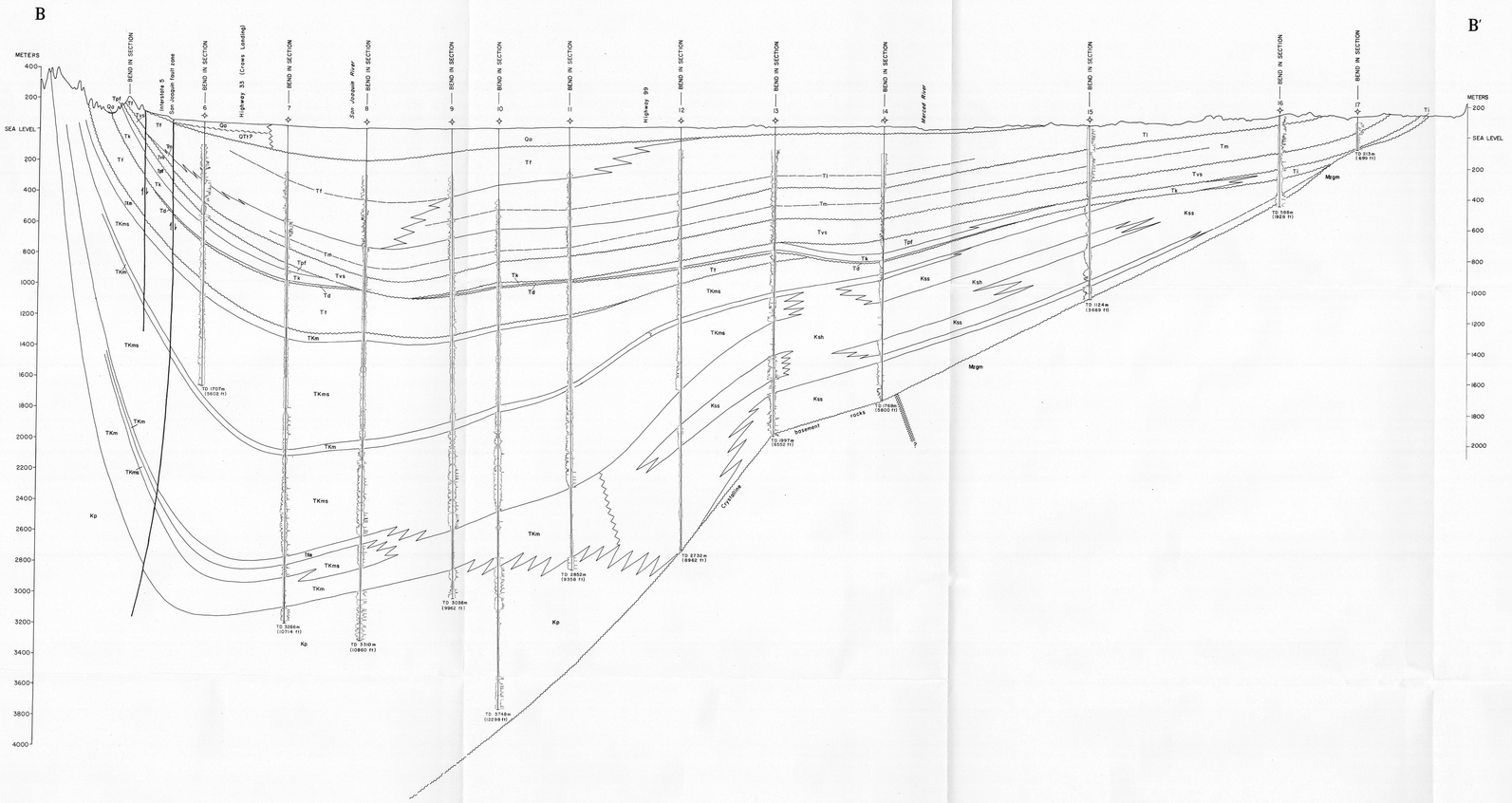
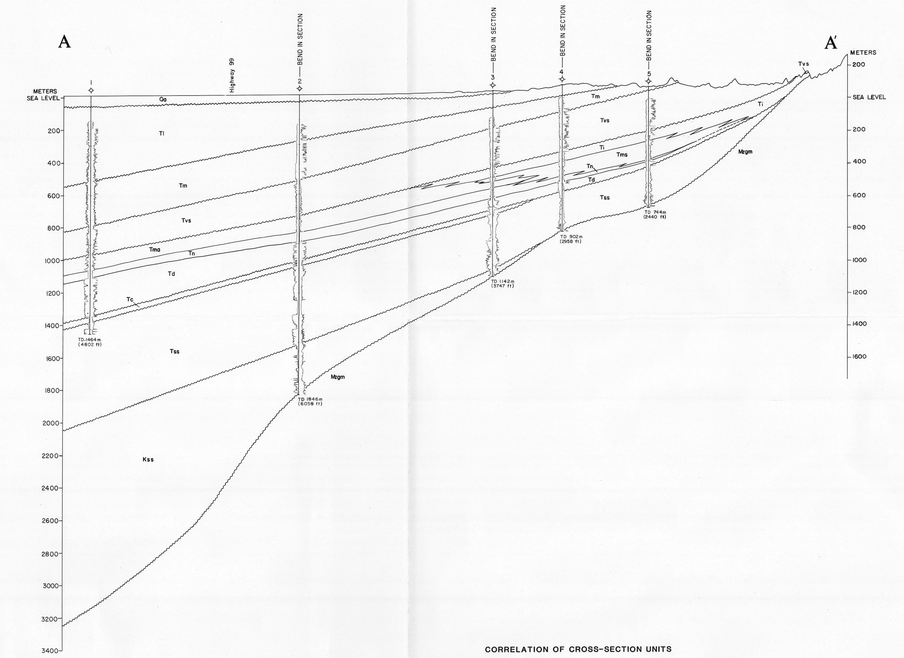
