

MAP UNITS on of units; complete descriptions found in the accompanying report.) aternary Colluvium, Slopewash, and Eolian Deposits	White ashy sand (lower Pleistocene) — Very pale brown (10YR 8/2), fine- to very coarse-gr Ancha Formation in the north-central portion of the quadrangle. Where exposed, this ashy sand strong brown (7.5YR) clayey sand, interpreted to be reworked lower Bandelier Tuff (Guaje Pum 50-150 cm thick.
t, and clay reworked and deposited by man in conjunction with highway construction. to modern) — Yellowish brown (10YR 5/4-6), brownish yellow (10YR 6/6), brown (10YR4-5/3), ravel with various proportions of silt and clay. Color varies according to source rock type. Gravel gular and range in size from pebbles to boulders. Estimated to be 1-3 m thick.	QTat Tufa (lower Pleistocene) — White, indurated tufa found within ~6 m (20 ft) of the top of the railroad grade in the northeast portion of the quadrangle (SE1/4 NE1/4 of Section 29, T16N, R9 the Ancha section suggests it is lower Pleistocene in age.
ap unit (i.e., QTasr, QTbtf, QTbtf, QTbtt, Tc, Tsdh, Te, Tm, Tmh, and Ku).	Volcaniclastic lithofacies of the Ancha Formation (upper Pliocene) — Light gray (10YR 7/1-2 gray (10YR 6/2), or brownish yellow (10YR 6/6), yellowish brown (10YR 5/4-6), brown (10YR yellowish brown (10YR 6/4), volcaniclastic muddy sand, sand, and fine pebbles that are interbed Formation. Generally found in the northwest quadrant of the map, outcrops are suggestive of dit to lie in a similar stratigraphic position. This unit projects slightly below the lower Tsinat Me close in age to these rocks (2.3-2.8 Ma). These deposits may be up to 4 m thick.
ts (Holocene to modern) — Yellowish brown (10YR 5/4) to light yellowish brown (10YR 6/4), be 1-2 m thick.	
ocene) — Light yellowish brown (10YR 6/4) to yellowish brown (10YR 5/4), silty very fine- to a irregular, linear, or parabolic. Parabolic dunes generally occur around a scoured "blow-out." The	QTt Tuerto gravel (Pliocene to lower(?) Pleistocene) — Yellowish brown (10YR 5/4-6), light yello brown (10YR 7/3-4), or brownish yellow (10YR 6/6), silty sand interbedded with yellowish brow (10YR 6/4), gravelly sand and sandy gravel. This poorly to moderately sorted sediment is primaril rocks of the Cerrillos Hills, Turquoise Hill, Bonanza Hill, and Cerro de la Cruz. Its thickness rate
Quaternary Alluvial Deposits	perhaps 45-60 m (150-200 ft) in the lower Alamo Creek area.
erally light brown (7.5YR 6/4) to light yellowish brown (10YR 6/4), gravelly sand. Sand is mostly d is poorly to moderately sorted, arkosic, and subangular to subrounded. Locally divided into two ies (Modern) — Stream alluvium is present within recently incised gullies or trenches up to 8 m than 1 m thick. hs (Modern) — Stream alluvium that generally occurs as a fan-shaped deposit (in plan view) at the . The sediment is generally less than 2 m thick.	Tesuque Formation, lithosome E (upper Oligocene to lower Miocene) — Brownish gray to lig conglomerate, with minor clay, silt, and tuff in the matrix. The gravel is composed of latite, sandstone eroded from the Espinaso Formation (<i>Te</i>), in addition to variable basaltic rocks eroded for the subsurface, this unit interfingers eastward with arkosic sand of the Tesuque Formation derived for (subsurface units <i>Tts</i> and <i>Tta</i>). The lower part of the unit interfingers with at least four flows of sections). In general, the unit is interpreted to have been deposited on east-sloping alluvial fans fla the western quadrangle border. Since lithosome E lies at the base of the Santa Fe Group, it probable in the Santa Fe embayment. Wells indicate a maximum thickness of 160-170 m.
