

# Surveying combines history, technology

By J.G. DOMKE

SPECIAL TO THE STAR-TELEGRAM



Robert Young writes down the measurements recorded by state-of-the-art digital equipment held by survey Party Chief Barry Brown. Photo by J.G. Domke

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It might be easy to say that your land goes from the fence to the road and that you own 100 acres, but in reality you might own less and the fence may be on the neighbor's property. The only way to know for sure is to have it surveyed.

"The fence is simply for keeping cattle from getting loose," says Robert Young, president of Frontier Surveying. He has to find the original markers and then, with state-of-the-art tools, find the property boundary.

Corpus Christi-based Frontier Surveying specializes in meeting the needs of its clients -- energy companies, drilling and pipeline companies -- who have to pay royalties to property owners and those who own the mineral rights to the land.

Young says in North Texas he might have to research records dating back to the 1840s, when the Republic of Texas gave away land and issued "empresario contracts" to bring people to Texas. In South Texas, he goes back to Spanish land grants to find the true property lines.

Ben Thomson, director of surveying for the Texas General Land Office, says that throughout Texas there are gaps between two properties or overlapping property lines that force courts to go way back to the original land sale, and which send surveyors out into the field.

"My job is to know the true history of the state of Texas," Young says. "They teach history in school, but they don't go into the depths of the sovereignty and the fact of how did Texas get this land settled."

Thankfully, today's technology eliminates a lot of the guessing. And by taking advantage of the Global Position Satellite systems (GPS) Young can pinpoint the property lines to determine who gets royalty -- right down to the centimeter.

He encourages all surveyors to take advantage of the new equipment and lectures around the country on the "revolution affecting the surveying profession" and how to meet the needs of certain segments in the marketplace.

Having grown up in Fort Worth, he returned last year to meet the booming demand prompted by the heavy drilling in the Barnett Shale natural gas field. Drillers are willing to pay more to get surveys done as quickly and as accurately as possible. With lawyers, drillers, energy company representatives and landowners standing around him, he locks onto a satellite and is able to tell where someone's land ends and the other one starts.

Investing over half a million dollars installing base points, reference stations at specific latitude and longitude settings, he takes advantage of Geographical Information Systems (GIS), which enables him to send a crew out to link to both a satellite and station and pinpoint exactly where they are standing.

"We are the only company that is 100 percent digital," he says. Using GPS and GIS, he says, means "I'm overkilling."

What people don't realize when they see an aerial photo of their house on the Internet is that since the Earth is round and the maps are flat, the distance on the sides of the photo is distorted.

Willing to take some risks, Young, who serves as president of the enterprise, and his wife, Ivy, chairwoman and chief executive, spent just under \$2 million on state-of-the-art equipment, putting in five reference stations, to transmit exact longitude and latitude.

"The process is just getting people out on the dance floor," he told fellow surveyors in an interview for *Empire State Surveyors* trade magazine. "Once they are out there, they'll dance."

Energy companies such as EnCana Oil & Gas see this new technology as a matter of "timing," says community relations adviser Debra West. While it use to take them weeks, now it's just days, which makes the process much more efficient.

Not only does it save time, but also today's technology gives Frontier Surveying more data, which motivated Young to start another business, Digital Mapping Service.

Digital Mapping Service aren't surveyors but software designers and draftsmen who manage the data.

They take the aerial photos and then superimpose the actual boundary lines using the data from Frontier Surveying. They have "digitally catalogued" all of Parker County as well as several counties in South Texas.

But the ground is moving all the time. The Earth's plates move, some places more than others, says Young. So they make sure to write the date that the survey was made because the latitude and longitude will be different tomorrow. In California the land shifts about 8 inches a year, compared to just over an 1/8 of an inch in Texas.

Roberts sees a real need for more surveyors and says that seven years ago there were 5,000 licensed surveyors in Texas. Only 2,400 are registered today. The average age is 63.

ONLINE: [www.frontiersurveying.com](http://www.frontiersurveying.com)

J.G. Domke is an Arlington-based freelance writer.