

# CONSERVATION Showcase

## Brine Rehabilitation Poised to Revolutionize

If it would cost you 30 cents a barrel to reinject unusable oil brine back into the ground or 10 cents to clean it up and irrigate a pasture, what would you do? Ddaahhh!

This no-brainer is poised to revolutionize how brine water in the oil fields is managed, and the Sureste Resource Conservation and Development (RC&D) Council has been in part responsible for development of this technology, along with the Lea County Soil & Water Conservation District and Lea County Development Corporation.

In 2001, these three organizations secured \$150,000 and contracted with a company in Lubbock to pilot a project that would take brine water that is a by-product in the oil fields, clean it up, and put it to good use. Paul Coakley was the lead researcher on the project and Sandia Laboratories served as an advisor.

What the pilot succeeded in producing was water that had 30 parts per million of total dissolved solids, from brine that averaged 40,000 parts per million. This result was phenomenal, particularly when considering the water in the Pecos River in that area typically runs 5000 to 6000 parts per million.

This pilot solved half the equation, but it took further work to determine whether this technology was economically feasible.



Another grant was secured for studies in 2003-2004 to determine the economic feasibility of the technology

on a large scale, and to secure a legal opinion about who would own the water after it was cleaned. It was through the feasibility study that it was determined that the process could be used at a large scale and treat the brine for 10 cents a barrel compared to the traditional 30 cents a barrel to reinject it. This is a significant savings since the oil wells in southeastern New Mexico produce 40 million gallons of brine a day. A legal opinion was also secured from the state's attorney general, who ruled that whoever cleans the water owns it.

Following these efforts, Yates Petroleum has opened a brine rehabilitation plant in Artesia and is using the water it produces to irrigate rangeland. And, others are investigating large scale operations. In total, 13 such plants are needed in Lea County.

Juan Gauna, the NRCS RC&D coordinator for the Sureste Council, is one of many who deserve credit for this outstandingly successful effort. Turning what was a liability into an asset reflects thoughtful conservation worthy of much praise.