U.S. DEPARTMENT OF THE INTERIOR

U.S. GEOLOGICAL SURVEY

Preliminary geologic map of the Val Verde 7.5' quadrangle, Southern California

Compiled by

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

Open File Report 95-504

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

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

1995

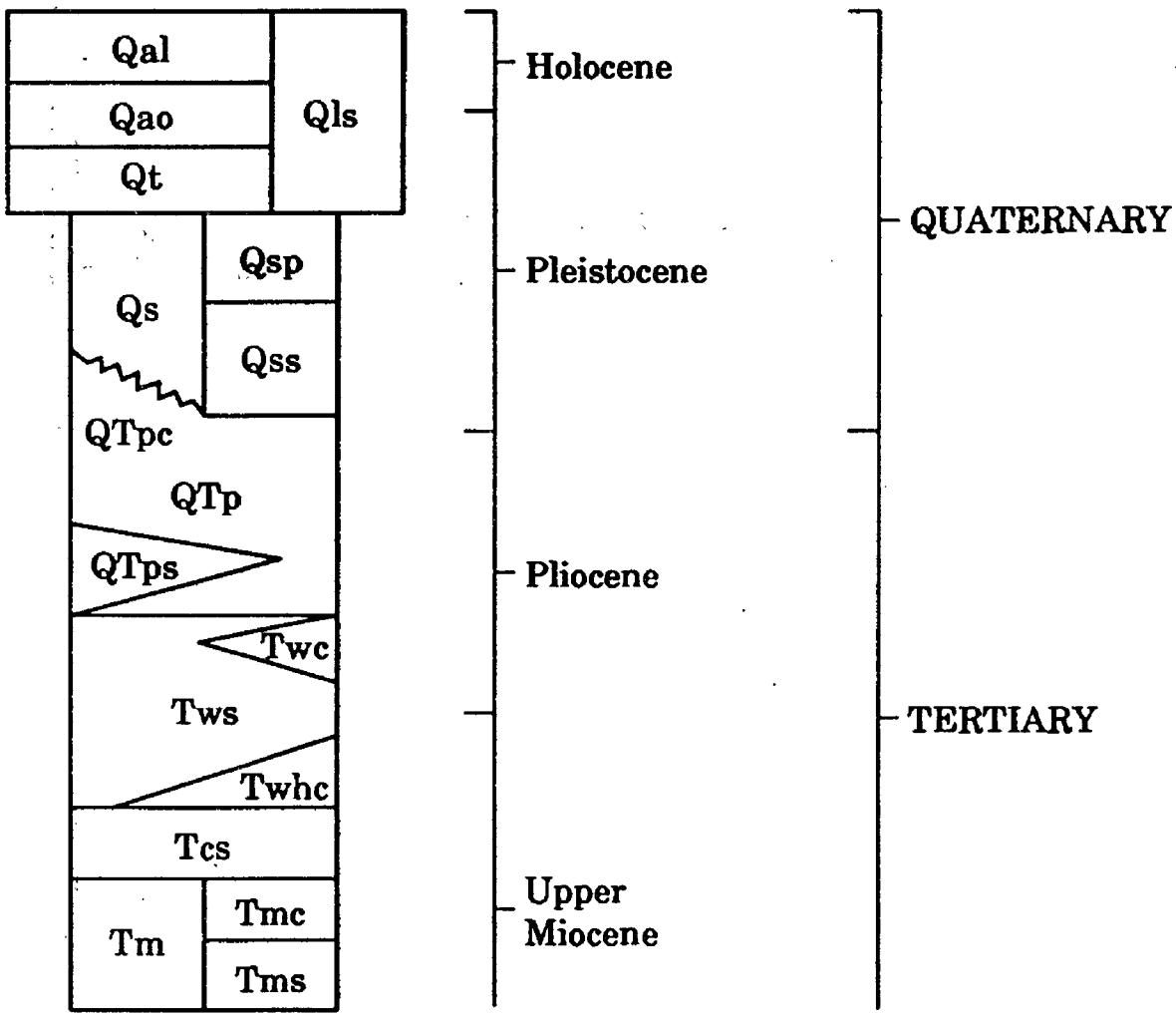
INTRODUCTION

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 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 quadrangles, and thus include available data on exploratory wells and fossil collections.

