

The *Ohmsett* Gazette

Leonardo, New Jersey

Train with oil. Test with oil.

Fall/Winter 2004

National Research Council, Ocean Studies Board Visits Ohmsett

On Tuesday, September 21, 2004 members of the National Research Council's (NRC) Committee on Understanding Oil Spill Dispersants: Efficacy and Effects along with thirty scientists, spill responders and regulators came to Ohmsett to observe dispersant effectiveness experiments and to debate issues associated with research on dispersant use conducted at sea and in test tanks.

In August 2003, the Minerals Management Service (MMS), National Oceanic and Atmospheric Administration (NOAA), American Petroleum Institute and the US Coast Guard (USCG) formed a cooperative Joint Industry Project to update the 1989 NRC publication entitled: "Using Oil Spill Dispersants on the Sea". The NRC committee will review and evaluate existing information and ongoing research regarding the efficacy and effects of dispersants as an oil spill response technique, and recommend steps that need to be taken to fill identified data gaps.

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New Basin Water Filter Up and Running



Construction workers raise new U.S. Filter water filtration unit at the Ohmsett facility

With the Summer testing season completed, and the Fall season well underway, Ohmsett's new U.S. Filter water filtration system is on line and working perfectly to keep the test basin water clear and clean.

Since the facility was built, Ohmsett had successfully used a U.S. Filter Autojet 1000 leaf-type filter system in conjunction with diatomaceous earth as a filter aid; however, new research and testing capabilities at the facility meant that Ohmsett's filter system is now called upon to filter chemically dispersed oil, circulate temperature-controlled water for cold-water testing, and continue to comply with New Jersey Department of Environmental Protection water quality discharge limits.

The original system was approaching the end of its lifespan and a new filter system

was needed. As part of their continuing effort to update the Ohmsett facility, a filter replacement project was approved and funded by Minerals Management Service, and work began in February, 2004.

During the month of February, the Ohmsett technicians removed the old filter unit and filter leaves, the air compressor, the Oberlin dewatering system and water chlorination system. By the end of the month, technicians and subcontractors had disassembled, demolished, and disposed of the old filter system and associated buildings. Metal and debris were separated prior to disposal so the metal could be recycled. The original slurry tanks and selected equipment were removed to storage to serve as spares. By mid-March, all evidence of the old filter system had been removed.

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National Research Council

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The three previous meetings by the NRC committee focused on what dispersants are and how they work, modeling of dispersed oil, and toxicity issues. The objective of the meeting at Ohmsett was to answer questions that included: (1) how do tank tests fit into an overall program of dispersant research; (2) what can Ohmsett provide that other wave tanks cannot; and (3) what do we get from dispersant research conducted at Ohmsett?

The NRC committee and visitors had the opportunity to observe two dispersant effectiveness demonstrations. The first demonstration was a control slick of approximately 100 liters of Alaska North Slope crude oil applied on the water surface without dispersant being used. Waves were applied for thirty minutes, but since no dispersant was applied, there was no dispersion of the oil slick into the water column. The Ohmsett staff successfully recovered 86 liters of the ANS crude oil. Of the remaining 14 liters that was not recovered, some evaporated, and the remainder was assumed to have adhered to the containment boom.

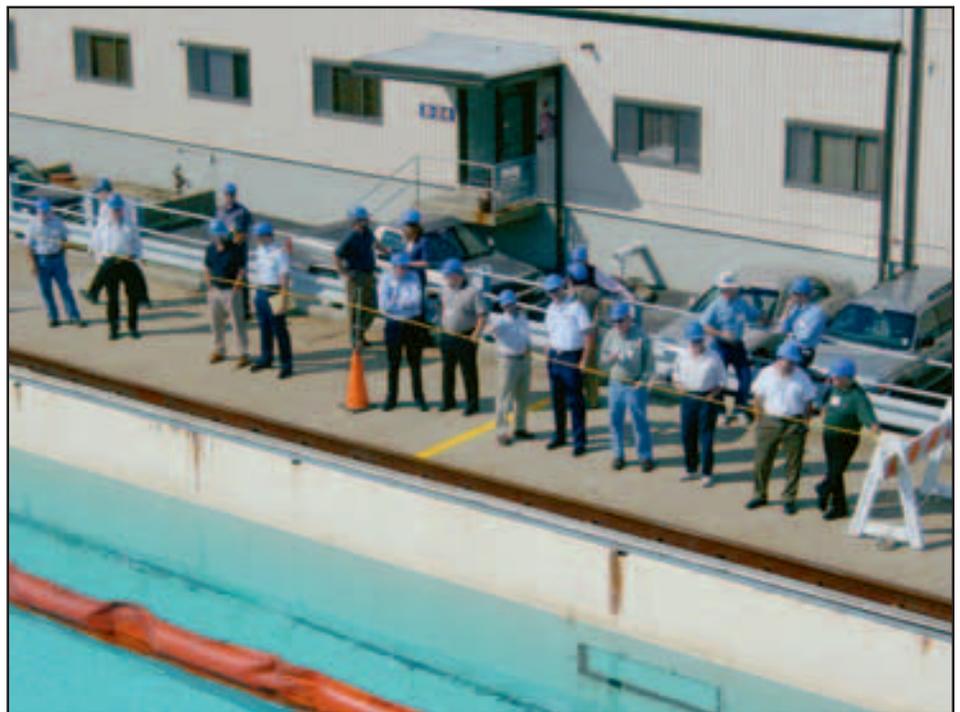
The second demonstration also used a slick of approximately 100 liters of Alaska North Slope crude oil, but in this case Corexit 9500 dispersant was sprayed onto the slick at a dispersant to oil ratio of 1:20. The observers stood on the main bridge and on the side of the tank as dispersants were applied, and watched as wave action dispersed the oil from the water surface into the water column; within minutes, the 10 million liters of crystal clear salt water in the Ohmsett tank turned a muddy brown color. The two experiments demonstrated successful and unsuccessful dispersion.

