

The *Ohmsett* Gazette

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Testing · Training · Research

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**** Special Show Issue - IOSC 2011, Portland, Oregon ****

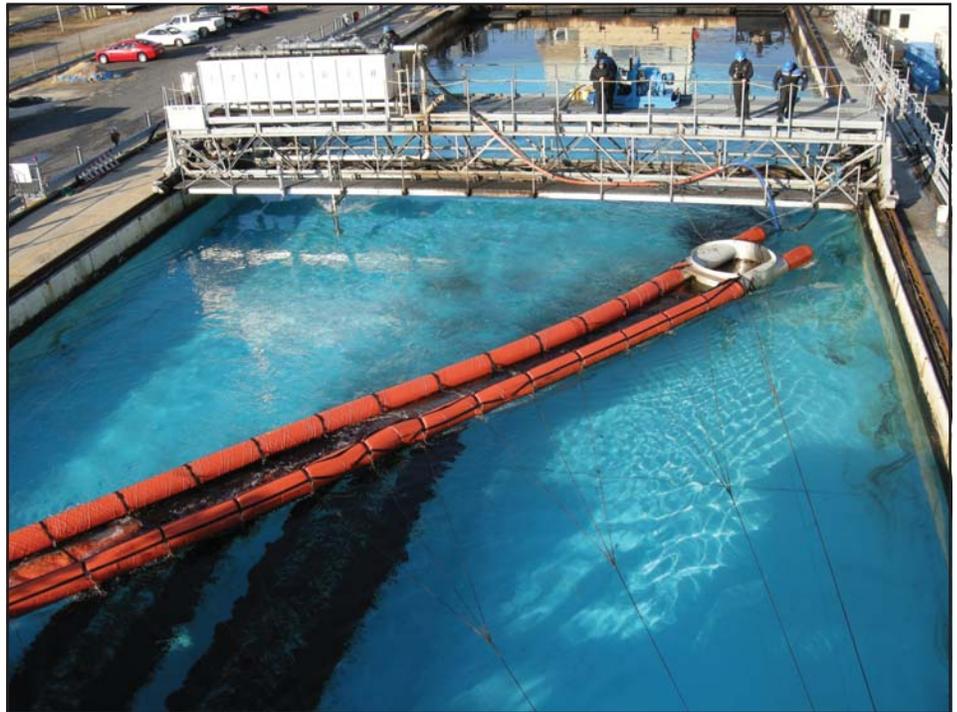
BOEMRE Director Visits Ohmsett

On May 10, 2011 Ohmsett was bustling during the U.S. Coast Guard Oil Spill Response Technician training with a visit from VIPs and the media. Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE) Director Michael Bromwich, NWS Earle Commanding Officer Captain David Harrison, U.S. Coast Guard Assistant Commandant for Marine Safety Rear Admiral Paul Zukunft, two congressional staffers, and two media representatives were greeted by facility manager Bill Schmidt. During the visit the visitors received an overview of Ohmsett and a tour of the facility where they had the opportunity to observe USCG training.



BOEMRE Director Michael Bromwich practices skimming oil during USCG training.

OilShaver Prototype Advancing Boom System Test



The OilShaver prototype was tested with oil in calm water conditions in the Ohmsett test tank.

After many years of design experience using unique approaches to oil spill recovery, HUSEN AS of Norway developed a high seas advancing boom system prototype. Using an advanced rigging and bridle design, the OilShaver is towable at full speed from one common towing point. With a wide width sweeping recovery system, the design is extremely beneficial for rapid deployment with minimal ancillary equipment necessary when deploying.

During the last week in November 2010, the OilShaver skimmer endured rigorous per-

formance testing in the Ohmsett test tank. The test series began in calm water conditions while encountering an oil slick that was created from the Ohmsett main bridge storage tank ahead of the system and was adjusted to ensure 100% of the oil was encountered by the OilShaver. The system was also tested in wave conditions to document its performance in terms of wave conformance and recovery.

After performance measurements were

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Evaluation of the Speed Sweep Advancing Boom System

Applied Fabrics Technologies Inc. / Desmi Ro-Clean (AFTI/DRC) recently evaluated a prototype advancing boom system at Ohmsett. The Speed Sweep boom is designed to exploit the effects of flow inhibiting netting to reduce relative flow velocities in the boom apex. Speed Sweep's cross netting is designed to reduce the relative current speed downstream of each net to achieve a near quiescent contained area within the apex.

