

U.S. DEPARTMENT OF THE INTERIOR

U.S. GEOLOGICAL SURVEY

Preliminary geologic map of the Newhall 7.5' quadrangle,  
Southern California

Compiled by

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Open-File Report 95-503

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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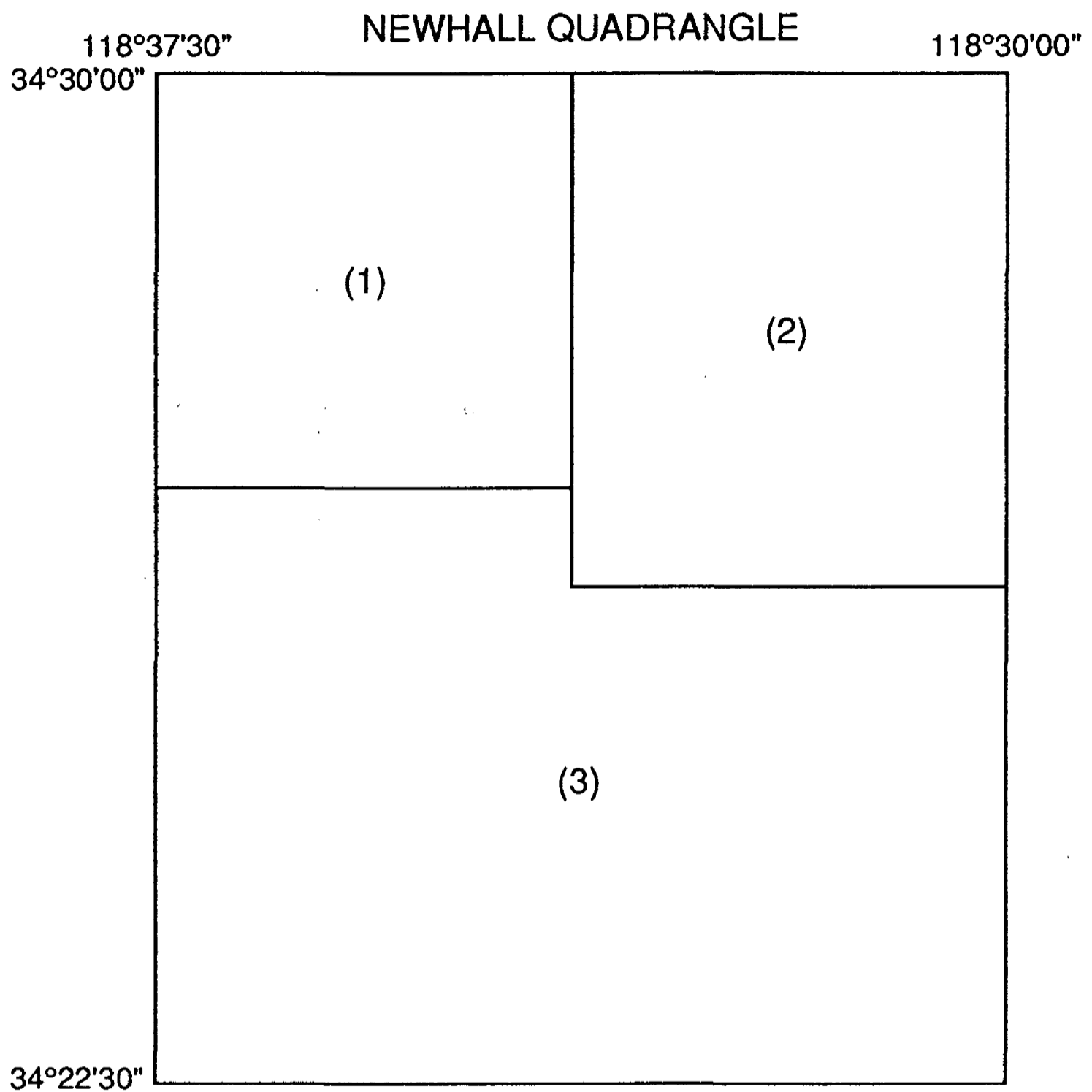
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## INTRODUCTION

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.

