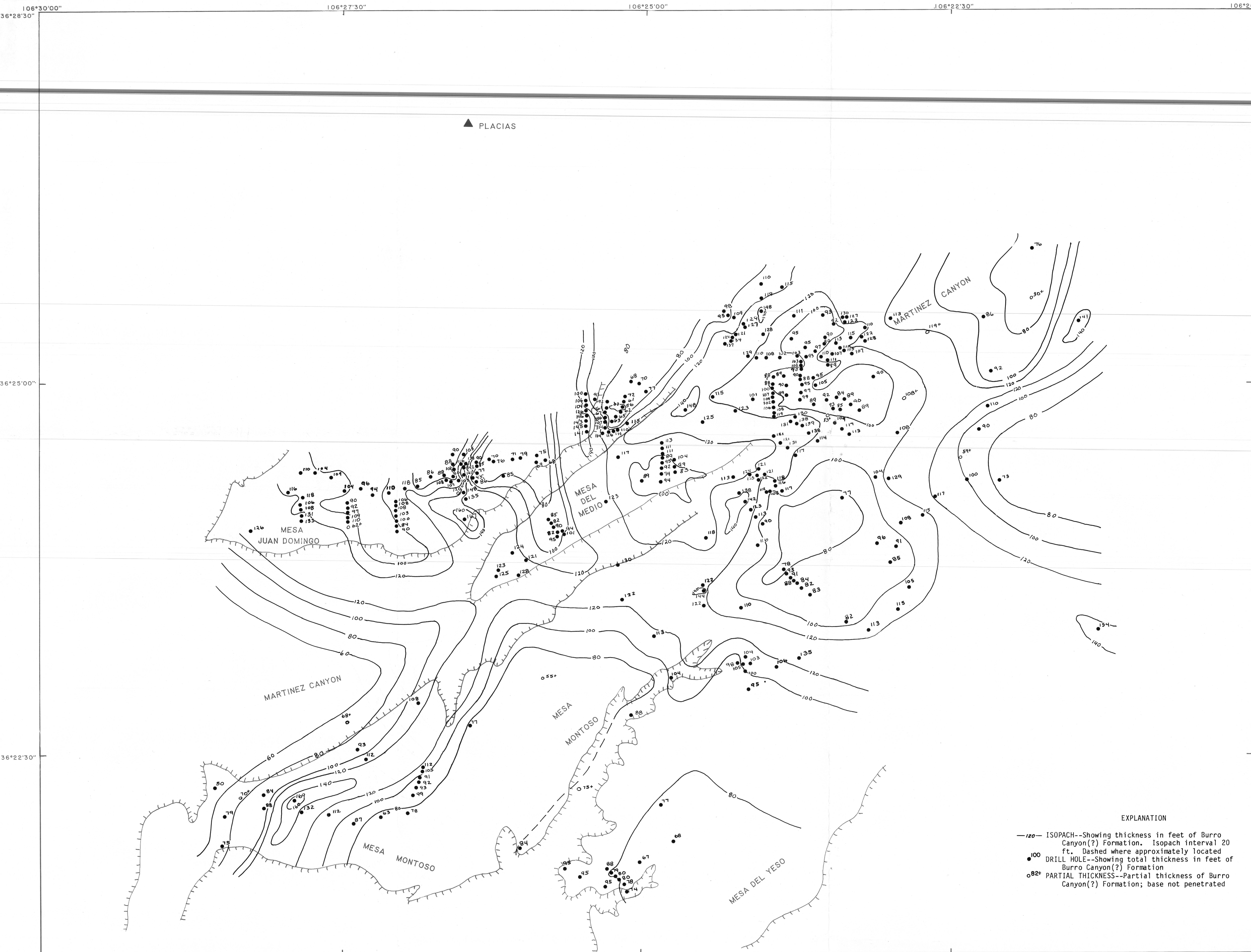
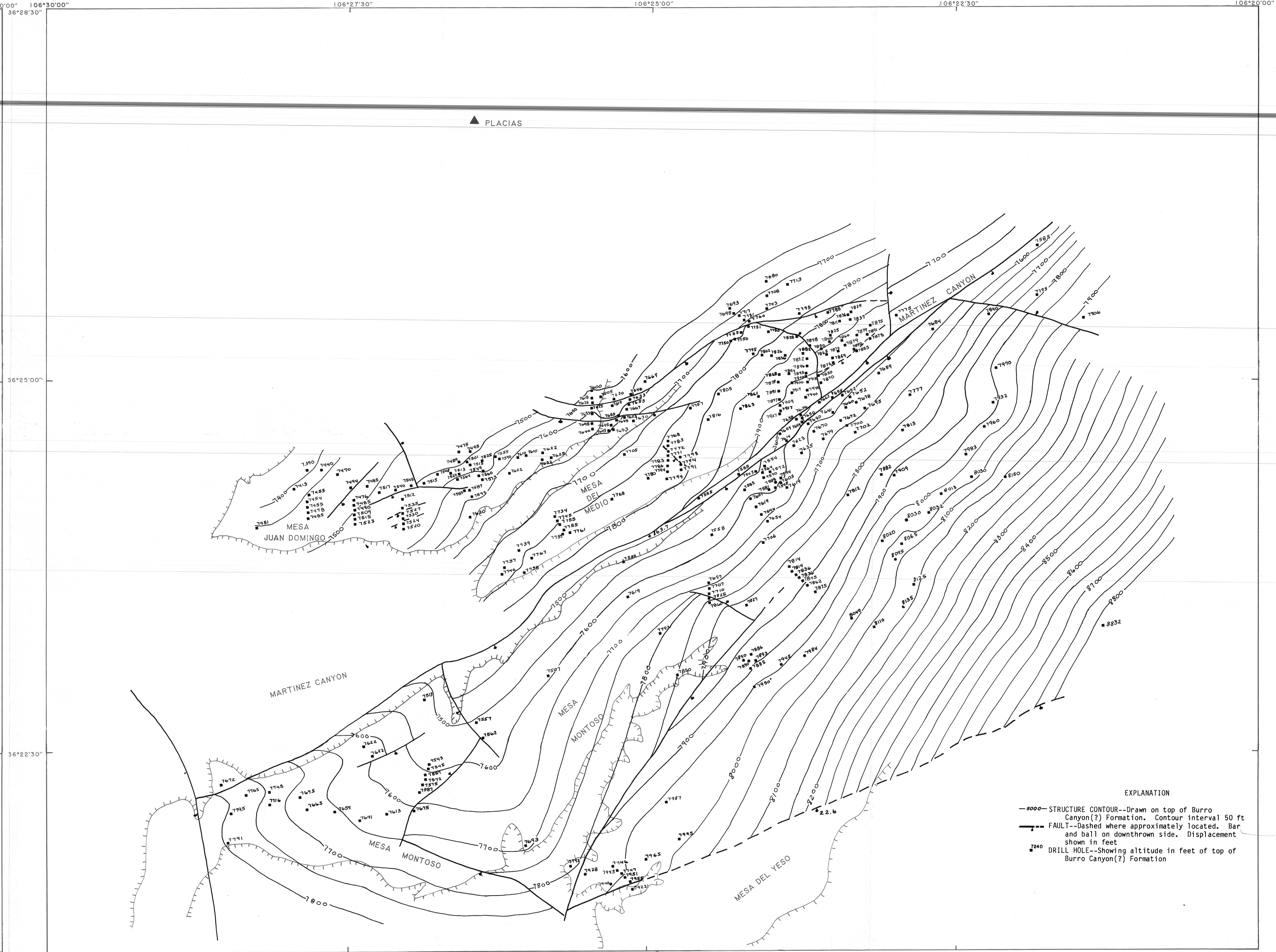




