



Bureau of Safety and Environmental Enforcement

BSEE

Oil Spill Preparedness Division

Response Research Branch

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March 28, 2018

“To promote safety, protect the environment and conserve resources offshore through vigorous regulatory oversight and enforcement.”

BSEE Oil Spill Response Research (OSRR)

Overview

- Oil Spill Response Research Overview
- Ohmsett
- Select Projects
 - Project 1081 Alion ICEHORSE II
 - Project 1087 Ice Floe Tracking System
- Navigating the BSEE.gov

BSEE Oil Spill Preparedness Division

Oil Spill Response Research (OSRR) Overview



R&D Projects

FY16-\$7.5M

FY17-\$10.9M

30+ on-going

3 under peer review

120+ projects since 2012



Focus areas

Detection

Containment

Treatment

Recovery and cleanup

In-situ burning

Decision making support

BSEE Oil Spill Response Research

Ohmsett

National Oil Spill Response Research &
Renewable Energy Test Facility (Leonardo, NJ)

667 ft long x 65 ft wide x 11 ft deep (water 8 ft)

Simulated sea water

Wave generator

Testing in drift ice conditions

Tank chillers for cold water testing (29°F)

Training available

www.ohmsett.com



BSEE OSRR - Mechanical Recovery

Advancing ICEHORSE (ICEHORSE II)

BSEE OSRR #1081

- Alion Science and Technology Corporation
- PI: Dr. Gregory Johnson
- Estimated Completion: May 2018

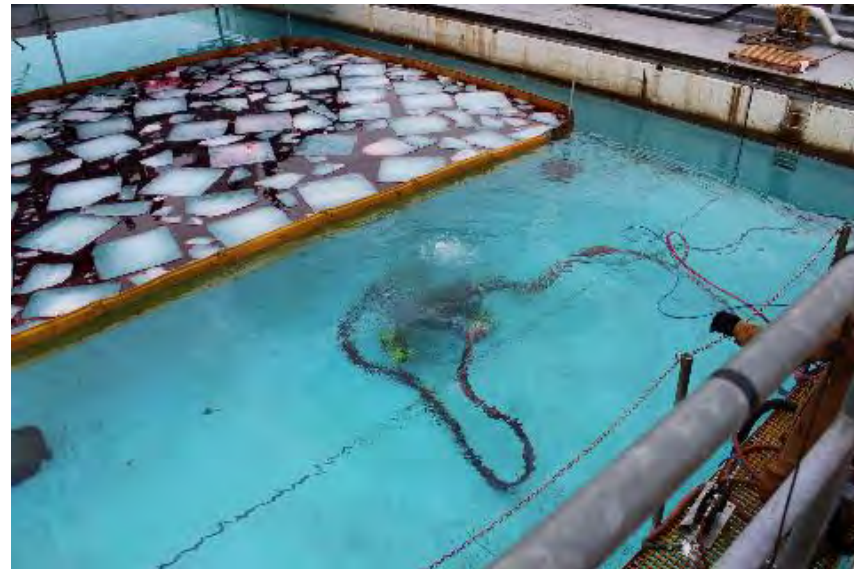
Objective: Further develop ICEHORSE prototype from BSEE OSRR #1053, ROV submersible sled skimmer technology, for use in operational environment.

Goal is to reach TRL 6.

Highlights:

Improve software interfaces, watertight electrical enclosure, and mounts.

