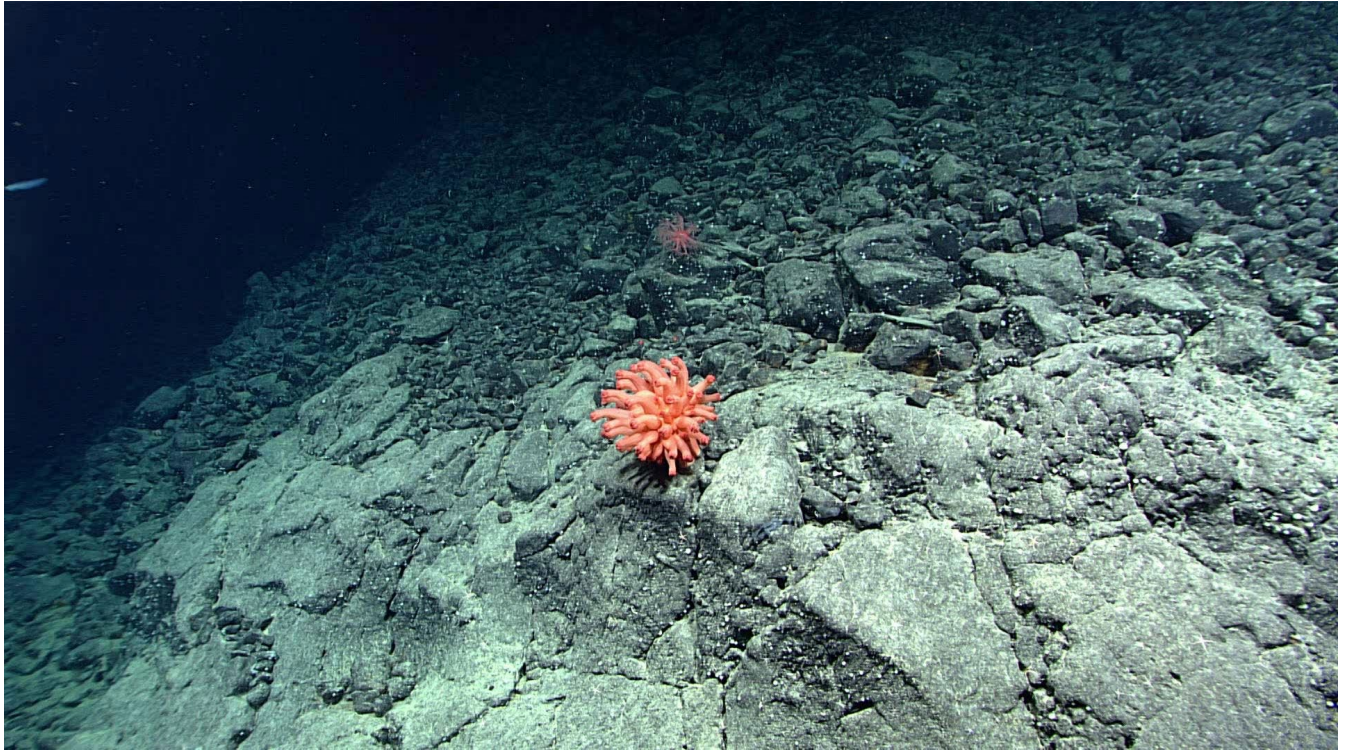
Smoothed ROV dive track in white on 30x30 m cell size bathymetry, 2x vertical exaggeration, depth in meters, 100 meter contours.

ROV CTD Profile



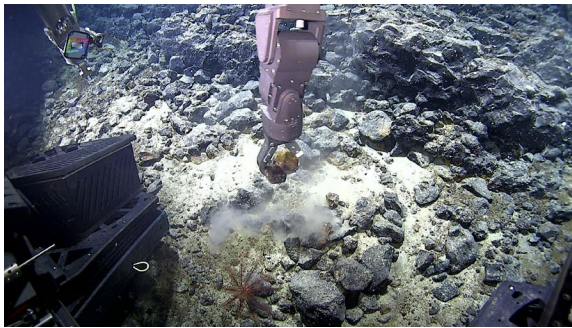
Plot of the ROV CTD profile, showing temperature, conductivity, pressure, and dissolved oxygen over time.