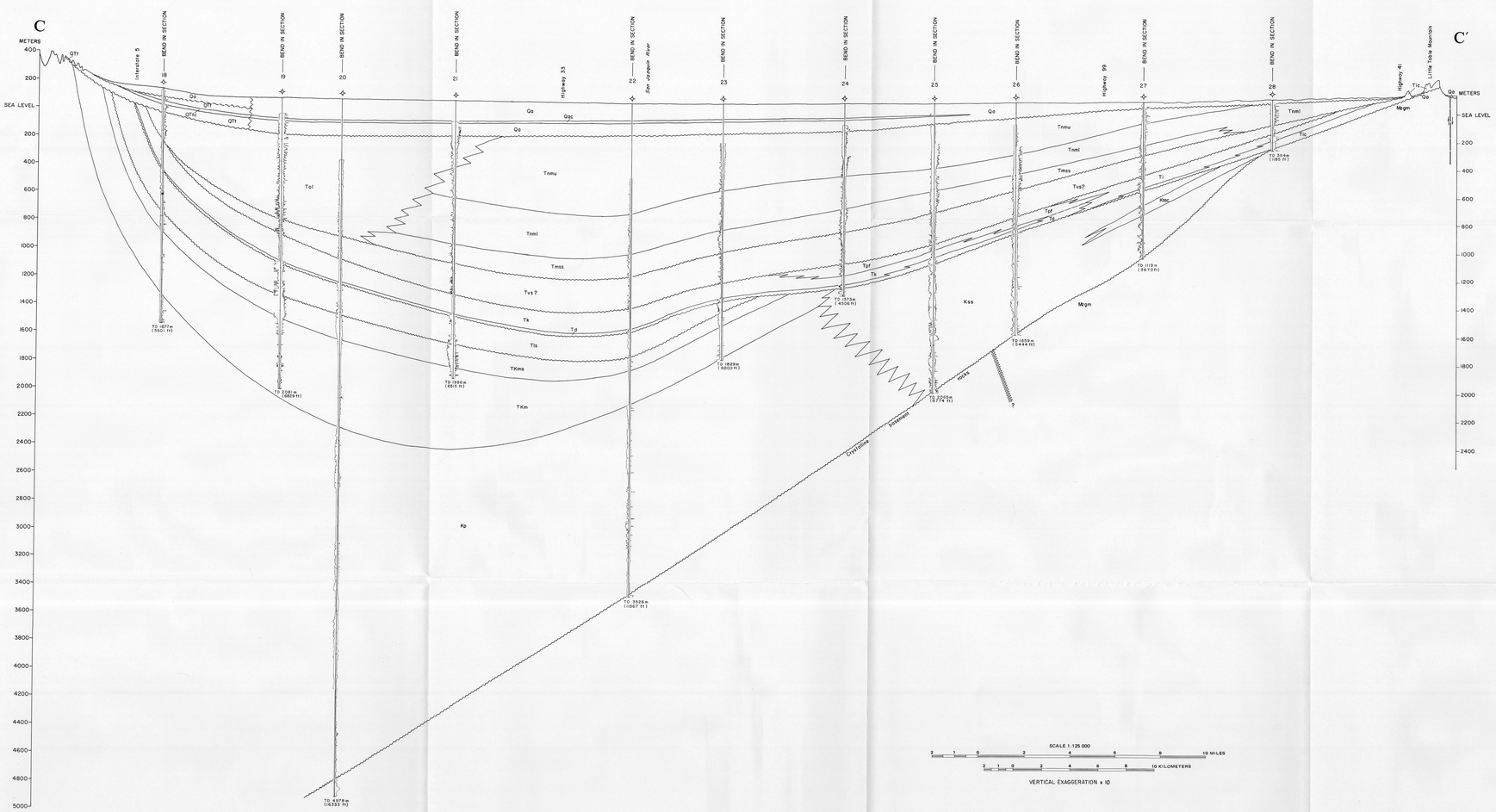
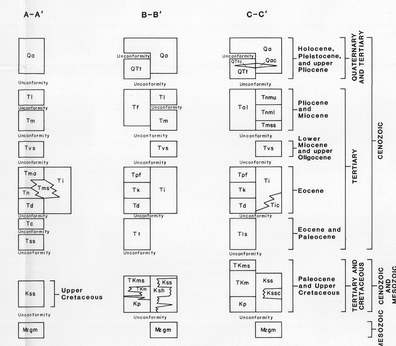






