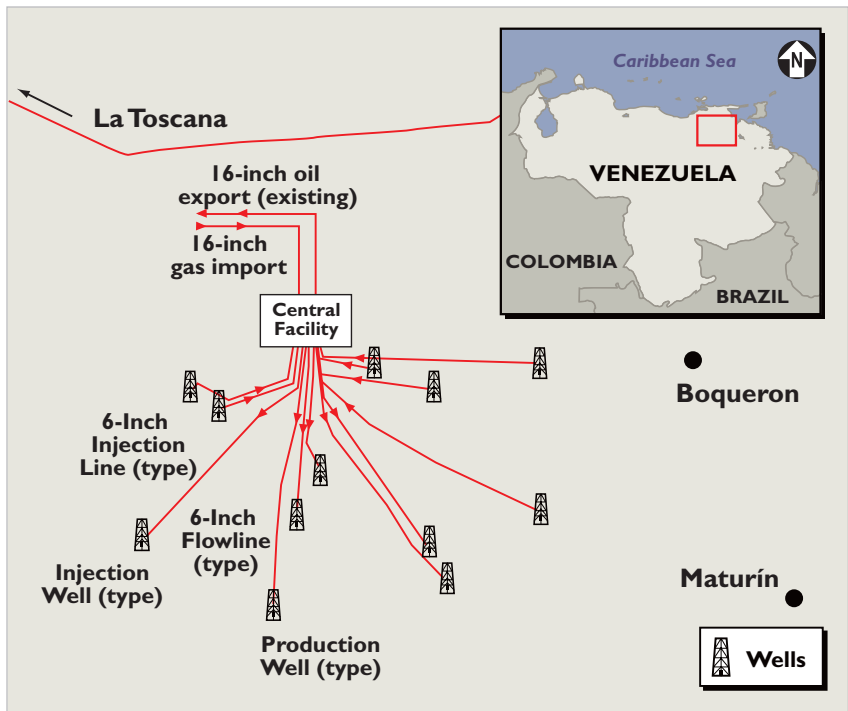


Boqueron Oil Field Development

Union Texas Venezuela Limited

The Boqueron Field is located approximately 10 km from Maturin, Venezuela. The existing facilities operated with six flowing wells, producing 8 Mbd of oil and 25 MMscf/d of gas. In June 1997, Lagoven awarded an operating service contract for the 15,000 acre field to Union Texas Venezuela Limited and its partner, Preussag Energie.

Willbros was awarded a contract to provide basic engineering for an enhanced recovery development program. Utilizing a high-pressure gas injection system to stimulate reservoir production, the production rate would be increased to 60 Mbd of oil and 150 MMscf/d of gas. The expansion involved drilling new wells for gas injection, followed by drilling additional production wells.



*Project Award
February 1998*

*Project Completion
October 1998*

Venezuela

In addition to basic engineering, Willbros provided construction planning and logistics, project scheduling and the preparation of capital cost estimates.

New and expanded facilities to support the upgrade included:

- High-pressure gas injection compressor facility to raise the gas pressure from 350 to 10,000 psig, with a total gas injection rate of 150 MMscf/d
- New 32 km, 16-inch gas import pipeline with pig launcher and receiver
- New 6-inch flowlines and gas injection pipelines

- Two new 20 Mbbl oil storage tanks
- High and low-pressure separators
- Scrubbers and coolers for the gas and liquid
- Three new 20 Mbpd oil pipeline pumps
- Gas treating system to remove H₂S from injection gas for corrosion control and gas dehydration system to remove liquid for hydrant/freezing control
- Automatic custody transfer and vapor recovery units at two existing 10 Mbbl storage tanks
- Flash gas compression at a rate of 6 to 7 MMscf/d
- New control and safety shutdown systems with PLCs
- Upgraded fire suppression and utility systems
- Fuel gas treating system
- New produced water and diesel storage tanks
- New power generation skid, MCC and control building modifications