U. S. DEPARTMENT OF THE INTERIOR

U. S. GEOLOGICAL SURVEY

Preliminary geologic map of the Burbank 7.5' quadrangle Southern California

Compiled by

R. F. Yerkes[1]

Open File Report 96-253

[1] MS 975, 345 Middlefield Road
Menlo Park, CA 94025

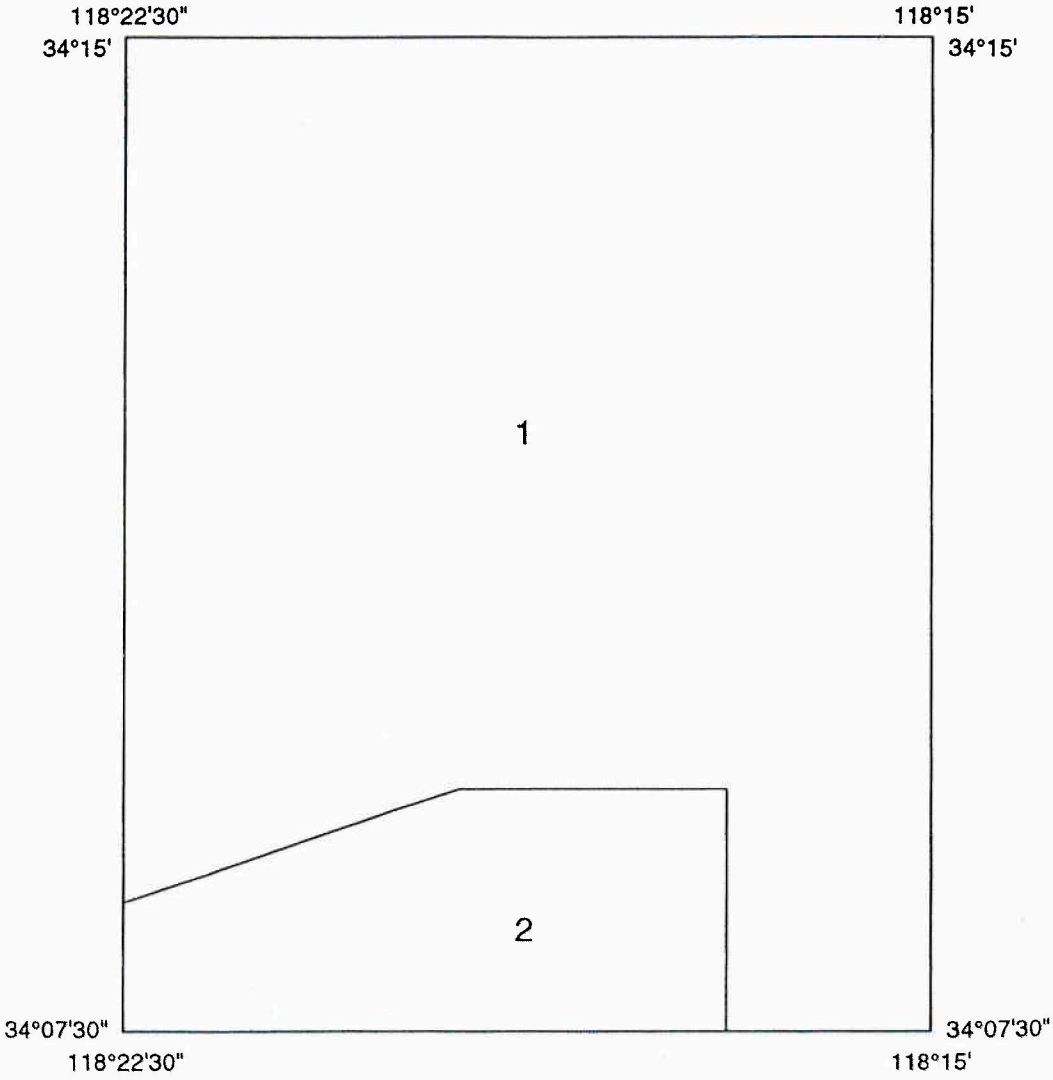
INTRODUCTION

This map is a preliminary product of the Southern California Digital 1:100, 000 Geologic Map Series (Southern California Areal Mapping Project-SCAMP; Morton and Kennedy, 1989). The 1:24,000 manuscript for this map was compiled from original sources, chiefly at 1:24,000, and scanned and processed digitally using the U. S. Geological Survey Alacarte menu-driven interface (Wentworth and Fitzgibbon, 1991) for ARC/INFO, a commercial geographic information system (GIS) avaialable from Environmental Systems Research Institute, Redlands, California.

This 1:24,000 quadrangle is one of sixteen that form the east half of the Los Angeles 1:100,000 quadrangle; the 1:24,000 quadrangles form the basic data supporting the regional-scale quadrangle, and thus include available data on exploratory oil wells and fossil collections.

Stratigraphic nomenclature is largely that of the source materials; it is subject to further modification as compilation progresses. Minor adjustments have been made in geologic boundaries to conform to the metric base, which was enlarged from 1:100,000.

