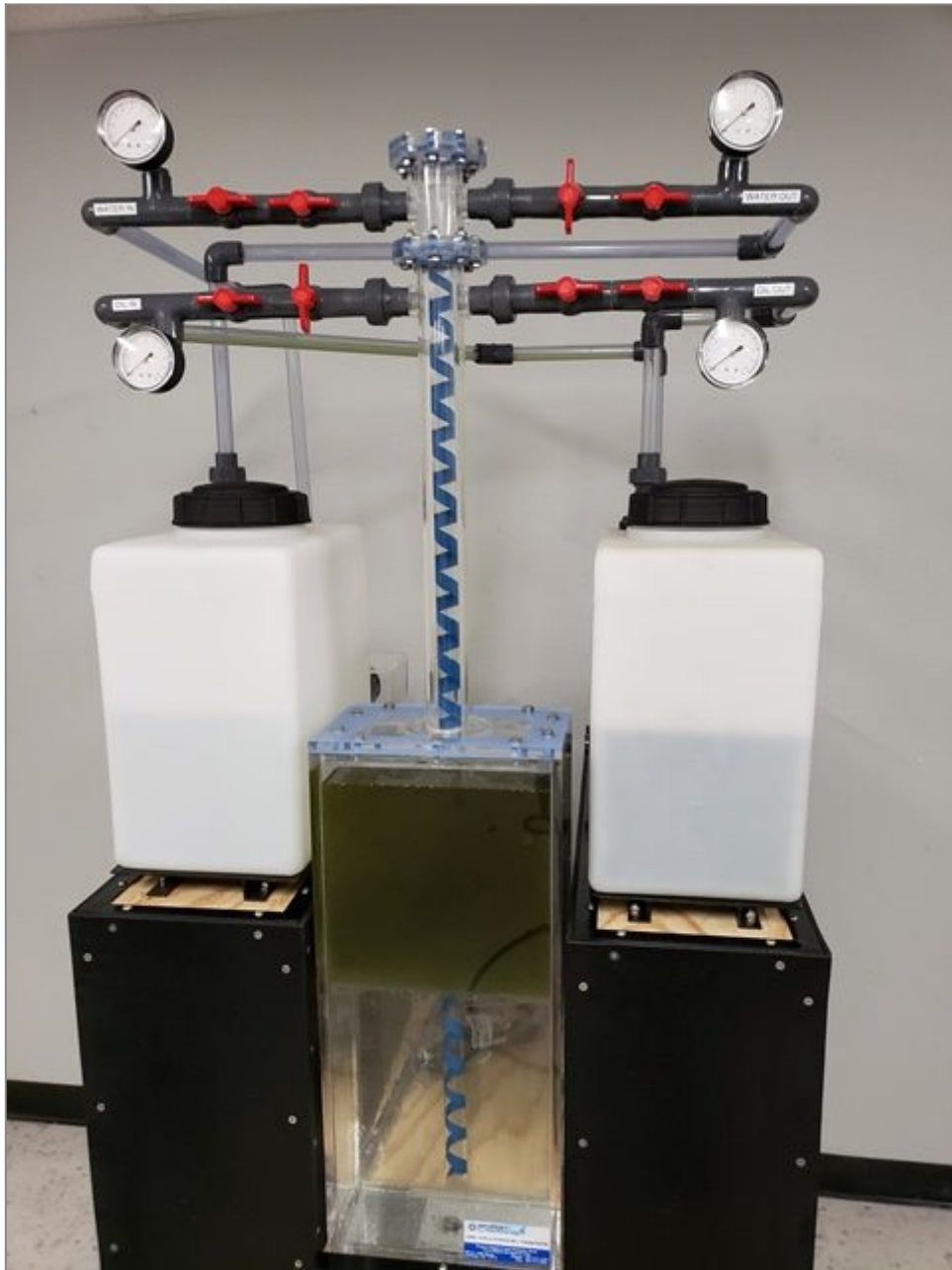


# Acrylic Storage Well Working Demonstrator



Model: 142-ASWD

Salt cavern storage wells are one of the most environmentally secure and low cost methods for long-term storage of petroleum and other oil and gas products. For example, the United States government decided to use salt cavern storage wells along the Gulf Coast to stockpile oil in the mid-1970s when it created the Strategic Petroleum Reserve.

To create a salt cavern, a process called solution mining is used to carve a cavern out of an underground salt dome. A well must be drilled into the salt formation before injecting large amounts of fresh water. The water dissolves the salt, which is subsequently removed as brine. Engineers can create salt caverns with great precision by carefully controlling the freshwater injection process.

Since oil floats on water, it is easy to move oil in and out of salt cavern storage wells. To withdraw oil from the well, fresh water must be pumped into the bottom of the salt cavern. As the water level rises, it pushes oil to the

surface. Likewise, as oil is added to the salt cavern, water is displaced and removed as brine.

Salt cavern storage wells are popular in the petrochemical industry for long-term storage of oils and gases, because rock salt possesses favorable characteristics, including low porosity, low permeability, and self-healing capabilities.

Bayport Technical's Acrylic Storage Well Working Demonstrator (142-ASWD) is a functioning training aid designed to demonstrate how underground salt cavern oil storage wells function. Grapeseed oil and water are used in place of crude oil and brine.

As water is pumped into the cavern via the wellhead, oil is pushed out. Likewise, as water is added, oil is forced out. Click on the link below to watch a video of the Acrylic Storage Well Working Demonstrator in action.

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