





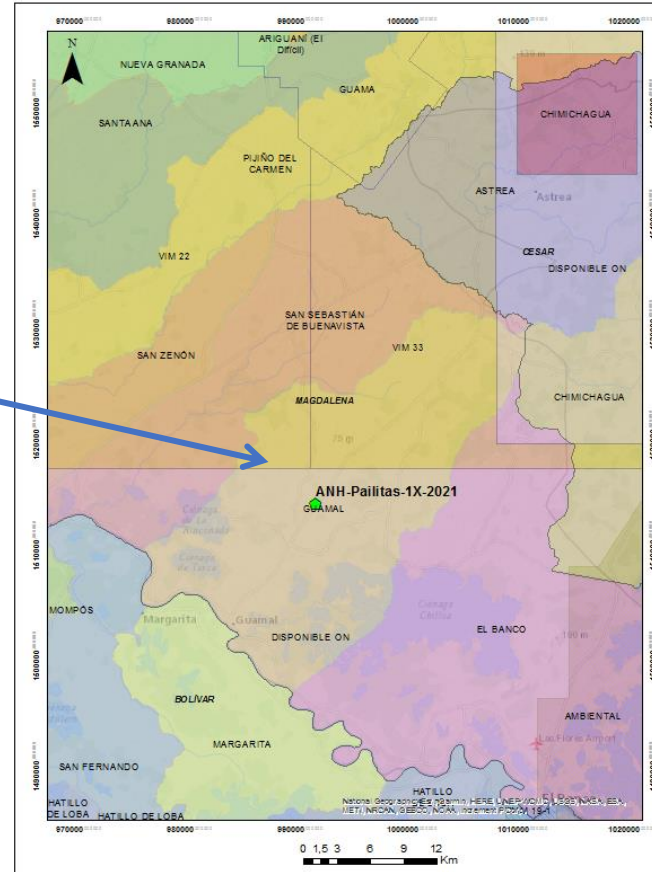
# **AREAS ADVERTISEMENT 2022**

## **STRATIGRAPHIC WELL PAILITAS 1-X**

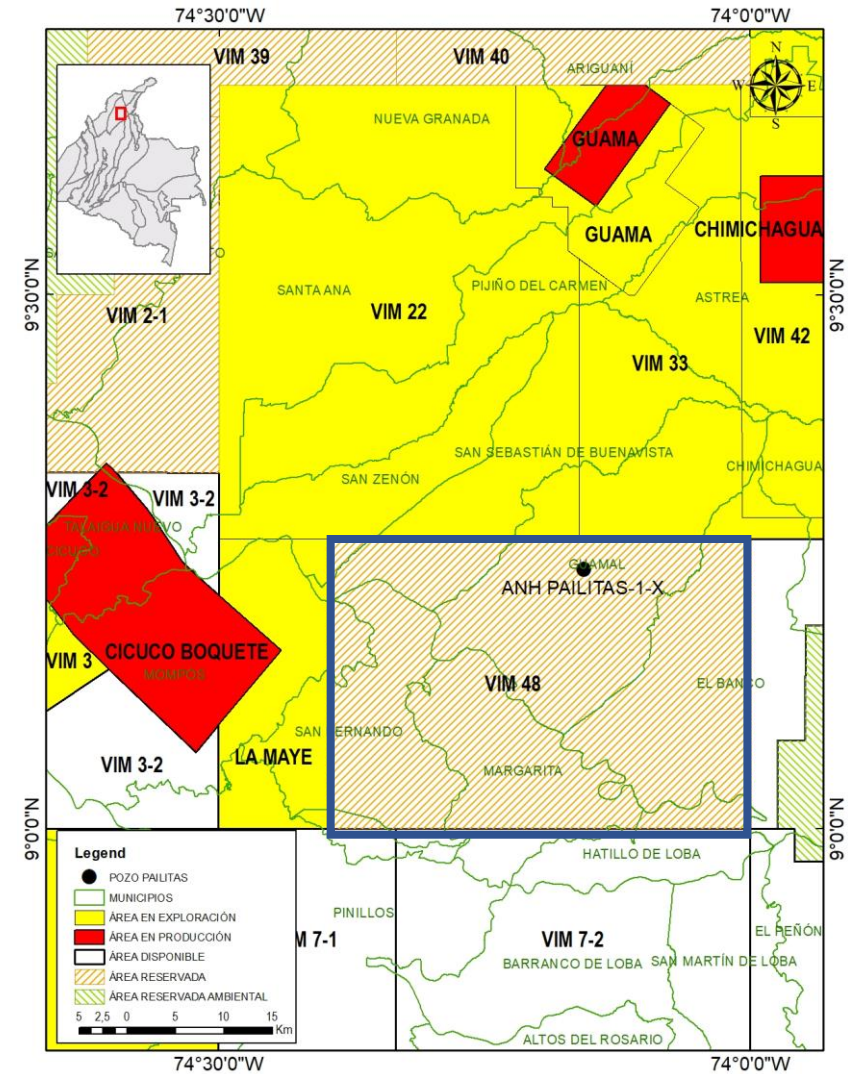
-  Location & Data
-  Pailitas 1-X Well
-  Conclusions

