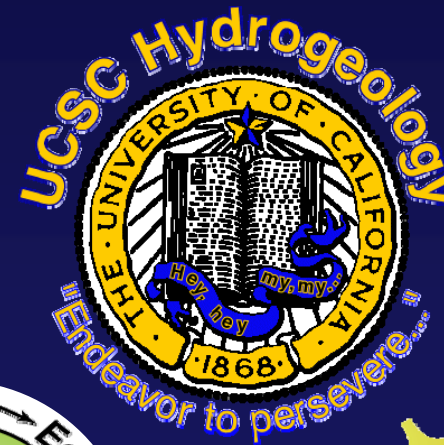


Servicing borehole observatories to run three-dimensional cross-hole perturbation and monitoring experiments, eastern flank of the Juan de Fuca Ridge

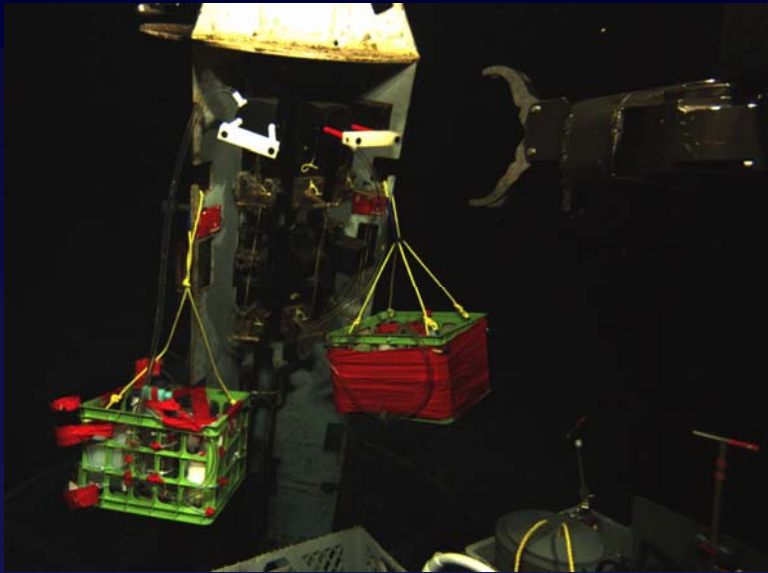
A. T. Fisher¹, K. Becker², C. G. Wheat³, J. F. Clark⁴, S. Cooper⁵, J. Cowen⁶, K. Edwards⁷, and the AT18-07 Shipboard Party

- ¹ University of California, Santa Cruz
- ² University of Miami
- ³ University of Alaska Fairbanks
- ⁴ University of California, Santa Barbara
- ⁵ Consortium for Ocean Leadership
- ⁶ University of Hawaii
- ⁷ University of Southern California

