

The Ohmsett Gazette

Spill School Now in Session

A recently forged relationship with the National Spill School at Texas A&M University helps make Ohmsett a premier training site for spill response personnel.

The National Spill School is recognized as the leading specialist in hazardous material spill training. In 1997, instructors with the National Spill School teamed up with Ohmsett to conduct training sessions at the facility.

Ohmsett has scheduled two training sessions with Texas A&M for the summer of 1998, and can book more for public and private sector personnel.

Another notable development—part of Ohmsett's recent refurbishment effort—is the addition of a 30-seat classroom with an array of audiovisual equipment

Students can receive classroom training and review and critique their videotaped performance on equipment in the tank.

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Ohmsett Refurbishments Enhance Facility's Capabilities



Love that clean water! Ohmsett's tank, ready to go

Newly refurbished and filled with 2.6 million gallons of sparkling, clear water, the tank at Ohmsett, the National Oil Spill Response Test Facility, was ready for the 1997 testing season.

Ohmsett is the only place in the world where full scale oil spill response equipment testing, research, and training with oil can be conducted in a marine environment under controlled conditions.

The Ohmsett facility is located on Sandy Hook Bay in Leonardo, New Jersey. Ohmsett has been operated and maintained by MAR Incorporated under contract to the U.S. Minerals Management Service (MMS), Department of the Interior since 1992.

Ohmsett is available to both the public and private sector for evaluation of oil

response equipment such as booms, skimmers, temporary storage devices, dispersants and for research in remote sensing, oil characteristics, and controlled oil burns.

"The unique testing facilities at Ohmsett are essential if we hope to develop the technology and procedures required to effectively respond to future oil spills," says Joseph Mullin, MMS Program Manager for Oil Spill Response Research.

"In the event of an oil spill, do we really want to rely on equipment and techniques that have not been properly tested?"

Ohmsett's concrete tank measures 667 feet long and 65 feet wide, with a water depth of eight feet. Conditions simulating actual spill situations can be created with

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Coast Guard Breaks the Speed Limit

Evaluates High Speed Skimmers, Chooses Dynamic Inclined Plane

When the Coast Guard went shopping for a new high-speed skimmer last year, they heeded conventional wisdom to “try before you buy.”

Under consideration were four in-line high-speed skimmers from different manufacturers. The Coast Guard tested them all in Ohmsett’s tank in October 1996.

“Testing skimmers is a unique challenge,” says LCDR Chris Doane, Chief of the U.S. Coast Guard’s Pollution Response Systems Team. “We were looking for a system that would operate at speeds greater than three knots.”

Ohmsett’s moveable bridge system and wave making capabilities—the wavemaker can create waves as high as three feet—allowed the Coast Guard to tow the skimmers at the required speeds and sea states.

“The ability of a skimmer to recover oil cannot be fully evaluated based on a written proposal or by recovering water or popcorn,” says LCDR Doane. “The only

way to really evaluate a skimmer’s ability to recover oil is to test with oil; Ohmsett provides us the ability to do full-scale testing with oil.”

Initially, all four skimmers were able to recover at least half the oil when towed at three knots in calm waters and went on to the next step—to determine the maximum speed at which a skimmer could recover at least half the oil in calm waters and in waves.

“There isn’t a time when you can’t take a system into Ohmsett’s tank and learn something about it.”

Testing yielded plenty of accurate data on which the Coast Guard could base their purchase decision.

“The wide range of conditions

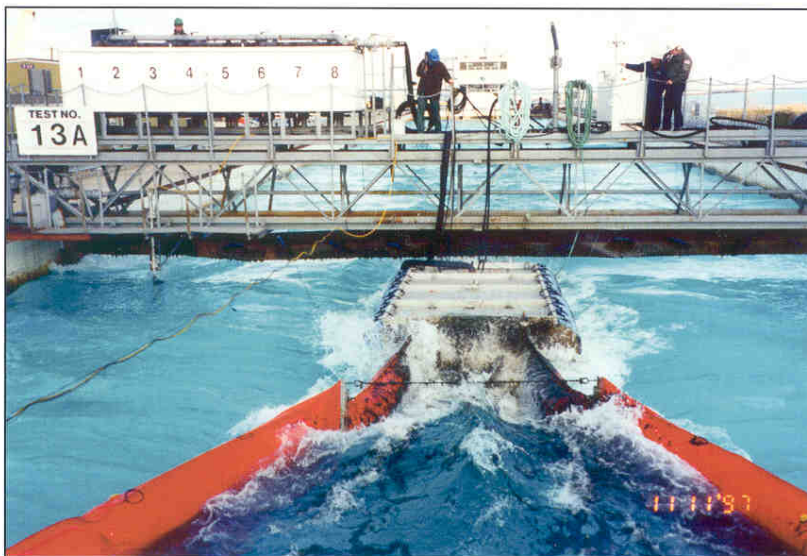
characterized the strengths and deficiencies of each system. The number of tests performed gave us confidence in the measured overall performance,” says David DeVitis, Ohmsett Test Director.

Ultimately, it was the JBF Dynamic Inclined Plane skimmer that best met the Coast Guard’s criteria.

The Coast Guard recommended some design changes to the JBF DIP to more closely meet specifications, and in October



Joe Mullin, MMS Program Manager and LCDR Chris Doane, all smiles after a successful testing series



JBF’s Dynamic Inclined Plane skimming through the waves

1997 brought the improved skimmer back to Ohmsett for further testing.

The JBF skimmer was put through the same paces as before and again performed to the Coast Guard’s satisfaction.

LCDR Chris Doane was pleased with the results.

“Coming back with a winning system, we were able to assess that the system we selected was useable,” he says.

“There isn’t a time when you can’t take a system into Ohmsett’s tank and learn something about it.”

