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Road log describing the
Quaternary geology of the
Albuquerque area, New Mexico

By

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This report is preliminary and has not been
edited or reviewed for conformity with U.S.
Geological Survey standards and nomenclature

CONTENTS

	Page
Introduction-----	1
Road Log-----	3
References cited-----	20

ILLUSTRATIONS - SHORT LIST

Figure 1. Index map of the Albuquerque area-----	2
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ROAD LOG DESCRIBING THE QUATERNARY GEOLOGY
OF THE ALBUQUERQUE AREA, NEW MEXICO

by P. W. Lambert

Introduction

This road log is based upon an unpublished Ph.D. dissertation (Lambert, 1968) and is a slightly modified version of an unpublished road log originally prepared for the 24th Annual Meeting of the New Mexico Geological Society, Albuquerque, New Mexico, April 17-18, 1970. The road log begins in Albuquerque near the University of New Mexico campus at the intersection of Central Avenue and Stanford Street. It describes the geology of areas west and north of Albuquerque, ending five mi (8.1 km) (kilometres) north of the campus at the intersection of Interstate Highway 25 and San Mateo Boulevard.

- The total distance of travel is 63.65 mi (102.4 km). Figure 1 is an index map showing the route described.

(2)

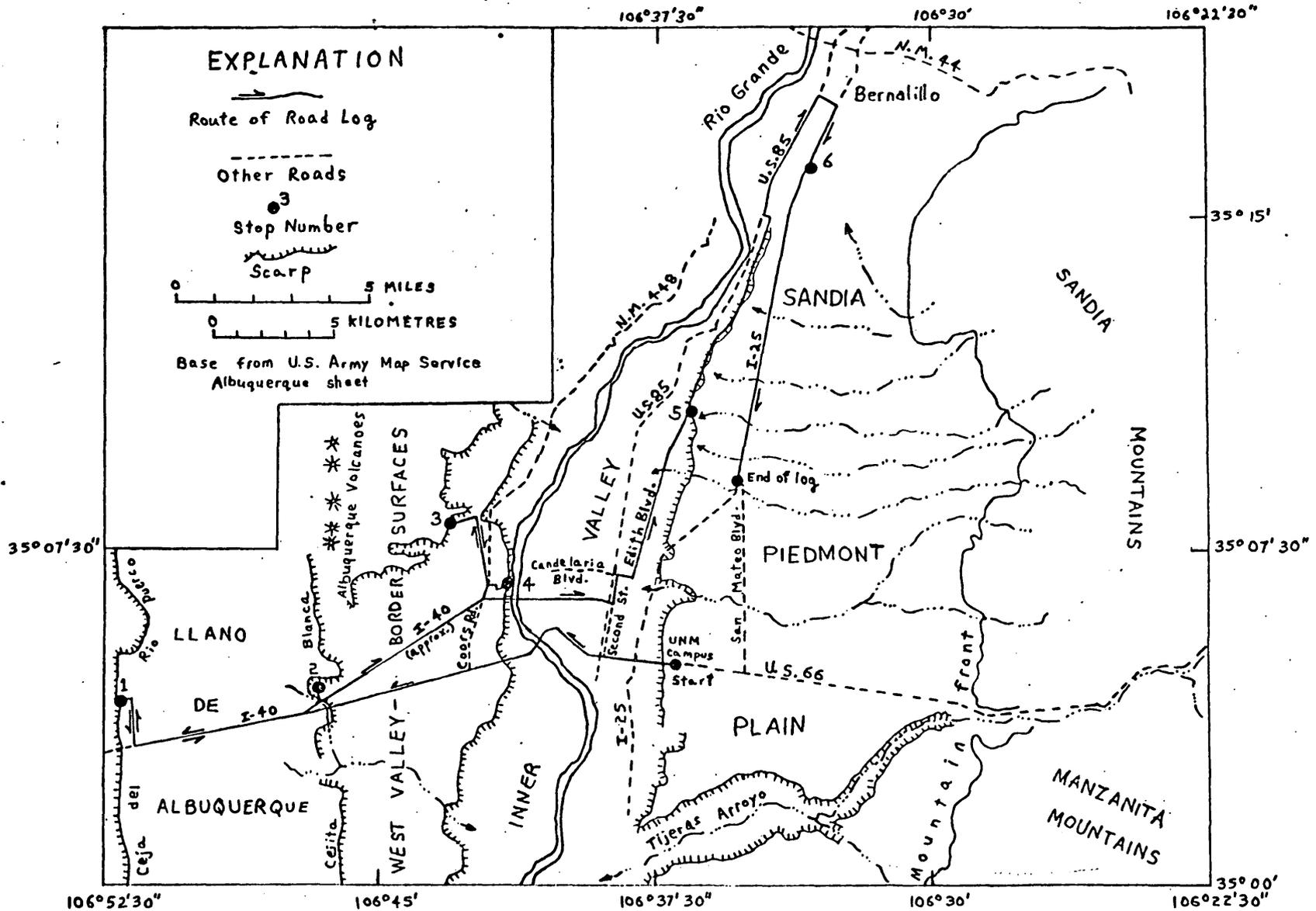


Figure 1.--Index map of the Albuquerque area showing route described by the road log and physiographic subdivisions.