# LOCATION & DATA

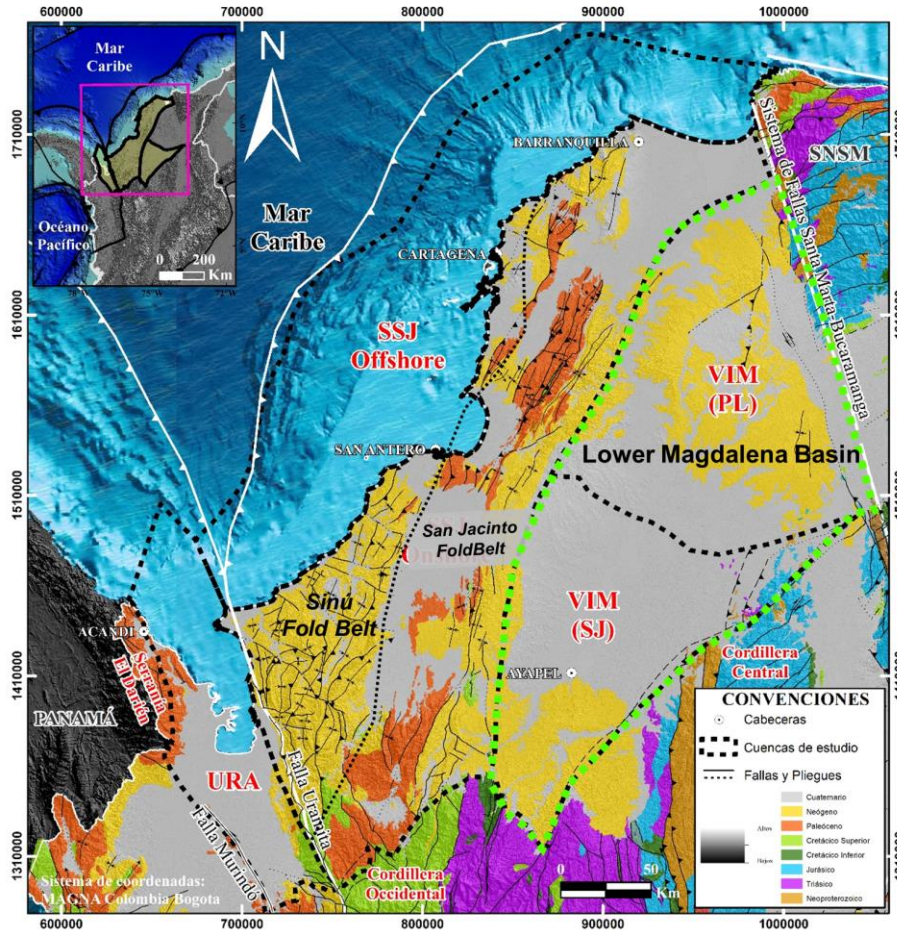
# Location: Pailitas 1-X Well



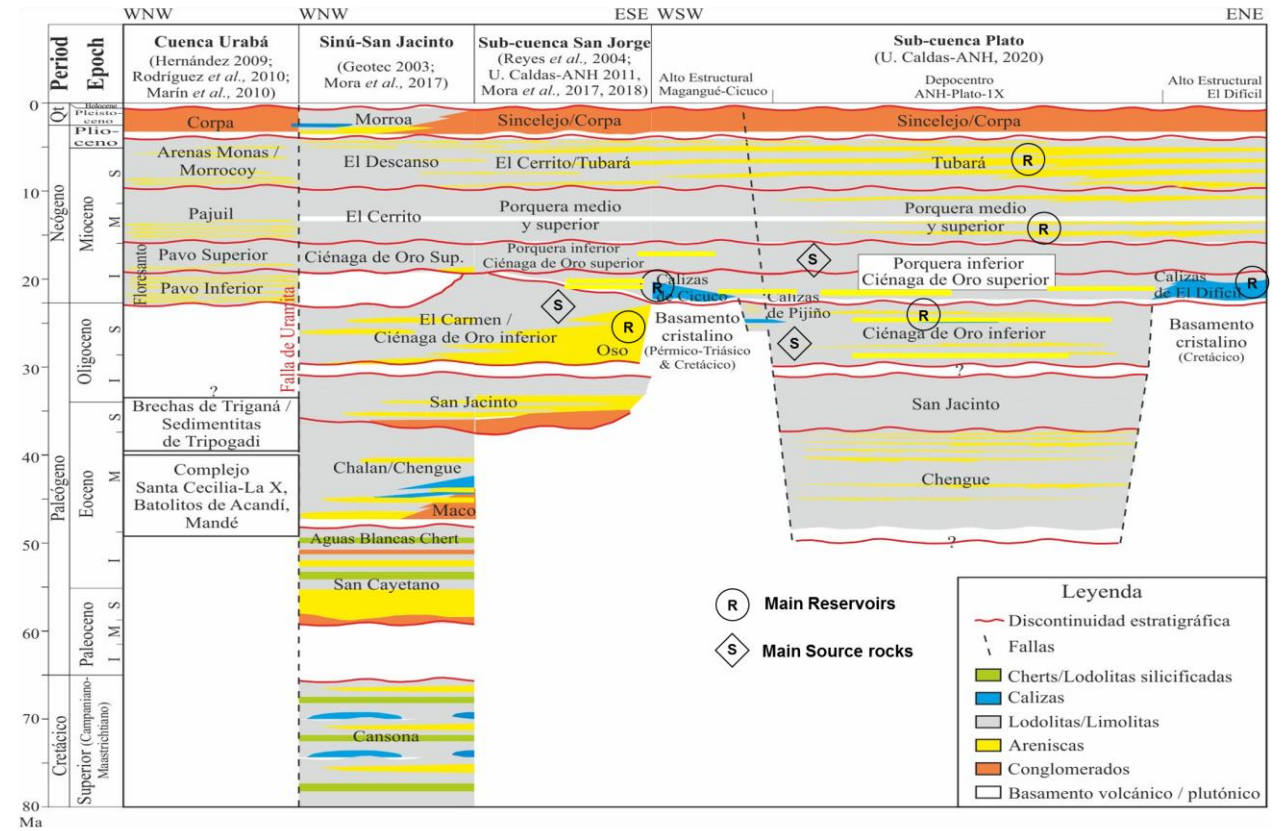
Municipio de Guamal, Magdalena

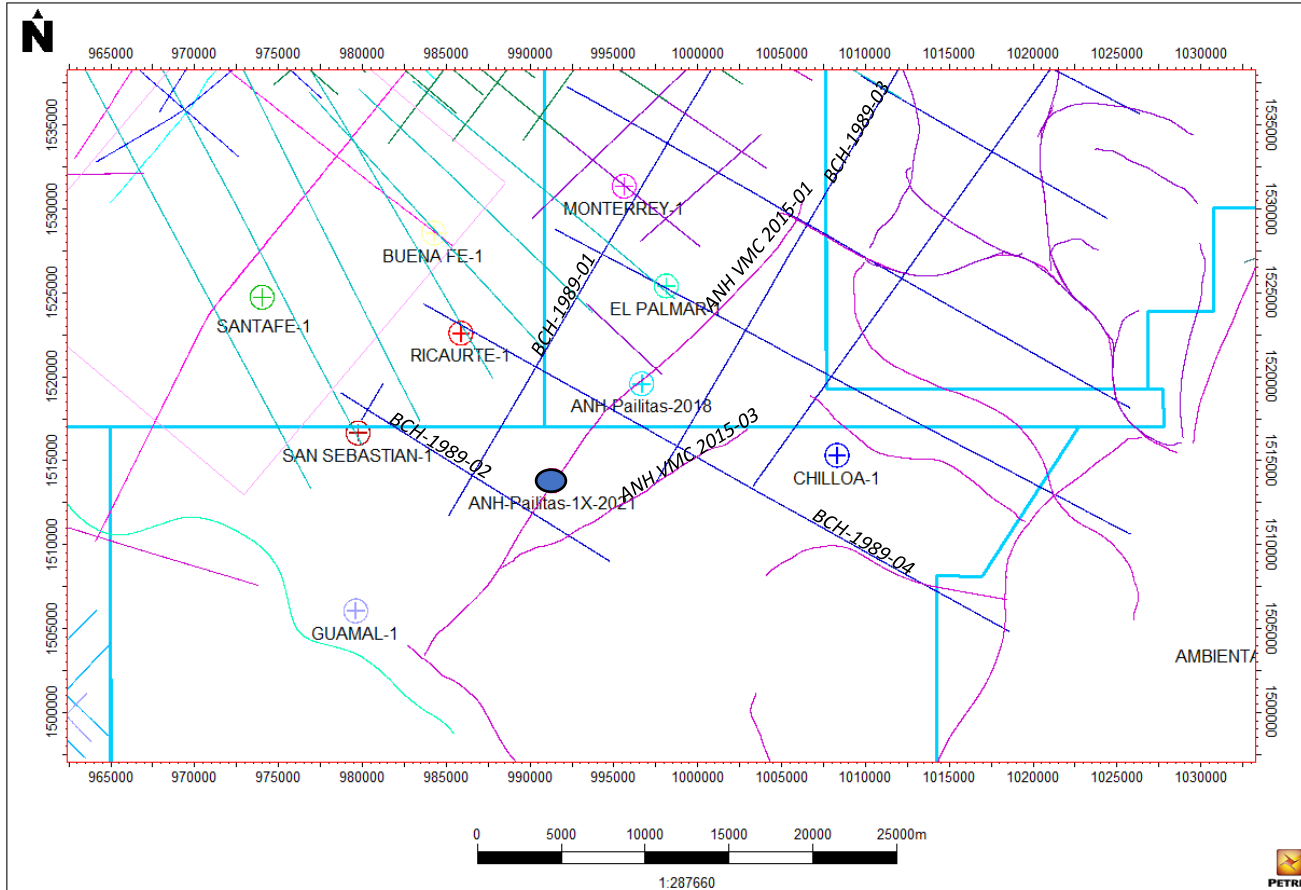


# Geological and Stratigraphic Framework



Taken from Universidad de Caldas – ANH, 2020



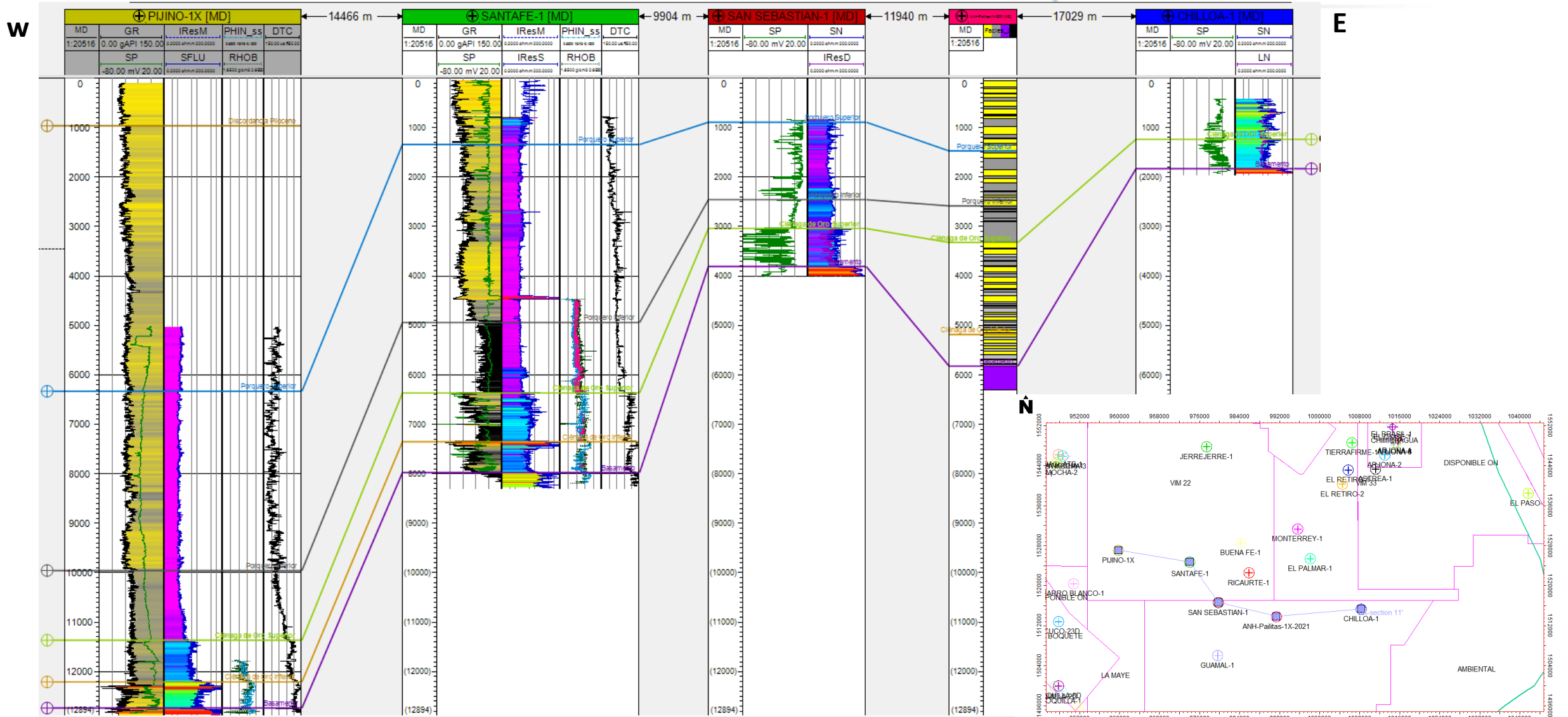


**CLOSED WELLS**

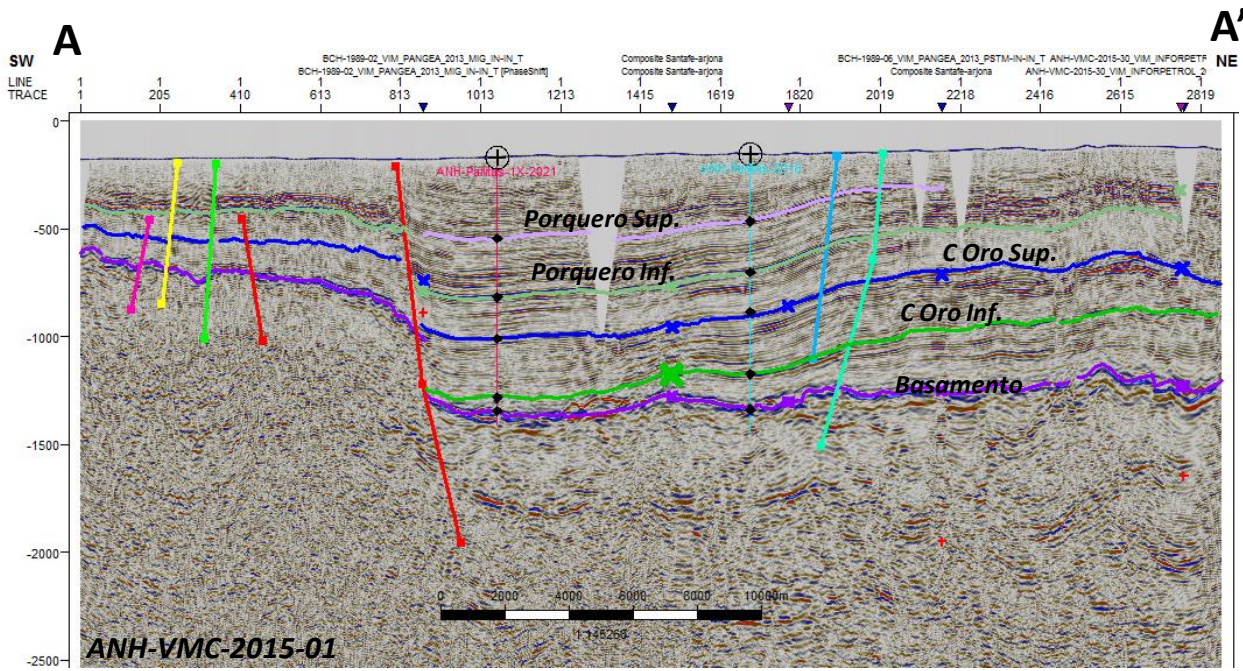
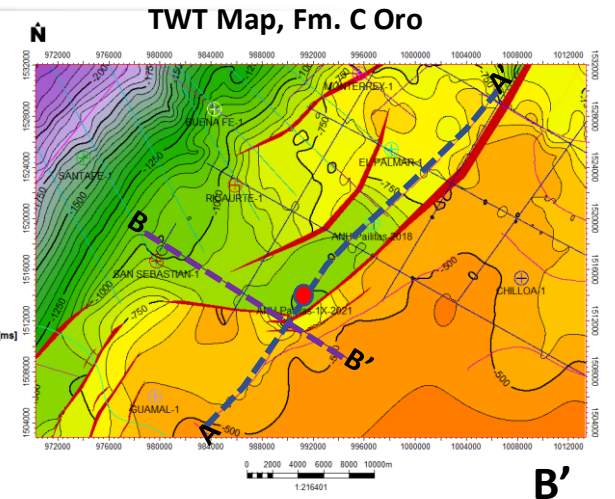
OFFSET WELLS	TD (ft)	AÑO	CHECKSHOT	PROFUNDIDAD DEL BASAMENTO (ft)	DISTANCIA AL POZO PAILITAS (Km)
BUENA FE-1	5919	1958	SI	5784,7' (Phyllite)	16
CHILLOA-1	1954	1954	NO	1830'	17
EL PALMAR-1	3586	1964	NO	3566'	13,4
GUAMAL-1	2313	1957	SI	2300' (Gneiss)	14
MONTERREY-1	5228	1991	SI	5144' (Igneous Rocks - Altered dioritic quartz)	18
RICAUARTE-1	4336	1959	NO	4236' (Phyllite)	10,3
SAN SEBASTIAN-1	4004	1958	SI	3821'	11,9
SANTA FE-1	8290	2012	VSP	8070' (Metamorphic rock)	20