Stratigraphic nomenclature is largely that of the source materials; it is subject to change as compilation progresses. The sources for this compilation are Morton, 1972 for landslides and Yeats and others, 1985, for geology.

CORRELATION OF MAP UNITS, VAL VERDE QUADRANGLE



EXPLANATION, PRELIMINARY GEOLOGIC MAP, VAL VERDE QUADRANGLE

DESCRIPTION OF MAP UNITS

Qal Alluvium (Holocene)--Gravel, sand, silt and clay; unconsolidated, uncemented; in modern drainages

Qao Older alluvium (Holocene and Pleistocene)-Gravel, sand, silt, and clay; unconsolidated to poorly consolidated, locally cemented

Qls Landslide deposits (Holocene and Pleistocene)--Debris of bedrock, surficial deposits, and soil in jumbled, brecciated masses or relatively intact blocks; form slumps, block glides, or earth flows

Qt Terrace deposits (Pleistocene)--Interbedded coarse-grained sand, silt, and gravel; massive to poorly bedded and poorly consolidated; generally along margins of streams

QTs Saugus Formation (Pleistocene)--Nonmarine sandstone, conglomerate, and siltstone; thickness about 1,590 m; in adjoining area to the east an age range for the Saugus of ~2.3 to 0.5 million years BP is suggested by paleomagnetic studies (Yeats and Levi, 1993); grades downsection into brackish-water and marine sandstone, conglomerate, and siltstone; **Qsp**, conglomerate contains clasts of Pelona Schist; **Qss**, conglomerate contains clasts of San Francisquito shale

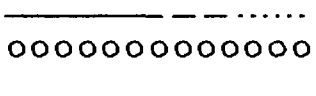
QTp Pico Formation (Pleistocene and Pliocene)--Marine siltstone, sandstone, and conglomerate; thickness as much as 1,840 m; **QTpc**, conglomerate and sandstone, minor siltstone; **QTps**, siltstone, fine-grained sandstone, and several mappable conglomerate beds

Tws Towsley Formation (upper Miocene and lower Pliocene)--Chiefly siltstone or mudstone; thickness about 1,075 m; **Twc**, predominantly sandstone or conglomerate; **Twhc**, Hasley Conglomerate: basal reddish-brown pebble conglomerate; lower part of Towsley contains foraminifera referred to the Mohnian Stage of Kleinpell (1938)

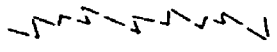
Tcs Castaic Formation (upper Miocene)--Chiefly marine siltstone; exposed only in northeast corner of map

Tm Modelo Formation (middle and upper Miocene)--Siltstone, shale, sandstone, and conglomerate; thickness about 790 m; contains foraminifera referred to the Luisian and Mohnian Stages of Kleinpell (1938); **Tmc**, conglomerate, sandstone, minor siltstone; **Tms**, siliceous shale, siltstone, and fine-grained sandstone

MAP SYMBOLS

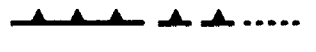


Contact or mapped horizon— Dashed where approximately located, dotted where concealed, queried where doubtful; small open circles indicate cobble-boulder conglomerate bed



Intertongued contact

Fault— Dashed where approximately located, dotted where concealed

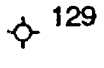


Thrust fault— Dashed where approximately located, dotted where concealed; teeth on upper plate

Anticline— Approximately located, showing crestline

Syncline— Approximately located, showing troughline

Strike and dip of inclined beds



Exploratory well— Number refers to table 1 below

References

Kleinpell, R. M., 1938, Miocene stratigraphy of California: Tulsa, Okla., Amer. Assoc. Petroleum Geologists, 450 p.

Morton, D. M., 1972, Reconnaissance photo-interpretation map of major landslides, southern Ventura County, California: Calif. Div. Mines and Geology Prelim. Rpt. 14, pl. 5, scale 1:48,000.

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. Abstracts with Prog., vol. 21, no. 6, p. A107-A108.

Wentworth, C. M., and Fitzgibbon, T. T., 1991. Alacarte User Manual (ver. 1.0): U. S. Geol. Survey Open File Rpt. 91-587C, 267 p.

Yeats, R. S., McDougall, J. W., and Stitt, L., T., 1985, Cenozoic structure of the Val Verde 7-1/2 minute quadrangle and south half of the Whitaker Peak 7-1/2 minute quadrangle, California: U. S. Geol. Survey Open File Report 85-587, scale 1:24,000.