Final testing conducted March 12-16, 2018

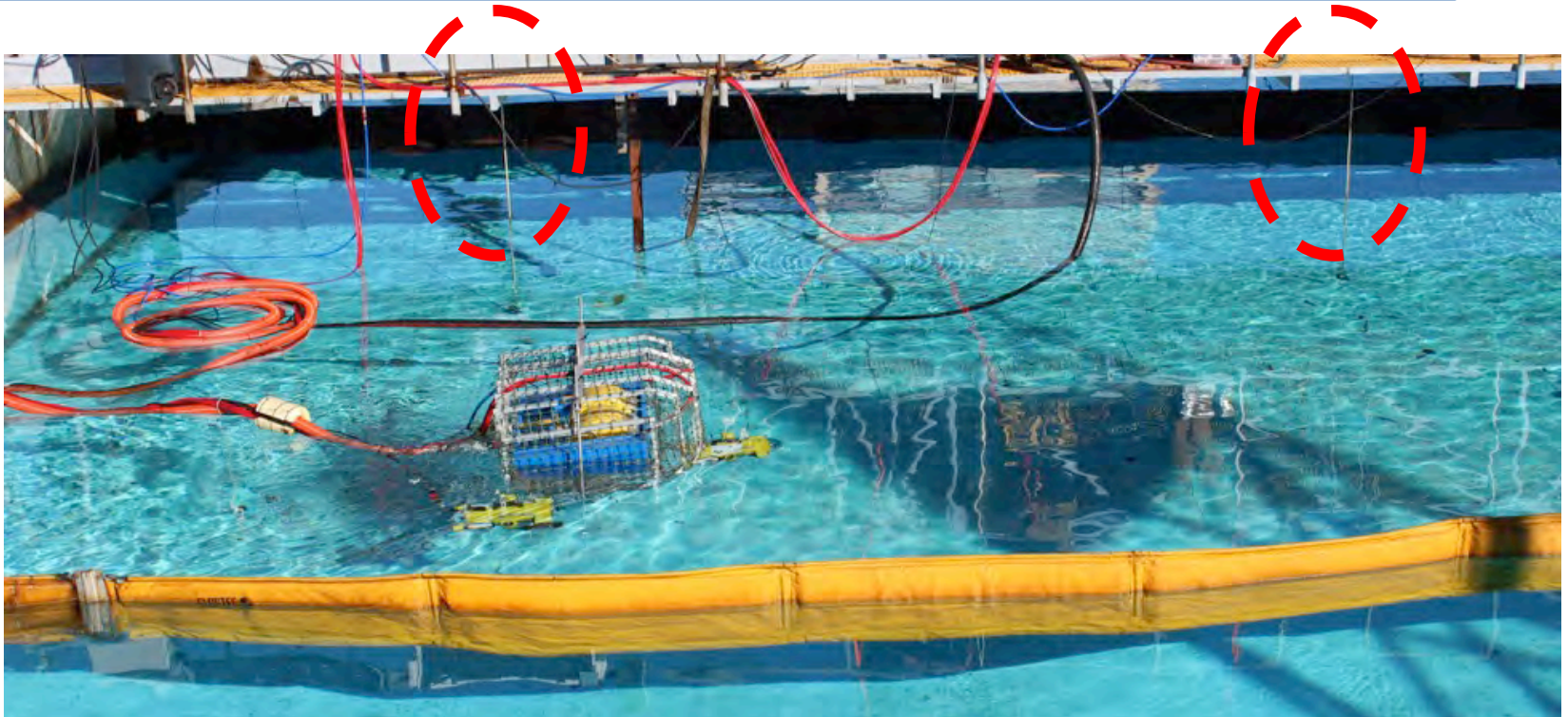


BSEE OSRR - Mechanical Recovery

ICEHORSE Proof-of-Concept

BSEE OSRR #1053

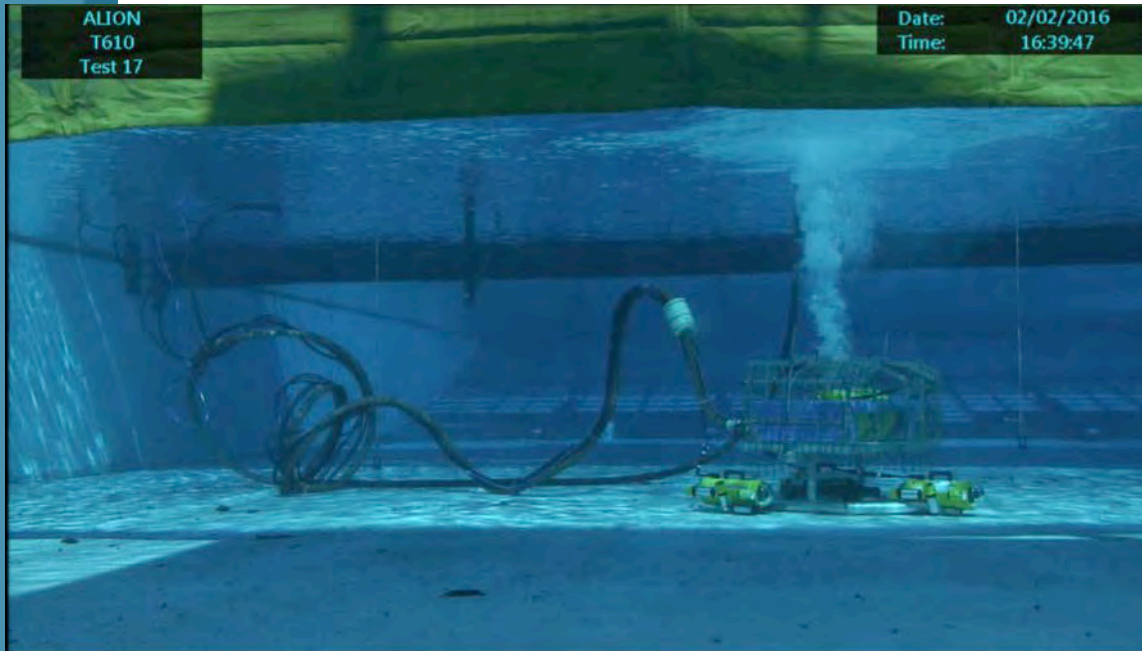
- Alion Science and Technology Corporation (PI: Dr. Gregory Johnson)
- Completed: May 2016



