



Supplemental road log 1, Caballo to Hatch via Hillsboro, Lake Valley, and Nutt

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1986, pp. 53-55. <https://doi.org/10.56577/FFC-37.53>

in:

Truth or Consequences Region, Clemons, R. E.; King, W. E.; Mack, G. H.; Zidek, J.; [eds.], New Mexico Geological Society 37th Annual Fall Field Conference Guidebook, 317 p. <https://doi.org/10.56577/FFC-37>

This is one of many related papers that were included in the 1986 NMGS Fall Field Conference Guidebook.

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SUPPLEMENTAL ROAD LOG 1, CABALLO TO HATCH VIA HILLSBORO, LAKE VALLEY, AND NUTT

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Mileage

- 0.0 I-25 and NM-90 intersection; cattle guard on NM-90 west. **0.9**
- 0.9 MP115 (from Arizona). Sierra de las Uvas dome with summit graben at 8:00; Nutt Mtn. at 9:00; Cooke's Peak at 9:30; Animas Hills in foreground from 10:00 to 2:00. Black Range on skyline from 10:00 to 1:00 (highest point 3,052 m); its crest is the approximate summit of resurgent uplift in Emory cauldron. San Mateo Mtns. at 2:00; Mud Springs Mtns. at 3:00. **3.0**
- 3.9 MP112. Driving on Palomas surface, about 0.5 my old. Salado Hills in foreground at 2:00. **2.0**
- 5.9 MP110. Copper Flat is the topographic basin in the Animas Hills at 12:00, carved on the Copper Flat stock, a copper-bearing quartz monzonite 73.4 ± 2.5 my old (Hedlund 1974). Ridges surrounding Copper Flat are of Cretaceous andesite flows and laharc breccias dipping radially away from the stock. **1.0**
- 6.9 MP109. Curve left; gravel road on right to Ladder Ranch and Dynapac Inc. Golden Gulch mine. **2.1**
- 9.0 Pliocene basalt exposed on both sides of road is 4.5 my old (Seager et al. 1984). **0.1**
- 9.1 Cross arroyo. **1.2**
- 10.3 Road on right to Copper Flat mine. Several companies did exploration on this prospect during the 1960–1980 interval. A mine was developed and a mill constructed by early 1983 by the partnership of Quintana Minerals and PhiBro (Phillips Brothers) at a reported cost of about \$100 million. The mine and mill operated for about two and a half months extracting copper, molybdenum, silver, and gold from the ore. It has been inactive since June 1983 and the mill was sold recently to be dismantled and moved (Robert Eveleth oral comm.). **0.4**
- 10.7 Gold-placer operations in arroyo ahead. Source of the gold is a system of quartz veins in Cretaceous andesite radial to Copper Flat stock. Recorded production of the Hillsboro and Animas mining district was about \$8,000,000, mostly for gold, copper, and silver mined between 1877 and 1952 (Northrop 1959). **1.4**
- 12.1 Site of ghost town of Gold Dust at 4:00. **0.3**
- 12.4 Outflow facies of Kneeling Nun Tuff in roadcuts and in arroyo to right. **0.4**
- 12.8 Roadcuts in propylitized Cretaceous andesite flows and laharc breccia for next 1.3 mi. **Caution—slow—wind-ing road ahead.** **1.3**
- 14.1 Cross fault. Altered Pennsylvanian sedimentary rocks in contact with Cretaceous andesite. **0.8**
- 14.9 Sharp curve to left. Brown-colored Bliss Ss. (Cambro-Ordovician) in roadcuts on left lies on Precambrian igneous rocks and is intruded by monzonite and diorite. Monzonite stock at 2:00–3:00 across canyon to west is capped by Pliocene basalt (Seager et al. 1984). Basalt capping the mesas in the valley (2:00–3:00) is on the downthrown side of the western boundary fault of the Animas uplift. **0.2**
- 15.1 Fault contact between brown quartzite and greenish, thin-bedded upper part of the Bliss Ss. **0.1**
- 15.2 Dark-gray diorite in roadcut on left intrudes Bliss Ss. and El Paso Ls. **0.2**
- 15.4 Intruded and intensely altered El Paso Ls. (Lower Ordovician) in roadcuts and hill to left. **0.1**
- 15.5 Cross western boundary fault of Animas uplift, downthrown to the west. One strand of the fault cuts fanglomerate of the Santa Fe Gr. in hill across Percha Creek at 12:00. Roadcuts in Santa Fe fanglomerate for next 0.7 mi. **0.4**
- 15.9 MP100. Cattle guard. **0.2**
- 16.1 Enter Hillsboro; elevation 1,579 m. **0.7**
- 16.8 Cross Percha Creek. Channel was deepened after the Labor Day flood in 1972. On that date Percha Creek overflowed its banks west of town and inundated the main part of town, causing considerable destruction. **0.1**
- 16.9 MP99. Black Range Museum on left. **Turn left onto NM-27 at MP30** (from Nutt). **1.0**
- 17.9 Pliocene basalt caps mesas from 12:00 to 3:00. The basalt overlies Tertiary Santa Fe fanglomerate. **1.4**
- 19.3 Sibley Mtn. at 12:00. Andesite flows and laharc breccias of the Rubio Peak Fm. (lower Oligocene; 37.1 ± 0.8 my; P.E. Damon pers. comm.) crops out in lower slopes overlain by basaltic andesite flows. The basaltic andesite is believed to be correlative with Uvas Basaltic Andesite and/or Bear Springs Basalt, about 25–29 my old (Seager 1973, Elston et al. 1973). **1.5**
- 20.8 Cross Trujillo Creek. It may be difficult to imagine, but several previous bridges have been destroyed by flood waters coming down this peaceful arroyo. **0.7**
- 21.5 MP25. Basaltic andesite flows form hills on left. **0.9**
- 22.4 Curve to right and cross arroyo. Finely crystalline monzonite-porphry stock exposed in roadcut ahead on right, unconformably beneath basaltic andesite. **0.5**
- 22.9 Pennsylvanian limestone across creek on left. **0.1**
- 23.0 Cross Oak Spring Creek. McClede Mtn. at 3:00 is composed of Mimbres Peak rhyolite and Kneeling Nun and Sugarlump Tuffs. **1.0**
- 24.0 North end of Sibley Mtn. at 10:00. Basaltic andesite

