

# CTD Summary

## EX2503, CTD001, July 01, 2025

This form contains metadata information summarizing individual vessel CTD (conductivity, temperature, depth) casts in support of ocean exploration objectives. All CTD data are archived with the National Centers for Environmental Information (NCEI). For CTD-specific or expedition-specific inquiries, contact [ex.expeditioncoordinator@noaa.gov](mailto:ex.expeditioncoordinator@noaa.gov). For assistance with data access, contact [ncei.info@noaa.gov](mailto:ncei.info@noaa.gov).

### General Expedition and CTD Information

Expedition Name	EX2504, Beyond the Blue: Transit Mapping
Project ID	EX2504
CTD Cast Date (UTC)	Jul 01 2025
CTD Number	CTD001
Expedition Coordinator	Kasey Cantwell
Survey Lead	SST Sophie Caradine-Taber
General Area Descriptor	Marshall Islands
Site Name	STN003
CTD Cast Purpose	First deployment of new CTD rosette systems. Primary objective was to test that all equipment was working correctly and to complete shakedown objectives.

### CTD Cast Location, Depth, and Time

Locations are the ship's position. Coordinates are referenced to the World Geographic System, 1984.

Deployment Latitude (decimal degrees)	13.767
Deployment Longitude (decimal degrees)	167.4795

Deployment Time (UTC)	03:42:50
CTD Max Depth (meters)	1400 m
Recovery Latitude (decimal degrees)	Not recorded
Recovery Longitude (decimal degrees)	Not recorded
Recovery Time (UTC)	10:38:53

## Environmental Sensor Information

Sensors are calibrated yearly or more frequently as required. Calibration information and files are stored with the sensor data.

Data Type	Sensor Name	Collected (Yes/No)	Data Issues/Notes
Depth	SBE-9plus	yes	
Conductivity 1	SBE-9plus	yes	
Conductivity 2	SBE-9plus	yes	
Temperature 1	SBE-9plus	yes	
Temperature 2	SBE-9plus	yes	
Dissolved Oxygen	SBE-43	yes	
Turbidity	ECO-FLNTU	yes	
Oxygen Reduction Potential	PMEL	yes	

**Issues detected:** Altimeter did not function properly during deployment and ~50% of the bottles triggered at 1400 m did not close (as confirmed upon inspection at recovery). As this was the first deployment of this equipment, issues were anticipated. Onboard team will troubleshoot in advance of future deployments.

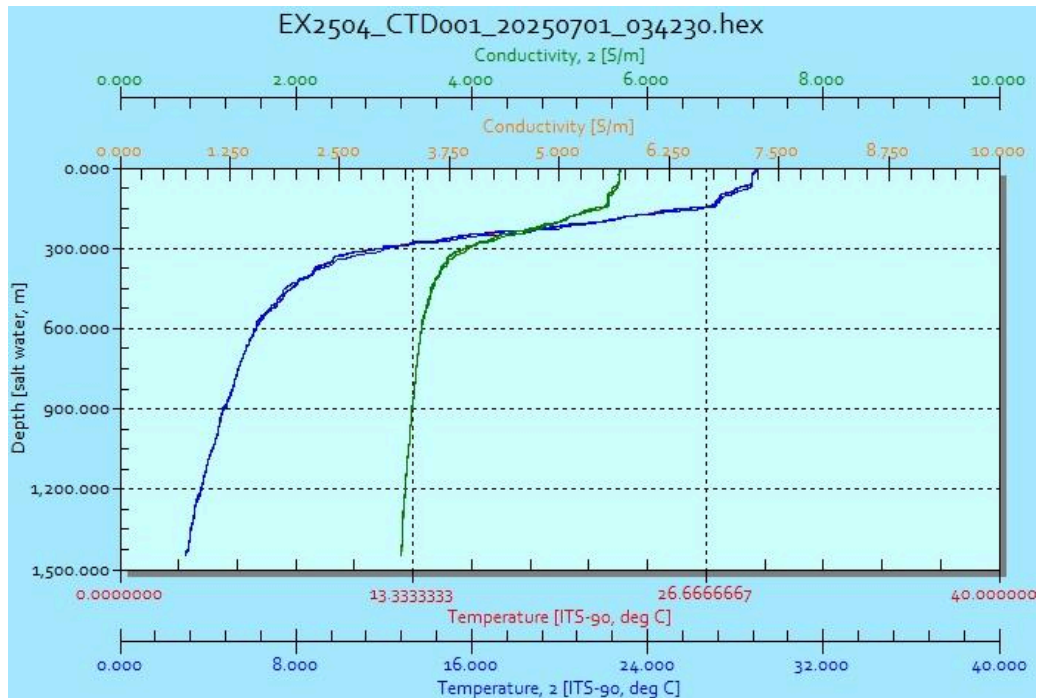


Figure 1: Temperature (°C)(green line) and conductivity (S/m)(orange line) profiles

