

Basin Overview

The following basin overview is based on previous work done by several oil companies, among them: Ecopetrol, Triton, British Petroleum and Amoco.

The Southern Caribbean area lies in the coastal waters of northwest Colombia. It extends from the mouth of the Magdalena River in the northwest to the northern end of the Urabá Gulf in the southwest. Water depth over almost all of the area is less than 1,200 meters. Approximately, two thirds of the area is shoreward of shelf break that roughly parallels the coast. The remaining third consists of shallow water with depth on the range from zero to ca. 200 meters.

The South Caribbean is juxtaposed to the west margin of the Sinú Terrane (onshore) a structurally prospective area that include at least two genetically distinct packages of sedimentary rocks.

The likely source rocks for thermogenic hydrocarbons are Tertiary condensed-sections and prodelta shales. In addition, there is some chance that upper Cretaceous source rocks is present in the area, since the presence of Cretaceous source rocks in the onshore accretionary prism is well established, onshore oil seeps analyzed are from a marine carbonate source similar to Cretaceous La Luna carbonates.

However, the existence of upper Cretaceous source rock in the South Caribbean is chancy and therefore must be risked.

The basin contains sandstones that are potential reservoirs. Presence of siliciclastics has been documented by several wells although most of them are fine grained sandstones with occasionally coarse grained.

The size of the traps is large in most of the proposed plays and most of the traps lie at a depth of 1 to 2.5 seconds TWT on seismic.

Trace of oil found in San Bernardo-IX well and gas in Morrosquillo-1 well indicates the existence of active generation and migration of hydrocarbons.

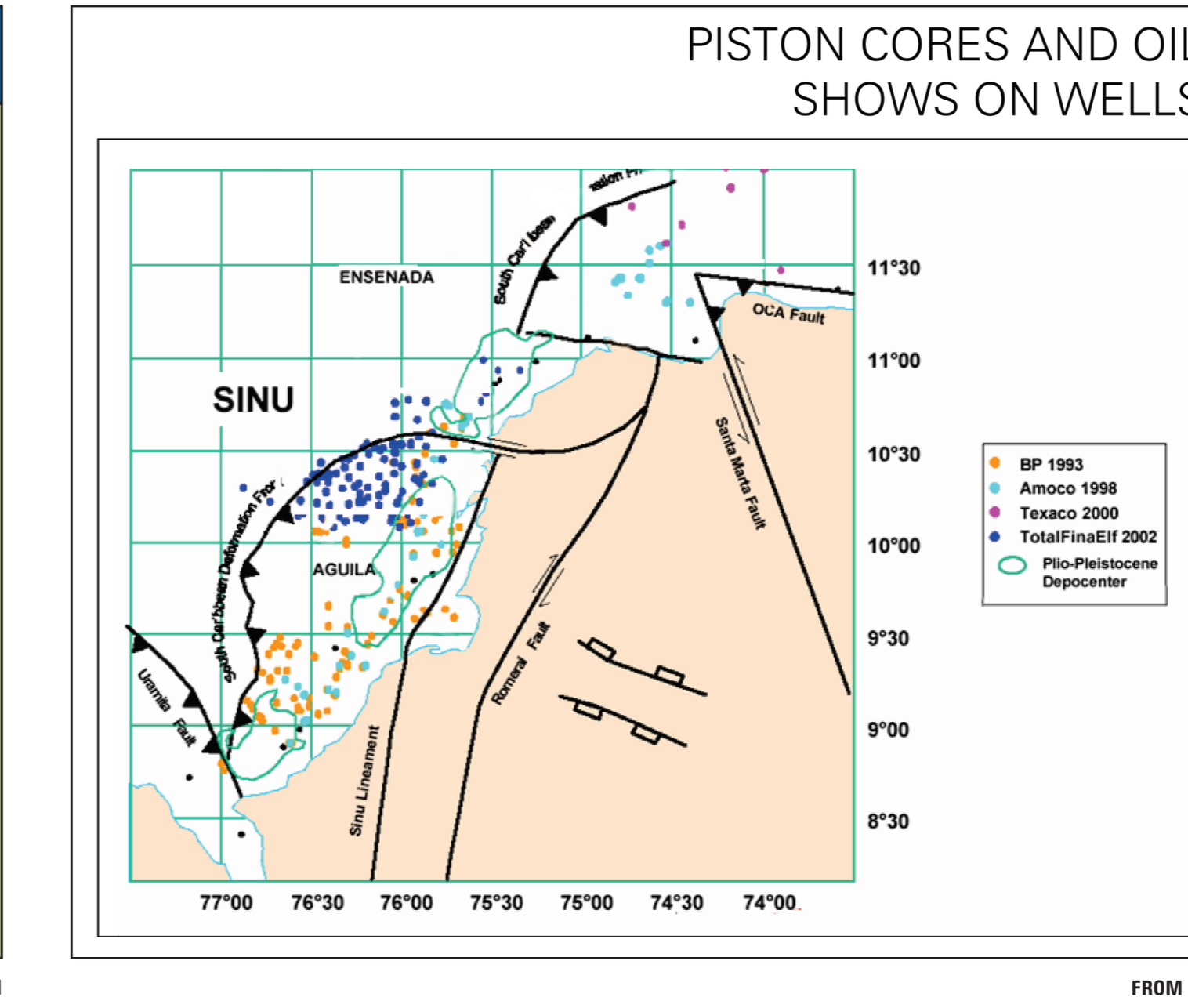
Several plays have been identified in previous studies: thrust-related anticlines, combinations traps, low-side roll-overs, diapir-related traps and stratigraphic traps from the core for numerous play types.



