

Cazier and others, 1995

Data Set 11

Reference: Cazier, E.C., A.B. Hayward, G. Espinosa, J. Velandia, J-F. Mugniot, and W.G. Leel, Jr., Petroleum geology of the Cusiana Field, Llanos Basin Foothills, Colombia: American Association of Petroleum Geologists Bulletin, v. 79, n. 10, p. 1444-1463.

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Age: Oligocene

Formation: Mirador Formation

Location: Llanos Basin Foothills, Colombia

Well: 12 wells in the Cusiana Field

Depth range: 13,000 to 17,000 feet

Depositional environment: "The lower portion of the Mirador ... was deposited predominantly as estuarine channel fills. ... A middle mudstone unit is overlain by coarser grained estuarine and distributary channel sandstones, and minor mudstones that comprise the upper Mirador Formation."

Lithology: "The Cusiana Mirador reservoir sandstones are almost entirely quartzarenites. These rocks contain very few of the reactive or ductile grains (e.g. feldspar, shale, and carbonate clasts) usually encountered in other sandstone types. Grain size ranges from very fine grained sandstone to matrix-supported pebble conglomerate."

Alteration: "Petrographic analysis that measures the cemented portion of the rock indicates that compaction reduced porosity to approximately 18%. Following compaction, cementation, primarily in the form of authigenic quartz, reduced porosity to the low values (4-15%) found today. Quartz cement in the reservoirs in Cusiana, as determined by petrographic and cathodoluminescence analyses, averages 8% of the total rock and is very abundant (>20% of the total rock) in places. Kaolinite is a minor cement that postdates most quartz cementation. Although locally abundant (up to 7%), it averages approximately 1-2% and has caused only a minor reduction in porosity. We found no evidence in the sandstones for any cement type other than quartz or kaolinite. Secondary porosity is present in Cusiana sandstones, but represents no more than 10% of the total reservoir porosity. Secondary porosity appears to be best developed in the coarser sandstones, but does not appear to be a significant component of the total porosity. The dominant porosity type is primary intergranular."

Production: oil and gas.

Core measurement conditions: not stated.

Data entry: manual entry from Figure 16 of the referenced paper.