Yeats, R. S., and Levi, S., 1993, Paleomagnetic restraints on the initiation of uplift on the Santa Susana fault, western Transverse Ranges, California: Tectonics, vol 12, no. 3, p. 688-702.

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., 1 map at 1:100,000.

Table 1--DATA ON EXPLORATORY WELLS, VAL VERDE QUADRANGLE[1]

MAP NO.	T	RW	Sec[2]	OPERATOR	NAME/NUMBER	ELEVATION (FT)	TOTAL DEPTH (FT)	BOTTOM
129	4N	18	1	MCOR Corp.	Dominguez et al. 1-1	1848	7687	Mu
130	4N	18	1	Bell View Oil Synd.	1	1450	3701	M
131	4N	18	1	Conoco, Inc.	Ward 1-1	1413		C
132	4N	18	1	Texaco, Inc.	Dominguez 57-1	2000	7308	Mu
141	4N	18	11	Atlantic Oil Co.	Riggs Ranch 1	1650	3000	M
142	4N	18	12	Argo Pet. Corp.	Hamilton Bros. BR 12-84	1370	8505	M?
143	4N	18	12	Texaco, Inc.	Black 1	1253	3502	Pl
144	4N	18	13	Texaco, Inc.	Kern West 1	1768	7108	Pl
145	4N	18	14	Chalmers & Ford	1	1800	2465	M
146	4N	18	14	Oxy Pet. Inc.	Holser 6	1300	6750	M
147	4N	18	14	J.P. Rinde	Holser 10	1562	6942	M
148	4N	18	14	Chevron U.S.A.	Bowman 2-1	1711	7988	Mu
149	4N	18	14	Bravo Oil Co.	Holser 18X	1474	10191	M
150	4N	18	15	F.E. Fairfield	Holser 3	976	3820	M
172	4N	18	22	UNOCAL	Camulos Ranch 2	904	13694	M
173	4N	18	24	Exxon Corp.	Larinan 1	809	6712	M
174	4N	18	24	R.S. Rheem	Larinan 1	1376	7731	Mu
175	4N	18	25	UNOCAL	N.L. & F. C-1	874	11835	M
176	4N	18	25	UNOCAL	N.L. & F. 3	793	11512	Pl
177	4N	18	25	Conoco Inc.	N.L. & F. 1	787	6830	Pl
178	4N	18	26	UNOCAL	N.L. & F. A-1	757	4586	Pl
194	4N	18	34	Oceanic Oil Co.	Marr Sloan 1	1264	6546	Mu
196	4N	18	36	Conoco Inc.	N.L. & F. 2	1400	5708	
136	4N	17	2	Petromin. Corp.	McGillivrae 3	1210	5800	M
137	4N	17	3	Texaco, Inc.	Towle 1	1317	7218	Pl
138	4N	17	3	Petromin. Corp.	Burns Crist 1	1225	5652	M
139	4N	17	3	Federal Oil Co.	Federal-Towle 1	1300	5005	M
140	4N	17	4	Marathon Oil Co.	Douglas 1	1416	10503	M
141A	4N	17	4	MCOR Corp.	McCulloch Senegram 1	1704	10865	Mu
142A	4N	17	4	Douglas Oil Co.	Oak Canyon 1	1457	4100	M
143A	4N	17	4	Blackfoot-Cherokee Energy, Inc.	Donchin 1	1536	4313	M
144A	4N	17	4	Chevron USA	Videgain 1	1407	8622	M
145A	4N	17	5	Filmland Oil Co.	Martino 1	1504	8243	Mu
146A	4N	17	5	Gulf Oil Corp.	Foley 1	1585	8458	M
147A	4N	17	6	Arco O & G Co.	Lechler 1	1796	8965	M
148A	4N	17	6	F.M. Boswell & Associates	Foley 1	2178	2802	M
149A	4N	17	7	St. Helens Pet.	Ladd 1	1462	4501	Mu
150A	4N	17	7	Argo Pet. Corp.	Black Ranch 7-15	1307	4070	C
151	4N	17	7	Argo Pet. Corp.	Black Ranch 7-25	1353	4007	C
152	4N	17	7	Tesoro Pet. Corp.	Intex-S.P. Fiedler 1	1377	4120	Mu
153	4N	17	8	Lawrence Barker	Barker-Conoco 1	1550	7520	E
155	4N	17	8	Jacob Albert	Albert 1	1425	6507	M
156	4N	17	8	Hurley & Mandelbaum	1	1625	3252	Pl
157	4N	17	8	Rothschild Oil Co.	Ramona Comm. 1	1710	4078	Pl