r Pleistocene(?) to Holocene) — Light yellowish brown (10YR 6/4), sandy gravel interbedded with	Basalt Of Tsinat Mesa
buths of tributary arroyos. cistocene to Holocene) — Commonly a light yellowish brown (10YR 6/4) to brown (10YR 5/3), Ided with pebbly sand and sandy pebbles. Located in or near the bottom of valleys. The unit may be dscape position (<i>i.e.</i> , height above stream base level) and inset relationships: ber Holocene) — Occupies the valley bottom or terraces that are within 2 m (6 ft) of valley bottoms.	 Tsinat Mesa basalt forms the eastern rim of the Cerros del Rio volcanic field and is found in the n It consists of basalt lava flows together with associated andesitic tuffs and basaltic tephra deposit northeast corner of the Tetilla Peak quadrangle. The age range of the basalt on this quadrangle is v Basalt flows of Tsinat Mesa (upper Pliocene to lowermost Pleistocene) — Basalt flows on the Certophra. Flows display minor flow banding with varying degrees of vesiculation. Flows are fine-gra gray (N3), trachybasalts with plagioclase phenocrysts and xenocrystic quartz. The flows are 3-5 m
istocene to middle Holocene) — Terrace deposits that consist of silt or sand with subordinate so Qay_1 must be older than about 4200 yr BP and is probably uppermost Pleistocene to middle osed but thickness probably ranges from 2-6 m (3-20 ft). Pale brown (10YR 6/3), light yellowish brown (10YR 6/4), strong brown (7.5YR 5/6) to reddish and sandy gravel that underlie terraces above the present-day valley bottom. Terrace treads above in a downstream direction. Along lower Arroyo Hondo and Arroyo de los Chamisos, four terrace	 Cap low cliffs just west of the Sante Fe River. Basaltic tephra of Tsinat Mesa (upper Pliocene to lowermost Pleistocene) — Primarily tep subordinate andesitic compositions. The initial eruptive tephra units are 10-12 m thick and occa andesitic tuff. There possibly may be basalt flows included in this unit in the extreme northeast compositions. Paleogene Lava Flows, Intrusions, And Sedimentary Flows, Intrusions, In
ified and correlated: Decene) — A fill terrace whose tread is 3-9 m (10-30 ft) above the modern stream in the north-central fing to 25-28 m (80-95 ft) near La Cienega. This terrace is tentatively correlated to Qta_4 of Smith and 11), which is overlain by eolian sand and silt that contain the ~60 ka El Cajete pumice, suggesting $ta_4 > 60$ ka. Terrace deposit thickness is difficult to measure but is probably 6-8 m (20-25 ft). Oper Pleistocene) — A fill terrace whose tread is 6-14 m (20-45 ft) above the modern stream in the rangle, increasing to approximately 37 m (120 ft) northeast of La Cienega. This terrace is tentatively	Te Cieneguilla basanite (upper Oligocene) — Grayish black (N2), porphyritic, olivine-bearing, vol and basalt. Flows are fine-grained and non-vesicular. The Cieneguilla basanite has been dated at 25 analyses (Baldridge <i>et al.</i> , 1980) and 26.08 ± 0.62 Ma using ${}^{40}\text{Ar}/{}^{39}\text{Ar}$ radioisotopic analyses (Table Hill quadrangle, total thickness of the Cieneguilla basanite is interpreted to be <30 m (100 ft), m measured by Sun and Baldwin (1958) on the Tetilla Peak quadrangle.
