

Cerro Arena Sur

Introduction

The block is located in the northwestern part of the Neuquina basin, east of the Agrio folded belt, forming part of the western flank of the Dorso de los Chihuidos. It covers an area of 122.6 m². The following map shows its location, wells drilled in the area, access roads and waterways.

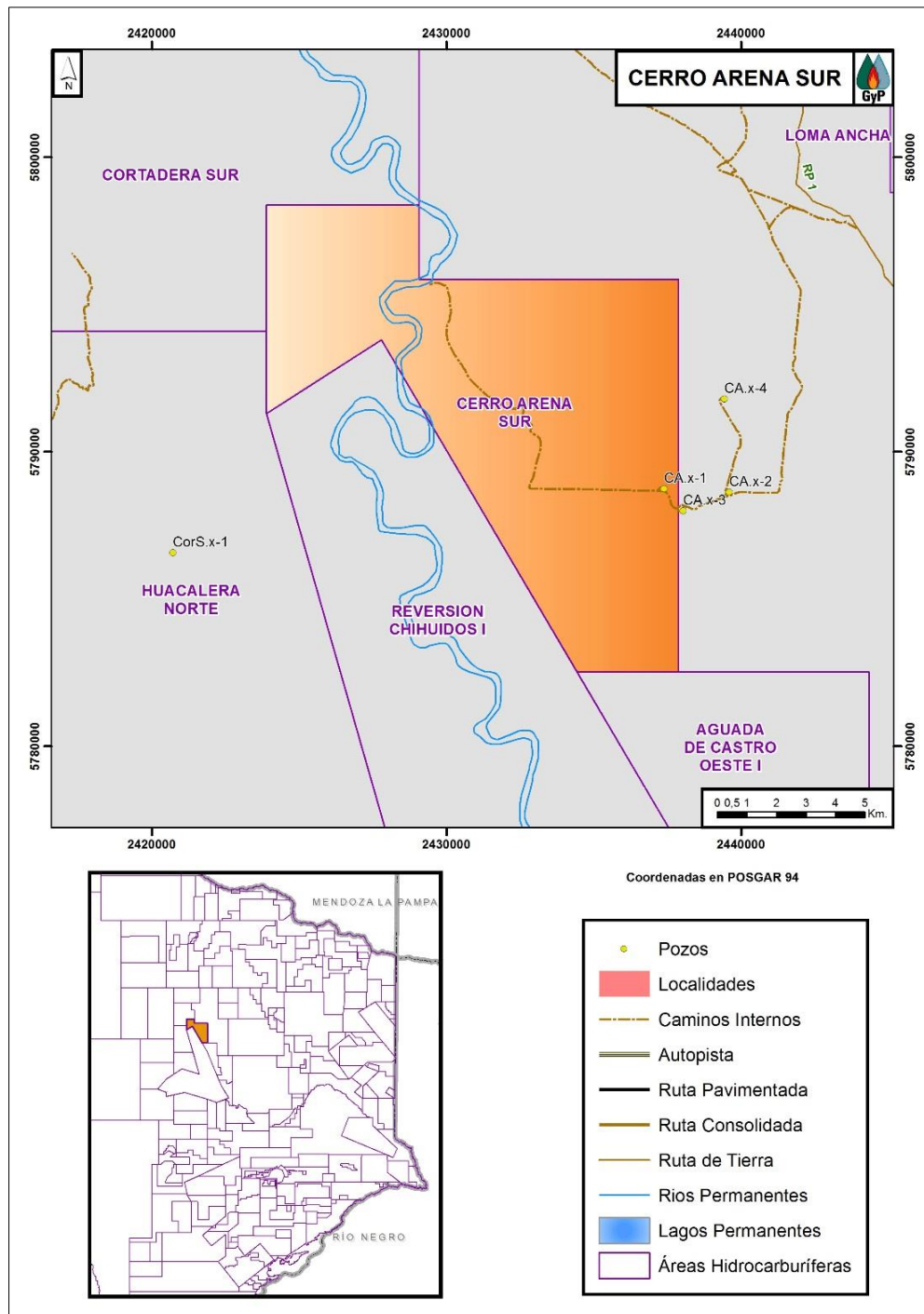


Figure 1.Location

Wells

There is one well drilled in the area.

| Well | Name | TD (m) | Reached Fm. | Prod. Fm. | Year | Current State |
|---------------|-----------------|--------|-------------|-----------|------|---------------|
| PSF.Nq.CA.x-1 | Cerro Arena x-1 | 3,864 | Barda Negra | - | 1998 | A |

Table 1. Wells in the area.