The base map layers, drainage, roads, and topo contours, were prepared from publicly-available digital line graph (DLG) data for the 1:100,000 Los Angeles metric topographic map (1979 edition) by R. H. Campbell, U. S. Geological Survey, Reston, VA.

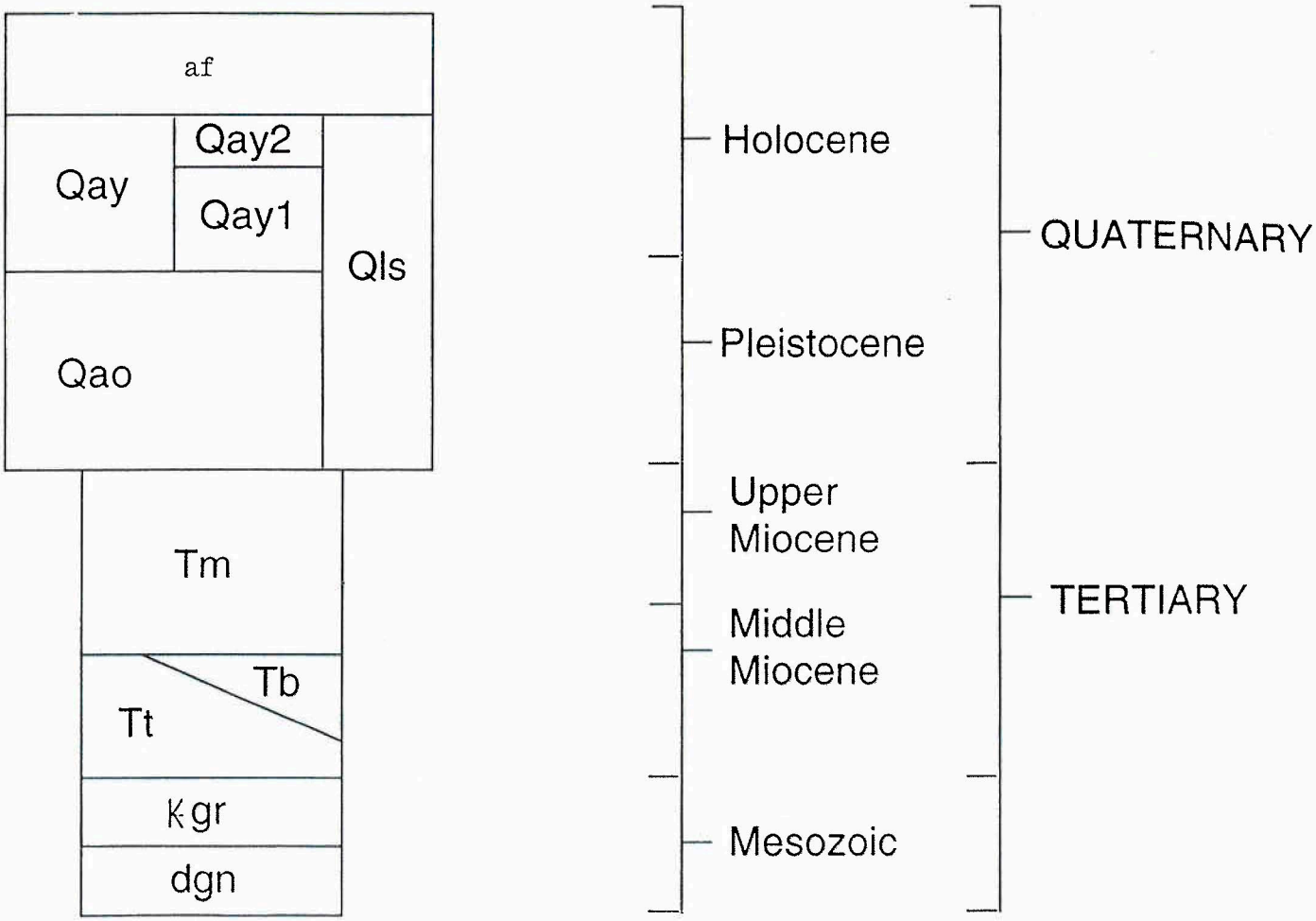


EXPLANATION

1. Tinsley and others, 1985; Weber, 1980
2. Hoots, 1931 ; Dibblee, 1989

Figure 1 - INDEX MAP SHOWING SOURCES OF GEOLOGIC MAPPING

CORRELATION OF MAP UNITS, PRELIMINARY GEOLOGIC MAP OF BURBANK QUADRANGLE



EXPLANATION, PRELIMINARY GEOLOGIC MAP, BURBANK QUADRANGLE

DESCRIPTION OF MAP UNITS

af artificial fill, supporting freeways

acf artificial cut and fill; graded terrain

Qay **Alluvium** (Holocene)-Gravel, sand, silt, and clay; unconsolidated and uncemented; **Qay2**, underlies areas flooded historically; thickness 0-3 m, less than 1000 years; **Qay1**, undifferentiated Holocene alluvium, age 1000-10,000 years

Qls **Landslide deposits** (Holocene and Pleistocene)-Fractured and sheared bedrock and surficial deposits, commonly slumps

