U. S. DEPARTMENT OF THE INTERIOR

U. S. GEOLOGICAL SURVEY

Preliminary geologic map of the Simi quadrangle, Southern California

Compiled by

R. F. Yerkes[1] and R. H. Campbell [2]

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

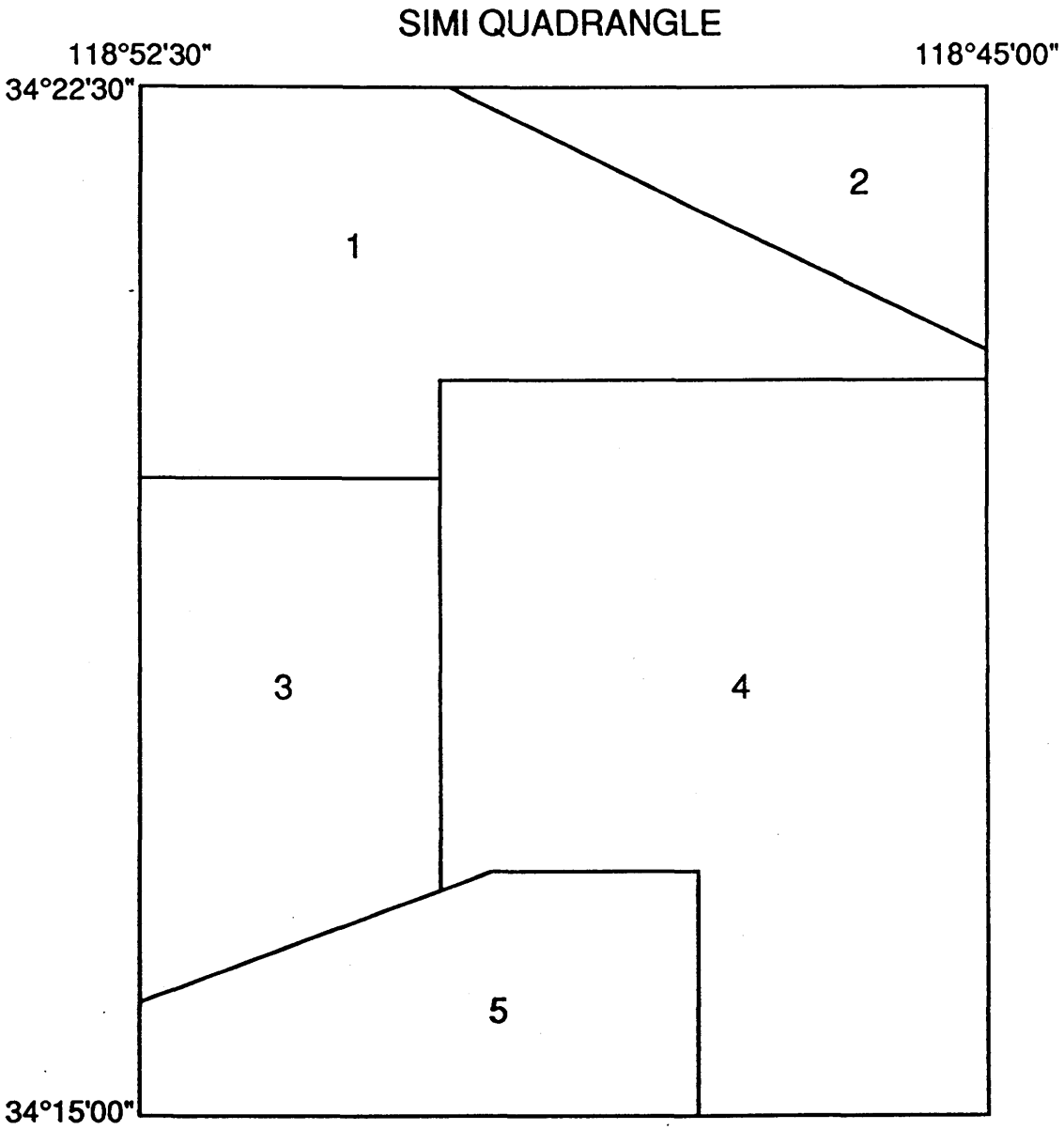
[2]MS 922 National Center,
Reston, VA 22092

INTRODUCTION

This 1:24,000 map is a preliminary product of the Southern California Digital 1:100,000 Geologic Map Series (Morton and Kennedy, 1989). It was scanned and processed digitally using the U. S. Geological Survey Alacarte menu-driven adaptation (Wentworth and Fitzgibbon, 1991) of ARC/INFO, a commercial geographic information system (GIS) available from Environmental Systems Research Institute, Redlands, California. Minor adjustments have been made in geologic boundaries to conform to the metric base, which was enlarged from 1:100,000.

