

U. S. DEPARTMENT OF THE INTERIOR

U. S. GEOLOGICAL SURVEY

**Preliminary geologic map of the Moorpark 7.5' quadrangle,
Southern California**

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This report is preliminary and has not been reviewed for conformity with U. S. Geological Survey editorial standards or the North American Stratigraphic Code. Any use of trade, product, or firm names is for descriptive purposes only and does not imply endorsement by the U. S. Government.

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INTRODUCTION

This map is a preliminary product of the Southern California Digital 1:100,000 Geologic Map Series (Morton and Kennedy, 1989). The 1:24,000 compilation 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.

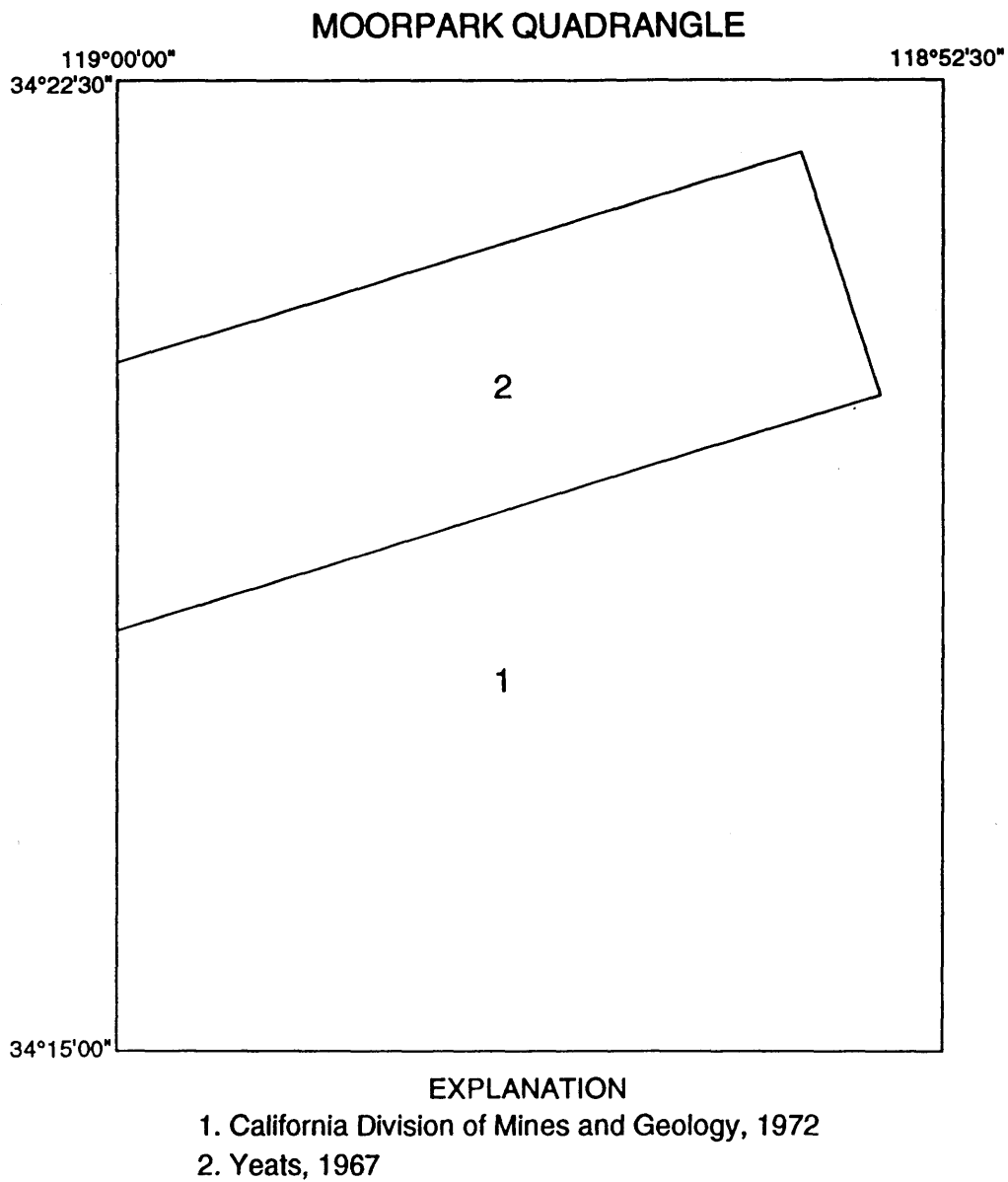
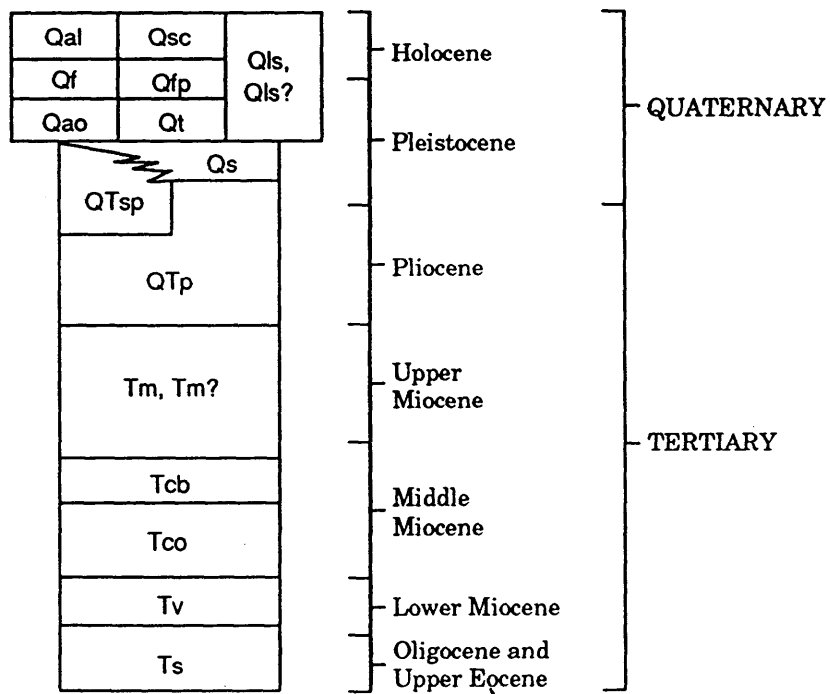