The US Coast Guard Atlantic Strike Team (USCG AST) sent a four-man detachment to Ohmsett to demonstrate and answer questions from the NRC committee related to the SMART (Special Monitoring of Applied Research Technologies) monitoring protocol. The USCG AST participated in both experiments.

Following the dispersant demonstrations, the NRC committee and visitors convened in the Ohmsett Training room. Dr. Merv Fingas (Environmental Canada), Dr. Al



Test slick of Alaska North Slope Crude oil prior to dispersant application



Committee members and visitors observe the test from the Ohmsett basin-side

Venosa (Environmental Protection Agency), and Mr. Joseph Mullin (MMS) made presentations regarding the merits of laboratory, tank and at-sea testing of

dispersant effectiveness. Following the presentations, the NRC committee and visitors debated issues regarding dispersant effectiveness testing. The NRC report is due out in February 2005.

Filter Replacement

Continued from page 1

Subcontractors arrived the first week of May to prepare the concrete filter pad and locate the new filter components. By the end of the week, the new filter components were in place. The new system was up and running August 10th, 2004, and incorporates 30 years worth of technological advances. Some of the new features include:

- A rubber-lined, maintenance-free stainless steel filter vessel, which is a significant improvement over the old, severely corroded carbon steel vessel;
- The use of fiberglass reinforced pipe, which eliminates corrosion concerns;
- A programmable logic control (PLC) system, which provides automatic start and stop functions and many other features;
- A supplemental body feed system to extend filtration cycle times;
- A rugged motor control center equipped with quality switching gear and system overload protection.



Construction workers place the new U.S. Filter system onto the concrete filter pad

A new building to house the completed filter system was designed and procured, and will be erected by the end of the year. U.S. Filter (now Whittier Filtration) has provided

a well-designed system and supported Ohmsett engineers during the installation and startup. We are looking forward to another 30 years of service from the new system.

Slysar Boom Tests

In February 2004, Mr. Stewart Fleming of Slysar Ltd. came to Ohmsett to test a prototype oil boom designed to be used in coastal and estuarial waters. The boom is meant to be towed in a U-configuration at the side of a vessel, in order to minimize turbulence from propeller wash. A weir at the apex of the boom arms separates oil on the surface and deposits it into an enclosed lagoon in the aft section of the boom. The fabric floor of the lagoon has vents which allow water, but not oil, to escape. The amount of oil that is collected can be controlled by adjusting the size of the lagoon vents and the flow over the weir.

This design concept was tested during sea trials at OSRL in Southampton and in small scale tank trials in the United Kingdom. These UK trials predicted collection and retention of over 50% of the oil passing over the weir and into the lagoon.

For more information regarding the Slysar boom and the results of the testing at Ohmsett, please contact Mr. Stewart Fleming at Stewart.Fleming@tinyworld.co.uk



Slysar Boom undergoing evaluation in the Ohmsett test basin

Training Continues at Ohmsett

The Ohmsett facility recently hosted oil spill response training classes for Alaska Clean Seas (ACS) and for Chevron-Texaco.

In April and again in October of 2004, spill responders from ACS came to Ohmsett for three, week-long training sessions in oil spill response. The training program gave responders the chance to experience hands-on practice with oil spill equipment set-up, recovery, maintenance and decontamination.

The course centered on a broad spectrum of spill response conditions including fast-water, inland spills, delta, offshore, river and land spills.

