RONDA COLOMBIA 2021

Incorporated Areas: Llanos Basin

September 3rd , 2021

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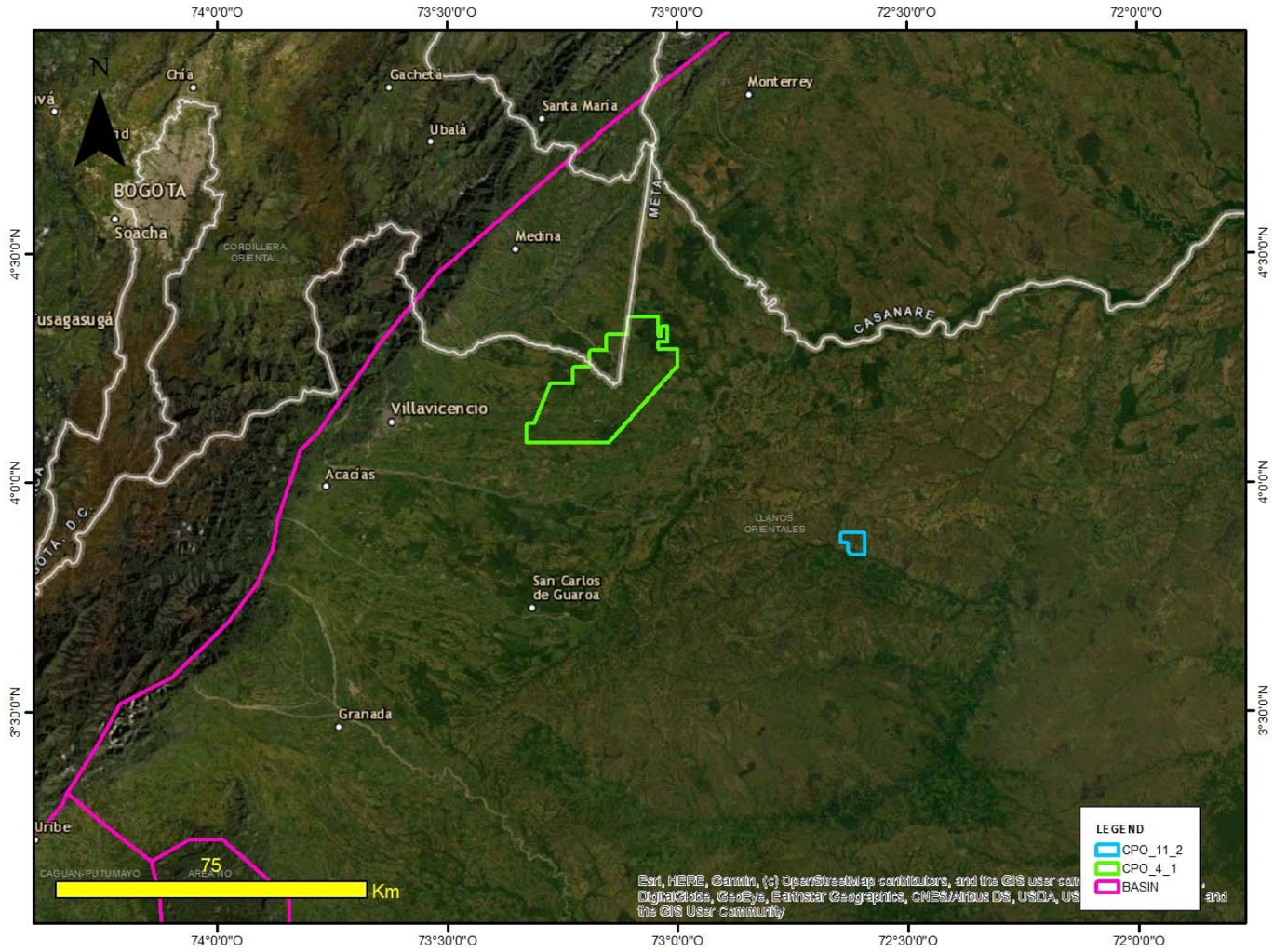
ANH AGENCIA NACIONAL DE HIDROCARBUROS

El futuro es de todos | Minenergía

Location



- CPO 4-1
  - Area : 60000.0 Ha
  - Municipalities:

    (Meta)
    - Cumaral (28.8%)
    - Cabuyaro (25.3%)
    - Puerto López (12.4%)
    - Restrepo (12.3%)
    - Villavicencio (11.3%)

    (Cundinamarca)
    - Paratebueno (9.9%)

- CPO 11-2
  - Area: 2468.9 Ha
  - Municipalities:

    (Meta)
    - Puerto López (100%)

