



# AREAS ADVERTISEMENT 2022

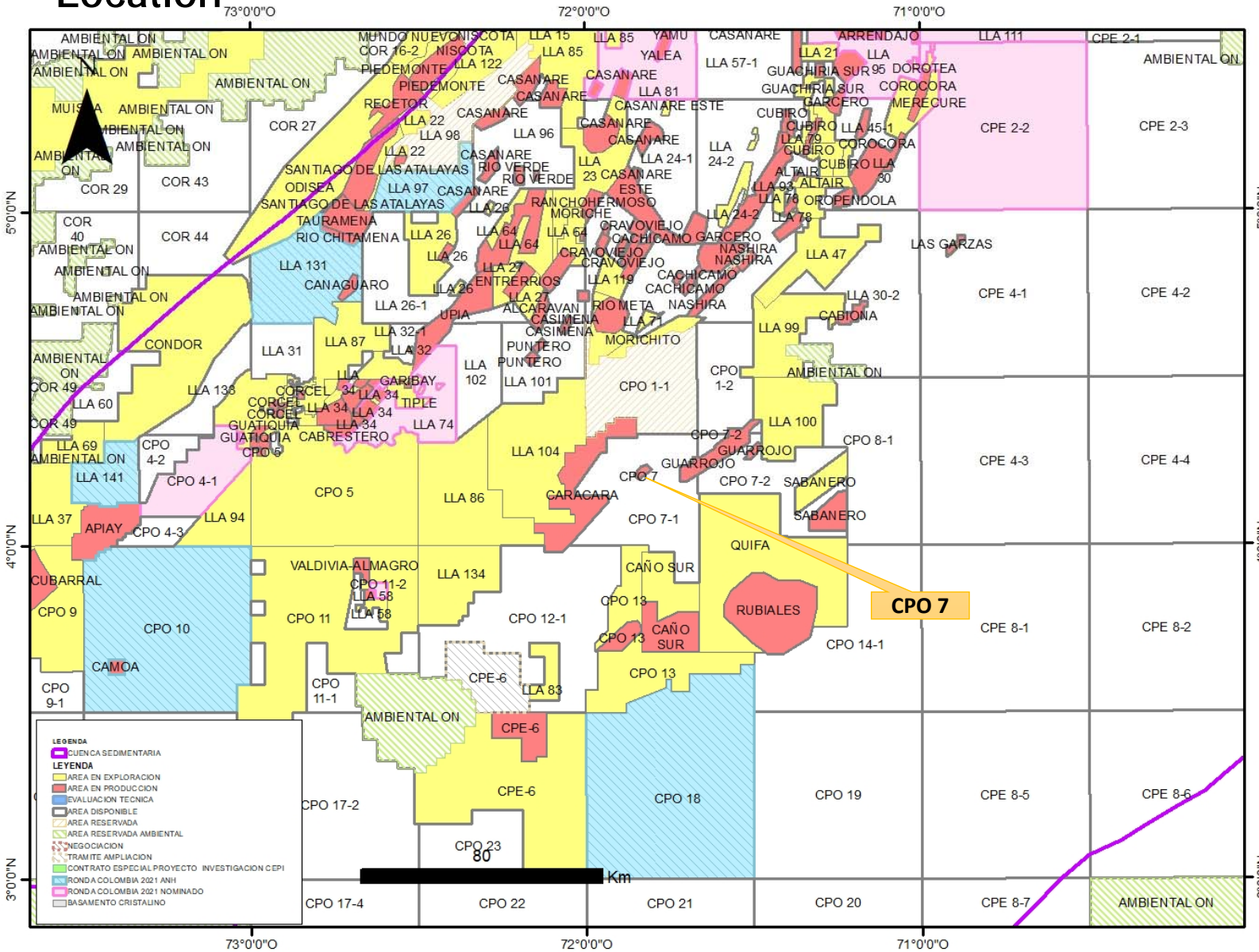
**AREA WITH PRODUCTION RETURNED TO THE ANH  
ATARRAYA FIELD - LLANOS BASIN**

February 4<sup>TH</sup> 2022

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- Atarraya Field
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- CPO 7-1 Prospectivity
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# Location

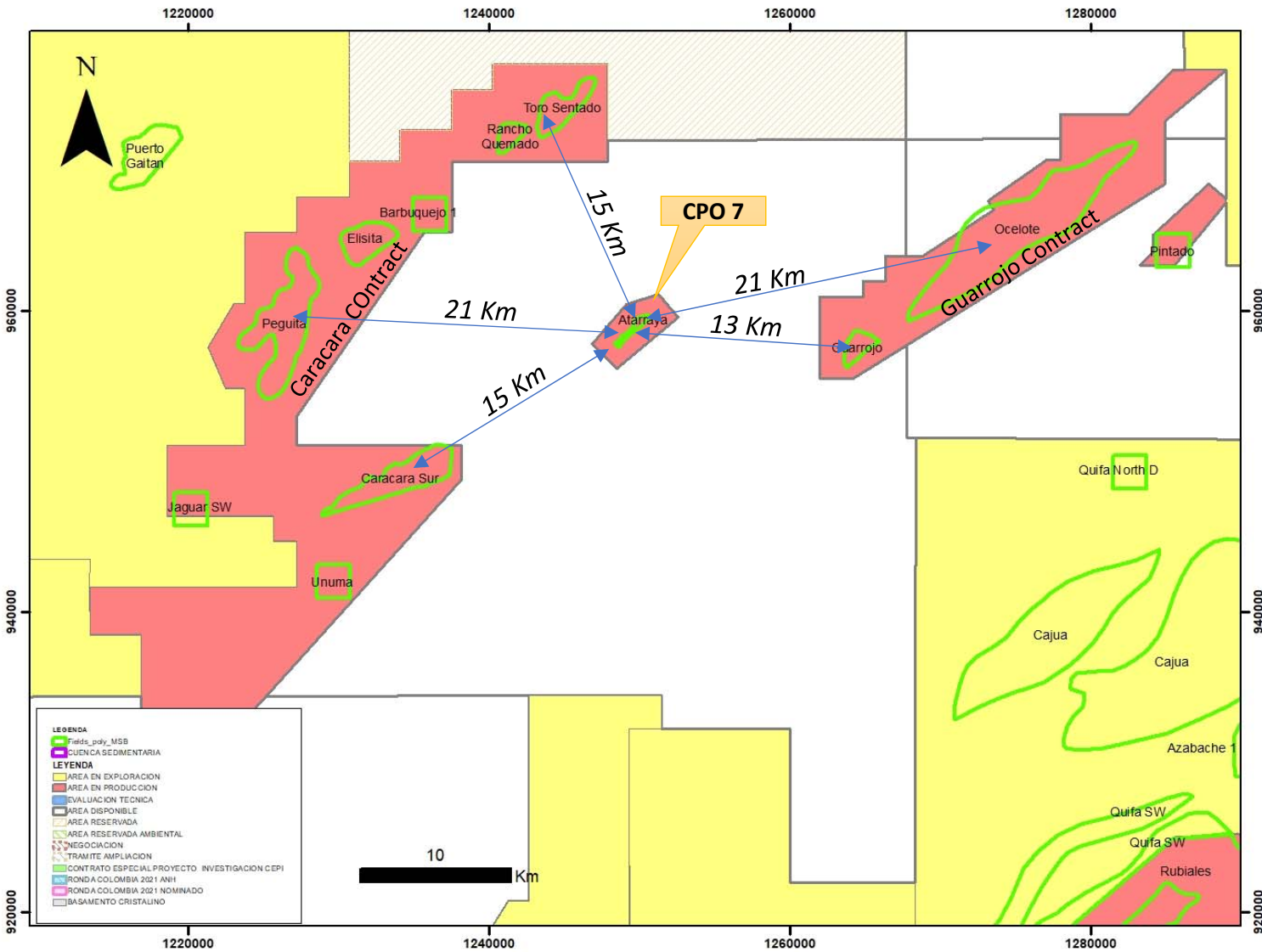


- The area is located in the department of Meta, in the municipality of Puerto Gaitán
- The Atrarraya area is within the remaining area of the CPO 7 contract, signed in January 2009
- The area around the CPO 7 contract is referred to as CPO 7-1 and the status is available for nomination.
-