- **2D SEISMIC**
- **Pailitas 2D-2015:**
- ANH VMC 2015-01 (Vibro seis Lines)
- ANH-VMC-2015-03
- **El Banco Chimichagua-89:**
- BCH-1989-01
- BCH-1989-02 (Projection)
- BCH-1989-03
- BCH-1989-04

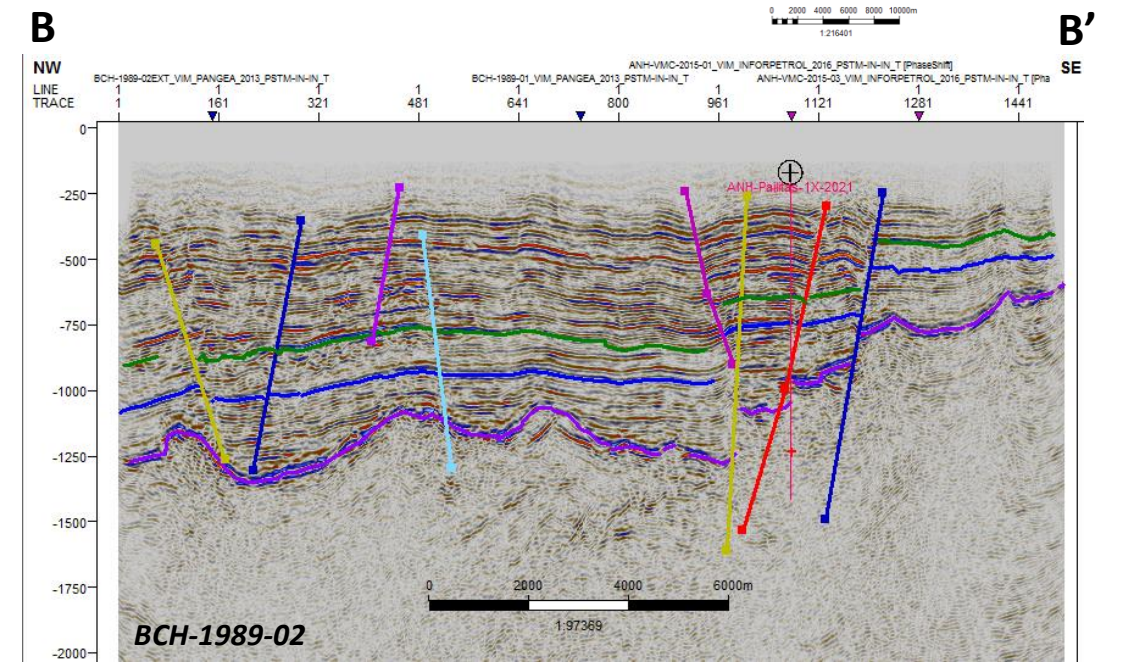
# Correlation Wells



PAILITAS COORDINATES 1X	
Sistema de Referencia	MAGNA SIRGAS
GL(ft)	127
X (m)	991.341,3
Y (m)	1.513.862,7
TD ESTIMADO (ft)	6.300
Velocidad de Reemplazamiento (m/s)	2000
Datum (m)	200
Datum (ft)	656,168



Strike Line: ANH VMC 2015-01



Dip Line: BCH-1989-02. Pozo proyectado 2300 m



# PAILITAS 1-X

## Objective Pailitas 1-X Stratigraphic Well



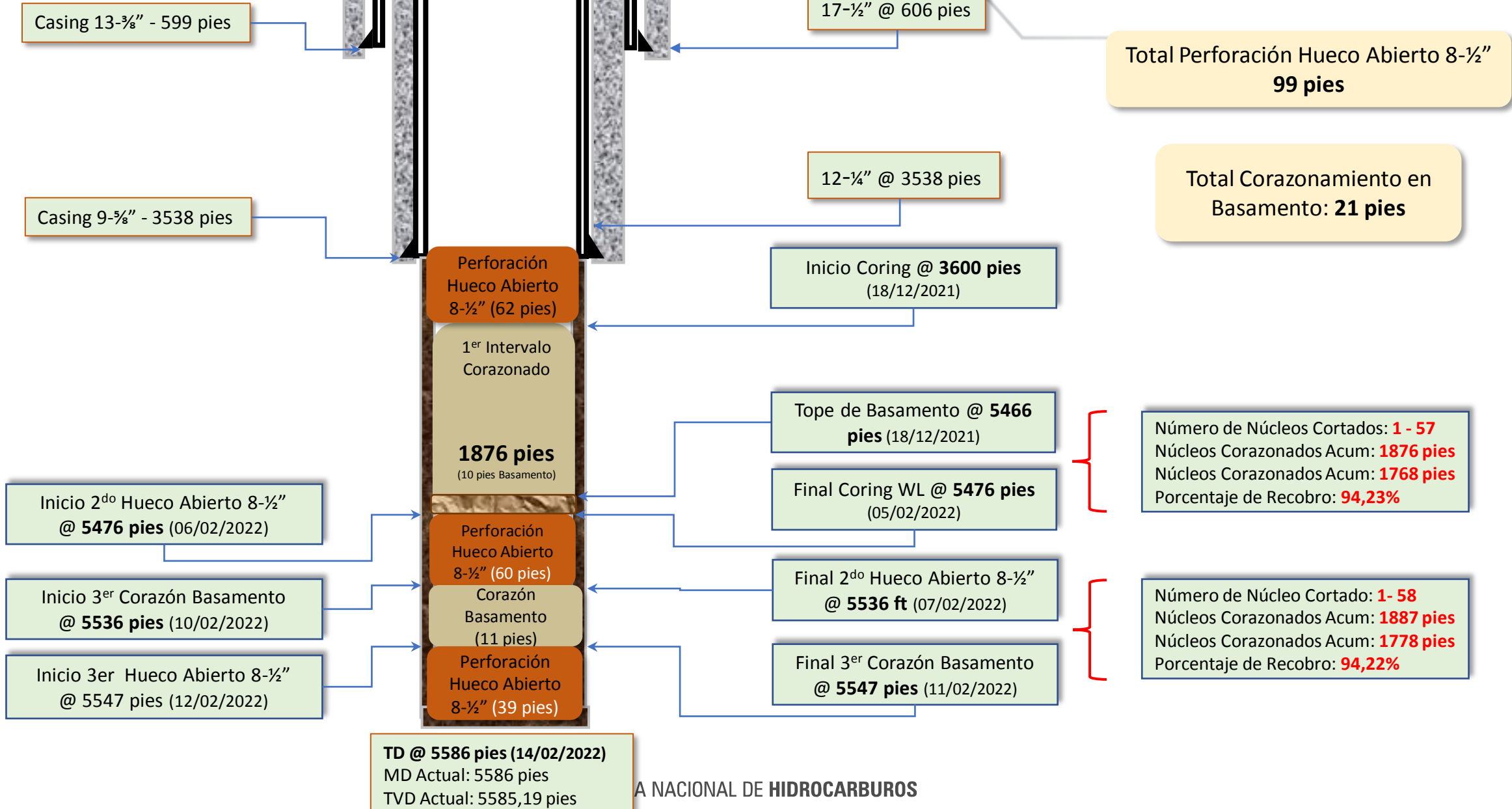
Stratigraphic Pailitas Well , VIM Basin, 2022.

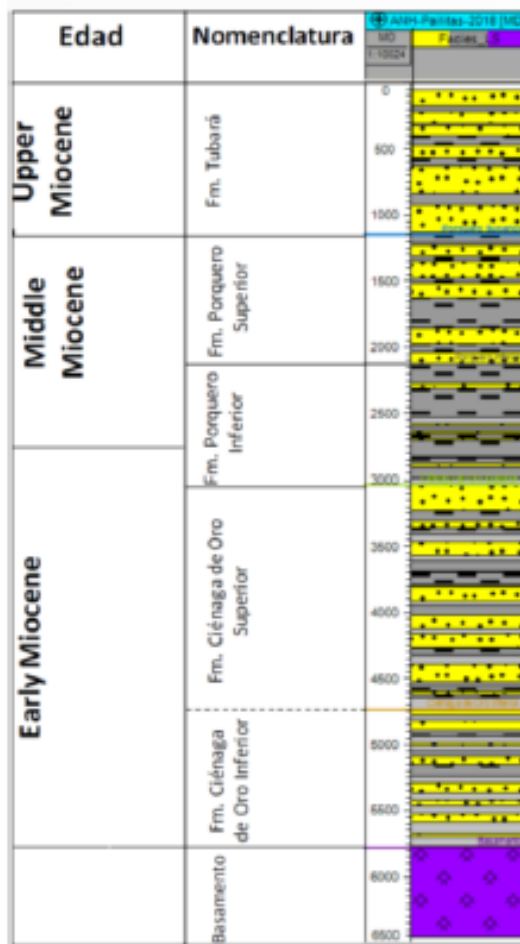
### Well Objective:

Obtain **lithological information of the Miocene Units**, determine the **thickness of the Ciénaga de Oro Formation**, and **verify the presence of basement** in the eastern limit of the Plato Sub-basin in the Lower Magdalena Valley Basin.

A vertical well was planned, where the estimated final MD depth was around 6,300 (+/-200ft) feet.

# Mechanical State Well





### Tubará:

Areniscas de grano fino a muy grueso, areniscas conglomeráticas y conglomerados, algunas intercalaciones de arcillolitas limosas y fosilíferas.

### Porquero Superior:

Cuerpos de arcillolitas con intercalaciones de areniscas

### Porquero Inferior:

Depósitos de aguas profundas, incorporando complejos de turbiditas con areniscas (abanicos de fondo, canales y depósitos de "overbank" embebidos en lodolitas marinas profundas

### Ciénaga de Oro:

Predominio de niveles de areniscas cuarzo-feldespáticas intercaladas con paquetes arcillosos (tanto en la Fm. Ciénaga de Oro Inferior como Superior)  
Presencia de una franja de depósitos calcáreos sobre los altos estructurales

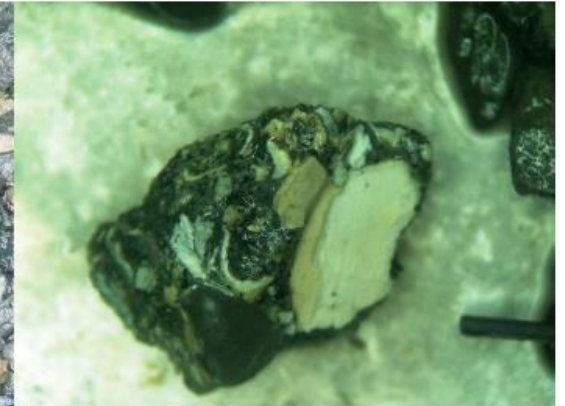
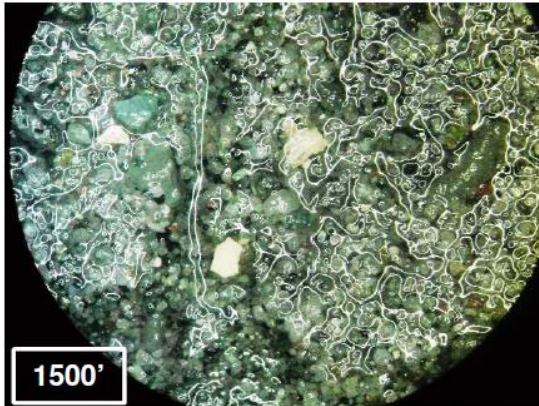
### Basamento:

