

# New deep water ocean simulator available at SwRI

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A new hyperbaric test chamber for items that require high-pressure, high-temperature (HPHT) testing is now available for use at Southwest Research Institute (SwRI). The deepwater ocean simulator is capable of attaining pressures of 30,000 psig at a rated temperature of 500 degrees F.

The cylindrical simulator was designed, fabricated and built by SwRI in accordance with Section VIII-Division 2 rules of the ASME Boiler and [Pressure](#) Vessel Code. The Institute has previously designed and built similar fixtures.

Measuring 10 feet inside length with a 16-inch inner diameter and a wall thickness of 11 inches, the simulator is crafted of SA-508-Grade 4N Class 2 material that has a tensile strength of 100,000 psi.

The chamber is rated to 30,000 psig, enabling SwRI to perform high collapse tests on oil country tubular goods (OCTG) casing and to perform testing for subsea technologies requiring proof test pressures beyond the ocean depths.

The new simulator expands SwRI's test capabilities for meeting demands made on tubular manufacturers for higher strength pipe to withstand extreme well depths and water depths greater than 60,000 feet.

"SwRI has offered test services to the offshore oil and gas industry for many years," said Jesse Ramon, manager of Test and Evaluation in

SwRI's Mechanical Engineering Division.

"This new [simulator](#) allows us to offer our clients the ability to test pipe materials, hose assemblies and other items at extreme well depths and water depths. We can now test all grades of API pipe with diameters up to 14 inches outside diameter and test lengths of 112 inches to pressures up to 30,000 psig or collapse, whichever occurs first," Ramon added.

In addition to the new HPHT chamber, a 9,000-square-foot building was erected to enclose SwRI's outdoor deep [ocean](#) pressure simulation test chambers including the 90-inch I.D., 4,000 psig-rated, and 50-inch I.D., 6,500 psig-rated test chambers. The facility includes two bridge cranes with three overhead hoists rated up to 30 tons for lowering test articles into the chambers. The enclosure provides weather protection and allows clients to better view testing.

**More information:** [www.deeпоceansimulation.swri.org](http://www.deeпоceansimulation.swri.org)

Provided by Southwest Research Institute

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