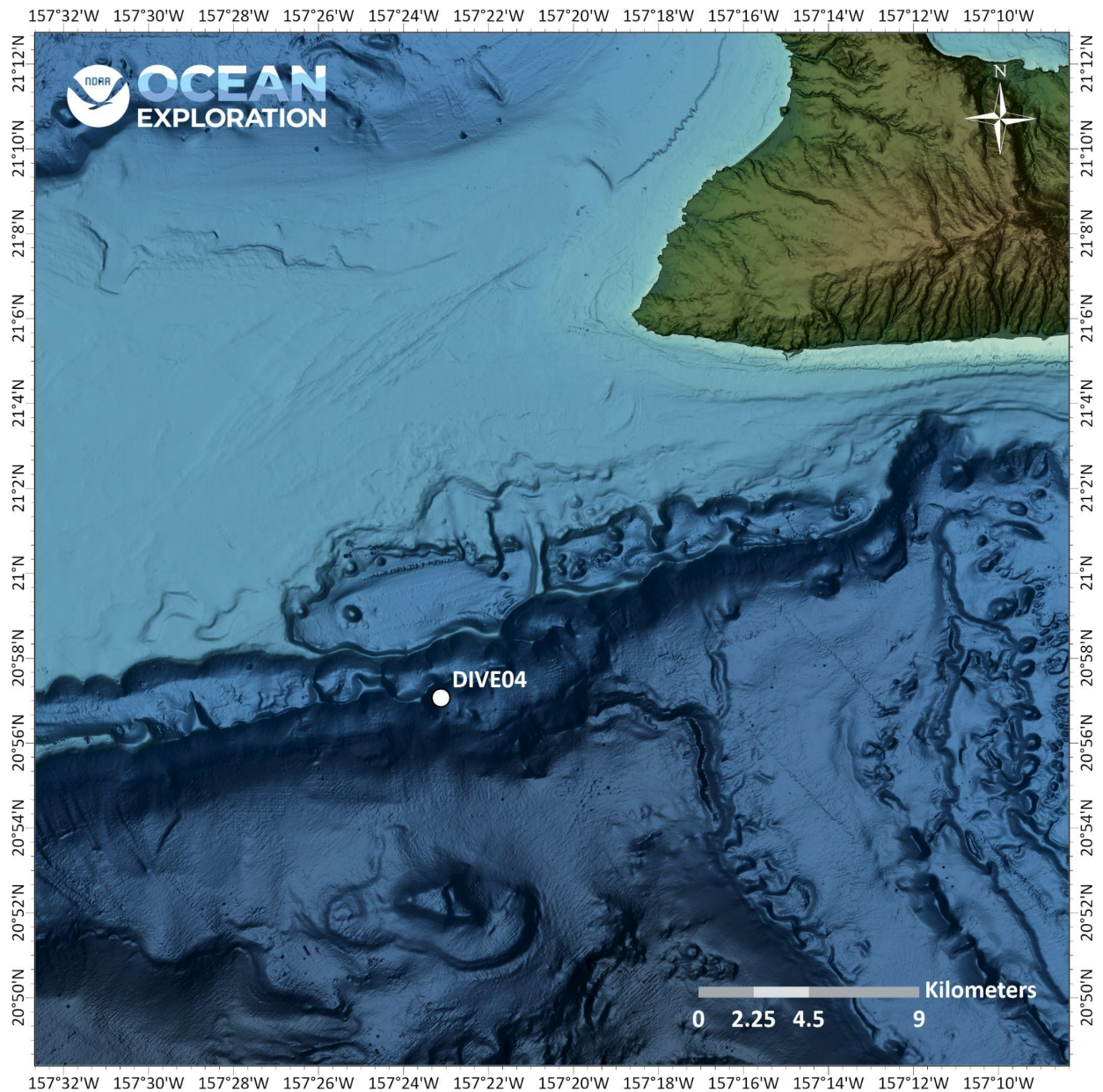


# ROV Dive Summary

## EX2502, Dive 04, March 22, 2025

### General Location Map



## Dive Information

|                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Site Name                          | Penguin Bank                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| General Area Descriptor            | Hawaiian Islands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Science Team Leads                 | Trish Albano, Caitlin Ruby, Jennifer Green, Sahara Rios-Bonilla                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Expedition Coordinator             | Shannon Hoy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ROV Dive Supervisor                | Chris Ritter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Dive Purpose                       | Conduct shakedown engineering objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Maritime Heritage Restrictions     | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ROV Dive Summary Data              | <p>Dive Type: Normal</p> <p>In Water: 2025-03-22T20:21:59.413004<br/>20.95171888598069 ; -157.38719292873793</p> <p>On Bottom: 2025-03-22T21:00:43.957895<br/>20.951957759206717 ; -157.38631879603358</p> <p>Off Bottom: 2025-03-23T02:11:18.953600<br/>20.95518932507578 ; -157.38994067492422</p> <p>Out Water: 2025-03-23T02:30:49.271360<br/>20.954960236425467 ; -157.3889603977659</p> <p>Dive Duration: 6:08:49</p> <p>Bottom Time: 5:10:34</p> <p>Max Vehicle Depth: 665.0 m</p> <p>Min Seafloor Depth: 322.1 m</p> <p>Distance Travelled: 541.2 m</p> |