# Location

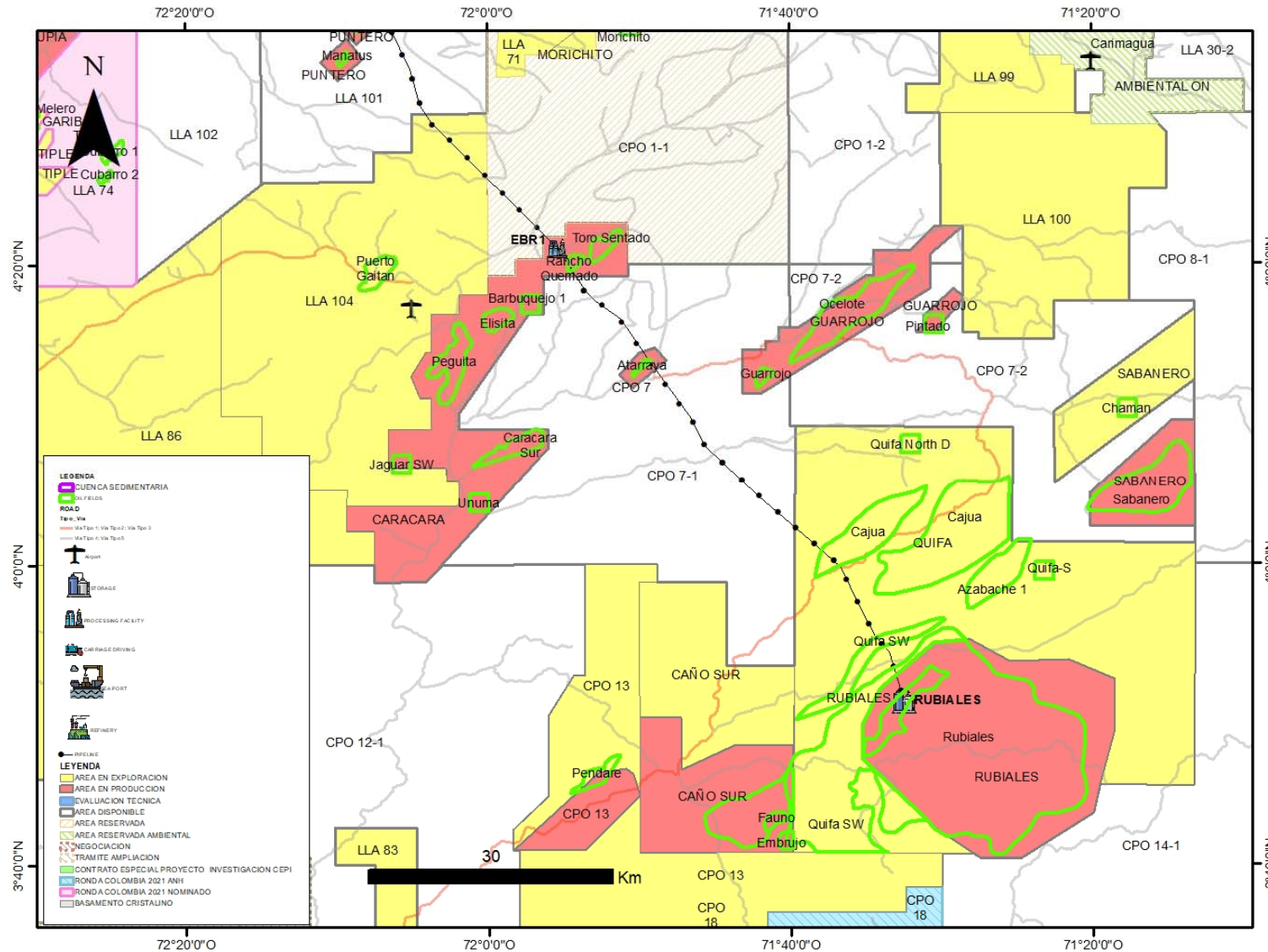
## NEAR OILFIELDS

- 15 Km - Toro Sentado and Rancho Quemado Fields
- 15 Km - Caracara Sur Field
- 21 Km - Peguita Field
- 13 Km - Guarrojo Field
- 21 Km - Ocelote Field



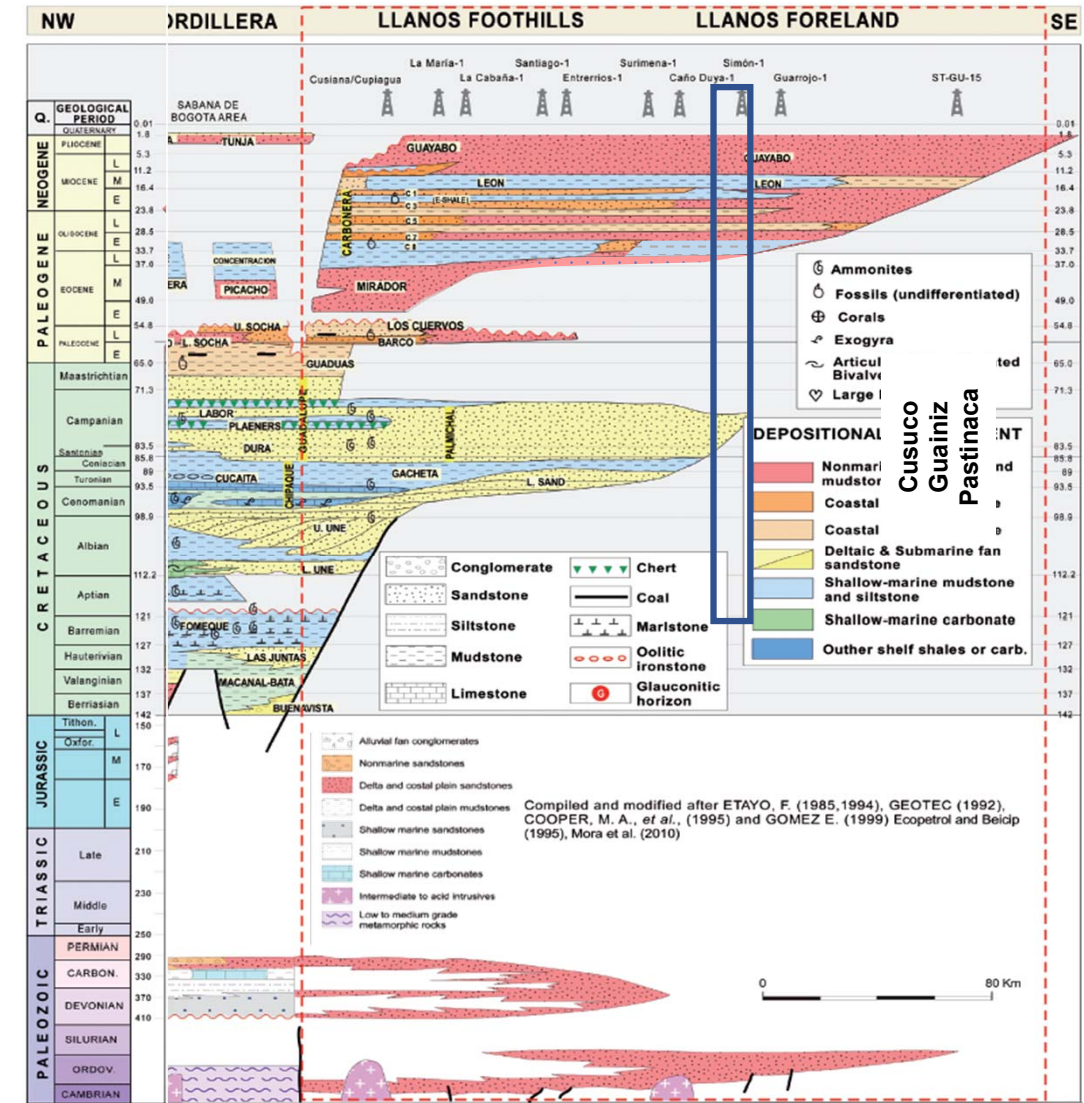
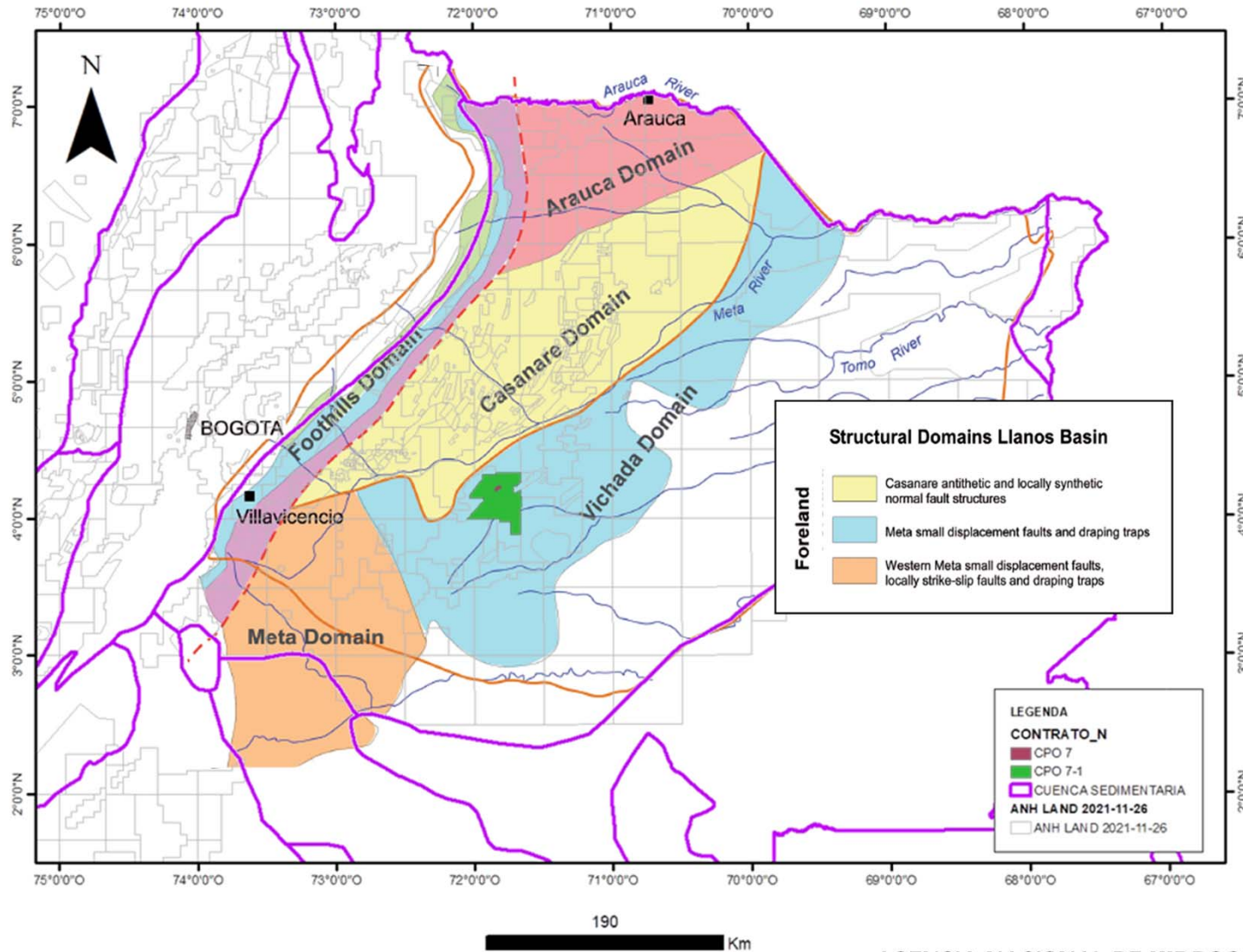


