



AZERBAIJAN

OGUZ-GABALA-BAKU WATER SUPPLY PROJECT PHASE III, IMPLEMENTATION



Client Azerzu Open Joint-Stock Company, Baku

Financing Azerzu Open Joint-Stock Company, Baku

Duration of Services 11/2006 – 02/2012

Cost of Implementation 700 Mio. EUR

Value of Services 16,871,360 EUR

Scope of Services

- Overall Project Management
- Assistance in Bid Evaluation
- Design Review (FIDIC Yellow Book)
- Supervision and Quality Control of the GRP pipeline manufacturer
- Construction Supervision
- Establishment of Groundwater Model in the well field
- Geophysical Investigations in the well field
- Review of Environmental Management Plans prepared by Contractors

Brief Project Description

The water supply of the capital of Azerbaijan has become unreliable in the recent years and population of Baku suffers from water shortages, particularly during the dry summer months. For the improvement of the water supply situation in Baku the exploration of the groundwater resources at the southern slopes of the Southern Caucasus and transmission via a pipeline to Baku has been investigated by CES in a comprehensive Feasibility Study in the year 2006.

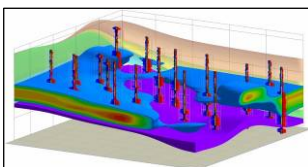
The Consulting services comprise overall project management and supervision of 2 works contracts and 1 supply contract:

- OGB 2 – supply of the GRP pipeline
- OGB 3 – laying of GRP pipeline
- OGB 4 – development of well field



The OGB 2 contract includes the fabrication and delivery of the GRP pipes to a Central Pipe Storage from where the contractor for OGB 3 takes over the pipes after a proper inspection with regard to quality/quantity compliance. The Consultant's GRP pipe Expert supervised particularly the start-up of the pipe production as well as the quality assurance system of the manufacturer and provided advice to the manufacturer and the client on remedy deficiencies and improvement of quality.

OGB 3 and OGB 4 works contracts were supervised according to FIDIC Conditions of Contract (Yellow Book) and included review of contractor's design, review and approval of health & safety plans, quality assurance plans, EMP, monitoring of works progress, works quality, issuing of variation orders, release of payment certificates, witnessing of tests on completion, taking over and performance certificate, contract and claim management.



The Groundwater model is based on a prototype leading to a conceptual model which is under investigation for the final model and water extraction predictions. At a final step a monitoring program of groundwater management is envisaged.

Pipeline operated by gravity

1. GRP pipe (DN2000 mm) designed for a throughput of 5m³/s; length: approx. 280 km from Oguz Gabala Well Field to Baku Reservoirs
2. Automatic air vents, flow meters and flow control valves with actuators for remote flow control, drain valves, fittings
3. 5 Pressure Break Chambers are located along the Gravity Transmission Main to limit the pressure within the Pipeline with the following equipment:
 - Overflow, capacity 5m³/s
 - Flow Meters
 - Flow Control Valves
 - Level control
4. 5 Flow Control Stations

Well Field and Reservoir

1. 100 production wells (50 l/s capacity each)
2. 50 observation wells
3. Drilling depth up to 200 m below surface
4. Reservoir, potable water extracted from the wells is being conveyed to the well field collector reservoir.
 - Capacity two times 10,000m³ (Total 20,000m³)
 - Overflow, capacity 5m³/s
 - Flow Meters
 - Flow Control Valves
 - Disinfection
5. A Telecommunication and Control System to be designed for fully remote operation of the Well Field and Transmission System from the Well Field Reservoir site Operation Room including data transfer to PBC-150 by a state-of-the-art telecommunication and control system