Representative Photos of the Dive



Large Anthomastus sp. on rocky substrate

Samples Collected



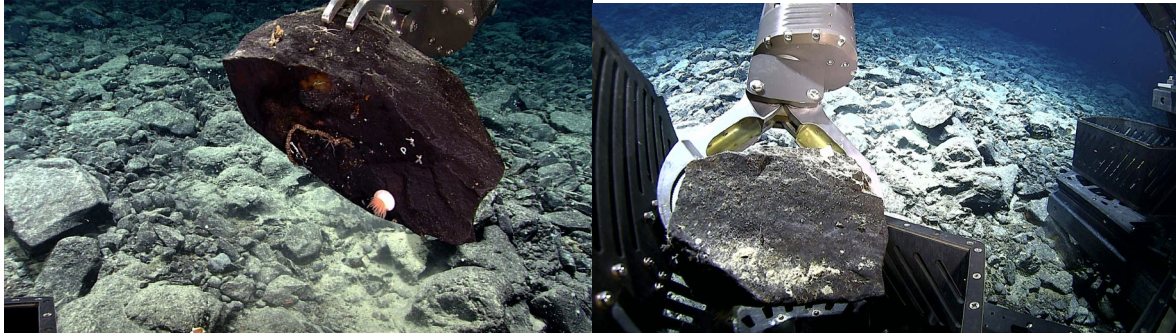
Sample ID	EX2306_D04_02G
Date (UTC)	20230827
Time (UTC)	202640
Depth (m)	1992.95397949219
Latitude (decimal degrees)	56.3543243408203
Longitude (decimal degrees)	-145.132369995117
Temp. (°C)	1.94400000572205
Field ID(s)	2 basalt cobbles
Comments	Dried

Associates Sample ID:	EX2306_D04_02G_A01B
Field Identification:	Porifera
Count:	1

Associates Sample ID:	EX2306_D04_02G_A02B
Field Identification:	Hydrozoa
Count:	1



Sample ID	EX2306_D04_03B
Date (UTC)	20230827
Time (UTC)	211500
Depth (m)	1954.72595214844
Latitude (decimal degrees)	56.3544883728027
Longitude (decimal degrees)	-145.133743286133
Temp. (°C)	1.95799994468689
Field ID(s)	crinoidea
Comments	Crinoid with some damage on the distal end of the arms



Sample ID	EX2306_D04_04G
Date (UTC)	20230827
Time (UTC)	213400
Depth (m)	1946.50903320313
Latitude (decimal degrees)	56.3546562194824
Longitude (decimal degrees)	-145.134124755859
Temp. (°C)	1.9539999961853
Field ID(s)	basalt
Comments	Dried

Associates Sample ID:	EX2306_D04_04G_A01B
Field Identification:	Cirripedia
Count:	1

Associates Sample ID:	EX2306_D04_04G_A02B
Field Identification:	Porifera
Count:	4

Associates Sample ID:	EX2306_D04_04G_A03B
Field Identification:	Serpulidae
Count:	1

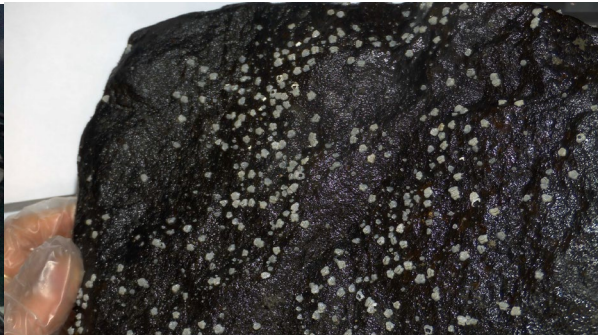
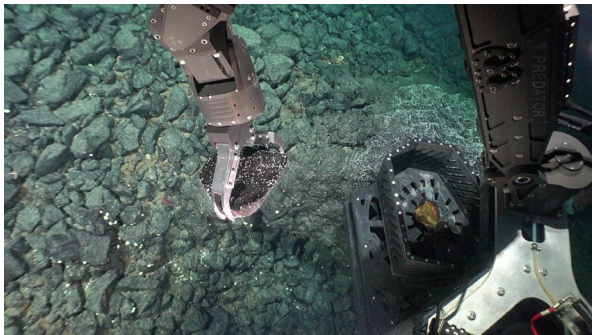
Associates Sample ID:	EX2306_D04_04G_A04B
Field Identification:	Zoantharia
Count:	1

Associates Sample ID:	EX2306_D04_04G_A05B
Field Identification:	Unknown
Count:	1



Sample ID	EX2306_D04_05G
Date (UTC)	20230827
Time (UTC)	220416
Depth (m)	1908.21997070313
Latitude (decimal degrees)	56.3545379638672
Longitude (decimal degrees)	-145.135330200195
Temp. (°C)	1.99100005626678
Field ID(s)	yellow crust
Comments	pebbly sand from resistant yellowish outcrop forming ledge about 3-5 cm thick; Dried

