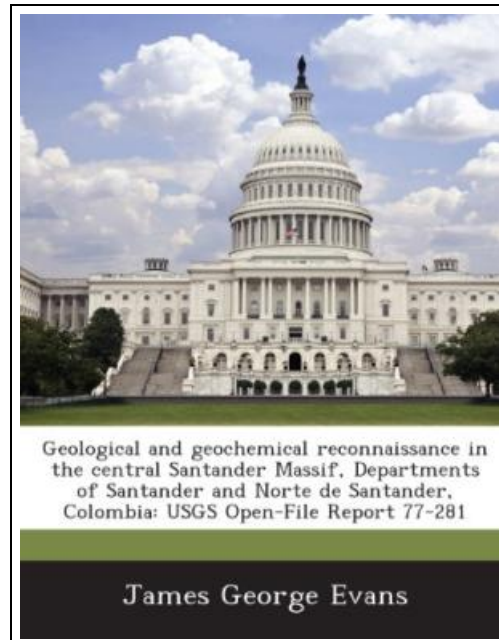


## Geological and Geochemical Reconnaissance in the Central Santander Massif, Departments of Santander and Norte de Santander, Colombia: Usgs Open-File Report 77-281



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## GEOLOGICAL AND GEOCHEMICAL RECONNAISSANCE IN THE CENTRAL SANTANDER MASSIF, DEPARTMENTS OF SANTANDER AND NORTE DE SANTANDER, COLOMBIA: USGS OPEN-FILE REPORT 77-281



Bibliogov, United States, 2013. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.The central Santander Massif is composed of Precambrian Bucaramanga Gneiss and pre-Devonian Silgara Formation intruded by Mesozoic quartz diorite, quartz monzonite, and alaskite and Cretaceous or younger porphyry. Triassic (Bocas Formation), Jurassic (Jordan and Giron Formations).and Cretaceous (Tambor, Rosa Blanca, Paja, Tablazo, Simiti, La Luna, and Umir Formations) sedimentary rocks overlie the metamorphic rocks and are younger than most of the intrusions. A geological and geochemical reconnaissance of part of the central Santander Massif included the Vetas and California gold districts. At Vetas the gold is generally in brecciated aphanitic quartz and phyllonite. Dark-gray material in the ore may be graphite. The ore veins follow steep west-northwest- and north-northeast-striking fracture zones. No new gold deposits were found. Additional geochemical studies should concentrate on western Loma Pozo del Rey and on improvement of the gold extraction process. At California the gold is in pyritiferous quartz veins and quartz breccia. Ore containing black sooty material (graphite?) is highly radioactive. Some of the mineralization is post-Lower Cretaceous. Soil samples indicate that gold deposits lie under the thick blanket of soil on the ridges above the zone of mining. Three principal gold targets are outlined by gold and associated minerals in pan concentrates. The close relation of gold and copper anomalies suggests that copper may be useful as a pathfinder for gold elsewhere in the region. Based on occurrences of gold or high concentrations of pyrite or chalcopyrite in pan concentrates and on analytical data, eight potential gold targets are outlined in the central massif. Reconnaissance of the surrounding region is warranted.

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