Rocas metamórficas: gneis graníticos, filitas, esquistos cloríticos

Columna Estratigráfica Pozo Pailitas 1-X

# Samples Pailitas 1-X Stratigraphic Well

## Porquero Superior Formation

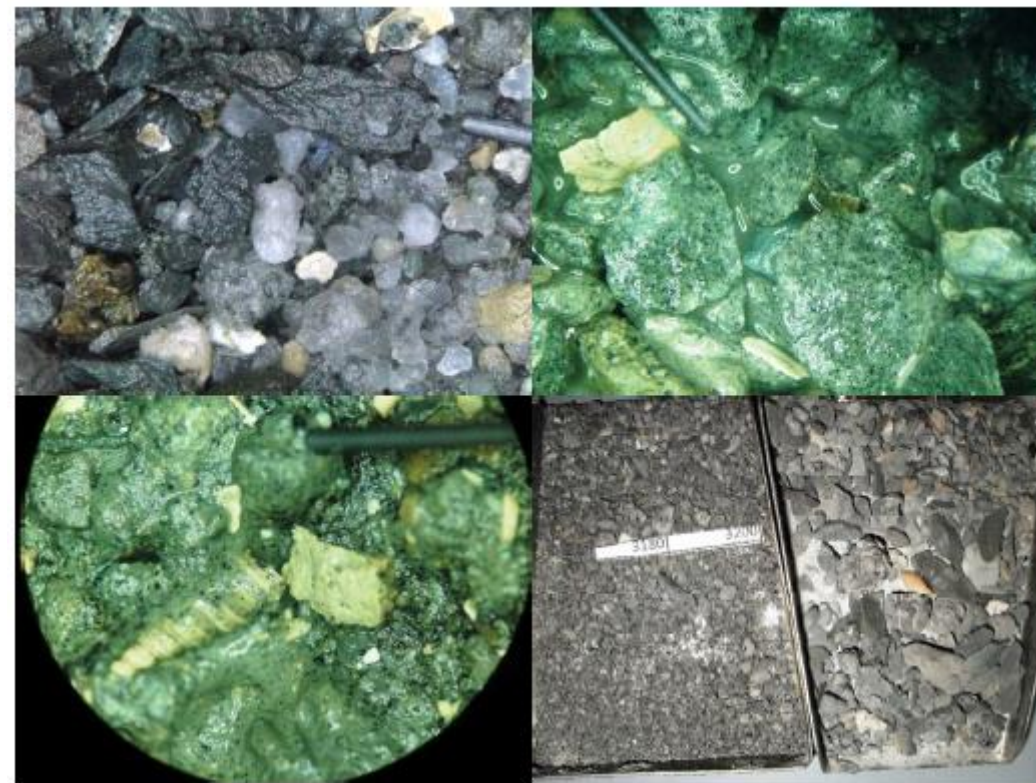


Sand intercalations with olive-grey claystones, locally medium gray with locally calcareous sand/sandstone intercalations (mainly towards the middle and lower part of the Unit, with lesser siltstone layers and some coal and dolomite lenses, occasionally some traces of limestone and dolomite; it is common to find in it traces of well-preserved fossil remains of bivalves, gastropods, some foraminifera, and some ichnofossils; as well as traces of minerals such as pyrite and some micas.

## Porquero Inferior Formation

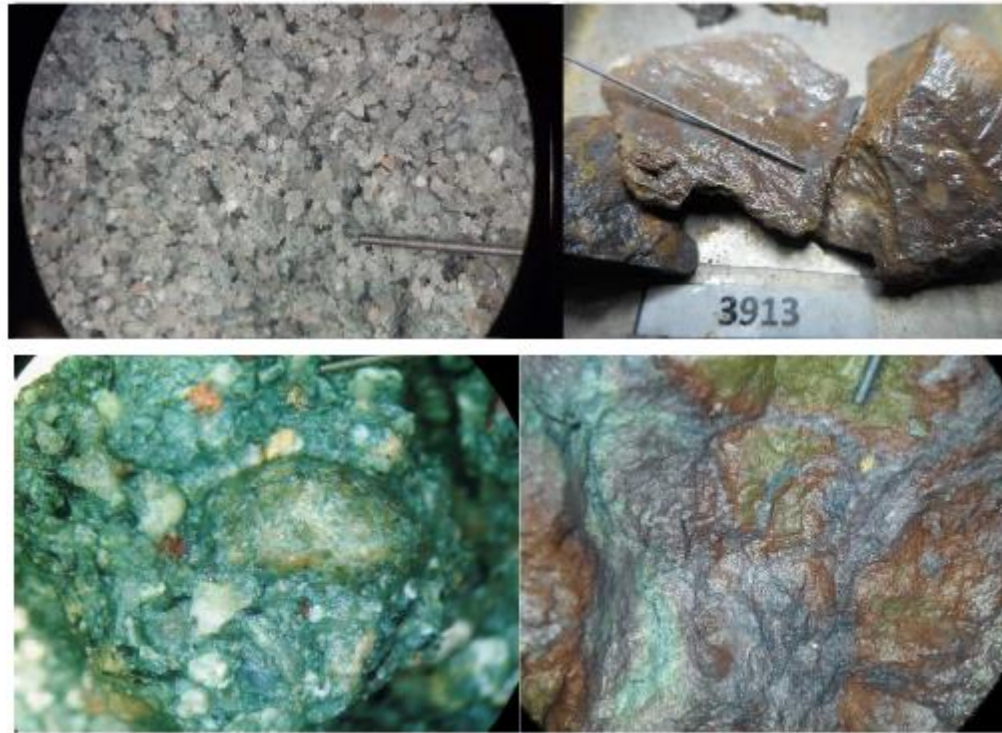


It corresponds to a predominantly clayey unit, with some lower levels of sand/sandstones with a clayey matrix and calcareous cement, mainly in the upper level of the Lower Porquero Unit, noting a considerable increase in the clayey fraction towards the lower section and base of it



# Samples Pailitas 1-X Stratigraphic Well

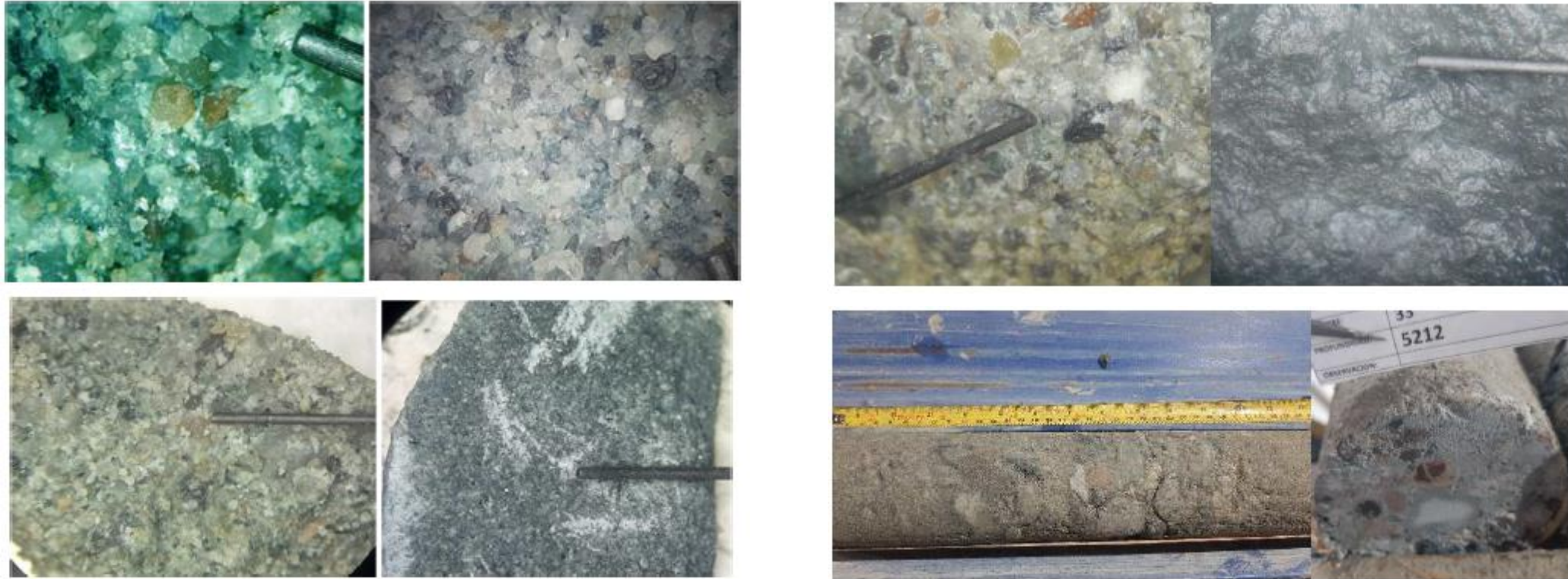
## Formación Ciénaga de Oro Superior



During drilling, the top of the Ciénaga de Oro Superior formation was defined; there was a change in lithology, corresponding to a net contact, going from a wide package of claystones with some levels of sandstones with glauconite, to a wide package of sands/sandstones, with some traces of limestone, siltstones with glauconite, and some traces of fossil fragments.

# Samples Pailitas 1-X Stratigraphic Well

## Ciénaga de Oro Inferior Formation



The top of the Ciénaga de Oro Inferior formation was defined; due to the presence of conglomeratic sands and an increase in the gas background. The Ciénaga de Oro Inferior formation was cored 100%, it is characterized by intercalations of sands/sandstones, conglomeratic sandstones, conglomerates, claystones and siltstones. The formation was divided into 3 members