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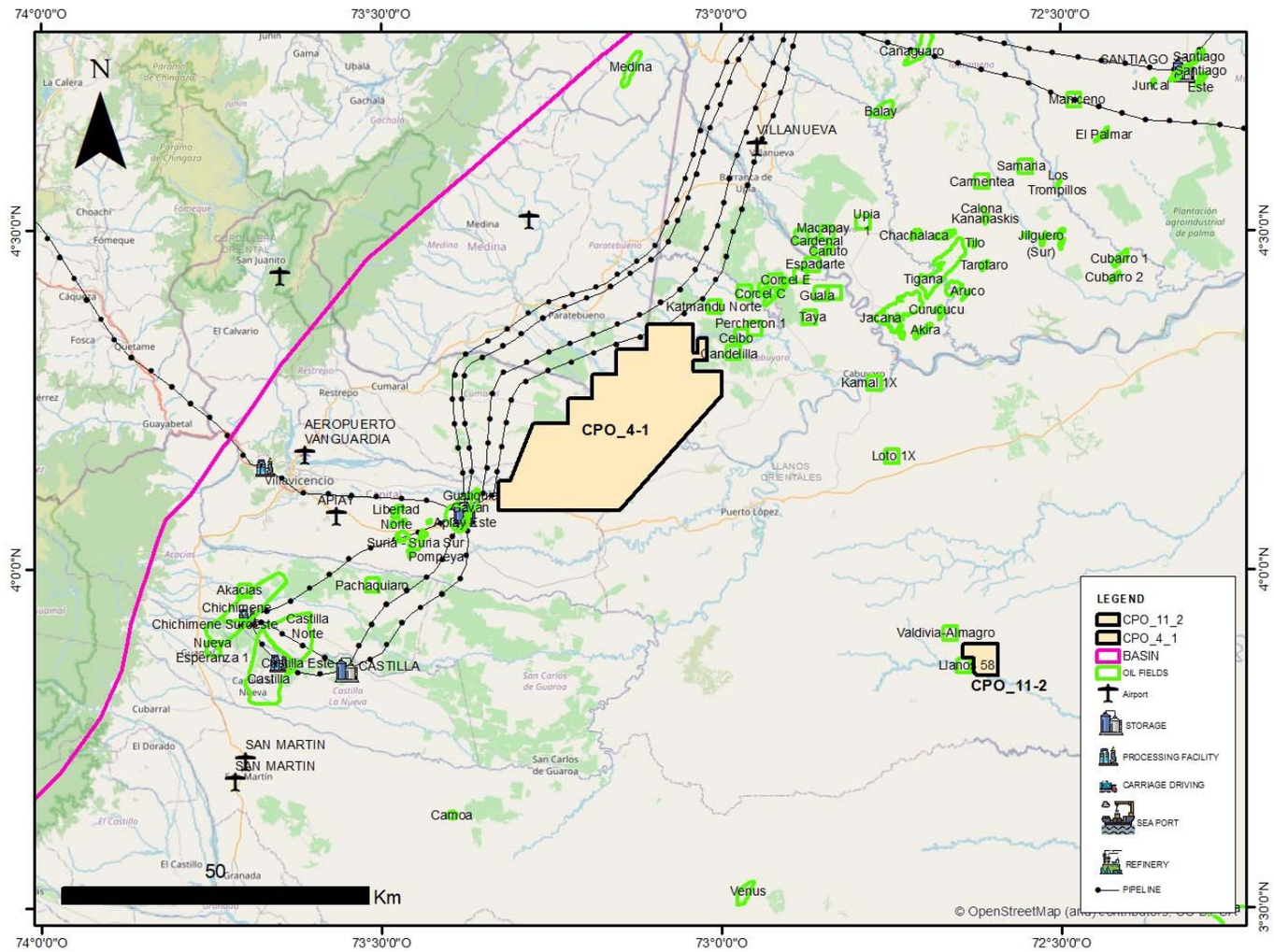
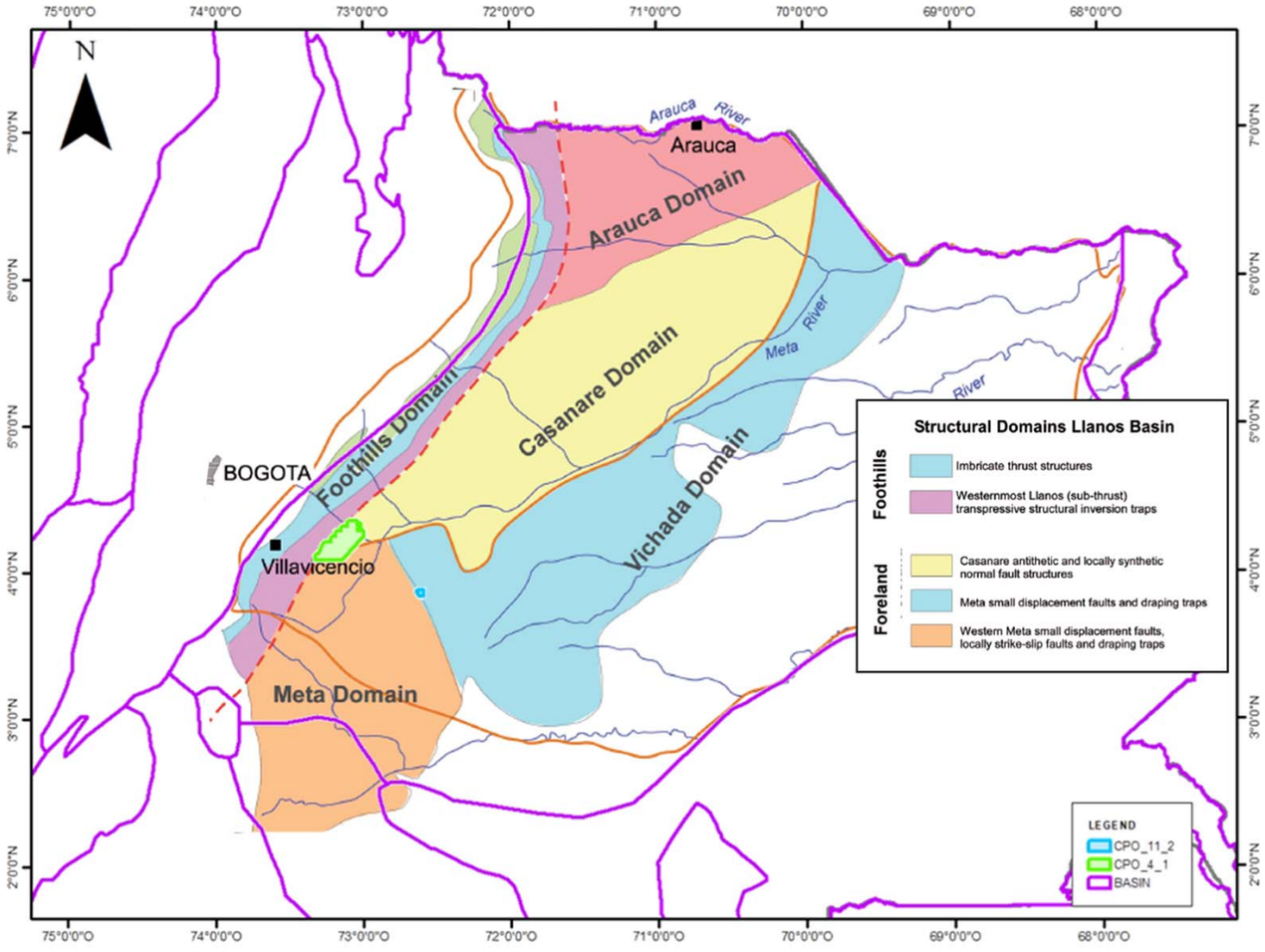
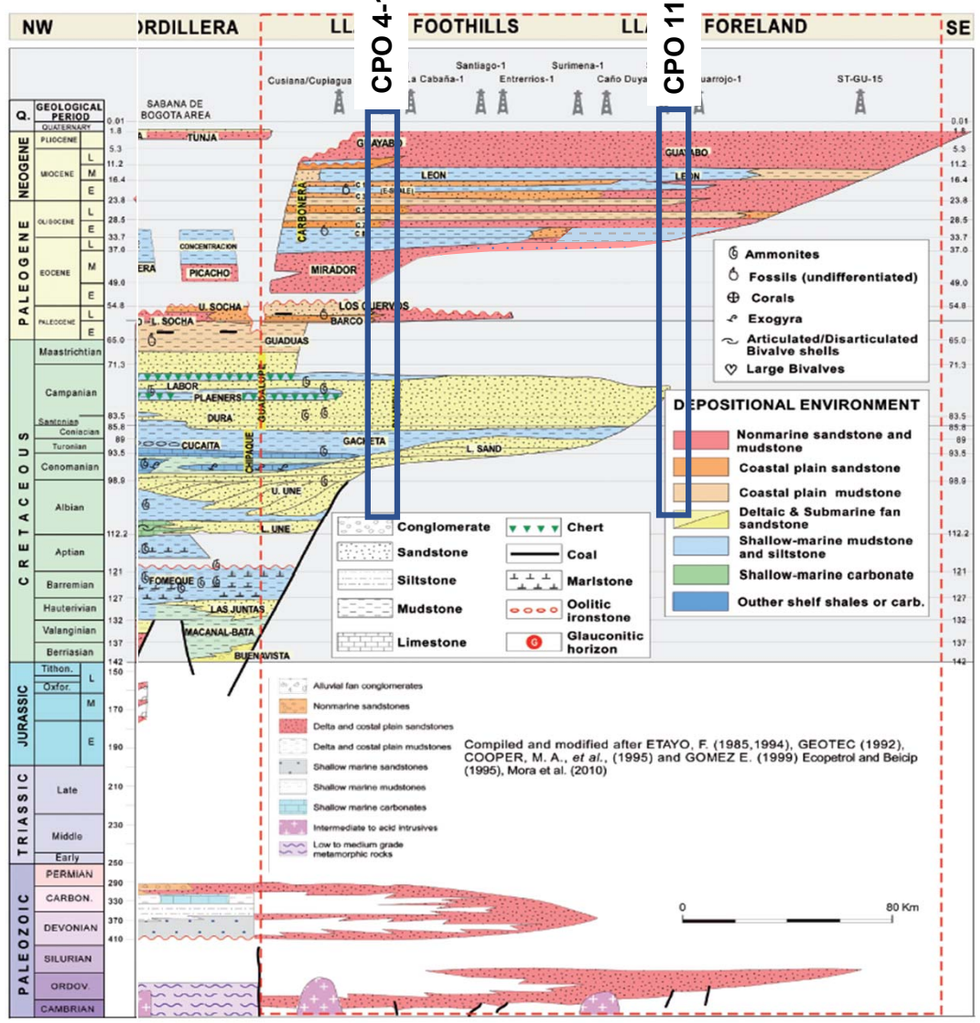
Infrastructure



- CPO 4-1
  - This area is located near to Apiay facilities and Corcel Oil fields. Road to connect Villavicencio city with Puerto Lopez town in the southern block. Some unpaved roads crossing palm plantations in northern block
- CPO 11-2
  - This area is located near to Valdivia Almagro oilfield and Llanos 58 oilfield. Some unpaved roads crossing the block and connect with oil facilities nearby

Geological Framework





CPO 4-1

Incorporated Area

RONDA COLOMBIA 2021

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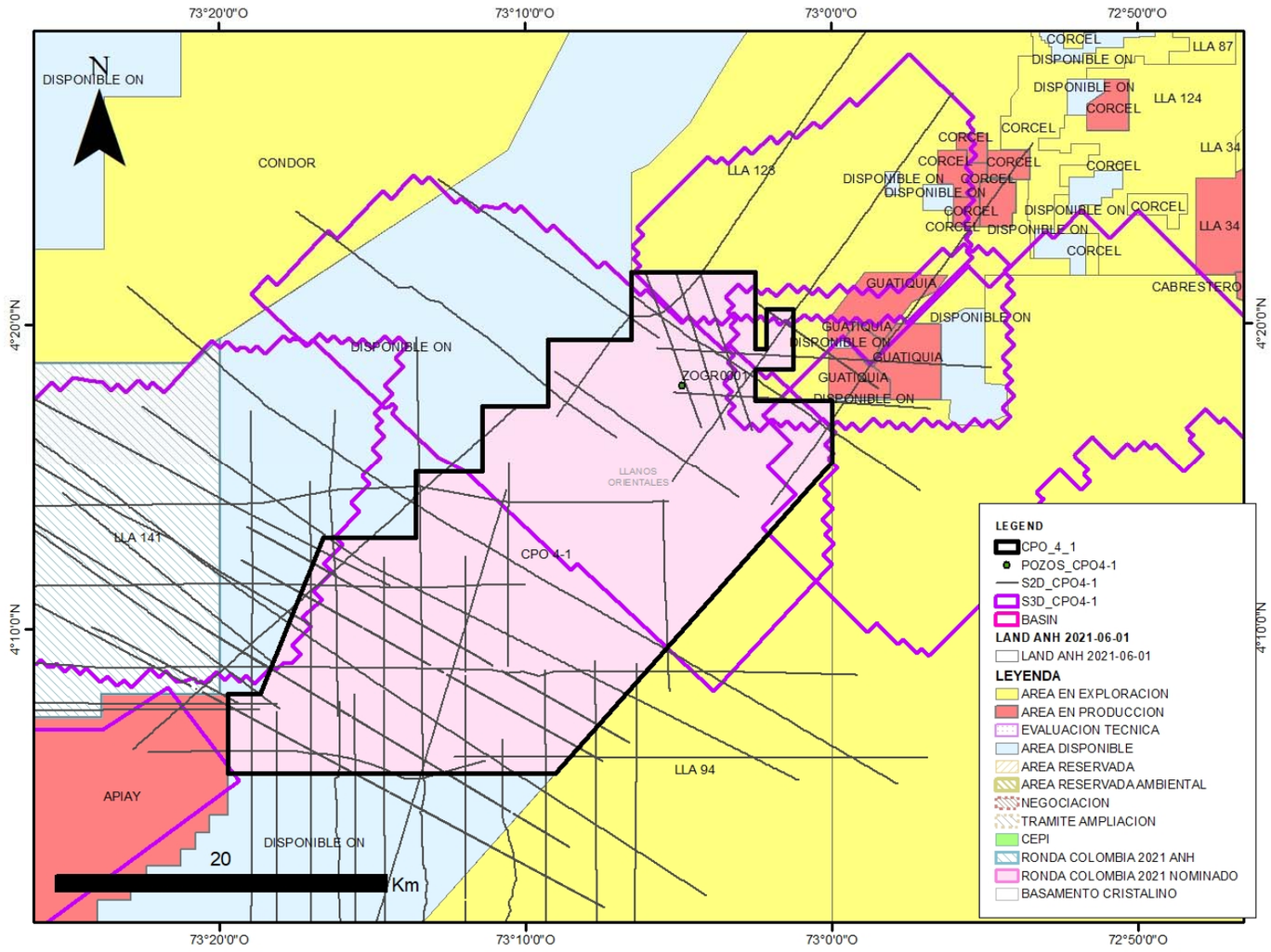
CPO 4-1 Database