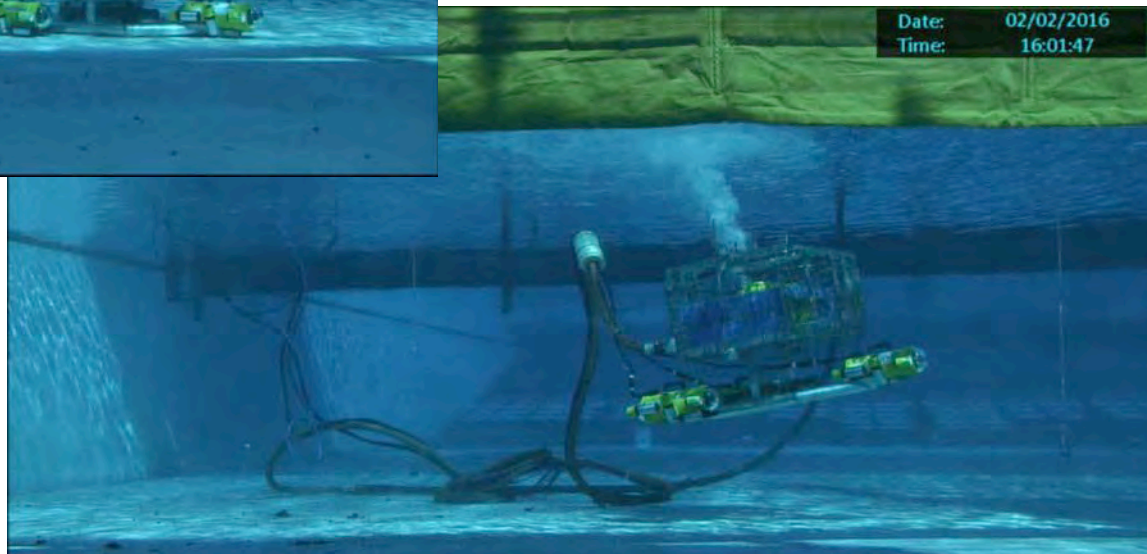
Ohmsett Testing in Feb 2016(Time trials for Prototype)

BSEE OSRR - Mechanical Recovery

ICEHORSE Proof-of-Concept



Shore side equipment
(Controls)



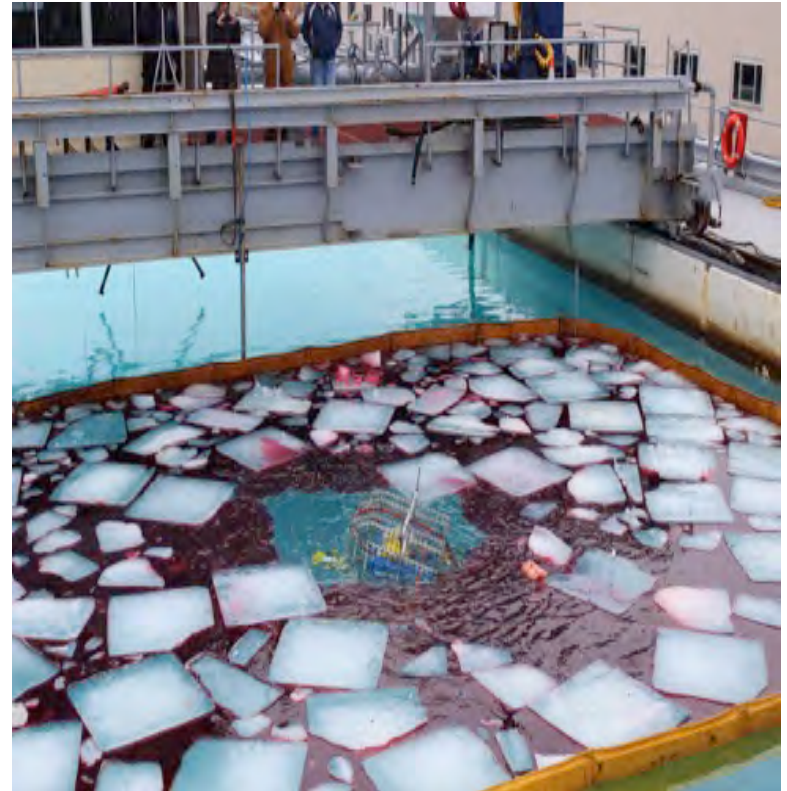
Ohmsett Testing in Feb 2016 (Maneuverability)

