

Small Company With Grand Plans Tackles World-Class CO₂ Project

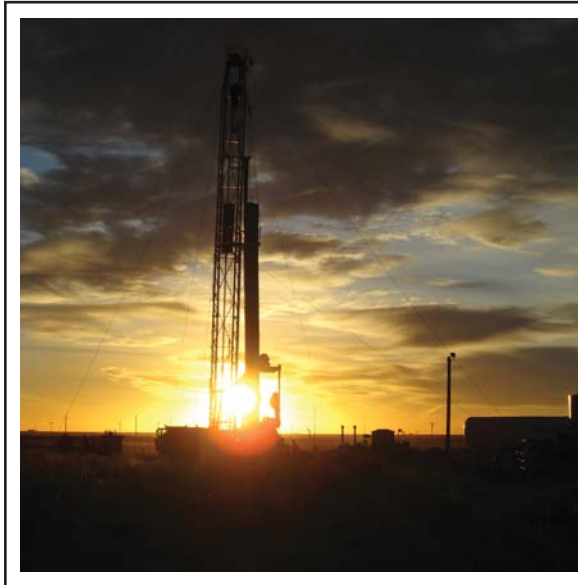
By Al Pickett
Special Correspondent

HOUSTON—Barry Lasker calls his company's business model a "world-class project owned by a small company with grand plans."

Lasker is president and chief executive officer of Enhanced Oil Resources Inc., a Canadian company that is based in Houston. It is undertaking a project to develop what it believes is the largest undeveloped helium and carbon dioxide field in the United States. Lasker reports Enhanced Oil Resources is building a 320-mile pipeline to take CO₂ from the field it owns in Arizona to the Permian Basin for use in a enhanced oil recovery projects that it also owns, as well as for third-party use.

Rod Eson, chairman of the board for Enhanced Oil Resources, puts the company's business plan in simple terms. "We have point A and we have point B," he states. "Now we need to connect the points. Of course, we need a lot of dollars to do that."

Perhaps as much as \$1 billion, to be precise. However, Lasker says developing the project could result in Enhanced Oil Resources becoming one of North America's largest helium and CO₂ suppliers as well as enhanced oil recovery producers. But first, those dots have to be connected.



The St. Johns Field covers 235,000 acres and is estimated to contain 15 trillion cubic feet of in-place resources with the potential to recover up to 8 Tcf of carbon dioxide and 30 Bcf of helium. To date, Enhanced Oil Resources has drilled 36 wells with plans to eventually drill more than 200 wells in the field.

2.3 Tcf of proved plus probable reserves. “We are looking for third-party gas contracts,” he adds.

He says the company plans to eventually drill more than 200 wells in the St. Johns Field.

“We needed to make sure there was enough gas to finance the pipeline,” Eson explains. “And we needed to make sure there were buyers on the other end.”

Enhanced Oil Resources has accomplished that first step, according to Lasker, acquiring letters of intent for more than 350 million cubic feet a day in potential contracts. The company also plans to use 150 MMcf/d of the CO₂ in its own oil fields, he adds.

Once in production, the company’s helium reserves will be sold to a major industrial gas company under a 15-year take-or-pay gas contract. The company will purchase “every molecule of helium” the project can deliver, Lasker emphasizes.

Point A

Originally called Ridgeway Petroleum, Enhanced Oil Resources has been exploring for oil and gas in North America since 1980, according to Lasker. In 1994, however, he says a wildcat well in the St. Johns Field in Apache County, Az., near the Arizona-New Mexico border, encountered a gas accumulation that would change the course of the company’s history.

Lasker says St. Johns is thought to be the largest undeveloped resource of helium and carbon dioxide gases in North America. The 2,400-foot discovery well on the St. Johns Anticline flowed more than 800,000 cubic feet a day from an unstimulated 400-foot interval. A follow-up well four miles to the south flowed more than 650 Mcf/d from an unstimulated 150-foot interval, he adds. In addition to 94 percent CO₂ content, Lasker says both wells produced 0.6 percent helium, a premium-priced commodity.

Lasker says the St. Johns Field is 400 square miles, or 235,000 acres, and is believed to contain 15 trillion cubic feet of in-place resources, according to third-party engineers. He notes it has the potential of 6 Tcf-8 Tcf of recoverable carbon dioxide as well as 30 Bcf of helium. A resource report prepared in 1999 by Cobb Engineering in Dallas calculates the St. Johns Field could support a daily production rate of 500 Mcf/d for more than 25 years.

“This is believed to be the only large-scale CO₂ field in North America that also contains helium,” Lasker points out. “There are a couple billion dollars worth of helium in the ground.”

