Tierra Amarilla to El Vado Dam: Third-day supplemental road log

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TIERRA AMARILLA TO EL VADO DAM
THIRD-DAY SUPPLEMENTAL ROAD LOG

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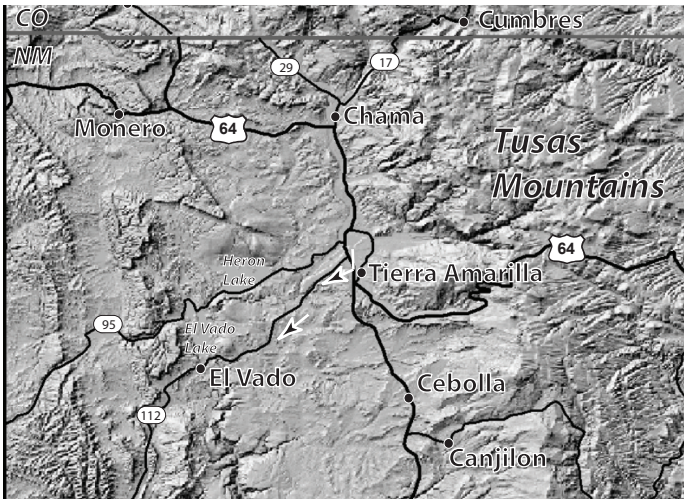
AND ANDREW B. HECKERT

Begin: Intersection of Highways 84 and 112 near Tierra Amarilla

Distance: 14.3 miles

One stop



SUMMARY

This supplemental log traverses the lower part of the Mancos Shale to end at El Vado Dam. Here, Cretaceous stratigraphy and depositional systems of the Dakota Sandstone and lower part of the Mancos Shale are discussed.

0.0 Begin Road Log at Intesection of US Highway 84 and New Mexico Highway 112.

Proceed on NM 112 to El Vado State Park. Road is on Pleistocene Brazos lava flow. *1.8*

1.8 Junction with 531 to right. **Continue straight** on 112. *0.5*

2.3 At 9:00, note Upper Cretaceous Point Lookout Sandstone on point of mesa. *1.7*

4.0 Road descends through Pleistocene basalt to Cretaceous bedrock and will now drop through a section of the lower part of the Mancos Shale. *0.7*

4.7 Rito de Tierra Amarilla to left. *0.3*

5.0 Cross Rito de Tierra Amarilla *2.3*

7.3 Roadcut on right is in calcareous shales and limestones of Greenhorn Limestone Member of Mancos Shale. *1.8*

9.1 Old military base to left. Greenhorn Limestone Member in roadcuts. *1.2*

10.3 Graneros to Greenhorn members on right. *0.6*

10.9 Roadcuts in Graneros Shale Member. *1.7*

12.6 Paguate Sandstone Tongue of Dakota on right in road cuts. Note orange-yellow-weathered color characteristic of Paguate from here south to Ghost Ranch area, as it thins considerably *0.2*

12.8 Road to left leads to Cooper Ranch and put-in point for Chama river trips. Good exposure of Dakota, Cubero Sandstone Tongue at suspension footbridge across Rio Chama with Dakota, Paguate Sandstone Tongue on canyon rim. A small parking fee is collected to park at Cooper Ranch. *0.5*

13.3 El Vado dam ahead. *0.6*

13.9 El Vado dam. **Turn left to cross dam.** *0.1*

14.0 Cross El Vado dam. *0.3*

14.3 STOP 1 - El Vado Dam
Stop at end of dam.

A complete section of the Graneros Shale and Greenhorn Limestone members of the Mancos Shale is well exposed in roadcuts (Figs. S.1-S.2). Below the dam on the west side of the river, the silty, more-resistant zone above the spillway is the silty equivalent of the Twowells Sandstone Tongue of the Dakota, underlain by the Whitewater Arroyo Shale Tongue of the Mancos. In the canyon below, the thin sandstone ledge at the rim of the canyon is the Dakota, Paguate Sandstone Tongue, underlain by the Clay Mesa Shale Tongue of the Mancos above the Dakota, and the Cubero Sandstone Tongue, the double sandstone ledges at

