

Recent Testing and Research Conducted at OHMSETT

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OSPR-Chevron Workshop

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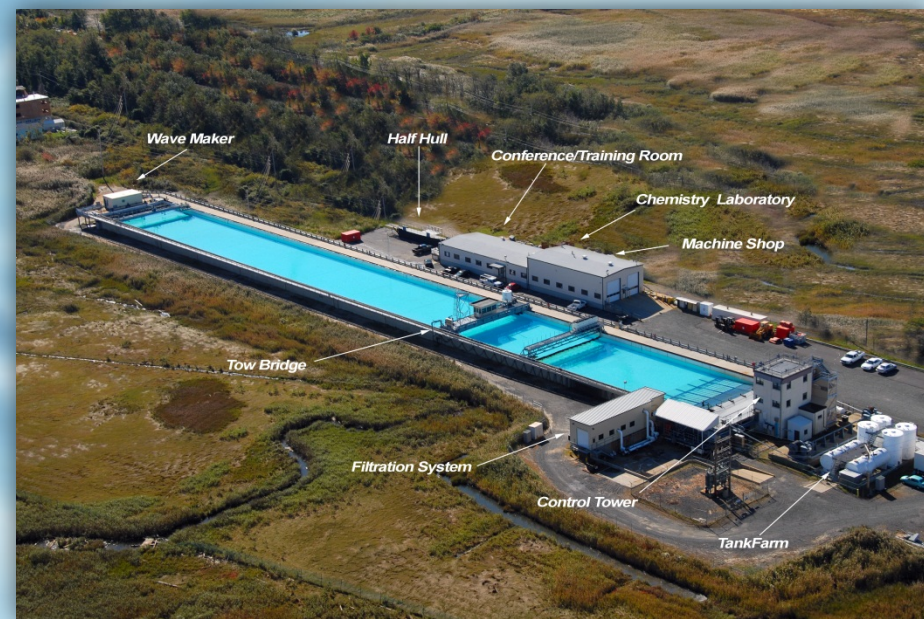
OHMSETT

The National Oil Spill Response Research
& Renewable Energy Test Facility



The OHMSETT Test Facility

- Largest oil spill test tank in North America
- 203 meters (667 feet) long
- 20 meters (65 feet) wide
- 2.4 meters (8 feet) deep
- 10 million liters (2.6 million gallons)
- Open ocean salinity (35 ppt)



Where is OHMSETT?

- Located in Leonardo, New Jersey
- One hour south of New York City
- Nearby airports:
 - Newark
 - LaGuardia
 - JFK



Mechanical Recovery

- Elastec/American Marine
- Lamor
- Maritime Development Group
- NorLense, AS
- Husen Oil Shaver
- Qingdao Sunic-Ocean Marine T&S Co., Ltd
- Norwegian Clean Seas Association for Operating Companies (NOFO)

Elastec/American Marine

- Grooved drum skimmers
 - Magnum 100
 - TDS-136
- Grooved disc skimmer
 - X150
- All three skimmers tested in stationary mode
 - Test oil: Calsol
- X150 tested in advancing mode
 - Tow speeds from 1.0 knots to 3.0 knots
 - Calm and wave conditions
 - Test oil: Hydrocal



Lamor

- Three systems
 - Minimax 60 skimmer
 - LNXG 100 concept skimmer
 - LNXG 1000 concept skimmer
- Tested in stationary mode
 - System settings were continuously varied during testing
 - Test oil: Hydrocal
- LNXG 1000 concept skimmer also tested in advancing mode
 - Tow speeds from 0.5 knots to 4.0 knots



