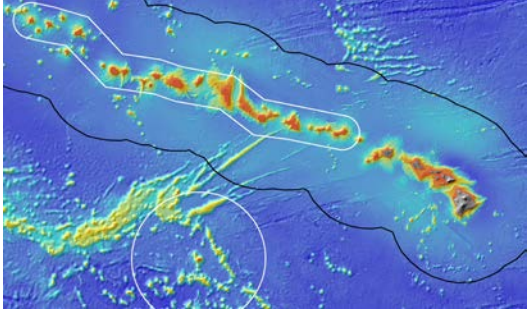


OKEANOS EXPLORER ROV DIVE SUMMARY

Site Name	S19 Submarine Site			
ROV Lead/Expedition Coordinator	Brian Bingham Kelley Elliott			
Science Team Leads	Frank Parrish (Biology) Christopher Kelley (Biology) Hans Von Tilburg (Archaeology)			
General Area Descriptor	Main Hawaiian Islands			
ROV Dive Name	Cruise Season	Leg	Dive Number	
	EX1504	3	DIVE07	
Equipment Deployed	ROV:	Deep Discoverer		
	Camera Platform:	Seirios		
ROV Measurements	<input checked="" type="checkbox"/> CTD	<input checked="" type="checkbox"/> Depth	<input checked="" type="checkbox"/> Altitude	
	<input checked="" type="checkbox"/> Scanning Sonar	<input checked="" type="checkbox"/> USBL Position	<input checked="" type="checkbox"/> Heading	
	<input checked="" type="checkbox"/> Pitch	<input checked="" type="checkbox"/> Roll	<input checked="" type="checkbox"/> HD Camera 1	
	<input checked="" type="checkbox"/> HD Camera 2	<input checked="" type="checkbox"/> Low Res Cam 1	<input checked="" type="checkbox"/> Low Res Cam 2	
	<input checked="" type="checkbox"/> Low Res Cam 3	<input checked="" type="checkbox"/> Low Res Cam 4	<input checked="" type="checkbox"/> Low Res Cam 2	
Equipment Malfunctions	N/A			
ROV Dive Summary (From processed ROV data)	Dive Summary: EX1504L3_DIVE07 ^^^ In Water: 2015-09-03 Out Water: 2015-09-03 Dive duration: 3:33:43 Bottom Time: 2:51:37 Max. depth: 402.9 m			
Special Notes				
Scientists Involved (please provide name / location / affiliation / email)	Frank Parrish, EX, NOAA, Frank.Parrish@noaa.gov Chris Kelley, EX, UH, ckelley@hawaii.edu Hans Van Tilburg, EX, ONMS, hans.vantilburg@noaa.gov Rachel Bassett, SC, DSCRTP, rachel.bassett@noaa.gov Andrea Quatrini, CA, USGS, aquatrini@usgs.gov Amy Baco-Taylor, FL, FSU, abacotaylor@fsu.edu Asako Matsumoto, Japan, CIT, amatsu@gorgonian.jp Chris Mah, DC, SI, mahch@si.edu Scott France, LA, ULL, france@louisiana.edu Brendan Roark, TX, TAMU, broark@geos.tamu.edu Bruce Mundy, IRC ECC, PIFSC, bruce.mundy@noaa.gov Mary Wicksten, TX, TAMU, wicksten@bio.tamu.edu Michael Parke, IRC ECC, PIFSC, Michael.Parke@noaa.gov John R. Smith, UH ECC, UH, jrsmith@hawaii.edu Daniel Warren, TX, C&C Technologies, dan.warren@cctecnol.com Jennifer McKinnon, NC, ECU, mckinnonje@ecu.edu Melanie Damour, LA, BOEM, Melanie.Damour@boem.gov Frank Cantelas, SS ECC, OER, frank.cantelas@noaa.gov Kim Faulk, TX, GEMS/ACUA, Kim.Faulk@f-e-t.com			

Purpose of the Dive

This dive will visit the hull of the World War I submarine S-19 which now rests on the bottom at 414 m in the middle of a sand expanse. After service in World War I the vessel was no longer needed and was intentionally scuttled by the Navy in 1938 and now serves as a relatively new feature of hard bottom habitat (~75 yrs old) for deep corals to colonize. The hull, which is intact, provides a unique glimpse of a community of pioneer settlement in deep corals. The objectives of the dive are to (1) recover a flow meter placed on the stern of the S-19, (2) to make observations on the condition of the vessel to support information on submerged cultural resources and (3) practice deploying and recovering a mock-up of a tilt meter instrument.

Description of the Dive:

All of the dive objectives were completed. The flowmeter was successfully recovered from the stern section of the S-19 hull. A complete survey of the of the full deck area of the S-19 hull was conducted with attention to the deep coral community looking for any evidence of recent arrival of the parasitic gold coral to resident host population growing on the S-19 hull. The practice deployment and recovery of the mock-up tilt meter indicated there would likely be few problems with the future deployment and recovery of the actual instruments. Observations on the condition of the S-19 itself indicate the submarine is relatively intact, aside from features removed prior to disposal, and resting on its midship section. Scour craters exist beneath both the unsupported bow and stern. Deterioration, flexing, and active corrosion of the hull and weather deck is very low compared to other sunken submarines. The survey was particularly useful for understanding the salvage operations completed prior to sinking. Diesel engines, superstructure, anchor, rudder and stern dive planes, propellers and shafts, and rotating bow planes had all been removed before the sub was scuttled.

