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A New Use for Orange Peels: Squeezing Oil From the Utah Desert

Chester Dawson for The Wall Street Journal

By Chester Dawson

A boom in oil production Utah has increased the state's output to the highest level in 25 years, but that rising tide also is giving a lift to more exotic plays: petroleum trapped in sand and hard shale rock.

Eastern Utah has the largest oil sands formation in the U.S. as well as extensive oil shale rock resources—not to be confused with the shale oil extracted from the Bakken formation astride the North Dakota and Saskatchewan border. These have never been economically viable in the U.S., but a combination of advances in technology and higher crude prices has led to several new proposals for open pit mines in and around the sagebrush-covered Uinta Basin.

Among the most aggressive proponents are Calgary–based US Oil Sands Inc. and Enefit

American Oil, the U.S. unit of Estonia's state-run utility. But both companies' projects have triggered fierce opposition from environmental groups and a healthy dose of skepticism from critics who doubt their viability.

These have attracted more local opposition than traditional oil drilling because they rely on open pit surface mines that are anathema to conservationists.

US Oil Sands, which raised $80 million in financing in Canada this fall, expects to produce up to 10,000 barrels per day using a citrus-based solvent to separate heavy oil embedded in sand. Solvents are something of a holy grail because they hold the promise of dramatically reducing the amount of hot water currently needed to melt away oil from sand. But they're still an unproven technology and even the world's largest oil sands producers have yet to adopt them widely.

In northern Alberta's much larger oil sands, for example, Cenovus Energy Inc. doesn't plan to start test production with the first regulator-approved solvent-aided process until 2017. But officials at venture US Oil Sands are convinced they've come up with an environmentally-inert solvent derived from orange peels that will allow it to start producing in early 2015.

"We went to Utah because we needed a place to test the technology," CEO Cameron Todd said in an interview. "The state of Utah opened its arms because its got 20 or 30 billion barrels of resources that nobody's figured out how to develop," he said.

The company's backers initially planned to start producing as far back as 2006, but have hit a number of financing and regulatory snags along the way. Today, its leases near Utah's picturesque Book Cliffs are a flash point for environmentalists who have filed court appeals to null state approvals. "If this industry takes hold, it's going to decimate and industrialize Utah's finest back country," said Taylor McKinnon, Director of Energy at the Grand Canyon Trust**.**

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Rikki Hrenko, CEO of Enefit American Oil

More ambitious yet is several billion dollar project to produce 50,000 barrels of oil a day from Uinta Basin oil shale, which contains an immature form of petroleum called kerogen. Estonia's Enefit, the world's leading oil shale producer, plans to get commercial production in Utah underway by the mid-2020s. "It was a natural marriage for Enefit to come here to Utah where this massive resource sits," said Rikki Hrenko, CEO of Enefit American Oil.

But that, too, has drawn its share of environmental opposition and criticism about its economic wherewithal. In September, Royal Dutch Shell PLC pulled the plug on its shale oil rock business in neighboring Colorado—whose deposits are much larger than in Utah—after investing millions off-and-on since 1982.

James Bartis, a Rand Corp. alternative fuels specialist, says oil sands and shale rock production in the U.S. is for the distant future—and may always be. "My hunch is that in 10 years there's just not going to be appreciable production. The smart money's going to go into tight oil or offshore," he said.