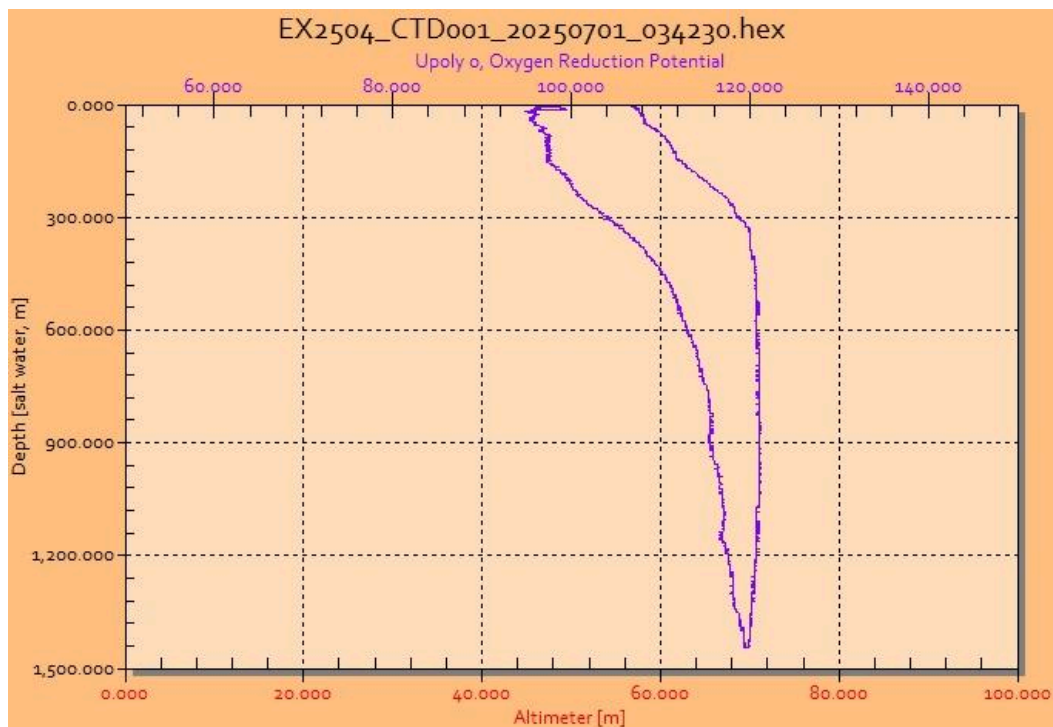


Figure 2: Oxygen saturation (% saturation) (purple line), oxygen concentration (umol/kg) (blue line), and oxygen reduction potential (brown line) profiles

