

production. This fracturing is generally done in stages, and with each stage there is some amount of fracturing and formation fluid which flows back to the surface (“flowback” or “fracture fluid returns”).

Because of the large number of fracturing stages conducted when horizontal drilling and hydraulic fracturing are used together in a well, as is the case in shale basins, the volume of fracturing fluid returns can be very high. These fluid returns bring back chemical additives, formation hydrocarbons, and other contaminants and therefore must be carefully contained. Most often, these flowback fluids are sent to disposal wells where hydrocarbons are recovered for sale, and the remaining flowback fluid is filtered and the injected into a disposal formation.

**Resource Recovery and Recycling, and Disposal of Unrecoverable Wastes**

The philosophy of “reduce, reuse and recycle” before disposal is as applicable to oil and gas industry waste as it is to our own household waste. This is an area where scientific advancement and innovation in new green tech have the potential to transform the way producers deal with their waste. Specialist techniques such as thermal desorption, osmotic

filtration, fluid softening, and electro-kinetics allow companies to extract and use (or sell on) valuable materials from E&P waste streams.

Recovering valuable fractions from all types of oil and gas waste doesn’t just reduce the environmental impact of drilling and fracturing. It also opens up valuable new revenue streams, in many cases offsetting the economic cost of meeting and exceeding regulatory standards for environmental protection.

Once all of the useful materials have been recovered, the remaining unusable waste must still be disposed of in a way that doesn’t put the environment to risk. Over the years, a variety of waste-disposal options have been used: discharging liquids into the ocean, and dealing with solid wastes through surface impoundment, land application, or land filling. Each method has its own pros and cons, associated costs, and ease of implementation. This is another place where technological innovation and green thinking have opened up new opportunities for producers. More sophisticated waste management techniques, such as slurry injection, can offer an all-in-one solution for dealing with the full spectrum of gas and oilfield waste which is both economically and environmentally sound.

As we move deeper into the age of shale production, regulatory agencies, the scientific community, and industry leaders recognize that significant steps must be taken to ensure that the quest for energy resources is managed responsibly, with a focus on the health of the environment. Legislation and regulation of waste from the sector are developing rapidly, and the requirements from state to state can vary enormously in scope and detail. Keeping up can be a challenge in an industry which moves at speed. For producers who are attempting to fulfill their social responsibility and regulatory obligations while maintaining a profitable position, investing in future-proofed waste management technology is a smart move.

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**OIL AND GAS ACQUISITION MARKET 2018 OUTLOOK**

BY JOSH ROBBINS

2017 has been a positional build year, as we had expected. As deals slowed down, dollars were reallocated to development projects. As the calendar rolled into 4Q17, many companies are still looking for deals. But unless companies are overpaying for Delaware Basin assets or buying clearance priced wells, deals are very difficult to find.

The acquisitions and divestitures market will be heavily focused on natural gas deals in 2018 – especially if the trend toward \$4 continues – and bolt on positional blocks and trades. The majority of the large dollar deals will continue to be spent on the midstream assets that help build on the long-term strategies of specific acreage positions. The focus will continue to be in the Delaware, however, the midstream companies will start to really battle for MCF/D and in 2018 the operator will finally start to see some relief on an operational standpoint because of the competition. Because of this cost savings, wells that were in the red in 2017 may be in the black in 2018, and become better acquisition targets.

If oil continues to rise and is able to stabilize at \$55 - \$65 in 2018, we expect companies will look to immediately clean their portfolio of assets not defined as core. Expect 1Q18 and 3Q18 to be filled with a number of smaller deals that help core up these companies, as NAPE and Summer NAPE will push these deals into the spotlight. We expect a significant amount of new prospects to emerge in the Permian, Eagleford and Niobrara that will place focus on expanding the current borders outward.

In 2017, we saw companies move from a diversification of assets to operational efficiency. If a company cannot operate efficiently, they looked to divest. In 2018, we will see these companies put these deals to market at a transaction friendly price. Many private equity backed companies will look to exit in 4Q18 and 1Q19 if prices are \$65 a barrel /\$4 MCF.

Drilling will start to be more and more of a topic, as leases taken in 2015 start to expire.

Available labor force, timing of drill rigs, operational costs will all be taken into consideration in 2018, as flipping acreage may be the only option for some companies that can’t get to every acre with a commitment.

We expect 2018 to be a banner year.

Operationally, the cost to drill has come down significantly. The STACK/SCOOP/MERGE area in Oklahoma is continuing to prove successful. Delaware acreage is becoming harder to find, causing operators to flip what they have to block their positions as is. This will increase the drilling in New Mexico significantly in 2018. Permian has cooled, and development will continue to be the focus, not acquisitions. ☐



Josh Robbins