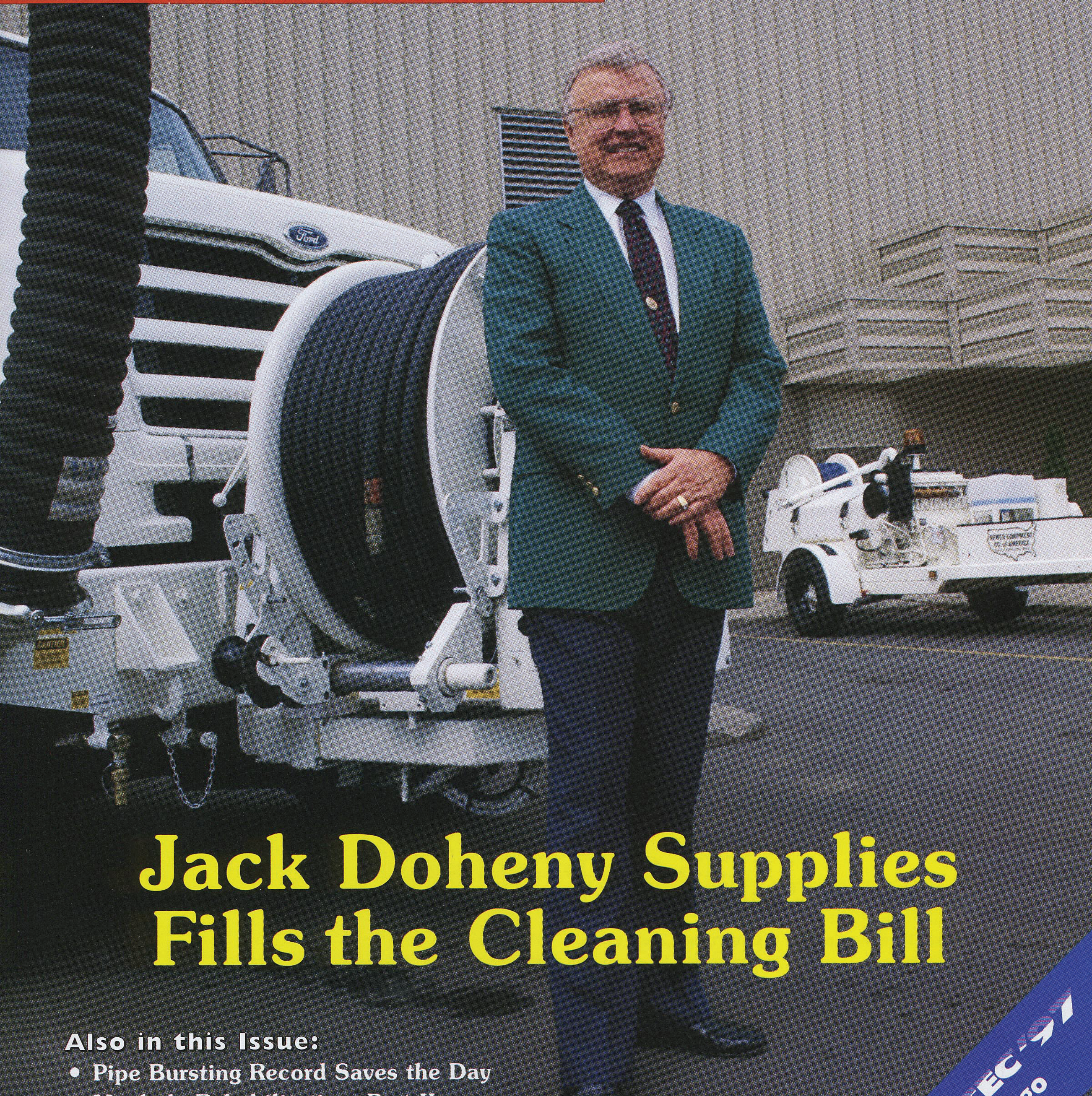


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September 1997



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Pipe Bursting Saves the Day

edited by Laura L. Saccogna

TTS Northwest Co., Inc., of Bellevue, Wash., recently set a new record of 1550 ft for the longest pipe bursting pull in the world, breaking the old record by 500 lf.

