DrillTec

RIVER CROSSING

SOUTH CAUCASUS PIPELINE EXPANSION PROJECT

Azerbajian

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Client: South Caucasus Pipeline Company Limited (SCPC)

The existing 690 km South Caucasus Pipeline (SCP) transports gas from the Sangachal Terminal, Azerbaijan, to markets in Georgia and Turkey, with a system design capacity of 7.4 bcma.
As a result of the Shah Deniz 2 development there is a requirement to increase the capacity of the existing 42" diameter SCP System; this is the South Caucasus Pipeline Expansion (SCPX).

SCPX will increase the capacity of the existing SCP system by 16 bcma. This expansion will be achieved by the installation of two new compressor stations and two pipeline loops.

The pipeline element of SCPX project consists of 447 km of 56" pipeline, with 390 km in Azerbaijan and 57 km in Georgia with installation of associated block valves, pigging facilities and tie-ins.

DrillTec scope of work comprised the Engineering & Construction services for five river crossings (Agsu Canal, Geokchai, Turianchai, Kura East (Az) and Karabakh Canal) by using the HDD method to install a 48" pipe.
The works were undertaken in two Phases, namely Phase 1 – Engineering and Phase 2 – Procurement and Construction.

Project details	
Client	South Caucasus Pipeline Company Limited (SCPC)
Main contractor	Saipem Contracting Netherland BV
Scope of work	River crossing
Location	Azerbaijan
Total lengths	616 m, 645 m, 703 m, 867 m, 964 m
Diameter	5 x 48" steel
Geology	Clay, sand, silt
Equipment	350 t HDD rig
Contract period	Contract Award Date: 7th February 2014 Completion Date: April 2017
Contract value	18 Mio EUR

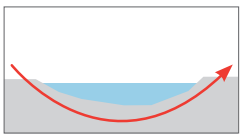
Challenges:

- All logistics, customs clearance and transportation of plant and Equipment to the Country and between all work sides, included supply of fuel on side, was to be organized by DrillTec.
- For this project, two separate sites will be prepared, one at the entry point and one at the exit point.

The entry point will have the drill rig; control cabin; generator; power pack; pumps, mud mixing unit, mud storage tank and a mud recycling system. The exit site has a second recycling system and pump as well. To transfer mud from the pipe side to the rig side, a separate mud line was installed. In this opinion DrillTec totally drilled 10 crossings: 5 x 48" and 5 x 6".

- The distance between the main line and the mud return line was designed for 5 m. For moving the drilling rig between both lines normally a 100 to crane is required. Not to hold a crane on side or to have delays for the crane, DrillTec designed a skidding system which allowed moving the drilling rig without any external equipment.
- The pipeline installation operation will involve pulling the 48" pipeline into the drilled hole with a predetermined volume of ballasting water pumped into the pipe in order to reduce the required pull force. DrillTec installed a separate HDPE line from the river to the exit side for buoyance. This water line was also used by the client for hydro test operations on the HDD-product line, which reduced the cost in the project.
- On Kura East river crossing a pipe truster was installed at the exit point of the crossing on a thruster anchor. The capacity of the rig should have enough force to install the pipe in accordance with the calculations and the thruster will be utilised as a contingency for the pullback operations in the event the pull loads reach a point beyond the capacity of the HDD rig.

Location:
Azerbaijan



River Crossing

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