

Aguada de Castro Block II

Introduction

The Aguada de Castro block is located on the western flank of the geomorphological area called "Dorso de los Chihuidos". The block has a total area of 82 Km². The following map shows its location, wells drilled in the area, access roads and waterways.

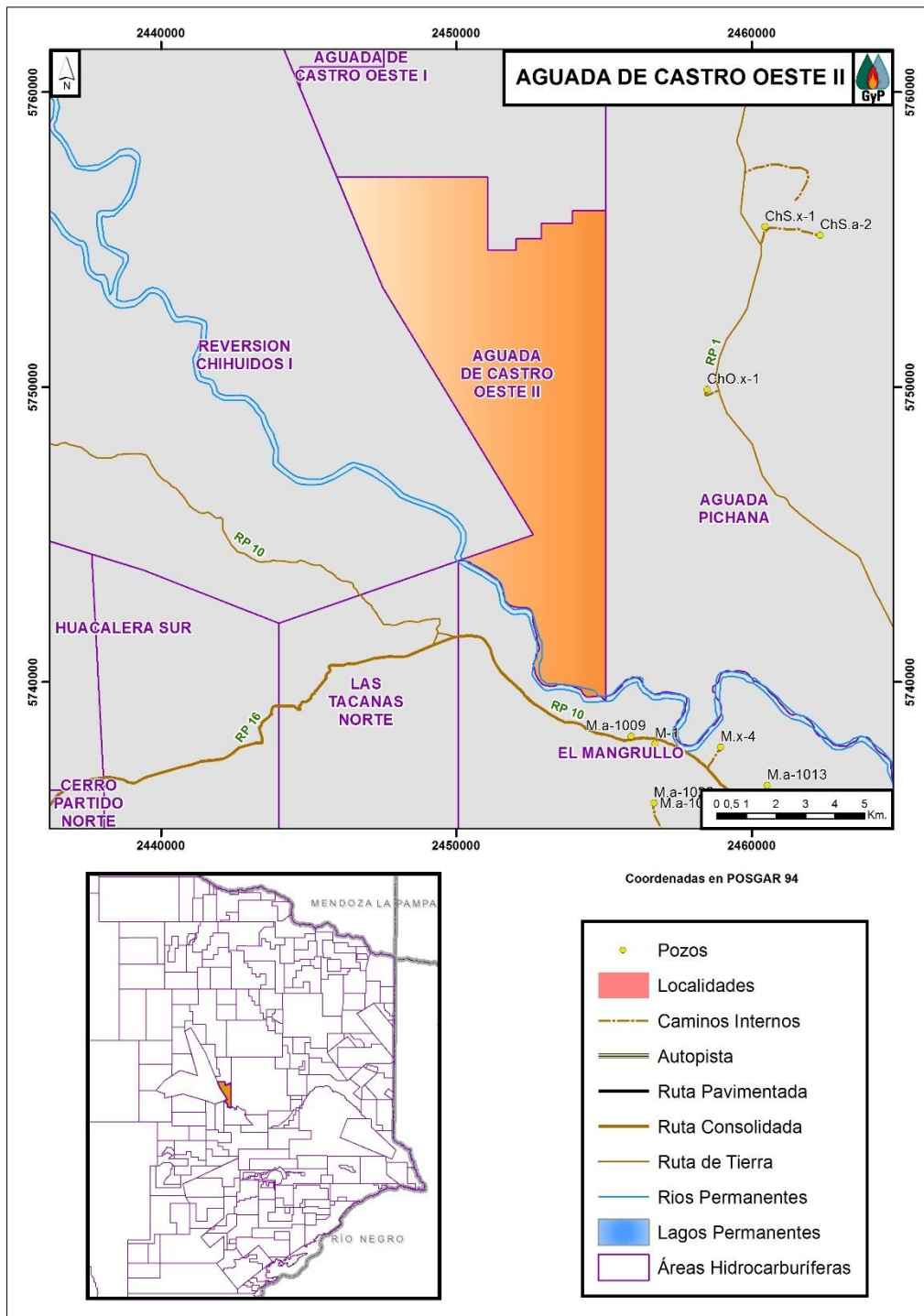


Figure 1. Aguada de Castro Oeste II location

Wells

The area does not have drilled wells

Seismic Coverage

The Aguada de Castro Oeste II Area has limited 2D seismic coverage.