# Infrastructure



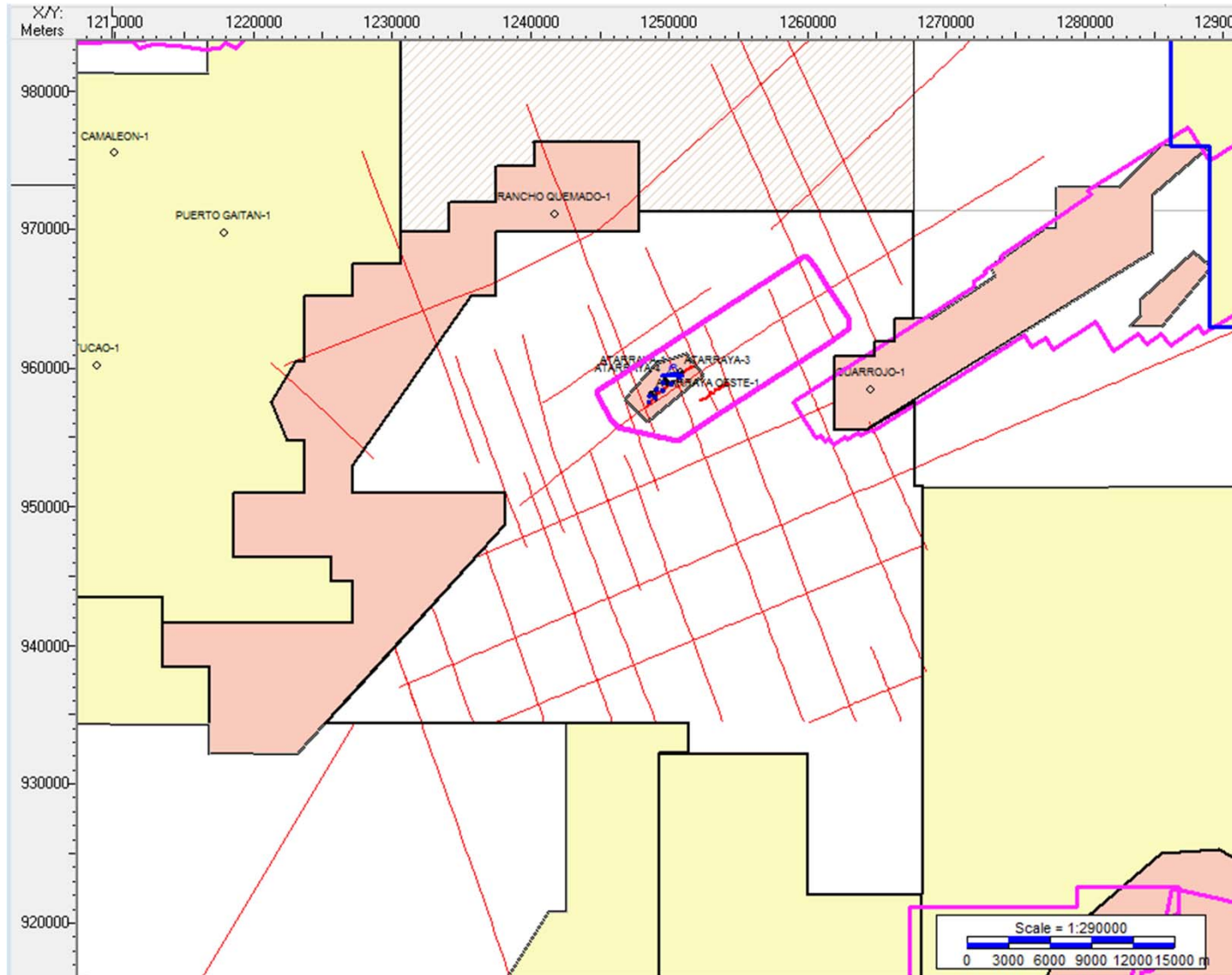
- The area has several unpaved roads and is crossed by the ODL pipeline. (Oleoducto de los Llanos Orientales)
- EBR1 station at 18Km
- Rubiales Station at 52Km