ISOPACH AND STRUCTURE CONTOUR MAPS OF THE BURRO CANYON(?)
FORMATION IN THE CANJILON-GHOST RANCH AREA · CHAMA BASIN, NEW MEXICO

By
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DISCUSSION

In the Chama Basin a sequence of conglomerate, sandstone, and red, gray-green, and pale-purple mudstone occurs stratigraphically between the Upper Jurassic Morrison Formation and Upper Cretaceous Dakota Sandstone. This stratigraphic interval has been called the Burro Canyon Formation by several workers (Craig and others, 1959; Smith and others, 1961; Saucier, 1974). Although similarities in lithology and stratigraphic position exist between this unit and the Burro Canyon Formation in Colorado, no direct correlation has been made between the two. For this reason the unit in the Chama Basin is called the Burro Canyon(?) Formation.

The Burro Canyon(?) Formation of Early Cretaceous age in the Canjilon-Ghost Ranch area is composed primarily of conglomerate and sandstone with thin red and green shale and mudstone lenses. Conglomerate is usually confined to the lower half of the formation. Mudstones and shales are sparse in the lower two-thirds of the formation but become more abundant, locally, in the upper one-third. The Burro Canyon(?) is unconformably overlain by the Upper Cretaceous Dakota Sandstone and unconformably overlies the Upper Jurassic Brushy Basin Member of the Morrison Formation.

The isopach map of the Burro Canyon(?) Formation indicates a range in thickness from about 50 to about 167 ft for the formation. In addition, it shows that over short distances the variation in thickness of the formation can be pronounced. Most of this variation is attributed to relief at the bottom of the formation. The rolling-type topography at the base of the Burro Canyon(?) is interpreted by the author to represent an erosion surface cut into the top of the Brushy Basin Member of the Morrison Formation at some time preceding deposition of the Burro Canyon(?).

Intertonguing of the Burro Canyon(?) and Brushy Basin has not been observed in outcrop or subsurface studies. The remaining variation in

Isopach and structure contour maps of the Burro Canyon(?) Formation were prepared using data primarily from geophysical and lithologic logs provided by the Anaconda Company. The geophysical logs include gamma, spontaneous potential, and resistivity logs. Subsurface drill-hole data were integrated with surface geologic data from Smith and others (1961) in preparing the structure contour map. Strike and dip data and faults shown on their maps were used as aids in interpreting the subsurface orientation of the top of the Burro Canyon(?) Formation as determined from the geophysical logs.

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total thickness is attributed to erosion of the top of the formation preceding deposition of the Dakota Sandstone. Relief on the pre-Dakota erosion surface is relatively much less than that at the base of the Burro Canyon(?).

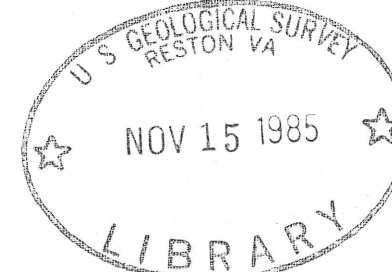
The structure map contoured on the top of the Burro Canyon(?) Formation is in general agreement with the general structure map of Smith and others (1961), but in some areas shows considerably more detail. Additional, local faults suggested by the subsurface data are shown on the map. The data indicate a regional northwest dip and pronounced local flexing in the southwest quadrant of the map.

REFERENCES

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