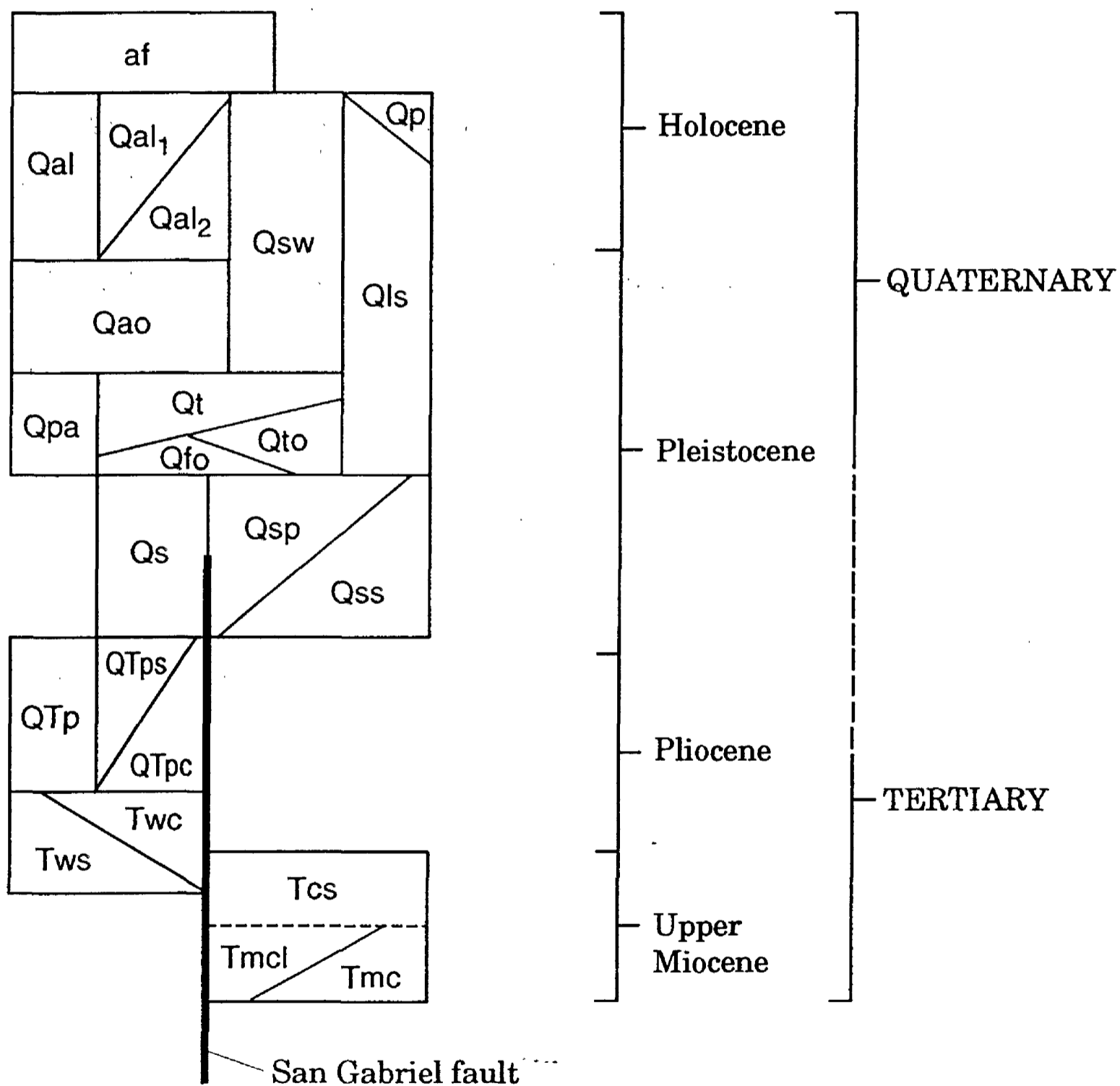


**EXPLANATION**

- 1. Stitt, 1979
- 2. Smith, 1984
- 3. Winterer and Durham, 1962;  
Weber, 1982

Figure 1--Index map showing sources of geologic mapping

## CORRELATION OF MAP UNITS, PRELIMINARY GEOLOGIC MAP OF NEWHALL QUADRANGLE



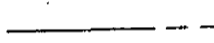




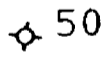
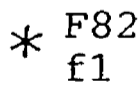
EXPLANATION, PRELIMINARY GEOLOGIC MAP. NEWHALL QUADRANGLE