Seismic Profiles



Piston Cores and Oil Shows on Wells

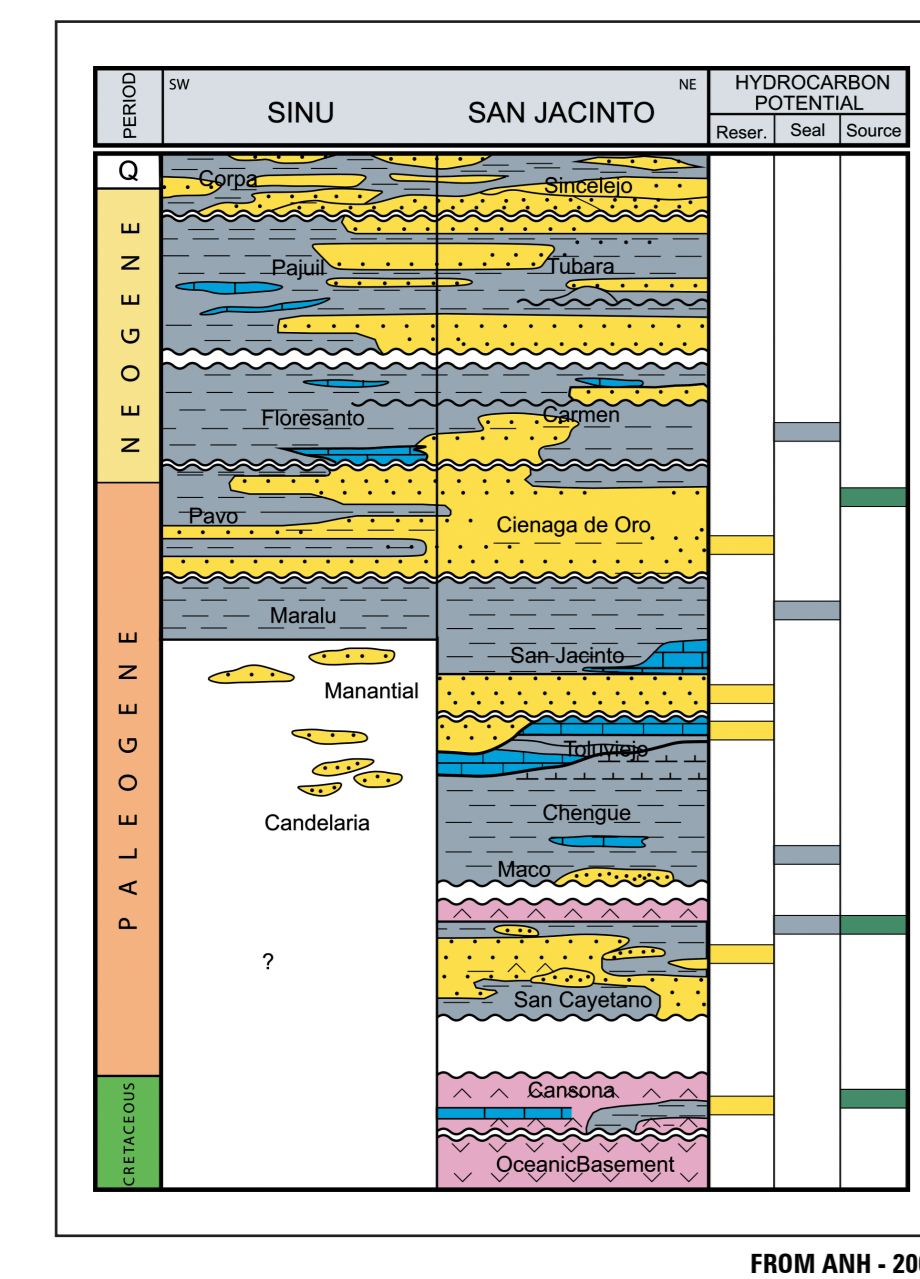


Highlights

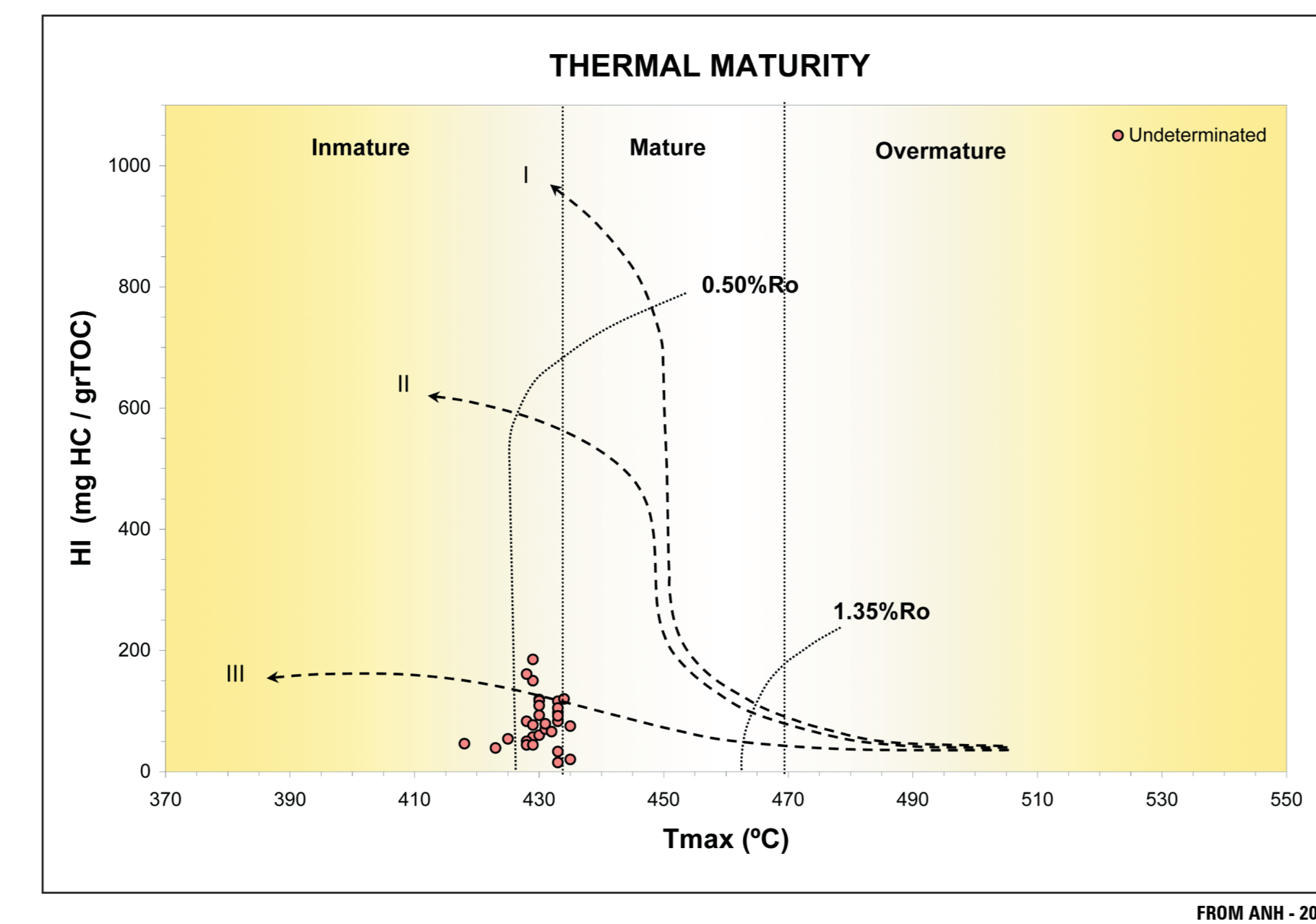
Basin type	▶ Accretionary Prism
Area	▶ 42,000 km² / 9,900,000 acres
Wildcats wells	▶ 34 (North and South Domain)
2D Seismic	▶ 13,545 km (North and South Domain)
Source Rocks	▶ Cansona Shales
Reservoir Rocks	▶ Pavo Sandstone
Seal Rocks	▶ Floresanto Claystones
Hydrocarbon type	▶ Thermogenic Hydrocarbons