Seismic Coverage

The area has sparse 2D seismic coverage as shown in the figure below.

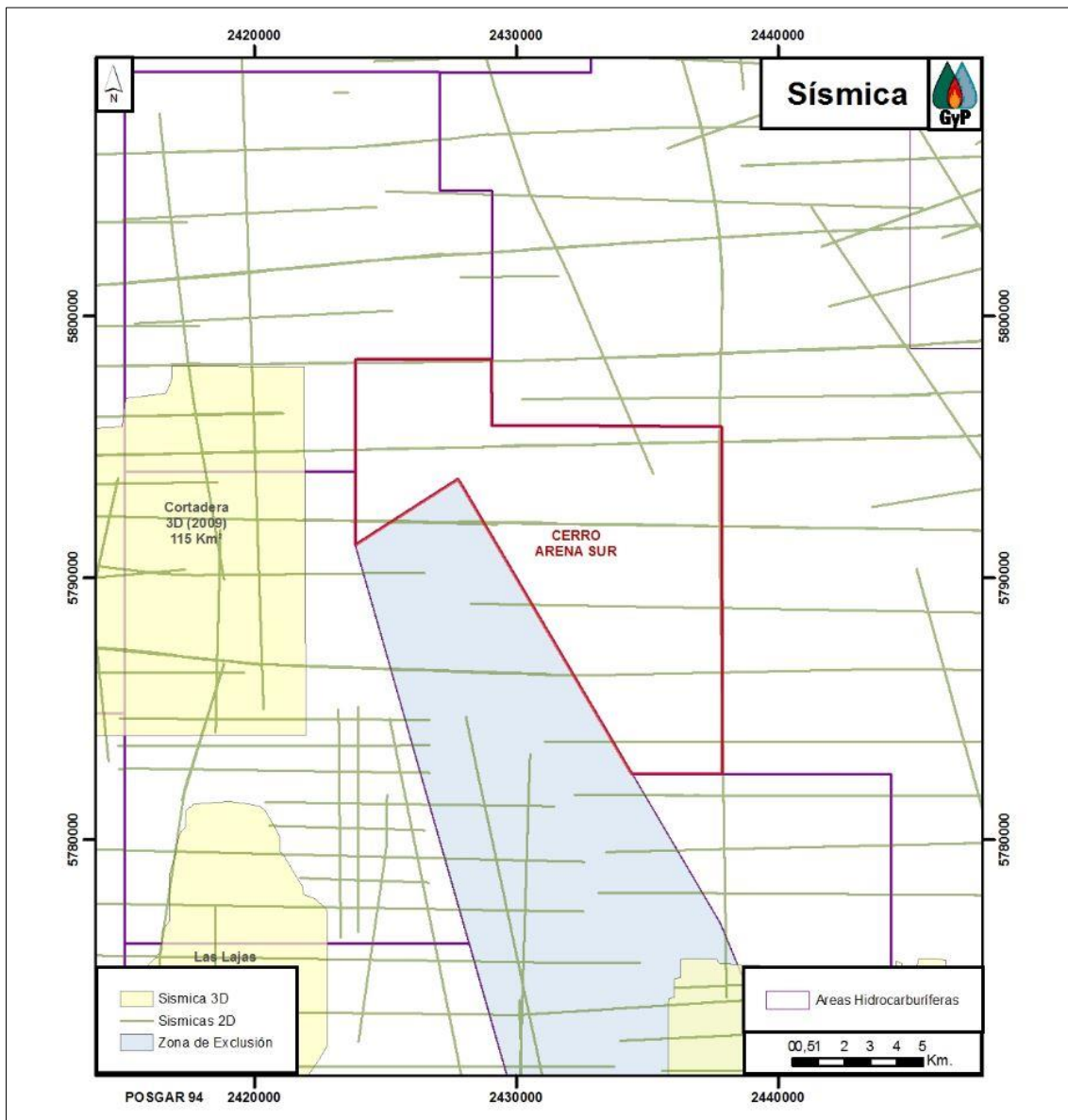


Figure 2. Seismic coverage

Information available in GyP

| DISPONIBLE EN GyP | | | |
|-------------------|----------|--------------------|--------------------|
| Legajos | Perfiles | Líneas Sísmicas 2D | Sísmicas 3D Nombre |
| 1 | - | 9 | - |

Table 2. Information available in GyP

The well logs of YPF.Nq.CA.x-1 are not available in the GyP database.