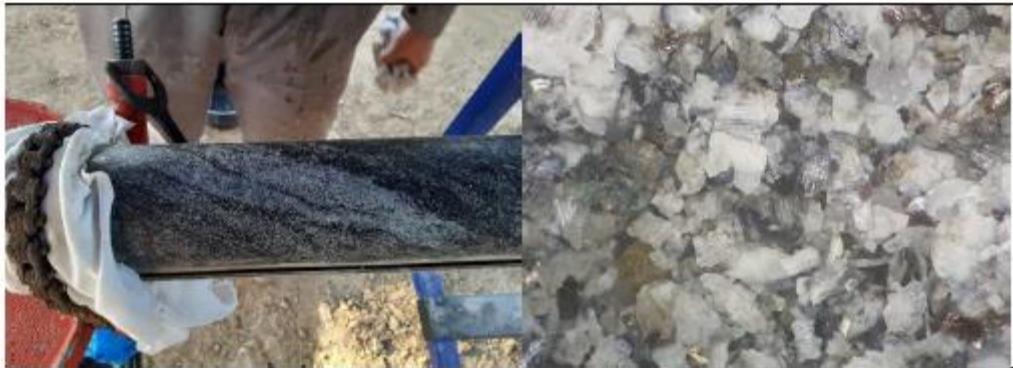


# Samples Pailitas 1-X Stratigraphic Well

## Basamento



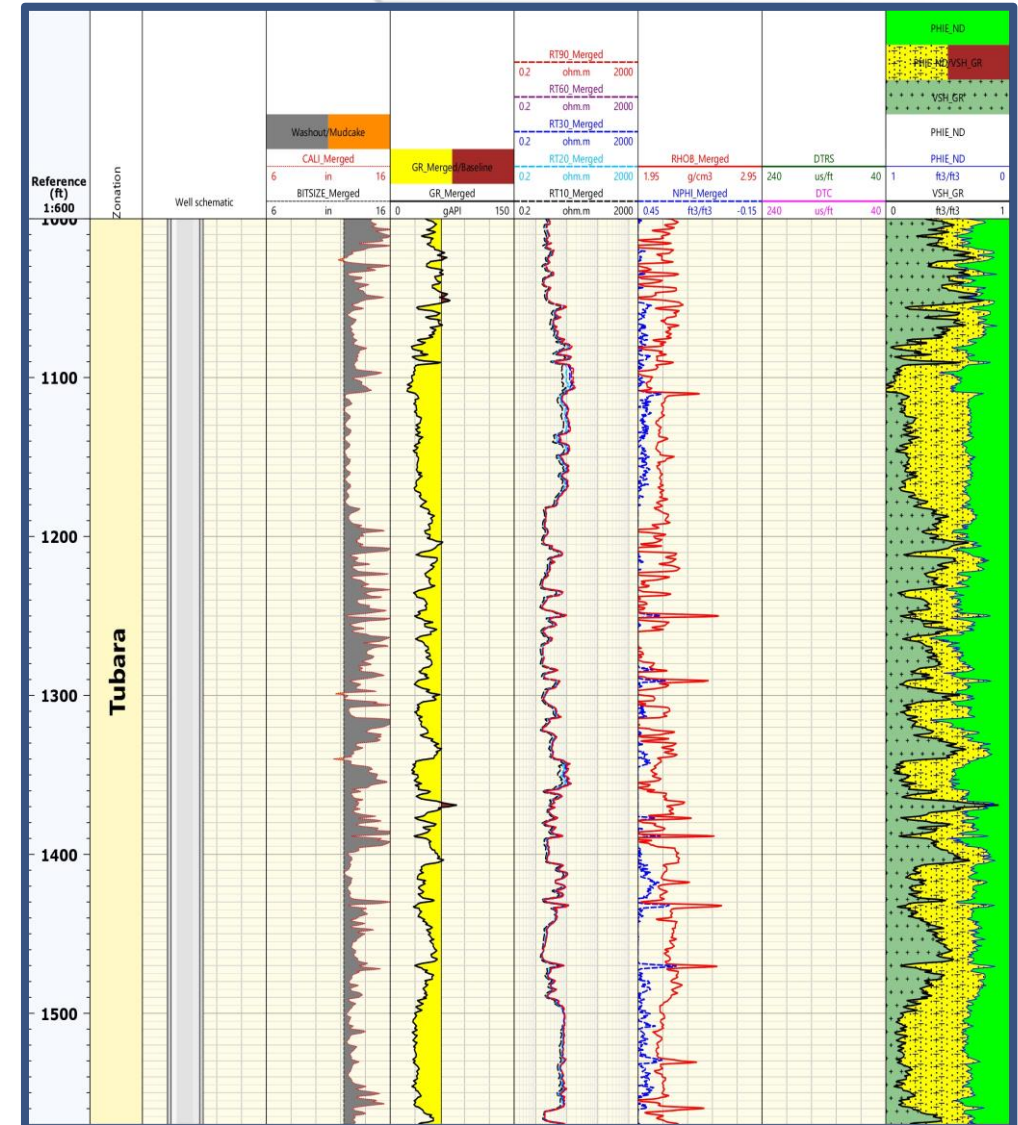
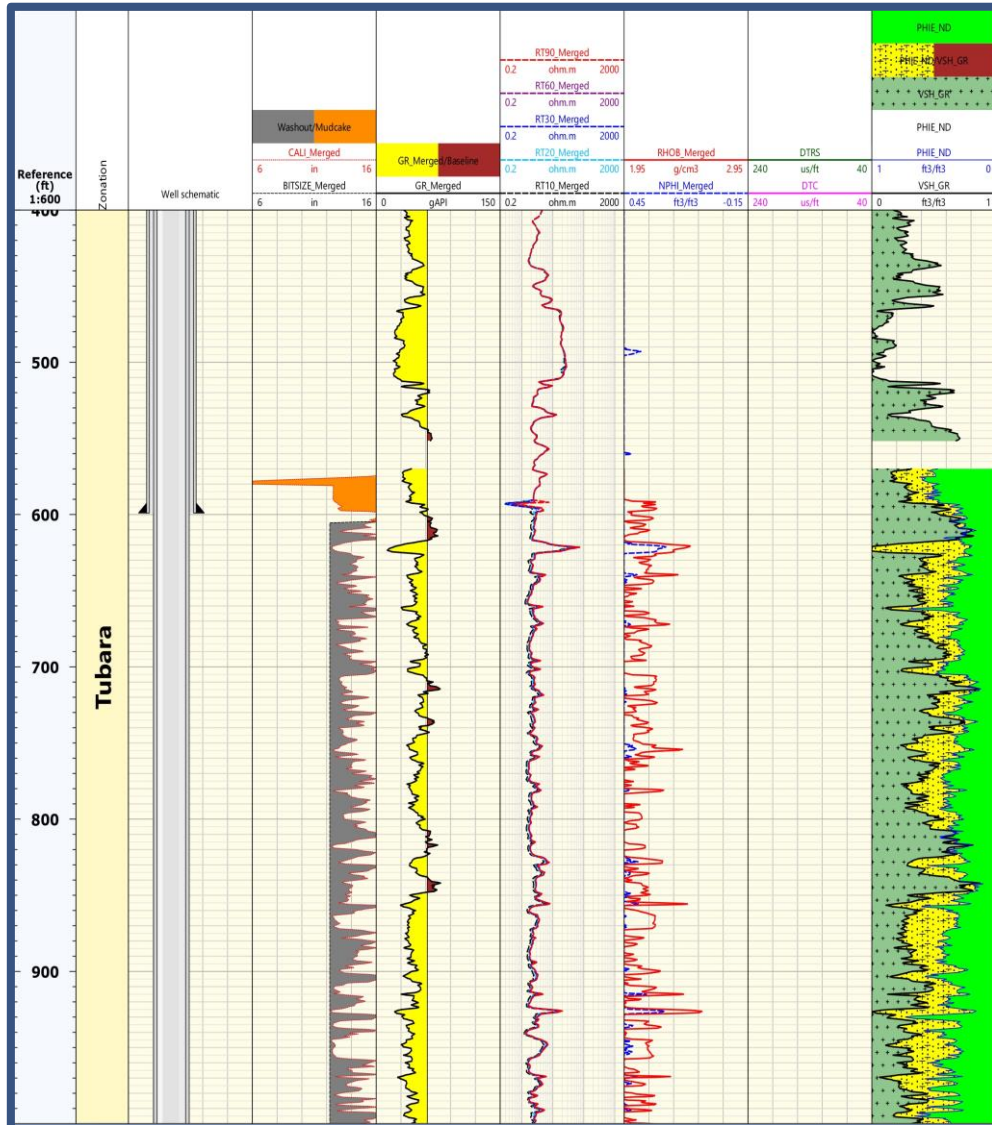
The top of the Basement is determined by the appearance of metamorphic rocks (Gneiss); while drilling core #53 to a depth of 4,566 feet.