DESCRIPTION OF MAP UNITS

- af artificial fill, locally includes cut areas
- Qa1 **Alluvium** (Holocene and late Pleistocene)--Gravel, sand, silt and clay; unconsolidated, uncemented; Qa12, better-sorted deposits along principal drainages; Qa11, less well-sorted deposits along tributaries
- Q1 **Pond deposits** (Holocene)--Unconsolidated, fine-grained sand, silt, clay, and organic detritus
- Qsw **Slope wash** (Holocene and Pleistocene)--Soil, rock fragments, and organic debris; thickness commonly exceeds 1 m; locally well cemented by calcium carbonate
- Qao **Older Alluvium** (Holocene and Pleistocene)--Gravel, sand, silt, and clay; massive to poorly bedded, unconsolidated to moderately consolidated, locally cemented
- Qls **Landslide deposits** (Holocene and Pleistocene)--Fractured or sheared bedrock and surficial materials in complex associations of slumps, block glides, debris slides, and earthflows
- Qt **Terrace deposits** (late Pleistocene)--Interbedded coarse sand, silt, and gravel; massive to poorly bedded and poorly consolidated
- Qpa **Pacoima Formation** (late Pleistocene)--Nonmarine sand and gravel, fine- to coarse-grained, poorly consolidated, folded, unconformable on Saugus Formation; northwest margin of map
- Qto **Older terrace deposits** (Pleistocene)--Interbedded lenses of sand and silt, locally with well-rounded pebbles and cobbles; moderately consolidated; northeast corner of map
- Qfo **Older fanglomerate** (Pleistocene)--Coarse, reddish-brown, muddy gravel, chiefly debris of Pelona Schist; not related to present drainage network; northeast corner of map
- Qs **Saugus Formation** (Pleistocene)--Fluvial deposits: conglomeratic sandstone, muddy siltstone, and conglomerate; an age range of <2.5 to 0.5-0.2 million years BP is suggested by paleomagnetic studies (Levi and others, 1986); Qsp, conglomerate contains clasts of Pelona Schist; Qss, conglomerate contains clasts of shale from the San Francisquito Formation
- Qtp **Pico Formation** (Pleistocene and Pliocene)--marine siltstone, sandstone, and conglomerate; Qtps predominantly siltstone and fine-grained sandstone; Qtpc, conglomerate and sandstone; southwest part of map

- Tws** **Towsley Formation** (upper Miocene and lower Pliocene)--Chiefly siltstone and sandstone: **Tws**, greenish-brown siltstone; **Twc**, chiefly fine- to coarse-grained, well-indurated, arkosic sandstone containing structures characteristic of sediments deposited by turbidity currents, locally well-cemented pebble conglomerate; southwest corner of map
- Tcs** **Castaic Formation** (upper Miocene)--Marine shallow-water sandstone and minor conglomerate, locally clayey; thickness about 2,135 m; megafauna includes about 100 species of mollusks correlated with the upper Miocene Cierbo and Neroly Pacific Coast megafaunal stages or with the Mohnian and Delmontian microfaunal stages (see table 2; Stanton, 1966)
- Tmc** **Mint Canyon Formation** (upper Miocene)--nonmarine conglomeratic sandstone, coarse-grained arkosic sandstone, fine-grained sandstone, and conglomerate; moderately well-bedded, weak cross-stratification, poorly sorted; pebbles and cobbles rounded to well rounded; moderately to well consolidated; thickness about 760 m; **Tmc1**, lacustrine member, medium- to fine-grained arkosic sandstone and calcareous claystone; poorly consolidated beds as thick as 2 m; thickness about 300 m; northeast corner of map