Figure 1. Index map showing sources of geologic mapping

CORRELATION OF MAP UNITS, MOORPARK QUADRANGLE



EXPLANATION, PRELIMINARY GEOLOGIC MAP, MOORPARK QUADRANGLE

DESCRIPTION OF MAP UNITS

- Qal Alluvium** (Holocene)--Sand, silt, gravel, boulders; unsorted, unconsolidated, unstratified to poorly stratified; **Qsc**, gravel, sand, silt, clay, angular to well rounded and polished; in active stream channels
- Qf Fan deposits** (Holocene and Pleistocene)--Sand, silt, gravel, boulders, unconsolidated, unsorted
- Qfp Floodplain deposits** (Holocene and Pleistocene)--Sand, gravel, silt, clay, and boulders; unconsolidated and unsorted; massive, but locally cross bedded; dissected by modern drainages
- Qls Landslide deposits** (Holocene and Pleistocene)--Debris of bedrock, surficial deposits, and soil in jumbled, brecciated masses or large blocks; form slumps, block glides, or earth flows; many formed within older landslides; queried where doubtful
- Qao Older alluvium** (Pleistocene)--Sand, silt, clay, and gravel; unsorted, unconsolidated or poorly consolidated; dissected or uplifted
- Qt Terrace deposits** (Pleistocene)--Gravel, boulders, sand, and silt; poorly to roughly stratified, unsorted, unconsolidated to poorly consolidated; locally cemented by caliche; generally elevated and dissected
- Qs Saugus Formation** (Pleistocene)--Sandstone, conglomerate, and siltstone; nonmarine, poorly sorted, loosely consolidated; thickness about 160 m; grades westward and stratigraphically downward into QTsp
- QTsp San Pedro Formation** (Pleistocene and late Pliocene?)--Marine sandstone, conglomerate, and siltstone; loosely consolidated; thickness about 300 m; grades eastward and stratigraphically upward into nonmarine Qs
- Qtp Pico Formation** (Pleistocene and Pliocene)--Siltstone, sandstone, shale, mudstone, and pebble conglomerate; fine-grained strata are lamellar to thick bedded, fossiliferous, clayey; sandstone and conglomerate are generally poorly sorted, thin bedded to massive, poorly to moderately indurated; thickness about 1065 m; foraminiferal fauna in the Balcom Canyon section (northwest quarter of map) referred to the Repettian-Venturian-Wheelerian-Hallian Stages of Natland and Rothewell (1954); this section also contains the 1.3 my-old Bailey Ash near the middle and the 0.7 my-old Bishop Ash near the top (Lagoe and Thompson, 1988)