# Geological Framework





# Available Information

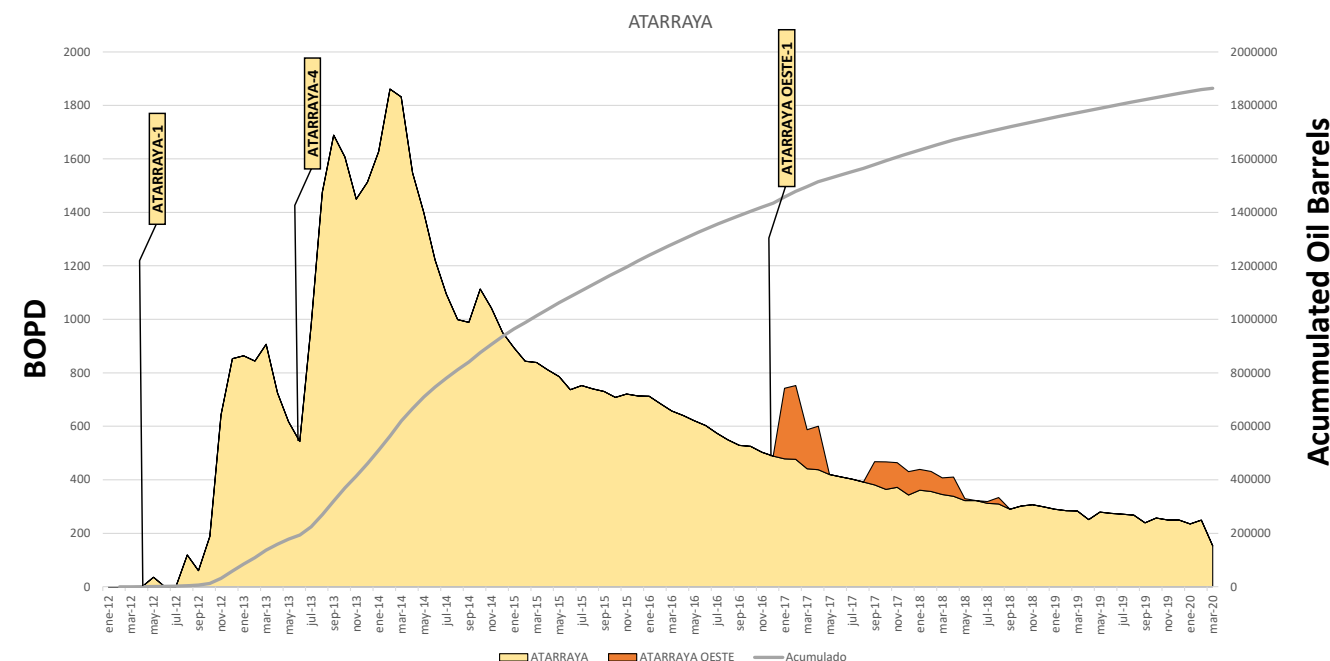
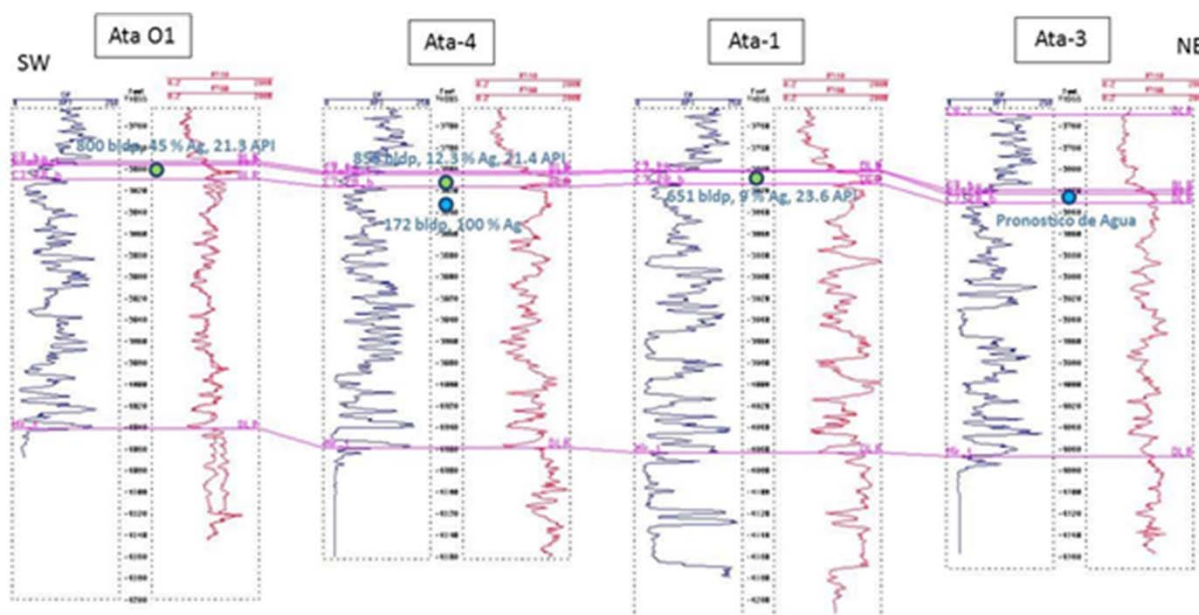


- 3D Seismic (ATARRAYA 3D-2014)
- 2D Seismic (32 Profiles – 5 Seismic Programs)

C-1985-05	CPO7-2009-17
C-1985-14	CPO7-2009-19
C-1985-16	CPO7-2009-21
C-1985-41	CPO7-2009-23
CPO12-2010-13	CPO7-2009-25
CPO13-2009-47	CPO7-2009-29
CPO7-2009-04	CPO7-2009-31
CPO7-2009-06	CPO7-2009-33
CPO7-2009-08	CPO7-2009-35
CPO7-2009-10	CPO7-2009-37
CPO7-2009-11	CPO7-2009-39
CPO7-2009-12	CPO7-2009-41
CPO7-2009-13	CPO7-2009-43
CPO7-2009-14BIS	CPO7-2009-45
CPO7-2009-15	CPO7-2009-47
CPO7-2009-15E	G-1981-10.2

- Wells (4 Wells)
  - Atarraya-1
  - Atarraya-3
  - Atarraya-4
  - Atarraya Oeste-1

# Atarraya Field



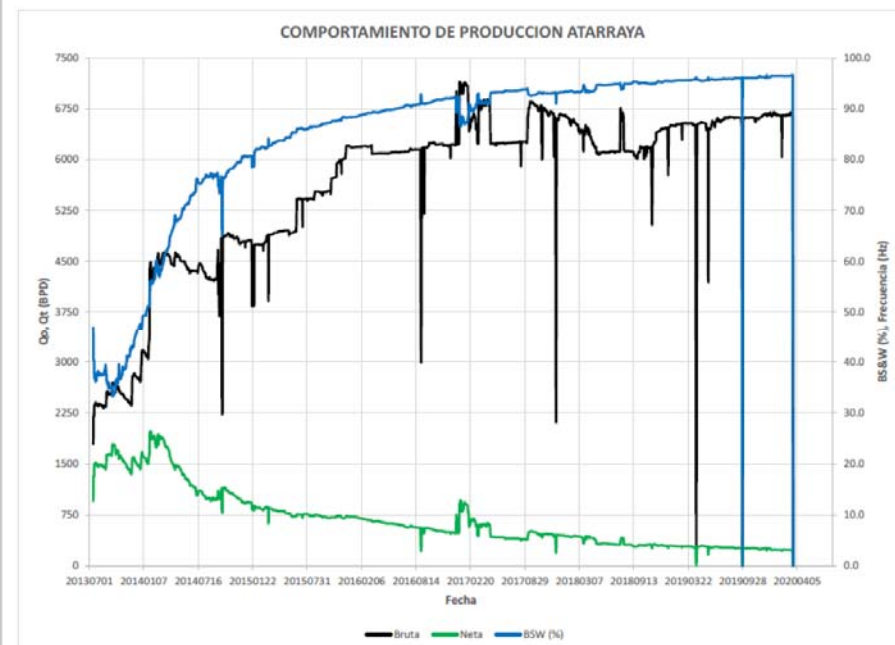
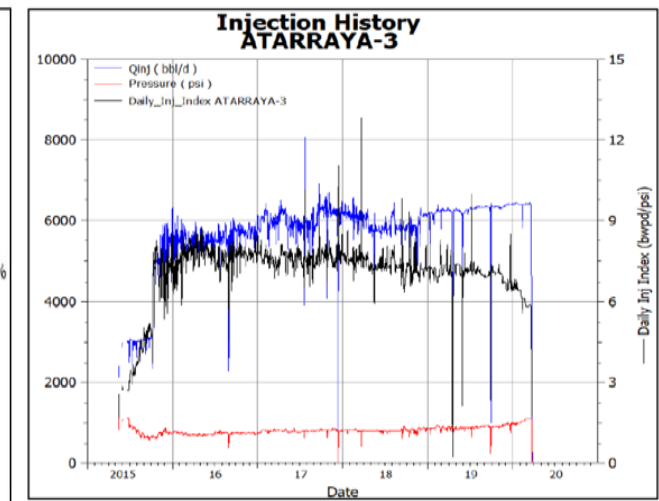
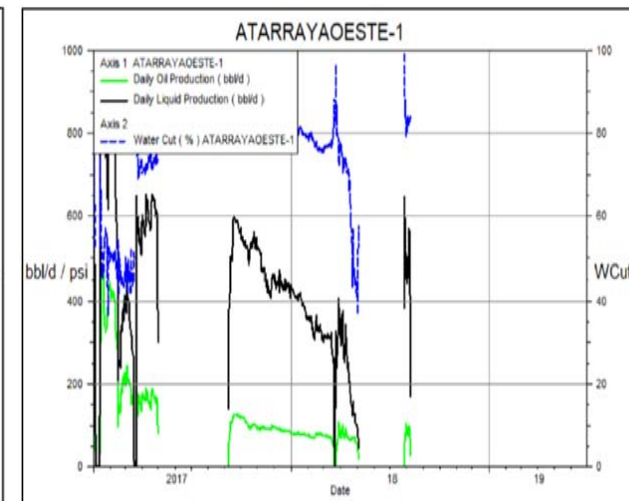
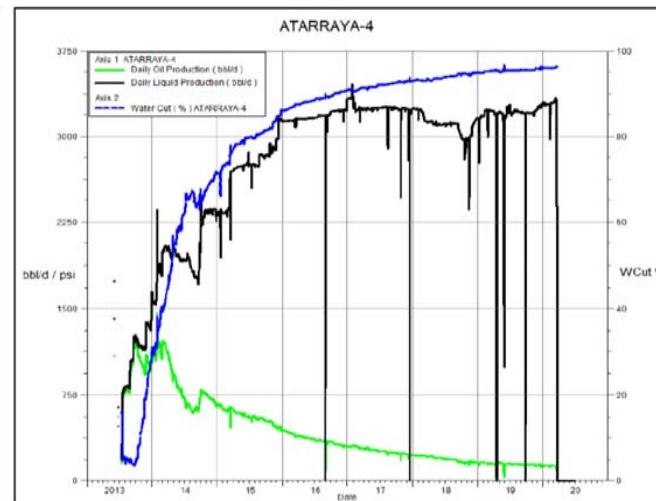
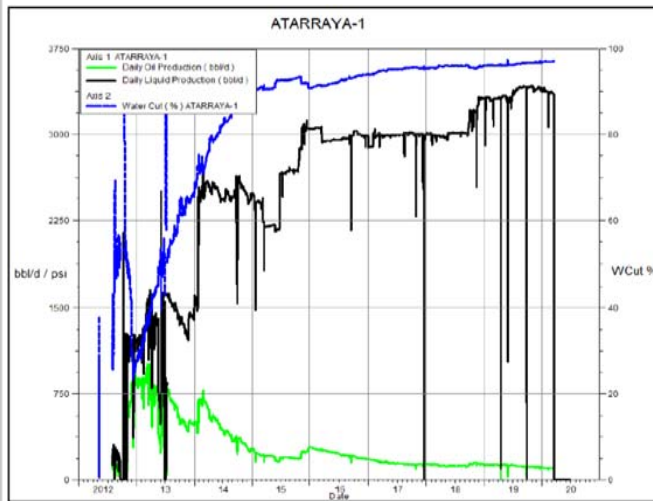
The field was discovered in April 2012 with the Atarraya-1 demonstrating production in Carbonera C7 formation. Subsequently, two delimiter wells were drilled. Atarraya-4 (directional) drilled April 2013 producer in Formation Carbonera C7. Atarraya-3 (directional) drilled in June 2013 but showed no oil presence, so it was converted to an injector for water disposal.