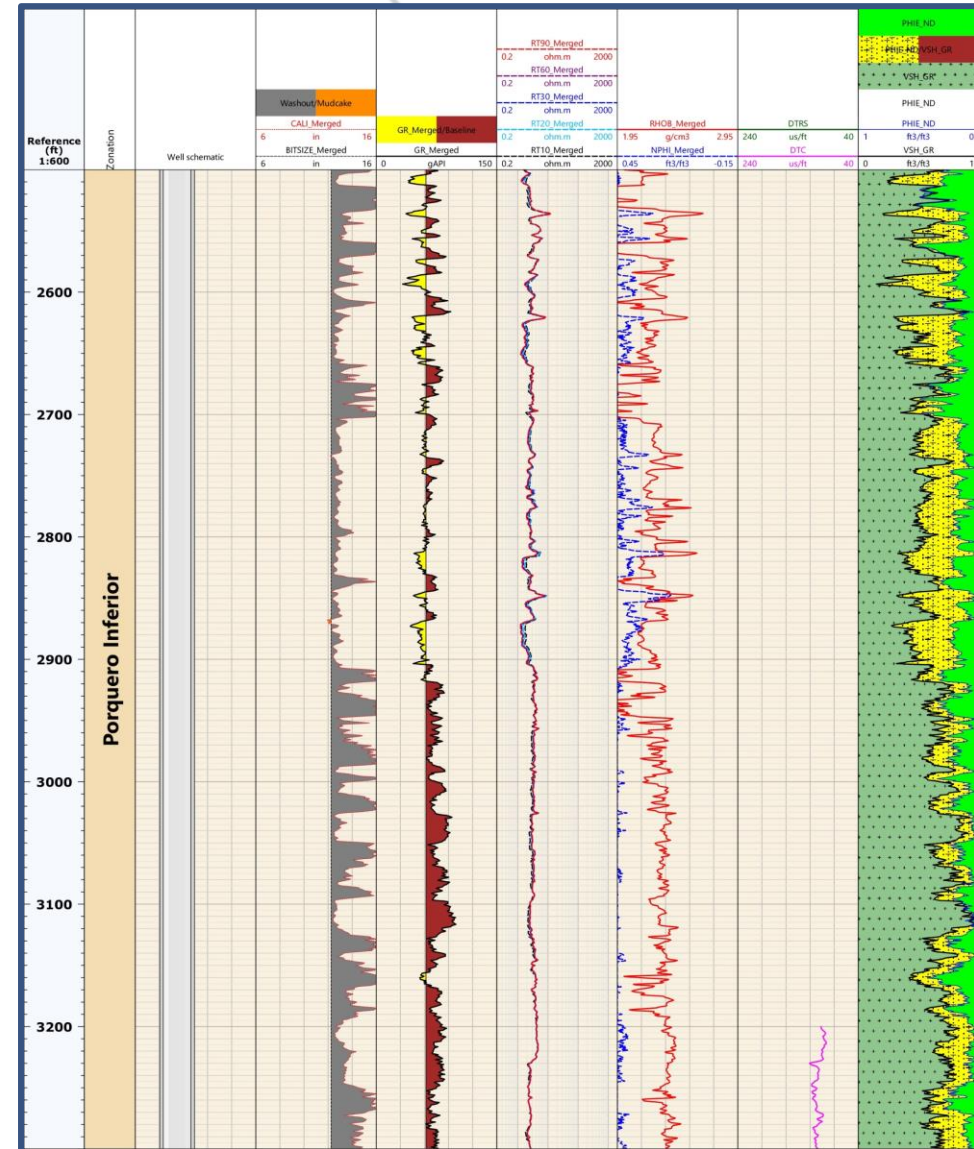
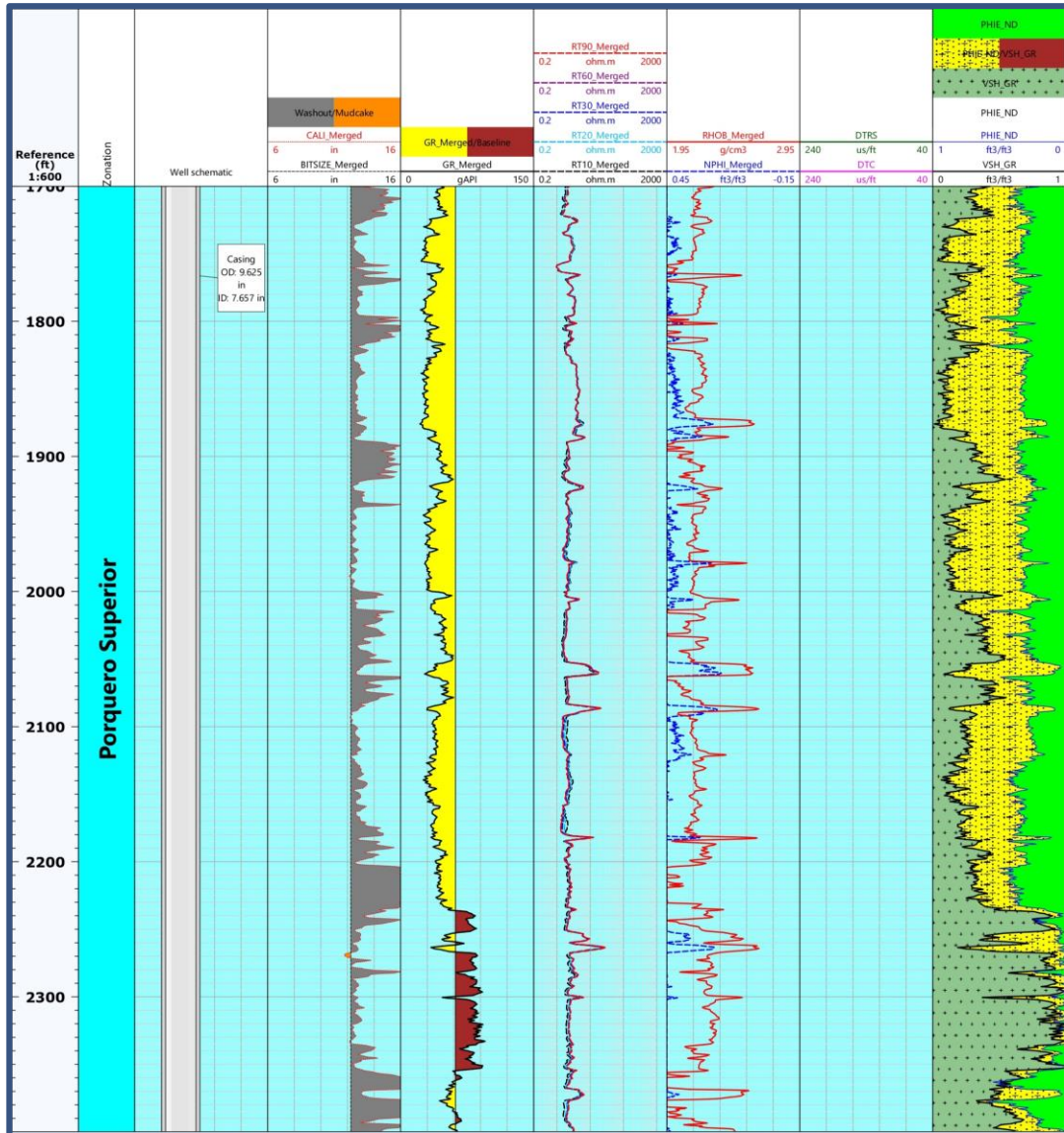
TOPES POZO EXPLORATORIO ANH-PAILITAS-1-X											
Unidad	Topes por Prognosis (ft)			Topes por Muestra (ft)				Topes por Registros (ft)			
	PV	PVss	Espesor	PM	PV	PVss	Espesor	PM	PV	PVss	Espesor
TUBARA	Sup	134,60		Sup	Sup	134,60	0	Sup	Sup	134,60	1559,97
PORQUERO SUPERIOR	1469,9	-1335,30	1100	1460,00	1459,9	-1325,30	1459,9	1560,00	1559,97	-1425,37	884,91
PORQUERO INFERIOR	2582,4	-2447,80	830	2571,00	2570,8	-2436,20	1110,9	2445,00	2444,88	-2310,28	991,82
CIENAGA DE ORO SUPERIOR	3321,9	-3187,30	1500	3415,00	3414,7	-3280,10	843,9	3437,00	3436,7	-3302,10	884,50
CIENAGA DE ORO INFERIOR	5183	-5048,40	500	4374,00	4373,4	-4238,80	958,7	4443	4321,2	-4186,60	1149,99
BASAMENTO	6175,2	-6040,60	992	5466,00	5465,2	-5330,60	1091,8	5472	5471,19	-5336,59	106,00
TD	6300	-6165,40	124,8	5586,00	5585,2	-5450,60	120	5578	5577,19	-5442,59	--

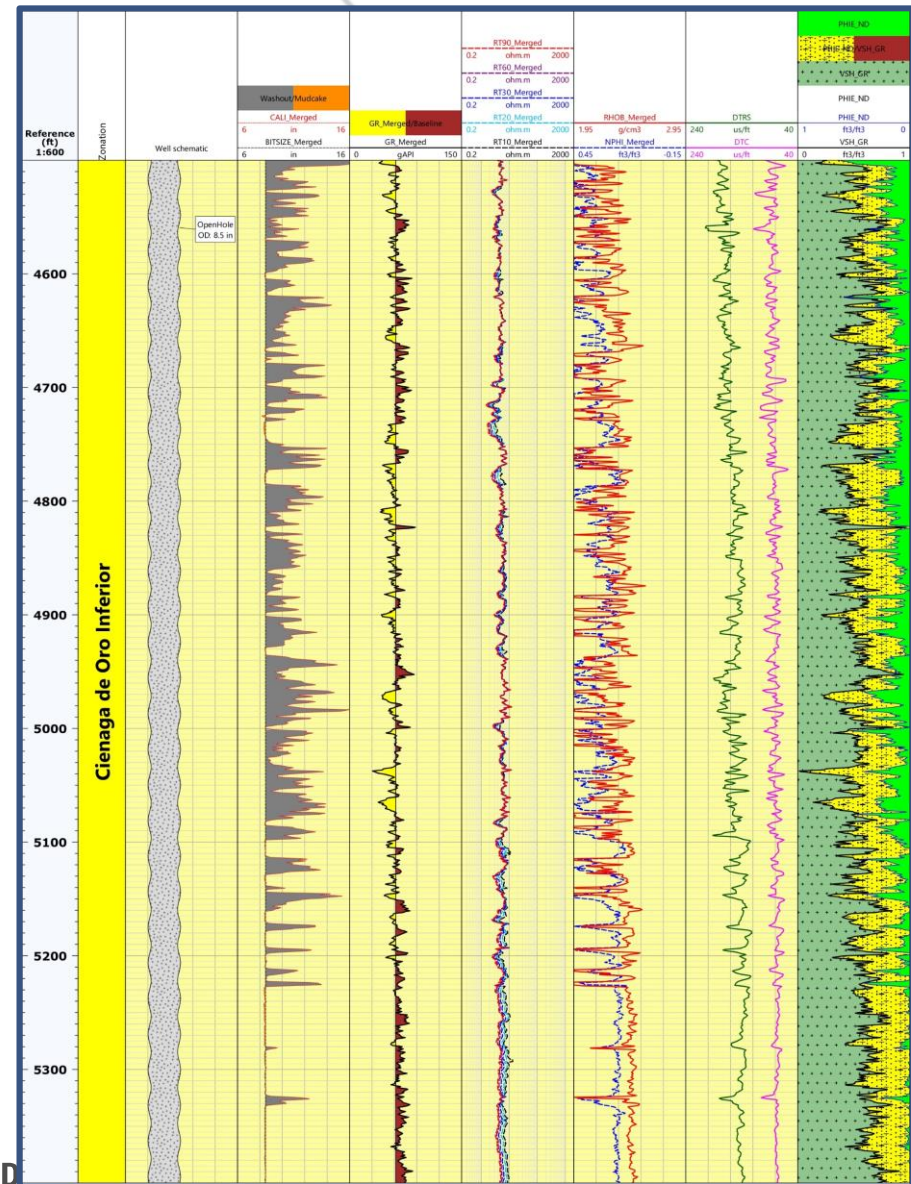
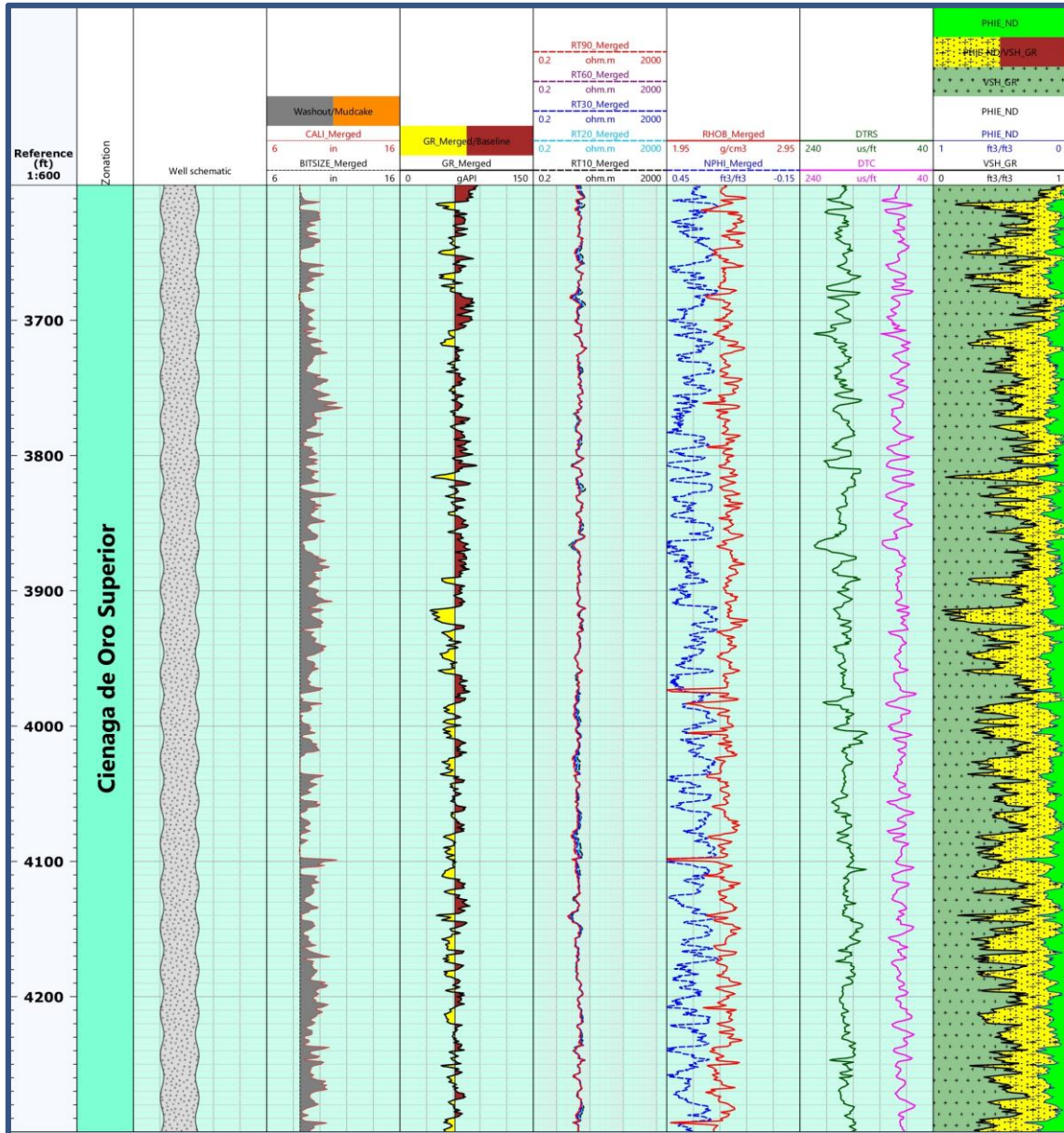
\* Espesor perforado (bolsillo) \*\* Elevación del terreno prepozo