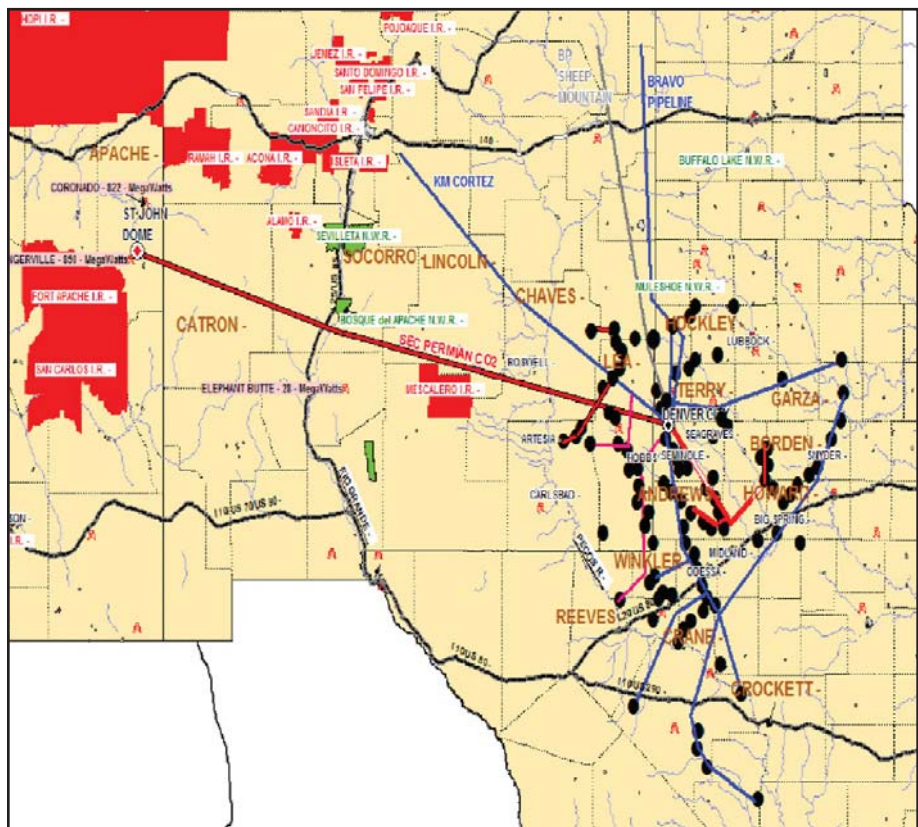
In late 2006, Ridgeway Petroleum

changed its name to Enhanced Oil Resources to “emphasize our business plan,” he relates.

To prove the potential of the CO₂ in the St. Johns Field, Lasker says the company first drilled 36 wells, establishing

Point B

In the past 18 months, Enhanced Oil Resources has acquired three mature oil



Enhanced Oil Resources Inc. and SunCoast Energy have signed a memorandum of understanding to build the St. Johns Pipeline from the St. Johns CO₂ field in eastern Arizona to Permian Basin oil fields in West Texas. Planned with an initial capacity of 350 million cubic feet a day of dense-phase CO₂ at 2,000 psi, the 400-plus mile pipeline would be designed to accommodate an expansion phase up to 500 MMcf/d of CO₂ with the addition of new compressor stations.



Enhanced Oil Resources has acquired three mature oil fields on the western edge of the Permian Basin in Lea, Chaves and Roosevelt counties in southeastern New Mexico, which it has identified as primary CO₂ flood candidates. The company estimates that 70 million-80 million barrels of crude oil can be recovered from the fields through CO₂ flooding.

fields on the western edge of the Permian Basin in Lea, Chaves and Roosevelt counties in southeastern New Mexico. Those fields continue to produce approximately 180 barrels of oil a day, according to Lasker.

He calls the three fields primary targets for CO₂ floods. "We believe we can recover 70 million-80 million barrels of crude oil from these fields," he touts. "We are looking for other opportunities, too."

In the meantime, Enhanced Oil Resources has begun a pilot project, injecting CO₂ into the Milnesand Field in Roosevelt County. "We have been injecting gas for five months," Lasker noted in January, "and we are beginning to see a positive CO₂ response. We expect to see maximum results six to nine months from now, but we remain encouraged by the results to date. We are purchasing the CO₂ locally. We have one (injector) well and four producers. We are using about 400 Mcf/d of CO₂, with an option to expand that."

The overall oil production from the pilot battery of wells has increased by 42 percent since the CO₂ injection began, according to Lasker, while the water/oil ratio has decreased from 45 barrels of water per barrel of oil to 32 barrels of water per barrel of oil.

Lasker says the Milnesand Field is the middle of the three fields it acquired in southeastern New Mexico. The other two are each within eight miles of the Milnesand Field, making it easy to pipe the CO₂ to them.

Lasker and Eson say they believe there

also is plenty of opportunity to sell CO₂ to other operators in the Permian Basin, as evidenced by the 350 MMcf/d in letters of intent that Enhanced Oil Resources has in hand.

The U.S. Department of Energy published a series of reports in 2006 that examined the stranded oil that remained in fields in the United States, and concluded that much of this resource, which it estimated at 377 billion barrels of oil, could be a target for enhanced oil recovery.