In March 2020, as a result of the fall in the price of oil and the economic crisis aggravated by the COVID-19 health emergency, the production of the development wells was suspended.

Pozo	ATARRAYA-1	ATARRAYA-3	ATARRAYA-4	ATARRAYA OESTE-1
Lahee Classification 4CR / 6CR Forms	A3	C1	B1	B3
Formation in which the test was performed	Carbonera C7	No testing	Carbonera C7	Carbonera C7
Depth TD/TVD	4908'	5479'/4850'	5640'/4842'	4912'/4848'
Spud Date	April 14, 2012	June 8, 2013	April 27, 2013	December 19, 2016
End of Drilling	April 27, 2012	June 15, 2013	May 11, 2013	December 27, 2016
Final state	Producer	Injector	Producer	Producer
Current status	Inactive	Inactive	Inactive	Inactive



# Atarraya Field - Production



## Acumulated Production

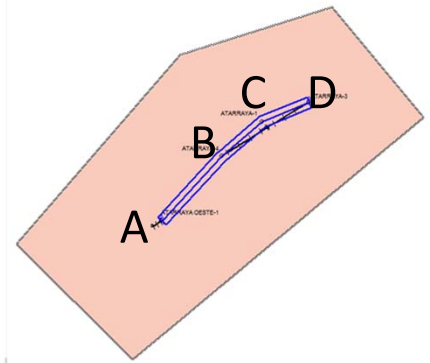
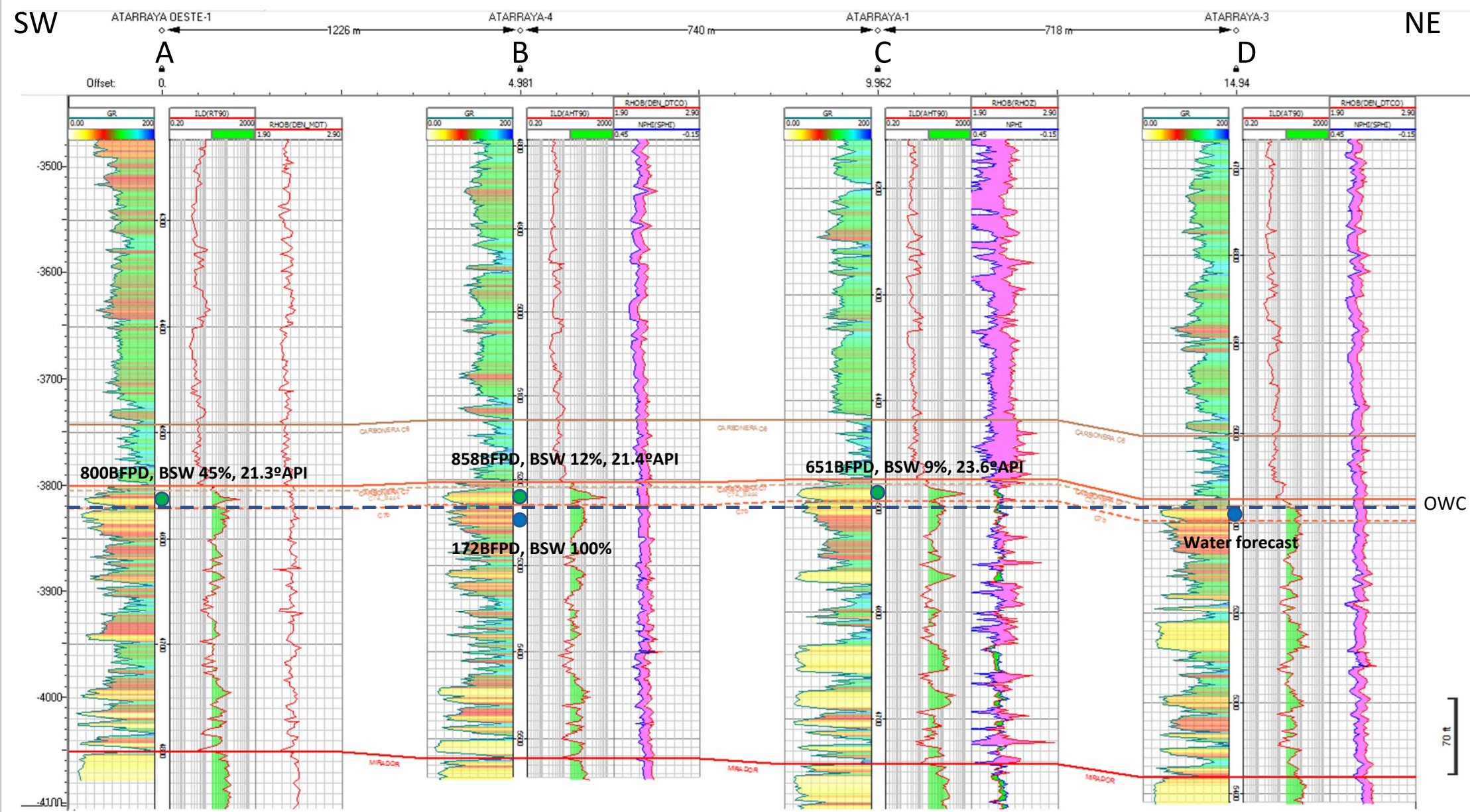
WELL	Producer Formation	Oil (bbl)	Water (bbl)
Atarraya-1	Carbonera - C7	772.504	6.377.198
Atarraya-4	Carbonera - C7	1.044.540	5.741.921
Atarraya Oeste-1	Carbonera - C7	46.375	116.664
<b>TOTAL</b>	<b>Carbonera - C7</b>	<b>1.863.419</b>	<b>12.235.782</b>

## Acumulated Injection

WELL	Water (bbl)
Atarraya-3	9.799.969

- The field was closed in March 2020, with 97% BSW, accumulating a production of 1.86 million barrels of oil, 12.2 million barrels of water and 9.8 million were injected into the Atarraya-3 well.
- The last year of production (March 2019 to February 2020) produced 283 average BOPD

