



A HIGHER PERFORMANCE

California driller excited about new features on the TH60

For California driller Scot Unterseher, the TH60 is all he has ever known. For 10 years he has worked for Fisch Bros. Drilling of Sebastopol, Calif., and knows the TH60 inside and out. Like many drillers, he knows how fast his drill does everything — drilling, tripping, winch speed. Even the sounds of the engine and compressor are familiar to him. So when he made the transition from the Classic TH60 to the newly redesigned TH60, he was unsure of what to expect ... but he's not wondering anymore.

Drilling in the coastal regions of Northern California presents a variety of geological challenges for drillers. Near the city of Petaluma, the Pacific Ocean is 20 miles (32 km) to the west. The formation shows that there was once ocean life this far inland and includes seashells 200 ft (61 m) below the surface. The sandy valleys and igneous hilltops that give the region's famous Sonoma and Napa Valley wines their renowned flavor also present huge variations for a driller. Pair that with the occasional earthquake

and well development is anything but typical in northern California.

For this domestic well, the crew drilled a 300 ft (91 m) borehole that produced 5 gallons (19 l) per minute (gpm). Although there was an aquifer producing 15 gpm (57 l) between 60 and 80 ft (18 and 24 m), that zone needed to be cased and sealed. In that part of California, chicken farms dotted the landscape for more than 100 years. The chicken droppings left behind high nitrates, so wells for domestic potable water require a 100 ft (30 m) seal.

To protect the customer's existing home at the base of the hill, Fisch Bros' crew shoveled an extensive terrace system as the well was being drilled. When the foam reached the top of each dyke, the crew had to be ready with another mini-dam to control the flow. ▲

Because California is an active seismic zone, wells cannot be sealed with cement, so bentonite is used. The percolation rate for bentonite is 1 inch (25 mm) per 100 years. Plus, in an earthquake, bentonite will seal itself, preventing surface contamination.

Drilling in this area is conducive to the TH60 because of the terrain and variation in drill methods: mud or air. The crews could drill with air one day and mud the next, depending on the well's location. Valleys this close to the ocean commonly produce 5 to 10 gpm (19 to 38 l), while company owner, Ed Fisch, said that just



Driller Scot Unterseher and owner of Fisch Brothers Drilling, Ed Fisch, pose with the company's new TH60. ▲

15 minutes away in Sonoma, the clay formation could produce much more.

Fisch Bros. cases with PVC piping and backfills around the casing with sand. About 30 percent of the casing will get perforated. Once the well is drilled, cased, backfilled with sand, and sealed, the well will be flushed from the bottom. To do this, the crew extends a 1½ inch (38 mm) galvanized pipe to the bottom and flushes with air until the well runs clear.

One of the features Unterseher likes about his new TH60 is the air regulation feature. When flushing the hole in the past, pressure sometimes blew out the PVC casing. "The electronic air regulation is a real benefit that I like," said Unterseher. He acknowledged he could feather the butterfly valve with the Classic rig, but having the dial gives him much more control.

"Control is overall better on this rig," Unterseher pointed out. "Although the control panel is completely different, after a couple weeks I was comfortable with the changes and they have made me more efficient."

He pointed to the digital diagnostic gauge and pushed buttons showing the engine output, torque and compressor information. "Everything I need to know is right here," he said. Before, he could get information, such as engine data and fuel levels, in the cab, "but now I have it right here in front of me and I can concentrate on drilling."

Unterseher likes the increase in pull back over his other rig, too. "This one has 40,000 pounds (18,144 kg). That's 25 percent more than our other two-year-old rig, which could come in handy." The wells in this part of California are mostly in

the 200 to 500 ft (61 to 152 m) depth, but Fisch also can do mountain work with the increase in pull back. "The deepest we've ever drilled is 1,240 feet (378 m), but with this I can go 1,500 ft (457 m) if I need to," said Unterseher.

When tripping out of the hole, Unterseher pointed out on the diagnostic readout that he can trip at 900 rpm, and said he runs about 1,500 rpm now when developing a well. With the old rig he would run at 1,800 rpm all the time because he couldn't regulate it. "The load-sensing hydraulics is a great feature for saving fuel. You can hear how much less the engine has to work when tripping. I

▼ The electronic air regulation feature allows Unterseher to dial down the pressure when flushing the hole. He connects a 1½ inch (38 mm) galvanized pipe to drill pipe and extends it to the bottom of the well, cleaning the well from the bottom.



have more power and use less fuel."

With the decreased engine rpm, Unterseher emphasized he doesn't lose speed either. "With this rig I'm tripping at idle faster than our other rig does at full throttle!"

Reducing engine output is a maintenance factor for Unterseher. "On-demand hydraulics verses running all out extends the life of the pumps and hoses, but it's cable life and greasing that saves the most headache," he said. With the old rig, Unterseher would replace a cable every six months, replacing one side each time. "With the bigger sheaves, you can see the cable gently turn over the top and with the pre-packed grease, I'm not greasing all the time either."

Unterseher's long list of other things he likes better about the TH60— from the mud adjustment lever that makes it easier to regulate the mud flow to the updated cab, complete with air conditioning, power windows and a smoother ride -- it was his overall assessment that summed it up best, "With this rig I can go in and out faster for less money. I am very pleased with this rig."

DHD 308

▼ Unterseher shows off the new digital diagnostic readout. Although almost everything is in a new location on the new rig's control panel, Unterseher said the configuration is handier and it took only a couple weeks to get comfortable with it.