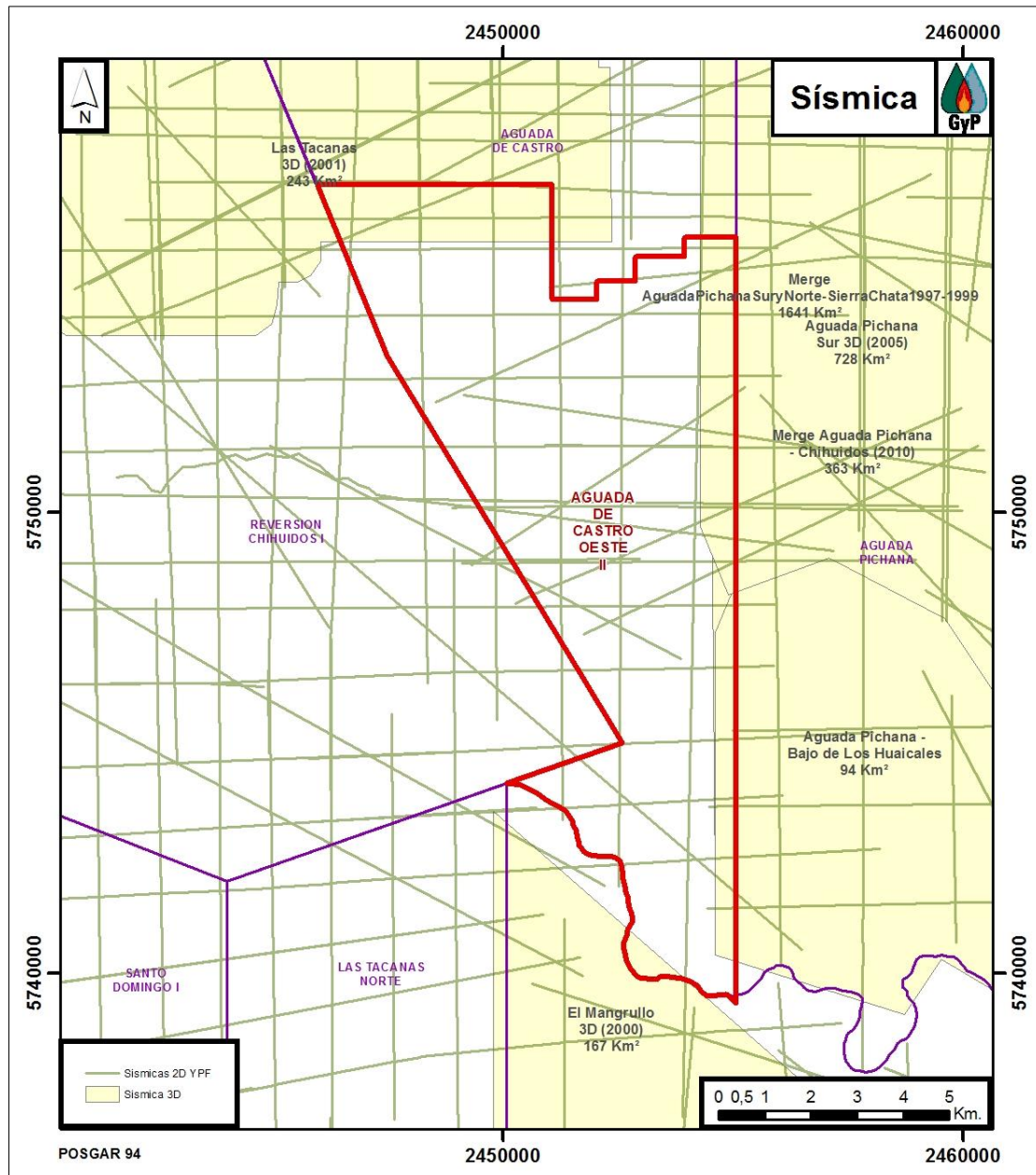


Figure 2. Seismic coverage

Information available in GyP

DISPONIBLE EN GyP			
Legajos	Perfiles	Líneas Sísmicas 2D	Sísmicas 3D Nombre
-	-	29	-