SURVEY	LINES	TOTAL LENGTH	LENGTH INSIDE
APIAY-83	1	10.2	0.8
APORTE LLANOS-75	2	54.1	4.4
CABUYARO-85	5	65.8	45.1
GUACAVIA-87	2	55.2	6.1
LLANOS SECTOR 10-72	3	143.2	45.0
LLANOS SECTOR 3-72	4	90.8	44.7
LLANOS SUR-70	3	85.0	18.2
PACHAQUIARO-85	8	218.4	35.1
PUERTO LOPEZ-74	3	108.0	38.4
QUENANE-80	2	36.3	6.4
QUENANE-81	9	281.7	119.5
QUENANE-82	1	15.0	1.9
QUENANE-92	8	184.2	106.8
UPIA C-84	1	9.0	1.9
VILLAVICENCIO-88	2	44.8	1.4
Total general	***54***	***1401.77***	***475.61***

15 Seismic Program (54 lines)

Total coverage 476 Km

3D SURVEY	AREA_TOTAL	AREA_INSIDE
RIO HUMEA 3D-2010	523.1	256.0
GUATIQUIA 3D-2010	148.9	25.5
CABUYARO 3D-2015	442.6	18.3
CERRERO 3D-2010	221.3	17.9
LLANOS59 3D-2011	379.7	8.4
APIAY 3D-93	185.7	0.1
Total Inside		***292.89***

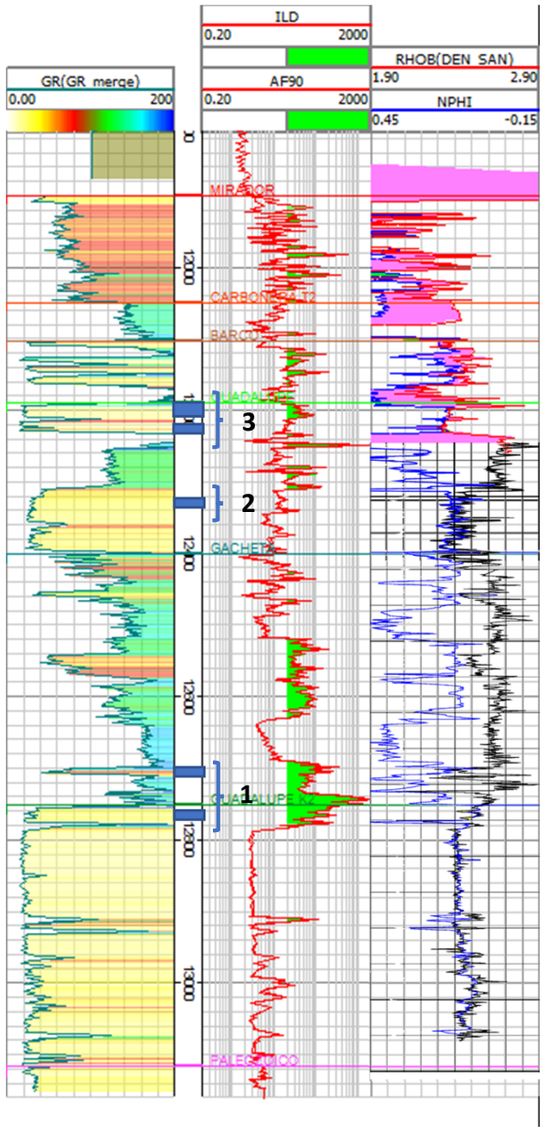
6 Seismic Programs (293 Km^2)