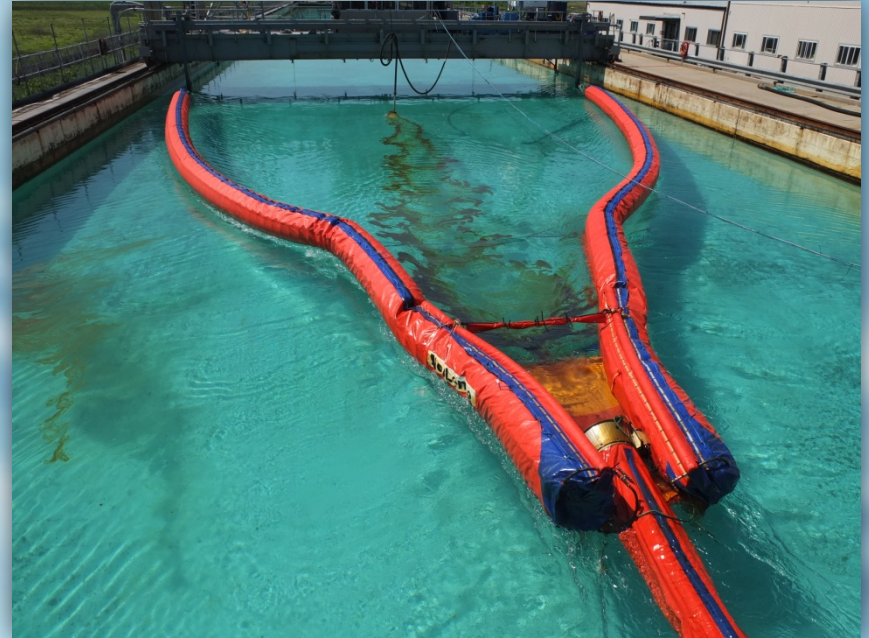
Maritime Development Group

- MOS Sweeper System
 - Calm and wave conditions
 - Towed at speeds up to 5.0 knots
 - Evaluated:
 - Towing stability
 - Oil recovery rate
 - Recovery efficiency
 - Test oil: Calsol



Norlense Oiltrawl

- Tested recovery efficiency in advancing mode
- Calm and wave conditions.
- Test oils:
 - Sundex 790
 - Hydrocal 300



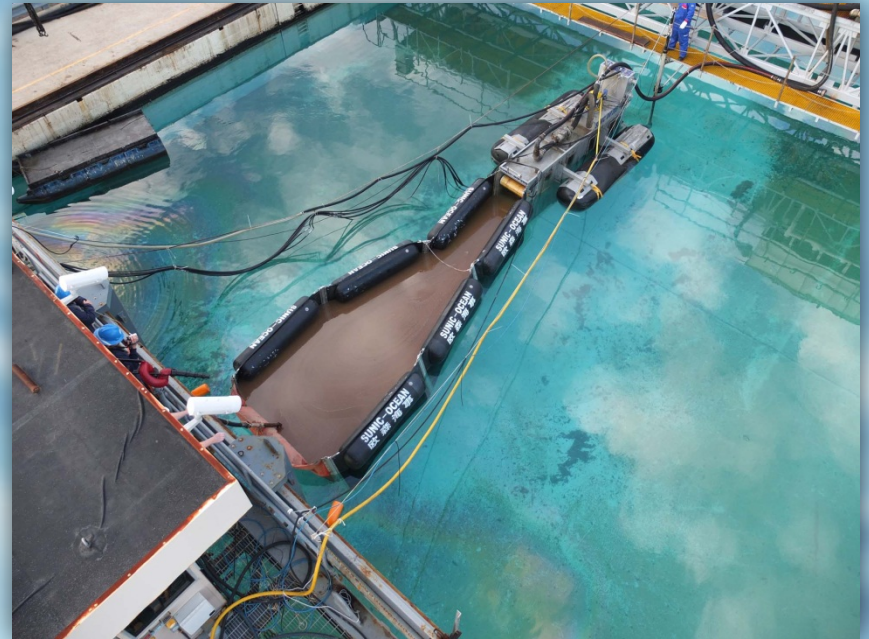
Husen Oil Shaver

- High speed system
- Performance testing in calm and wave conditions
- Evaluate oil loss in towing speeds of 3 and 4 knots



Qingdao Sunic-Ocean Marine T&S Co., Ltd

- R&D prototype advancing skimmer system
- Combines four technologies:
 - Sunic-Ocean Marine DIP 200 belt skimmer
 - Induction pump
 - Vacuum recovery system
 - Automatic control system
- Evaluated:
 - Oil recovery efficiency in waves and currents
 - Throughput efficiency in wave sand currents
 - Dependability of the automatic control system
 - Reliability of the induction pump
- Test oils:
 - Hydrocal
 - Calsol