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

Stratigraphic nomenclature is largely that of the source materials; it is subject to further modification as compilation progresses.

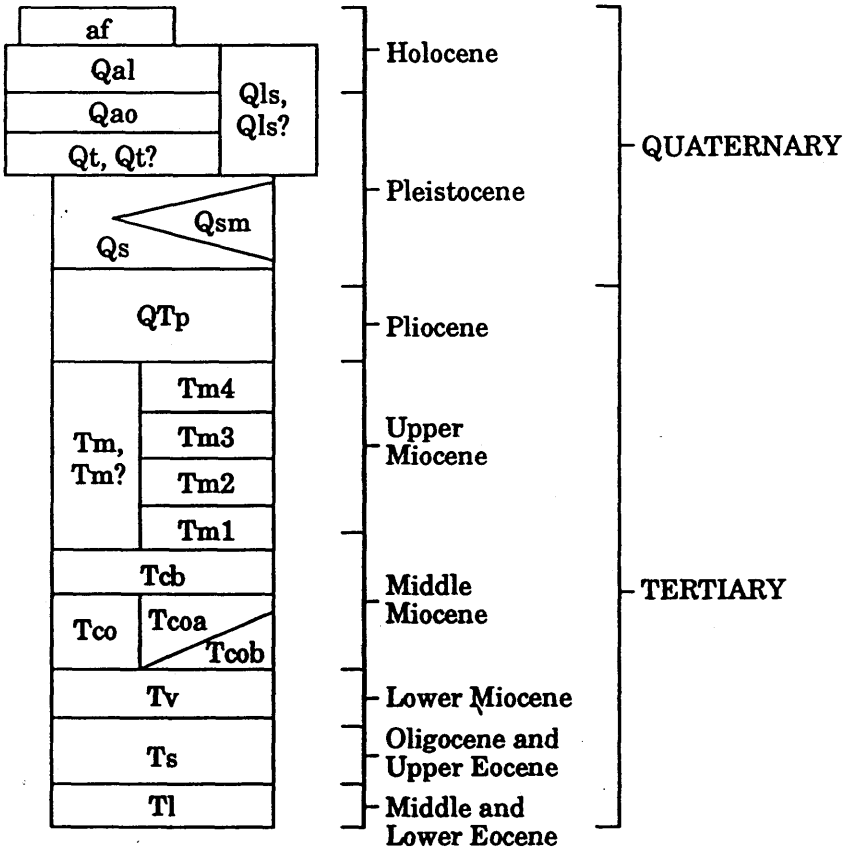


EXPLANATION

1. California Division of Mines and Geology, 1973
2. Whaley and Ricketts, 1975
3. Hanson, 1981
4. Squires, 1983b
5. Ehrenspeck, 1972

Figure 1 Index map showing sources of geologic mapping

CORRELATION OF MAP UNITS, SIMI QUADRANGLE



EXPLANATION, PRELIMINARY GEOLOGIC MAP, SIMI QUADRANGLE

DESCRIPTION OF MAP UNITS

af artificial fill

Qal **Alluvium** (Holocene)--Gravel, sand, and silt; unconsolidated and uncemented; in and adjacent to active stream channels

Qao **Older alluvium** (Pleistocene)--Gravel, sand, silt, and clay; massive to poorly bedded; unconsolidated

Qls **Landslide deposits** (Holocene and Pleistocene)--Pervasively sheared bedrock and surficial materials in complex associations of slumps, block glides, earthflows, and rockfalls

Qt **Terrace deposits** (Pleistocene)--Interbedded sand, silt, and rock fragments; massive to poorly bedded and poorly consolidated

Qs **Saugus Formation** (Pleistocene)--Sandstone, conglomerate, and siltstone; nonmarine, poorly sorted, loosely consolidated; **Qsm**, marine facies-sandstone and conglomerate, locally contains marine molluscs; thickness may exceed 250 m

QTp **Pico formation** (Pleistocene and Pliocene)--Sandy siltstone, clayey siltstone, sandstone, and pebbly sandstone, exposed in northwest corner of quadrangle; massive to well bedded; locally abundant forminifera; thickness less than 50 m

Tm **Modelo Formation** (middle and late Miocene)--Shale, silty to sandy, + cherty, siliceous, diatomaceous, or clayey; interbedded fine- tc coarse-grained sandstone; basal part contains abundant benthonic foraminifera characteristic of the Luisian Stage (Clark, 1983); thickness about 860 m; **Tm1**, sandstone, fine- to coarse-grained, interbedded shale; **Tm2**, siliceous shale and bedded chart, lenses of sandstone; **Tm3**, diatomaceous to siliceous shale and chert; **Tm4**, siltstone with limy concretions