Road Log

<u>Cumulative Mileage</u>	<u>Description and Interval Mileage</u>
0.0 (0.0 km)	Central Avenue and Stanford Street (SE 1/4 SW 1/4 NW 1/4 sec. 22, T. 10 N., R. 3 E.). Travel west on Central Avenue. The University of New Mexico is built upon a large late Pleistocene(?) alluvial fan deposited by an ancestral Tijeras Creek. 0.3 mi (0.5 km)
0.3 (0.5 km)	Central Avenue and Terrace Boulevard. Road begins descent of scarp at eroded western edge of alluvial fan. 0.1 (0.2 km)
0.4 (0.6 km)	Central Avenue and University Boulevard. 0.3 (0.5 km)
0.7 (1.1 km)	Gasoline station at left. Silt, sand, and gravel of ancestral Tijeras Creek alluvial fan are exposed in bank behind station. 0.3 (0.5 km)
1.0 (1.6 km)	Central Avenue and Interstate Highway 25. The alluvium of Edith Boulevard (Lambert, 1968, p. 165) crosses Central Avenue in this area but its outcrop has been obliterated by construction activity. 0.3 (0.5 km)
1.3 (2.1 km)	Central Avenue and Edith Boulevard. 0.3 (0.5 km)
1.6 (2.6 km)	Central Avenue and First Street. Downtown Albuquerque is built upon the Holocene floodplain of the Rio Grande. 0.5 (0.8 km)
2.1 (3.4 km)	Central Avenue and Eighth Street. Central Avenue curves to right. 1.1 (1.8 km)
3.2 (5.2 km)	Central Avenue and Rio Grande Boulevard. 0.6 (1.0 km)
3.8 (6.1 km)	East abutment of Central Avenue bridge over Rio Grande.

0.2 (0.3 km)

4.0 West abutment of bridge. Clay, silt, and sand of alluvium of
(6.4 km) Los Duranes (Lambert, 1968, p. 154) are exposed in bluffs from
3:00 to 4:00.

1.0 (1.6 km)

5.0 Central Avenue and South Coors Boulevard. This intersection
(8.1 km) is on the Primero Alto surface (Bryan and McCann, 1938), an
erosional terrace capped by the alluvium of Edith Boulevard.
The surface is about 55-65 ft (17-20 m) (metres) above the Rio
Grande floodplain. North of here the Primero Alto surface has
been removed by recent westward migration of the Rio Grande.
The ascent from the Primero Alto surface to the Segundo Alto
surface (Bryan and McCann, 1938) begins about a block west of
this intersection.

0.7 (1.1 km)

5.7 Central Avenue and North Coors Boulevard. This intersection is
(9.2 km) on the Segundo Alto surface, a constructional terrace underlain
by the alluvium of Los Duranes. The surface is about 140 ft
(43 m) above the Rio Grande floodplain. The houses and trees
at 9:00 are on the Primero Alto surface.

0.3 (0.5 km)

6.0 66 Drive-in Theater at right. South group of Albuquerque Vol-
(9.7 km) canoes (basalt) from 2:00 to 3:00. The low dark hills from
1:00 to 2:00 (near the overpass) are underlain by sand and gravel
of Bryan and McCann's (1937) upper buff member of the Santa Fe
Formation. The skyline from 10:00 to 2:00 is Cejita Blanca
("little white eyebrow"), a scarp underlain mainly by the upper
buff member. A caliche horizon developed in the top of the upper
buff gives the scarp its name.

0.8 (1.3 km)

6.8 Road begins ascent of alluvial-fan apron built eastward from base
(11.0 km) of Cejita Blanca scarp.

0.3 (0.5 km)

7.1 Hill at 3:00 underlain by sand and gravel of upper buff member.
(11.4 km) An erosional outlier of the Cejita Blanca scarp, it is the east-
ernmost upper buff exposure on Central Avenue between the scarp
and the Rio Grande.