Total coverage 49%

WELL_NAME	RTE	TD	WELL_SPUD
ZORRO GRIS-1	692	13160	01/09/2012

1 well drilled

CPO 4-1 Zorro Gris-1 well

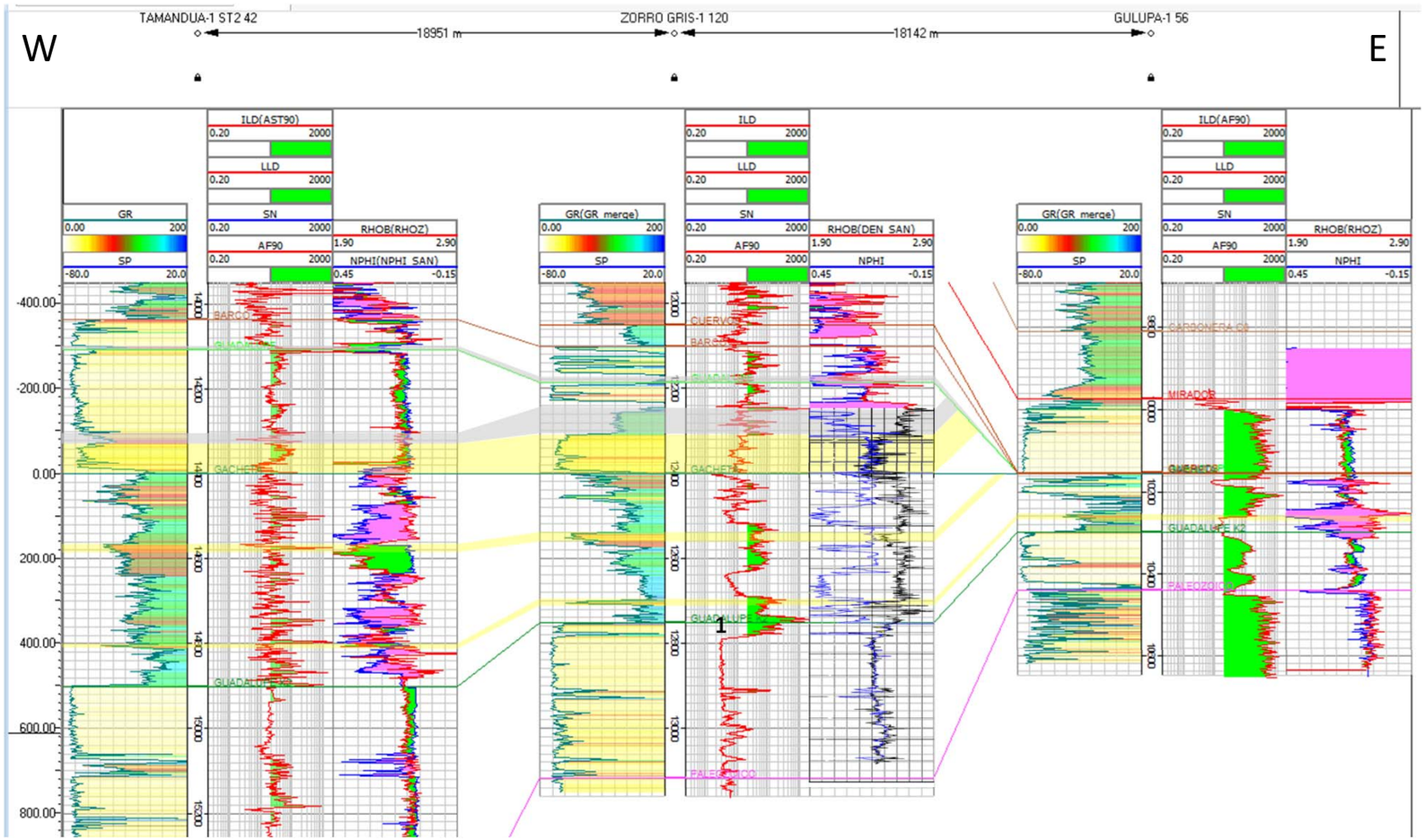


Pruebas de Formación Pozo Zorro Gris-1

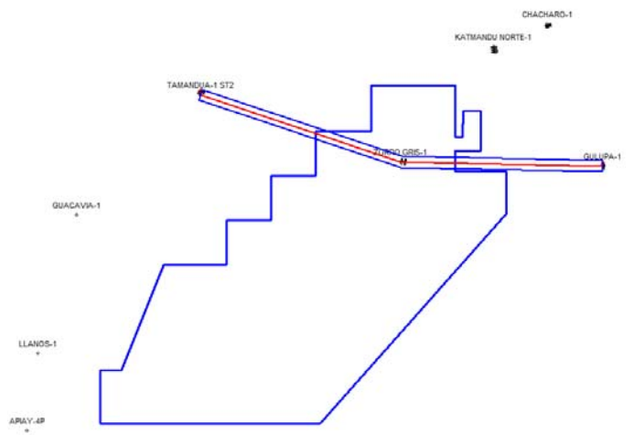
Well	DST	Intervals Depths (ft)	Formation	Remarks
Zorro Gris-1	3	12196-12210 12214-12222	U. Guadalupe	BSW: 100% Cl-800ppm Tr high viscocity crude oil (10.7 ˚API).
	2	12326-12336	L. Guadalupe	BSW: 100%. Cl˚600 ppm; heavy oil traces 15˚ API.
	1	12702-12708 12764-12768	L. Gacheta/U. Une	Small traces of high gravity oil 33˚API

The Guadalupe, Gacheta and Une levels were tested with the result of traces of heavy oil for Guadalupe (10-15ºAPI) and Light Oil for Gacheta (34ºAPI)

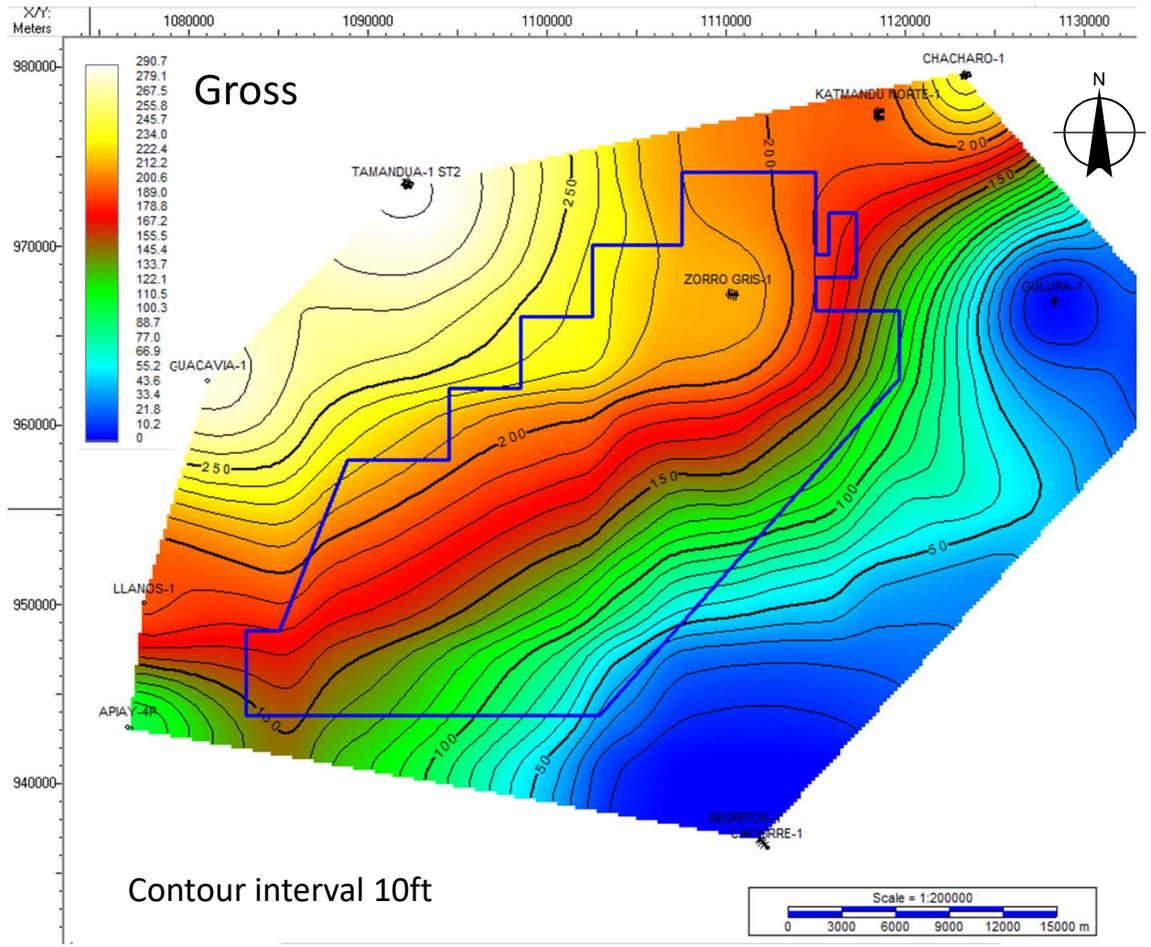
CPO 4-1 Well Correlation (Datum Gacheta Top)



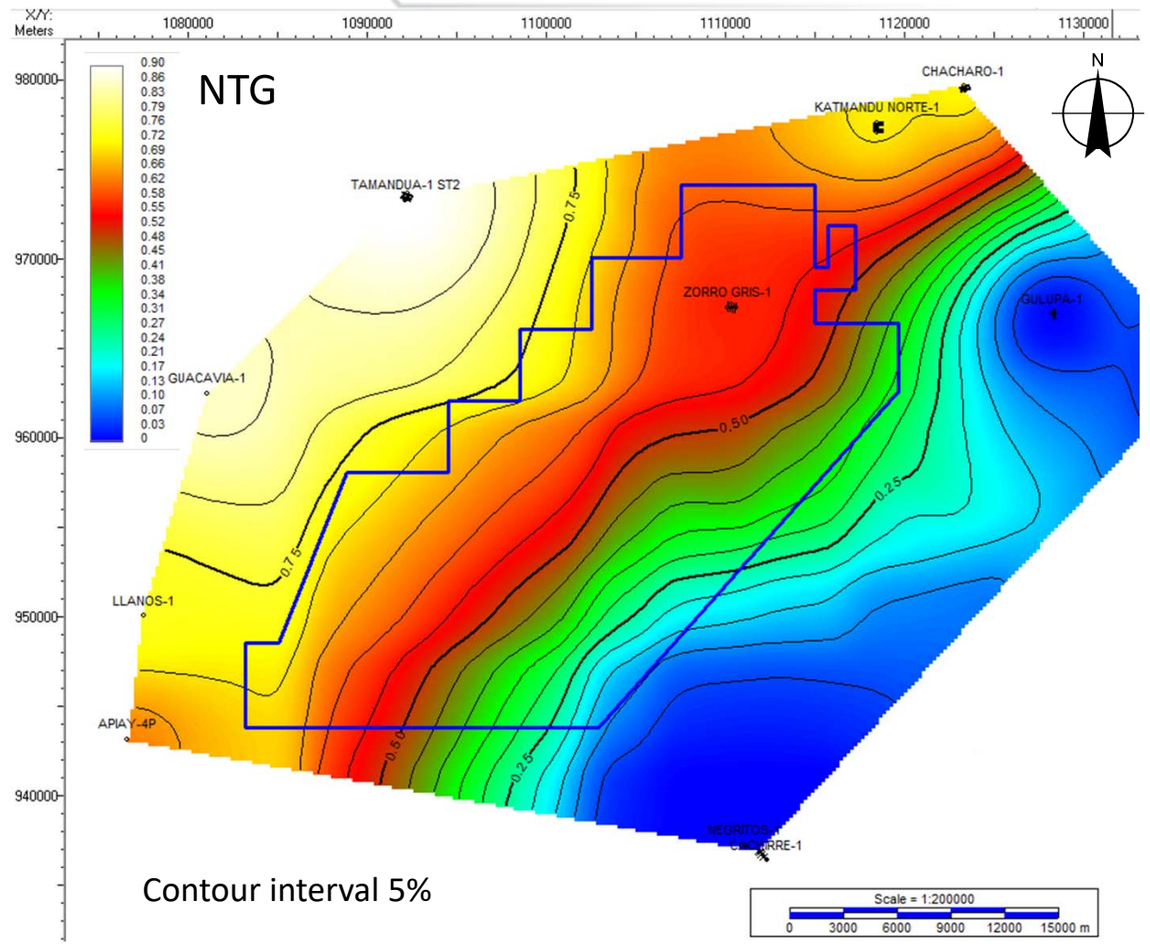
- The main reservoir is the basal level of Guadalupe Fm
- The Secondary reservoir is the basal levels of Gacheta Fm. and the intermediate sandstone
- The main seals are the claystones at the base of the Barco Fm. and the shale levels of Gacheta Fm



