

Addition Through Extraction



Photos by Barry Brown

Technology plus professionalism plus an extraction boom equals expansion despite tough times.

BY BRAD LONGSTREET

The Barnett Shale is a geological formation that may contain the United States' largest producible reserves of natural gas—up to 30 trillion cubic feet. But the gas is difficult to extract for two reasons: It's a "tight" formation with very hard shale that complicates drilling, and much of the Barnett Shale lies beneath Fort Worth, Texas, one of the largest metro areas in the United States.

These challenges discouraged large-scale extraction for years. But sharp increases in natural gas prices have made extraction economically feasible, and the Fort Worth area is currently experiencing one of the world's great energy booms. From a surveyor's point of view, the two biggest sources of work are the boundary work and staking associated with gas extraction pads, and the staking and as-built surveying required by pipeline construction.

One Texas firm, Frontier Surveying Co., is doing exceptionally well even by boom-town standards. "In a rough economy, we're growing," says Frontier's President and CEO Ivy Young. "Much of that growth is due to our great people building the business in our Fort Worth office."

Founded in Corpus Christi, Texas, in 1979, Frontier Surveying opened a field office in Fort Worth five years ago. The growth in the new office has been explosive. "We started out in 2005 with eight people staying in hotels," says Survey Coordinator Barry Brown. "We quickly moved into a more permanent facility. Continued growth and commitment to the Fort Worth market has led to us to invest in a new building there this year."

Some of that growth is due to the abundance of gas-extraction work, but that's not the whole story. Put simply, plenty of firms—including some established local firms—are not growing. Why is Frontier doing better than others? Young, Brown, and Senior Project Manager Allen Peloquin, RPLS, say the answer comes down to three factors: leading edge technology, professional appearance and conduct, and very high standards. "We like to stay on the leading edge," Young says.



Technology Makes a Difference

In the Fort Worth office, staying on the leading edge has meant making large investments in the newest Leica technology, including Bluetooth-enabled FlexLine series total stations and Leica's Viva series GNSS base stations and rovers. Total stations and receivers are both operated wirelessly by Viva Controllers.

The receivers are equipped with modems and Pacific Crest radio systems to take advantage of the GNSS base station network operated by Geomatic Resources LLC and Leica Geosystems. The network coordinates feeds from more than 90 Leica receivers in Texas—there are more than 30 stations just in the North Texas area, providing continuous network RTK corrections to all GPS brands on the market. “We have a base and rover for all seven crews,” Pelloquin says, “so we can always work, whether or not we're in the network's area

of coverage. But some of our bases are now working full time as rovers.”

High productivity is imperative, and downtime is unacceptable. “GNSS capacity has made a big difference for us,” Pelloquin says. “We've had jobs in the past where we lost money because we couldn't get lock—that doesn't seem to happen anymore. In fact, sometimes I'll be in the truck and the 'little lady' [the Viva's voice notification recording] will speak up from the back and tell me we have lock. It's impressive.”

Pelloquin says that the system interface is also a competitive advantage. “It's based on Windows CE; it speaks our 'language,' and it's been a breeze to work with.” he says, “When you hire new people, it really helps if they can just pick up our equipment and get to work with less specialized training. Even if we're out of the network area and have to set up the base station or do static work, it's still very easy and intuitive.”

Data from total stations and GNSS receivers are both processed by Leica Geo Office (LGO). “We have trained, dedicated office staff bringing LGO data into CAD,” Pelloquin says. “They make sure our point schemes are enforced and that things get into the right layers.”

Standards have to be followed closely, Pelloquin says, “because there is a lot of paperwork associated with oil and gas work—things like assembling lessor lists, spreadsheets with all the data on pipeline welds.” To keep up with all that detail, the Fort Worth office has an expanding department of qualified CAD techs devoted to pipeline work.

The office also has a dedicated internal research staff, including GIS expertise. And although less training is needed because the equipment is easy to use, the company doesn't take its knowledge base for granted. “In addition to staying on the leading edge of technology, we invest in training our people in utilizing the new technology to the maximum benefit of our clients,” Young adds. “We think it makes Frontier a great place to work for our people, too.”

Opposite: Party Chief Lawrence Johnson (right) and Survey Technician Robert Robinson conduct an as-built survey on a pipeline that runs through Arlington, Texas. Below: Johnson calls the survey office to convey the coordinates of the original survey corner.



Professional Attitudes Yield Professional Results

Professionalism is a thread that is weaved throughout the fabric of the firm. “Appearance is a pet peeve of mine,” Pelloquin admits. “I think it's hard to ask for more money or respect if you don't look professional.” To ensure that the appearance of crews and trucks matches the professionalism he's trying to instill in the rest of the operation, Pelloquin contracts with a uniform service to supply shirts with Frontier logos and jeans. The same service drops off cleaned uniforms weekly. “When landowners and our clients see our crews looking good, it puts them at ease,” he says. “I want to change the perception that the public has of surveyors.” The concern for appearance extends to trucks and tools, which are kept neat.

Brown says that the professional appearance and positive attitudes of the survey crews help with marketing. “When we first started coming up here, work was booming and surveyors were limited. We were the new guys. But when we showed up at meetings we just tried to be honest



The survey crew double-checks the station data on an as-built pipeline against their Leica Viva Uno handhelds.

and open. If we couldn't do something, we'd say so, and people respected that. A lot of our bigger client relationships started with a handshake and our promise to stand behind them."

Sometimes that means staying with clients even when things take a downturn. "For example, we were working on four pipelines for a client when their funding fell apart," Brown explains. "Six months later, they wanted to use some of the work we'd done to get some easements written,

so we helped them with that. Going the extra mile eventually led to three years, so far, of steady work from that client."

Looking good extends to hiring practices, as well. "With all the layoffs, we've been able to pick up some good people," Peloquin says, "but it's been a long journey. We don't necessarily hire the smartest or most experienced. Instead, we interview twice and look for people with drive and a willing attitude—and it helps if they want to learn to use to use high-tech tools."

Currently, Frontier is receiving one or more applications a day and is considering hiring surveyors from out of the area.

High Standards Promote Trust

Oil and gas leases are complex documents due to the number of parties involved, and pipeline work is unavoidably dependent on thorough as-built documentation. To keep up with the challenges, Frontier Surveying has developed clear standards and deliverables for all of their work. These standards have occasionally been adopted by clients who work with other survey contractors. As Brown says, "We're not on somebody else's game plan; they're on ours."

Peloquin says that generating as-built surveys for pipeline work is like speaking a different language because of all the data that need to be tracked. "All the joints, for example, have joint numbers and we have to track welds, type of welds, who did the welding, degree of bend, if the bend is over or under design and by how much, etc." As a consequence, Frontier crews collect and maintain a lot of information normally associated with inspectors. "We collect everything and organize it for the engineering firms and their inspectors," says Peloquin. "Even though the work moves very slowly, we have to be on site continually. If contractors do anything, we have to capture it."

Similarly, leases for gas well pads are large, complex documents that track individual lots in large, contiguous areas. The work is detailed enough to keep 12 to 15 office technicians and a three-person research department extremely busy.

Quality control is Brown's responsibility, and he regularly checks to ensure that standards are being followed. "We're serious about it," he says. "We know that quality and reliability are some of our best marketing tools."

With technology that reaches out to the future and a solid background in traditional surveying practice, Frontier Surveying is set for long-term stability as well as additional growth. 🌐

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