1.1 (1.8 km)

- 8.2 Housing subdivision at 9:00 is on alluvial-fan apron.
(13.2 km)
- 0.6 (1.0 km)
- 8.8 Road begins ascent of Cejita Blanca scarp. Sand and gravel of
(14.2 km) upper buff member exposed in roadcuts ahead. Hills to right and
 left are underlain by upper buff member covered with eolian sand.
- 1.0 (1.6 km)
- 9.8 Top of Cejita Blanca scarp (also known as Nine-Mile Hill). Road
(15.8 km) ahead is through a late Pleistocene(?) dune field on the Llano
 de Albuquerque (Lambert, 1974). The Llano is a gently rolling
 upland surface about 50 mi (80 km) long and 5 mi (8 km) wide
 between the Rio Grande and the Rio Puerco. In this area it is
 characterized by wide south- and southeast-trending valleys.
 Many of the valleys are blocked by late Pleistocene and Holocene,
 northeast-trending, longitudinal sand dunes forming numerous small
 intermittent lakes. The upper buff member underlies the Llano but
 is generally obscured by reworked upper buff sediments and eolian
 sand. The Llano is not a single geomorphic surface but, rather,
 is a complex of several surfaces of different ages and origins.
 The road crosses the County Dump fault (Lambert, 1968, p. 225)
 near the top of Cejita Blanca scarp, but the fault here is covered
 with eolian sand. Los Lunas Volcano at 9:30, Wind Mesa at 10:00,
 and Sierra Lucero at 10:30.
- 0.2 (0.3 km)
- 10.0 Turn right onto overpass and continue across overpass to frontage
(16.1 km) road on north side of Interstate Highway 40.
- 0.2 (0.3 km)
- 10.2 North end of overpass. Turn left onto frontage road.
(16.4 km)
- 3.1 (5.0 km)
- 13.3 Slight rise in road. Wind Mesa at 9:00; low dark hills at 9:30
(21.4 km) are well-preserved basalt cinder cones; Ladron Peak at 10:00;
 light-brown hill at 10:30 is active sand dune at top of Ceja del
 Rio Puerco ("eyebrow of the Rio Puerco"). The Ceja is the west
 edge of the Llano.
- 1.3 (2.1 km)
- 14.6 Turn right onto paved road to Federal Aviation Agency Radar
(23.5 km) Facility. After turn, Mt. Taylor is at 10:00. Road travels
 north, parallel to Ceja.
- 0.7 (1.1 km)

- 15.3 (24.6 km) Dissected scarp from 10:00 to 11:00 is on the upthrown side of a small northeast-trending fault that has offset the caliche developed in the top of the upper buff member.
- 0.5 (0.8 km)
- 15.8 (25.4 km) Turn left onto dirt road just before cattle guard.
- 0.25 (0.4 km)
- 16.05 (25.8 km) STOP NO. 1. Park and walk to edge of Ceja del Rio Puerco. The upper buff member underlies the Ceja and consists mainly of interbedded pinkish-gray, sandy pebble gravel and pebbly sand in the upper part of the scarp and of interbedded grayish-pink sand, clay, and mudstone in the lower part. Primary sedimentary structures and clast lithologies suggest that the upper buff member here was deposited by a system of east- and southeast-flowing streams. At the top of the scarp, several feet of active and inactive eolian sand overlie caliche developed in the top of the upper buff member. The stratigraphic section here is similar to the Rincon section (Lambert, 1968, p. 271) about a mile (1.6 km) to the north. After Stop No. 1 return to the frontage road on the north side of the Interstate Highway 40.
- 1.45 (2.3 km)
- 17.5 (28.2 km) Intersection of Radar Facility road and frontage road. Turn left (east) onto frontage road.
- 4.4 (7.1 km)
- 21.9 (35.2 km) North end of overpass. Turn left onto County Land Fill Site road.
- 0.2 (0.3 km)
- 22.1 (35.6 km) Rio Grande Valley, Sandia piedmont plain, and Sandia Mountains ahead.
- 0.3 (0.5 km)
- 22.4 (36.0 km) Sharp left turn ahead. County Dump fault is exposed in road cut at left just before turn.
- 0.3 (0.5 km)
- 22.7 (36.5 km) STOP NO. 2. County Land Fill Site. The County Dump fault is well exposed in the prominent east-west scarp about 1,000 ft (305 m) north of the dump. It is a high-angle, north-trending normal fault along which a light-colored silt-sand-caliche sequence on the east has been faulted down relative to the upper buff member

on the west. Subsurface evidence suggests 200-250 ft (61-76 m) of dip separation of the upper buff member. The County Dump fault has probably had a history somewhat similar to the history outlined by Wright (1946) for the Sand Hill fault zone; that is, intermittent faulting, deposition, and caliche formation. After Stop No. 2 return to the intersection of County Land Fill Site road and north frontage road.

0.8 (1.3 km)

23.5 Intersection of Land Fill Site road and north frontage road.
(37.8 km) Turn left, cross overpass, and turn left onto Interstate Highway 40 toward Albuquerque.