Stratigraphy and Petroleum System

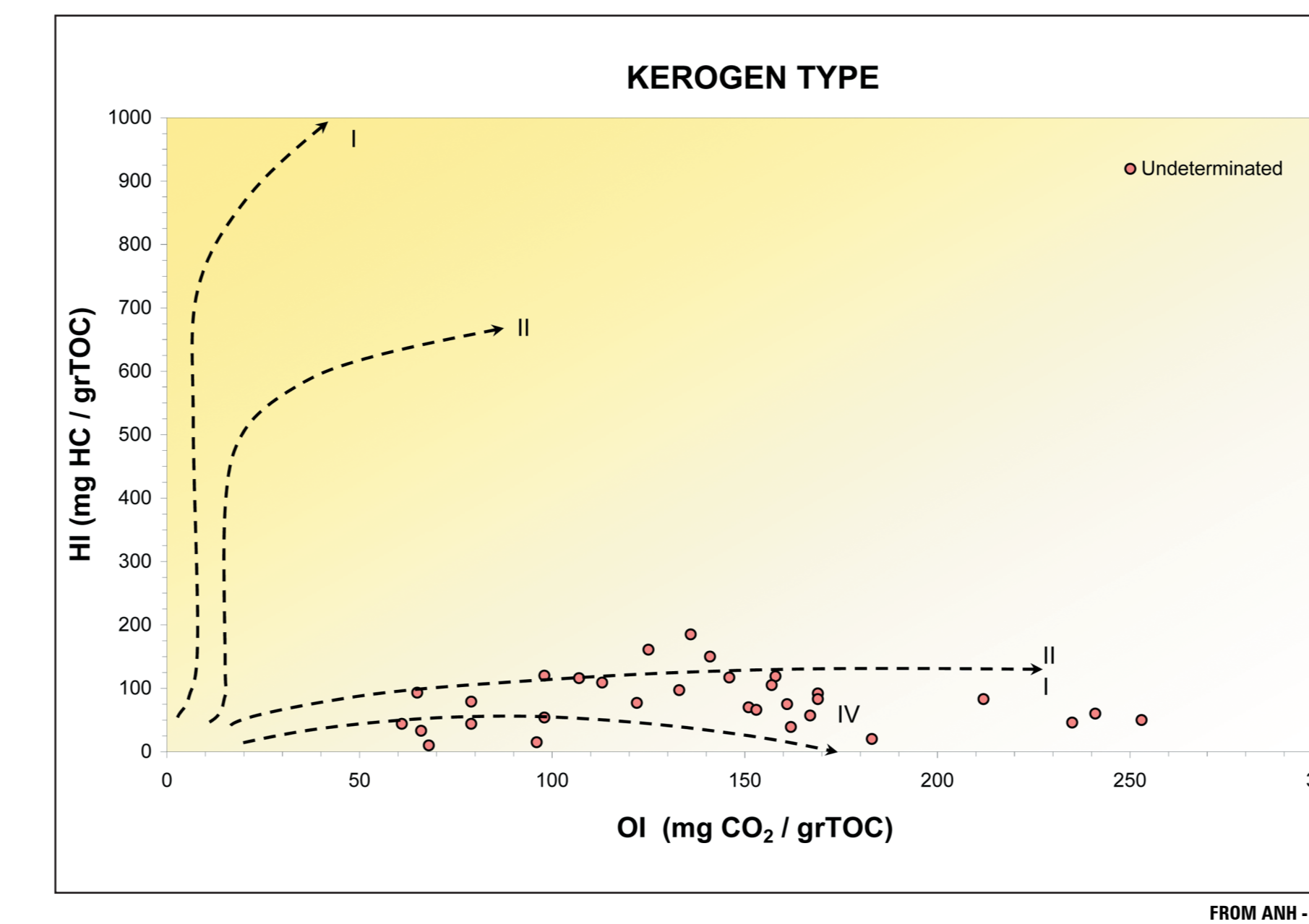
Petroleum System Chart



