

Ohmsett Gazette

Leonardo, New Jersey

Train with oil. Test with oil.

Fall/Winter 2001

That was then...

this is now.



The Ohmsett test basin in 1991

The test basin in 2001



1992: the MMS sign goes up on the Ohmsett control tower.

The year was 1992. The Ohmsett program manager wanted a red, white, and blue ribbon for a ribbon cutting ceremony.

Minerals Management Service had just awarded Mar, Inc. a contract to operate the Ohmsett facility--and the occasion for the ribbon cutting ceremony was the official re-dedication of the Ohmsett test basin.

The July 1992 ceremony marked the completion of a two year restoration effort that made Ohmsett a useable test facility again. The 1.5 million dollar restoration was initiated and funded by Minerals Management Service, with additional financial support from the U.S. Coast Guard and Environment Canada.

Dozens of state and federal officials attended the ceremony, and New Jersey state senator Frank Lautenberg cut the ribbon. Speaking at the ceremony, assistant secretary of the Navy Jaqueline Schafer said, "Ohmsett will once again be an important part of the nation's environmental protection arsenal."

It was hard to believe that just two years before, the Ohmsett test basin had lain abandoned and decrepit.

The First Years

The Ohmsett facility (Ohmsett is an acronym for Oil and Hazardous Materials Simulated Environmental Test Tank) was built in the early 1970's by the U.S. EPA.

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In the aftermath of the tragic events of September 11, 2001, our hearts and prayers are with all those who have lost so much, and with those who have faced the disaster with unwavering courage.

We at Ohmsett appreciate all of the customers who have come to us for testing and training throughout the years.

*Thank you, customers!
- The Ohmsett Staff*

Government Agencies

- Alaska Department of Environmental Conservation
- Canadian Coast Guard
- Environment Canada
- National Oceanic & Atmospheric Administration
- New Jersey Department of Environmental Protection
- US Army, Cold Regions Research and Engineering Laboratory, Corps of Engineers
- US Coast Guard - National Strike Force
- US Coast Guard - Headquarters
- US Coast Guard - Research and Development Center
- US Department of Interior, Minerals Management Service
- US Navy
- US Navy, Naval Facilities Engineering Services Center (NFESC)
- US Navy, Naval Weapons Station Earle
- US Navy, Space and Naval Warfare Command (SPAWAR)
- US Navy, Supervisor of Salvage (SUPSALV)



Universities

- Massachusetts Institute of Technology, Lincoln Laboratory
- Texas A&M University, National Spill Control School
- University of Miami
- University of New Hampshire
- University of Rhode Island



Manufacturers / Private Industry

- Alaska Clean Seas
- Applied Fabric
- Canflex Inc.
- Costner Industry Nevada Corp.
- Computer Science Corp.
- Douglas Engineering
- Earth Canada
- Ericam Entertainment
- Engineered Fabrics Corp.
- Elastec / American Marine Inc.
- Exxon-Mobil Corp.
- FibreSorb
- Frank Mohn AS
- Foilex
- Goo-Gobbler
- HESB
- Hyde Marine
- HydroGrowth
- JBF Environmental Systems, Inc.
- Kepner Plastics Fabricators, Inc.
- Lancer Industries Inc.
- LPI Corp.
- MAR, Inc.
- Marine Spill Response Corporation
- MARCO Pollution Control
- Mycelx Technologies
- NOFI Tromsø AS
- Oil Stop, Inc.
- OSR Systems LTD
- Pacific Link Environmental, Inc.
- PCCI/GPC
- Product Services Marketing Group
- PTC Enterprises
- Qualitec
- Slickbar Inc.
- SL Ross Environmental Research
- Spilled Recovery Systems (SRS)
- Spill-Tain DIV-M.C.D. Company
- Spiltec
- Radar Systems Technology
- RO Clean Desmi
- Webster Barnes Inc.

That was then...

Continued from page 1

From 1974 to 1987 the facility saw extensive use. But, by the late 1980's, interest in oil spill response technology diminished and testing at Ohmsett waned. Finally, the EPA closed the facility in September 1988.

Then, in March 1989, just a few months after Ohmsett closed, the Exxon Valdez ran aground in Prince William Sound, Alaska. That oil spill was one of the largest in U.S. history, in one of the nation's most environmentally sensitive areas.

Suddenly, everyone was aware of the need for continuing oil spill technology development.

In 1990, Minerals Management Service began the restoration of Ohmsett, and the Oil Pollution Control Act of 1990 formalized and mandated the use of Ohmsett as a testing facility.

By July 1992, Ohmsett was up and running again.

The Next Ten Years

In the ten years following Ohmsett's reopening, the facility has seen several further refurbishments, a multitude of new testing capabilities, and a steady increase in the number of testing days.