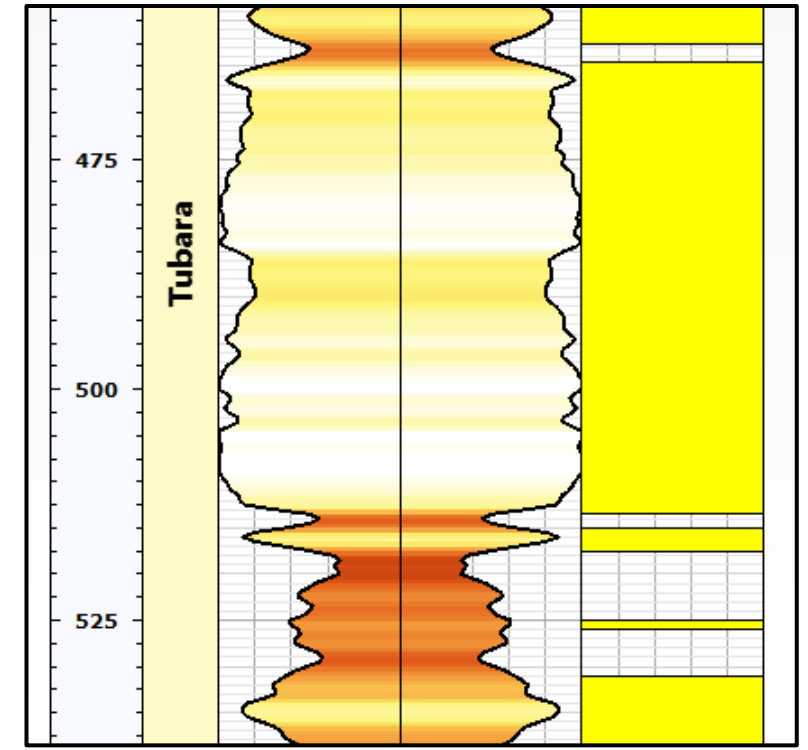
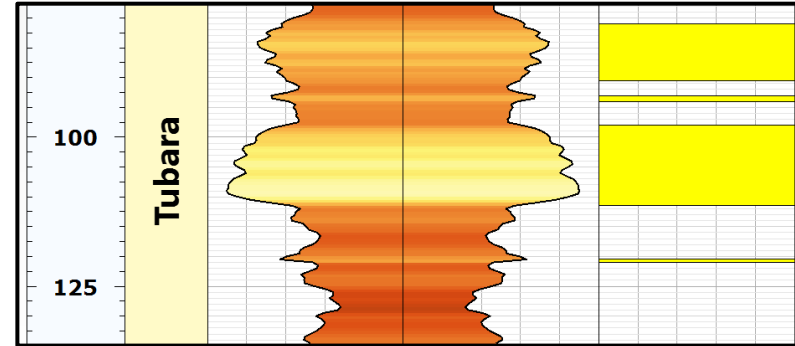
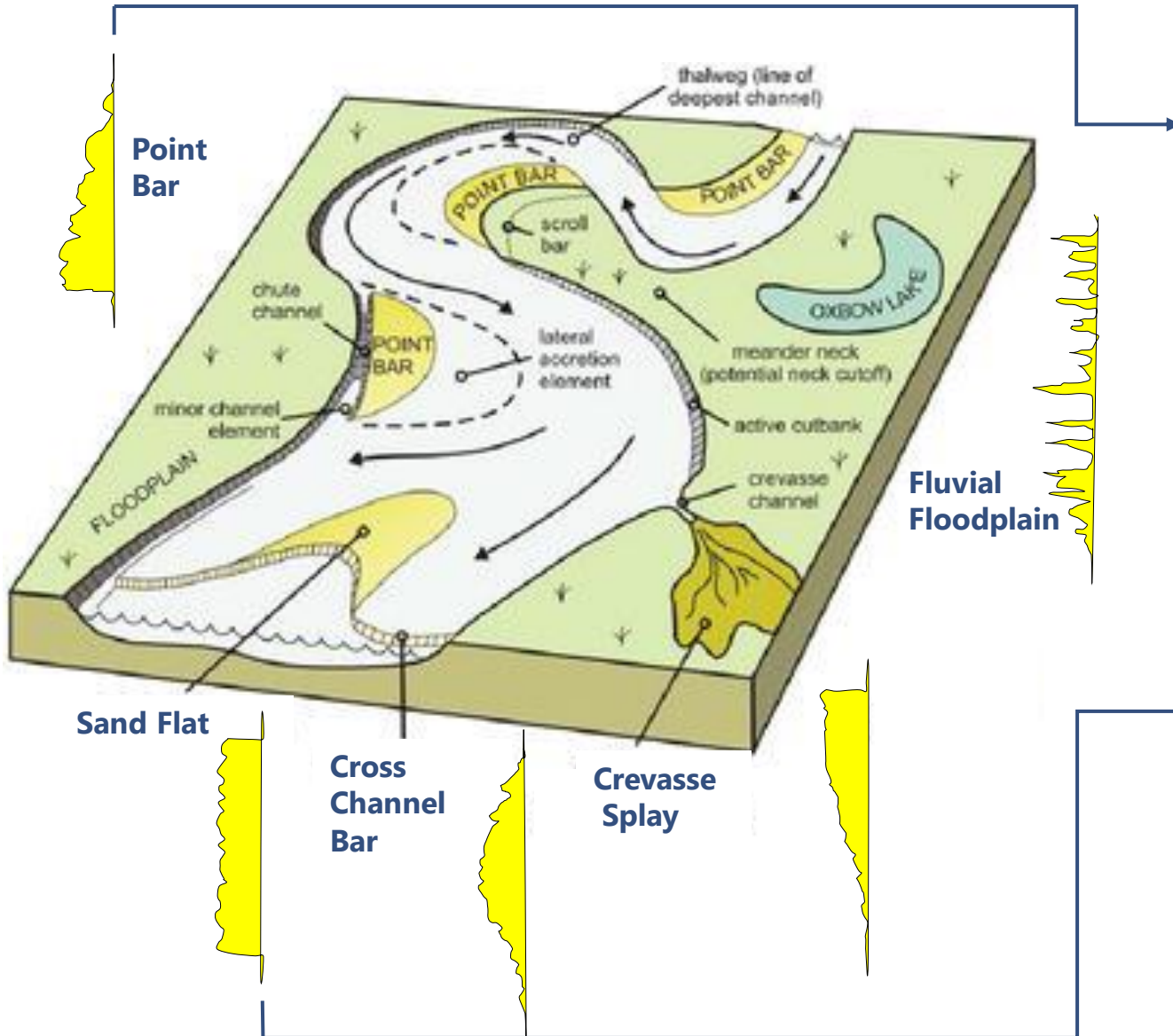
GLE (ft):	114,80
RTE (ft):	134,60
RT (ft):	19,80

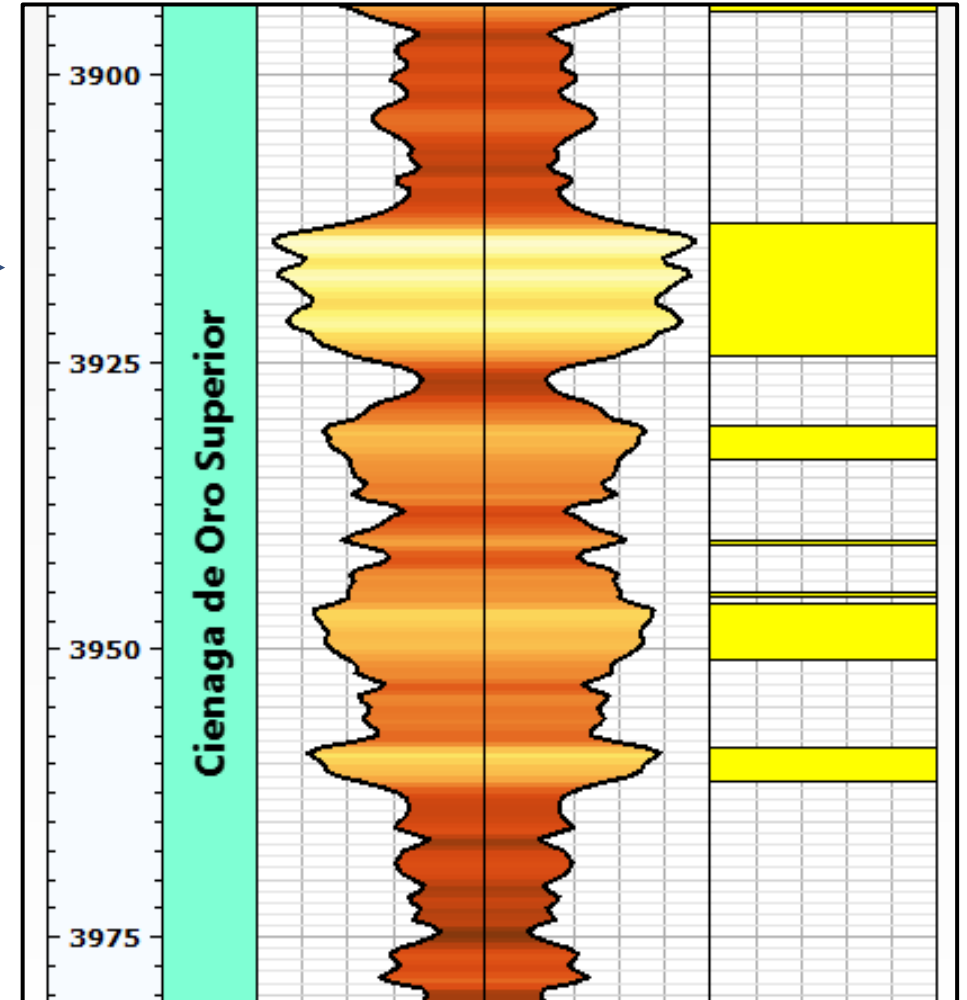
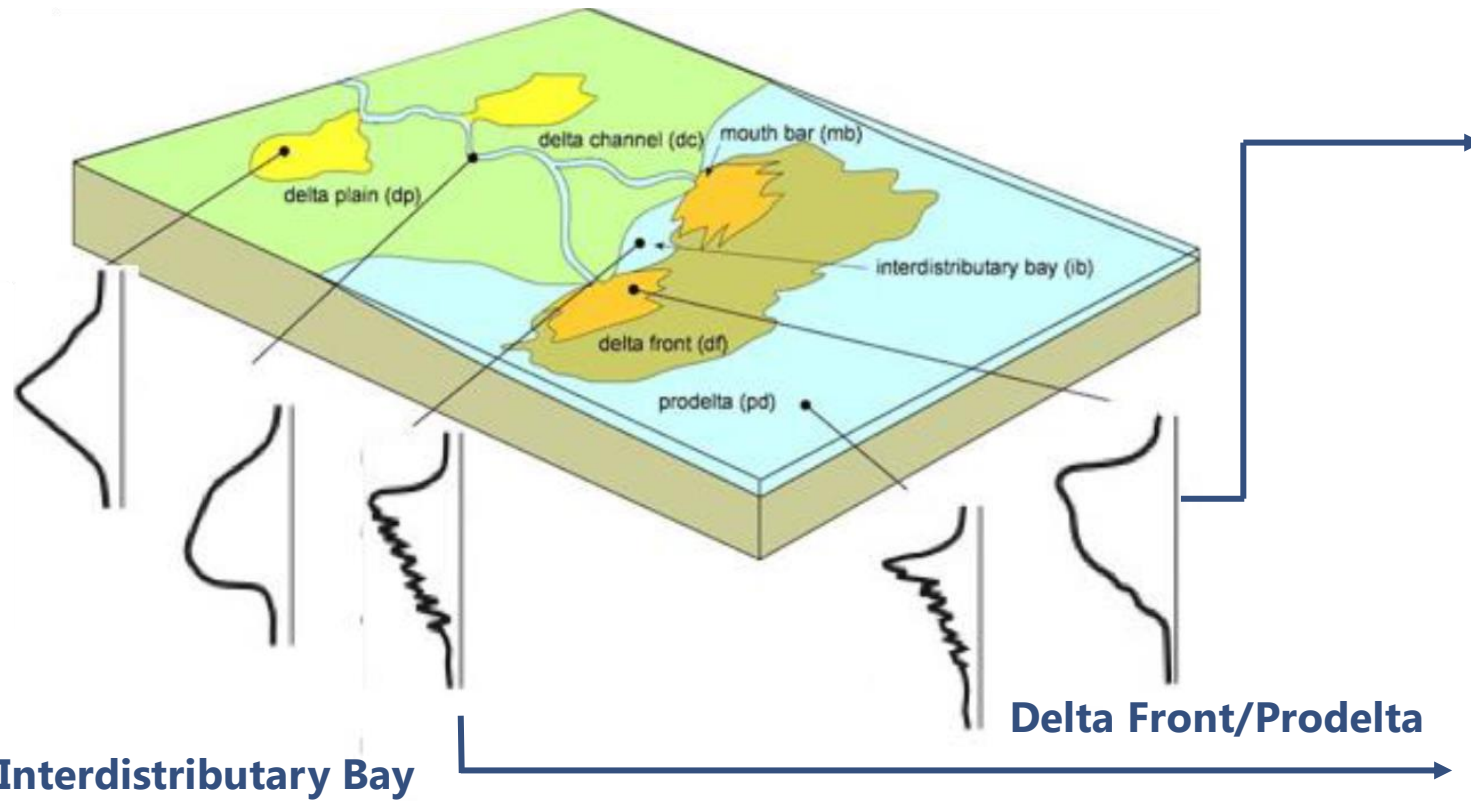