0.9 (1.4 km)

24.4 Road cut at left in upper buff member.
(39.3 km)

0.25 (0.4 km)

24.65 Hill at 3:00 is underlain by upper buff member capped by a
(39.7 km) partially stabilized sand dune.

0.15 (0.2 km)

24.8 Road cuts on left in upper buff member.
(39.9 km)

0.6 (1.0 km)

25.4 Albuquerque Volcanoes at 10:00.
(40.9 km)

0.4 (0.6 km)

25.8 Road cut at right is in alluvial-fan-apron sediments. The
(41.5 km) sediments consist of reworked upper buff member sediments with admixed eolian silt and sand. The fan-apron sediments can generally be distinguished from the upper buff by their poorer sorting and yellowish-gray color.

0.3 (0.5 km)

26.1 Hill at 9:00 is underlain by upper buff member.
(42.0 km)

0.15 (0.2 km)

26.25 Underpass.
(42.2 km)

0.25 (0.4 km)

26.5 Low hill at right is underlain by upper buff member.
(42.6 km)

- 0.3 (0.5 km)
- 26.8 (43.1 km) Gray hills between here and Volcano Cliffs at 8:00 are underlain by upper buff member.
- 0.5 (0.8 km)
- 27.3 (43.9 km) Road is on distal end of alluvial-fan apron, which merges with Segundo Alto surface just ahead.
- 0.5 (0.8 km)
- 27.8 (44.7 km) Road is on Segundo Alto surface.
- 0.5 (0.8 km)
- 28.3 (45.5 km) Volcano Cliffs to left.
- 0.3 (0.5 km)
- 28.6 (46.0 km) SLOW. Take Coors Road exit off of Interstate Highway 40.
- 0.2 (0.3 km)
- 28.8 (46.3 km) Turn left (north) onto Coors Boulevard.
- 0.1 (0.2 km)
- 28.9 (46.5 km) First of two overpasses over Interstate Highway 40. Road cuts on right along Interstate Highway 40 expose sediments of the alluvium of Los Duranes underlying the Segundo Alto surface. Prepare for left turn off of Coors Boulevard.
- 0.4 (0.6 km)
- 29.3 (47.1 km) Make 45° turn off of Coors Boulevard onto dirt road heading north toward Volcano Cliffs.
- 0.2 (0.3 km)
- 29.5 (47.5 km) J cone, the most prominent of the Albuquerque Volcanoes, is at 10:00. The cone is about 200 ft (61 m) high and 0.4 mi (0.6 km) in diameter. It is a steep-sided cinder and lava cone flanked on the north by a questionable collapse structure and on the south by two small adventive cones. J cone was the source of at least two relatively large lava flows, one extending 2.5 mi (4 km) east and another engulfing a large area west, north, and northeast of the cone.
- 0.45 (0.7 km)

- 29.95 Intersection. Continue ahead on paved road.
(48.2 km)
0.45 (0.7 km)
- 30.4 Intersection. Continue ahead on paved road.
(48.9 km)
0.6 (1.0 km)
- 31.0 Turn left onto dirt road toward Volcano Cliffs. After turning,
(49.9 km) notice red argillic horizon of soil exposed in dirt road. This soil occurs over most of the Segundo Alto surface. In many places it is overlain by a thin veneer of recent eolian sand. The quartzite pebbles and cobbles in the road are road metal.
0.5 (0.8 km)
- 31.5 Road turns left.
(50.7 km)
0.1 (0.2 km)
- 31.6 STOP NO. 3. Park and walk up road to examine sediments in
(50.8 km) Volcano Cliffs. These sediments, consisting of pink and green clay and silt and clean, light-colored sand, were mapped as upper buff member by Lambert (1968, p. 73, 103). Instead they may represent an axial-stream valley fill younger than the upper buff but older than the alluvium of Los Duranes. After Stop No. 3 return to paved road.
0.7 (1.1 km)
- 32.3 Intersection of dirt road and paved road. Turn right.
(52.0 km)
0.4 (0.6 km)
- 32.7 University of Albuquerque, at 9:00, is built at east edge of
(52.6 km) Segundo Alto surface.
0.6 (1.0 km)
- 33.3 Intersection. Turn left, staying on pavement.
(53.6 km)
0.2 (0.3 km)
- 33.5 Intersection. Turn right onto Coors Boulevard.
(53.9 km)
0.6 (1.0 km)
- 34.1 Turn left off of Coors Boulevard onto Ouray Road.
(54.9 km)
0.2 (0.3 km)

