

SWEET BUBBLEUP: Company injecting CO2 gas into ground in effort to revive oil well

By JOHN TOMPKINS | Posted: Friday, January 14, 2011 2:00 am

ALVIN — Using a lot of carbon dioxide, a Plano company hopes to breathe new life into an oil field that once was one of the largest tax-income producers for Brazoria County.

Using four wells, Denbury Resources Inc. is now injecting the gas into the ground at the Hastings oil field, a 4,600-acre field that spans the Pearland, Alvin and Friendswood areas in the region around Highway 35.

The gas will help the company pump out oil now out of reach by well pumps.

The field was discovered in 1934, and at its peak in the 1970s, the field generated about 75,000 barrels of oil a day. Today it generates roughly 1,000 barrels of oil per day, said Marty Toombs, Denbury's operations engineer.

The hope is the carbon dioxide injections will help the field generate 8,000 barrels or more per day, Toombs said. About 12 to 17 percent of the field's oil is still underground, he said.

"This is really the last step to salvage anything from these fields," he said. "Our intention is to be here at least another 30 years."

When the oil field was at peak capacity in the 1970s, it was one of the biggest sources of tax revenue for Brazoria County, officials have said.

"It can be again," Brazoria County Commissioner Stacy Adams said. "We should see our mineral tax rolls go up."

LOCAL IMPACT

The project has created about 12 permanent jobs and will create about 400 to 500 contractor positions while they build additional facilities needed to produce the oil. Denbury officials noted their efforts to rejuvenate the field also saved about 30 existing jobs.

So far, Denbury has invested about \$27 million in the Hastings field and by the time it is producing oil, the company will invest another \$70 million.

Brazoria County Commissioners approved a seven-year, \$115 million tax abatement for the field in May.

Over the next 10 years, the field's production and workers could generate about \$20.9 million in sales for local businesses, according to the company's abatement application filed with Brazoria County. It also could generate about \$433,641 in sales tax revenue and about \$9.89 million in property tax revenue for Brazoria County, Alvin ISD, Alvin and Alvin Community College

because of the value increase to the property.

Gas injection pushes oil to a production well so it can be pumped out. The injections also dissolve gas into the oil itself, to make it flow easier to the wells.

Half of the country's enhanced oil recovery projects use gas injection, according to the U.S. Department of Energy.

'THE PROCESS IS PROVEN'

Denbury started pumping gas into the ground about a month ago and officials hope to be pumping oil out of it by the end of 2011.

Injecting carbon dioxide changes the chemical properties of the oil, which requires a refining process to separate the gas from the oil once it's out of the ground. Once separated, the oil will be sold and pumped into existing pipelines, company officials said.

The Hastings recovery is one of the first such projects along the Texas Gulf Coast. The practice has long been used in West Texas.

"The process is proven," Toombs said.

Carbon dioxide needed for the project is pumped to the site at the end of the 320-mile "Green Pipeline" which stretches from Donaldsonville, Louisiana to the Hastings field.

"It's a huge investment to bring that line in," Adams said.

The carbon dioxide in the pipeline is produced in Mississippi but Denbury officials might be able to make use of gas emissions from petrochemical complexes along the coast that are along the Green Pipeline, said Randy Robichaux, Denbury's health, safety and environmental manager.

The company is seeking grants from the Department of Energy to develop methods for using the emissions, he said.

"We're looking at capturing that CO2 and bringing it down the green pipeline," Robichaux said.

The injection process is safe and poses little danger to the communities surrounding the field, Toombs said. Carbon dioxide is a colorless, odorless and nonflammable gas and releases do not pose a threat, he said.

"It's much less volatile," he said. Groundwater used by residents near the field also will not be affected by the injections, Robichaux said. The oil is a mile or more underground, he said, much deeper than the water tables used by water wells.

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