*DESSC Annual Review
San Francisco Marriott
5 December 2011*

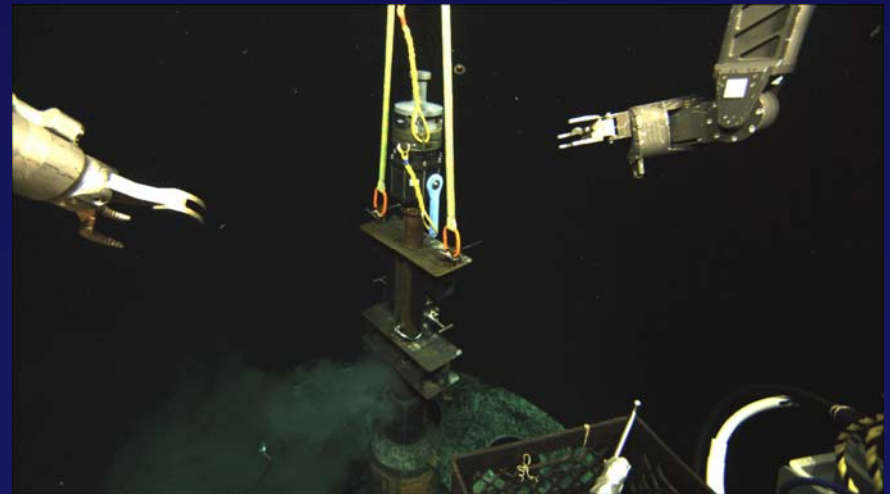


Expedition AT18-07 Goals

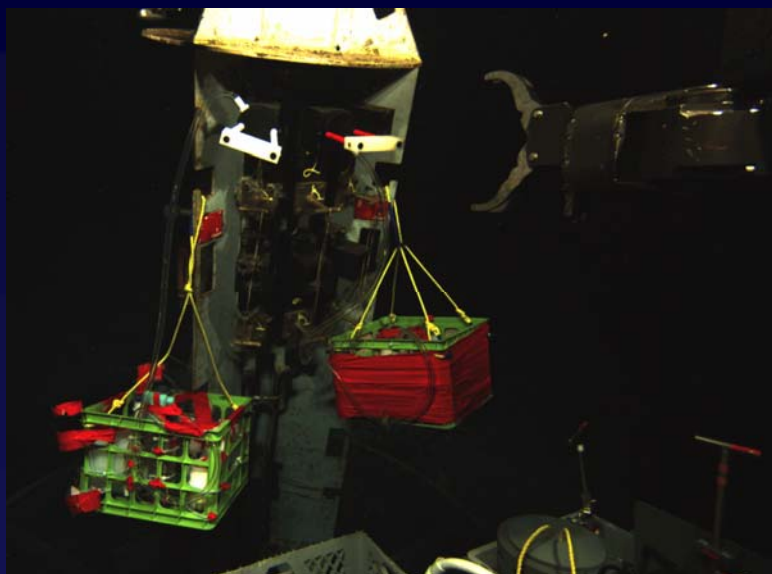


- Service seven CORK borehole observatories
- Download downhole pressure data
- Recover OsmoSampler systems, deploy new systems
- Assess and retrofit old CORKs for pressure monitoring

- Recover and redeploy long-term sampling/measurement sled
- Collect large volume samples
- Deploy autonomous flowmeter
- Initiate long-term, cross hole discharge test



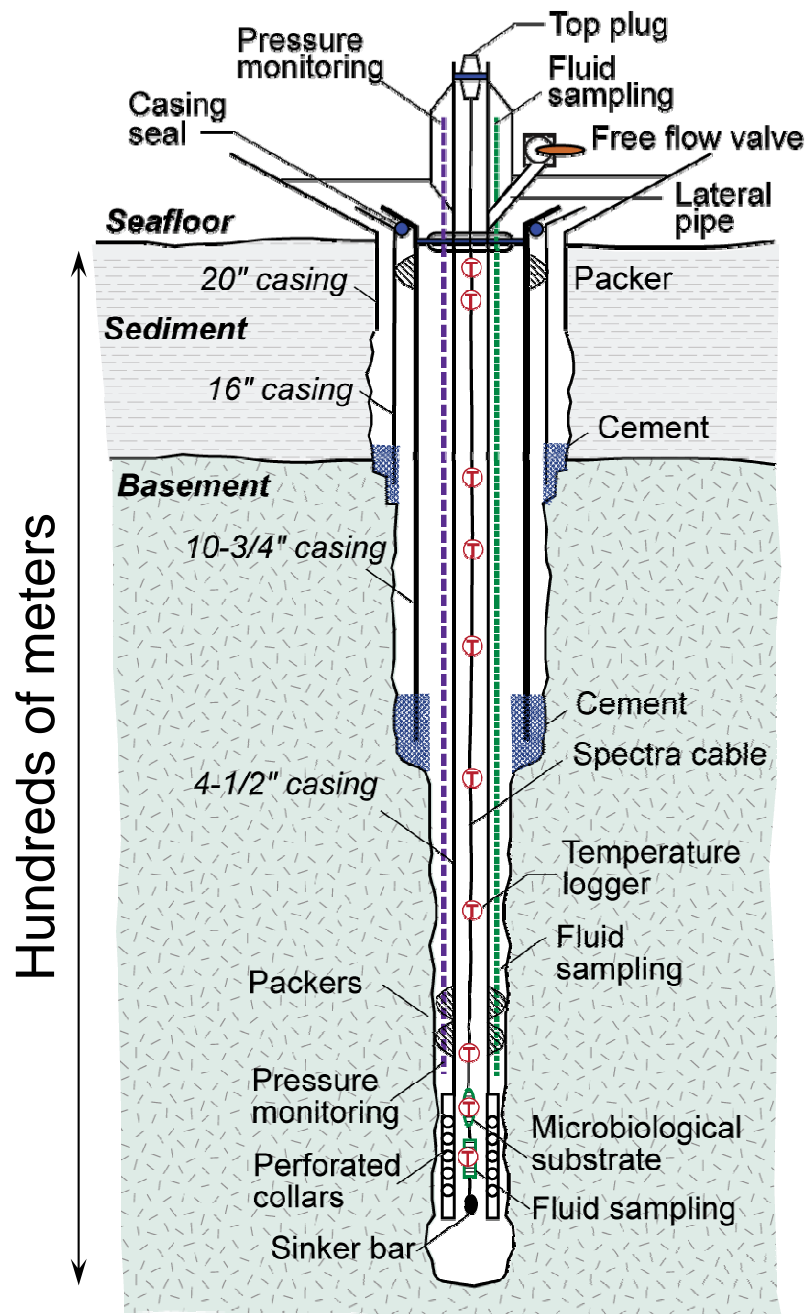
All Expedition AT18-07 Goals Accomplished!