Tcb **Calabasas Formation** (middle Miocene)--Sandstone and siltstone, massive to poorly bedded, locally with limy concretions, pebbly to bouldery conglomerate; referred to the Luisian Stage (late Middle Miocene; Fritsche and others, 1983); thickness about 215 m

Tco **Conejo Volcanics** (middle Miocene)--Andesitic to basaltic flows and intrusives, submarine to subaerial; thickness about 330 m; **Tcoa**, chiefly andesitic; **Tcob**, chiefly basaltic

Tv **Vaqueros Formation** (early Miocene)--Marine siltstone, sandstone, local conglomerate; thickness about 600 m

Ts **Sespe Formation** (Oligocene and late Eocene)--Fluvial sandstone, conglomerate, claystone, and mudrock; maximum thickness 1656 m; for details on sedimentary facies and depositional environment see Taylor (1983); vertebrate faunas from the upper part of the unit are Arikareean (late Oligocene) in age (Lander, 1983)

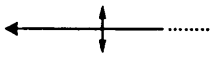
Tl **Llajas Formation** (early and middle Eocene)--Transitional alluvial-marine sequence (Squires, (1983a): conglomerate, interbedded well-laminated, well-sorted sandstone, bioturbated sandstone, and siltstone; type section in center of Santa Susana quadrangle (adjoining to east) contains abundant molluscan fauna referred to the early-middle Eocene (Squires, 1983a)

MAP SYMBOLS

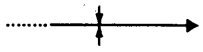
Contact or mapped horizon—Long-dashed where approximately located, short-dashed where inferred

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

Thrust fault—Approximately located, dotted where concealed; teeth on upper plate



Anticline— Approximately located, dotted where concealed; showing crestline



Syncline— Approximately located, dotted where concealed; showing troughline

Strike and dip of inclined beds

Exploratory well— Number refers to table 1 below

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

MAP NO.	T	RW	Sec.	OPERATOR	NAME/NUMBER	ELEV-ATION (ft)	TOTAL DEPTH (ft)	BOT-TOM[2]
205	3N	18	4	UNOCAL	Torrey 109-4	2500	5027	O?
206	3N	18	4	UNOCAL	Torrey 57	2150	1445	O
207	3N	18	4	UNOCAL	Oakridge CH 1	2529	2209	O
208	3N	18	5	UNOCAL	Torrey 102	1848	3542	O
211	3N	18	6	Gulf Oil Co.	Hunter 3	1789	9514	E
212	3N	18	6	Texaco, Inc.	Hunter 1	1493	10150	O
213	3N	18	6	Getty Oil Co.	Wiley Canyon 1	1777	5287	O
214	3N	18	8	UNOCAL	Simi 25	2569	4328	O
215	3N	18	9	UNOCAL	Simi CH 20	2266	5177	Me
225	3N	18	18	UNOCAL	Simi CH 21	2237	4134	O
226	3N	18	19	UNOCAL	Union-Getty-Tapo-Simi 1	2287	7795	O
227	3N	18	19	UNOCAL	Big Mountain 6	1850	4679	O
228	3N	18	20	Getty Oil Co.	Rancho Tapo 36-20	1450	4649	O
229	3N	18	20	Pauley Pet.	Getty Rancho Tapo 1-20	1422	4603	O
229A	3N	18	31	UNOCAL	Simi 2-31	850	3600	E
232	3N	18	29	Arco Oil&Gas	Tapo Fee B-1	1037	1970	O
233	3N	18	30	UNOCAL	Simi 1-30	1157	3650	O
234	3N	18	31	UNOCAL	Oak Park 23	1100	1100	C
235	3N	18	31	UNOCAL	Simi 1-31	784	3343	E
236	3N	18	32	Getty Oil Co.	Tapo 103	1178	2674	O
237	3N	18	34	Getty Oil Co.	Tapo 49	1193	4481	E
245	3N	19	1	Chevron USA	Ventura Realty 1	1390	8525	E
246	3N	19	1	Oxy Pet. Co.	Ventura Realty 1	862	8501	C
247	3N	19	1	Exxon Corp.	Ventura Realty 1	931	5074	O
248	3N	19	1	Hampcamp Ltd.	Hapcamp 1	1251	2001	O
250	3N	19	2	Acme Pet. Corp. and Cal-Mex O & R	Frey 1	480	3418	O
251	3N	19	2	Bestco Pet. Co.	Frey 1	1025	4512	O
252	3N	19	3	Aminoil USA	SRMC 1	660	9938	Pl
253	3N	19	3	Exxon Corp.	Calumet 11	850	4383	O
254	3N	19	3	Exxon Corp.	Seaboard-Calumet 2	971	5188	O
273	3N	19	9	Texaco, Inc.	Duncombe 1	1760	7000	O
274	3N	19	9	Exxon Corp.	Cora Saviers et vir 1	1611	7043	O
275	3N	19	9	Aminoil USA	Saviers 1	1570	3000	O
276	3N	19	16	Neptune Oil Co.	GS 1	1406	1185	M
287	3N	19	21	Revo Oil Co.	Herrington 1	1079	1150	M
288	3N	19	22	UNOCAL	Simi 1-22	1729	10686	E
289	3N	19	23	UNOCAL	Simi 1-23	1990	7179	O
290	3N	19	24	UNOCAL	Simi 1-24	2108	11100	E
291	3N	19	24	UNOCAL	Big Mtn. 4	1330	4624	O
292	3N	19	26	UNOCAL	Simi 1-26	1002	6500	O
300	3N	19	33	BP Expl. USA	Williams 1	834	4375	O
302	3N	19	33	R. J. Lytle	E. H. Willams 2	798	4139	O
304	3N	19	33	Gulf Oil Corp.	Williams 1	773	4483	O
305	3N	19	34	UNOCAL	Moorpark 1-34	729	4438	O