- unconformably overlies Rubio Peak. A mile farther south, in Sibley Mtn., Kneeling Nun Tuff outflow facies, about 120 m thick, is between the Rubio Peak and basaltic andesite. **0.3**
- 24.3 MP22. Cross Tierra Blanca Creek. **0.4**
- 24.7 Road to right goes to ranches and Forest Road along Tierra Blanca Creek. **0.6**
- 25.3 MP21. Kneeling Nun Tuff forms middle cliffs at 10:30. **0.2**
- 25.5 Crest of ridge. Monument Peak by Lake Valley at 12:00. Berenda Mtn., composed of Kneeling Nun and Sugarlump Tuffs, at 1:45. **0.7**
- 26.2 Ranch house on right. **0.9**
- 27.1 Cattleguard. Kneeling Nun Tuff forms cliffs at 9:00. **0.2**
- 27.3 MP19. Intensely altered Fusselman Dolomite and Montoya Fm. on right. **0.2**
- 27.5 Cross Jaralosa Creek. **0.4**
- 27.9 Cattleguard. Gravel road (Forest Trail 888) to right goes up Berrenda Creek. Latite flows of Oligocene age (Hedlund 1977) exposed in roadcuts. **0.3**
- 28.2 Cross Berrenda Creek. Latite overlain by Sugarlump Tuff, in turn overlain by Kneeling Nun Tuff (dark-colored cliff-former) exposed in canyon walls to left. Altered Fusselman and Montoya rocks on right. **0.5**
- 28.7 Ranch house in broadened part of Spring Creek valley ahead. Limited exposures of Percha Sh. around edges of valley at highway level. **0.7**
- 29.4 Ranch house on left. Percha Sh. exposed on right. **0.3**
- 29.7 Slight curve to right. Slope on left formed on Percha Sh.; overlain by Mississippian Caballero and Lake Valley Fms. Altered Fusselman and Montoya Fms. on right include jasperoids described by Young & Lovering (1966). **0.7**
- 30.4 Cattleguard. Percha in roadcuts on left. **0.5**
- 30.9 Top rise. Roadcuts in Santa Fe Gr. fanglomerate overlying Percha. **0.4**
- 31.3 Apache Hill at 12:00 contains, in ascending order, Percha Sh., Caballero Fm., and Andrecito, Alamogordo, and Nunn Mbrs. of the Lake Valley Fm. (see Kues in this guidebook). Fusselman jasperoids underlie Percha Sh. on right of highway. **1.0**
- 32.3 MP14. Cattleguard. Jasperoids on right of highway. Town Mtn. at 1:00 composed of Mimbres Peak rhyolite about 32 my old (Jicha 1954, Seager et al. 1978). **0.4**
- 32.7 Curve to left. Gravel road to right goes up Berrenda Creek. Monument Peak at 9:00, beyond abandoned manganese mine, composed of Rubio Peak Fm. **0.6**
- 33.3 MP13. Just ahead, gravel road to left goes into "downtown" Lake Valley. Schoolhouse at 10:30 is site of country western dancing the first Saturday each month. **0.4**
- 33.7 Lake Valley at 9:00; road to right to Lake Valley cemetery. Old railroad grade from Nutt to Lake Valley visible at 12:00. **0.5**
- 34.2 Nutt Mtn. at 12:00; cross arroyo. Low hills on right composed of Eocene Rubio Peak latite-andesite flows, plugs, and laharc breccias about 41 my old (Loring & Loring 1980). **1.5**