- 34.3 Turn right onto paved road.
(55.2 km) 0.1 (0.2 km)
- 34.4 Turn left off of Alamogordo Drive onto Holt Avenue.
(55.3 km) 0.05 (0.1 km)
- 34.45 Turn left off of Holt Avenue onto Hurley Drive.
(55.4 km) 0.15 (0.2 km)
- 34.6 Road turns to right.
(55.7 km) 0.05 (0.1 km)
- 34.65 Turn right onto Vista Grande Drive and park for STOP NO. 4.
(55.8 km) Walk east to edge of Segundo Alto surface to see type locality
of alluvium of Los Duranes (Lambert, 1968, p. 260).
0.2 (0.3 km)
- 34.85 Turn right off of Vista Grande Boulevard onto Holt Avenue
(56.1 km) 0.1 (0.2 km)
- 34.95 Turn right off of Holt Avenue onto Alamogordo Drive.
(56.2 km) 0.05 (0.1 km)
- 35.0 Angle to left, stay on pavement.
(56.3 km) 0.1 (0.2 km)
- 35.1 Turn left onto Ouray Road.
(56.5 km) 0.2 (0.3 km)
- 35.3 Intersection of Ouray Road and Coors Boulevard. Turn left
(56.8 km) onto Coors Boulevard and prepare to take Interstate Highway
40 East (Santa Rosa) exit.
0.3 (0.5 km)
- 35.6 Get in Interstate Highway 40 East (Santa Rosa) exit lane.
(57.3 km) 0.1 (0.2 km)
- 35.7 Overpass over Interstate Highway 40.
(57.4 km) 0.1 (0.2 km)

- 35.8 (57.6 km) Turn right off of Coors Boulevard onto Interstate Highway 40 East (Santa Rosa) exit.
0.3 (0.5 km)
- 36.1 (58.1 km) Road cuts ahead expose clay, silt, and sand of alluvium of Los Duranes.
0.5 (0.8 km)
- 36.6 (58.9 km) West abutment of Interstate Highway 40 bridge over Rio Grande. Alluvium of Los Duranes is well exposed in bluffs ("Adobe Cliffs") on west side of Rio Grande north and south of the bridge.
0.2 (0.3 km)
- 36.8 (59.2 km) East abutment of bridge.
1.45 (2.3 km)
- 38.25 (61.5 km) Prepare to take Second and Fourth Street exit.
0.35 (0.6 km)
- 38.6 (62.1 km) Bluff from 1:00 to 2:00 on east side of Rio Grande floodplain is underlain mainly by alluvial-fan sediments deposited by ancestral Tijeras Creek. The alluvium of Edith Boulevard underlies these sediments and is exposed in the lower part of the bluff.
0.2 (0.3 km)
- 38.8 (62.4 km) Prepare to take Second and Fourth Street exit.
0.2 (0.3 km)
- 39.0 (62.8 km) Take Second and Fourth Street exit. After exiting get into lane for Second and Third Streets.
0.2 (0.3 km)
- 39.2 (63.1 km) Fourth Street. Cross Fourth Street and get in lane for Second Street North.
0.1 (0.2 km)
- 39.3 (63.2 km) Turn left onto Second Street.
0.4 (0.6 km)

- 39.7 Second Street and Menaul Boulevard.
(63.9 km)
0.55 (0.9 km)
- 40.25 Second Street and Candelaria Road. Turn right onto Candelaria
(64.8 km) Road.
0.15 (0.2 km)
- 40.4 Railroad crossing.
(65.0 km)
0.3 (0.5 km)
- 40.7 Candelaria Road and Edith Boulevard. Turn left onto Edith
(65.5 km) Boulevard. Edith Boulevard is a north-south road along the
east side of the Rio Grande floodplain. In most places it is
on the distal end of an alluvial-fan apron built outward from
the scarp bordering the floodplain.
0.25 (0.4 km)
- 40.95 New Mexico Girls' Welfare Home at right. Sand of upper buff(?)
(65.9 km) member (Lambert, 1968, p. 87), alluvium of Edith Boulevard, and
alluvium of Menaul Boulevard (Lambert, 1968, p. 181) exposed in
bluff at 3:00.
0.85 (1.4 km)
- 41.8 Scarp at 3:00 is east boundary of floodplain and is underlain
(67.3 km) by sand and gravel of the alluvium of Edith Boulevard. The
alluvium of Edith Boulevard is the major source of gravel in
the Albuquerque area; many quarries are along north Edith
Boulevard.
0.3 (0.5 km)
- 42.1 Scarp at 3:00 is underlain by the alluvium of Edith Boulevard.
(67.7 km)
0.35 (0.6 km)
- 42.45 Edith Boulevard and Mission Avenue.
(68.3 km)
0.65 (1.0 km)
- 43.1 Edith Boulevard and Osuna Road. The scarp underlain by the
(69.3 km) alluvium of Edith Boulevard is about 1/2 mi (0.8 km) east of
here.
1.7 (2.7 km)