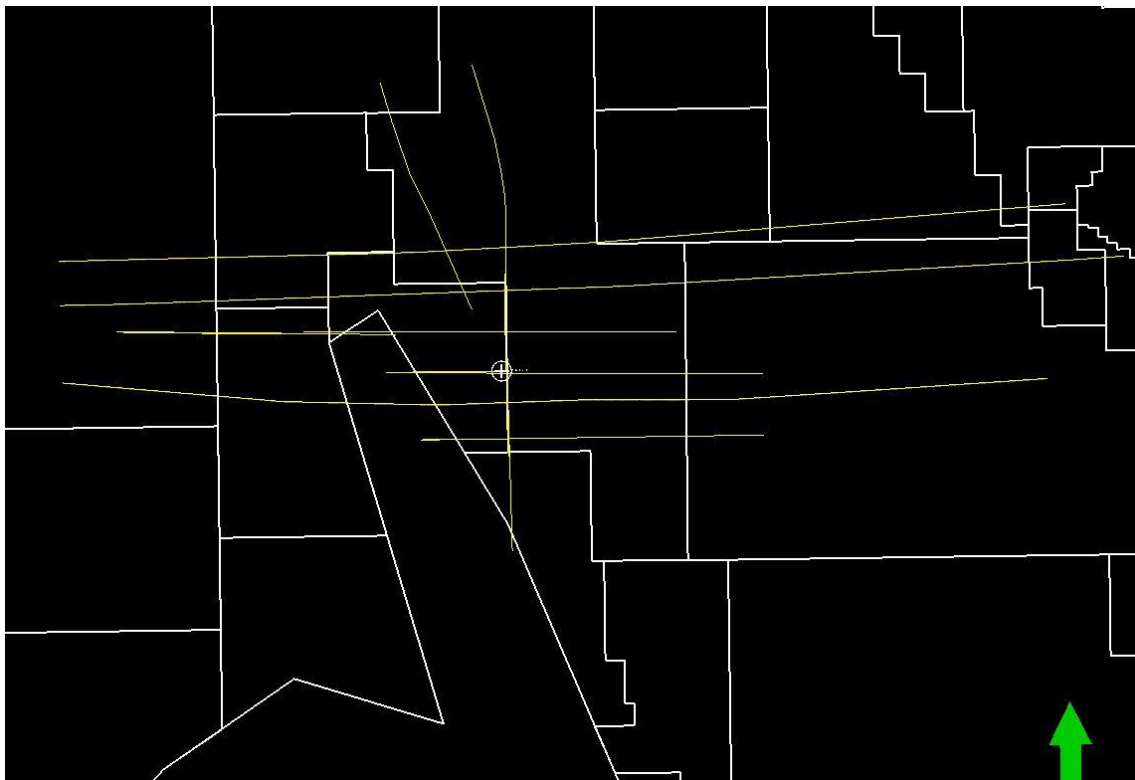


Figure 3. 2D seismic Information

Potential in Conventional Reservoirs

Petroleum System

The petroleum system in this zone of the basin is conformed by:

Source Rock: Vaca Muerta and Los Molles Fms.; Mulichinco, Tordillo and La Manga Fms. and Upper Cuyo Gp.

The main exploratory risk is associated with reservoir quality and trapping.

The block is considered high risk for conventional reservoirs.

Background

The well YPF.Nq.CA.x-1 had gas influx and burn during the drilling in the Mulichinco, Quintuco-Vaca Muerta and Tordillo Fms. Besides, there were shows of H₂S and CO₂ from the Barda Negra Fm.

The two nearest wells in the neighboring area, Cerro Arena, are:

YPF.Nq.CA.x-3, contacted the Tordillo Fm. which recorded in a post fracture test 12,000 m³/d of gas with 270 m³/d of water with a choke of 13 mm.

YPF.Nq.CA.x-4: Tordillo Fm. recorded during drilling 940,000 ppm with 99% of C1. In a DST test it burnt gas and had water inflow with low fluid recovery.

Potential in unconventional reservoirs

The subsurface parameters used to characterize the Vaca Muerta Fm. are summarized as follows:

TOC (% average total organic content): 4-6 %.

Reflectance to vitrinite (thermal maturity, % Ro average): > 1.6 %.

Net Thickness (TOC > 2%): 250 m.

Presence of faults: Yes.

Overpressure: Yes.

Production history: No.

Vaca Muerta Fm. base depth: 3,100 m

Figure 4 summarizes the aforementioned parameters that allow to visualize the unconventional potential (shale) of the block in a regional context.