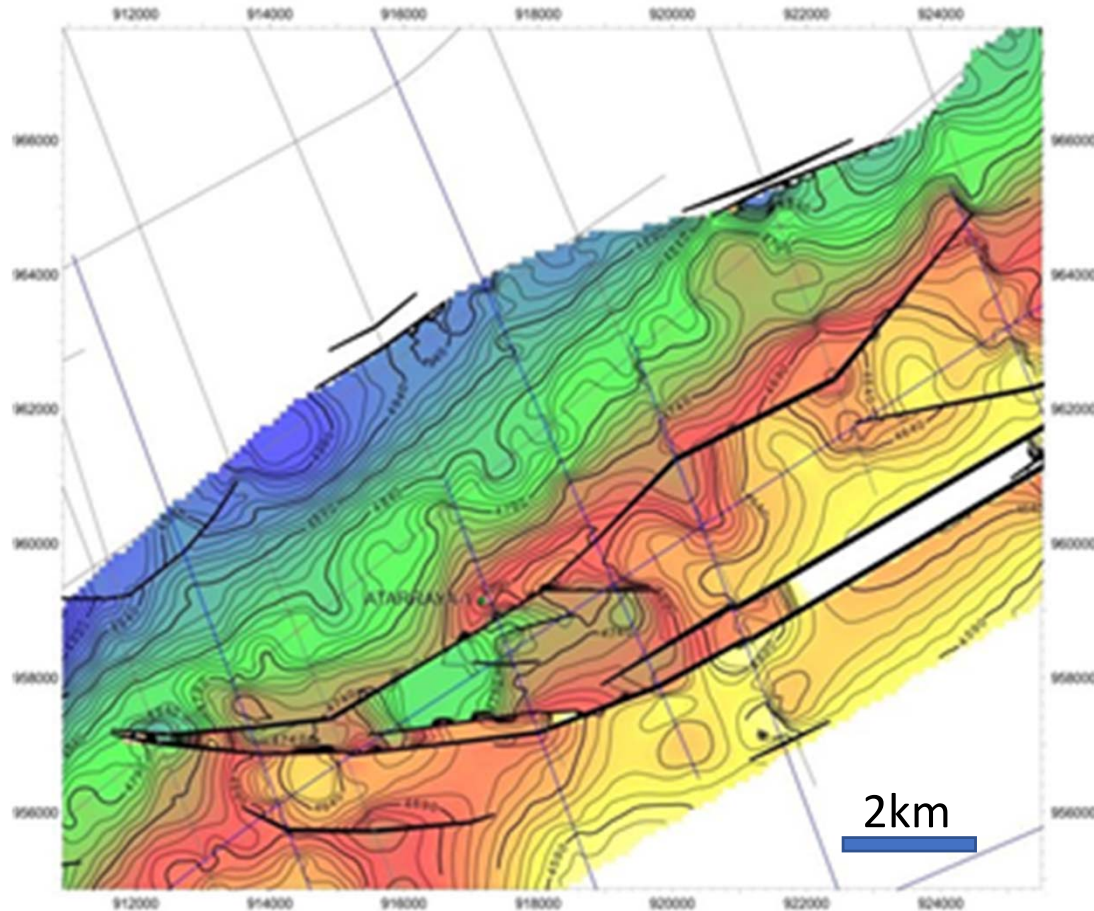
# Atarraya Field – Structural Correlation



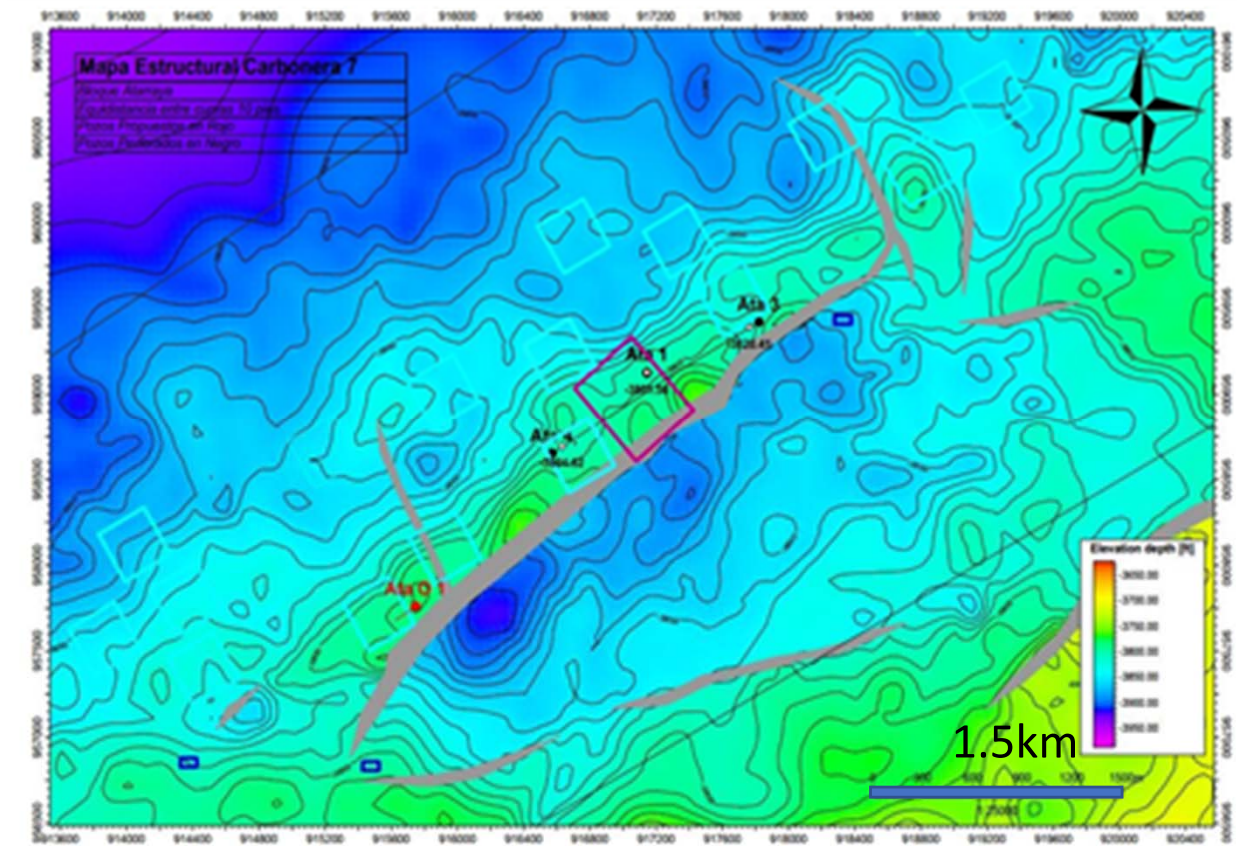


# Atarraya Field – Structural maps (carbonera C7 top)

## 2D Seismic Interpretation



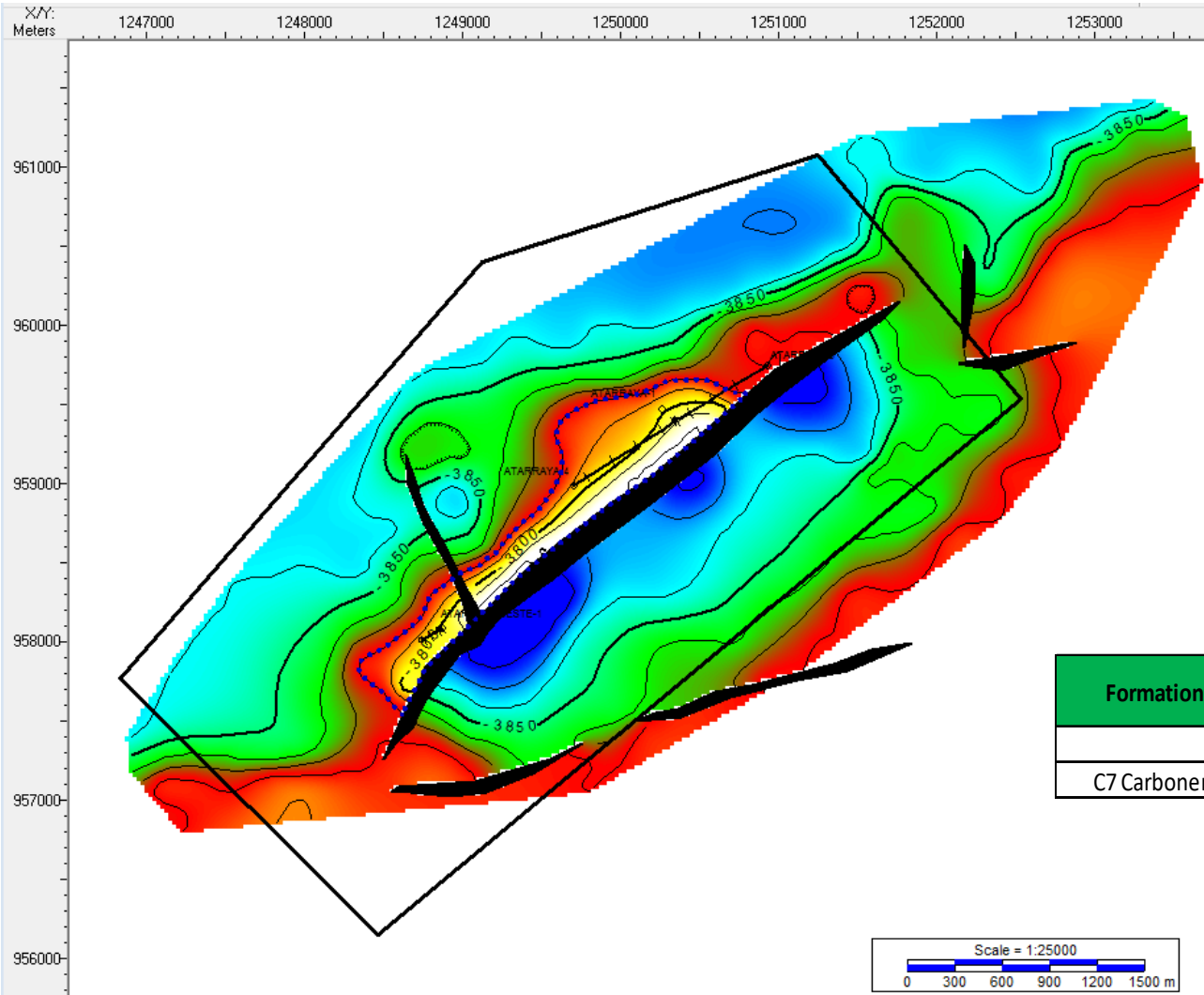
## 3D Seismic Interpretation





# Atarraya Field - Volumetrics

ATARRAYA\_CLOSED



Layer 1 Oil-Water Date Generated: 03/02/2022

Grid type: Structure  
 Upper grid: C7\_ATARRAYA\_Closed  
 Lower grid: C7\_ATARRAYA\_Closed\_Base  
 OW Contact: -3818.00 Subsea