TTS helped complete a project in May in Stockbridge, Mass., where Buckskin Pipeline Construction Ltd., Sauquoit, N.Y., was replacing 2050 lf of an existing 10-in. cast iron water line with a 10-in. HDPE SDR-17 pipe. The work was part of a larger project, which consisted of building a new water treatment plant and installing 8000 lf of a 10-in. water line. R.H. White Construction Co., Inc., of Auburn, Mass. was the contractor for the project, and Buckskin was the subcontractor for the trenchless work.

The previous pipe bursting pull record was 1050 lf, according to Jim Hopwood of BG plc (formerly British Gas), which owns the patent for pipe bursting.

Trenchless technology was only used on the wetlands in the project area and on easements behind two homes. The city of Stockbridge was incorporated in 1737, and had water lines dating back to the early 1900s.

Buckskin's Fred Karan has experience with pipe bursting and owns an air powered tool. Karan's system, however, was not suitable for the project because of the distance required, the high water table and soil conditions. When Karan bid the project, he planned to use directional



The pipe bursting unit makes a record pull in Stockbridge, Mass.

drilling for the job. The method was turned down in the submittal stage because of environmental reasons—the presence of drilling mud in the swamp as a result of the process.

Timing was good for TTS because State Pipeline Services of Cranberry Township, Pa. had just bought its second pipe bursting system – a TTS 200, which was to be shipped at the same time as the R.H. White project. TTS and State Pipeline agreed to use the new system, which has 200 tons of pulling force, and then deliver it to State Pipeline after the Stockbridge project was finished.

TTS helped plan the pipe bursting lay-

out, and then performed the project with the help of three workers from the Buckskin crew. One problem the company encountered was the creation of a pulling pit in a backyard on the edge of the creek. The pull went 500 lf to the road, and 1550 lf through a swamp, placing the tie-in 150 ft off the road and into the swamp at the headworks.

Preparation for the 500-ft pull, which included getting the pipe in place and chaining the line so it was ready to pull, took around four hours. The pipe bursting only took an hour and 25 minutes.

The next challenge was to float a rope 1550 ft and install the cable to pull back

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The 200-ton pipe burster used a maximum of 60 tons of pulling force throughout the project.

the 44,000 pounds of anchor chain used for the project. There was 900 ft of 1.5-in. chain, 189 ft of 1.75-in. chain, and 450 ft of 2-in. chain. Buckskin had a 10-ton winch to pull the chain into place. The winch was trailer-mounted and needed an access road. TTS considered using shot rock, but the owner said it would have to be removed when the project was completed. Instead, steel plates were used for the road. The winch pulled in the chain, except for the last 70 ft, which was accomplished by a backhoe.

After the workers dug the insertion pit, everything was set for the record pull the following Monday.

TTS started the week by fusing the HDPE pipe into 500-ft sections. Placement of pipe, butt-fusion and pulling time made for a 12-hour day. Some concern was raised when a retired Stockbridge water supervisor advised the crew there was a tee 80 ft outside the pull pit. Workers used the

TTS 200 throughout the 1550 ft, without exceeding 60 tons of pulling force.

The project was completed in six days and 10 hours of pulling time. A total of 50 ft of excavation was required for pits.

"Pipe bursting has gone from my first project in Washington in 1992 to over 100,000 ft to bid in Washington and Oregon this year," said Jerry Currey, president of TTS. "There are three or four contractors in this area to compete for this footage.

"We have 200 contractors bidding on 300,000 ft of open-cut pipeline replacement. If owners and engineers see the advantages, this will make this market grow."

TTS operates as a subcontractor in the United States and Canada, working with underground contractors on pipe bursting work for local projects. Contractors may lease TTS equipment and services, and apply part of the rental cost to the purchase of a pipe bursting system. TTS supplies the equipment, freight and two people for training and job layout.

This story was edited from materials supplied by TTS Northwest.



Side Service Replacement

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The TTS 22 has replaced 4-in. to 6-in. side services 100-ft. in two minutes once set-up is done. An example of savings was on an initial TTS job. In one day, the TTS 22 replaced seven side service for a total of 485-ft!

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