Tank exercises were the predominant focus to reinforce classroom learning

In this custom-designed training, ACS provided the instructors, course curriculum, and training materials. Equipment used during the training included the towed US Coast Guard Fast Sweep boom with weir and brush skimmers in advancing mode, and a variety of stationary skimmers, hydraulic power packs and control stands.

In September, a group of Chevron-Texaco spill response managers from world-wide locations such as Angola, Egypt and Kazakhstan, came to Ohmsett for oil spill response training.

For this five-day course, Ohmsett staff worked with Chevron-Texaco to develop a course curriculum and instructional aids. Ohmsett instructors developed the curriculum to meet the needs of students from various backgrounds, from those with managerial responsibilities to students with specific technical response experience.

The course emphasized hands-on exercises in the test basin, reinforced with classroom instruction. Students utilized the Fast-Sweep boom, Terminator skimmer, and a USCG Marine Pollution Control Prime Mover to enhance their equipment operational skills and practice actual oil recovery techniques.



Chevron/Texaco students receive training on stationary skimmers on the deck of the Ohmsett test basin



Alaska Clean Seas students deploy a disc skimmer into the test basin

Check the test calendar at www.ohmsett.com for currently scheduled test and training dates!

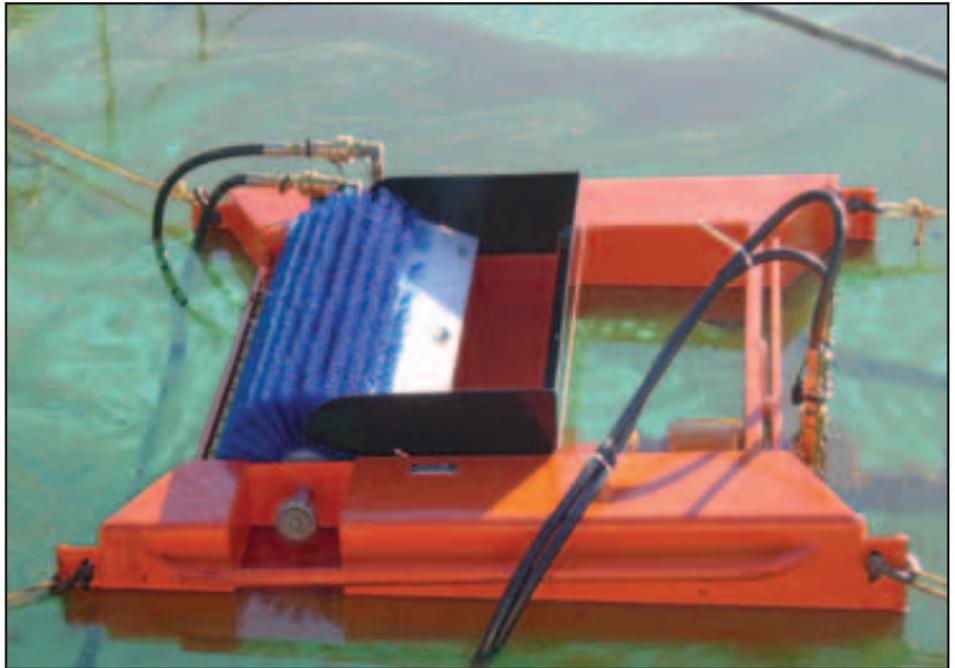
Skimmer Manufacturers put Their Devices to the Test

In September and October of 2004, five manufacturers of oil spill skimmers tested their equipment in the Ohmsett test basin using a new test protocol cooperatively developed by Ohmsett engineers and the United States Coast Guard (USCG). Manufacturers included Alloy Technologies, Elastec/American Marine, Lamor Corporation, Queensboro Marine Equipment, and Ro-Clean Desmi. The objective of the testing was to measure the oil recovery rates of the devices under simulated realistic conditions, and to use this data to calculate Effective Daily Recovery Capacities (EDRCs) for use by regulators at the USCG.

Typically, EDRC ratings for skimmers are calculated from nameplate capacities using a mathematical formula. The Federal regulations also specify an alternative method, whereby actual test data is submitted to the USCG instead of using the nameplate capacity; however, there are few standardized tests available for manufacturers to use. In order for USCG regulators to accept the test results, tests must be conducted under well-documented, realistic conditions and generate repeatable results.

Ohmsett engineers Dave DeVitis and James McCourt, and several members of the U.S. Coast Guard, including Mike Crickard, Lt. Cdr. Scott Bates, Lt. Barbara Midkiff, and Bruce Shuckman, worked together to develop a test protocol for evaluating skimmer performance in static conditions. The new protocol complies with the guidelines in American Society for Testing and Materials (ASTM) F 631, Standard Guide for Collecting Skimmer Performance Data in Controlled Environments. Dave DeVitis and Mike Crickard presented the protocol at the October meeting of the ASTM F.20 committee, which deals with standards related to oil spill response.