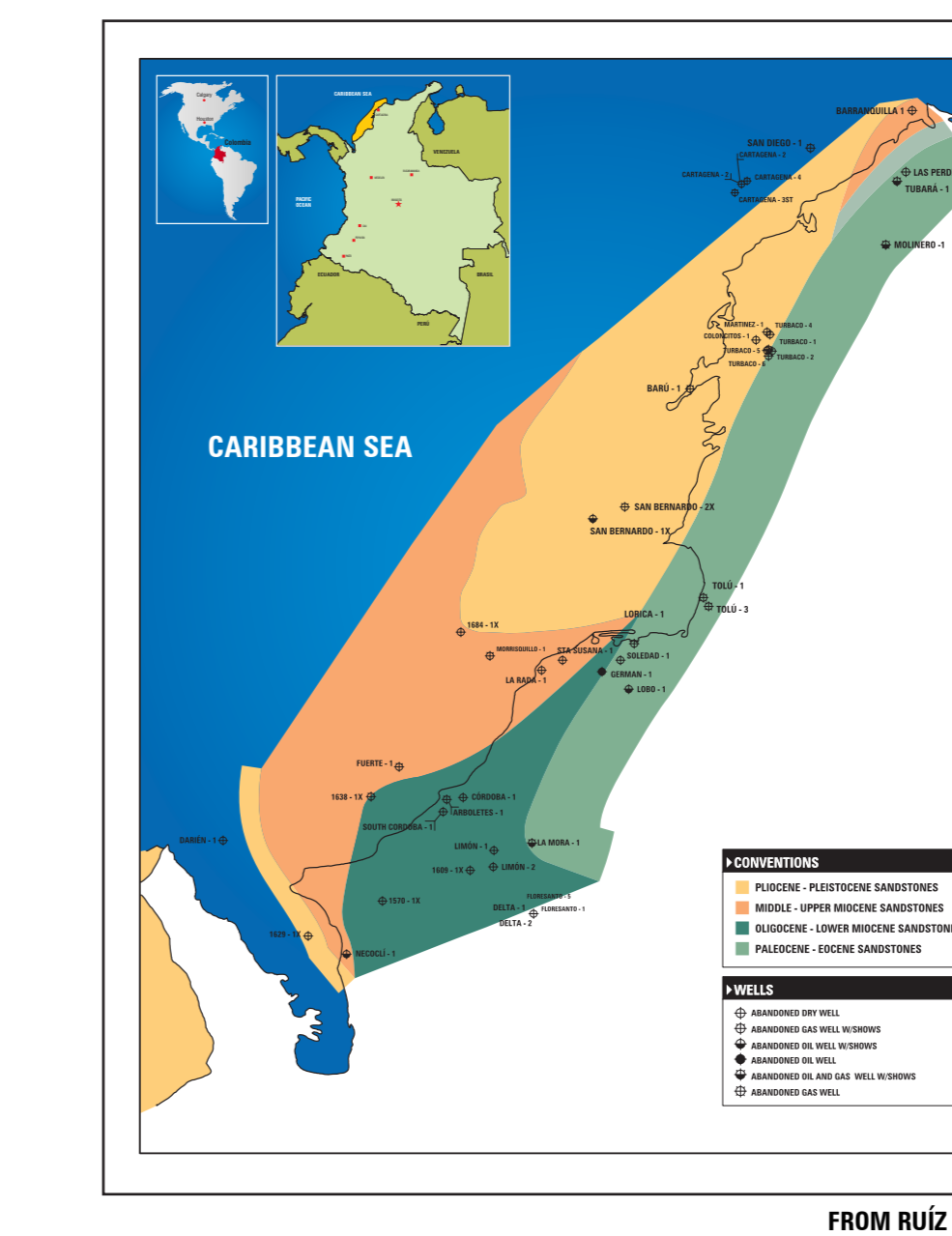
Thermal Maturity



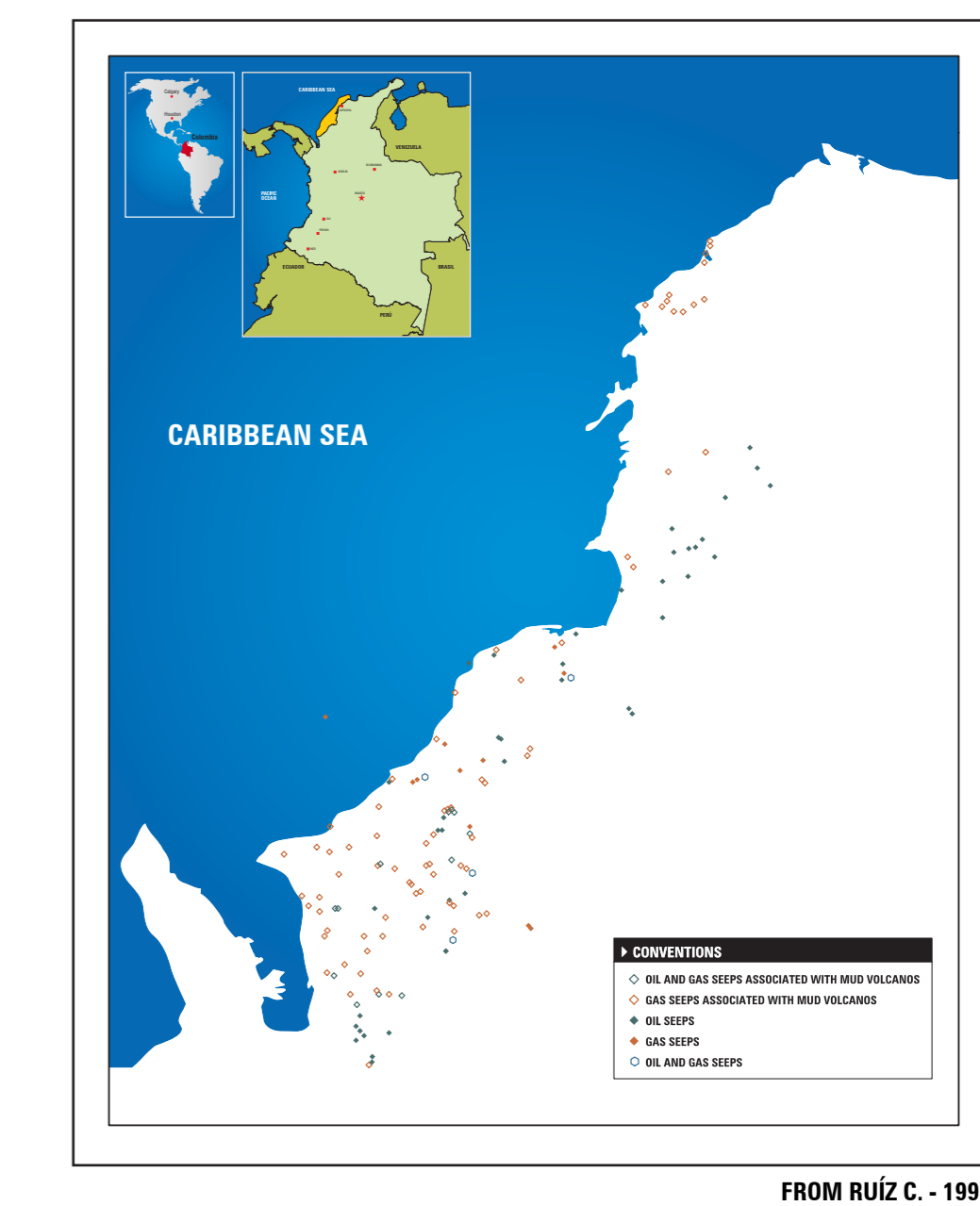
Kerogen Type