- 44.8 Abandoned and active gravel pits in alluvium of Edith
(72.1 km) Boulevard at right.
0.2 (0.3 km)
- 45.0 Edith Boulevard and Ortega Road.
(72.4 km)
0.1 (0.2 km)
- 45.1 STOP NO. 5. North Edith section (Lambert, 1968, p. 277).
(72.6 km) Sand of upper buff(?) member and overlying alluvium of Edith Boulevard exposed in cut at right. In the Albuquerque area the sand of upper buff(?) member is exposed discontinuously in the lower part of the scarp that borders the Rio Grande floodplain on the east. The unit is overlain with erosional unconformity by the alluvium of Edith Boulevard. The maximum exposed thickness is about 30-40 ft (9-12 m); the base is not exposed. The sediments are somewhat similar to sediments in the upper buff member, and are of similar age, but their lithologies are sufficiently different to suggest that these sediments should not be correlated with the upper buff until more definite stratigraphic relations are obtained. In most places the unit consists of light-colored silt and sand with minor amounts of clay and gravel. Here at the North Edith section, however, the unit is composed mainly of water-deposited, rhyolitic pumice sand and gravel. The petrographic characteristics of the material suggest that it is derived from one of the caldera-forming eruptions in the Jemez Mountains about 1.1 or 1.4 million years ago--the same eruptions that produced the Bandelier tuff (R. E. Wilcox, written communication, 1967; Doell, Dalrymple, Smith, and Bailey, 1968). After Stop No. 5 proceed north on Edith Boulevard. For the next 2 mi (3.2 km), road cuts on right expose sand of upper buff(?) member overlain by alluvium of Edith Boulevard.
0.5 (0.8 km)
- 45.6 Edith Boulevard and Richfield Road. Road cut on right exposes
(73.4 km) crossbedded sand of upper buff(?) member overlain by alluvium of Edith Boulevard.
0.25 (0.4 km)
- 45.85 Embankment at 3:00 is North Flood Control Channel.
(73.8 km)
0.2 (0.3 km)
- 46.05 Edith Boulevard and Alameda Road. Embankment at right is
(74.1 km) North Flood Control Channel.
0.15 (0.2 km)

- 46.2 Sand of upper buff(?) member and alluvium of Edith Boulevard
(74.3 km) exposed behind houses at right.
0.2 (0.3 km)
- 46.4 Slope wash from alluvium of Edith Boulevard covers sand of
(74.7 km) upper buff(?) member in scarp at right.
0.25 (0.4 km)
- 46.65 Sand of upper buff(?) member exposed behind houses at right.
(75.1 km)
0.15 (0.2 km)
- 46.8 Sand of upper buff(?) member and alluvium of Edith Boulevard
(75.3 km) at right. In this area the alluvium of Edith Boulevard has
been greatly disturbed by quarrying and by construction of
the North Flood Control Channel.
0.1 (0.2 km)
- 46.9 Bridge over North Flood Control Channel. Note bedding in
(75.5 km) alluvium of Edith Boulevard in quarries to right. The Channel
intercepts the arroyos draining westward from the Sandia
Mountains and diverts their water directly into the Rio Grande.
Formerly these arroyos drained into a densely populated low
area on the Rio Grande floodplain, causing much damage during
times of flash flooding.
0.1 (0.2 km)
- 47.0 Cut at right exposes pumiceous sand of upper buff(?) member
(75.6 km) overlain by alluvium of Edith Boulevard. The water-deposited
pumice is underlain by a layer of air-fall ash resting on a
clay or clayey sand. The air-fall ash is at the very base of
the cut and is generally covered by slope wash.
0.2 (0.3 km)
- 47.2 Underpass.
(75.9 km)
0.1 (0.2 km)
- 47.3 New quarry in alluvium of Edith Boulevard on right.
(76.1 km)
0.1 (0.2 km)
- 47.4 Bank at right exposes arkosic alluvial-fan sediments deposited
(76.3 km) by arroyos entering the Rio Grande floodplain from the east.
The alluvial fan was built "through" and west of the scarp
underlain by the alluvium of Edith Boulevard.

0.1 (0.2 km)

47.5 (76.4 km) The near scarp at 3:00 is underlain by alluvial-fan deposits. The far scarp, beyond the telephone poles, is underlain by the alluvium of Edith Boulevard and is the former east boundary of the Rio Grande floodplain.

0.1 (0.2 km)

47.6 (76.6 km) Scarp at right is underlain by alluvial-fan deposits. Telephone poles are on fan surface. Note degree of dissection of scarp.

0.2 (0.3 km)

47.8 (76.9 km) Entering Sandia Indian Reservation. Scarp ahead and at right is underlain by alluvial-fan deposits.