CORRELATION OF CROSS-SECTION UNITS



DESCRIPTION OF CROSS-SECTION UNITS

Qa ALLUVIAL DEPOSITS, UNDIVIDED (HOLOCENE AND PLEISTOCENE)--Unconsolidated sand, silt, gravel, and clay. As mapped, includes the Turlock Lake (Pleistocene), Riverbank (Pleistocene), and Modesto (Pleistocene) Formations, and post-Modesto fm. deposits

Qac Corcoran Clay Member of Turlock Lake Formation (Pleistocene)--Diatomaceous silt and clay; lacustrine

QTf TULARE FORMATION (PLEISTOCENE AND UPPER PLIOCENE)--Sand, gravel, silt and clay; nonmarine

QTfc Corcoran Clay Member (Pleistocene)--Diatomaceous silt and clay; lacustrine

Tl LAGUNA FORMATION (PLIOCENE)--Arkosic sandstone, conglomerate, and siltstone; nonmarine

Tf FANGLOMERATE (LOWER PLIOCENE AND UPPER MIOCENE)--Conglomerate, sandstone, and siltstone of Coast Range provenance; nonmarine

Tol ORO LOMA FORMATION OF BRIGGS (1953) (PLIOCENE AND UPPER MIOCENE)--Sandstone, conglomerate, and siltstone of Coast Range provenance; nonmarine