MAP NO.	T	RW	Sec	OPERATOR	NAME/NUMBER	ELEVATION (FT)	TOTAL DEPTH (FT)	BOTTOM
158	4N	17	9	Shell CPI	Dougherty 1	1345	2200	Pl
159	4N	17	9	Texaco, Inc.	Seaboard-So. Cal. Pet. Dougherty 1	1242	6017	Pl
160	4N	17	10	Fernando Oil Co.	1	1400	3744	Pl
161	4N	17	10	U.S. National Gas & Fred Manning	Strawn 1	1342	9435	M
162	4N	17	10	Atlantic Oil Co.	Strawn 1	1325	6614	M
163	4N	17	10	Montara Pet. Co.	Sterling 81X	1370	6007	Pl
164	4N	17	10	Texaco, Inc.	Malis 1	1267	8411	Mu
165	4N	17	10	Marathon Oil Co.	M.S. Henderson 1	1190	5875	Pl
166	4N	17	11	Texaco, Inc.	Fernando 1	1251	8034	Mu
167	4N	17	11	Texaco, Inc.	Newhall D-1	1120	11644	M
171	4N	17	14	Santa Fe Energy Co.	N.L.& F. 1	1125	14174	C
172A	4N	17	15	Chevron USA	Boobier 1	1127	8855	Pl
173A	4N	17	15	Exxon Corp.	Castaic Jct. Gas 1-1	1050	11000	C
174A	4N	17	16	British-American Oil Prod. Co.	Kinler S. Cal. 1	1290	6857	Pl
175A	4N	17	16	Rothschild Oil Co.	Barbour 1	1191	5753	Pl
176A	4N	17	16	McCulloch Oil Corp.	McCulloch-IDS K1-16	1278	12468	Mu
177A	4N	17	16	G.R. Nance Co.	Gallagher 1	1166	3820	Pl
178A	4N	17	16	Black Hawk Resources Corp.	N.L. & F. 1-16	1170	9696	M?
179	4N	17	17	Marathon Oil Co.	Vasquez 20	1519	11005	M
180	4N	17	18	Montara Pet. Co.	Handy 1-18	1727	6335	M
181	4N	17	19	Quintana Pet. Corp.	USA-Heisler 1	1708		C
182	4N	17	19	Sun Expl. & Production Co.	N. L. & F. 1-19	1643	6047	C
183	4N	17	20	Hart Expl. & production Co.	N. L. & F. 1-20	1177	8200	C
184	4N	17	20	Scope Inustries	N. L. & F. 2	1057	10719	M
185	4N	17	20	Chevron USA	N.L. & F Co. 10-1	1197	11011	M
186	4N	17	20	Mobil Oil Corp.	N. L. & F. 3	961	11497	Mu
187	4N	17	21	Texaco, Inc.	N. L. & F. 2	891	12073	M
188	4N	17	22	Quintana Pet. Corp.	NL&F-Trifield 1	1220	10368	C
189	4N	17	22	Sun Expl. & Production Co.	N. L. & F Co. 1	1100	15106	M
190	4N	17	23	Exxon Corp.	N. L. & F Co. 57	1120	13356	M
194A	4N	17	26	Sun Oil Co.	Rancho San Francisco 97-7	1212	11345	M
195	4N	17	26	Sun Oil Co.	Newhall Corp.-Wolfson 2-7	1281	12428	M
196A	4N	17	27	Sun Expl. & Production Co.	Rancho San Francisco A-1	1213	17775	C
197	4N	17	27	Sun Expl. & Production Co	Rancho San Francisco A-133	1300	9582	M?
198	4N	17	28	Exxon Corp.	N.L.& F.Co. G-1	1014	9521	M?
199	4N	17	31	MCOR O & G Corp.	N. L. & F. 1	1267	9377	M
200	4N	17	32	Argosy Oil Co.	N. L. & F. 1	1028	6000	M
201	4N	17	32	Newhall Land & Farming Co.	County Line 1	1063	10798	M