Qao **Older alluvium** (late Pleistocene)-Gravel, sand, silt, and clay; moderately to well consolidated, slightly to well cemented

Tm **Modelo Formation**-(upper Miocene)-silty, platy, siliceous shale and soft earthy siltstone; body in southeast corner mapped as Topanga Formation by Lamar (1970)

Tb **Basalt** (middle Miocene)-dark gray to black, mostly fine grained, locally vesicular

Tt **Topanga Formation** (middle Miocene)-**Tts**, sandstone and shale; **Ttc**, coarse-grained pebbly sandstone and pebble-cobble conglomerate

Kgr **Granitic rocks** (Cretaceous)-granodiorite to quartz diorite, in places foliated; calculated K/Ar age of biotite from granodiorite at northeast tip of Santa Monica Mountains is 87.8 my, of hornblende 93.5 my (Miller and Morton, 1980, Table 1, spl. 1A).

dgn **Dioritic rocks** (Mesozoic)-mostly foliated; intruded by light-colored granitic rocks; locally includes biotite schist, marble

MAP SYMBOLS

Contact or mapped horizon—Long-dashed where approximately located, short-dashed where inferred

Fault— Long-dashed where approximately located, short-dashed where inferred, dotted where concealed, queried where doubtful

Anticline— Approximately located, dotted where concealed; showing crestline

Syncline— Approximately located, dotted where concealed; showing troughline

70 Strike and dip of inclined beds

408 Exploratory well—Number refers to table 1. below

FH13 Fossil locality—F, macrofossil collection; f, microfossil collection; number refers to table 2. below

References cited

Dibblee, T. W. Jr., 1989, Mid-Teriary conglomerates and sandstones on the margins of the Ventura and Los Angeles basins and their tectonic significance: Pac. Sec. Soc. Econ. Paleont. and Mineral. Bk. 62, p. 207-226.

Hoots, H. W., and Kew, W. S. W., 1931, Geologic map of the eastern part of the Santa Monica Mountains and adjacent areas, Los Angeles County, California: U. S. Geol. Survey Prof. Paper 165-C, pl. 16, scale 1:24,000.

Lamar, D. L., 1970, Geologic map of the Elysian Park-Repetto Hills area, Los Angeles County, California: Calif. Div. Mines and Geology, Spec. Rpt. 101, pl. 1, scale 1:24,000.

Miller, F.K., and Morton, D.M., 1980, Potassium-Argon geochronology of the eastern Transverse Ranges and southern Mojave Desert, southern California: U.S. Geol. Survey Prof. Paper 1152, 30 p., 1 pl.

Morton, D. M., and Kennedy, M. P., 1989, A southern California digital 1:100,000-scale geologic map series: the Santa Ana quadrangle, the first release (abs.): Geol. Soc. Amer. Abs. with Progs. vol. 21, no. 6, p. A107-A108.

Tinsley, J. C., Youd, T. L., Perkins, D. M., and Chen, A. T. F., 1985, Generalized surficial geology of the San Fernando Valley: U. S. Geol. Survey Prof. Paper 1360, fig. 131, p. 278 (orig. at scale 1:24,000).

Weber, H. W. Jr., 1980, Preliminary geologic map of the north-central Los Angeles area, Los Angeles County, California, showing features related to the character and recency of faulting: Calif. Div. Mines and Geol. Open File Report 80-10 LA, scale 1:24,000.

Wentworth, C. M., and Fitzgibbon, T. T., 1991, Alacarte user manual, version 1.0: U. S. Geol. Survey Open File Report 91-587C, 267 p.

Yerkes, R. F., and Showalter, P. K., 1990, Exploratory wells drilled in the Los Angeles, California 1:100,000 quadrangle: U. S. Geol. Survey Open File Report 90-627, 46 p., map at 1:100,000.

Table 1 - DATA ON EXPLORATORY WELLS, BURBANK QUADRANGLE[1]

AP O.	TN	RW	Sec.	OPERATOR	NAME/NUMBER	ELEV-ATION (ft)	TOTAL DEPTH (ft)	BOT-TOM[2]
62	1	14	13	H. E. Lutttge	1	509	1700	Mu
63	1	14	13	Overton and Halfhill	Jeffrey 1	519	1003	M
64	1	14	16	CONOCO, Inc.	Burbank 1	585	2342	M
66	1	14	27	Gaddie Dev't. Co.	1	775	4198	Mu

Data from Yerkes and Showalter, 1990.
M, Miocene; u, upper.

Table 2 - DATA ON FOSSIL LOCALITIES, BURBANK QUADRANGLE

MAP NO[1]	TN	RW	Sec	COLL-ECTOR[2]	AGE[3]	MAP UNIT	SOURCE[4]
FH53	1	14	26	USGS	Mm	Tt	H & K.
fH102	1	14	29	USGS	Mm	Tt	H & K.
fH103	1	14	28	USGS	Mm	Tt	H & K.

F, macrofossil collection; f, microfossil collection.
USGS, U. S. Geological Survey
M, Miocene; m, middle
Hoots and Kew, 1931