Early Tertiary(?) strata penetrated in Jornada del Muerto

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Rocks that appear to be of early Tertiary age were penetrated by four wells drilled in the Jornada del Muerto near Engle, New Mexico, during 1979 and 1980.

Samples from SERA #1 and TAC #2 wells have been filed with the New Mexico Bureau of Mines and Mineral Resources in Socorro, New Mexico, where they may be examined by interested parties.

No other wells in this part of the Jornada del Muerto penetrate rocks of similar character or apparent age. All four wells penetrate strata that apparently represent post-Mesaverde but pre-Santa Fe deposition.

1) TAC #2 well is located 783,100 ft north, 746,500 ft east (New Mexico coordinate system, west zone); total depth is 500 ft; 60 ft are sediments and sedimentary rocks (presumably of the Santa Fe Group); lower 440 ft are grayish-red, brownish-gray, and grayish-brown rhyolite and latitic tuffs and breccias.
2) JDC #1 well is located 797,100 ft north, 744,900 ft east (New Mexico coordinate system, west zone); total depth is 500 ft, mostly in gray, red, and blue sedimentary rocks (some probably volcaniclastic); one very hard red "sandstone" may be a volcanic flow.
3) JDC #2 well is located 800,250 ft north, 745,000 ft east (New Mexico coordinate system, west zone); total depth is 300 ft, mostly in gray, red, and blue sedimentary rocks; lowest 75 ft are probably volcaniclastic or volcanic; lowermost 33 ft are probably rhyolite.
4) SERA #1 well is located 830,700 ft north, 737,600 ft east (New Mexico coordinate system, west zone); total depth is 345 ft, in sediments and sedimentary rocks; below uppermost 114 ft (Santa Fe Group), well penetrated red, brown, gray, and, occasionally, purple sediments and sedimentary rocks; few samples may include volcaniclastics.

Our cursory examination of the drill cuttings from SERA #1 and TAC #2 wells and the drillers' logs of JDC #1 and JDC #2 wells, in addition to discussions with others working in the area, indicate that all four wells may penetrate different atypical phases of the Palm Park Formation (Eocene).

These correlations are uncertain and more detailed study could show that all or part of the strata belong in the Thurman, Love Ranch, or McRae Formations instead of the Palm Park Formation. Of these formations, only the McRae Formation has been identified this far north in the Jornada del Muerto. It occurs as isolated outcrops near the railroad in T. 12 S., R. 2 W. as well as extensive outcrops along the east shore of Elephant Butte Reservoir; Sun-Victorio #2 well in sec. 27, T. 10 S., R. 1 W. penetrated 39 ft of McRae(?) Formation. Frank Kottlowski (personal communication, 1981) recalls cuttings of McRae Formation from a series of seismic shot holes along old NM-52 east of Engle.

Whatever the ultimate correlation, the rocks involved are atypical of the early Tertiary formations elsewhere in the basin. □