BSEE OSRR - Mechanical Recovery

ICEHORSE Proof-of-Concept



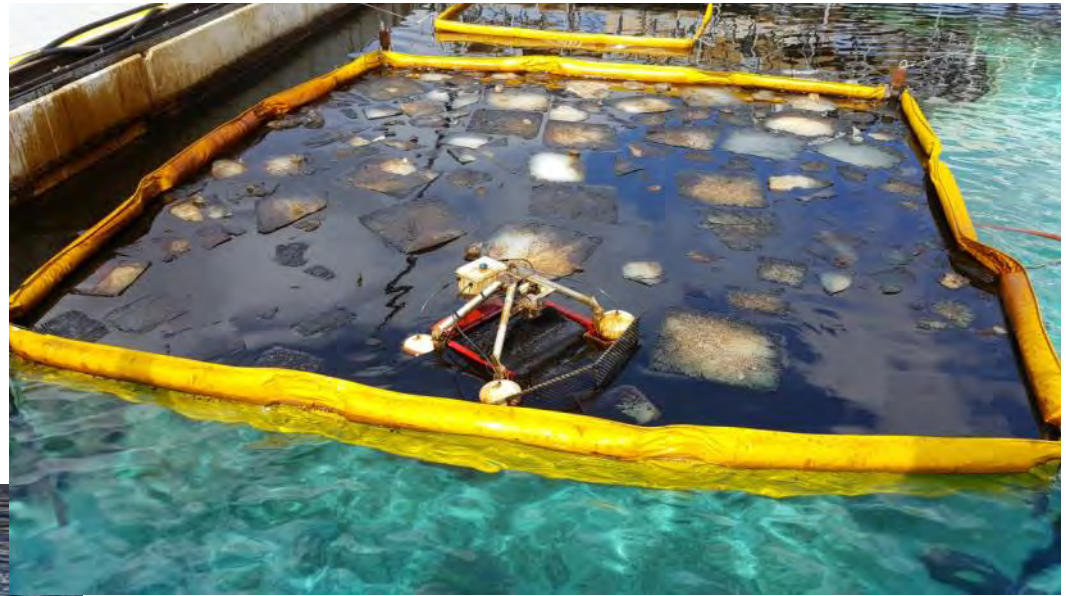
Ohmsett Testing in Feb 2016
Ice Coverage at 30% with Oil