#### 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, showing crestline
-  **Syncline**--approximately located, showing troughline
-  **Strike and dip** of inclined beds
-  **Exploratory well**--number refers to table 1 below
-  **Fossil locality**--F, macrofossil collection; f, microfossil collection; number refers to table 2 below

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Table 1--DATA ON EXPLORATORY WELLS, NEWHALL QUADRANGLE<sup>1</sup>

MAP NO.	T	RW	Sec2	OPERATOR	NAME/NUMBER	ELEVA- ATION (FT)	TOTAL DEPTH (FT)	BOT- TOM <sup>3</sup>
50	4N	16	4*	Texaco, Inc.	NL & F G-1	1480	1800	Mu
51	4N	16	4*	Tesoro Pet. Corp.	Intex NLF-1	1370	2514	M
52	4N	16	4*	Texaco, Inc.	NL & F G-5	1323	1650	Mu
53	4N	16	4*	Texaco, Inc.	N L & F G-2	1208	1895	Mu
54	4N	16	4*	Pacific O&G Dev. Corp.	N L & F-1	1228	1916	M
55	4N	16	4*	Texaco, Inc.	N L & F G-8	1335	2100	M
56	4N	16	4*	Woodland Oil Co.	N L & F 1	1233	1376	M
57	4N	16	5*	Texaco, Inc.	Honor Rancho A-37	1436	2300	Mu
58	4N	16	5*	Texaco, Inc.	Honor Rancho A-36	1339	2400	Mu
59	4N	16	5*	Texaco, Inc.	Honor Rancho A-42	1314	4500	QT
60	4N	16	6*	Texaco, Inc.	Honor Rancho A-44	1260	4310	M
61	4N	16	7*	Texaco, Inc.	Newhall F-1	1031	14023	Mu
62	4N	16	8*	Texaco, Inc.	Honor Rancho A-20	1258	10494	Mu
63	4N	16	8*	Superior Oil Co.	N L & F 8	1250	10391	Mu?
63A	4N	16	8*	Texaco, Inc.	Newhall A-2	1125	10697	M
64	4N	16	8*	Superior Oil Co.	N L & F 1	1088	13303	M
65	4N	16	9*	Texaco, Inc.	N L & F G-7	1186	1400	Mu
66	4N	16	9*	Superior Oil Co.	N L & F 3	1237	3097	QT
67	4N	16	9*	Exxon Corp.	N L & F D-1	1259	8766	M
68	4N	16	9*	Exxon Corp.	N L & F D-3	1164	1389	QT
69	4N	16	9*	Superior Oil Co.	N L & F 4	1197	3216	QT
70	4N	16	9*	Conoco, Inc.	N L & F 1	1175	9578	M
71	4N	16	9*	Texaco, Inc.	Newhall A-1	1155	5312	Mu
72	4N	16	10*	Texaco, Inc.	N L & F G-3	1268	3000	M
73	4N	16	10*	Neaves Pet. Dev.	Neaves NL&F 10-1	1220	3416	Mu
74	4N	16	10*	Texaco, Inc.	N L & F G-4	1178	3300	Mu
75	4N	16	10*	Newhall Land & Farming Co.	Neaves NL&F 2	1252	1520	Mu
76	4N	16	11*	Milham Explor. Co.	Conroy 1	1390	2148	M
77	4N	16	11*	Milham Explor. Co.	Conroy 2	1289	3985	M
78	4N	16	11*	R.W. Young, Inc.	Walker 1	1254	9981	M
79	4N	16	13*	Texaco, Inc.	Bonelli 1	1271	1502	M
80	4N	16	14*	UNOCAL	Bonelli 2	1219	3096	M
81	4N	16	14*	Texaco, Inc.	N L & F H-2	1181	2200	M
82	4N	16	14*	Ed. Lustgarten	Lucky Lusty 3	1214	3200	M
82A	4N	16	14*	Ed. Lustgarten	Lucky Lusty 4	1250	5473	M?
83	4N	16	15*	UNOCAL	N L & F B-4	1190	11145	M
83A	4N	16	15*	Lamerts Oil Co.	Lamerts 1	1200	10735	C
				(Directed hole)				
83B	4N	16	15*	UNOCAL	Newhall-Saugus 1	1199	5893	M
84	4N	16	16*	Texaco, Inc.	Texaco-Union N L & F C-6	1124	11502	Mu
85	4N	16	16*	Chevron USA Inc.	Newhall Land & Farming 12-1	1111	13295	M
86	4N	16	16*	Texaco, Inc.	Texaco-Union N L & F 1	1125	12654	Mu
87	4N	16	17*	Exxon Corp.	N L & F 1	1092	10052	Mu
88	4N	16	17*	Badger Oil Co.	Magic Mountain 1	1107	13500	M
89	4N	16	18*	Exxon	Newhall Land & Farming Co. 69	1080	13635	M?