- Service seven CORK borehole observatories
- Download downhole pressure data
- Recover OsmoSampler systems, deploy new systems
- Assess and retrofit old CORKs for pressure monitoring

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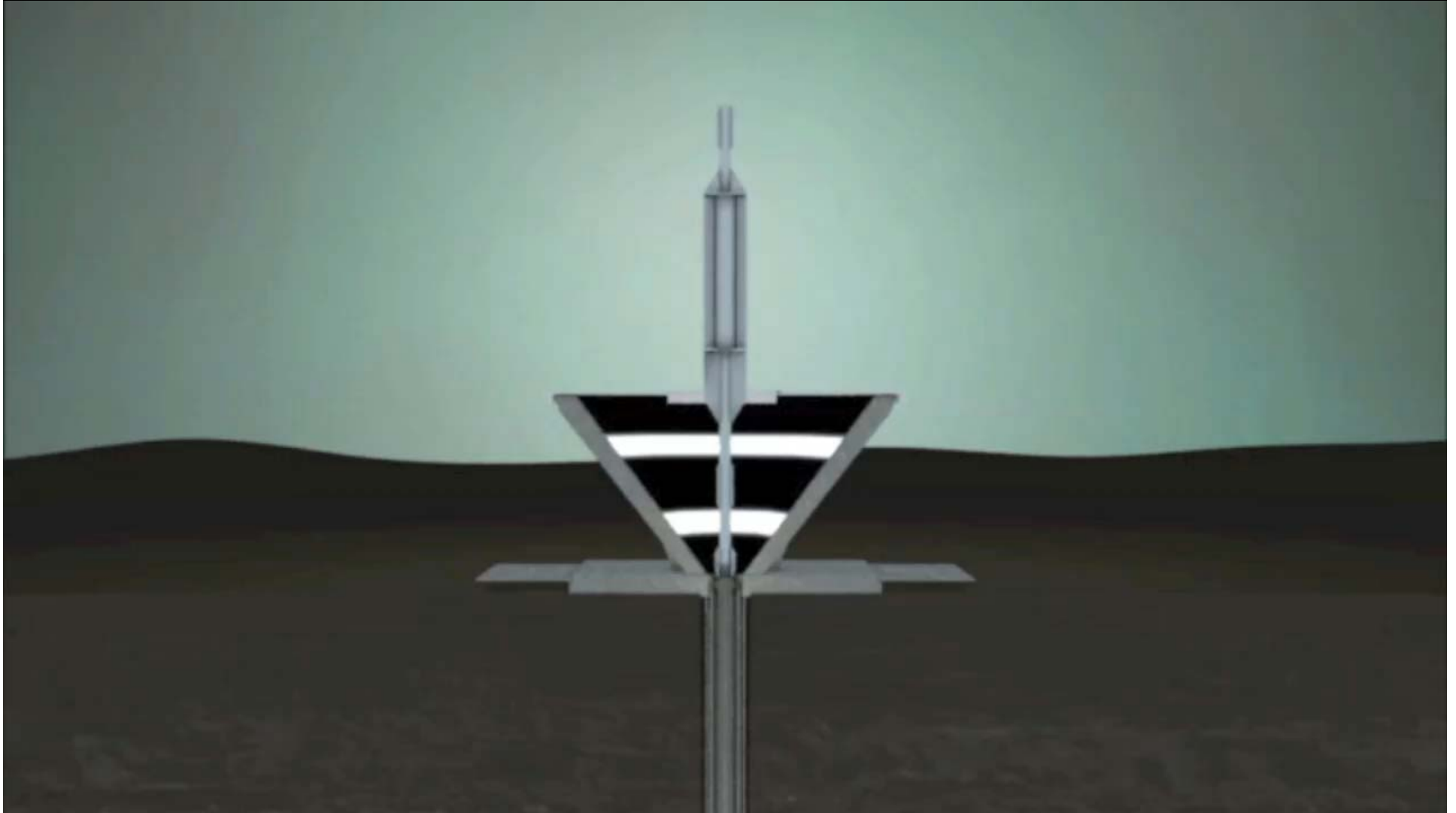
modified from Fisher et al. (2011)