| Dive Description                   | <p>Dive04 was engineering focused as part of the 2025 ROV Shakedown. ROV pilots and video engineers conducted system tests on a general slope just South of Penguin Bank and outside of Hawaiian Islands Humpback Whale National Marine Sanctuaries. Benthic depth range of ~700-300 meters. Two biological specimens were collected; five water samples were collected and processed for eDNA.</p>                                                                                                                                                             |
| Notable Observations               | Black Corals, Stony Corals, Glass Sponges, Rock Outcrops, Octopuses, Sharks, Anglerfish, Bamboo Coral Garden (end of dive)                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Community and Habitat Observations | <p>Corals and Sponges — Present</p> <p>Chemosynthetic Community — Absent</p> <p>High biodiversity Community — Present</p> <p>Active Seep or Vent — Absent</p> <p>Extinct Seep or Vent — Absent</p> <p>Hydrates — Absent</p>                                                                                                                                                                                                                                                                                                                                     |
| CMECS Feature Type(s)              | Slope                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

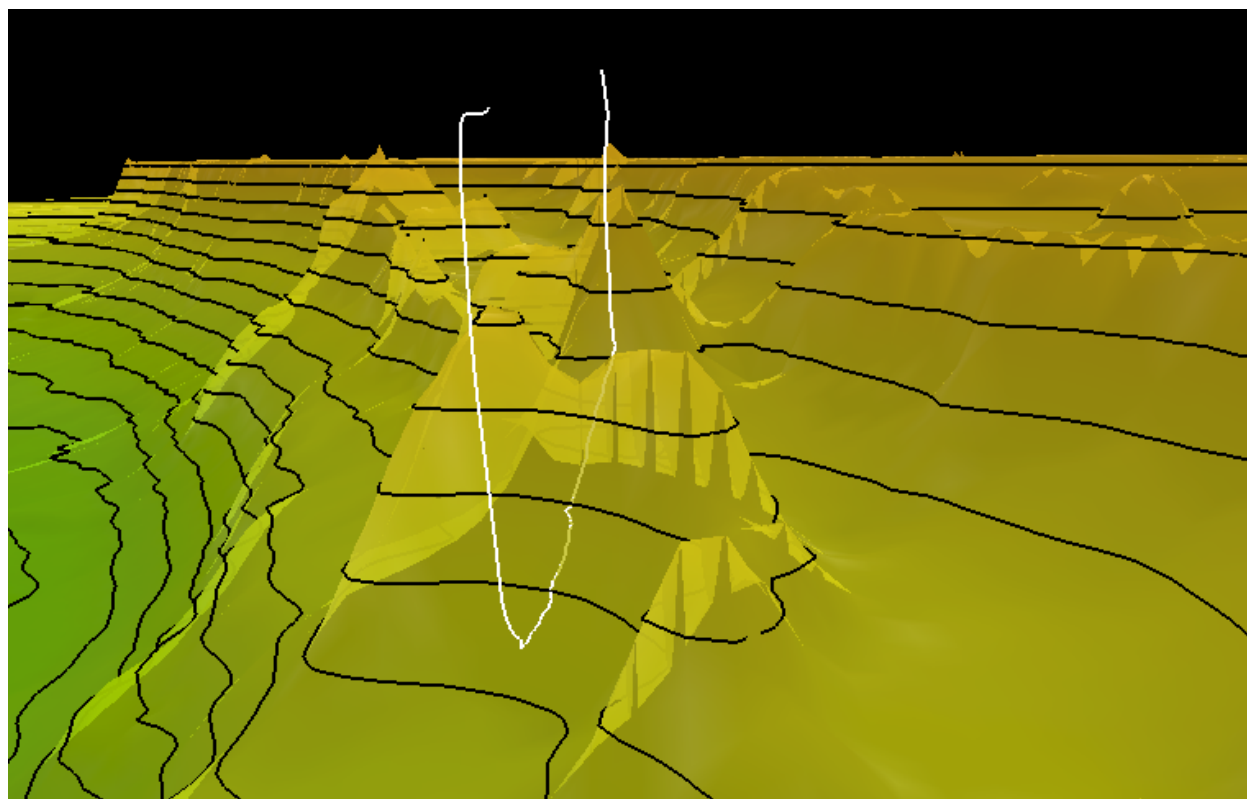
SeaTube Link (science annotations)