Table 1. Aguada de Castro Oeste II

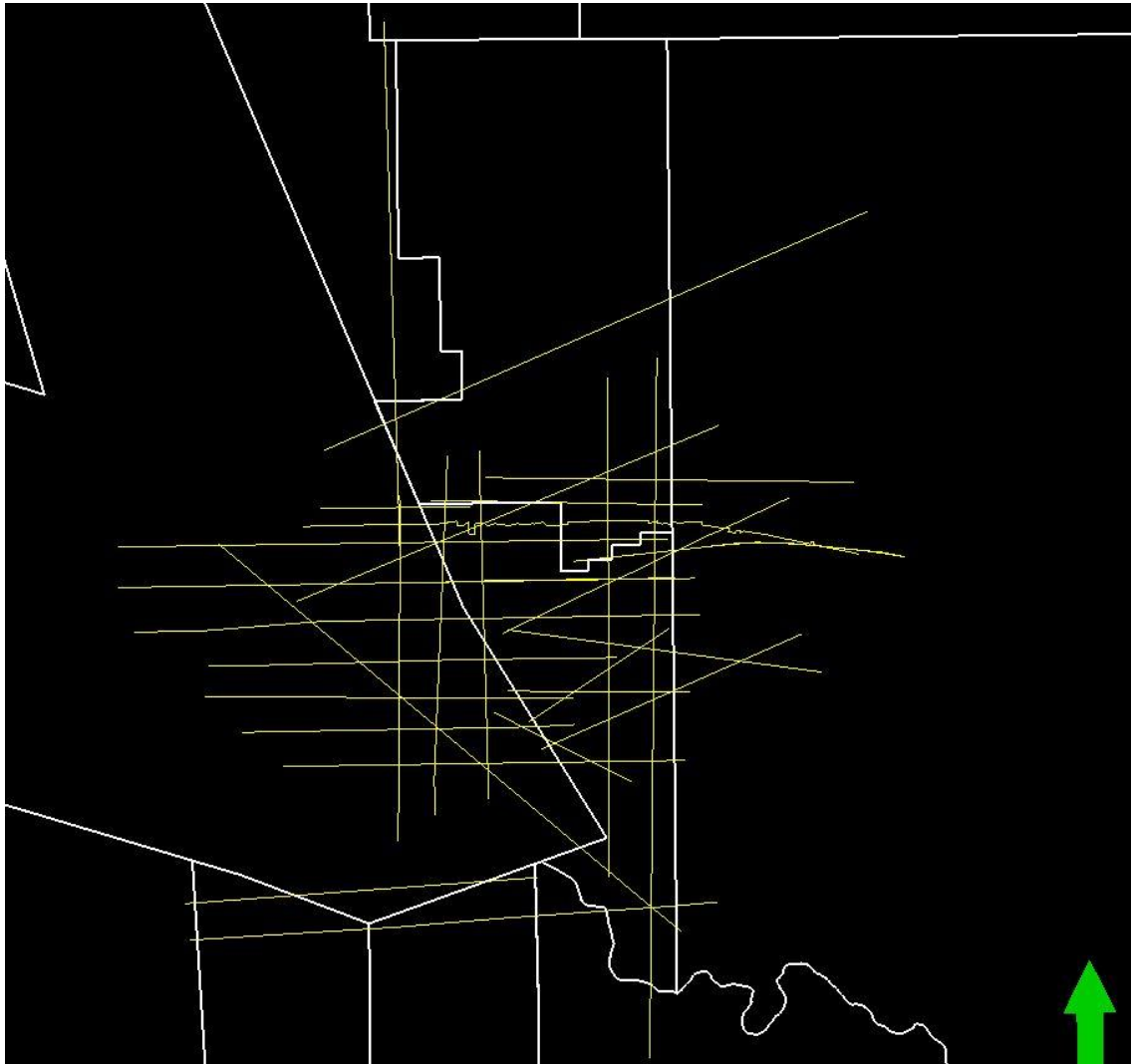


Figure 3. 2D Seismic Information

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.

Reservoirs: Lower Agrio, Mulichinco, Tordillo and Lotena Fms.

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

It is considered high risk for conventional reservoirs.

Background

In the Aguada de Castro area, located to the east, 3 wells were drilled, two with conventional objectives:

YPF.Nq.DCh.x-1: Main objective the Mulichinco Fm., reaching a depth of 2,349 m, in the Quintuco-Vaca Muerta Fms. There were 3 zones in the Quintuco Vaca Muerta sequence that provided combustible gas without pressure because it is a reservoir of low transmissibility. The Mulichinco and Agrio Fms. were also tested with no entry, both with porosities below 12%.

YPF.Nq.DCh.x-2: Main objective: The Tordillo Fm., reaching a depth of 3,626 m, in the Auquilco Fm. When drilling in the Vaca Muerta Fm., gas showed (17,000 m³/d). At completion, this interval was fractured and gas without pressure was recovered.

Potential in unconventional reservoirs

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

TOC (% average total organic content): 3%.

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

Net Thickness (TOC > 2%): 250 - 350 m.

Presence of faults: Yes.

Overpressure: Yes.

Production history: No.

Vaca Muerta Fm. base depth: 3,200 m

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

Background

The TAU.Nq.ACas.xp-1 well in the neighboring block showed gas production with high pressure from the Vaca Muerta Fm. (shale).