MAP NO.	T	RW	Sec	OPERATOR	NAME/NUMBER	ELEVATION (FT)	TOTAL DEPTH (FT)	BOTTOM
202	4N	17	33	Argosy Oil Co.	N. L. & F. 2	1123	6000	C
203	4N	17	33	Sun Expl. & Production Co.	N. L. & F. A-2	1160	8058	Mu
204	4N	17	43	UNOCAL	RSF 1	1169	11577	Mu
205	4N	17	34	Sun Expl. & Production Co.	Rancho San Francisco 103	1183	9483	Mu
206	4N	17	34	Sun Expl. & Production Co.	Rancho San Francisco 117	1657	10934	M
207	4N	17	35	Sun. Oil Co.	Rancho San Francisco 81-5	1204	8950	Mu
208	4N	17	35	Sun Expl. & Production Co.	N. L. & F. A-1	1417	10015	Mu
458	5N	18	23	Conoco, Inc.	McBurney USL-1	2076	6145	M
459	5N	18	23	Bob Ferguson Independent	Hathaway 5	1500	7391	M?
460	5N	18	24*	Petroleum Securities Co.	Diablo 1	1352	6504	M
461	5N	18	25*	Cabeen Expl. Co.	Hathaway 1	1894	7460	Mu
462	5N	18	25*	Bob Ferguson Independent	Hathaway 4	2012	6526	Mu
464	5N	18	36*	Marathon Oil Co.	Hathaway 3	1211	6971	Mu
540	5N	17	19	Marathon Oil Co.	Hathaway 2	1460	5099	M
541	5N	17	19	Gulf Oil Co.	J.I. Hathaway et al. 1	1900	14437	M
544	5N	17	21	Coastline Oil Co	1	1725	2545	Mu
545	5N	17	21	Aminoil	Romero-Loma Verde 77-21	2262	4517	Mu
550	5N	17	26	Macson Oil Co.	Radovich 1	1334	3494	Mu
551	5N	17	26	Aminoil	Van Couvering 26-26	1622	5920	Mu
552	5N	17	26	Mangold & Morse	McDermott 1	1470	4313	Mu
553	5N	17	26	Atlantic Oil Co.	Berryman 1	1590	3902	Mu
554	5N	17	27	Gulf Oil Corp.	Devils Canyon 1	1856	7657	Mu
555	5N	17	27	L. H. Glaser	Walker 1	1785	2016	M
556	5N	17	27	Marathon Oil Co.	Austin Estate 1	1870	5507	M
557	5N	17	28	Superior Oil Co.	Romero 51-28	2456	7925	M
558	5N	17	28	Paul Benz	Duignan 1	2162	5515	Mu
559	5N	17	29	Shell CPI	Loma Verde 515-29	1712	5000	Mu
560	5N	17	29	Rothschild Oil Co.	Ayala 1	1563	7506	M
561	5N	17	29	Amax Pet. Corp.	Ayala 1	1750	7416	M
562	5N	17	29	Amax Pet. Corp.	Ayala 2	1482	8398	M
563	5N	17	30	Conoco Inc.	Hathaway 30-1	1376	6770	C
564	5N	17	32	Boeco Drlg. Co.	Gilmour 1	1718	7592	Mu
565	5N	17	33	Texaco, Inc.	Clara Stanley 1	1527	6652	Mu
566	5N	17	33	P. L. Pike	Mark VII-2	1600	3350	M
567	5N	17	34	Texaco, Inc.	Stanley 1	1570	8747	M?

MAP NO.	T	RW	Sec	OPERATOR	NAME/NUMBER	ELEVATION (FT)	TOTAL DEPTH (FT)	BOTTOM
568	5N	17	34	Rincon Opr. Co.	Woodcraft Rogers 6X-34	1575	6700	M?
569	5N	17	34	Texaco, Inc.	Fischer 1	1510	7322	M?
570	5N	17	35	Texaco, Inc.	Forst 1	1270	7770	Mu

[1]Data from Yerkes and Showalter, 1990.
[2]Asterisk (*) indicates projected section.
[3]BC, basement complex; C, confidential; E, Eocene; M, Miocene, Pl, Pliocene; u, upper.