A month after the July 1992 rededication ceremony, a skimmer was tested in the test basin, followed by another skimmer test in October. Both tests were for the US Coast Guard.

In 1993, two skimming systems were tested. The 1994 testing season included two tests: an inflatable barge and a fre-

quency-scanning radiometer.

And, in 1994, Ohmsett performed a test on itself, studying the effects of clearance between test basin side walls and booms being tested.

In 1995, five systems were evaluated in 80 days of testing. And for the first time since the refurbishment, a private company, HydroGrowth International, used the Ohmsett test basin to demonstrate their sorbent system.

In 1996, MMS again awarded Mar, Inc. the contract to operate the Ohmsett facility. The Ohmsett program manager who had been with the facility since 1992 left, and a new program manager came on board.

The pace picked up. Six tests were performed in the Ohmsett test basin that year, and eight were performed the next, 1997.

1997 was the year a 30-seat classroom was added and both USCG and Texas A&M National Spill Control School classes were offered at Ohmsett for the first time.

1998 brought more exciting developments. SL Ross Environmental Research, GPC, and Ohmsett technicians rigged an underwater propane bubbling system in the test basin, allowing first-ever tests of boom blankets in actual flames.

Ohmsett representatives began the long process of developing a standard testing protocol for spill control equipment to be presented to (and ultimately approved by) the American Society for Testing and Materials Committee on Hazardous Substances and Oil Spill Response.

Ohmsett's program manager earned a corporate leadership award for improving

the safety, efficiency, and environmental sensitivity of Ohmsett operations.

And the first issue of the Ohmsett Gazette, featuring an aerial photo of the test basin, went out to over 3000 people involved in the oil spill response industry.

During the following year, 1999, MMS presented Ohmsett with a safety award for no accident-related lost work days for seventeen months.

Ohmsett and SL Ross Environmental Research began an MMS-funded study to explore the feasibility of using the Ohmsett test basin to test dispersants.

The old bridge house was removed and replaced with a brand new one, and Ohmsett purchased a new oil/water separator.

And, in November 1999, an international cadre of oil spill professionals descended upon Ohmsett for a viscous oil pumping workshop to explore the issues presented when lightening viscous oil from ship to shore.

In 2000, a report authored by SL Ross and Mar, Inc. reported that dispersant testing is feasible at Ohmsett. For the first time, a test involving dispersants was performed in the test basin. Also, Ohmsett test basin wavemakers created emulsions for an emulsion behavior study.

Ohmsett marked the millenium with 131 test days, the maximum to date.

What does the future hold for Ohmsett? Ohmsett electronics technician Don Backer, who's been with the facility for ten years, put it like this: "We've been changing since we've been here, and possibly always will. And the place needs to be that way."

Award-Winning Ohmsett

Ohmsett Wins Safety Award...

For the second year in a row, the US Department of the Interior has awarded the Ohmsett facility with a Safety Award of Merit.

The award recognized Ohmsett's outstanding safety and occupational health program.

The Ohmsett staff's daily work is inherently dangerous. Staff manipulate heavy equipment, work with various oils, and operate a propane burning system.

In addition, an increase in the number of Ohmsett test days means that staff have

worked under these conditions for an increasingly greater number of days during the year.

Yet, despite these risks, Ohmsett staff have incurred no lost time injuries for almost three and a half years, thanks to an aggressive safety program at the facility.

Staff time is dedicated on an ongoing basis to reviewing safety procedures, and facility safety committee meetings are held monthly. A licensed industrial hygienist briefs staff before particularly dangerous tests, and reviews new testing procedures.

... And Wins Environmental Award

In a ceremony planned for September 20, 2001, in Washington, DC, representatives from the US Department of the Interior presented Ohmsett staff with a 2001 Environmental Achievement Award.

The award recognizes organizations for their environmentally aware policies and contributions. Ohmsett was recognized for its oil and scrap metal recycling programs.

The Ohmsett staff are proud of this achievement and will continue their environmentally friendly procedures!

Ohmsett



Oil Pollution Act of 1990 mandates the use of Ohmsett as a testing facility for oil spill control technology.



Ohmsett holds a rededication ceremony and operations at the facility begin again!

MAR, Inc. wins recompete to operate the Ohmsett facility for another 5 years.

Ohmsett operators receive a US Department of the Interior safety management award.

Ohmsett collects and refuels

1990

1992

1994

1996

1991

1993

1995

MAR Inc. is contracted by MMS to operate Ohmsett.



Ohmsett operators upgrade the facility's systems.

US Department of the Interior Minerals Management Service begins a 1.5 million dollar refurbishment effort at Ohmsett.