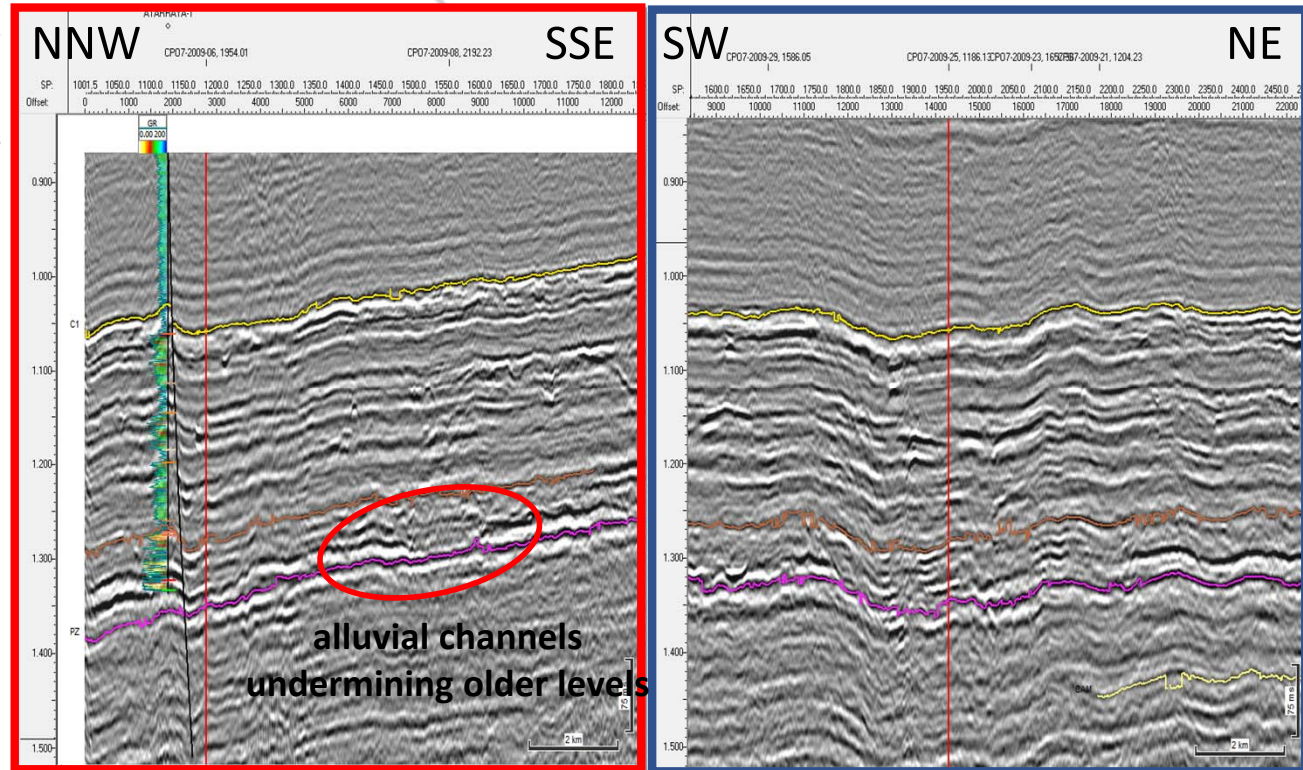
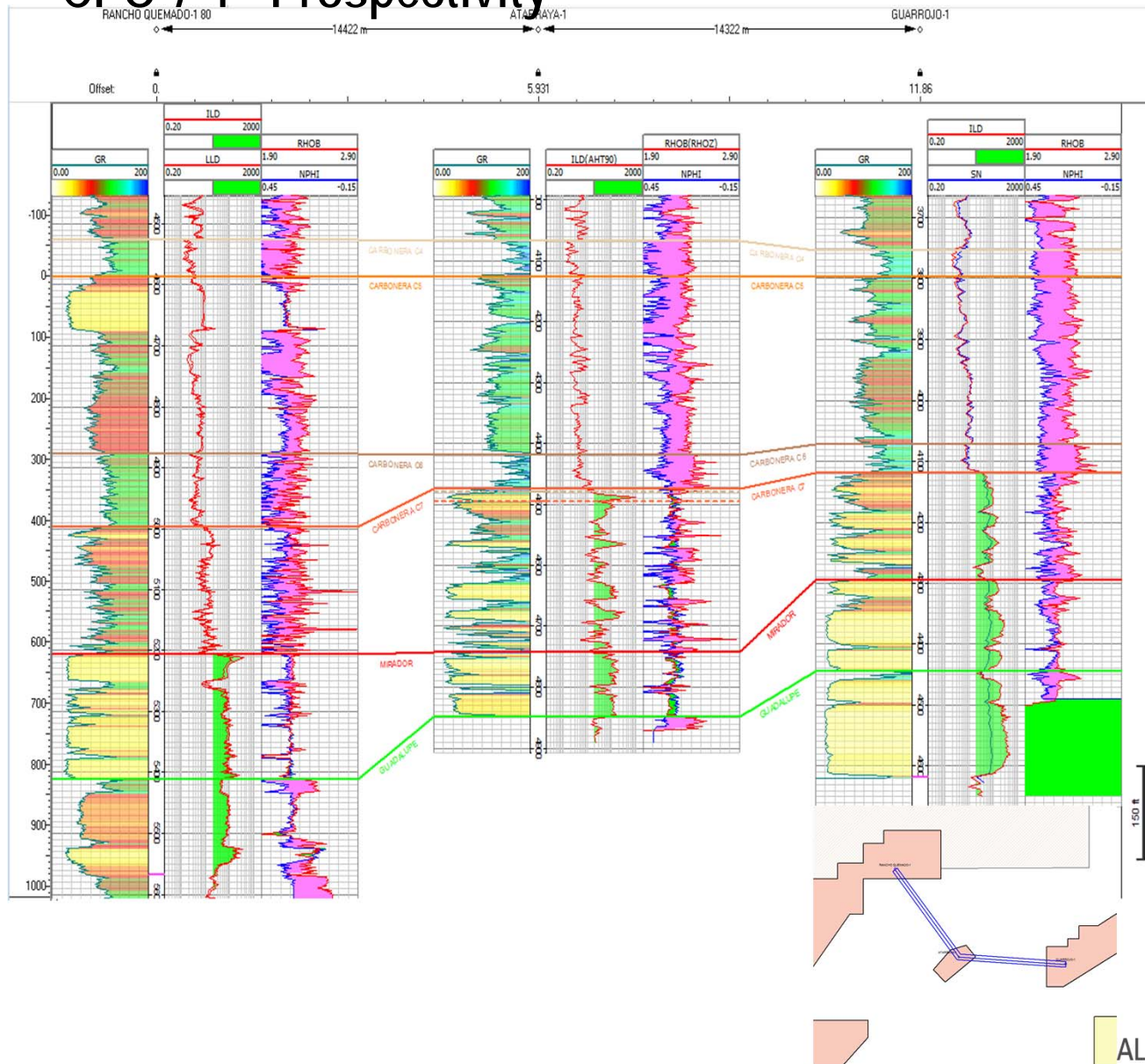
Net/Gross (NTG): 1.00  
 Porosity (D): 0.28  
 Water saturation (Sw): 0.25  
 Oil volume factor (Bo): 1.03  
 Oil recovery factor (ORF): 0.34

Result (D-Deterministic)	Polygon area (M2)	Gross (Meter2 Feet)	Net (Meter2 Feet)	Pore (Meter2 Feet)	HC Pore (Meter2 Feet)	In-Place (STB)	Recoverable (STB)
(D) No Polygon	2.240 MM	14.831 MM	14.831 MM	4.153 MM	3.114 MM	5.787 MM	1.991 MM