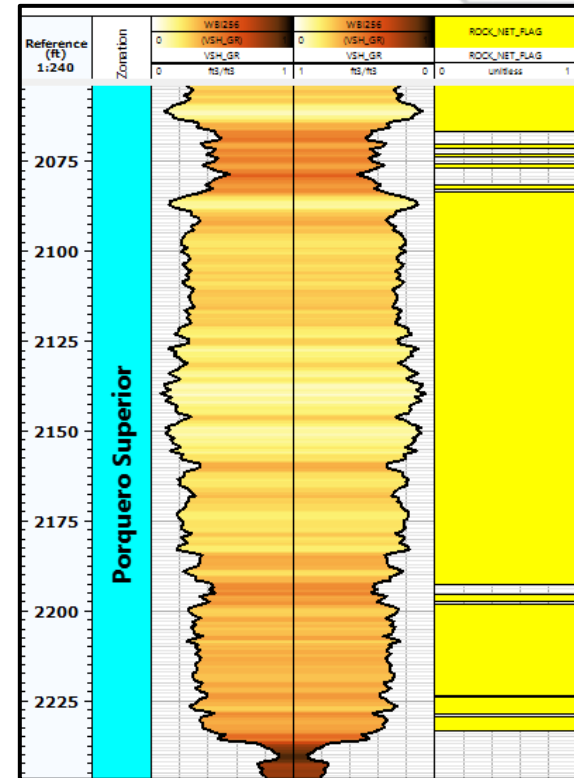
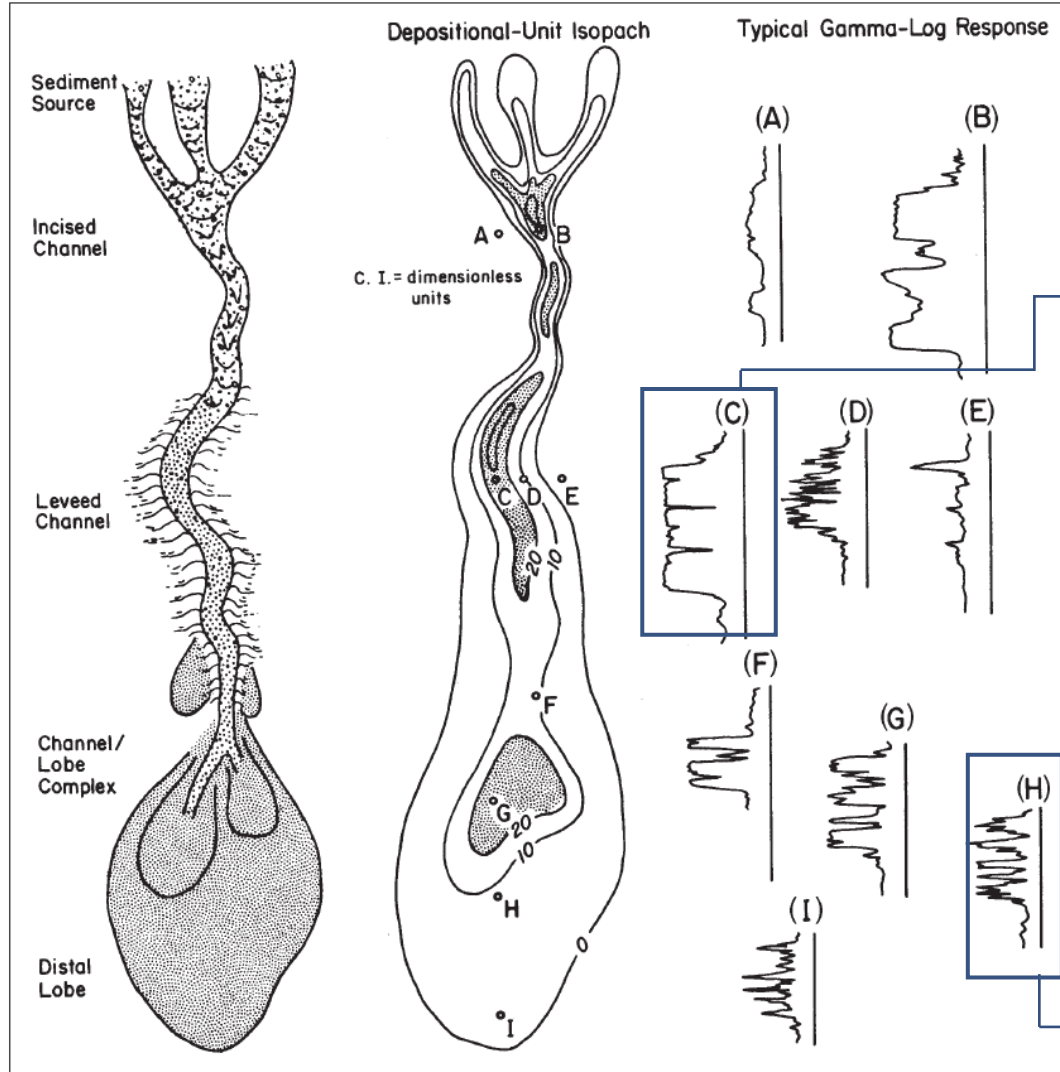
# Porquero Superior - Inferior



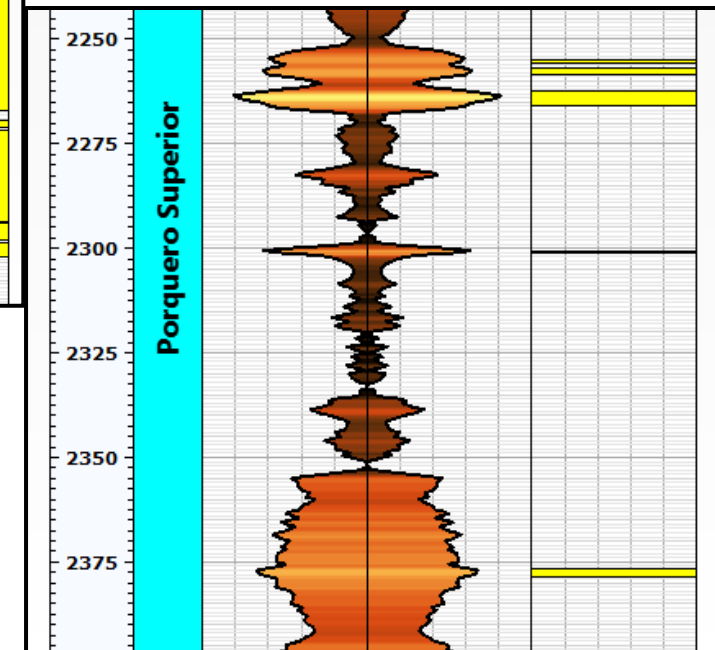








**Channel-Levee Complex**



**Distal Lobe**



Well	Zones	Flag Name	Top	Bottom	Reference unit	Gross (ft)	Net (ft)	Net to Gross	Av_Shale Volume (ft3/ft3)	Av_Porosity (ft3/ft3)
ANH-PAILITAS-1-X	Tubara	SST	0	1624.105	ft	<b>1624.1</b>	<b>952</b>	0.586	0.241	<b>0.30</b>
	Porquero Superior	SST	1624.105	2438.743	ft	<b>814.638</b>	<b>524</b>	0.643	0.226	<b>0.29</b>
	Porquero Inferior	SST	2438.743	3467.969	ft	<b>1029.23</b>	<b>89</b>	0.086	0.333	<b>0.21</b>
	Cienaga de Oro Superior	SST	3467.969	4443	ft	<b>975.032</b>	<b>148.5</b>	0.152	0.318	<b>0.16</b>
	Cienaga de Oro Inferior	SST	4443	5472	ft	<b>1029</b>	<b>150</b>	0.146	0.299	<b>0.24</b>

- The ANH-PAILITAS-1-X well started drilling on November 24, 2021 and finished drilling on February 14, 2022. The final depth was 5,586 ft, within the basement
- In the ANH-PAILITAS-1-X well, the stratigraphic sequence recorded in the initial prognosis of the well was confirmed by starting surface drilling in the Tubará formation (Upper Miocene), Porquero formation (Middle Miocene), Ciénaga de Oro formation (Oligocene- Early Miocene) and Basement Metamorphic rocks
- For the ANH-PAILITAS-1-X well, 1887 feet of the Ciénaga de Oro formation and metamorphic basement were drilled using the coring method, drilled in 58 cores, of which a total of 1777.95 feet were recovered, for a 94.22 recovery %
- The ANH-PAILITAS-1-X well complies with the proposed drilling program, reaching the basement and drilling a 120-foot pocket within it, thus achieving the primary objective of the well, which was to characterize the entire Cienaga de Oro formation.
- From the petrophysical evaluation, it is possible that Cienaga de Oro upper Formation has 975 feet of gross and 16% of porosity and cienaga de oro lower has around 1029 feet of gross with 24% of porosity.



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