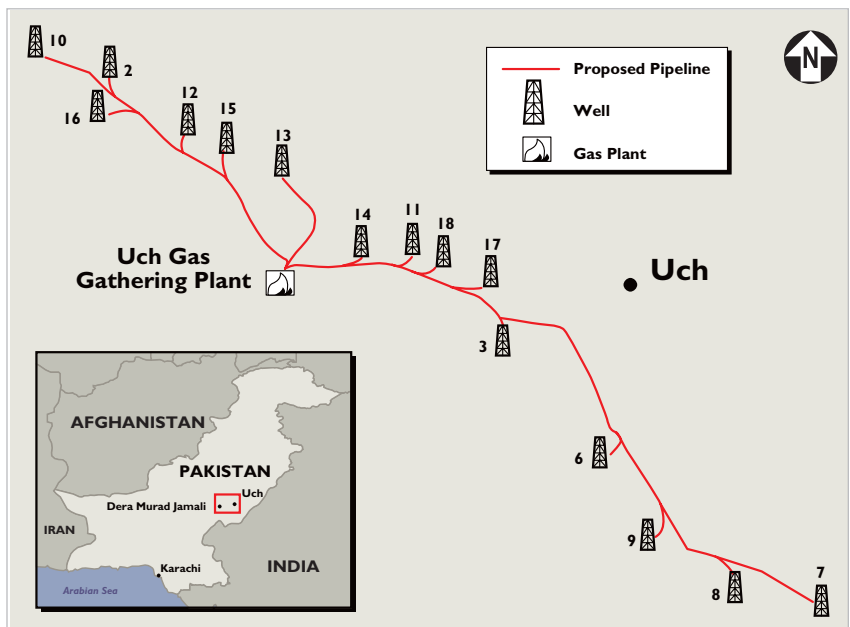


# Uch Gas Gathering System

Gregory & Cook, S.A.

Gregory & Cook, S.A. was awarded a turnkey EPC contract for a grass roots sour gas gathering system in Pakistan. As a subcontractor, Willbros provided engineering, drafting, and procurement services for the system. The project is a major undertaking by the Oil and Gas Development Corporation (OGDC) of the Pakistan government, and will initially supply 250 MMscfd of gas deliveries—450 MMscfd at a future expansion date—to the 586-MW Uch Electric Power Plant in Dera Murad Jamali.

The Uch Gas Field is located in the Baluchistan Province of Pakistan and consists of three gas producing lobes. Gas from each lobe has a different higher heating value, ranging from 320- to 740-Btu/scf. The low Btu quality of the gas is caused by high contents of carbon dioxide and nitrogen. The gas also contains significant amounts of hydrogen sulfide. Gas flow from each lobe will be controlled to meet a combined HHV of 455-Btu/scf  $\pm 25$ .



*Project Award*  
September 1994

*Project Completion*  
October 1997

*Pakistan*

The Uch Gas Gathering System consists of 134 km (83 miles) of individual 8- to 12-inch sour gas gathering flowlines from 15 wells to a central gas facility and liquid condensate handling site. This centralized site consists of 15 sphere receivers; one slug catcher; three headers; two 3-phase separators; two 3-Mbbl condensate storage tanks; a pump and truck loading area; and associated piping, valves, and instrumentation and controls. The wellhead sites include 15 sphere-launching and measuring facilities linked with a telemetry/SCADA system.

Willbros also provided operating manuals covering procedures for normal start-up, operation, shut-down, and emergency shut-down for wellheads and plant sites as well as inspection and testing of selected equipment.

Additional documents and reports in the scope of work included:

- Multi-phase fluid model and report
- Metallurgical analysis and material selection report
- SCADA philosophy document
- Pipe stress analysis
- Precommissioning manuals

The project was completed in October 1997.