Ohmsett studies test basin sidewall effects.



(Photo courtesy of USCG)

Milestones

ation
ears

Ohmsett's computer data collection systems are added. Facility buildings and test basin undergo major refurbishments.



For the first time, Ohmsett staff plan, organize, and implement a US Coast Guard indoctrination "boot-camp" training program.



Bill Thomas--MMS CO, Jim Lane--MMS COTR, and Bill Schmidt--Ohmsett program manager

ASTM F-20 committee approves a new ASTM standard guide, developed by Ohmsett staff, for evaluation of oil boom performance in controlled environments.

Ohmsett conducts its first test with dispersants in the test basin.

1998

2000

2002

1997

1999

2001



In another first, Ohmsett evaluates the oil containment pumping systems on the USCG cutter Juniper. Ohmsett staff provide system training with oil for the Juniper crew on site at the end of a pier.

Ohmsett sees 131 testing days this year. The most to date!

Ohmsett evaluates a fire blanket using a new propane burn system. Another Ohmsett first!

Ohmsett receives another US Department of the Interior safety management award.



Ready, Set, *Test!*

First, Maintenance

Months of heavy testing with waves, crude oil, and dispersants left the Ohmsett test basin in need of serious cleaning.

Last winter, USCG Atlantic Strike Team members and Ohmsett staff emptied the test basin to power-wash the basin walls and repair cracks in the basin.

They also gave the bridges a fresh coat of paint and replaced the bridge cables and wheels.

At the test basin, they replaced the wave flaps, cleaned the filter, and updated the underwater camera equipment.

That done, water pumped in from Sandy Hook Bay refilled the tank in time to resume a busy testing schedule in May 2001.

Down to EARTH

EARTH Canada tested its TORR (Total Oil Removal and Recovery) system at Ohmsett in July 2001, in conjunction with SL Ross Environmental Research of Ottawa, Canada.

The TORR is a filter system designed to effectively reduce the oil content of fluids recovered during oil spill cleanup operations.

Reducing the oil content of recovered fluids to permissible discharge limits increases recovery effectiveness and frees up scarce space in on-site storage tanks.

The system worked so well, Ohmsett staff asked to keep the unit at the facility for a few more weeks to help filter the test basin water.



The TORR unit

On Spill Watch

In May 2001, John Andrews of the US Navy SPAWAR Systems Center in San Diego returned to test the Navy's Spill Watch Sensor at Ohmsett.

The Spill Watch Sensor uses an ultraviolet fluorometer in a floating buoy to detect petroleum-based material upon or within a 12-inch water column.

When it detects petroleum, the sensor "tells" a base computer to telephone a list of users. The system sends data on the nature and extent of the spill when the phone call is answered.

Andrews evaluated the Spill Watch Sentry #8017 in the Ohmsett test basin, allowing the sensor to detect and report on several petroleum product spills in varying wave conditions.

For more information about the Spill Watch Sentry, see Applied Microsystems' website at www.appliedmicrosystems.com.

More Emulsions

Environment Canada researchers came to Ohmsett in July and August 2001 for Phase III of emulsion tests begun a year ago at the facility. (See *The Ohmsett Gazette*, Fall/Winter 2000.) They will be back in October 2001 for Phase IV.

The aim is to learn more about the emulsification process at sea. Ohmsett's test basin waves, which simulate conditions in the open ocean, mixed oil into an emulsion. Researchers took samples at specified times to identify changes in oil/emulsion properties. Phase III and IV of the tests will complete Environment Canada's emulsion testing.

USCG Trains Again

For many years now, the US Coast Guard has used the Ohmsett facility to conduct training sessions for its oil spill response crew.

Once again, in June and August 2001, the Coast Guard held its Oil Spill Responder Training, and, in September 2001, will conduct an indoctrination and lightering course as a sort of "boot camp" for incoming National Strike Force personnel.

Decant, Phase II

In July 2001, SL Ross Environmental Research came to Ohmsett for Phase II of an MMS-funded decant study.

During oil spill cleanup, water recovered along with the oil reduces the available capacity of storage tanks, slowing operations and increasing the amount of fluid to be disposed of. The goal of the research is to optimize storage capacity by minimizing the volume of free water.

Phase I of the study was reported on in *The Ohmsett Gazette*, Spring/Summer 1999 issue. In Phase II, researchers added an emulsion breaker to the skimmed oil and water to speed up primary break and allow more water to be decanted.

Through an agreement with SL Ross, EARTH Canada also evaluated their TORR unit (see *Down to EARTH*, this issue) during this test. The water separated by the emulsion breaker was sent to the TORR unit for further filtering.