<https://data.oceannetworks.ca/app/dive-logs/605>

## 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. |
| Equipment Malfunctions |                                                                                                                                                                                                                                                                                       |

## Close-Up Map of Main Dive Site



Smoothed ROV dive track in white on 61x61 cell size bathymetry, 3x vertical exaggeration, depth in meters, 100 meter contours.

## Representative Photos of the Dive



*Iridigorgia* spp.



Octopus moving along seafloor.



Geological feature with small caverns and fish.

## Samples Collected



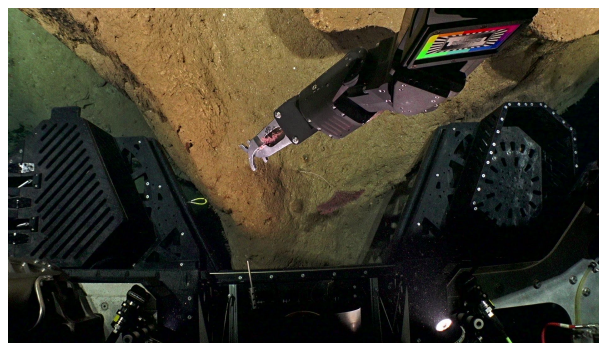
Specimen ID: EX2502\_D04\_02B  
Field ID: Crinaria,  
Vessel: Okeanos Explorer  
Cruise/DiveID: EX2502/DIVE04  
UTC Date/Time: 20250322/224435  
Dive Site: North Pacific Ocean, Penguin Bank  
Lat/Lon/Depth (m): 20.9530/-157.3877/591.13  
Preservative: 70% EtOH  
Formalin Used? No



|            |                |
|------------|----------------|
| Sample ID  | EX2502_D04_02B |
| Date (UTC) | 20250322       |
| Time (UTC) | 224435         |
| Depth (m)  | 591.125        |

|                             |                                                                                                                                                                 |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Latitude (decimal degrees)  | 20.9530239105225                                                                                                                                                |
| Longitude (decimal degrees) | -157.387664794922                                                                                                                                               |
| Temp. (°C)                  | 5.85200023651123                                                                                                                                                |
| Field ID(s)                 |                                                                                                                                                                 |
| Comments                    | Probable black coral. Excreting mucus. Dark central stalk that it branches out from. Soft to the touch, slight rigidity at tips. Brown, reddish brown in color. |

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



|                             |                   |
|-----------------------------|-------------------|
| Sample ID                   | EX2502_D04_04B    |
| Date (UTC)                  | 20250322          |
| Time (UTC)                  | 234929            |
| Depth (m)                   | 526.336975097656  |
| Latitude (decimal degrees)  | 20.9536151885986  |
| Longitude (decimal degrees) | -157.388092041016 |
| Temp. (°C)                  | 6.48400020599365  |

|             |                                                                                                                             |
|-------------|-----------------------------------------------------------------------------------------------------------------------------|
| Field ID(s) | Umbellapathes                                                                                                               |
| Comments    | probable black coral. mucousy, firm, connect at the ends of the branches, dark black main branches and mauve color exterior |

