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MARCELLUS BUILDOUT

H&H Enterprises Expands Shale Pipelines in Pa.

By Bradley Kramer

The installation wasn't the most glamorous the company has completed in the Marcellus shale region, but it was indicative of the type of know-how these projects require: Challenging geology. Obstacles to avoid. Populated locations. Limited right of way. Experience required.

H&H Enterprises has spent the last few years building up its resume of Marcellus shale projects, according to Jason

Hockran, vice president and owner of the contracting company based in Andover, Ohio. H&H first got involved in the Marcellus shale in 2008, with work intensifying in 2009. Since then, the company has installed 35,000 ft pipeline sections via horizontal directional drilling in the Marcellus shale region.

The challenges of working in the Marcellus shale, particularly in western Pennsylvania, are logistics and the geology, Hockran says. It can be difficult to

maneuver equipment in and out of the tight areas found in the hills and mountains of the region, as well as working within a dense population area.

Waynesburg, Pa., located about 60 miles southwest of Pittsburgh, is the county seat of Greene County, which sits on the southwestern corner of Pennsylvania — “the cornerstone of the Keystone State,” as the county's government website proclaims. Named for Revolutionary War hero General “Mad” Anthony Wayne, the small borough is home to a population of a little more than 4,170 people, according to 2010 U.S. Census data, and it was one of the first epicenters of the shale gas boom.

“Many energy companies have an office or satellite in Waynesburg,” Hockran says. “The region, including the city and a 100-mile radius outward, was one of the first major hot beds for Marcellus shale activity, along with another area near Towanda in Northeast Pennsylvania and 150 miles of the surrounding area.”



Horizontal Directional Drilling Guide

H&H Enterprises has come to Waynesburg to finish up a project to connect a natural gas well to an existing midstream pipeline segment owned by one of the prominent energy companies active in Pennsylvania's shale play. Working as a subcontractor to D&M Contracting Inc., of New Alexandria, Pa., H&H completed a 900-ft installation of 12-in. high-pressure steel pipe, using horizontal directional drilling.

Nestled in the foothills of the Appalachian Mountains and located near a busy area just off the highway (I-79), the project presented a number of challenges within its relatively short span. H&H faced the task of drilling under a road, a river, a double set of railroad tracks and an existing gas line that this new pipeline would tie into when all was said and done. But the challenge started with the soil itself.

"In terms of geology, you have topsoil and soft clay on top, and then you can go into cobble and rock formations of sandstone and shale," Hockran says. "The same geological formations that created the market [for shale gas] also creates the challenges of drilling here."

The project required H&H to drill from near the well pad, which sits atop a high hill, across a valley — or rather under it — to the gas main on the neighboring hill to the south, where there were a state penitentiary and number of offices, including some energy companies. The right of way on the exit side presented a tight window for the H&H team target.

The five-person crew began drilling June 1 and finished the pilot hole June 4. H&H used push-reaming, rather than pull-reaming, to save on transportation costs and environmental impact.

"It keeps the mud retention system back at the rig, so we don't have to pump or haul the drilling fluid back with a truck," Hockran says. "It keeps it at the site where we have our recycling system, and that way we don't have trucks going up and down the road."

Because of the busy train tracks, trucks would have had to take a long, circuitous route from the entry pit to the exit side, which would have slowed the production time and caused unnecessary truck traffic on the local roads and highways.

Protecting the environment is just a part of what H&H does, says Bunky Jordan, who is involved with sales and marketing for the company.

"We were a green business before it was popular," Jordan says. "We do things to protect the environment and wetlands just by the nature of what we do."

The push-reaming process that H&H chose for the project required a hydraulic excavator operator at the exit pit applying pulling force on the drill pipe to ensure there is constant, even pressure on the drill head. Jordan points out that an experienced crew is essential for a successful push-ream.

"Push-reaming is a delicate process," Jordan says. "Some companies don't do like to use it. It takes a skilled operator team and a coordinated effort to do it right. That's where operator knowledge comes in to play. They may act nonchalant about their job, but it's really remarkable."

The H&H crew, with John "Bubba" Troyer as superintendent, completed the project using a 220,000-lb American Augers directional drilling rig, supported by a 350-gpm mud pump, a 400-gpm mud cleaner (to recycle the drilling fluid), three excavators, one using a LaValley DeckHand to handle the drill pipe, a Midwestern pipelayer and other assorted equipment.

The product pipe was welded prior to installation and ready on the drill exit side for pullback operations when reaming was complete.

H&H wasn't the first contractor to attempt the 900-ft drilling project. "They had one contractor here that couldn't get the job done," Hockran says. "We're here to finish it." The company pulled the pipe into place on June 8.

Many Suitors

Since H&H Enterprises entered the shale play in 2008, the contractor has worked with a number of energy companies active in the Marcellus and now Utica regions. Most of the work H&H has completed in the shale has been in Pennsylvania and West Virginia.

Waynesburg continues to be a significant hub for energy companies working in the Marcellus and Utica shale plays.

If you are interest in viewing a video of a shale pipeline installation project that H&H has completed, visit the company's website at www.handhent.com for a project in Monongahela, Pa., 35 miles northeast of Waynesburg. The project was a 2,100-ft drill with 24-in. pipe.



Across from the drilling site, an excavator was used to apply pulling force to keep constant and even pressure on the drill head during the push-ream process. When finished, the pipeline would travel under a road, river and railroad tracks to tie into an existing gas line.

PROJECT DETAILS

Owner: Caiman Energy

Contractors: D&M Contracting Inc., New Alexandria, Pa.; H&H Enterprises, Andover, Ohio

Location: Waynesburg, Pa.

Purpose: Connect a natural gas well to an existing midstream pipeline

Length: 900 ft

Pipe specs: 12-in. high-pressure steel

These projects on H&H's resume prove the company has the know-how to get the job done in the challenging shale plays.

Bradley Kramer is associate editor of *North American Oil & Gas Pipelines (NAOGP)*, a sister publication of *Trenchless Technology*.

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