

# underground construction

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DIRECTIONAL DRILLING (/MAGAZINE/2020/SEPTEMBER-2020-VOL-75-NO-9#DIRECTIONAL-DRILLING)

## Fiber Project Pushes Through Difficult Ground Conditions, Environmental Challenges

On its own merit, a horizontal directional drilling (HDD) shot spanning more than five football fields long is a substantial task. But when you add in both volcanic and clay ground conditions, a tight deadline and an environmentally protected job site, it becomes all the more challenging.



(/media/3032/jerryart1.jpg)

This was the task for Jerry's Trenching Service in October 2019. The underground construction contractor with a history dating back to 1964, was called to Clear Lake, Calif., to move an existing AT&T intercontinental fiber line for a bridge expansion to take place.

"When my father founded Jerry's Trenching, he focused on efficient and creative solutions to problems," said Jerry Berlin Jr., CEO. "When I think about jobs that test those values, the Clear Lake is right at the top of the list. We encountered a variety of issues and we needed to trust our technology and our crew."

When Berlin's crew, led by Jose J. Sandoval, arrived onsite in Clear Lake, members quickly realized the challenges facing their 1,540-foot shot.

To start, the crew was drilling under an environmental reserve – eliminating the possibility of excavation or potholing to provide visibility or relief. Fortunately, there weren't any existing lines in the area outside of the original line that the crew was splicing over to, and the crew was able to trench in the last 15 feet of the job to make sure the tedious splicing process was safe.

That said, the reserve also happened to be full of poison oak, forcing the crew to wear personal protective equipment, from head-to-toe, to protect themselves.

The ground conditions added further difficulty. While HDD jobs of this length are commonly through dirt, this job was through hard volcanic rock, with scattered pockets of clay along the route. The rock would test the horsepower limitations of any machine, but the clay pockets complicated matters further.

Each time crew members found clay, they needed to completely pull out of their established hole, clean the hole and then mix new mud to drill through the changed conditions. Then, they would need to retool and repeat for the hard rock, once they returned to those ground conditions.

Lastly, the clock was ticking. The team had an extremely tight deadline to meet, in order to accommodate scheduled downtime for the existing intercontinental fiber line, which was responsible for transferring vital information to companies throughout the United States. The downtime had been planned months earlier and missing the mark would be extremely costly, financially and operationally, to the businesses that depended on that fiber line.

"The job site was a challenge," Berlin said. "We knew it was a long drill shot going in, but as we got to work and found out about the other factors, we knew it would be difficult."

## **Versatile solution**

Jerry's Trenching Service turned to the Ditch Witch AT40 Directional Drill, the newest of the Ditch Witch All Terrain drilling systems. Designed for increased control and productivity when drilling in hard rock conditions, All Terrain technology would limit the impact of the ground conditions on the job.

"We've always used AT30s, but we really wanted the AT40 for this job because the larger 15-foot bore rods would help us on the longer shots," Berlin said. "Also, the AT40 has an inner pipe that we could get air through, so we could run an air hammer with it. We knew the AT40 would help us out. It got to the point where we were counting days and shipping hours until the AT40 would arrive."

The arrival of the AT40 and its All Terrain technology opened up the opportunity to use much less drilling fluid than is needed with typical mud motors. The compact size of the AT40 also minimized the overall footprint of the job – an important benefit due to the environmentally sensitive nature of the job site.

With the use of All Terrain technology and the crew's expertise, the mark was hit in just over three weeks. The 1,540-ft bore was a new record for Jerry's Trenching Service, beating out the previous mark by over 300 feet – a mark that had been set two decades ago in dirt, not volcanic, rock.

Experience on complicated rock drilling jobs and with All Terrain equipment have become valuable assets for Jerry's Trenching Service, so the company recently started taking them on the road. Since many cities don't have an abundance of rock job sites, Jerry's created a traveling team to support rock drilling jobs across the region.

"We've always had All Terrain technology on-site for when we were faced with rock, but now we've seen how it can help on difficult, unpredictable rock drilling jobs," Berlin said.

"And we have an experienced, energetic crew that wants to travel. Now we can find and conquer any rock drilling jobs." •

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## FOR MORE INFORMATION

Jerry's Trenching Service, (559) 275-1520, [jerrystrenching.com/](http://jerrystrenching.com/)

Ditch Witch, (800) 654-6481, [ditchwitch.com](http://ditchwitch.com)

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