CPO 4-1 Guadalupe Map Properties



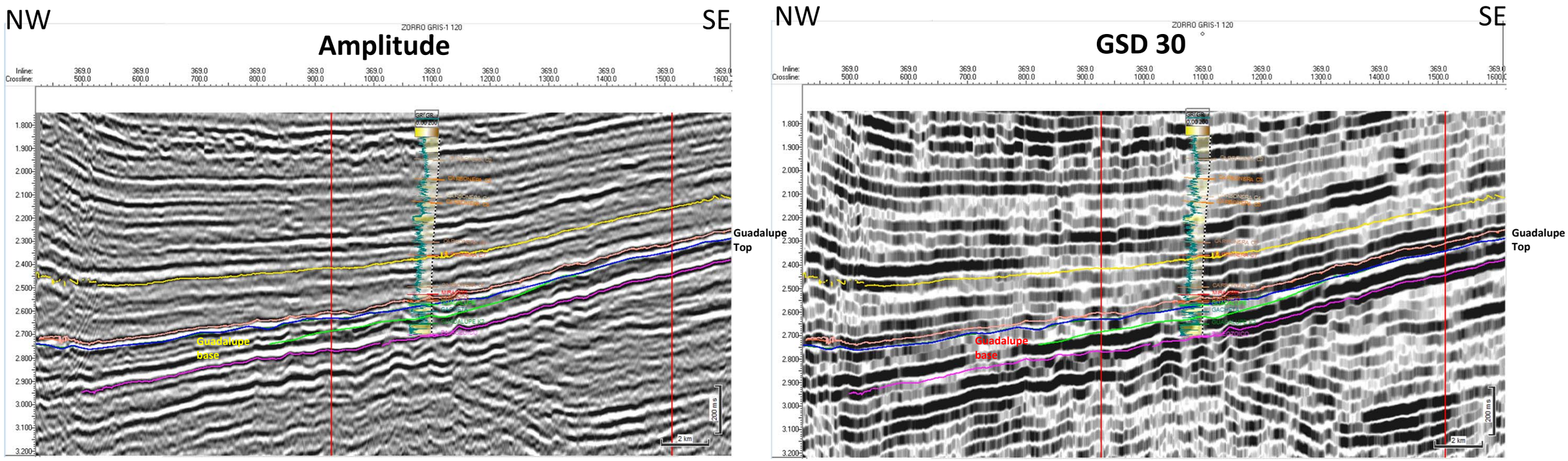
Contour interval 10ft



Contour interval 5%

Maps of properties were made for fm Guadalupe, such as Gross and NTG

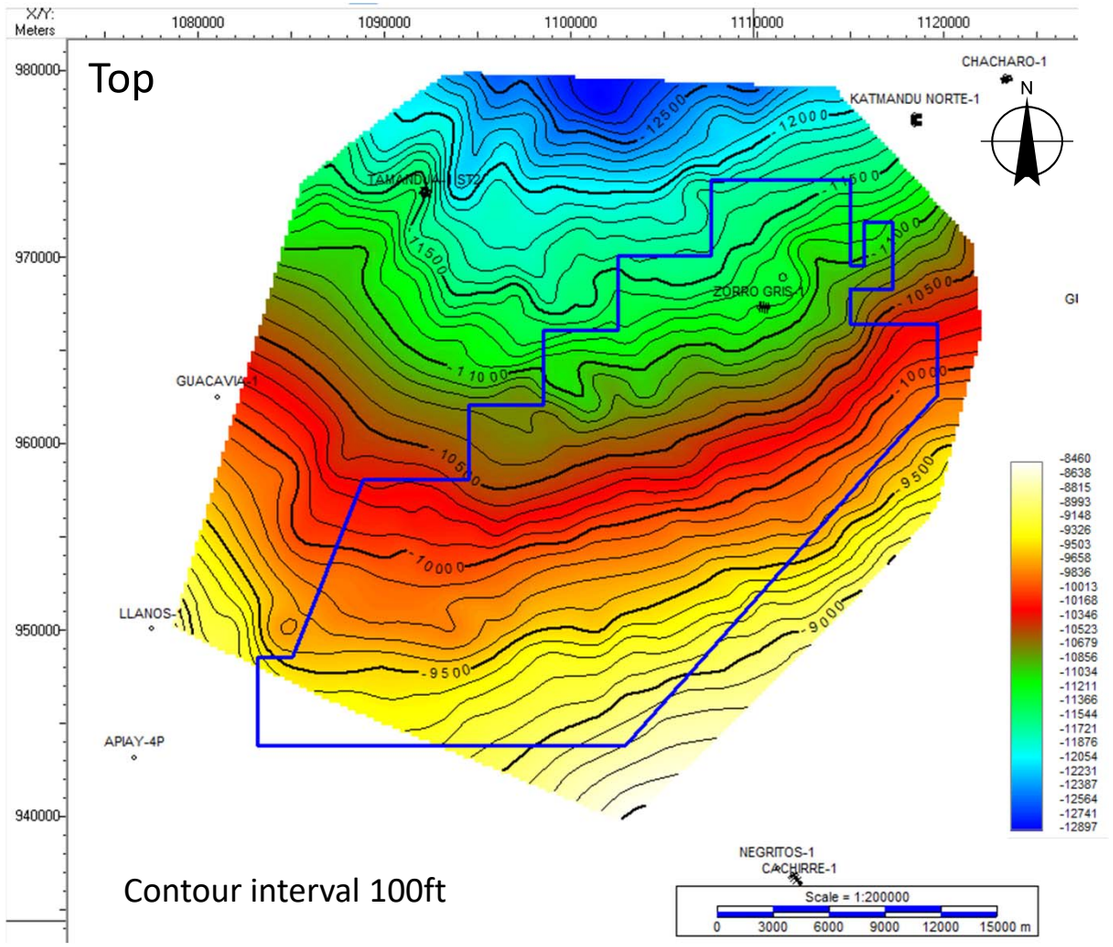
CPO 4-1 Seismic Interpretation

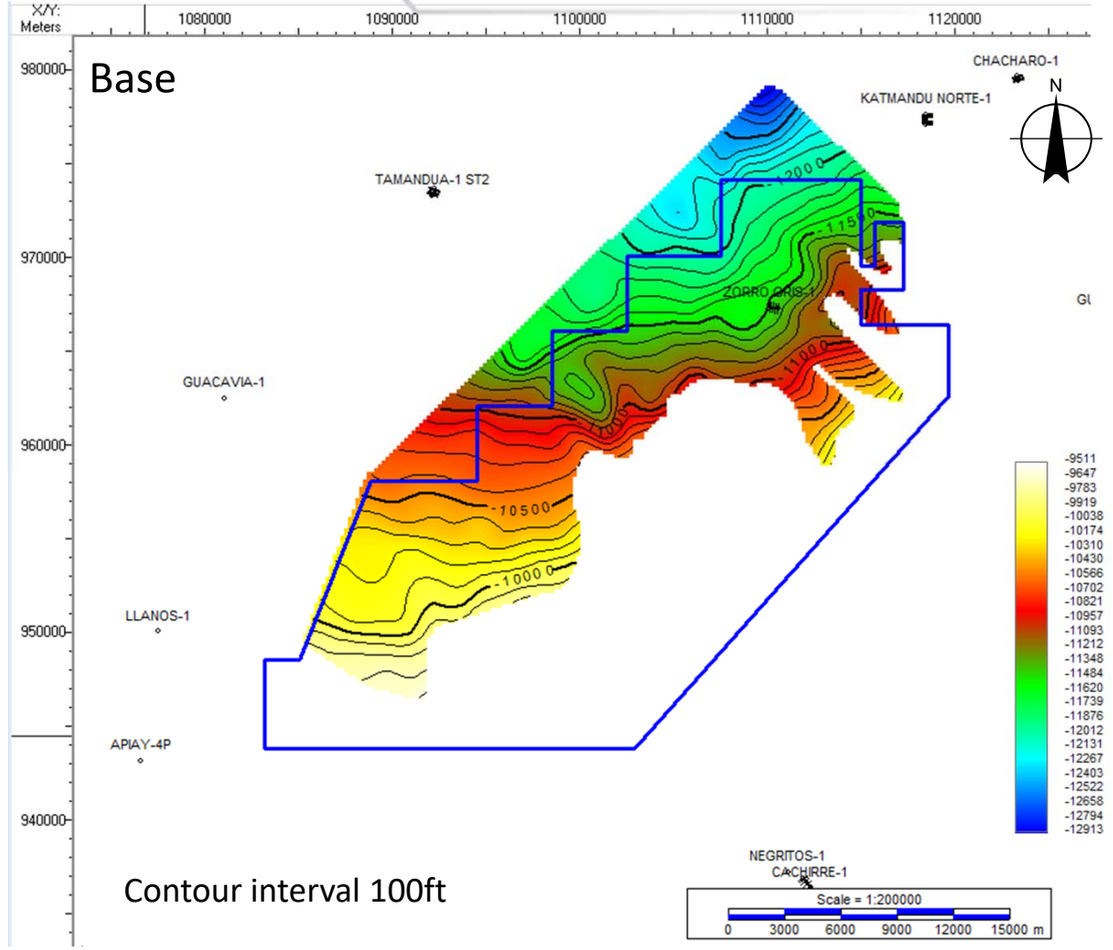


Dip Line – Rio Humea 3D-2010 IL 373

For the interpretation, the correlation algorithm of the GSD function (Generalized Spectral Decomposition) for the 30Hz frequency window was used with the target of showing more defined the discontinuitie. With this attribute the top and the base of the Guadalupe fm. were defined