MAP NO.	T	RW	Sec <sup>2</sup>	OPERATOR	NAME/NUMBER	ELEVA- ATION (FT)	TOTAL DEPTH (FT)	BOT- TOM <sup>3</sup>
90	4N	16	19*	Chevron USA Inc.	Newhall L&F 52-19	1264	13255	M?
91	4N	16	20*	Depco, Inc.	N L & F 1	1175	13478	M
92	4N	16	20*	Quintana Pet. Corp.	NL&F Valencia 2	1287	11826	C
93	4N	16	21*	Atlas Explor. Co.	N L & F Co. 1	1115	2200	
94	4N	16	21*	Superior Oil Co.	N L & F 48-21	1175	13533	M
95	4N	16	22*	UNOCAL	N L & F 2	1157	11020	BC
96	4N	16	22*	Texaco, Inc.	Newhall E-1	1177	11285	Mu
97	4N	16	23*	Superior Oil Co.	Bonelli 14-23	1267	8969	BC
98	4N	16	23*	Conoco, Inc.	Georgino-Swanson 1	1192	7751	Mu
99	4N	16	23*	Commercial Oil Prod. Calif.,	2	1214	126	QT
100	4N	16	25*	Texaco, Inc.	N L & F H-1	1247	1700	M
101	4N	16	24*	Coast Explor. Co.	Golden Triangle 1	1335	4488	M
102	4N	16	24*	Terminal Drlg. Co.	Independent- Chiggia 1	1388	1933	M
103	4N	16	25*	UNOCAL	Bermite 1	1417	7270	Mu
104	4N	16	25*	Rothschild Oil Co.	Bermite 1	1524	4719	Pl
105	4N	16	25*	Mobil Oil Corp.	Bermite 1	1494	5043	BC
106	4N	16	25*	Termo Co., Texas	TB-1	1447	6006	C
107	4N	16	25*	R.A. Provost Assoc.	Protrana 2	1571	3653	Pl
108	4N	16	26*	Mobil Oil Corp.	Circle J-2	1336	6112	BC
109	4N	16	26*	Mobil Oil Corp.	Circle J-1	1349	6560	E
110	4N	16	27*	Mobil Oil Corp.	H & M 1	1199	7485	BC
111	4N	16	27*	Sun Oil Co.	SMC-Ohio-NL&F 37	1224	10505	M
112	4N	16	27*	West Coast Devel opment Corp.	Broughton 2	1230	2782	QT
113	4N	16	28*	General Explor. Co.	N L & F 2	1375	12478	M
114	4N	16	28*	Chevron USA Inc.	N L & F 13-1	1387	11971	M
115	4N	16	28*	Holbrook Pet. Corp.	Broughton 1	1400	6284	QT
116	4N	16	28*	Superior Oil Co.	N L & F 2	1278	9965	M
117	4N	16	29*	General Explor. Co.	N L & F 1	1426	12478	Mu
118	4N	16	31*	Shell CPI	Shell-Ferguson 2-7	1641	12464	Mu
119	4N	16	31*	Aminoil	Newhall Corp. 1	1623	9906	Mu
120	4N	16	31*	UNOCAL	Union-Ferguson 1	1547	11547	Mu
121	4N	16	32*	Big 4 Oil Co.	Brona 1	1350	2170	QT
122	4N	16	33*	Exxon Corp.	Newhall Land & Farming Co. E-1	1278	12450	M
123	4N	16	34*	W. T. Ball	1	1250	3629	QT
124	4N	16	34*	Chevron USA Inc.	Newhall Land & Farming Co. 5-1	1232	9296	M
125	4N	16	34*	Chevron USA Inc.	Newhall Land & Farming Co. 5-3	1252	7792	M
126	4N	16	34*	Eagle Oil & Ref.	Eagle Oil 1	1293	6236	M
127	4N	16	35*	W. T. Oil Co.	Thompson 1	1655	3991	E
128	4N	16	36*	F. E. Ellis	Lowe 1	1330	3445	E
129	4N	16	36*	Superior Oil Co.	L. A. H. 1	1375	5399	E
130	4N	16	36*	Corinth Pet. Co.	Karen 1	1386	2743	Pl
131	4N	16	36*	Ned Barmore	Hays 1	1400	2385	QT
132	4N	16	36*	R. S. Rocco	D. & C. 1	1375	4016	E?
133	4N	17	1*	Exxon Corp.	Newhall Land & Farming Co. C-1	1063	11440	Mu
134	4N	17	1*	British-American Oil Prod. Co.	Wayside Honor Fm. 1	1047	7532	Mu