- 35.7 Curve to right. Caballo Mtns. at 9:00; Cooke's Peak at 3:00 composed of granodiorite laccolithic intrusive into Paleozoic and Lower Cretaceous rocks. Granodiorite is 38.8 ± 1.4 my old (Loring & Loring 1980). **0.9**
- 36.6 Gravel ranch road to left. Low hills on right are Rubio Peak volcanic rocks. **1.8**
- 38.4 MP8. Highway is here on probable Palomas surface that grades to the Palomas Basin to the east and southeast. **0.1**
- 38.5 Cattleguard. Good Sight Peak at 12:30 is capped by Uvas Basaltic Andesite flows, overlying Oligocene Bell Top Fm. volcanoclastic sediments, and Rubio Peak volcanic breccias. Florida Mtns. at 1:30 are 25 km southeast of Deming. Round Mtn. at 2:00 is composed of Rubio Peak andesite. **1.9**
- 40.4 MP6. Nutt Mtn. at 10:00 is a flow-banded rhyolite plug with a perlitic border phase. Its eastern half is circled by a valley eroded in tuffaceous vent fill. The western side of the vent is downdropped by a north-northeast-trending fault. The low hills north and east of Nutt Mtn. contain the southeasternmost exposures of Kneeling Nun Tuff. The Kneeling Nun is there overlain by hornblende latite and andesite informally called the Tenaga Canyon fm. by Clemons (1979). These latite-andesite rocks form an intrusive-extrusive complex of probably late Oligocene age. **2.5**
- 42.9 Cattleguard. Gravel ranch road to right. **0.5**
- 43.4 MP3. Sierra de las Uvas in background from 9:00 to 10:00; Good Sight Mtns. from 9:00 to 11:30; Florida Mtns. at 1:00. **1.0**
- 44.4 MP2 after rounding long curve to left. Low hills from 10:00 to 2:00 are composed of Rubio Peak Fm. and comprise the northern part of the Good Sight Mtns. **2.0**
- 46.4 Junction with NM-26, Nutt. Elevation 1,437 m. **Stop. Turn left** toward Hatch. **1.1**
- 47.5 Highway crosses Tuff 6 of Bell Top Fm. which overlies conglomeratic volcanoclastics (Clemons 1976); roadcut on left exposes Tuff 6. The northwesternmost exposure of Tuff 6 is about 1.2 km north of here. **0.1**
- 47.6 MP29 (from Deming). Sierra de las Uvas from 11:30 to 2:00, Massacre Peak at 1:30, and Good Sight Peak at 3:15, all capped by Uvas Basaltic Andesite. The Sierra de las Uvas is a broadly domed and faulted sequence of ash-flow tuffs and volcanoclastic rocks comprising the Bell Top Fm. capped by basaltic andesite flows (Clemons & Seager 1973, Seager 1973). **0.9**
- 48.5 Uvas Basaltic Andesite caps hill to right. **0.8**
- 49.3 Road to right goes to farms and ranches in the Uvas Valley. The west flank of the Sierra de las Uvas forms the east limb of the north-plunging Uvas Valley syncline and the Good Sight Mtns. from 3:00 to 5:00 form the west limb. Uvas Basaltic Andesite exposed on sides of Willow Canyon at 9:00 with Nutt Mtn. in background. This Uvas Basaltic Andesite was probably erupted from a vent not far northwest of here.
- Closure of the Uvas Valley topographic depression is about 17 m. The central playa floor is 1,358 m, and the