## IRR 2020 Values of operator

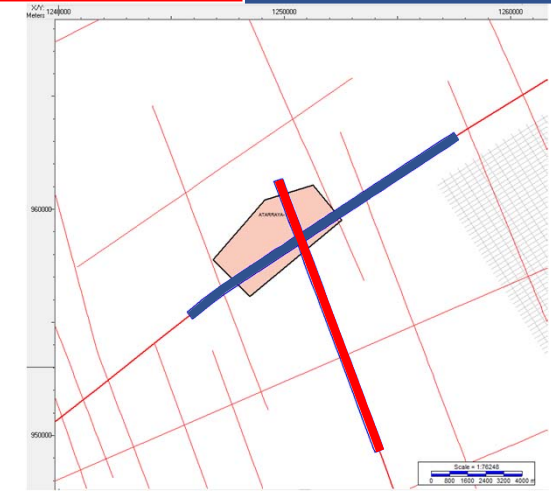
Formation	Original Oil In Situ	Recovery Factor	Estimated Ultimate Recovery	Acummulated Production	Ultimate Expected Recovery Factor	Remaining Resources
	Barrels	Percentage	Barrels	Barrels	Percentage	Barrels
C7 Carbonera	5.410.000	34,40	2.162.839	1.863.419	40,00	299.420

# CPO 7-1- Prospectivity



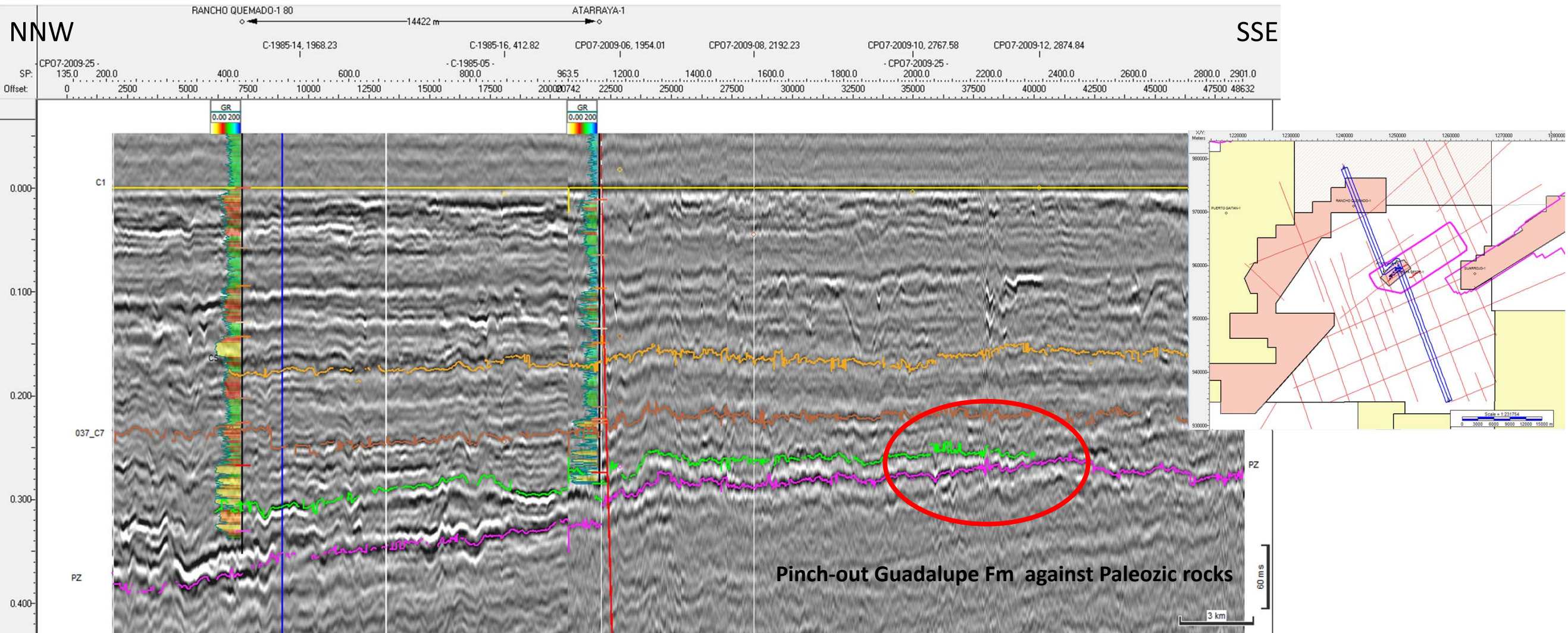
Dip Line  
CPO7-2009-25

Strike Line  
CPO7-2009-06





# CPO 7-1 - Prospectivity



**Pinch-out Guadalupe Fm against Paleozoic rocks**

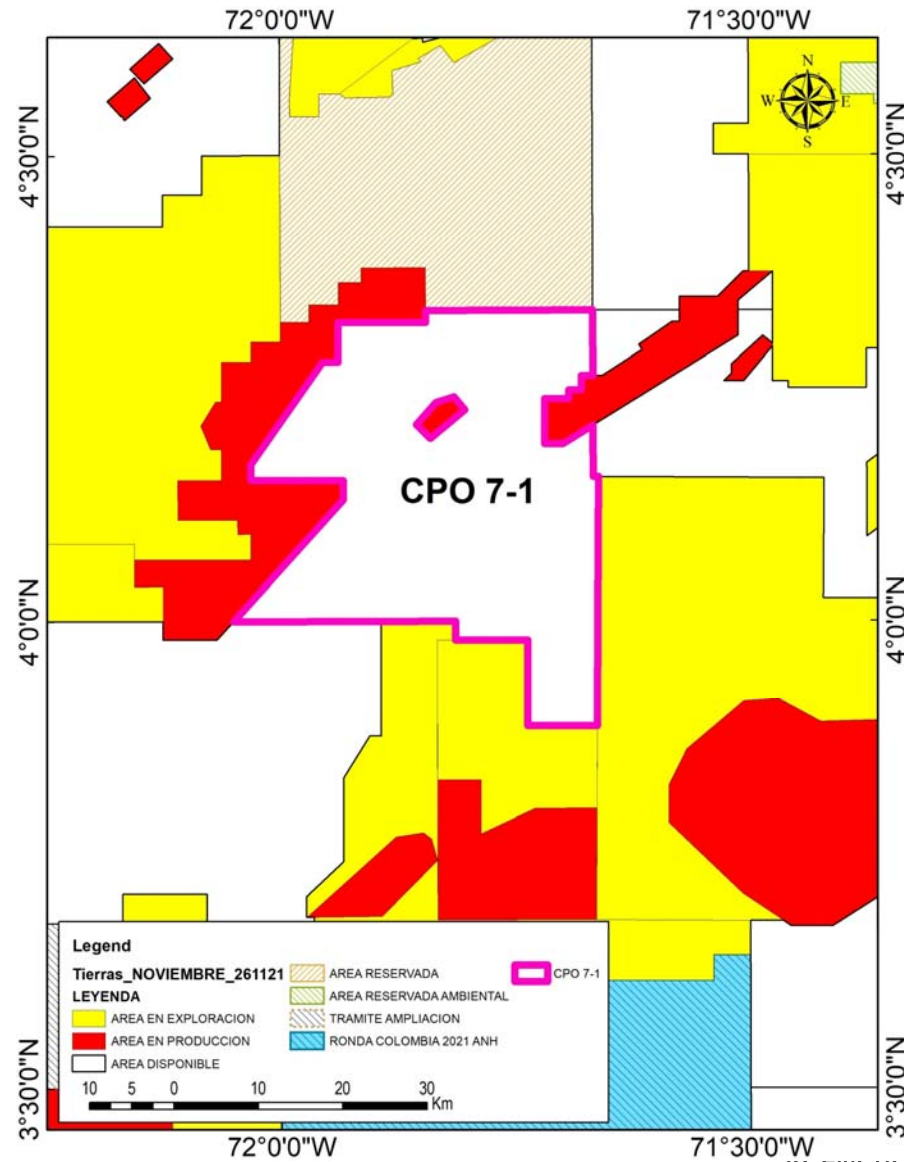
Arbitrary line Dip Line (Datum C1)



## Conclusions and Recommendation

- The Atarraya field was discovered in 2013 to learn from 2D seismic interpretation and refined by 3D seismic interpretation
- 4 wells were drilled, 3 of them oil producers and a well used as an injector
- In the lifetime of the field it produced about 1.8 million barrels of oil and 12.2 million barrels of water.
- According to the operator's data, there are still between 130 to 300 thousand barrels to be produced.
- The prospectivity of the adjacent available area CPO 7-1 is related to pinch-out of the Guadalupe formation and undermining of levels of the Mirador over Guadalupe. Although it is not necessary to rule out possible geoforms of channels in the C5 and C7 sublevels of Carbonera.
- For the observation of more stratigraphic characteristics, it is necessary to make a more exhaustive interpretation, including work of seismic attributes for the 2D seismic and thus knowing the potential of the whole area.

# CPO 7-1 Land Map



**AREA TO NOMINATE  
CPO 7-1(ATARRAYA)**

Thanks