The objectives of the test at Ohmsett were two-fold: to determine first loss, the speed at which losses are observed to continually escape the boom, as well as gross loss, the speed at which massive losses are observed to continually escape the boom; and determine the throughput efficiency of the Speed Sweep as a system.

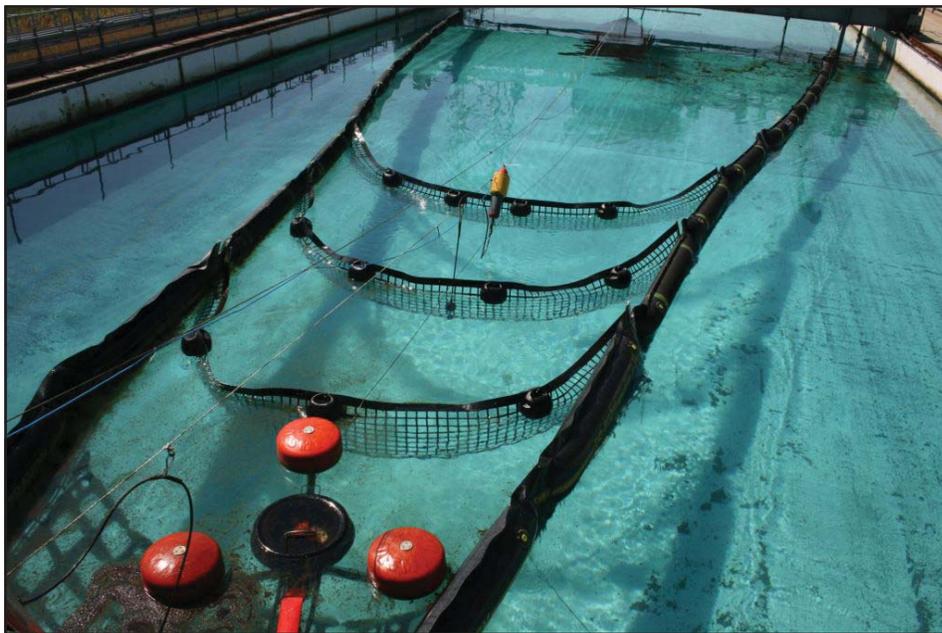
The Speed Sweep was tested in clam water and rough water using medium viscosity test oil. First loss tests were performed by bringing the system to a speed below where first loss may occur and then increasing the speed in incremental amounts until first loss was identified visually using underwater cameras targeting the apex containment area of the boom. Throughput efficiency tests were performed by advancing the system at a constant speed while encountering the

equivalent of a 0.5mm thick slick.

According to Peter Lane, president of AFTI, the data collected from the Ohmsett tests helped with further development of the Speed Sweep prototype that enabled them to conduct testing at sea.

"Results in the field have corroborated our

test tank results and we are optimistic that our system will result in a viable system which will allow sweep speeds at 3 knots or more," stated Lane. "We are also considering a fireproof version using our Pyroboom system to enable faster sweep speeds with that product as well."



Speed Sweep's cross netting is designed to reduce the relative current speed downstream of each net to achieve a near quiescent contained area within the apex.

Prototype Skimmer Faces Challenging Conditions

Architier of Portola Valley, CA is developing innovative technology for oil spill cleanup to compete in the Wendy Schmidt Oil Cleanup X CHALLENGE. During the last week in March 2011, Ike van Cruyningen and his team came to Ohmsett to test their devices in the test basin. This testing allowed Architier to obtain performance estimates, as well as refine and optimize their designs to enhance future oil spill cleanup operations.

While overcoming some challenges during the testing, which included the weather (everything from rain, sun, and snow) and equipment, van Cruyningen found the Ohmsett facility a huge benefit for testing the skimmer and pump they developed.

"We've tested without oil in San Francisco Bay in California, but you just can't control the conditions to test different tow speeds and waves. Ohmsett's test basin gives you very fine control over these parameters. We were delighted to find Ohmsett's biggest asset is their test team. With all of our challenges, Ohmsett staff's attitude remained upbeat and they were a joy to work with."