low point on the divide between interior and Rio Grande drainage systems is about 1,375 m. Several wave-built bars and many smaller relic lakeshore features between 1,366 and 1,372 m indicate that the central Uvas Valley depression was once occupied by a permanent lake named Lake Goodstight by Hawley (1965). Lacustrine sediments range from greenish, ostracod-bearing clays to sand and gravel deposits of beaches and nearshore bars.

Aquifers in a thick Santa Fe Gr. basin-fill section and volcanoclastic units interbedded with Uvas and Bell Top flows have been tapped by many irrigation wells. Most of the valley is within the "declared" Nutt-Hockett Underground Water Basin regulated by the State Engineer. Long-range records show that the water table in the central Uvas Valley dropped about 12 m between 1962 and 1978 (Clemons 1979). **0.3**

- 49.6 MP31. Roadcut in piedmont gravels over Uvas Basaltic Andesite. **0.8**
- 50.4 Road to right to gravel quarry used periodically for maintenance of NM-26. Low, rounded hills at 9:00 are Tenaga Canyon andesite. **0.7**
- 51.1 Hackey farm on left is located just below high shoreline of Lake Goodstight. **0.4**
- 51.5 MP33. Highway crosses playa that is remnant of Lake Goodstight. Lake-bar embankment from 9:00 to 1:00. **0.6**
- 52.1 Roadcuts in a lake-bar embankment. This arcuate ridge of sand to pebbly sand extends for about 3 km along the northeast edge of the main Uvas Valley playa. **1.5**
- 53.6 MP35. About 12 individual flows of Uvas Basaltic Andesite can be distinguished in eroded slopes at 2:00 **1.3**
- 54.9 Luna-Sierra County line. **0.9**
- 55.8 Sierra-Doña Ana County line. Road on right to Hillburn Dairy. **0.4**
- 56.2 Playa on left marks probable northeasternmost extension of Lake Goodstight. **0.7**

- 56.9 County road, E-1, on right to Hillburn Dairy and farm. **0.6**
- 57.5 MP39. Roadcuts expose prominent caliche-caprock zone which preserves ancient Palomas Basin floor underlain by about 100 m of Camp Rice fluvial deposits (Hawley et al. 1975). Caballo Mtns. at 10:00, San Andres Mtns. in distance from 11:00 to 2:00. **1.5**
- 59.0 Start descent through about 100 m of Camp Rice fine-grained, flood-plain deposits with some interbedded channel sand and gravel (generally an excellent aquifer). Caliche cap well exposed from 11:00 to 12:00. **1.5**
- 60.5 MP42. Sierra Alta at 2:00 is a northeast-tilted fault block of Uvas Basaltic Andesite underlain by Bell Top Fm. ash-flow tuffs and volcanoclastic beds (Seager et al. 1975). **2.5**
- 63.0 Highway crosses contact between Camp Rice Fm. and underlying Rincon Valley gypsiferous red beds. The Rincon Valley Fm. (an excellent **aquiclude**) is up to 610 m thick under the Hatch Valley. Hatch airport on left ahead and cementery and ball field on right. **1.0**
- 34.0 Cross Placitas Arroyo. **0.6**
- 64.6 Enter Hatch (elevation 1,235 m), population of 1,028. This farming and ranching center was originally settled as Santa Barbara in 1851, but was abandoned due to troubles with the Apache Indians. Fort Thorn was established in 1853 about 3 km north of here and it was abandoned in 1860. The area was reoccupied in 1875 and renamed for Gen. Edward Hatch, Commander of the New Mexico Military District. **0.2**
- 64.8 "Y" junction with US-85 from left. **0.3**
- 65.1 Turn left on Franklin St. to I-25. **1.0**
- 66.1 Cross Rio Grande. **0.2**
- 66.3 I-25. Turn right to Las Cruces and south or turn right to Truth or Consequences and north.

End of trip.