Project Profile: MICROTUNNELING

BRADSHAW CONSTRUCTION CORPORATION
TUNNELING SPECIALISTS

Carson Loop Water Main Replacment Phase VI-B
Leeds, AL



PROJECT OVERVIEW AND CHALLENGES

Bradshaw Construction Corporation completed a microtunnel drive crossing under an interstate and state highway in Birmingham, Alabama. The project consisted of 1,174 feet of 59 inch jacked steel casing for a 36 inch ductile iron water main. Ground cover under the highways ranged from 10 to 100 feet while shafts were an average of 22 feet deep. Mining conditions began with a mixed face of sticky clay and very soft shale all below the water table. The tunnel transitioned to a full face of sandstone with unconfined compressive strength (UCS) up to 19,470 psi. The biggest challenges of this project included microtunneling a long drive with small diameter casing through mixed-face and mixed-reach ground conditions.





PROJECT INFORMATION - 543

OWNER:
Birmingham Water Works & Sewer Board
Engineering Department
Douglas Stockham
205-244-4000

ENGINEER:
Volkert, Inc.
Theo Johnson
205-214-5500

CONTRACTOR:
Rast Construction, Inc.

COMPLETION DATE:
11/1/2014

GEOLOGY:
Sticky Clay, Soft Shale, Sandstone with UCS

EXCAVATION METHOD:
Herrenknecht AVN-1200 MTBM

MINING DIMENSIONS:
1174' x 59" Ø

FINAL LINING:
36" Ductile Iron Pipe

FOR MORE INFORMATION:
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