Ohmsett Testing in Feb 2016
Ice Coverage at 70% with Oil

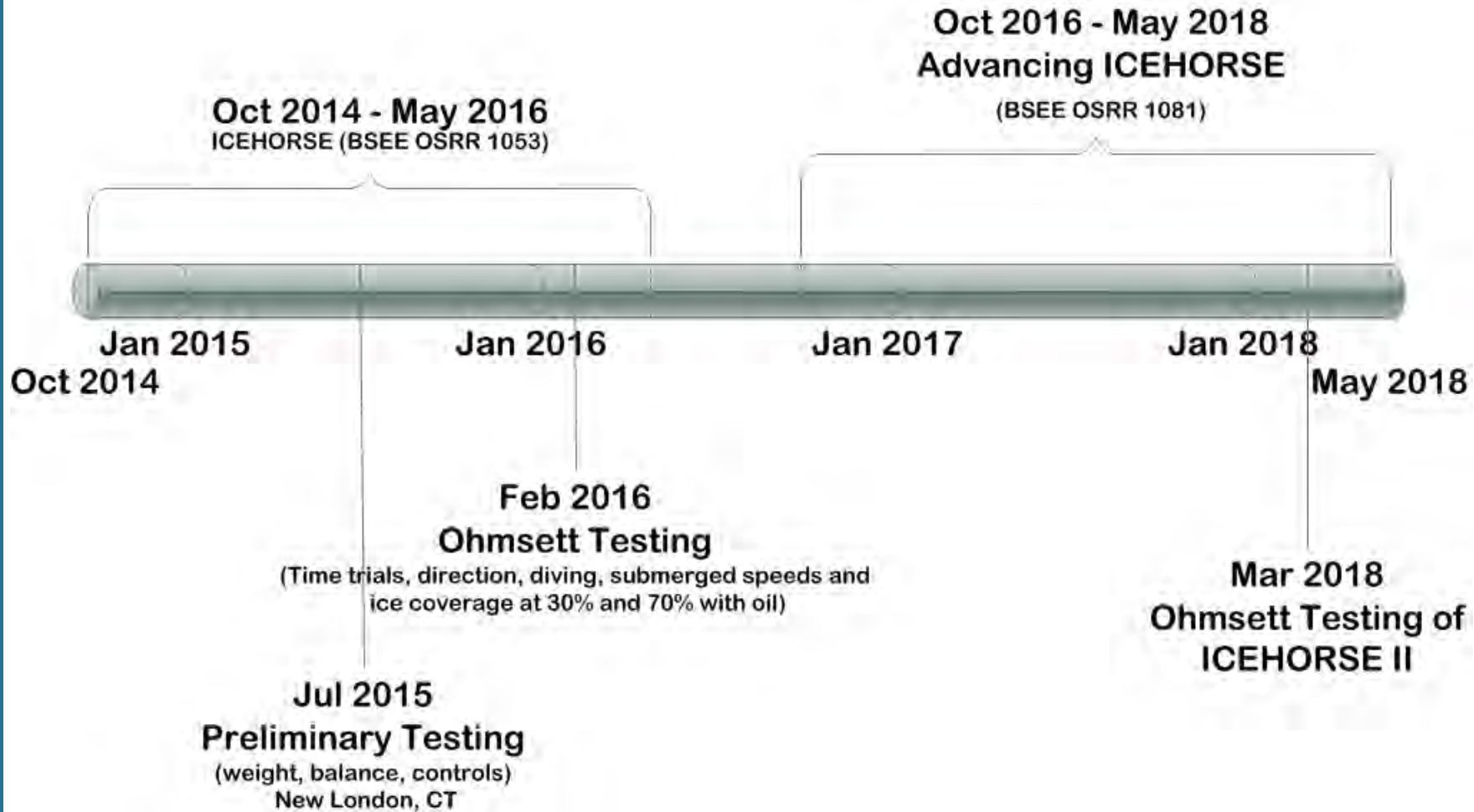
BSEE OSRR - Mechanical Recovery

Advancing ICEHORSE (ICEHORSE II)



BSEE OSRR - Mechanical Recovery

ICEHORSE and Advancing ICEHORSE Timeline



BSEE OSRR - Remote Sensing

Ice Floe Tracking System

BSEE OSRR #1087

- AECOM
- PI: Ben Schreib
- Estimated Completion: September 2018

Objective: Develop small cost-effective way to track equipment or oil spill in near real time. Advances previous BSEE OSRR #1050 and #1051

Highlights:

- Test various deployment strategies
- Increased communication range
- Testing in Barrow, AK

(Scheduled March 19-23, delayed due to broken equipment)



BSEE OSRR - Remote Sensing

Geo-referencing Identification Tag (GRID) & Tagging of Oil Under Ice

BSEE OSRR #1050/1051

- AECOM
- PI: Ben Schreib
- Completed: December 2016

Objective: Develop a tag/tracking system for range of environmental conditions for near real-time awareness

Highlights:

Miniaturize and ruggedize tags

Adaptive power management

Mesh communication network

Air deployable tags

Materials selected for robustness &
minimal environmental impact if lost



GRID and GRIDSAT Tags



Aerial Spikes and Underwater ID Tag

BSEE OSRR - Remote Sensing

Tagging of Oil Under Ice



ICEX Camp Sargo;
Aerial Tag Being Dropped;
Retrieved Aerial Tag.