MAP NO.	T	RW	Sec.	OPERATOR	NAME/NUMBER	ELEV-ATION (ft)	TOTAL DEPTH (ft)	BOT-TOM[2]
306	3N	19	34	UNOCAL	Moreland Inv. 1	750	4862	O
307	3N	19	35	UNOCAL	Simi 1-35	666	8697	E
308	3N	19	35	Central Lease, Inc.	Simi 30	590	2505	O
309	3N	19	36	UNOCAL	Simi 14	896	5240	E
310	3N	19	36	UNOCAL	Simi 2-36	968	3500	O
311	3N	19	36	UNOCAL	Simi 3-36	901	6376	E
361	2N	19	1	Gulf Oil Corp.	Binns 67-1	690	3626	E
362	2N	19	1	National Expl.	1	645	3027	E
363	2N	19	1	UNOCAL	Simi 1-1	736	3100	E
364	2N	19	2	V. A. Porter	Smith 1	650	845	O
365	2N	19	3	A. R. Studley Jr.	Studley-Birnbaum 1	609	997	O
366	2N	19	4	Exxon Corp.	E. H. Williams et ux. B-1	748	7068	E
369	2N	19	10	San Marino Petroleum Synd.	1	750	1921	O
370	2N	19	10	Marathon Oil Co.	Vail 1	845	5714	O
371	2N	19	10	C.C. Townsend	Brinkop 1-S	638	480	O
372	2N	19	10	C.C. Townsend	Brinkop 2-S	641	407	O
373	2N	19	11	Mobil Oil Corp.	Smith 71A-11	919	4800	E
374	2N	19	12	Frontier Oil Co.	Strathern-Kyle 1	794	3059	O
375	2N	19	12	H.R. Dabney	Schroeder 1	785	2176	O
376	2N	19	12	H.C. Cook Jr. and Assoc.	Bowman 1	850	3540	O
392	2N	18	4	Carlsberg Petroleum Corp.	Lagomarsino 1	890	2864	O
394	2N	18	4	G.L. Dobson	Simi 1	893	1206	O
395	2N	18	4	Stae Conservation Oil Co.	Miley-Buley 1	1100	1160	O
396	2N	18	5	Dabney & Roberts	11	825	2680	O
397	2N	18	5	E.A. Parkford	5	850	4003	E
398	2N	18	5	Great Basins Petroleum Co.	Ventura Land & Water Co. 1	832	4347	E
399	2N	18	6	Aminoil USA	Strathern 16-6	685	3466	E
400	2N	18	6	Gulf Oil Corp.	Stratherm 47-6	708	1450	E
401	2N	18	6	W.W. Powers	1	800	2095	E
402	2N	18	6	Shell CPI	Strathern 1	807	5290	O
403	2N	18	7	Intex Petroleum Corp.	Intex-Macson-Strathern 1	769	4615	O
404	2N	18	7	R.& R. Oil Co.	Strathern 11	704	1258	O
412	2N	18	17	Robt. Cannell	Core Hole 1	790	1201	O
412A	2N	18	17	R.B. Jackson	R. & G. 1	850	3936	E?
413	2N	18	17	May Drlg. Co.	Robertson 1	800	2315	E
414	2N	18	18	H.D. McCoy et al.	1	900	1035	O

[1]Data from Yerkes and Showalter, 1990.
[2]C, confidential; E, Eocene; e, early; M, Miocene; O, Oligocene (non-marine); Pl, Pliocene.