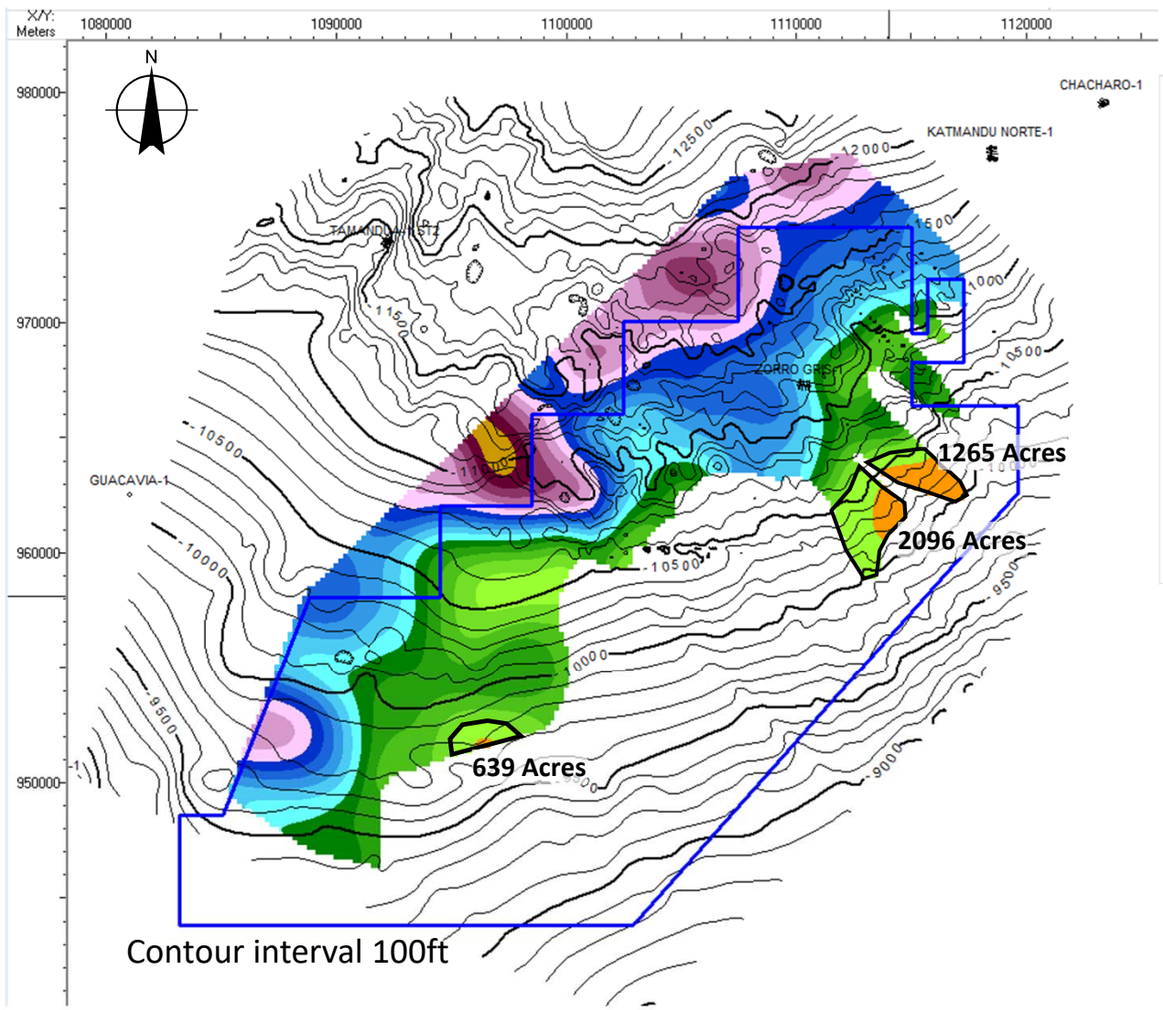
CPO 4-1 Structural Map (Guadalupe Fm)

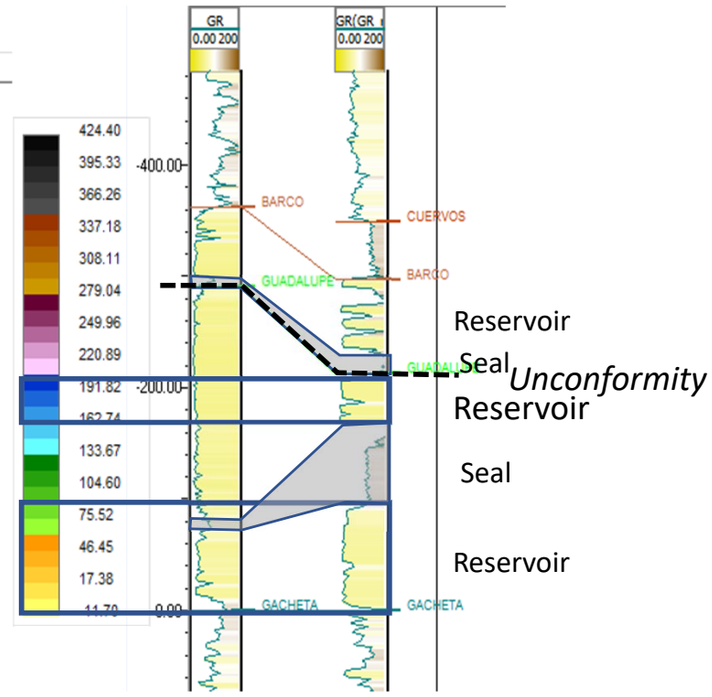




The maps were generated in time and subsequently converted to depth with the velocity function calculated for the Zorro Gris-1 well.

CPO 4-1 Isopach Guadalupe Fm. & Volumetrics





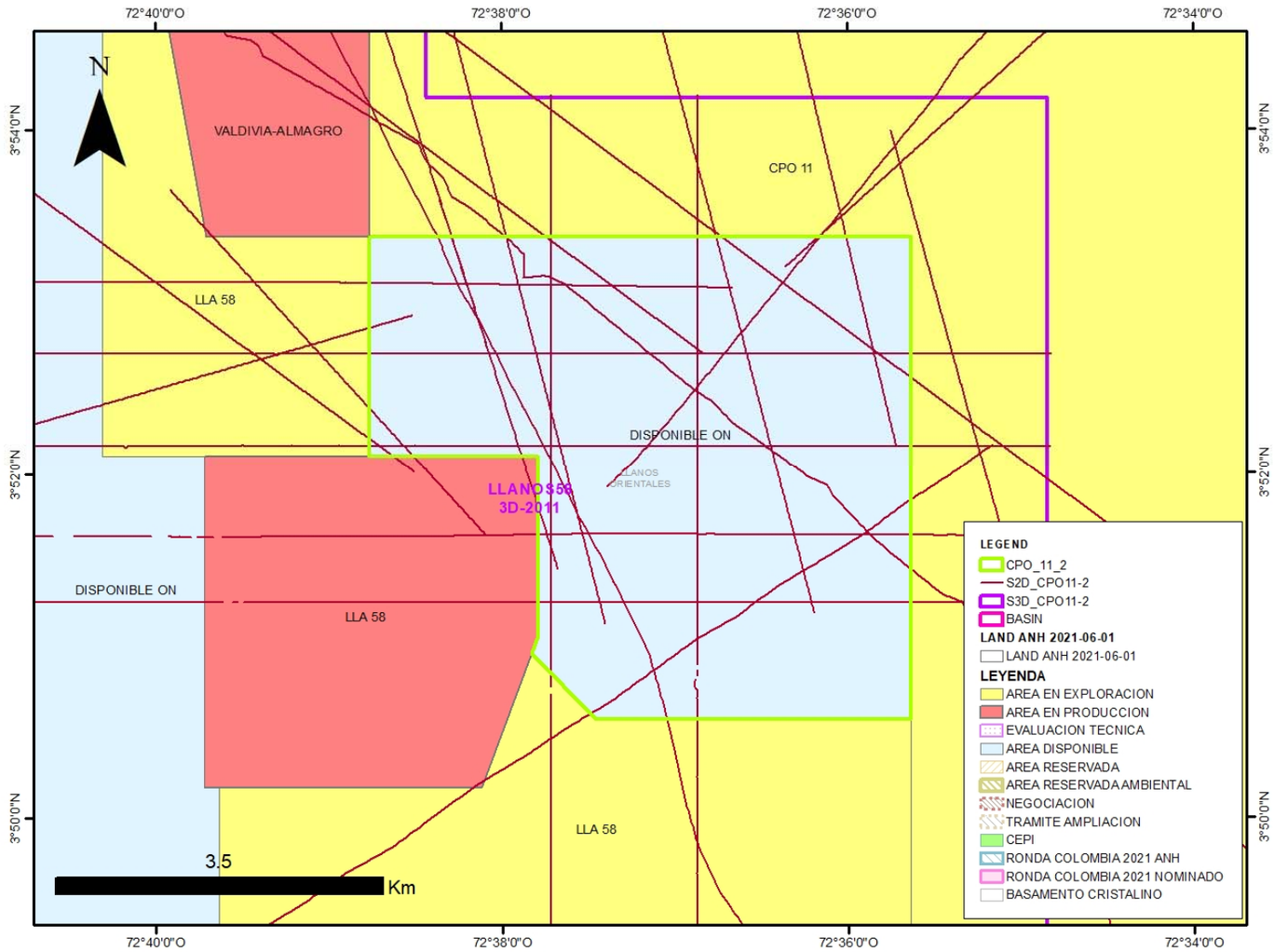
- With the top and base maps of the unit and the NTG map was calculated in isopach map for the definition of the 3 possible leads in the area.
- The trap is defined by the angular discordance basal level of Guadalupe against the base of the overlying unit Barco
- In total, 3 leads are interpreted with 124 million barrels OOIP in High Estimated