Testing in 2016



Tagging of Oil Under Ice



BSEE OSRR – Remote Sensing

Ice Floe Tracking System

BSEE OSRR #1087

- AECOM
- PI: Ben Schreib
- Estimated Completion: September 2018

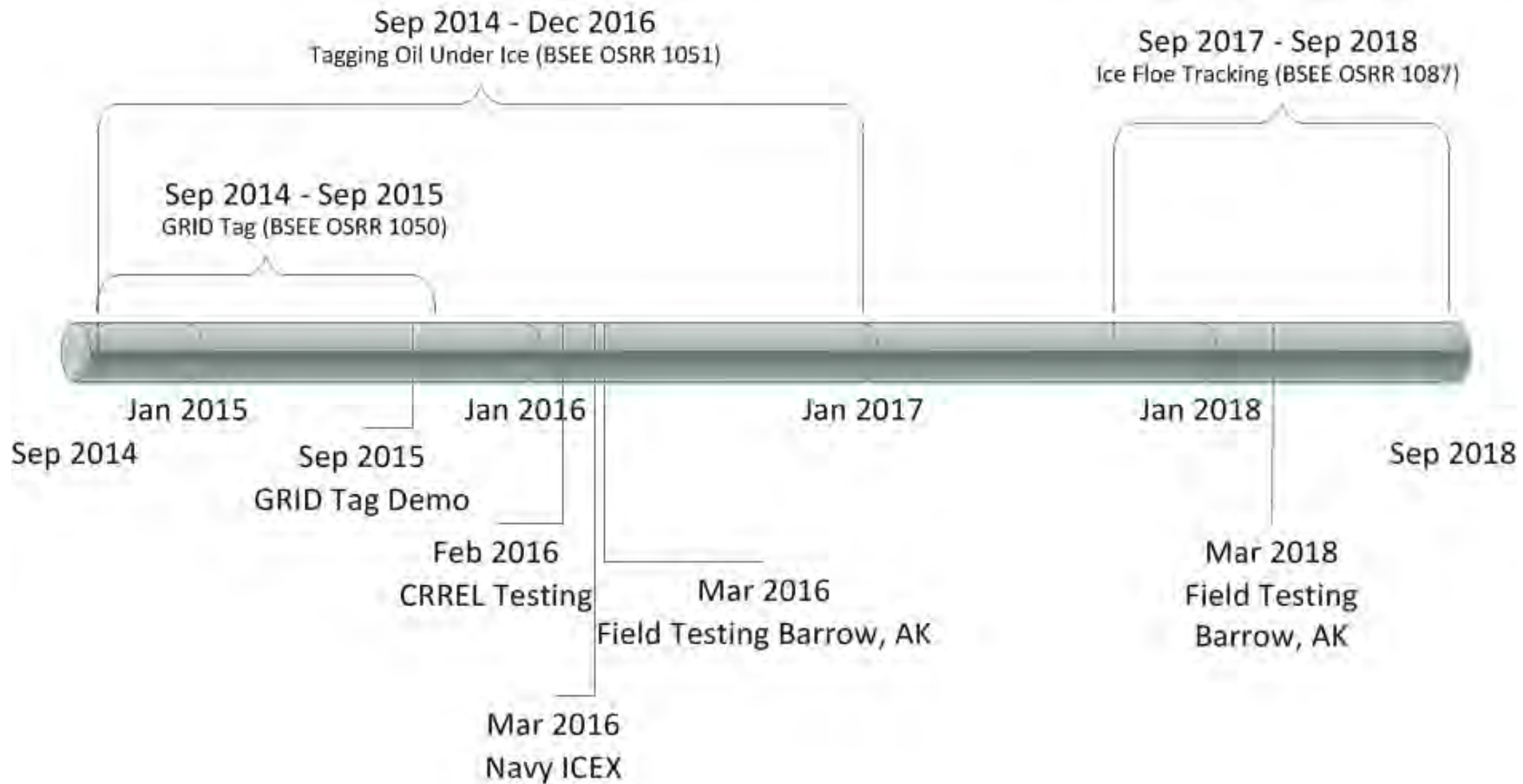
**Testing was scheduled for the week of
March 19, 2018 (Barrow, AK)**

ROV is under repair

Testing rescheduled for April 2-6

BSEE OSRR – Remote Sensing

Ice Floe Tracking System





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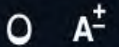
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Ohmsett Panoramic

Oil spill response equipment testing at the Ohmsett facility. This photo depicts the Ohmsett staff measuring the oil recovery rate for an oleophilic drum skimmer when placed in a 1/2 inch thick oil slick on the water.

[Learn more](#)



Offshore Maps, Stats and Facts

Get technical information about offshore activities

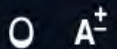


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