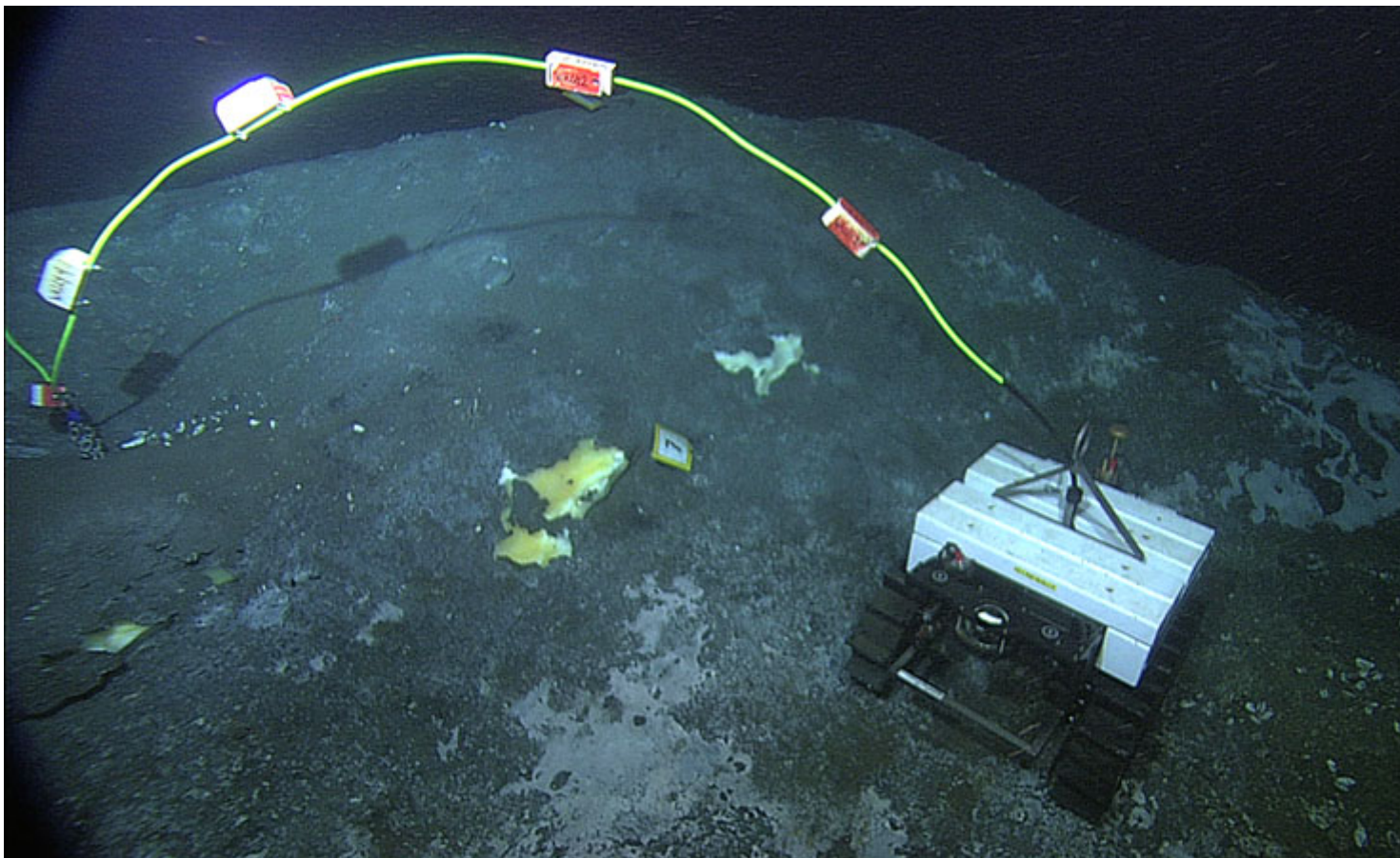


Stuck Crawler Gets Unstuck

Submitted by Dwight Owens Wed, 2014-03-19 11:03

The little crawler that could, **couldn't** for a while. Then it **could** again, thanks to skillful and persistent efforts by a scientist driving it from the other side of the planet.

Wally I is one of 2 remotely operated deep-sea crawlers helping researchers study the gas hydrates outcrops in Barkley Canyon. The crawlers Wally I and Wally II are deployed in a "tag team" rotation, one installed at a depth of 870 m, while the other undergoes servicing and upgrades at Jacobs University in Bremen, Germany. Wally I was last deployed to "Wallyland" in August 2012, and has been making regular forays along a set route marked by flags amongst the hydrate outcrops. (Note that the researchers "driving" Wally do so from the comfort of their offices in Europe, some 8500 km away!)



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Wally, an Internet-controlled seafloor crawler, is supplied with power and communications via an umbilical cable connected to the nearby instrument platform and junction box.