The block limits to the east with the Aguada Pichana gas fields (producer of the Mulichinco and Vaca Muerta Fms.) and to the south with the El Mangrullo field (producer of the Mulichinco Tight Fm.).

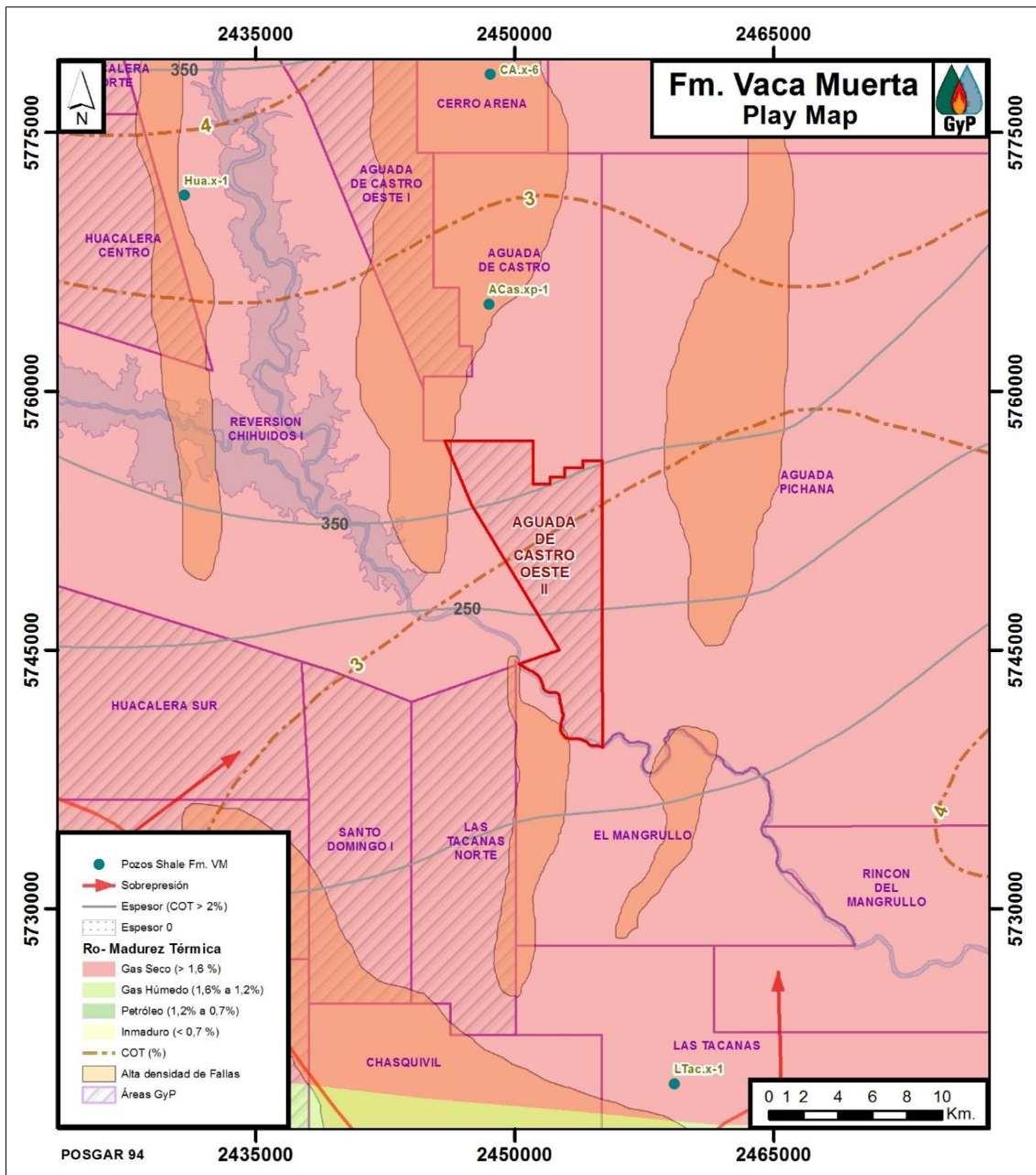


Figure 4. Vaca Muerta Fm. Play Map

Conclusions

The Aguada de Castro Oeste II area maintains high exploratory expectations for the Vaca Muerta Fm. in dry gas window. In the Tordillo and Mulichinco Fms. possibilities as Tight reservoirs are not ruled out.

For conventional reservoirs it is a high-risk exploratory block. The challenge is to explore the potential structural and combined traps with modern techniques and 3D seismic.