While there were mixed reviews on the skimmer performance, the Architier team appreciated the ability to test it in the Ohmsett tank with waves and oil. "We tested with Hydrocal. The controlled environment is fantastic. When tested on flat water, the skimmer did great. However, we need to work on operating it in waves. We liked that you

can start small and build up to the waves, that way you can figure out whether it is the large waves, choppy waves or sinusoidal waves that cause the problems. We found the small harbor chop is the most challenging. There is still much work to be done on the skimmer," stated van Cruyningen.

The pump test had a very positive outcome. Even though it was not tested with oil, its pumping efficiency was more than what the team had expected. According to van Cruyningen, the next step is to work with the pump vendor to optimize the output. "We hope to come back in June or July and are looking for sponsorship from our vendors."

Equipment Testing: an Important Step to Ensure Efficiency and Reliability

On April 10-20, 2011 the Lamor Corporation evaluated four of its oil spill clean-up skimmers at the Ohmsett facility. Lamor chose to conduct its equipment testing at Ohmsett because it has the broadest selection of simulated oil spill response testing, training and research equipment.

"The opportunity to test our skimmers at Ohmsett was remarkable and a fantastic experience since its facilities offers a realistic simulated controlled marine environment for oil spill equipment e.g. the use of real oil in a wave/tow tank. Based on the outstanding offering of services coupled with the great cooperation and flexibility of its staff, Ohmsett will become an integral part of Lamor's vetting process, now and in the future," says Fred Larsen, CEO Lamor Corporation.

The Lamor Minimax 12 skimmer, Lamor Multimax 50 skimmer, Lamor Side Collector (LSC) and a few next generation prototypes skimmers were tested during a 10-day period. The skimmers were tested with Lamor's new patented Aquatread principle using Alaska North Slope (ANS) light oil. All skimmers, with the exception of the advancing LSC, were tested in accordance with the *ASTM F 2709 - Standard Test Method for Determining Nameplate Recovery Rate of Stationary Oil Skimmer Systems*.

Larsen notes, "The ANS in Arctic Alaska remains potentially a major contributor to the U.S. domestic energy source reducing reliance on imports. As such, we believe our oil response equipment can operate in these Arctic conditions effectively and efficiently."

"Brooks Range, the geographical region of the northern part of Arctic Alaska covers an area from the Canadian border on the east to the Chuckhi Sea (Outer Continental Shelf) on the west. We need to ensure that our equipment is ready and available for any potential incident and Ohmsett has the perfect facilities to conduct in-depth assessments as close to reality as possible on a global scale," says Larsen.

The Aquatread principle is based on modules, which are easy to retrofit onto existing skimmer systems. "Already existing skim-



The Lamor Multimax 50 was tested with ANS oils in accordance with the ASTM F 2709 - Standard Test Method for Determining Nameplate Recovery Rate of Stationary Oil Skimmer Systems.

mers with proven track records in collecting heavy oils can now be retrofitted and also collect light oils," explains Larsen. "The capacities exceeded those of earlier tests."

"Ohmsett is truly a professionally planned testing ground for the oil spill recovery cluster industry. The staff at the facility was flexible and very knowledgeable, which made our job run smoothly and gave us valuable

feedback and new information. This is the place to come to conduct any vetting tests of equipment and we definitely will adopt Ohmsett's test program as part of our commissioning for our new technological innovations and solutions for oil spill recovery and clean-up operations," says Larsen confidently and emphatically.

(Source: Thomas Barbieri, Lamor NewsReel)

Advancing Boom System Tested

Continued from page 1

collected with the skimmer in its original configuration, changes were made to spacing, ballast weight and vent size. Testing resumed measuring the effects that each design parameter had on performance.

"The Ohmsett test experience opened our eyes to both challenges and possibilities. We are now in a much better position to take on the task of optimizing the system for full industrial functionality thanks to the clear tank water, facilitating under-water video, and many good tips from the refreshingly helpful staff," stated Dr. Ingvar Huse, de-

signer of the OilShaver.

With the test data collected at Ohmsett, the system will be refined to maximize the efficiency of the skimmer. Dr. Huse says, "We have registered for the Wendy Schmidt Oil Cleanup X CHALLENGE and hope to be selected for participation; in which case the OilShaver Team will be back at Ohmsett in late summer."

For more information about the Oil Shaver and video of the Ohmsett test, visit www.oilshaver.com

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