The skimmers were tested in calm conditions, and in regular waves with a significant wave height of approximately 18 inches. Two test oils were used: Hydrocal 300, a light lubricating oil, and Sundex 8600T, a heavy aromatic base stock. The nominal slick thickness for the tests with Sundex 8600T was 25 mm, and the nominal slick thicknesses for the tests with Hydrocal 300 were 10 and 25 mm.



Examples of two industry-supplied skimmer units being evaluated for oil recovery rates

The feedback from the manufacturers regarding the test was generally positive, although it was clear to all that the test conditions were very challenging. The protocol will be reviewed and refined over the next several months,

taking into account observations by the test engineers, QA/QC officer and manufacturers. Ohmsett and the USCG will continue to support the approval of the protocol by the ASTM F.20 committee.

Spanish Spill Responders Visit Ohmsett

Six disaster response professionals from Spain arrived at Ohmsett in May to tour the facility and learn more about innovative oil spill technology testing and research. The Spanish professionals had requested the visit, and were interested in exchanging ideas with Ohmsett staff.

Several in the group had been very involved with cleanup efforts when the *Prestige*, a tanker carrying more than 19 million gallons of heavy fuel oil, sank off Spain's northwest coast two years ago, spilling more than 3 million gallons of heavy fuel oil into the waters. An international cadre of responders scrambled to contain the oil with skimmers and booms before it reached the sensitive fisheries off the coast. The sticky, viscous oil presented a cleanup challenge. Cleanup efforts were further hampered by five-metre high waves and west winds which pushed the oil onto the coastline.

The visit was arranged through the Meridian International Center in Washington, DC and sponsored by the U.S. Department of State Bureau of Educational and Cultural Affairs International Visitor Program.



Ohmsett test engineer Alan Guarino (front row, left) and the Spanish spill responders pose in front of the Ohmsett basin

Meridian is a non-profit institution that promotes international understanding through the exchange of people, ideas, and

the arts, by connecting professionals from different countries.

Retractable Awning

Ohmsett's Building R-24 Training and Conference Center has hosted numerous seminars, meetings and training programs since its renovation last year. The building houses employee offices, testing and training visitor space, a fully equipped kitchen, and an outside deck.

The deck was used for several facility events during the spring and summer of 2004. During the sunny summer months, the need for an awning over the deck became clear. In August of 2004 a retractable awning was installed over the deck, ensuring that guests at future Ohmsett events will enjoy the warm months in comfort.



View of the newly installed retractable awning located at Building R-24

News Briefs



Eighth Edition of the World Catalog of Oil Spill Response Products

Ohmsett was a major sponsor of the recently completed Eighth Edition of the World Catalog of Oil Spill Response Products, an important reference book for the spill response community for almost 20 years. The Catalog contains detailed equipment specifications and descriptions of

how equipment works, how to select equipment for different applications, and summaries of field and tank tests, including tests performed at Ohmsett on booms, skimmers, pumps, and dispersants. For more information, go to www.slross.com/WorldCat/WorldCatmain.htm.

CSM SCHMIDT VISITS OHMSETT

Ohmsett Program Manager Bill Schmidt recently stopped by the facility for a visit in July 2004. Command Sergeant Major (CSM) Bill Schmidt has been serving with the US Army's HHC Eighth Medical Brigade in the Middle East since he was called to active duty in January 2004. He was given a well-deserved, two-week leave from his unit. During his visit, Bill enjoyed chatting with the entire staff, and seeing the progress of the upgrades to Ohmsett's filter system area. A luncheon was held at Ohmsett in Bill's honor, and was attended by the staff, members from MAR headquarters and his family. He was also given a cake to let him know how much he is missed by all of us.

It was great to see Bill again, even though it was only for a few hours. Everyone at Ohmsett, MAR, Incorporated, and Minerals Management Service is very proud of Bill, and look forward to his safe return in January 2005.



Bill Schmidt enjoying his visit to Ohmsett during his two-week leave from active duty

The Ohmsett Gazette is published by Ohmsett--The National Oil Spill Response Test Facility--to update our readers on activities at the facility.

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Catch Us At Our Next Conference!

International Oil Spill Conference
May 15-19, 2005
Miami, Florida

2004 Ohmsett Conference Attendance

Every year we look forward to the opportunity to reconnect with colleagues in the oil spill response industry at various conferences.

In June, Ohmsett Engineers Dave DeVitis and Alan Guarino, and Health and Safety Officer Rich Naples manned a booth at the 2004 Interspill conference in Trondheim, Norway.

At the time of printing, Dave DeVitis and James McCourt are slated to attend the Clean Gulf conference in Tampa, Florida on November 17 and 18, 2004.

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