- Tm** **Modelo Formation** (middle and upper Miocene)--Shale, siltstone, and sandstone. Shale is thin bedded to finely laminated; siliceous, diatomaceous, cherty, clayey, porcellaneous; compact to punky; locally rhythmically bedded; locally fossiliferous. Medium- to coarse-grained quartz sandstone is thick bedded to massive, locally cross bedded; friable to moderately well indurated, locally cross bedded or graded, contains scattered calcarous concretions; thickness about 615 m in northeast part of map; queried where assignment doubtful
- Tcb** **Calabazas Formation (of Topanga Group)**-(middle Miocene)--Exposed as fault slivers in southeast corner of map: sandstone and siltstone, massive to poorly bedded, locally with calcareous concretions; pebble to boulder conglomerate has clasts derived from underlying volcanic rocks; finer-grained beds locally contain foraminifera; in Simi quadrangle to east this unit is overlain by rocks with foraminifera referred to the Luisian Stage (late middle Miocene) (Fritsche and others, 1983)
- Tco** **Conejo Volcanics** (middle Miocene)--Andesitic to basaltic flows and breccias; exposed only in southeast corner of map
- Tv** **Vaqueros Formation** (lower Miocene)--Marine sandstone, siltstone, claystone, local pebble conglomerate; coarse- to fine-grained sandstone thick bedded to massive, locally cross bedded, unsorted to moderately sorted, well indurated; fine-grained beds are thin to massive, locally fossiliferous
- Ts** **Sespe Formation** (upper Eocene to lower Miocene)-fluvial sandstone, red or green mudstone, siltstone, claystone, and conglomerate; sandstone generally thick bedded to massive, poorly sorted, friable to well indurated; fine-grained rocks are thin bedded to laminated; conglomerate commonly poorly indurated with well-rounded pebbles and cobbles; common cross bedding, ripple marks, convolute bedding, scour channels; thickness about 2,135 m

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
- ← — — — — Anticline— Approximately located, dotted where concealed; showing crestline
- — — — — → Syncline— Approximately located, dotted where concealed; showing troughline
- 70
— Strike and dip of inclined beds
- ◇ 255 Exploratory well— Number refers to table 1 below

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Table 1.--DATA ON EXPLORATORY WELLS, MOORPARK QUADRANGLE¹