MAP NO.	T	RW	Sec <sup>2</sup>	OPERATOR	NAME/NUMBER	ELEVA- ATION (FT)	TOTAL DEPTH (FT)	BOT- TOM <sup>3</sup>
135	4N	17	2	Atlantic Oil Co.	Good 1	1272	8500	M
168	4N	17	12*	Texaco, Inc.	Newhall D-2	1060	11728	M
169	4N	17	12*	Exxon Corp.	Newhall Land & Farming Co. B-1	1007	12744	Mu
170	4N	17	13*	Exxon Corp.	Newhall Land & Farming Co. 12-2	975	13800	M?
191	4N	17	24*	Exxon Corp.	Newhall Corp. 2	1375	12634	M
192	4N	17	25*	Sun Explor. & Prod. Co. Sunray	McCulloch NCS 1	1410	13808	M
193	4N	17	25*	MCOR Oil & Gas	McCulloch NC 1	1382	13038	Mu
210	4N	17	36*	Sun Oil Co.	Rancho San Francisco 42-2	1333	6881	Mu
252	3N	16	2*	M. E. Frazier	Eagle Oil-Bishop 2	1268	6014	M
253	3N	16	2*	Gulf Oil Corp.	Phillips 1	1270	5264	M
254	3N	16	2*	L. M. Lockhart	Miller 1	1331	5423	M
256	3N	16	3*	R. S. Rheem	Happy Valley E-1	1297	7041	O
262	3N	16	5	Sun Oil Co.	SMC McCulloch- Wilson 1	1462	6000	Pl
267	3N	16	6	P. M. Gerard	Fisher-Wosk 1	1438	7852	Mu
512	5N	16	24	Atlas Oli Co.	Alcosta 1	1891	3939	M
513	5N	16	25	Queen Oil Co.	1	1654	1175	M
514	5N	16	26	Fowler & Oles	Robinette 1	1518	2419	M
515	5N	16	26	H.P. & I.L. Oates	1	2000	969	M
516	5N	16	27	B. A. Gillespie	1	1100	3245	M
517	5N	16	27	F.M. Boswell & Assoc.	Ruiz 1	1318	2100	M
518	5N	16	28	Fairhaven Oil Co.	Gilbert C-1	1557	1460	M
519	5N	16	29	J. M. Butler	Butler-Mason 2	1418	4018	Mu
520	5N	16	29	J. Brandon	Mark VII-1	1450	1403	Mu
521	5N	16	29	J. M. Butler	Butler-Mason 1	1500	1450	M
522	5N	16	30	P. O. Waggoner	Queen 1	1224	610	M
523	5N	16	30	Henry King	Ursatum 1	1174	3511	Mu
524	5N	16	31	E. S. Arnn	Arnn-Lackie 1	1294	1531	M
525	5N	16	31	Texaco, Inc.	Honor Rancho A-40	1329	5587	M
526	5N	16	31	Texaco, Inc.	Honor Rancho A-50	1302	7309	M
527	5N	16	32	Sun Oil Co.	Dodge 1	1400	5984	Mu
528	5N	16	32	Indian Oil Co.	Dodge 13-32	1347	1141	Mu
529	5N	16	32	Texaco, Inc.	Dodge 1	1610	1425	M
529A	5N	16	32	M. R. Schultz	Whithall Ltd. 1	1488	1507	M
530	5N	16	33	Texaco, Inc.	DeNault 1	1713	3500	M
531	5N	16	34	Int'l Oil Devel.	Powell 302	1375	2200	M
532	5N	16	34	Int'l Oil Devel.	Powell 301	1275	4339	M
533	5N	16	34	Young Bros.	Rentchler 1	1373	2520	M
534	5N	16	35	H. P. Oates	Oates-Merritt Annex 1	1627	2573	M
535	Mobil Oil Corp.				Barstow 2	1492	4062	M
536	5N	16	35	C. W. Colgrove	Oates 24-35	1588	3700	M
537	5N	16	35	Roy Gill & Assoc.	Mittry 1	1386	4205	M
538	5N	16	36	G. R. Urich	Burger 1	1580	1893	M