LEAD	AREA (Acres)	THICKNESS (Net Pay) (Ft)	POROSITY (%)	SO (%)	Boi	OOIP (BLS)
CPO 4-1 Guadalupe 1 Area Max	1265	35	0.20	0.6	1.05	39 255 480
CPO 4-1 Guadalupe 2 Area Max	2096	35	0.20	0.6	1.05	65 043 072
CPO 4-1 Guadalupe 3 Area Max	639	35	0.20	0.6	1.05	19 829 448

CPO 11-2

Incorporated Area

CPO 11-2 Database



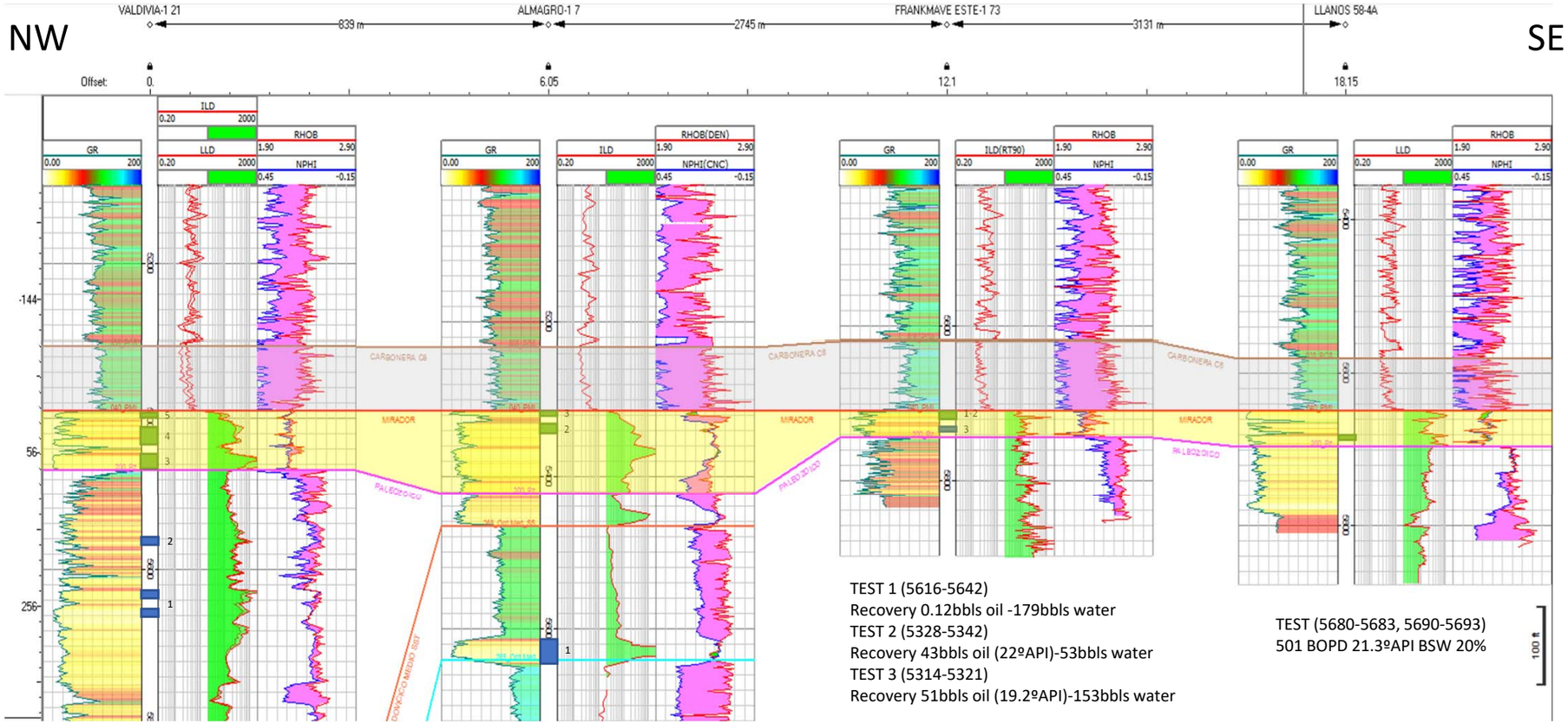
SURVEY	LINES	TOTAL LENGTH	LENGTH INSIDE
ARIPORO-70	2	46.9	9.9
CHAVIVA-80	2	109.3	9.3
MENEGUA 2D-2004	3	15.6	1.5
MENEGUA 2D-2007	5	78.8	25.4
PUERTO LOPEZ-88	2	38.1	5.2
PUERTO LOPEZ-89	2	13.9	7.0
PUERTO LOPEZ-90 HGS	3	30.0	8.9
PUERTO LOPEZ-90 WAI	3	66.8	6.9
Total general	***22***	***399.34***	***74.14***

8 Seismic Program (22 lines)
Total coverage 74 Km

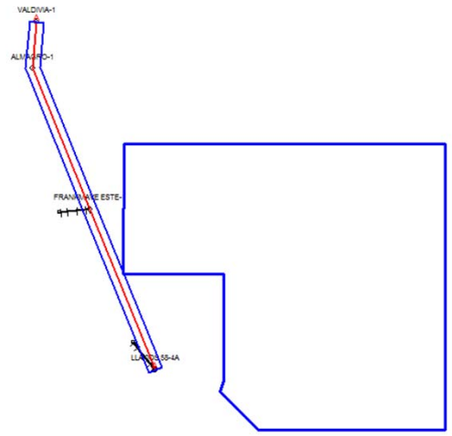
3D SURVEY	AREA_TOTAL	AREA_INSIDE
LLANOS58 3D-2011	319.0	24.7

1 Seismic Program (24.7 Km^2)
Total coverage 100%

COP 11-2 Well Correlation



- Main Reservoir
  - Mirador Fm
- Upper Seal
  - Carbonera C8



DST 1 (5652-5660, 5628-5636)
Recovery Water Fm 700ppm Cl
DST 2 (5559-5567)
Recovery Water Fm 900ppm Cl
DST 3 (5450-5465)
1170 BFPD 23.3ºAPI BSW 0%
DST 4 (5410-5436)
520 BFPD 23.6ºAPI BSW 0%
DST 5 (5392-5400)
Recovery 115 bbls fluid 60% water 40% oil

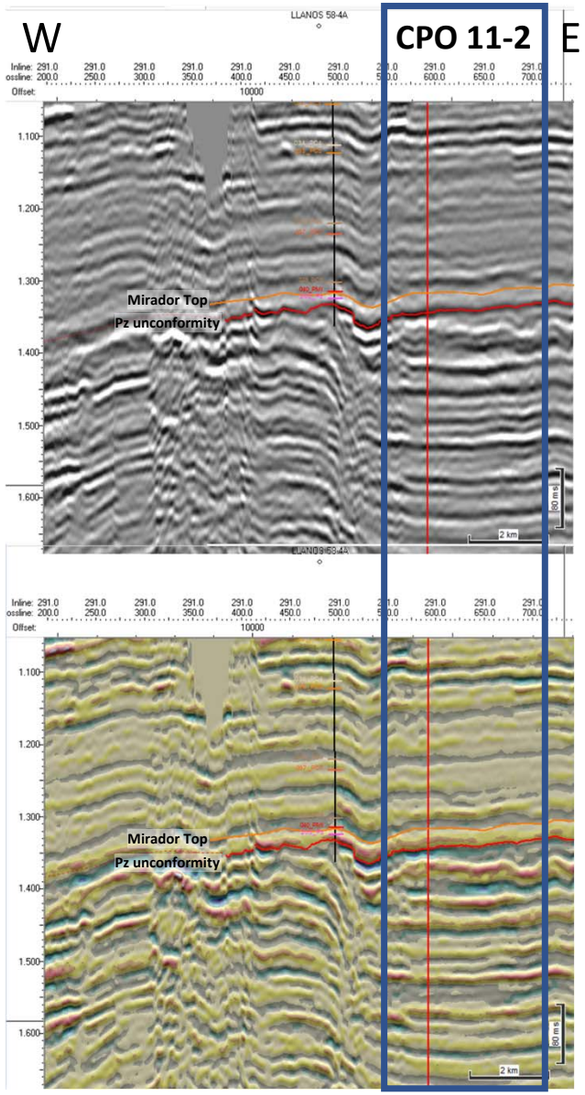
DST 1 (5616-5642)
Recovery Water Fm w/ brine
DST 2 (5328-5342)
30 BFPD 22ºAPI BSW 50%
DST 3 (5314-5321)
600 BFPD 23.2ºAPI BSW 0%