Navy Back to Test

The United States Naval Facilities Engineering Services (NFESC) continued its skimmer evaluations at Ohmsett in the spring and summer of 2001.

The NFESC tests will help the Naval Facilities Engineering Command (NAVFAC) Oil Spill Response Program become savvy skimmer shoppers as they consider skimmers to buy and distribute to naval shore facilities.

The Navy is particularly interested in finding skimmers suited for typical Navy oil spills, which usually are relatively small, involve light fuel oils, and tend to occur around piers.

NFESC tested five other candidate skimmers at Ohmsett last year. (See *The Ohmsett Gazette*, Fall/Winter 2000)

In May and August 2001, NFESC tested the HIB R-20, the Marco, and the Kepner Sea Vac. Douglas Engineering, and Applied Fabrics, performed additional tests concurrently.

In September 2001, NFESC will test a redesigned, advancing Goo Gobbler (a stationary version was tested last year.)

MORICE Skimmer To Be Tested

The Program for Mechanical Oil Recovery in Ice-Infested Waters (MORICE) was initiated in 1995 to develop technologies for the effective recovery of oil spills in ice infested waters. MORICE is a multi-national effort involving Norwegian, Canadian, and American researchers.

Four different recovery units have been tested with the Lifting Grated Belt in oil and ice at the Hamburg Ship Model basin, Germany, in May 2000. Later on, in October 2000, during freeze-up in Prudhoe Bay, Alaska, the ice processing capability was tested for the entire MORICE prototype, including three different recovery units.

In May 2001, the MORICE prototype was field tested in Svea, Norway, and now plans are underway to test and evaluate the skimmer at Ohmsett with the test basin blanketed in ice. The Minerals Management Service (MMS) is currently expanding and upgrading the capabilities of Ohmsett to

offer cold water testing and training.

Developing these capabilities will enable Ohmsett to stay operational year round, which is the main objective for the MMS. We will be able to provide a controlled environment simulating cold water and/or realistic broken ice conditions.

Successful simulation of ice environments at Ohmsett presents new testing capabilities and could open the way for testing on- and under-ice remote sensing, in-situ burning in broken ice, and dispersant effectiveness testing in cold water.

The Ohmsett test engineers and specialized consultants will define the testing parameters and incorporate them into a standard test protocol and plan for use during the testing of the MORICE prototype and the three recovery units.

The MORICE test is scheduled for January 2002. This is the best time to perform the tests and the chilliest for the Ohmsett

staff to be working outside. Staff will be educated on health and safety issues to prepare for working in the harsh winter weather. Oil in ice testing will be another new and exciting test capability for Ohmsett.

This article was written and contributed by Joseph Mullin, of the Minerals Management Service



MORICE prototype is evaluated

News Briefs

High Tech

Each summer, Ohmsett staff become teachers when they participate in the Monmouth County, New Jersey, High Technology High School summer program for seventh and eighth grade students.

Students are selected for the program based on their high academic achievement and interest in the technology sciences.



High Tech students observe testing

Ohmsett staff visit the school to present a lecture on Ohmsett and oil spill cleanup. Later, students tour the Ohmsett facility and see spill equipment testing for themselves.

Shortly after the tour, students devise working models of oil containment booms and skimmers, then present their research

results to teachers, parents, and those who've helped with the program.

Ohmsett also participates in High Tech High's mentorship program. Seniors from the high school are assigned to various organizations where they are guided by staff as they work part-time for a semester and receive class credit.

The Ohmsett staff are pleased to be involved with these bright, motivated students and anticipate participating in the program for years to come.

NJDEP Reps Visit

Ohmsett program manager Bill Schmidt gave officials from the New Jersey Department of Environmental Protection a tour of the Ohmsett facility in July 2001.

Commissioner of the NJDEP Robert Shinn, and NJDEP director of program coordination Lawrence Schmidt, NJDEP director of discharge response Robert Van Fossen, and NJDEP discharge prevention chief Robert Kotch toured the facility, and observed Environment Canada's emulsion experiments in the Ohmsett test basin.

Furniture and Ficus

After so many years of use, if the walls of the Ohmsett conference rooms and classrooms could talk, they would probably say, "Paint me!"

In late August, upgrades to those rooms began. The walls got that paint job, the tired out furnishings were replaced, and a new carpet was installed.

To top it off, a couple of ficus trees now enliven the atmosphere.

To reserve a space for your meeting in the refurbished conference and training rooms, call the Ohmsett facility at 732-866-7183.

The Ohmsett Gazette is published by Ohmsett--The National Oil Spill Response Test Facility--to update our readers on activities at the facility. For more information, call: (732) 866-7183.

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Visit Ohmsett: The National Oil Spill Response Test Facility

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