



Three Industry "Bigs" Delve into Oil, Gas Waste Management as Market Surges

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Arlene Karidis | Jun 04, 2019

Horizontal drilling has radically changed how the oil and exploration industry works; operators are drilling further and faster to get to resources. The gust of activity has driven

demand for drilling waste disposal services, and some solid waste companies are seizing opportunities in this space—namely Waste Management, which just bought Petro Environmental Waste’s oil and gas disposal assets , Republic Services and Waste Connections.

But these ventures involve a long, intensive permitting process and answering to a different regulatory body with very demanding rules. And there is substantial capital outlay.

Drilling horizontally is different than going straight down to pull oil and gas from formations. Horizontal drilling stops at the formation, turns the drill sideways, then goes down into the formation.

“You might be able to work horizontally for 2 miles and, if you can do this, you produce much more oil and gas more quickly,” says George Wommack, former CEO of Petro Waste Environmental in San Antonio.

Most activity is at the Permian Basin and Eagle Ford Shale, where formations allow for this faster, more aggressive drilling method. Production in the Permian Basin, which comprises west Texas and southeast New Mexico, will reach more than 5 million barrels a day in 2025, projects WoodMac Mackenzie, energy research and consultancy group.

Petro Waste was receiving 300 to 500 truckloads a day, collectively, at its four Texas landfills: Orla, Howard County, Deep Six and Big Lake.

Prior to selling these four sites to Waste Management, Wommack had begun construction on a fifth facility.

Waste Management, now focused on this transaction and its acquisition of Advanced Disposal , was not available for interview, though in a press release, Scott Bradley, Waste

Management's Four Corners area vice president, said: "The acquisition [of Petro Waste] expands Waste Management Energy Services' business ... By leveraging Petro Waste's extensive footprint and scale, core competencies, state-of-the-art disposal facilities and robust customer base, we expect to generate momentum for significant and sustainable business growth."

Both Republic, which manages oil and gas waste through its subsidiary Tervita, and Waste Connections, which offers these services through subsidiary R360 Environmental Solutions, declined interviews or to say how many sites they own or operate.

Most of the solid waste generated by the oil and exploration work is drilling waste, though some comes from well completions and other ancillary production work.

As crushed rock is removed, oil-based fluids are circulated. The cuttings are in contact with these fluids, requiring a more regulated disposal process than with vertical drilling that relies on water-based fluids.

Cuttings must go to a facility permitted by the Texas Railroad Commission, and that permit process can take six months to two or three years.

Operators must undertake an extensive geologic investigation and submit geotechnical analyses, drawings, fill progression, drainage and a final grading plan. Additionally, a closure cost estimate is required to get bonding for closure, says Neil Nowak, SCS Engineers project director who works with clients who own and/or manage these disposal sites.

Water is removed and either treated for reuse (for fracking), disposed of in a saltwater injection well or placed in impoundments. Semisolids, mainly drilling muds contaminated with hydrocarbons, are disposed of in an oil and gas waste landfill.

Samples from incoming loads are tested to ensure they contain no materials that aren't permitted by the Environmental Protection Agency's Resource Conservation and Recovery Act, as well as to determine if waste is dry enough for disposal or needs further processing.

Similar analyses are done at oil and gas and municipal solid waste operations to determine slope stability. But there are different inputs regarding waste properties, as waste composition varies, says Nowak.

Prior to design, operators drill holes in the proposed area and additional borings to obtain geological information. If no shallow groundwater hazard is determined at 100 feet, groundwater monitoring is not required, at least in Texas.

While it takes substantial capital and expertise, there is a lot of demand for these services, says Wommack, who identified an opportunity early in the shift to horizontal drilling, with a plan to build a platform, then sell it to a larger group.

"Now, I am watching for other opportunities in the oil and gas space," he says. "The U.S. will be a major player in the global oil and gas industry for decades. I think everyone who has become involved to date is seeing healthy activities."

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