Nearly 70 percent of the CO₂ floods in the United States are in the Permian Basin, according to Steve Melzer, who owns Melzer Consulting, a Midland, Tx., firm that advises companies on the multifaceted business uses of CO₂ flooding. Melzer claims enhanced oil recovery projects have been on hold in the Permian

Basin, awaiting the availability of more CO₂.

"We believe that is the direction of the Permian Basin," agrees Lasker. "There is a pent-up demand for more than 1 Bcf/d of CO₂."

He notes that oil companies in the West Texas portion of the Permian Basin have been flooding aging fields with CO₂ for nearly 30 years, but there has been very little CO₂ flooding on the New Mexico side of the basin.

The Department of Energy report also states, "CO₂ injection is the future of enhanced oil recovery, increasing U.S. domestic oil reserves by a factor of 10."

It calls CO₂ flooding "the fastest growing method of enhanced oil recovery in the United States," claiming that expanding CO₂-enhanced oil recovery has the potential to make a significant difference in U.S. proven oil reserves. The DOE report determined, "State-of-the art enhanced oil recovery with carbon dioxide could add 89 billion barrels" to U.S. recoverable oil resources. Current U.S. proved reserves are 21.9 billion barrels, according to DOE.

"This is a long-term project," acknowledges Lasker, "but we are talking about fields that will produce for another 20-30 years."

Connecting The Dots

Of course, connecting the dots is the difficult part of the project, Lasker allows, especially in light of the economic downturn.

"Certainly things are tight in companies' capital budgets and available credit," he acknowledges. "But costs are coming down, too. The capital required to do this project is decreasing on a daily basis."

Enhanced Oil Resources reported in a



At the Milnesand Field in Roosevelt County, N.M., Enhanced Oil Resources is injecting 500 Mcf/d of CO₂ purchased locally through one injection well in a pilot project designed to test the reservoir's responsiveness to CO₂ flooding. After only five months of CO₂ injection, the company says overall oil production from the pilot battery of wells has increased by 42 percent with a corresponding decrease in water production.



Nov. 26 news release that it had \$9 million on hand, which it said was “sufficient to complete the planned development program at St. Johns, to continue with the oil field workover programs and pilot CO₂ flood in New Mexico, and to continue to fund ongoing capital expenditures over the next 12 months.”

The 320-mile pipeline from the St. Johns Field to Southeast New Mexico will have the ability to connect to the already large CO₂ pipeline infrastructure in the Permian Basin, and will carry 350 MMcf/d-500 MMcf/d of CO₂ when completed, according to Lasker.

“We have seen four major downturns since the St. Johns Field was discovered,” Eson points out. “We may see a blip in enhanced oil recovery projects, but CO₂ projects are still going. We believe CO₂ flooding is the future for increasing Permian Basin production.”

Lasker says the goal is to have the pipeline completed in 2011. A gas processing facility and helium extraction plant also will be built in the St. Johns Field, in addition to constructing the pipeline.

“We would like to bring in some heavy hitters for a joint venture or raise capital to get the pipeline moving,” he adds.

During the process of obtaining letters of intent for the third-party gas contracts,

Lasker says many companies with a need for CO₂ were interested in discussing not only purchasing the gas, but also a potential ownership stake in the source field. So Enhanced Oil Resources announced Jan. 7 that it “has decided to engage a senior industry investment banking firm to assist in identifying, interviewing, negotiating with and selecting potential joint venture partner(s).”

A Green Project

The “green” aspect of Enhanced Oil Resources’ project is but one additional benefit, according to Lasker. He says the company could be producing the helium in the St. Johns Field right now and venting the CO₂. Instead, it plans to build a pipeline to sequester the CO₂ and thus produce more crude oil.

Lasker says there is a tax benefit for sequestering the carbon dioxide, which is a greenhouse gas that some claim contributes to global warming. “In the bailout bill (passed by Congress last September), there was a small add-on that gave EOR producers a \$10 a ton tax credit for the cost of the CO₂,” he says. “That could add value to our project.”

Lasker also says he believes the United States is moving toward a cap-and-trade policy, which would limit the amount of

CO₂ a company could vent, as well as allow it to buy credits to offset its emissions from companies such as Enhanced Oil Resources that are sequestering carbon dioxide.

“For example, let us say your company has a limit of 100 tons (of CO₂ emissions a day),” Eson illustrates, “but you have a project that emits 120 tons a day. You can either cut the project or buy 20 tons in credits from another company. That is going on in Europe now. It is an incentive for sequestering CO₂.”

Enhanced Oil Resources has proven point A of its project with the discovery of an abundant supply of carbon dioxide and helium in the St. Johns Field in Arizona. It has letters of intent to purchase the CO₂ and a contract for helium. It also owns oil fields at point B on the western edge of the Permian Basin, where there is no ample supply of CO₂ and several hundred million barrels of enhanced oil recovery opportunities.

“By capturing just 100 million barrels of EOR oil of the 2.8 billion barrels identified by the DOE,” Lasker says, “our company has the potential to grow from a market cap of \$100 million to more than \$1 billion.”

It is just a matter of raising the necessary capital and connecting the dots. □