Norwegian Clean Seas Association for Operating Companies (NOFO) Skimmer Tests

- Three skimming systems
 - Lamor
 - Desmi
 - Frank Mohn AS
- Evaluated:
 - Oil recovery rate
 - Oil recovery efficiency
- Test oil: Sundex

NOFO: Lamor LFF100

- Stationary Mode



- Advancing in oil



NOFO: Frank Mohn AS

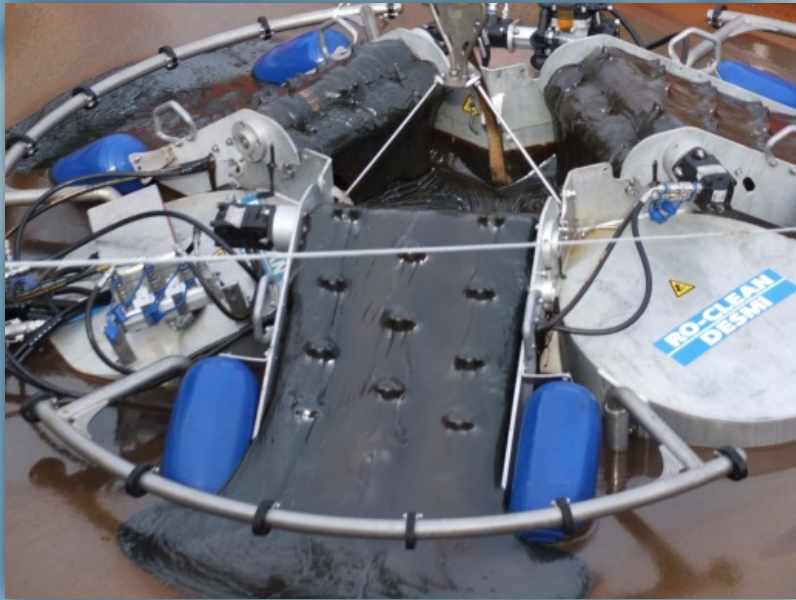
Framo HiVisc 150 Skimmer Head

- Stationary Mode
- Advancing in oil



NOFO: Desmi Octopus

- Stationary Mode



- Advancing in oil



Research & Development

- Remote detection of spilled oil on surface water
 - Ocean Imaging
- Detection and recovery of submerged oil –
US Coast Guard Research and Development Center
 - Alion
 - Marine Pollution Control (MPC)
 - Oil Stop/AMPOL

Remote Detection of Spilled Oil on Surface Water

- Ocean Imaging
 - Multispectral imagers mounted on the Main Bridge crow's nest
 - 12 4-ft. sq. targets filled with various thicknesses of oil were placed on the surface of the test tank



U.S. Coast Guard R&D Center

Detection and Recovery of Submerged Oil

- Three systems:
 - Alion
 - Marine Pollution Control (MPC)
 - Oil Stop/AMPOL
- 1600 sq. ft. test plot at the bottom of the testing tank
- Test plot covered with sediment and debris to simulate a sea floor or river bed
- Test plot filled with different quantities and thicknesses of oil (Tesoro Decant Oil and Sundex 790)



Alion Sea Horse:
Remotely
Operated Vehicle
(ROV) and sonar



MPC : Equipped
with sonar



Oil Stop/AMPOL
Sub-Dredge:
Submersible dredge
with underwater
camera

Hurricane Sandy Recovery

- Damage Assessment
 - Equipment storage building completely destroyed
 - Newer equipment storage building was heavily damaged
 - Flood water in the electrical room, filter building, machine shop, and lab
 - Tank water down to 2 ft.; crack in a 12-inch filter pipe



Hurricane Sandy Recovery

- Refilling the Test Tank
 - Pump water from Sandy Hook Bay
 - 2.6 million gallons (8 ft. depth)
- Testing Resumed
 - November 26



OHMSETT

The Bureau of Safety and Environmental Enforcement's (BSEE)
National Oil Spill Response Research & Renewable Energy Test Facility



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