

# New method boosts oil yield from Oxnard-area tar sands

Allison Bruce, Ventura County Star, 6-26-10

Tri-Valley Corp. is using a steam injection process to wring thick, tar-like oil out of the sands of its Pleasant Valley field.

And the process, though challenging and expensive, is paying off for the Bakersfield-based company.

The Oxnard property yielded 333 barrels of oil a day in May, up from both March and April. And March had been a crude oil production record of 256 a day.

But that's nothing compared to what it might start to yield if the next phase of the project pays off. The company is piloting steam-assisted gravity drainage, or SAGD, that could double how much oil those wells are able to retrieve.

"This is really our first attempt at SAGD," said Tri-Valley CEO Maston Cunningham. "From what we can see, we're the first company that would be developing SAGD in oil sands reserves in California. We're somewhat of a pioneer."

The company was the first to drill horizontal wells into the Upper Vaca Tar Sands that house the heavy oil in the Oxnard field, he said. Companies traditionally have drilled vertical wells to recover tar sands oil.

But, building on techniques used in Canada, the company drilled seven horizontal wells completed in 2008 and uses steam injection — pumping steam into the well and then pumping the oil out.

That gets about 20 percent to 25 percent of the oil in place, Cunningham said. But that about doubles with SAGD, which uses an injection well for steaming above the original well, which is used to pull the oil out.

Such efforts are obviously more expensive, both in capital outlays and operational costs, but higher oil prices help justify the expense.

## 'A function of price'

When oil prices are low, it doesn't make economic sense to spend the time, money and effort to get oil that isn't easily accessible.

The rising price of oil in recent years has caused some oil companies both to prospect for new fields, such as one discovered in Kern County last year by Occidental Petroleum Corp., and to try to get the most out of the fields they've been working.

That can mean reopening wells that were shut down, drilling new wells in existing fields and finding ways to get at the harder-to-reach oil.

"It's all pretty much a function of price," said Bruce Hesson, district deputy in charge of the state Division of Oil, Gas and Geothermal Resources' Ventura office. If prices stay around \$75 a barrel, he expects to see an increased level of activity continue at local fields.

Last year, 63 idle wells were returned to production, he said. Since 2005, 215 idle wells have been made active once again.

### **Improved oil recovery**

Companies are using various methods to get more oil from those wells.

In its 2009 annual report, Occidental, which is one of the largest operators in Ventura County through Vintage Production California LLC, stated it added wells in existing fields, explored in areas slightly outside of known reserves and brought old wells back into use in California, resulting in 124 new wells and 388 wells being worked over.

Improved oil recovery increases the volume of oil pulled from a reservoir, while enhanced oil recovery techniques help Occidental continue extracting oil from a reservoir after primary and secondary recovery methods have been used, according to Susie Geiger, a spokeswoman with Occidental.

Since acquiring properties in Ventura County in 2006, Vintage Production California has reworked field infrastructure to support and expand existing projects and develop new opportunities for oil recovery, she said in an e-mail.

For example, water injection has been used since 1955 to get oil out of the county's San Miguelito Field. Vintage has worked to realign the water flood and water injection rates to extend the life of the field, she said.

Each of these approaches carries a price tag.

"Anytime you're doing anything additional like water flooding or steam flooding, it's additional cost to your operation," Hesson said.

Heavier oil, such as the kind found in tar sands, also gets a lower price on the market than the light, sweet crude often used as a benchmark, Hesson said. That creates another reason higher prices make it more attractive to get that oil out of the ground.

He said Tri-Valley's Oxnard operation is a great example of enhanced recovery efforts that are now more economically feasible.

### **Local growth opportunity**

Cunningham said the company could be in a position by the middle of next year to decide whether to fully develop the rest of the Pleasant Valley field with SAGD, based on the pilot well's performance.

The project is growing Tri-Valley's presence locally. The company is opening an office in Oxnard. It has eight production operators in Oxnard — all locals — is hiring three more and will be adding positions as it grows, he said.

Oil prices have been up along with the stock market, buoyed by a weaker dollar and stronger euro; since crude is priced in dollars, it becomes cheaper to investors of other currencies when the dollar loses value.

BP has now spent \$2 billion trying to stop the oil gusher in the Gulf and paying initial claims for damages. The

spill hasn't yet affected oil prices, though some analysts have speculated it could tighten U.S. supply going forward.

If the moratorium remains in place on deep-water drilling — though a New Orleans judge has blocked the six-month ban, the administration plans to appeal — that could be good for Tri-Valley. It could stir interest in what the company is doing in Oxnard, attracting financing and possible strategic partners, Cunningham said.

“If this moratorium continues for offshore, I believe companies will have no choice but to look onshore at other opportunities for drilling,” he said.