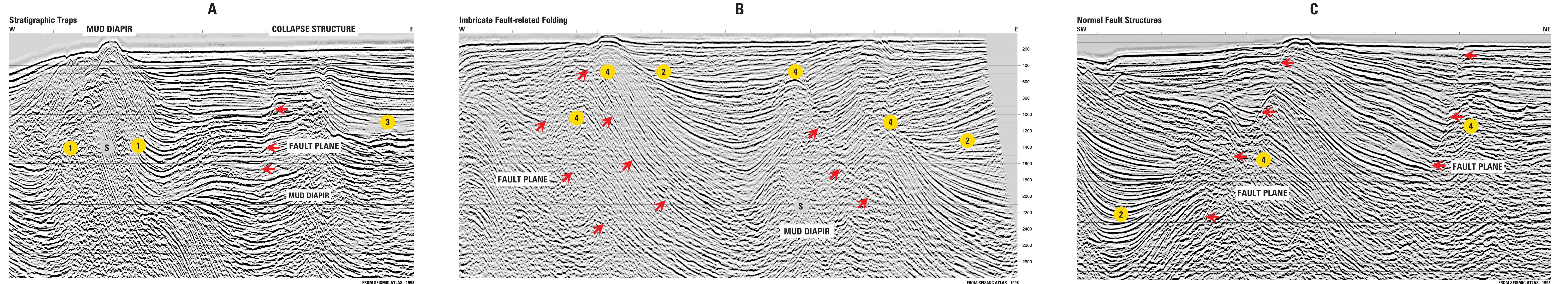
Reservoir Distribution



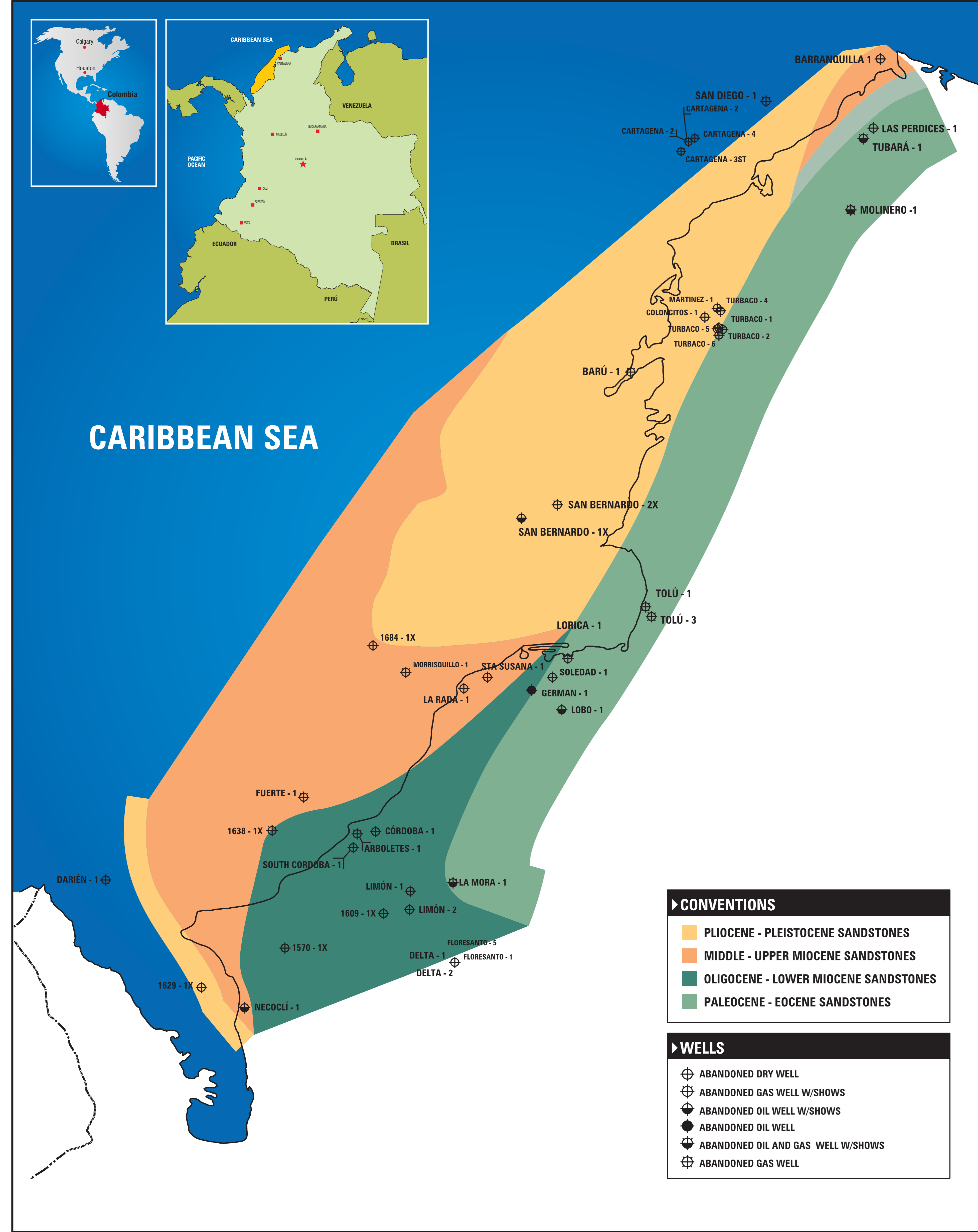
Oil and Gas Seeps



