

PROJECT DESCRIPTION

**CLIENT: YPF S.A.
CERRO FORTUNOSO, ARGENTINA**

*Recently
Completed
or
Ongoing
Projects*

PROJECT DESCRIPTION

Teknica was contracted to conduct reservoir characterization studies of the Neuquen Group reservoirs in the Cerro Fortunoso Field, Argentina. This field is located in the northwest portion of the Neuquen Basin within the tectonically disturbed belt. The Cerro Fortunoso Field produces 17° API oil that is structurally trapped in Upper Cretaceous sandstone reservoirs at depths ranging from about 1100 metres to 1700 metres. A large gas cap (up to 95% CO₂) is present over a large part of the field. Over the past 12 years, some 100 wells have been drilled in the field.

PROBLEMS

- Conflicting test data and wide range in water analysis values effect fluid contact determination and hence reserve estimation.
- Insufficient pressure data to adequately evaluate boundary effects and fluid contacts.
- Accurate placement of faults, due to poor quality seismic data.
- High GOR and WOR
- Formation of emulsions and asphaltene precipitates

OBJECTIVES

YPF requested Teknica to provide a complete reservoir characterization of the field, provide reserve estimates and advise on the most economical means of producing and recovering the remaining oil. The final report is to recommend the optimum development scenarios which will include studies of infill drilling, horizontal drilling, water injection, gas injection, or a combination of these methods.

METHODOLOGY

To conduct the project Teknica formed a multi disciplinary team of geologists, geophysicists, petrophysicists, reservoir engineers, production engineers, database experts, geostatisticians, and support personnel. The project team is supported by a large array of workstation and personal computer software applications. Studies undertaken include:-

- Sedimentological interpretation of cores and outcrop
- Detailed stratigraphic studies
- Structural analysis
- Petrophysical analysis of all wells
- Petrographic studies
- Geostatistical analyses
- Basic reservoir engineering
- Reservoir simulation
- Production studies
- Economic scenarios
- Establish a database to summarize and enter all field information in electronic form

RESULTS

- Developed geologic model
- Enhanced structure interpretation and located new faults
- Identified additional prospective areas
- Identified additional zones in wells for new perforations
- Improved oil characterization
- Modified drilling and completion programs to improve production
- Developed various production and economic scenarios



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