Animals observed during the dive are listed below.

Cnidarians:

Thouarella hilgendorfi
Paracalyptrophora sp
Narella sp
Anthothela sp white
Gardineria hawaiiensis?
Lepidisis sp
Corallium sp
Acanella dispar
Madrepora oculata
Bathypathes sp
Stichopathes sp white
Callogorgia gilberti
Acanthogorgia sp
Plexauridae
Stoloniferous octocoral
Actinostolidae
Hormathiidae
Hydrodendron gorgonoide
Isadella sp
Paracalyptrophora sp
tubulariid hydrozoans

Sponges

Regadrella sp

Echinoderms

Ophiuroids
Stereocidaris hawaiiensis
Antedon sp yellow
Histocidaris variabilis
Astroceramus eldridgei
Charitometridae/Thalassometridae

Gorgonicephalidae

Arthropods

- Heterocarpus ensifer
- Plesionika pacifica
- Plesionika edwardsii
- Gooseneck barnacles
- Munida sp

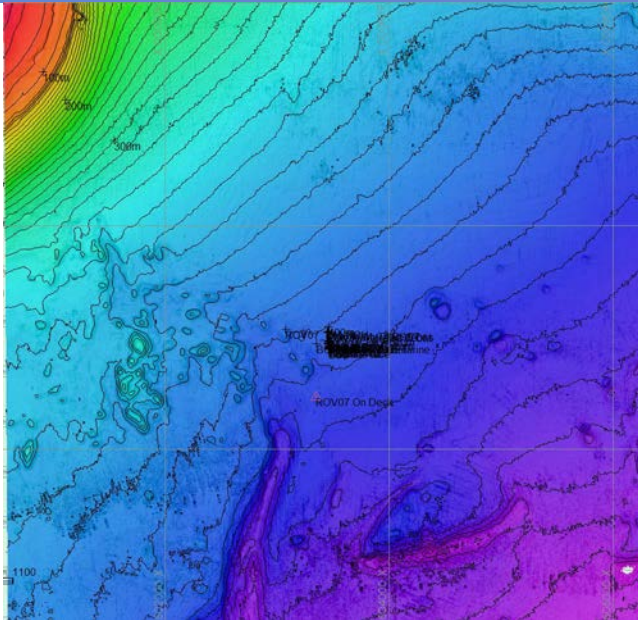
Fishes

- Polymixia sp
- Chrionema chryseres
- Laemonema rhodochir
- Pontinus macrocephalus
- Hollardia goslinei
- Moridae
- Chaunax umbrinus
- Epigonus sp

Other

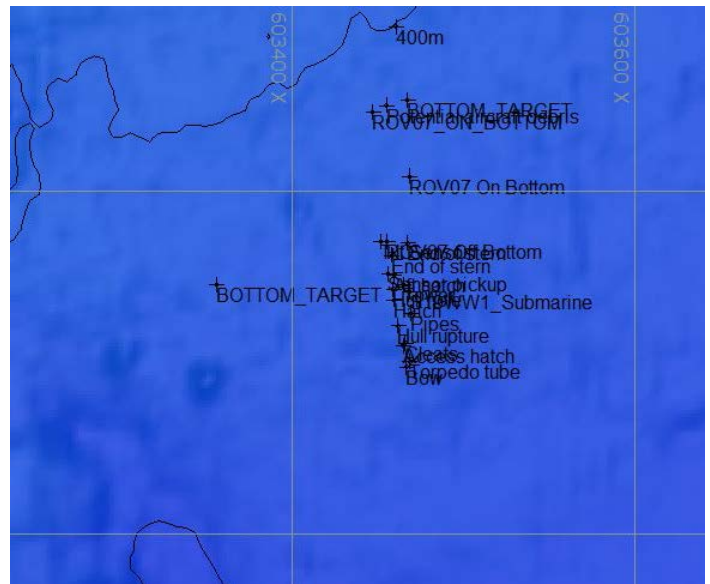
- Lyrocteis sp

Overall Map of ROV Dive Area



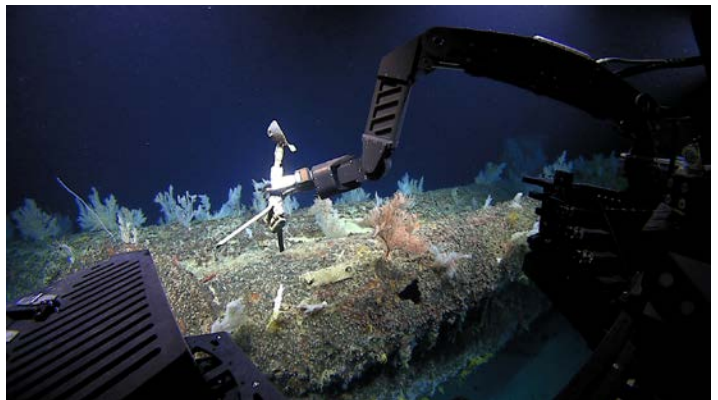
Hypack screen grab showing bathymetry data for the dive site.

Close-up Map of Main Dive Site



Close up view of Hypack screen grab showing waypoints dropped during actual ROV dive.

Representative Photos of the Dive



Close-up image showing the deterioration and active corrosion of the sub, which is covered with corals.

ROV D2 recovers the flow meter from the stern section of the S-19.

Please direct inquiries to:

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