Kuhle (1998) (Sawyer et al., 2001). Terrace deposit thickness is difficult to measure but is probably stocene) — Probably a strath terrace associated with a relatively thin deposit. The tread overlies 24 m (70-80 ft) above the modern stream. Terrace deposit is less than 2 m thick where exposed in a 1/4, NE1/4, Section 23, T16N, R8E). eistocene) — A broad strath terrace corresponding to the Airport surface of Spiegel and Baldwin 20-125 ft) above the modern stream, and is developed on top of thick gravel of the Ancha Formation	Tm Quartz monzonite and monzonite porphyry (Oligocene) — Light gray (N7), medium-grained exposed immediately north of La Cienega and light brownish gray (5YR), medium-grained, intru Hill and Cerrillos Hills. At La Cienega, phenocrysts of orthoclase, plagioclase, and quartz are press feldspar. Biotite, plagioclase, magnetite, and a trace of clinopyroxene are present in the groundmass Hill and Cerrillos Hills consists predominantly of plagioclase, in addition to 5-10% quartz and m clinopyroxene, orthopyroxene, and biotite at Cerrillos Hills, and minor amounts of biotite at Turque of Sawyer et al. (2002), <i>Ti</i> of Sun and Baldwin (1958), and <i>T4</i> of Disbrow and Stoll (1957). Mo localities in Los Cerrillos have been dated at approximately 28-30 Ma (Maynard, 1995; B. Sauer, under the store of the store o
ngle. Since this unit is only slightly below the top of the Ancha Formation, it is interpreted to reflect that occurred $1.2 - 1.5$ Ma.	Tmh Hornblende monzonite (Oligocene) — Light gray (N7), hornblende-bearing monzonite intrusion subhedral hornblende, potassium feldspar and plagioclase are present. The groundmass is dominate and quartz. Probably correlative with unit <i>Ti1</i> of Disbrow and Stoll (1957) and unit <i>Tmh</i> of Sawyer
Santa Fe Group	Hornblende syeno-diorite (Oligocene) — Medium dark gray (N4), holocrystalline, hypidiomor Turquoise Hill and Cerrillos Hills. At Turquoise Hill, the observed mineral assemblage is plagic and about 2% hornblende and magnetite. This unit is coarser at Cerrillos Hills and consists of abo quartz, and 5% magnetite.
Aspinaso Formation, younger terrace alluvium, and alluvium related to present drainages. In this dists of the Ancha and Tesuque Formations. The Ancha Formation which is browner and appreciably attion across an angular unconformity. The Tesuque is a wedge-shaped unit that pinches out in the gle and thickens to the north. Its thickness at the north edge of the map is as much as 900 m (3000	Tah Hornblende andesite (Oligocene) — Two small intrusive knobs at La Cienega. The light m porphyritic euhedral hornblende in a trachytic texture. Total thickness is about 4 m (13 ft). One of m (1640 ft) to the northwest into the Tetilla Peak quadrangle. The exact age is uncertain but probable
L , 2009). Leposits (Pliocene to lower Pleistocene) — Common colors range from brownish yellow (10YR), light yellowish brown (10YR 6/4), and reddish yellow (7.5YR 6/6). It is generally a silty sand obles with minor cobbles) derived from the Sangre de Cristo Mountains. The maximum age of the e near the middle of the Pliocene, and deposition on the quadrangle generally ceased in the lower 1.5 Ma, due to regional incision of the drainages. Based on drill-hole and geophysical data used to be Formation on this guadrangle is actimated to be 24.00 m (20.200 ft) thick and to guarge 50.60	Te Espinaso Formation (Oligocene to lower Miocene(?)) — Andesite, latitic breccia and conglor flow tuff exposed along Cienega Creek near La Cienega and at Cerro de la Cruz. Locally, the andes of the Cerrillos Hills, latitic conglomerate and coarse-grained sandstone are probably present in the south of the quadrangle (Larsen and Taylor, 1991). Radioisotopic dates support an Oligocene suggest the possibility that minor intermediate volcanism may locally have extended into the early is approximately 300-370 m (1000-1200 ft) thick near La Cienega but its thickness may be as great section A-A') and is interpreted to be around 600 m (2000 ft) thick to the northeast