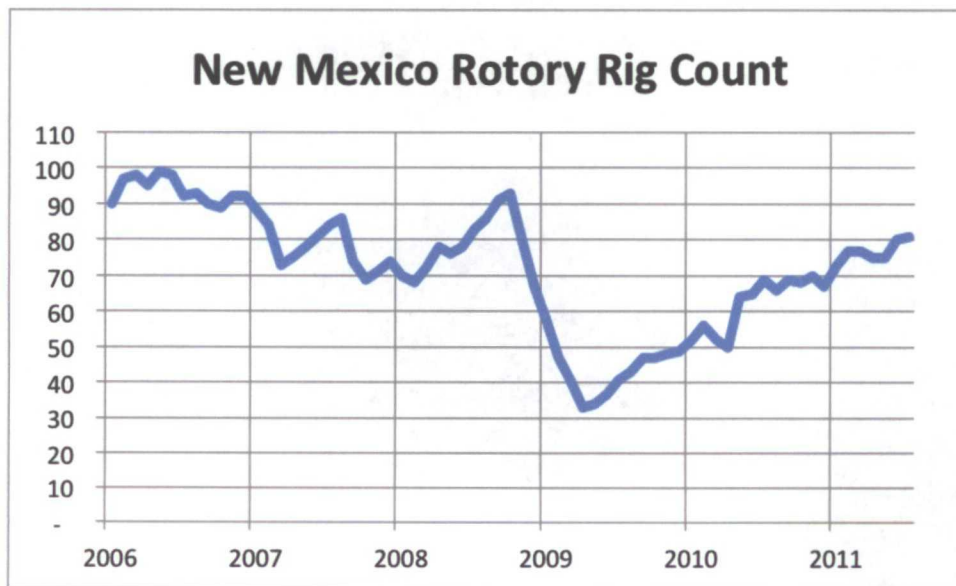


Source: Rig Counts: Baker Hughes. The 18 states shown here were selected based on having an average weekly drilling rate greater than 5 for the period 1/3/1997 to 5/27/2011. They are displayed on the chart in order, with Texas having the greatest average weekly drilling rate and Kentucky the lowest for the period noted.