0.5 (0.8 km)

48.3 (77.7 km) Houses at left. The scarp ahead and to the right is underlain by several different stratigraphic units. Alluvial-fan deposits underlie the scarp at 11:00. At 3:00 the scarp is underlain in places by the alluvium of Edith Boulevard and in places by alluvial-fan deposits. In the area of mileage 48.3 (77.7 km), the sediments underlying the alluvium of Edith Boulevard change from typical sand of upper buff(?) member on the south to red sandstones on the north. The red sandstones are tentatively correlated with Bryan and McCann's (1937) middle red member of the Santa Fe Formation. Between the typical exposures of sand of upper buff(?) member and exposures of the middle red member, the sediments underlying the alluvium of Edith Boulevard consist of interbedded red and tan clay and mud and clean, light-colored sand. Exposures are poor but these atypical deposits appear to be restricted to a narrow band west of the middle red outcrops. They were probably deposited at and near the east side of a south-trending valley bounded by bluffs of the middle red member. The red and tan clay and mud represent alluvium and colluvium washed down onto the floodplain of the upper buff(?) river. Southward, this ancient valley wall has not been exhumed. Scarp at 12:00 is underlain by alluvium of Edith Boulevard overlying alluvial-colluvial material derived from the middle red member. Red rocks in lower part of bluff at 12:30 and 1:00 are middle red member. Pink sediment in bluff at 2:00 is alluvial-colluvial material derived from the middle red member.

0.2 (0.3 km)

48.5 (78.0 km) Middle red member exposed at 3:00.

0.1 (0.2 km)

- 48.6 (78.2 km) Alluvial-colluvial material exposed beneath alluvium of Edith Boulevard in small erosional amphitheater at 3:00.
0.1 (0.2 km)
- 48.7 (78.4 km) Curve in road. Scarp at right is underlain by alluvial-fan deposits.
0.2 (0.3 km)
- 48.9 (78.7 km) In alluvial fan deposits at right, note large boulders of Precambrian granite from Sandia Mountains.
0.1 (0.2 km)
- 49.0 (78.8 km) The near scarp at the right is underlain by alluvial-fan deposits. The far scarp is much disturbed by quarrying but consists of alluvium of Edith Boulevard above middle red member.
0.2 (0.3 km)
- 49.2 (79.2 km) Alluvial-fan deposits in scarp at right.
0.05 (0.1 km)
- 49.25 (79.2 km) Middle red member and alluvium of Edith Boulevard in scarp at right behind telephone poles.
0.05 (0.1 km)
- 49.3 (79.3 km) Road cut in alluvial-fan deposits.
0.05 (0.1 km)
- 49.35 (79.4 km) Small arroyo at right.
0.05 (0.1 km)
- 49.4 (79.5 km) Between here and Sandia Pueblo, the scarp bordering the Rio Grande floodplain is underlain by alluvial-fan deposits.
0.4 (0.6 km)
- 49.8 (80.1 km) Note small dissected alluvial fan at 3:00, which has been built through the larger scarp of alluvial-fan material.
0.3 (0.5 km)

- 50.1 (80.6 km) Water tower of Sandia Pueblo at 12:00. Scarp at right is underlain by alluvial-fan material.
0.4 (0.6 km)
- 50.5 (81.3 km) Electric utility line crosses road. Reddish Santa Fe Group sediments exposed along fault zone at 9:30 across valley. Nacimiento Mountains in distance at 10:30. Jemez Mountains from 10:00 to 12:00. Skyline on west side of valley is Llano de Albuquerque.
0.05 (0.1 km)
- 50.55 (81.3 km) Road intersection. Turn left toward U.S. Highway 85.
0.15 (0.2 km)
- 50.7 (81.6 km) Intersection. Turn right (north) onto U.S. Highway 85.
0.35 (0.6 km)
- 51.05 (82.1 km) Entrance to Sandia Pueblo at right.
1.0 (1.6 km)
- 52.05 (83.7 km) Dip.
0.95 (1.5 km)
- 53.0 (85.3 km) Sign, "Historical marker one mile." Middle red member and alluvium of Edith Boulevard are exposed in scarp at east edge of floodplain. Interstate Highway 25 is near the top of the scarp, generally above the contact between the two units.
0.75 (1.2 km)
- 53.75 (86.5 km) Sign, "Welcome to Bernalillo."
0.25 (0.4 km)
- 54.0 (86.9 km) Railroad crossing.
0.25 (0.4 km)
- 54.25 (87.3 km) Intersection, U.S. Highway 85 and Avenue Bernalillo. Turn right toward Interstate Highway 25.
0.1 (0.2 km)