Plays and Effective Traps

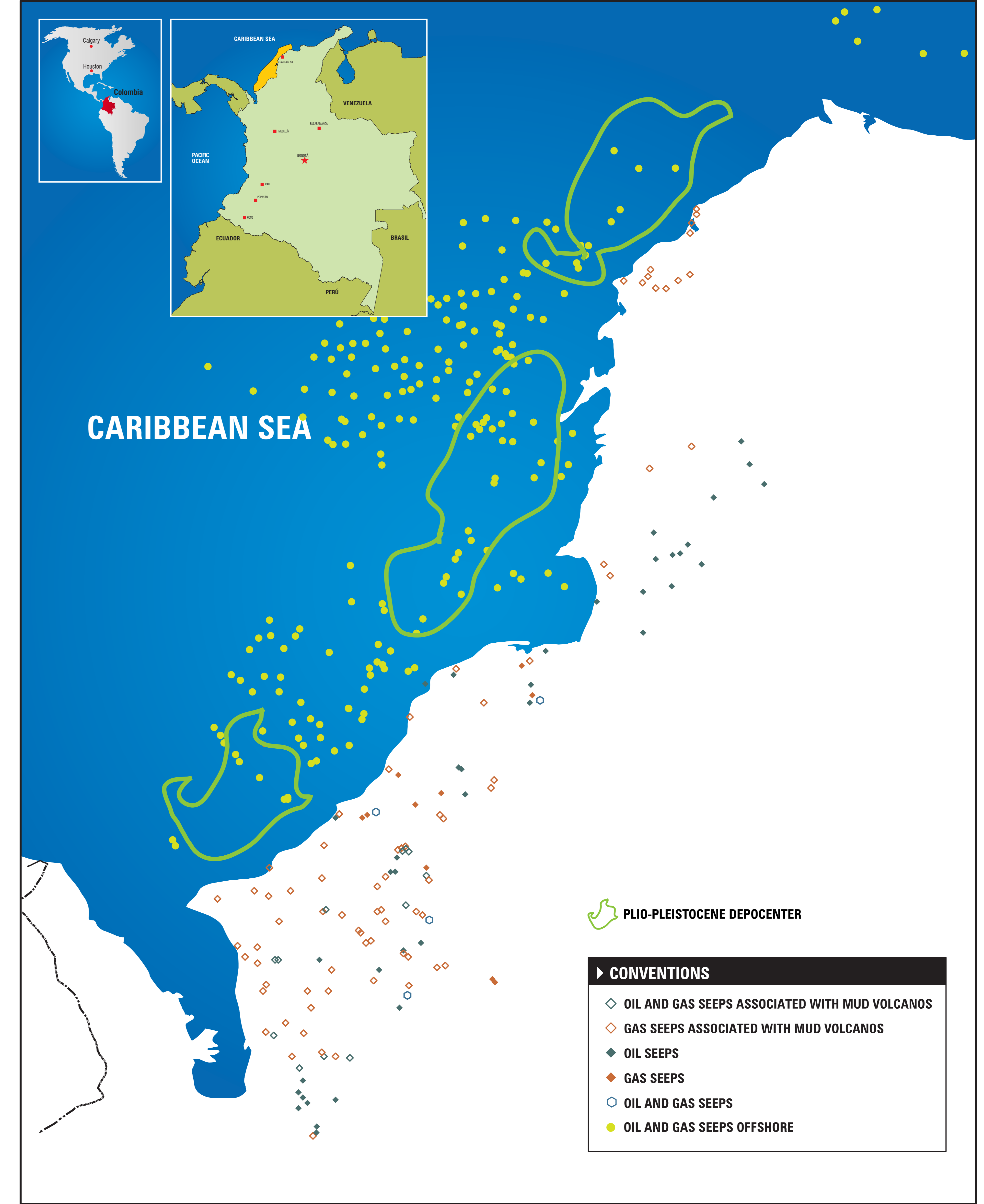


Reservoir Distribution



EDITED FROM RUIZ C. - 1995

Oil and Gas Seeps



ONSHORE DATA AFTER RUIZ C. - 1995
OFFSHORE DATA AFTER BP-AMOCO, TOTAL AND TEXACO