MAP NO.	T	RW	SEC	OPERATOR	NAME/NUMBER	ELEV- ATION (ft.)	TOTAL DEPTH (ft.)	BOT- TOM ²
255	3N	19	4	Texaco, Inc.	Shiells 205	756	1500	O
256	3N	19	4	Texaco, Inc.	Shiells E8	1086	9410	E
257	3N	19	5	Texaco, Inc.	W P H Fee NCT1-12	625	16252	K?
258	3N	19	5	UNOCAL	Elkins Ranch 1	1045	?	C
259	3N	19	5	K H Hunter Jr.	Elkins Ranch 1	900	7015	E
260	3N	19	5	F M Manning	Elkins 4	878	7355	E
261	3N	19	5	Montebello Oil	Elkins 1	848	3485	O
263	3N	19	6	T. & T. Oil Co.	Burson T-N 1	486	4031	O/Pl
264	3N	19	6	K H Hunter Jr.	Elkins Ranch 2	595	5270	Pl
265	3N	19	6	Fillmore Im- provement Co.	Burson 2	615	2775	O
266	3N	19	6	Palma Oil Corp.	Annie Elkins 1	800	3057	O
267	3N	19	7	Duke Oil Co.	DOC 1	799	5635	O
268	3N	19	7	Exxon	Elkins 1	851	6962	E
269	3N	19	7	Shell CPI	Dryden 1	794	8613	O
270	3N	19	7	Shell CPI	Dryden 2	725	14154	K
271	3N	19	8	Wm. Thornbury	Thornbury-Elkins 2	1207	1360	O
272	3N	19	9	Texaco, Inc.	Elkins B-1	1316	7004	E
277	3N	19	16	Petco Oil	Strathearn 1	1556	3126	O
278	3N	19	16	Exxon	Moorpark 1	1250	6965	O
279	3N	19	18	Neaves Petrol- eum Dev'ts.	G. Atha-Ritchie 3	810	3535	O
280	3N	19	18	Austin Oil Co.	Morgan 1	1004	2547	M
281	3N	19	18	H H Humphreys	Humphreys 1	1050	200	Pl
282	3N	19	18	Energy Expl. Co.	Mahannah 1	~1100	?	?
283	3N	19	19	Ventura South- ern Oil Co.	McC Campbell 1	1350	5363	O
284	3N	19	20	Roy Gill Assoc.	Gill 1	1262	7534	O
285	3N	19	20	Kerr Bros.	1	1200	1186	Ml
286	3N	19	20	Simian Oil Co.	Simian Kerr 1	1050	567	O
293	3N	19	29	Schmidt Assoc.	1	804	1925	Pl
294	3N	19	30	Amerada Hess	Union Waters 1	823	9110	O
295	3N	19	30	F. R. Shaffer & K. Lehndorfer	Shaffer 1	875	600	Pl
296	3N	19	31	Century Prod.	Bryan 1	730	?	?
297	3N	19	31	Sun Oil Co.	Hardaker-Bolaco 1	630	6359	C
298	3N	19	32	Terry Drlg. Co.	Joyner 1	824	6005	O
301	3N	19	33	Calif. Profit Sharing Oil Co	1	825	2410	Pl
303	3N	19	33	Petan Oil Co.	1	720	4500	O
312	3N	20	1	K. H. Hunter Jr. Exploration	Robertson 1	539	5325	O/Pl
313	3N	20	1	UNOCAL	Irwin-Berylwood 5	449	16457	Pl
314	3N	20	1	UNOCAL	Irwin-Berylwood 6	462	5090	M
314A	3N	20	9	Exxon	Petit 1	380	1804	M
314B	3N	20	10	Shell CPI	Daniels 1	479	12981	Pl
314C	3N	20	11	Texaco, Inc.	Vancouver Fee 2	469	12206	O/Pl
314D	3N	20	11	Getty Oil Co.	La Dera Citrus 1	477	10000	O/Pl