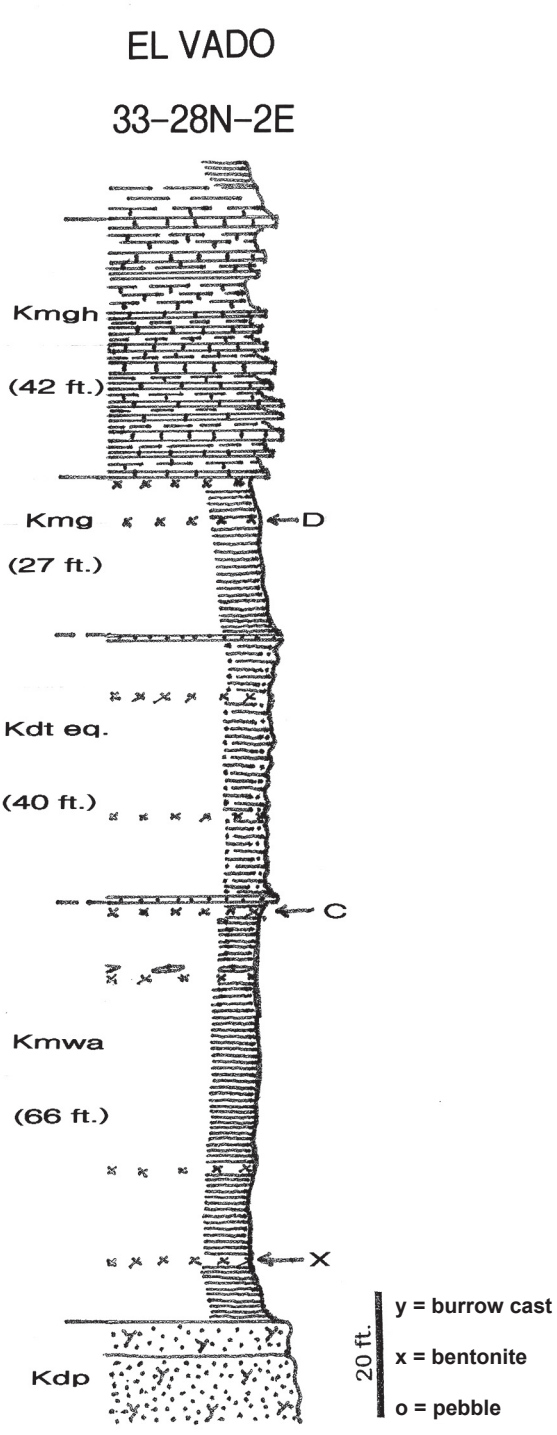


FIGURE S.1. Measured stratigraphic section at west side of El Vado Dam. Kdp = Dakota, Paguate Sandstone Tongue; Kmwa = Mancos, Whitewater Arroyo Shale Tongue; Kdt eq. = Dakota, Twowells Sandstone Tongue equivalent; Kmg = Mancos Graneros Shale Member; Kmgh = Mancos, Greenhorn Limestone Member. X, C, and D are prominent bentonites traceable throughout much of the San Juan Basin to the west.

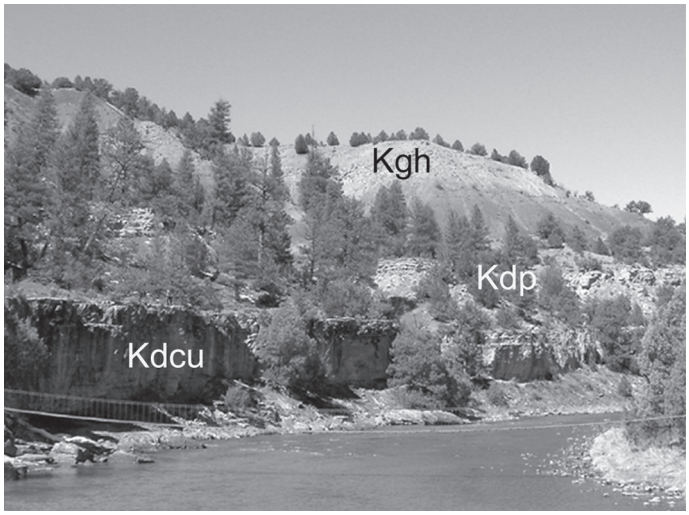


FIGURE S.2 Photograph of upper Dakota through Greenhorn stratigraphic section from Cooper Ranch to north near El Vado dam. Kdcu = Dakota, Cubero Sandstone Tongue, upper parasequence; Kdp = Dakota, Paguate Sandstone Tongue; Kgh = Mancos, Greenhorn Limestone Member. Suspension footbridge above Rio Chama in foreground.

the base of the canyon. The Paguate thins dramatically from El Vado dome on the east to the west side of the Rio Chama Canyon. The Oak Canyon Member of the Dakota and Burro Canyon Formation are exposed in the distance along the river downstream from Cooper Ranch.

END OF SUPPLEMENTAL ROAD LOG