Petroleum System

The Sinu-San Jacinto Fold Belt was formed as an accretionary prism along the South American continental margin, due to subduction of the Caribbean Plate. The San Jacinto Fold Belt was developed in the Eocene and consists mainly of sedimentary rocks and some volcanic rocks from the Caribbean Plate. The Sinu belt is younger and consists mainly of sedimentary deposits along the Northwestern margin of Colombia and incorporated later in the accretionary prism during the Miocene and the most modern subduction.

**Sources:** Hydrocarbon generation began in the Miocene, but some earlier generation could have occurred in the Cretaceous (Cansona Formation). The enormous amount of oil seeps is evidence of hydrocarbon generation in the region.

The Cansona Formation favours the generation of liquid hydrocarbons, it consists mainly of organic rich Kerogen Types I-III. The Porquerol and Floresanto formations and the muddy facies from Cienaga de Oro formation frequently show a gas prone behavior with Type II, III and IV Kerogen.

**Reservoirs:** The main potential reservoirs were deposited between the Eocene-Miocene. These deposits vary from continental fluvial-deltaic to marine and included carbonate deposits from shallow water.

**Seals:** Overlapping sealing units are present in the entire. The seals (fine granular units) are associated with translapping or migration of facies changing from marine to continental environments.
**Oil Seeps**

CONVENTIONS
1. Line 1
2. Line 2
3. Line 3
--- Basin Limit
--- High Concentration of Oil Seeps

**Seismic Expression**

**Line 1.**
STRATIGRAPHIC TRAP (SUBMARINE FAN)

From ILEX, 1995

**Line 2.**
STRUCTURAL TRAP (HIGH SIDE CLOSURES)

From ILEX, 1995

**Line 3.**
STRUCTURAL TRAP (ANTICLINE UNDER SYNCLINE ASSOCIATED WITH THRUSTING)

From ILEX, 1995

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**Plays (Traps):** It is possible to identify different kinds of plays with big exploratory potential: stratigraphic traps at the north of San Jacinto fold belt and structural plays in thrust-related closures.

**Prospectivity**

Abundant oil and gas shows, good clastic and carbonate potential reservoirs together with strong structuration indicate high prospectivity. A likely analog example is the Soldado field in Trinidad.
**HIGHLIGHTS**

- **ANH Projects**
  - 700 km Seismic 2D Lines
  - Sequence stratigraphy analysis
  - Petrography/Petrophysics/Geochemistry

- **Area**
  - 38,500 km² (Onshore)
  - 9,500,000 acres

- **Discovered Reserves** None

- **Oil field Discoveries** None

- **Exploratory wells** 44

- **Seismic** 38,500 km

- **Coverage** 871 km² / well