TEST 1 (5616-5642)
Recovery 0.12bbls oil -179bbls water
TEST 2 (5328-5342)
Recovery 43bbls oil (22ºAPI)-53bbls water
TEST 3 (5314-5321)
Recovery 51bbls oil (19.2ºAPI)-153bbls water

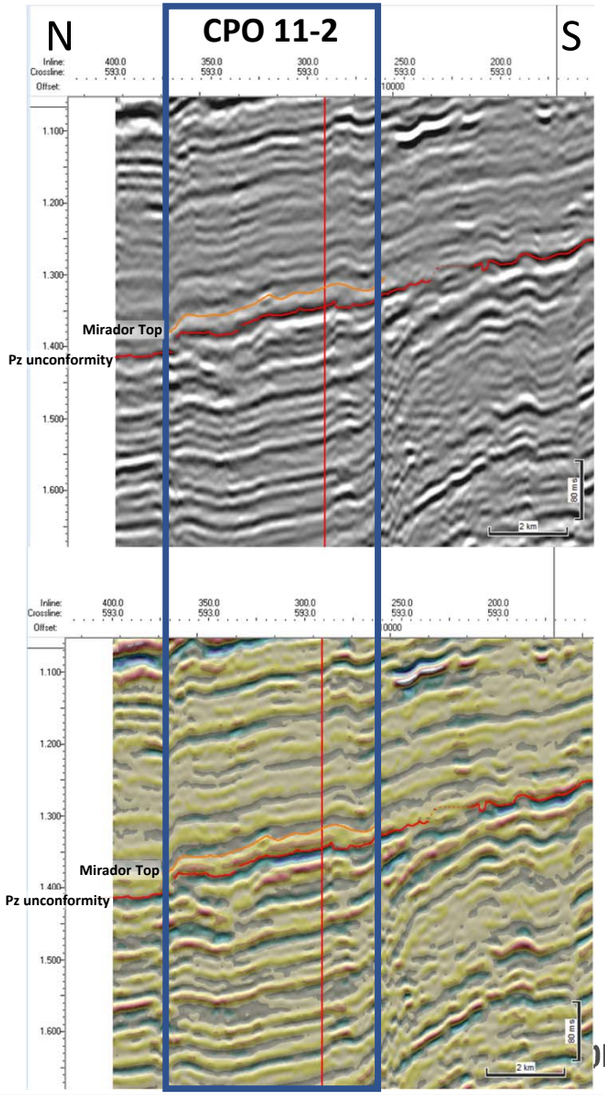
TEST (5680-5683, 5690-5693)
501 BOPD 21.3ºAPI BSW 20%

CPO 11-2 Seismic Interpretation

Dip Line IL 291 LLANOS 58 3D

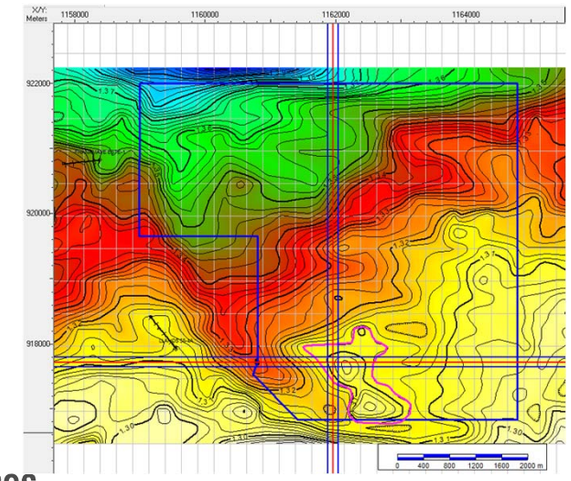


Strike Line XL 593 LLANOS 58 3D



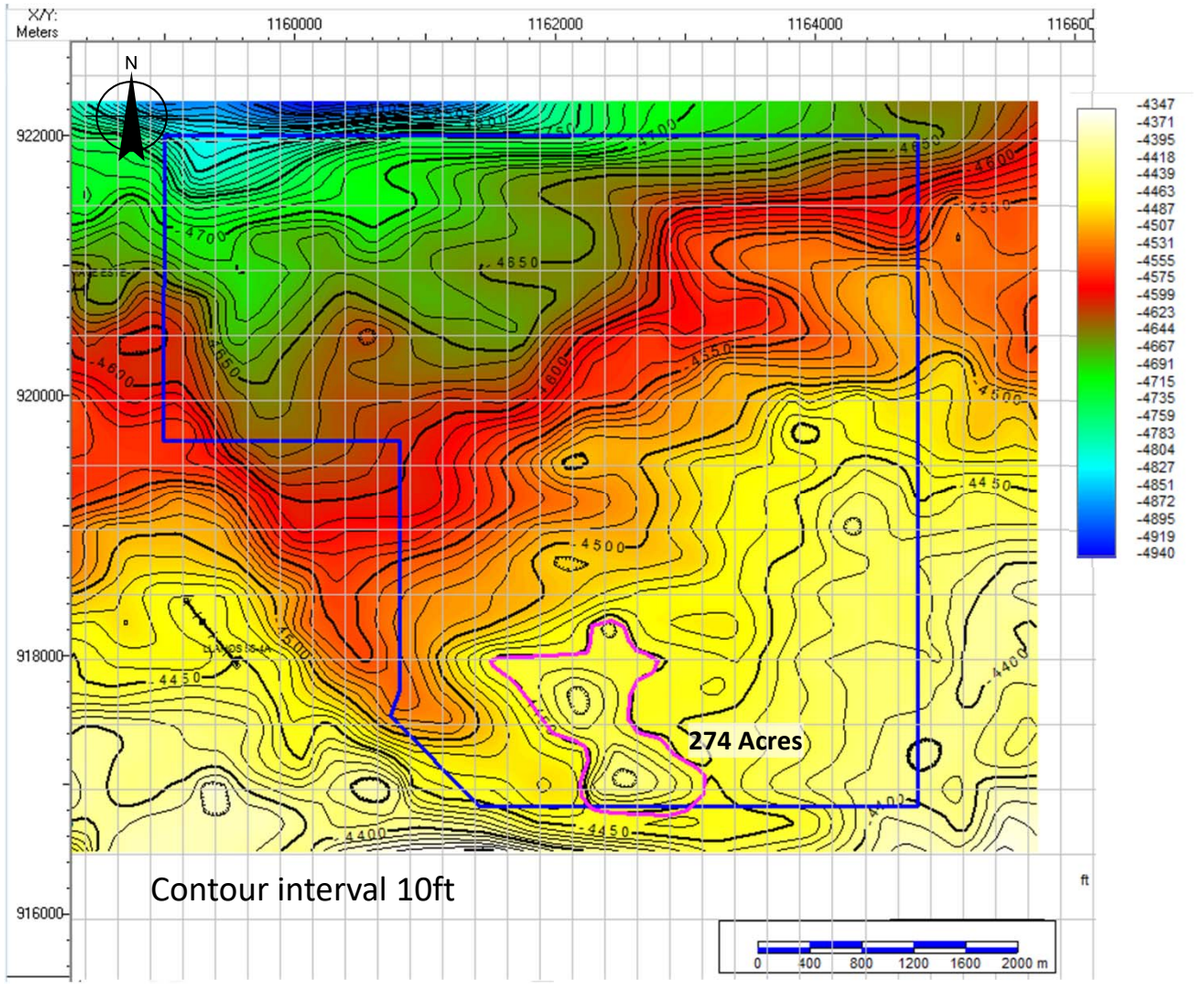
Amplitude

Amplitude coblend with Inversion



- For discordance to the Paleozoic was defined with a high amplitude reflector.
- For Mirador top used the combination between amplitude and the attribute of Inversion.

CPO 11-2 Structural Map & Volumetrics



- The structure is defined as an antiformal with 4 way closure. Where the reservoir are the sandstones of the Fm. Mirador (Basal Sands of the Eocene) with a superior seal constituted by the claystones of the Carbonera C8 level
- This leads has 6.5 million barrels OOIP in High Estimated

LEAD	AREA (Acres)	THICKNESS (Net Pay) (Ft)	POROSITY (%)	SO (%)	Boi	OOIP (BLS)
CPO 11-2 Mirador Area Max	274	30	0.18	0.6	1.05	6 559 278

Conclusions

- For the CPO 4-1 block, the main play is the truncation of the basal level of the Guadalupe formation against the base of the Barco formation.
- For the CPO 4-1 block, 3 leads were interpreted with a total potential in high estimate of 124 millions of barrels OOIP
- For the CPO 11-2 block, the main play is an antiformal with 4 ways closure of the Mirador Formation.
- Para el bloque CPO 11-2, 1 lead was interpreted with a total potential in high estimate of 6.5 millions of barrels OOIP

Thanks You