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Rig Count



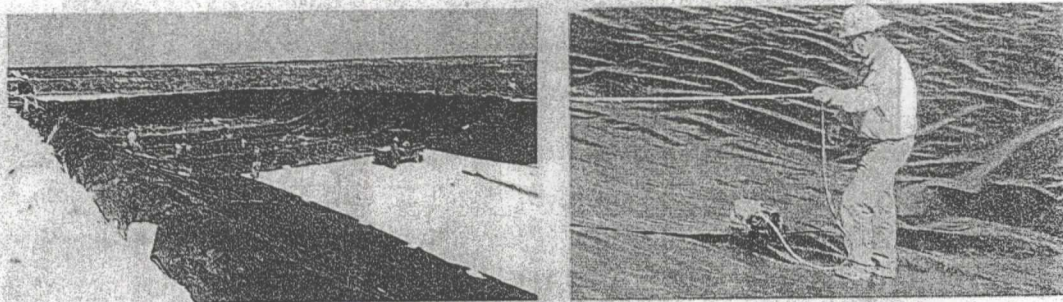
Source: Baker Hughes

from: <http://www.nmoga.org/rig-count>

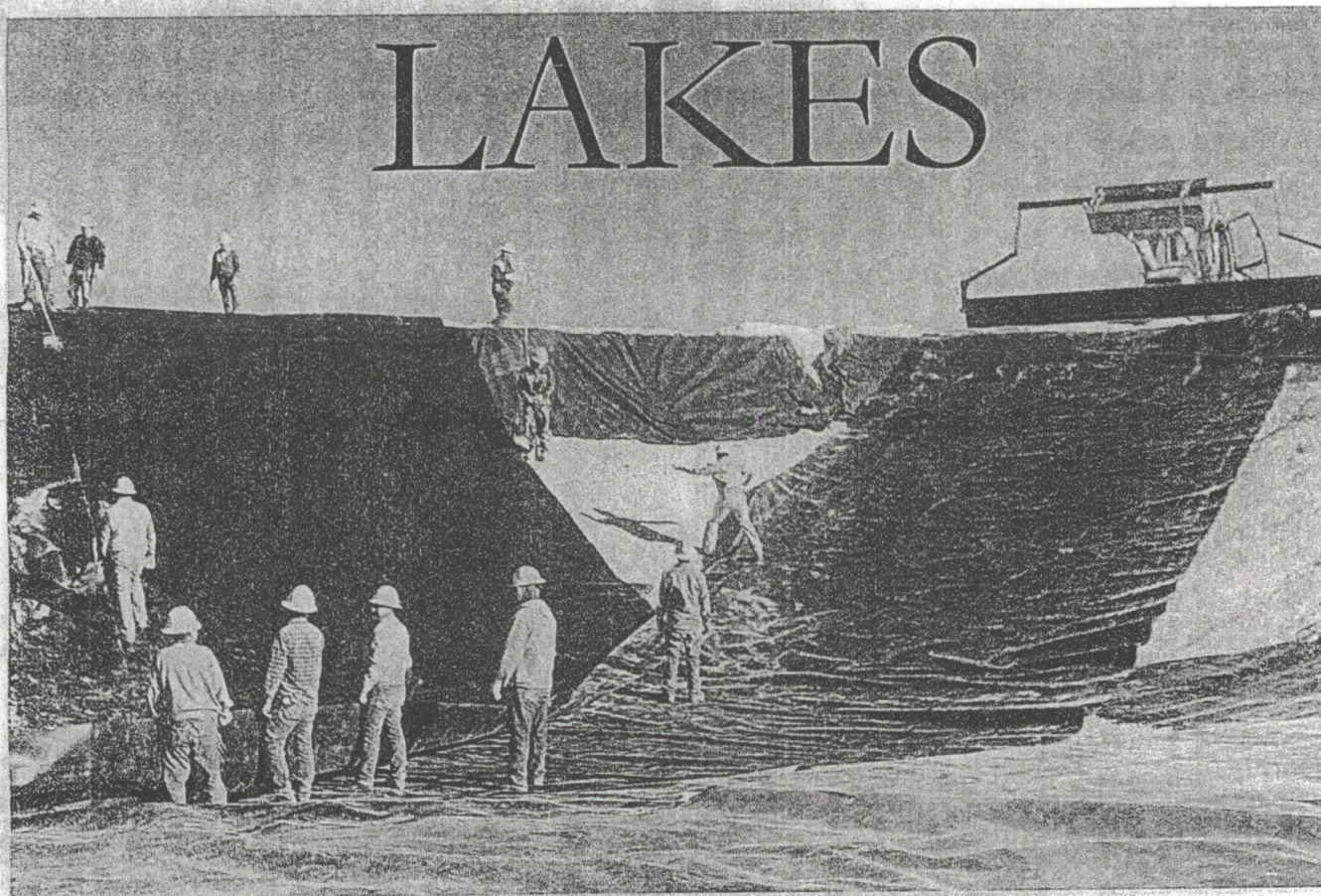
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Oil Report

Your guide to the Permian Basin oil & gas industry



FRAC LAKES



Large frac pits aim to make oilfield water use more efficient

■ Recycled water can be used in multiple locations.

By Mella McEwen
Oil Editor

West Texas is known for its wide open spaces, and Permian Basin oil fields are becoming home to wide open frac pits.

At 400 feet wide and 800

feet long, these pits are more akin to small lakes, but Nick Tomlin, vice president for Big D Companies, still prefers the term frac pits. Midland-based Big D builds the pits and then lines them with 30-mil HDPE and two separate layers of eight-ounce geotextile, equipping the pits with leak-detection systems and covering them to both prevent evaporation and to protect wildlife, especially migratory birds attracted by the large body of water.

Tomlin said the linings illustrate how technology has changed in the oil fields. "We're going to heavier liners," he said. "We used to use 6 or 8-mil, now we're using 30, 40 or even 60-mil liners." By installing covers that keep evaporation down, he said, producers have more water to work with and that makes

the technology more economic.

The ultimate goal of the pits, which can hold up to 12 million gallons of water, explained Tomlin, is to allow for more efficient use of water in frac jobs.

"There will be two pits," he said. "One will process brine water (produced or flowback from frac jobs) and then stage that water, now fresh, into the next pit. We're trying to treat the water we can't use so we can use it." The large size of the pits, he added, lets operators recover and reuse as much water as possible.

Several of these pits have been constructed in the Permian Basin, Tomlin said, and are connected by flowlines, through which the

Please see PITS/3G

PITS

From 1G

recycled water is moved. "We treat and move, treat and move," he said.

Big D builds the pits for operators, who then hire companies who recycle the water.

"What's happening is every operator is trying a different technology,"

Tomlin said. "Everyone's driving their own car." He added that awareness is very high among operators about the need to reuse as much water as possible, especially since last year the state experienced its worst drought since Texas started keeping records in 1895.

"The driving concern is a lack of water," he said. "Everyone's trying to be more efficient and smarter about water and how they use it." Operators, he said, are also trying to be proactive and head off any possible regulations regarding brine water.

The large pits can hold water from multiple frac jobs as well as supply water to multiple frac jobs.

Currently located in the Permian Basin, where a typical well can require a million gallons of water

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—NICK TOMLIN,
vice president
Big D Oil

during a frac job, Tomlin said he sees the technology moving to other producing basins.

The pits are, he said, "a step in the right direction to help address the growing concerns over water reserves. We are definitely not the first to come up with ideas to conserve this precious resource. A lot of water conservation efforts are in the works, especially in the Eagle Ford where it can take as much as 13 million gallons of water to frac a single well."

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