

PROJECT DESCRIPTION

CLIENT: Andina S.A.
Rio Grande Field, Bolivia

*Recently
Completed
or
Ongoing
Projects*

DESCRIPTION OF RESERVOIRS

The Rio Grande Field is located on anticlinal structures within the Subandean foothills of eastern Bolivia. The field contains several separate reservoirs and produces gas and gas condensate. The reservoirs comprise continental and fluvio-glacial sediments (sandstones). The Cretaceous and Tertiary reservoirs are in sediments deposited in shallow marine environments and continental, generally fluvial, environment. The Carboniferous reservoirs are in sediments deposited in fluvio-glacial shallow marine environments (transitional) and in a predominant lithology of sandstones, interbedded with shales and diamictites.

The tectonic model responsible for the trap formation corresponds to simple ellipsoidal folds. The ellipsoidal fold structural crest of the Carboniferous does not coincide with the Cretaceous and Tertiary fold crests.

A total of 62 wells have been drilled, three of which reached the deep Devonian target. The remaining wells reached intermediate and shallow targets.

SCOPE OF WORK

1. Develop detailed and accurate reservoir models and provide the most profitable recovery schemes and operating strategies in order to optimize hydrocarbon recovery from the Rio Grande Field. The model developed must work as a reservoir management tool to locate infill wells and evaluate recovery by enhanced recovery schemes.
2. The possibility of different hydrocarbon systems in the hydraulically independent reservoir units believed to exist will be investigated as thoroughly as the data will allow.
3. Determine gas and condensate in place and prepare reserve estimates.
4. Evaluate the feasibility of using one or more of the Rio Grande reservoirs for cyclic gas storage.

METHODOLOGY

PHASE 1 - GEOLOGICAL MODEL AND BASIC RESERVOIR ENGINEERING

- Data gathering, screening and creation of computer database
- Petrophysical analyses
- Sedimentology
- Petrology
- Stratigraphic studies
- Structural studies
- Geophysical studies
- Geostatistical modelling
- Basic reservoir engineering

PHASE 2 - RESERVOIR SIMULATION

- Initialization of compositional simulator
- Fluid characterization
- EOS pseudo-component model
- Verification of pseudo-component EOS with sector model
- History matching
- Prediction cases
- Simulation model data



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