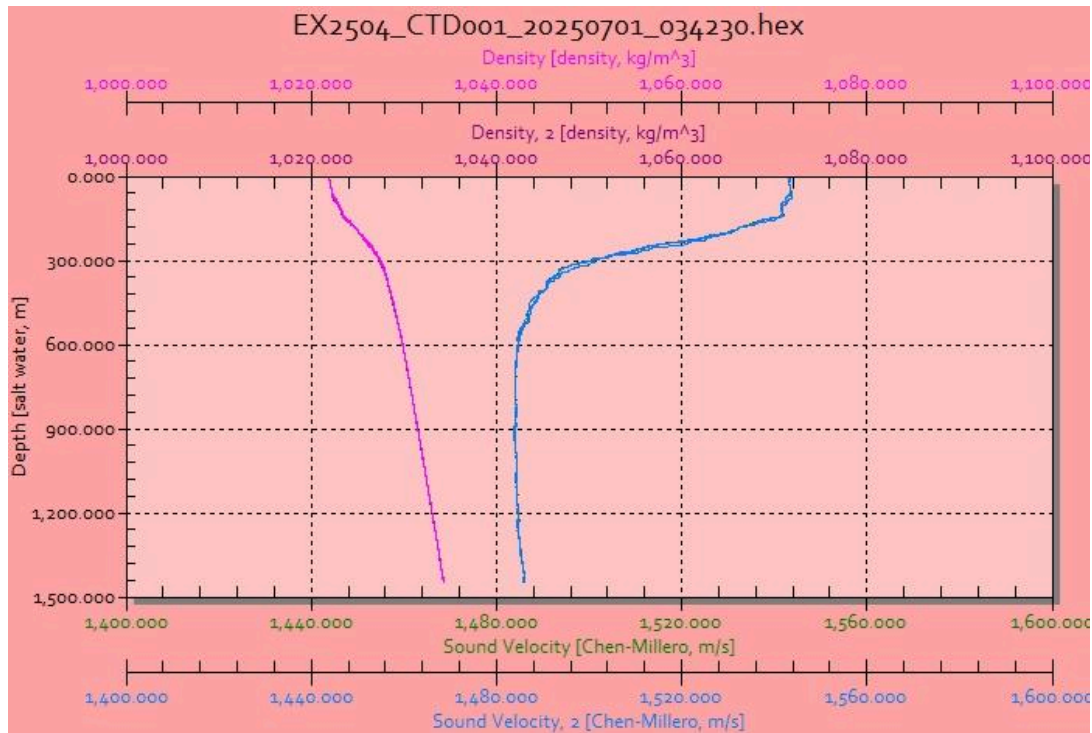


Figure 3: Sound velocity (Chen-Millero, m/s)(blue line) and salinity (PSU)(red line) profiles

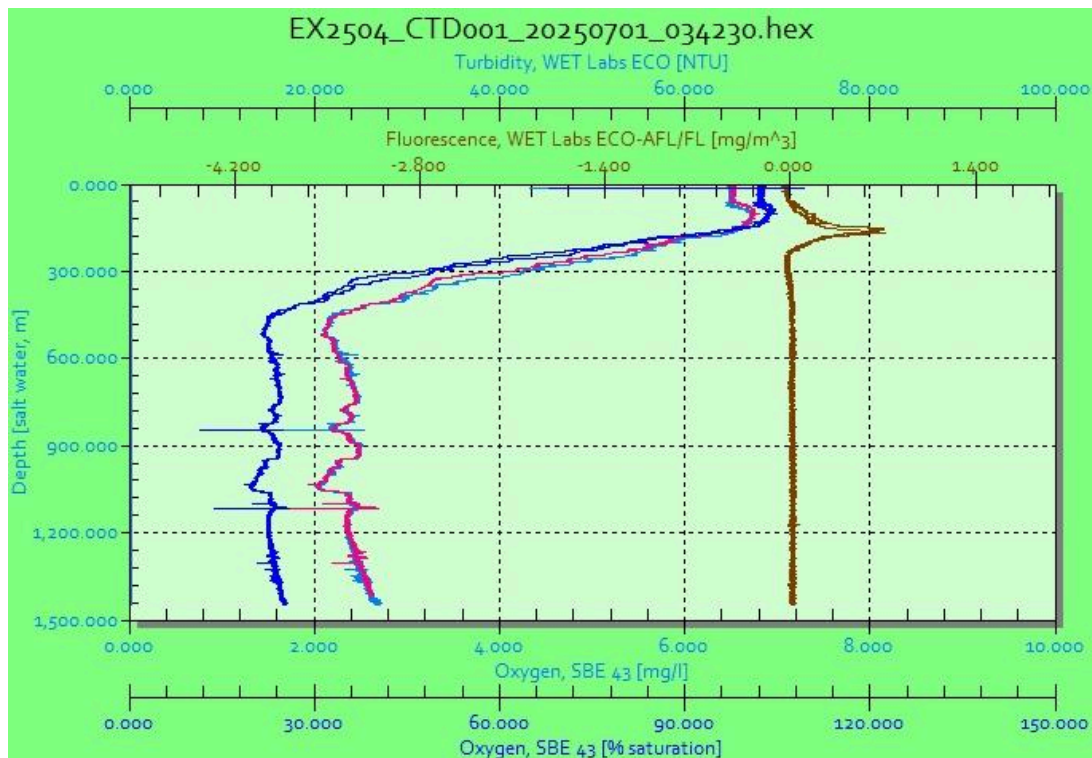


Figure 4. Turbidity (NTU)(blue line), Fluorescence (mg/m<sup>3</sup>)(green line), Oxygen Reduction Potential (purple line).

## Water Sample Collections

Purpose of Water Sample Collection	This cast was conducted as a test of new CTD equipment. Bottles were triggered and water was collected to confirm the bottles worked and maintained a tight seal from time of trigger to recovery.
Description of Processing/Analysis at Sea	Water was assessed for volume inside the bottle, and then discarded. No scientific samples were collected.
Description of At-Sea Storage	N/A

**Direct inquiries to:**

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