Ohmsett Refurbishment

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the wave generating system and a wave dampening artificial beach.

Moveable bridges can tow equipment at speeds up to 6.5 knots. Customers and technicians can view tests from the bridges or from the control tower above the tank, while state-of-the-art data collection and video systems record test results.

Private companies and universities such as the Massachusetts Institute of Technology have used Ohmsett on a reimbursable basis over the past few years.

Government agencies have also used the facility, including the U.S. Coast Guard, the U.S. Navy, the Environmental Protection Agency, and the Canadian Coast Guard.

"Ohmsett has proven to be a very effective tool in our equipment acquisition process," says LCDR Chris Doane, Chief of the U.S. Coast Guard's Pollution Response Systems Team.

LCDR Doane's team has tested various spill response equipment at Ohmsett, including four high speed skimmers in 1996.

"Ohmsett was an invaluable asset in making our selection," says LCDR Doane. "I'm not aware of any other facility where this level of testing can be done."

Now Ohmsett's capacity to provide a unique service is enhanced by ongoing renovations at the facility.

The test tank was drained for sandblasting and resealing with epoxy paint. Draining the tank also offered an opportunity to evaluate and repair the tank's extensive valve system.

A new chlorinator to prevent algae growth keeps the water clear. An additional oil recycling system to separate oil from water after a test will be installed in the Spring of 1998.

A newly purchased digital camera allows testing photographs to be taken and immediately e-mailed to the customer if he or she cannot be present for the test.

LCDR Doane was in his Washington office waiting for confirmation that the skimmer he wanted evaluated at Ohmsett had been delivered and was ready for

testing. He received confirmation via his computer.

"The unique testing facilities at Ohmsett are essential if we hope to develop the technology and procedures required to effectively respond to future oil spills,"

"I had a picture pop up on my computer screen . . . there was the skimmer in the tank," recalls LCDR Doane. "No doubt about it, Ohmsett was ready to test."

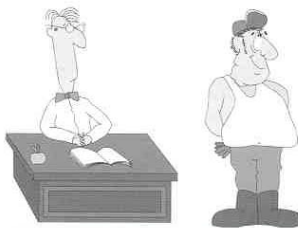
A new underwater camera with zoom, pan, and tilt capabilities will augment Ohmsett's data collection system. The underwater camera gives a complete view of what goes on beneath the water during testing.

Incidentally, the Ohmsett staff is also benefitting from the renovations. When the cold, damp air blows in off Sandy Hook Bay in the winter, the main control room and offices will be insulated, new heating and air-conditioning system installed, and all the old, drafty, leaking windows replaced.

Also in the works is the installation of new drop ceilings, cubicles, carpeting, and furniture. And, to top it all off—a fresh coat of paint. •

For information on tours of the Ohmsett facility, call (732) 866-7183

Boomer and Dr. Skimmer answer your questions...



What is the biggest piece of oil spill equipment you've tested at Ohmsett?

- James C., Newmarket, NH

Boomer:

The biggest thing we've tested at Ohmsett so far was this fifty-ton monster of an oil skimmer—forty feet long, twenty-six feet wide and ten feet high. The thing was so huge, our on-site cranes couldn't lift it. We had to get special cranes to come in to get it in and out of the tank.

Why do boats towing boom have to travel so slowly collecting oil? Why can't they go faster?

- Christine R., Wayland, MA

Dr. Skimmer:

Research conducted in the late 1960's showed that entrainment occurs when boom is towed at speeds greater than 3/4 of a knot.

Entrainment is when friction between the water and the oil causes the oil droplets to be torn off and pulled under the boom.

So, we have to go slowly to be sure too much of the oil doesn't escape under the boom.

Boomer:

But, trying to steer a boat going that slow is kind of difficult. That's why these college guys are trying to come up with a boom we can tow at faster speeds.

What is an oil emulsion?

- Langley G., Bainbridge Island, WA

Dr. Skimmer:

When some oils are left on the water in waves, they can mix with the water to form a larger volume of contaminated oil. That's called an emulsion.

Some stable oil-in-water emulsions can contain as much as 80% water with viscosities hundreds of times greater than the original spilled oil. Some crude oil emulsions I've seen have viscosities as high as 100,000 CentiStoke.

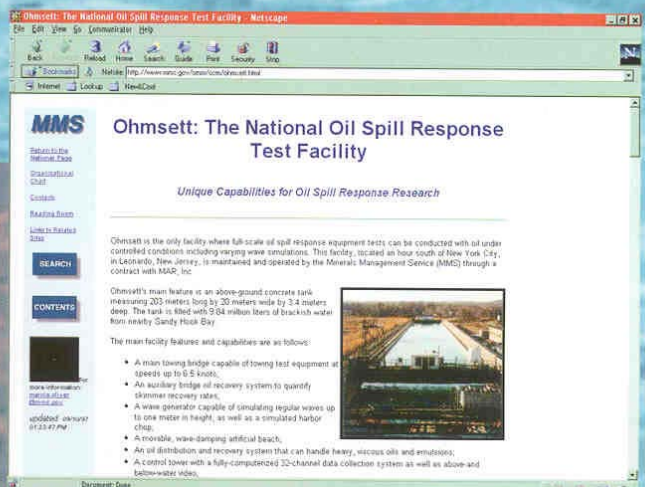
Boomer:

That old saying "oil and water don't mix" just isn't true. Oil and water can mix into something like mayonnaise—but I sure wouldn't want it on my bologna sandwich! Some equipment can't pump emulsions without something really scary happening. That's called a mess.

For more information about testing or training at Ohmsett call

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Check out the Ohmsett Web page @
<http://www.mms.gov/omm/osm/ohmsett.html>

Coming Soon
<http://www.ohmsett.com>

Test with oil

Train with oil

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