- 54.35 (87.4 km) Railroad crossing. Contact between Pennsylvanian Magdalena Group and Precambrian plutonic rocks is well exposed near top of Sandia Mountains.
0.3 (0.5 km)
- 54.65 (87.9 km) Take Albuquerque exit at right.
0.3 (0.5 km)
- 54.95 (88.4 km) Middle red member and alluvium of Edith Boulevard in road cut at left.
0.1 (0.2 km)
- 55.05 (88.6 km) Alluvial-fan deposits in road cuts at right.
0.1 (0.2 km)
- 55.15 (88.7 km) Alluvium of Edith Boulevard and overlying alluvial-fan material in valley at left. A younger arroyo fill inset into these two units is now being dissected, creating a complex areal pattern.
0.15 (0.2 km)
- 55.3 (89.0 km) Alluvium of Edith Boulevard overlain by yellow alluvial-fan material exposed in road cut at left.
0.05 (0.1 km)
- 55.35 (89.1 km) Middle red member and alluvium of Edith Boulevard in valley at right.
0.45 (0.7 km)
- 55.8 (89.8 km) Two arroyos in large valley at left. The alluvium of Menaul Boulevard is absent north of this valley.
0.55 (0.9 km)
- 56.35 (90.7 km) STOP NO. 6. Bernalillo section (Lambert, 1968, p. 267). The measured section extends from the base of the scarp west of the road to the top of the road cut east of the road. The alluvium of Edith Boulevard is exposed in the lower one-third of the road cut east of the road, a layer of alluvial fan material in the middle one-third, and the alluvium of Menaul Boulevard in the upper one-third. After Stop No. 6 proceed south on Interstate Highway 25.
0.45 (0.7 km)

- 56.8 (91.4 km) Alluvial-fan deposits and alluvium of Menaul Boulevard exposed in road cut on left.
0.2 (0.3 km)
- 57.0 (91.7 km) Road cut on right in alluvium of Edith Boulevard.
0.25 (0.4 km)
- 57.25 (92.1 km) Bridge across Sandia Arroyo. Scarp at 10:00 is underlain by alluvial-fan deposits.
0.4 (0.6 km)
- 57.65 (92.8 km) Alluvium of Edith Boulevard exposed in lower part of scarps at 9:00.
0.35 (0.6 km)
- 58.0 (93.3 km) Overpass. Sandia Pueblo at right
0.25 (0.4 km)
- 58.25 (93.7 km) Alluvium of Edith Boulevard exposed in bluff at left of road.
0.3 (0.5 km)
- 58.55 (94.2 km) Road cut at right in alluvial-fan deposits. About here, the outcrop belt of the alluvium of Edith Boulevard swings back across the highway to the southwest.
0.3 (0.5 km)
- 58.85 (94.7 km) Road cut on right in alluvial-fan deposits.
0.5 (0.8 km)
- 59.35 (95.5 km) Road cuts expose alluvial-fan deposits.
0.15 (0.2 km)
- 59.5 (95.7 km) Arroyo. Quarry in alluvium of Edith Boulevard at 3:00. The outcrop belts of the alluvium of Edith Boulevard and the alluvium of Menaul Boulevard are now west of Interstate Highway 25. The road cuts from this point to the end of the road log are in alluvial-fan deposits.
0.2 (0.3 km)

59.7 At 9:00 younger alluvial-fan deposits are inset into older alluvial-fan deposits.
(96.1 km)

0.55 (0.9 km)

60.25 Overpass. Coronado Airport ahead on left. Road ahead is on younger alluvial-fan deposits.
(96.9 km)

3.4 (5.5 km)

63.65 San Mateo Boulevard exit. End of road log.
(102.4 km)

References Cited

Bryan, Kirk, and McCann, F. T., 1937, The Ceja del Rio Puerco: a border feature of the Basin and Range province in New Mexico. I. Stratigraphy and structure: Jour. Geology, v. 45, no. 8, p. 801-828.

_____, 1938, The Ceja del Rio Puerco: a border feature of the Basin and Range province in New Mexico. II. Geomorphology: Jour. Geology, v. 46, no. 1, p. 1-16.

Doell, R. R., Dalrymple, G. B., Smith, R. L., and Bailey, R. A., 1968, Paleomagnetism, potassium-argon ages, and geology of rhyolites and associated rocks of the Valles Caldera, New Mexico in "Studies in volcanology - A memoir in honor of Howel Williams": Geol. Soc. America Memoir 116, p. 211-248.

Lambert, P. W., 1968, Quaternary stratigraphy of the Albuquerque area, New Mexico: Ph.D. dissertation, Univ. New Mexico, 329 p.

_____, 1974, Map showing present and potential sources of blowing sand in the La Mesita Negra SE quadrangle, Bernalillo County, New Mexico: U.S. Geol. Survey Miscellaneous Field Studies Map MF-600.

Wright, H. E., Jr., 1946, Tertiary and Quaternary geology of the lower Rio Puerco area, New Mexico: Geol. Soc. America Bull., v. 47, no. 5, p. 383-456.