Subseafloor borehole observatories (CORKs)

- Seal reentry hole to prevent hydrologic contamination, allow return to pre-drilling P/T/Chemistry/MBIO conditions
- Allow access to the subseafloor environment over long times, without drillship
- Permit passive monitoring, facilitate active testing
- Isolate multiple depth intervals

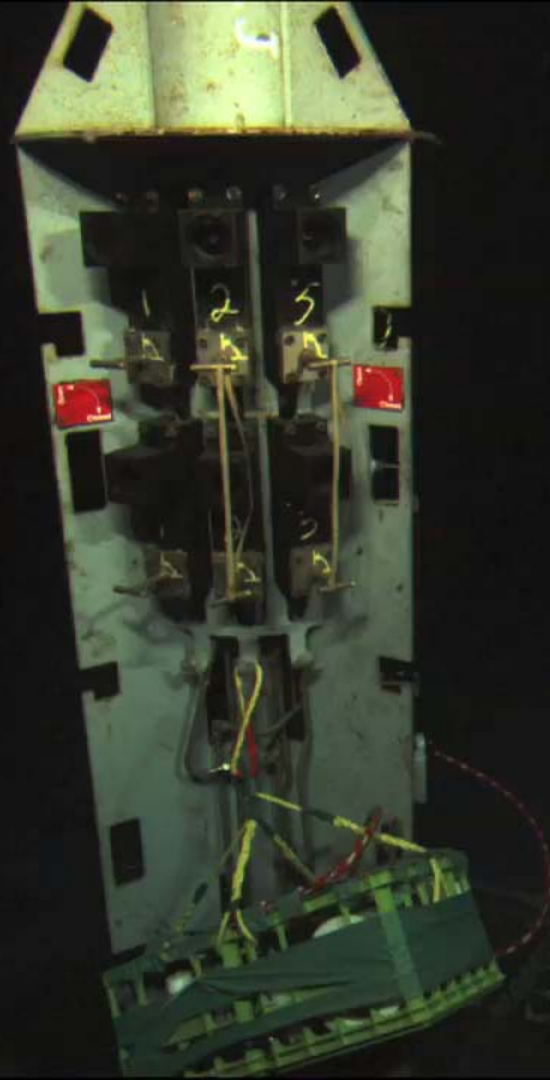
*Sounds like a lot of work...
It is! But it's worth the effort...*

Animation of CORK subseafloor observatories



Created by Stephanie Keske, IODP Expedition 327
Department of Visualization, Texas A & M University

Video from Atlantis/Jason Expedition AT18-07



CORK in Hole 1362B August 2011

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Planning, field support:

WHOI National Deep Submergence Facility:



IOs for ODP and IODP, crews and technicians of: *J. Resolution, Atlantis, Thompson...*