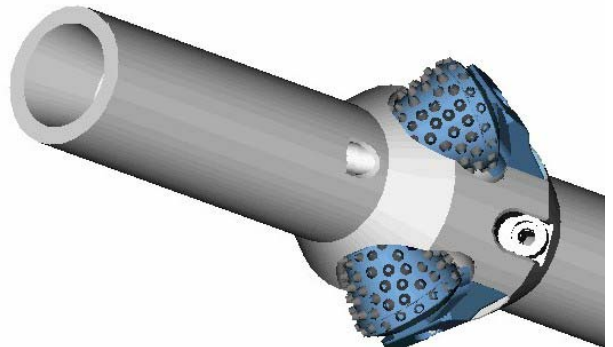


17 1/2" Trojan B5 Hole Opener Performance Update

Location: Northern Alabama
Operator: HDD Operator
Challenge: Open an existing 9 7/8" hole to 17 1/2" in Hard Limestone
Geology: 25 to 30 Ksi UCS
Features: Trojan B-5 cutter
Benefit: Lower total drilling costs through consistent penetration rate and longer life.



Hole Opener	Footage	Hours	P-Rate	Reason Pulled	Seals Effective	TDC*
Trojan B-5	835	38	22	Hours	Yes	\$57.43
Competitor 1	427	18	24	Torque	No	\$58.06
Competitor 2	397	16	24	Torque	No	\$59.30
Competitor 3	366	29	13	Torque	No	\$96.05
Competitor 4	336	18	18	TD	Yes	\$76.39

With the ability to operate for longer hours, the Trojan B-5 cutter saves 1 day of trip time for an Estimated Saving of: \$13,200