## Niskin Sampling Summary

|                             |                   |
|-----------------------------|-------------------|
| Sample ID                   | EX2502_D04_01W    |
| Date (UTC)                  | 20250322          |
| Time (UTC)                  | 215702            |
| Depth (m)                   | 624.526977539063  |
| Latitude (decimal degrees)  | 20.952751159668   |
| Longitude (decimal degrees) | -157.386993408203 |
| Bottle Number               | Niskin Bottle 1   |
| Temperature                 | 5.76200008392334  |
| Dissolved Oxygen (mg/L)     | 1.20200002193451  |
| Treatment                   | DNA/RNA Shield    |

|                             |                   |
|-----------------------------|-------------------|
| Sample ID                   | EX2502_D04_03W    |
| Date (UTC)                  | 20250322          |
| Time (UTC)                  | 225852            |
| Depth (m)                   | 555.786010742188  |
| Latitude (decimal degrees)  | 20.9534130096436  |
| Longitude (decimal degrees) | -157.388107299805 |
| Bottle Number               | Niskin Bottle 2   |
| Temperature                 | 6.10599994659424  |

|                         |                 |
|-------------------------|-----------------|
| Dissolved Oxygen (mg/L) | 1.2940000295639 |
| Treatment               | DNA/RNA Shield  |

|                             |                   |
|-----------------------------|-------------------|
| Sample ID                   | EX2502_D04_05W    |
| Date (UTC)                  | 20250322          |
| Time (UTC)                  | 235044            |
| Depth (m)                   | 527.674011230469  |
| Latitude (decimal degrees)  | 20.9535980224609  |
| Longitude (decimal degrees) | -157.388122558594 |
| Bottle Number               | Niskin Bottle 3   |
| Temperature                 | 6.5019998550415   |
| Dissolved Oxygen (mg/L)     | 1.61099994182587  |
| Treatment                   | DNA/RNA Shield    |

|                             |                   |
|-----------------------------|-------------------|
| Sample ID                   | EX2502_D04_06W    |
| Date (UTC)                  | 20250323          |
| Time (UTC)                  | 014115            |
| Depth (m)                   | 367.221984863281  |
| Latitude (decimal degrees)  | 20.9547634124756  |
| Longitude (decimal degrees) | -157.389602661133 |
| Bottle Number               | Niskin Bottle 4   |
| Temperature                 | 8.65799999237061  |
| Dissolved Oxygen (mg/L)     | 3.4909999370575   |
| Treatment                   | DNA/RNA Shield    |

|                             |                   |
|-----------------------------|-------------------|
| Sample ID                   | EX2502_D04_07W    |
| Date (UTC)                  | 20250323          |
| Time (UTC)                  | 020005            |
| Depth (m)                   | 337.509002685547  |
| Latitude (decimal degrees)  | 20.9550590515137  |
| Longitude (decimal degrees) | -157.389831542969 |
| Bottle Number               | Niskin Bottle 5   |
| Temperature                 | 9.8129997253418   |
| Dissolved Oxygen (mg/L)     | 4.40199995040894  |
| Treatment                   | DNA/RNA Shield    |

## Scientists Involved

| Name           | Email                   | Affiliation                                                                                                       |
|----------------|-------------------------|-------------------------------------------------------------------------------------------------------------------|
| Eden Zang      | eden.zang@noaa.gov      | National Marine Sanctuary Foundation                                                                              |
| Ed Lyman       | ed.lyman@noaa.gov       | NOAA Office of National Marine Sanctuaries - Hawaiian Islands Humpback Whale National Marine Sanctuary            |
| Hunter Brendel | hunter.brendel@noaa.gov | NOAA Corps/NOAA Office of National Marine Sanctuaries - Hawaiian Islands Humpback Whale National Marine Sanctuary |

### Direct inquiries to:

NOAA Ocean Exploration  
1315 East-West Highway (SSMC3 2nd Floor)  
Silver Spring, MD 20910

[ex.expeditioncoordinator@noaa.gov](mailto:ex.expeditioncoordinator@noaa.gov)