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

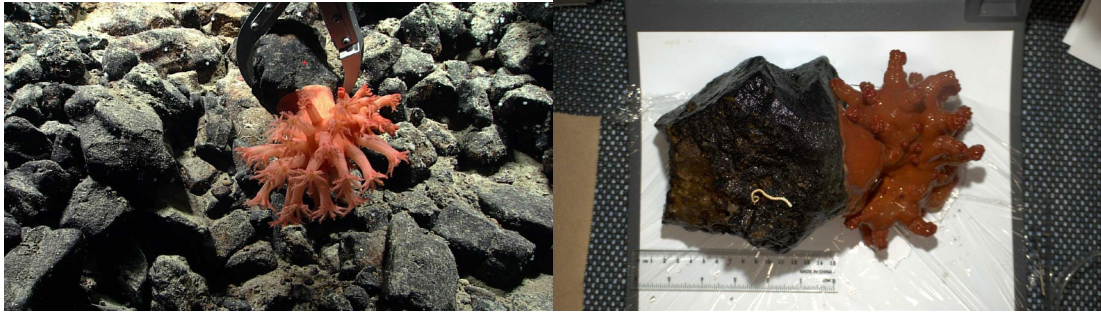


Sample ID	EX2306_D04_06G
Date (UTC)	20230827
Time (UTC)	222935
Depth (m)	1902.33996582031
Latitude (decimal degrees)	56.3545761108398
Longitude (decimal degrees)	-145.135559082031
Temp. (°C)	2.00399994850159
Field ID(s)	basalt with barnacles+1 smaller rock
Comments	Dried

Associates Sample ID:	EX2306_D04_06G_A01B
Field Identification:	Cirripedia
Count:	1

Associates Sample ID:	EX2306_D04_06G_A02B
Field Identification:	Anthozoa
Count:	1

Associates Sample ID:	EX2306_D04_06G_A03B
Field Identification:	Zoantharia
Count:	1



Sample ID	EX2306_D04_08B
Date (UTC)	20230827
Time (UTC)	231325
Depth (m)	1858.92395019531
Latitude (decimal degrees)	56.3542518615723
Longitude (decimal degrees)	-145.136932373047
Temp. (°C)	2.01300001144409
Field ID(s)	Anthomastus
Comments	Likely a new species of Anthomastus

Associates Sample ID:	EX2306_D04_08B_A01B
Field Identification:	Serpulidae
Count:	1

Associates Sample ID:	EX2306_D04_08B_A02B
Field Identification:	Pectinidae
Count:	1

Associates Sample ID	EX2306_D04_08B_A03G
Field ID(s)	basalt

Count:	1
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Associates Sample ID:	EX2306_D04_08B_A04B
Field Identification:	Nudibranchia
Count:	1

Associates Sample ID:	EX2306_D04_08B_A05B
Field Identification:	Ophiuroidea
Count:	1

Niskin Sampling Summary

Sample ID	EX2306_D04_01W
Date (UTC)	20230827
Time (UTC)	175729
Depth (m)	376.394012451172
Latitude (decimal degrees)	56.3568344116211
Longitude (decimal degrees)	-145.125259399414
Bottle Number	Niskin Bottle 1
Temperature	4.15999984741211
Dissolved Oxygen (mg/L)	1.09599995613098
Treatment	DNA/RNA Shield

Sample ID	EX2306_D04_07W
Date (UTC)	20230827
Time (UTC)	223016
Depth (m)	1901.14599609375
Latitude (decimal degrees)	56.3545837402344
Longitude (decimal degrees)	-145.135604858398
Bottle Number	Niskin Bottle 2
Temperature	2.00099992752075
Dissolved Oxygen (mg/L)	1.57200002670288
Treatment	DNA/RNA Shield

Sample ID	EX2306_D04_09W
Date (UTC)	20230827
Time (UTC)	231647
Depth (m)	1853.22497558594
Latitude (decimal degrees)	56.3541488647461
Longitude (decimal degrees)	-145.13703918457
Bottle Number	Niskin Bottle 3
Temperature	2.07299995422363
Dissolved Oxygen (mg/L)	1.38399994373322
Treatment	DNA/RNA Shield

Sample ID	EX2306_D04_10W
Date (UTC)	20230828
Time (UTC)	001755
Depth (m)	402.121002197266
Latitude (decimal degrees)	56.3521423339844
Longitude (decimal degrees)	-145.140045166016
Bottle Number	Niskin Bottle 4
Temperature	4.17000007629395
Dissolved Oxygen (mg/L)	0.954999983310699
Treatment	DNA/RNA Shield

Scientists Involved

Name	Affiliation
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Asako Matsumoto	Chiba Institute of Technology
Emily Ashe	NOAA
Hugh MacIntosh	Royal BC Museum
Jamie Conrad	USGS
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Kelly Markello	California Academy of Sciences
Kenneth Sulak	USGS
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