MAP NO.	T	RW	SEC	OPERATOR	NAME/NUMBER	ELEV- ATION (ft.)	TOTAL DEPTH (ft.)	BOT- TOM ²
314E	3N	20	11	W M Thornbury	La Dera 1	671	1384	O
314F	3N	20	11	Califill Oil Co	1	695	4092	M
315	3N	20	12	Bill Tomberlin	1	694	7196	E
316	3N	20	12	UNOCAL	Geis-Dryden 1	680	7082	E
317	3N	20	12	C D Drauker	Drauker-Berylwood 1	752	3536	O
318	3N	20	12	UNOCAL	U S D H 1	867	7737	E
318A	3N	20	15	Shell CPI	Van Couvering 1	915	7003	O
318B	3N	20	15	UNOCAL	Van Couvering 1	596	12004	Pl
318C	3N	20	16	Exxon	Petit 2	950	5931	O
318D	3N	20	16	Shell CPI	Ben Schieferle 1	1258	7985	O
318E	3N	20	16	Texas Pacific Oil Co., Inc.	OPI Schieferle 1-16	1290	6973	O
320	3N	20	17	The United Co.	1	510	3795	O
321	3N	20	17	Shell CPI	N J Schieferle 1	852	6528	O
322	3N	20	20	Gulf Oil Corp.	Barnard 2	1343	6390	O
323	3N	20	20	F E Fairchild	McCormick 1	1192	6008	O
323A	3N	20	22	Chevron USA Inc	Hughes 1	1037	3190	M
323B	3N	20	22	Las Posas Pet- roleum Co.	1	949	8127	O
323C	3N	20	24	Gulf Oil Corp.	Johnson 1	1253	9465	O
323D	3N	20	26	UNOCAL	McDivitt 1	772	8761	O
323E	3N	20	28	Haney & Williams Drlg. Co. & K Hunter Jr.	Hunter-Mahan 1	926	8123	O
325	3N	20	29	Gulf Oil Corp.	McCormick 1	939	7482	O
325A	3N	20	32	Chevron USA Inc	Butchko Ranch 1	667	4973	M
325B	3N	20	32	Shell CPI	Berylwood 1	806	6683	O
325C	3N	20	32	Shell CPI	Berylwood 2	874	7241	O
325D	3N	20	32	Exxon	Berylwood Inv. 2	793	6744	O
329	3N	20	32	KAP Oil Co.	1+	750	250	Pl
329A	3N	20	33	Shell CPI	McBean 1	700	10549	E
329B	3N	20	33	E A Parkford	McBean 1	638	4103	M
329C	3N	20	33	UNOCAL	Las Posas Orch. 1	712	9961	E
329D	3N	20	34	Chevron USA Inc	Donlon 1	645	2710	M
329E	3N	20	34	Chevron USA Inc	Donlon 1A	645	5502	O
329F	3N	20	34	Mobil Oil Corp.	Las Posas-McBean 1	674	9235	O
329G	3N	20	35	UNOCAL	Danker-Alpert 1	742	9389	O
329H	3N	20	36	Exxon	Berylwood Inv. E	682	7307	O
329J	3N	20	36	Triton O & G	Botaba 2	630	6300	O?
330	3N	20	36	Neaves Petrol- eum Dev'ts.	Neaves-Kaiser- Aetna 1	700	7200	O
331	2N	20	1	Texas Pacific	Kaiser 1	520	8286	C
333	2N	20	4	Sun Expln. & Prod. Co.	Las Posas Orch- ard 4-1	430	10530	C
334	2N	20	4	Sun Expln. & Prod. Co.	Las Posas Orch- ard 4-2	400	11866	C
335	2N	20	5	Sunray Oil Co.	Fasshauer 1	650	10060	O
336	2N	20	5	E A Parkford- Bolsa Chica	Fasshauer 2	600	7785	O
337	2N	20	5	Conoco, Inc.	Fasshauer 2	628	8991	C
338	2N	20	9	Sunray Oil Co.	SDX-NLF Las Posas 1	447	7913	O

MAP NO.	T	RW	SEC	OPERATOR	NAME/NUMBER	ELEVA- ATION (ft.)	TOTAL DEPTH (ft.)	BOT- TOM ²
339	2N	20	11	San Roque Oil & Expln. Co.	Berylwood 1	392	6886	O
340	2N	20	14	Exxon	Berylwood Inv. C-1	653	7000	E
341	2N	20	14	Sun Drlg. Co.	Sun-Standard & C A Ferrell 1	655	7655	K
342	2N	20	14	Shell CPI	Everett 1	628	3315	E
343	2N	20	14	Shell CPI	Everett C-2	594	2188	E
344	2N	20	14	Texaco, Inc.	Berylwood B-1	592	3057	O
345	2N	20	16	Texaco, Inc.	Berylwood 2	703	8190	E
346	2N	20	16	Phillips Oil Co.	Berylwood 3	648	3674	O
347	2N	20	16	Phillips Oil Co.	Berylwood 1	650	6235	O?
348	2N	20	17	Buttes G & O Co.	Berylwood 2	246	7763	E
349	2N	20	17	Cunningham AC&L	Berylwood 1	270	?	?
367	2N	19	6	Chevron USA Inc	Gabbert 1	686	4868	O
368	2N	19	7	Darby Oil Co of Nevada	Darby 1	500	4663	O
377	2N	19	16	Texaco, Inc.	Ventura Farms 1	805	7334	O
378	2N	19	17	E. E. Easton, Trust	1	1000	559	O
379	2N	19	17	Henderson Pet- roleum Corp.	1	1050	4914	M
380	2N	19	18	Superior Oil Co.	Ventura Farms 1	976	4520	O

¹Data from Yerkes and Showalter, 1990.

²C, Confidential; E, Eocene; K, Upper Cretaceous; l, lower; M, Miocene;
O, Oligocene (Sespe); O/Pl, Oligocene thrust over Pliocene; Pl,
Pliocene.