NONMARINE SEDIMENTARY ROCKS (PLIOCENE AND MIOCENE)--Sandstone, tuffaceous

Tnmu Upper part

Tnml Lower part

Tm MESOTAN FORMATION (LOWER PLIOCENE AND MIOCENE)--Feldspathic sandstone, conglomerate, and mudstone of andesitic composition; nonmarine

Tmss MARINE SANDSTONE (MIOCENE)--Sandstone, siltstone, and claystone; fossiliferous

Tvs VALLEY SPRINGS FORMATION (LOWER MIOCENE AND UPPER OLIGOCENE)--Rhyolitic sandstone, clayey sandstone, siltstone, and rhyolitic ultric tuff; nonmarine

Tms MARKLEY FORMATION (UPPER EOCENE)--Micaceous arkosic sandstone, marine

Tl IONE FORMATION (EOCENE)--Arkosic quartz-kaolinite sandstone, kaolinitic claystone, and lignite; paralic to marine

Tlc Conglomerate--Pebble, cobble conglomerate with lenticular sandstone interbeds; predominantly quartzose

Tpf POVERTY FLAT SANDSTONE (UPPER EOCENE)--Arkosic quartz-kaolinite sandstone, lithic sandstone, siltstone, and claystone; marine to nonmarine(?)

Tms MARINE SEDIMENTARY ROCKS (EOCENE)--Gray carbonaceous micaceous sandstone and siltstone; gray or brown claystone; fossiliferous

Tk KREYENHAGEN SHALE (EOCENE)--Shale, diatomaceous shale, diatomite, and local thin sandstone interbeds; marine. Age of unit in map area is Eocene only

Tn NORTONVILLE SHALE (EOCENE)--Shale, diatomaceous in part, and siltstone; marine

Td DOMENIGINE SANDSTONE (EOCENE)--Quartzose sandstone, usually glauconitic; locally contains interbeds of shale; marine

Tc CAPAY SHALE OF WEAVER (1949) (EOCENE)-- Claystone, siltstone or shale; marine

Tts TESLA FORMATION (EOCENE AND PALEOCENE)--Micaceous arkosic sandstone and siltstone with interbeds of quartzose sandstone; marine to paralic(?)

Tls LAGUNA SECA FORMATION OF PAYNE (1951) (EOCENE AND PALEOCENE)--Arkosic sandstone, siltstone, and shale; glauconitic; marine

Tss SANDSTONE AND SHALE (PALEOCENE)--Sandstone, siltstone, and shale; marine

TKm MORENO FORMATION (PALEOCENE AND UPPER CRETACEOUS)--Shale and siltstone with thin sandstone interbeds; marine. Early Paleocene at top in southern part of area (section C-C′), but Paleocene strata eroded in central and northern parts of the area (section B-B′)

TKms Sandstone--arkosic sandstone. Early Paleocene at top in southern part of area (section C-C′), but Paleocene strata eroded in central and northern part of area

Kss SANDSTONE AND SILTSTONE (UPPER CRETACEOUS)--Interbedded arkosic sandstone and siltstone; marine

Kssc Conglomerate--pebble, cobble conglomerate; marine(?)

Ksh SHALE (UPPER CRETACEOUS)--Shale and siltstone; marine (shelf and slope?)

Kp PANOCHE FORMATION (CRETACEOUS)--arkosic sandstone, siltstone, and conglomerate; marine

Mzgm GRANITIC AND METAMORPHIC ROCKS (MESOZOIC)--Granitic rocks and the metasedimentary and metavolcanic rocks that they intrude