Throughout the month of February 2014, Wally I was performing well, helping researchers complete photomosaics of clams, bacterial mats, nearby benthic experiments and general hydrate mound features in Wallyland. On 28 February, after a routine data collection jaunt, Wally was driving down the main track toward waypoint 16. Along this track, waypoint 14 has been especially problematic of late. Last year, Wally got bogged down next to the marker, so researchers had been avoiding it, keeping well to the north on the edge of the previously driven tracks. This procedure had worked well for the past 4 months, but on this particular day, Wally apparently hit a newly developed vent site filled with fluid mud ? a sort of underwater quicksand. All mobility was lost and the scientists concluded that Wally may have high-centred "on his engine blocks toward the back of the vehicle."



Map of installations at Barkley Hydrates, including Wallyland waypoint markers (yellow), two rotary sonars and the Barkley Hydrates instrument platform. Wally became bogged down next to waypoint marker 14. Bathymetry provided by Monterey Bay Aquarium Research Institute. (Click to enlarge.)

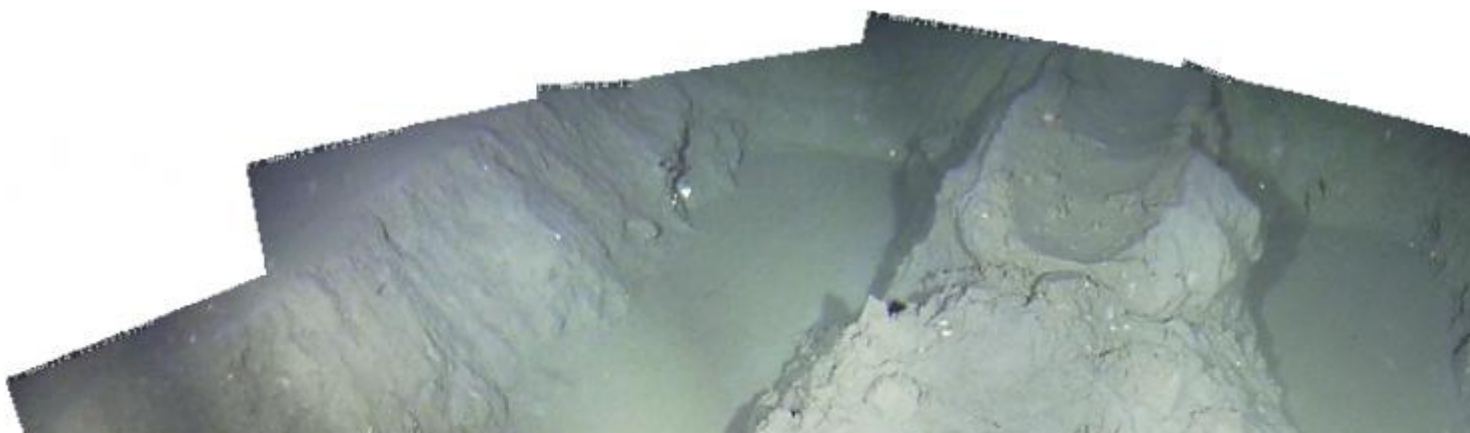


The muddy view Wally's front camera after the crawler became stuck on 1 Mar 2014.

"The crawler is half embedded into the fluid mud now, with little chance to recover..."

The researchers tried repeatedly to free the crawler, waiting for times when strong currents could carry away some of the mud kicked up in the process. During these escape attempts, oily bubbles were seen seeping out of the sediment. This oil made the mud even slipperier and Wally's tractor treads could not find traction. In addition, Wally's power consumption had to be monitored closely to avoid tripping the junction box fuse and losing power altogether. Lead researcher Laurenz Thomsen reported, "the crawler is half embedded into the fluid mud now, with little chance to recover without help of [remotely operated vehicle] ROPOS."

But, Autun Purser did not give up on Wally. On 17 March (18 days after getting stuck), Autun managed to free the crawler from the soft sediments and drive him onto a patch of more solid seabed. This news was received joyfully by researchers and technicians on both sides of the Atlantic.



Deep ruts remained in the oily sediments of the methane seep where Wally was stranded for 18 days. (Click to enlarge.)

Wally I will continue serving science and research duties until May, when his brother Wally II is scheduled to replace him in Wallyland. During the May redeployment (part of the [Wiring the Abyss 2014](#) expedition), the Wallyland waypoint pathway will be modified, however, with a new wide detour around that oily methane seep next to marker 14.

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Tags:

- [wally; crawler; gas hydrates; methane hydrates; methane; Jacobs University; Bremen; Germany; Autun Purser; Laurenz Thomsen; Barkley Canyon; Internet-operated crawler](#)

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ONC_breadcrumb.innerHTML = ONC_innerHTML; }
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