MAP NO.	T	RW	Sec <sup>2</sup>	OPERATOR	NAME/NUMBER	ELEVA- ATION (FT)	TOTAL DEPTH (FT)	BOT- TOM <sup>3</sup>
547	5N	17	24	Max Pray	Pray-NL&F 1	1214	5500	M
549	5N	17	25	Custom Drlg. Co.	Jones 1	1143	3112	M
571	5N	17	36	Texaco, Inc.	Honor Rancho A-32	1123	5294	M

<sup>1</sup>Data from Yerkes and Showalter, 1990.

<sup>2</sup>Asterisk (\*) indicates projected section.

<sup>3</sup>BC, basement complex; C, confidential; E, Eocene; M, Miocene; O, Oligocene nonmarine; Pl, Pliocene; QT, Plio-Pleistocene; u, upper.

Table 2--DATA ON FOSSIL LOCALITIES, NEWHALL QUADRANGLE

<u>MAP NO</u> <sup>1</sup>	<u>T</u>	<u>RW</u>	<u>Sec</u> <sup>2</sup>	<u>COLL- ECTOR</u> <sup>3</sup>	<u>AGE</u> <sup>4</sup>	<u>MAP UNIT</u>	<u>SOURCE</u>
F82	4N	16	31	USGS	Pl	QTP	W & D, 1962**
F230	5N	16	36	CIT	Ml	Tcs	Stanton, 1966
F234	5N	16	36	CIT	Ml	Tcs	Stanton, 1966
F727	5N	16	26	CIT	Ml	Tcs	Stanton, 1966
F733	5N	16	26	CIT	Ml	Tcs	Stanton, 1966
F1670	5N	16	26	CIT	Ml	Tcs	Stanton, 1966
F1671	5N	16	26	CIT	Ml	Tcs	Stanton, 1966
F1929	5N	16	36	CIT	Ml	Tcs	Stanton, 1966
F2050	5N	16	36	CIT	Ml	Tcs	Stanton, 1966
f1-34	4N	17	36*	USGS	Pl	QTP	W & D, 1962**
f35-75	4N	17	36*	USGS	Pl	QTP	W & D, 1962**
f76-105	4N	17	36*	USGS	Pl	QTP	W & D, 1962**
f106-121	4N	17	35*	USGS	Pl	QTP	W & D, 1962**
f143-169	4N	17	36*	USGS	Pl	QTP	W & D, 1962**

<sup>1</sup>F, macrofossil collection; f, microfossil collection.

<sup>2</sup>Asterisk (\*) indicates projected section.

<sup>3</sup>CIT, California Institute of Technology; USGS, U. S. Geological Survey.

<sup>4</sup>M, Miocene; Pl, Pliocene; l, late.

\*\* W & D, Winterer and Durham, 1962.