CONTACT--Dashed where inferred

CORRELATION OF ELECTRIC-LOG MARKER

UNCONFORMITY--Broken where approximately located

FAULT--Arrows show relative vertical movement

WESTERN LIMIT OF SIERRAN BASEMENT ROCKS--Approximately located

CHANGE IN FACIES AND (OR) STRATIGRAPHIC NOMENCLATURE--Approximate

20 WELL--Number refers to accompanying table

TD124 m TOTAL DEPTH OF WELL--In meters

WELLS ON CROSS SECTIONS

Well No. on section	Well name	Location
	Section A-A′	
1	Ferguson and Reservoir "Merrill" 1	Sec. 19, T. 3 S., R. 6 E.
2	Shell Oil Co. "Mobil Lodi Unit" 1	Sec. 16, T. 3 N., R. 7 E.
3	Gulf Oil Corp. "K. S. Brautenbauher" 1	Sec. 10, T. 3 N., R. 8 E.
4	San-Cal Oil and Gas Corp. "Robidart" 1	Sec. 7, T. 3 N., R. 9 E.
5	San-Cal Oil and Gas Corp. "Kapital" 1	Sec. 15, T. 3 N., R. 9 E.
	Section B-B′	
6	A and M Oil and Gas Co. "Plank" 2	Sec. 28, T. 6 S., R. 8 E.
7	Gulf Oil Corp. "Lemos Unit" 1	Sec. 14, T. 6 S., R. 8 E.
8	Tenneco West, Inc "KCL-Santa Fe-Thomason" 1	Sec. 6, T. 6 S., R. 9 E.
9	Mobil Oil Corp. "Mowell" 27-1	Sec. 27, T. 5 S., R. 9 E.
10	Conoco, Inc. "Conoslaver" 1	Sec. 36, T. 5 S., R. 9 E.
11	Dover Fiduciary Corp. "Gallo-Haskel" 1	Sec. 28, T. 5 S., R. 10 E.
12	Union Oil Co. "Hayes" 1	Sec. 30, T. 5 S., R. 11 E.
13	Phillips Petroleum "Bell and Cook" 1	Sec. 31, T. 5 S., R. 12 E.
14	Phillips Petroleum "Del Monte A" 1	Sec. 32, T. 5 S., R. 12 E.
15	ARCO Oil and Gas Co. "Parker" 1	Sec. 10, T. 6 S., R. 13 E.
16	ARCO Oil and Gas Co. "Virginia Smith" 1	Sec. 13, T. 6 S., R. 18 E.
17	ARCO Oil and Gas Co. Crocker-Huffman" 1	Sec. 8, T. 6 S., R. 15 E.
	Section C-C′	
18	Exxon Corp. "Kitchenseryr" 1	Sec. 30, T. 13 S., R. 12 E.
19	Union Oil Co. "Irvine" 65-13	Sec. 13, T. 13 S., R. 12 E.
20	Shell Oil co. "Shaw" 1-16	Sec. 16, T. 13 S., R. 13 E.
21	J. E. Watley "Mendota" 1	Sec. 20, T. 13 S., R. 14 E.
22	ARCO Oil and Gas Co. "M. B. Co." 1	Sec. 28, T. 13 S., R. 15 E.
23	Texaco, Inc. "Olsil" 86-12	Sec. 11, T. 13 S., R. 16 E.
24	Shell Oil Co. "Stratigraphic test" 104-35	Sec. 29, T. 12 S., R. 17 E.
25	Shell Oil Co. "Stratigraphic test" 10	Sec. 28, T. 12 S., R. 17 E.
26	Shell Oil Co. "Exploratory well" 39	Sec. 13, T. 12 S., R. 17 E.
27	Union Oil Co., "Pacific Land" 1	Sec. 30, T. 11 S., R. 18 E.
28	Union Oil Co. "Smith" 1	Sec. 22, T. 11 S., R. 19 E.

SCALE 1:125 000

2 1 0 2 4 6 8 10 MILES

2 1 0 2 4 6 8 10 KILOMETERS

VERTICAL EXAGGERATION x 10

MAP SHOWING TERTIARY STRATIGRAPHY AND STRUCTURE OF THE NORTHERN SAN JOAQUIN VALLEY, CALIFORNIA

By
J. Alan Bartow
1985

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