Background

To date, it has been proved that wells YPF.Nq.CA.x-5 and YPF.Nq.CA.x-7, both drilled in the Cerro Arena block, have gas production.

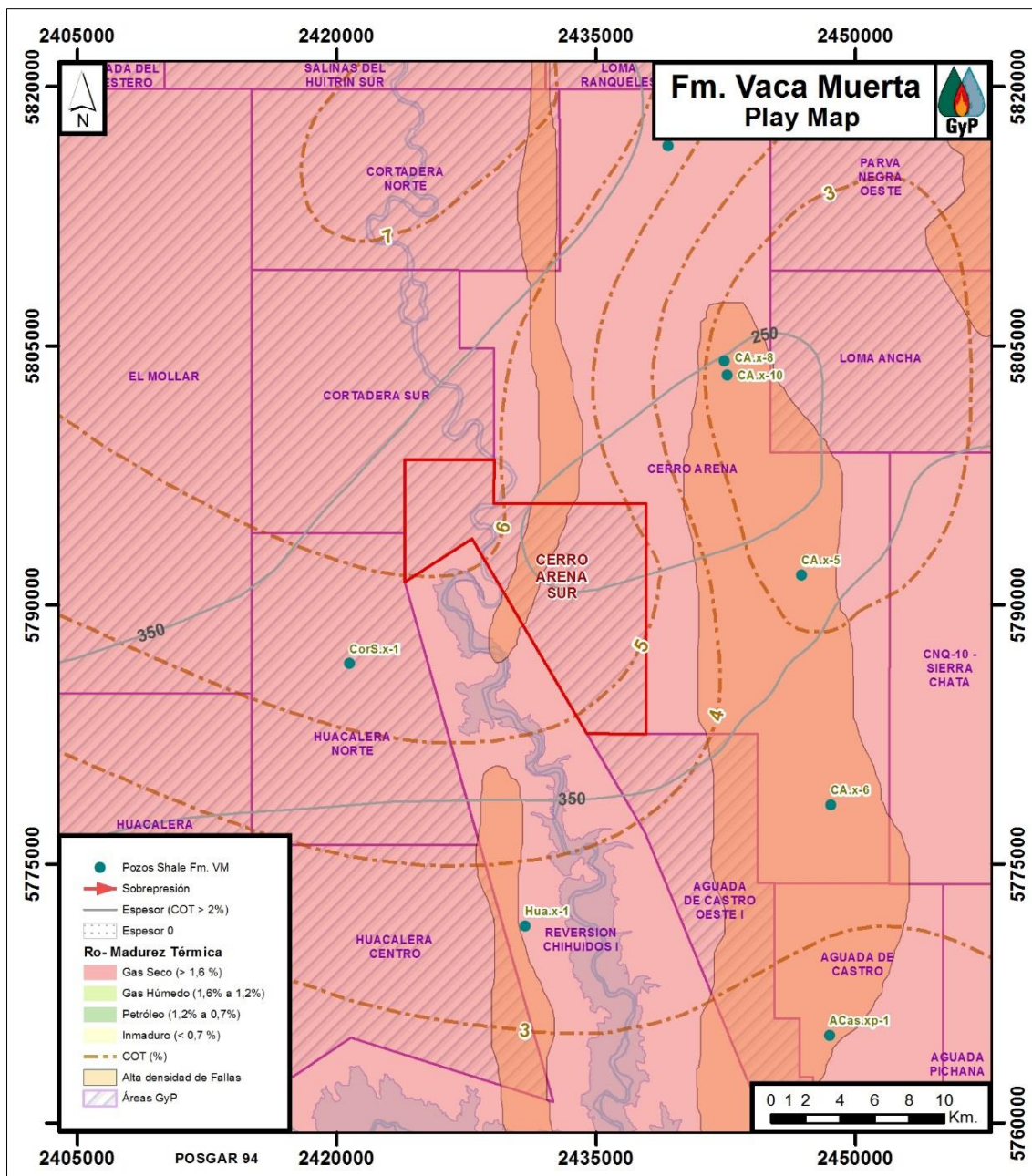


Figure 4. Vaca Muerta Fm. Play Map

Conclusions

The Cerro Arena Sur area has high potential for non-conventional reservoirs as important gas productions from the Vaca Muerta Fm. in the neighboring block, have been documented.

For conventional reservoirs it is a high risk exploratory block. The incorporation of new subsurface information, such as 3D seismic, will allow to advance in the knowledge of the area and delineate new prospects.