

Wringing oil from water is in the mix

Wescorp Energy touts technology's offshore potential

BY DAVE COOPER, EDMONTON JOURNAL AUGUST 25, 2010



Joel Duhaime, a technologist with Wescorp Energy, takes a sample of oil at the portable separator the company operates near New Sarepta, about 60 km southeast of Edmonton.

Photograph by: Brian Gavriloff, The Journal, Edmonton Journal

EDMONTON - "I just tell them to bring it on, bring me whatever you have," says Joel Duhaime as he awaits another tanker truck load of oily waste to put through Wescorp Energy's novel water separator being field-tested near New Sarepta.

"We are really challenging this technology to see what it can do in a day-to-day operation. We are taking loads that range in temperature from 30C to 70C with up to 40 per cent oil," the technologist said.

In Wescorp's system called H20maxx, tiny bubbles of nitrogen gas -- ranging from one micron down to a microscopic-nano-size -- lift oil droplets to the surface of a holding tank that can then be skimmed off.

This portable unit first went into service two years ago at an EOG Resources site near Wabamun Lake, where it cleaned a steady flow of oily water from the single producer, a stream which did not differ

much in quality.

The same unit is now sitting beside Cancen Oil Canada Corp's treatment and disposal site, cleaning up a wide variety of oilfield wastes and yielding data to prove its commercial potential. A second, larger unit is under construction.

"The work at EOG was fine, but the material was too consistent to really test this equipment," said Dave LeMoine, a Wescorp vice-president.

The market for oily water separation is huge. In Alberta, about \$1.5 billion a year is spent on treating and disposing of the average of three barrels of water that come up with each barrel of oil. Oil and gas producers handle about two-thirds of the work themselves, but that leaves a \$500-million market for firms like Newalta, Palko Environmental and Canadian Crude Separators, and smaller firms like Cancen, which accept material the producers themselves can't or don't want to process.

"Separating out all the oil means you aren't flushing dollars away, and the oil and waxes will plug up the disposal well," said Cancen's Jim Watt.

And that means you have to call the plumber -- a well service rig.

It costs up to \$75,000 to have a well "worked over" every few months with chemicals, pressure equipment and other cleaning devices to open up the pores in the rock foundation 1,500 metres below the surface.

The key to H20maxx is its patented aerator design which produces the right kind of bubbles, and the hydrocyclone design which spins the material to speed separation.

LeMoine thinks the system has great potential on land, but offers perhaps even greater possibilities in offshore oil production.

All oil-producing platforms have to handle the same kind of water flows as wells onshore. They have to either pipe the water away for treatment on land, load it into tankers, or treat it on the platform to a quality of 29 parts per million of hydrocarbon for ocean disposal.

H20maxx already meets that standard.

Richard Dalati, former heavy-oil expert for giant global oil services firm Wetherford International and now in charge of Wescorp's Gulf of Mexico and international business, thinks H20maxx is a natural for offshore work.

"There are no filter elements, no chemical assistance. I am very impressed with this technology," he said.

Looking at the three black 750-barrel holding tanks on the Cancen site, Wescorp's chief executive Doug Biles imagines similar-sized tanks on an offshore platform, quickly separating the oil and cleaning

the water to meet ocean disposal standards -- saving the firm millions in transportation and land disposal costs.

"This H20maxx system also has a smaller footprint on the platform, saving construction costs, because for every kilogram of weight, you have to add a thousand kilograms of support. So there is big value for us in the offshore oilpatch."

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