

Value	US\$3,900,000
Start Date	May 2003
Completion	June 2004
Client	BP Baku, Azerbaijan



BTC and SCP Pipelines HDDs

AZERBAIJAN, AZERBAIJAN

Stockton Pipelines, a fully owned subsidiary of McConnell Dowell, was selected by CCIC / Dutco McConnell Dowell JV as a subcontractor to perform seven horizontal directionally drilled crossings (HDDs). Five 42" diameter directional drill crossings were successfully completed on the Azerbaijan section of the BTC oil pipeline and two 42" diameter directional drill crossings were completed on the SCP Azerbaijan section.

The seven crossings varied in length between 494m and 1,002m and the product pipes consisted of 42 inch API-5L Grade X70 tri-laminate coated pipe. Additionally, separate installation of DN150 steel pipe crossings were made to house fibre-optic cable.

The operation included the drilling of a pilot hole using 5.5" diameter drill pipe with a jetting assembly. The crew used a magnetic guidance system (Paratrack 2) to steer the pilot hole under rivers and villages, through vertical curves of 1,200 to 1,500 m radius and to a depth of up to 30m, before using the back reaming process to progressively increase the hole size to 54" diameter, ready for pipe pull back.

Buoyancy control of the 42" pipe was required to reduce both frictional forces and the required pullback force during pipe installation. This was performed by the insertion of a 20" diameter HDPE pipe into the barrel of the 42" product pipe and filling the remaining annulus with water using a 6" diameter HDPE fill pipe which was gradually withdrawn during the pull back operation. The

1,002m crossing beneath Qarabyork Village in Azerbaijan resulted in a maximum pull load of only 70t being required to install the BTC pipe.

Drilling and pipe pulling operations (in the generally silty clay and sand formations) went exceptionally well, finishing in June 2004.

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