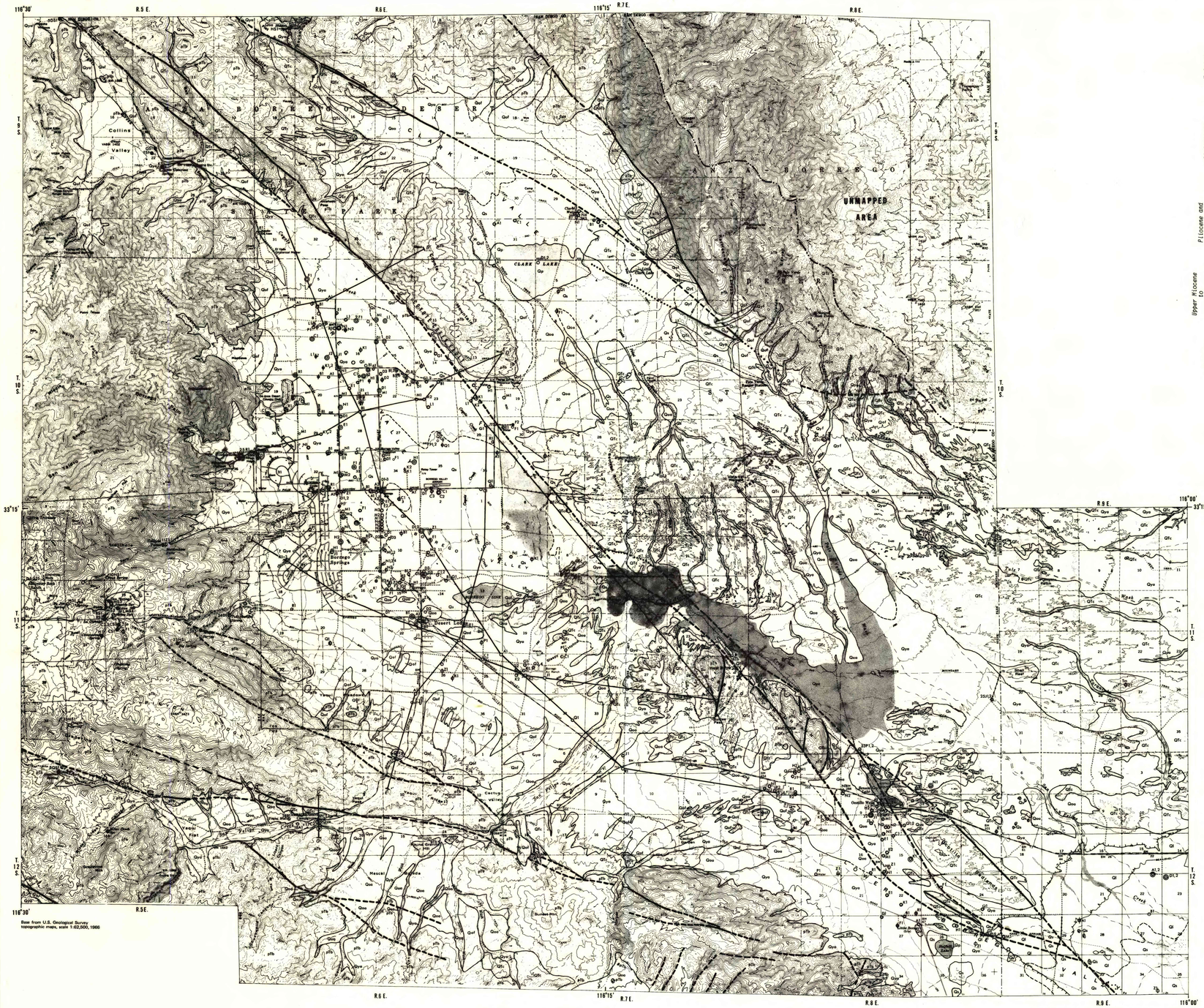
Prepared in cooperation with the
COUNTY OF SAN DIEGO



APPROXIMATE MEAN DECLINATION 1982

CONTOUR INTERVALS 40 AND 80 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

Geology compiled by W.R. Moyle, Jr., from unpublished mapping by T.W. Dibblee, Jr. (about 1964) and Earl R. Morley (about 1964). Location of wells by J.D. Horne, J.S. McLean, Allen Moench, and W.R. Moyle, Jr. Geophysical traverses by W.R. Moyle, Jr. This map originally published by the State of California as part of Bulletin 91-16 (1968). Cross sections and new wells added to map for this study by W.R. Moyle, Jr. (1981)

EXPLANATION

Holocene	**Qya** Younger alluvium — Unconsolidated gravel, sand, silt, and clay. Largely above the regional water table but, where saturated, yields some water to wells	**Qyf** Younger fan deposits — Unconsolidated, locally derived sand, gravel, and boulders. Largely above the regional water table. Yield little water to wells	**Qp** Playa deposits — Clay, with some sand and silt. Yield some water to wells where saturated	**Qs** Sand deposits — Unconsolidated fine-to-medium wind-deposited sand, actively drifting. Generally above the regional water table, however, in some areas, yield small quantities of water to wells	**Ql** Lake deposits — Unconsolidated sand interbedded with clay containing many Recent fossils. Where saturated may yield moderate quantities of water to wells
Pleistocene	**Qoa** Older alluvium — Unconsolidated gravel, sand, silt, and clay. Where saturated, yields water freely to wells			**Qof** Older fan deposits — Unconsolidated to moderately consolidated sand, gravel, and boulders. Where saturated yield water to wells	

QUATERNARY

Pliocene and Pleistocene	**QTc** Younger continental deposits — Moderately consolidated conglomerate, fanglomerate, sandstone, lacustrine claystone and siltstone, and clay. May yield large quantities of water to wells from the upper part of these deposits

TERTIARY AND QUATERNARY

Upper Miocene to Lower Pliocene	**Tm** Marine rocks — Consolidated claystone, sandstone, and shell beds of probable late Miocene to early Pliocene age. Probably would not yield much water to wells
Miocene	**Tc** Older continental rocks — Consolidated conglomerate, breccia, sandstone, silt, and clay; with beds of gypsum and anhydrite. Probably would not yield much water to wells

TERTIARY

	pTb Basement complex — Granite, schist, and gneiss. Yields small quantities of water to wells from fractures and weathered zones

PRE-TERTIARY

MAP SYMBOLS

Geologic contact — Dashed where approximately located

Fault — Dashed where approximately located or inferred, dotted where concealed, queried where doubtful. Arrows indicate direction of lateral movement

Shoreline — Approximate position of high shoreline of Lake Cahuilla

Geophysical traverse

Drainage divide

A—E1—A1—D1—A' Line of geologic and hydrologic sections. Circles show location of wells used in sections

Irrigation well — Used for irrigation and public supply purposes. Equipped with 5-horsepower, or larger, motor

Domestic and stock well flowing at time of visit

Domestic, stock, and unused well

Dry or destroyed well

Flowing spring

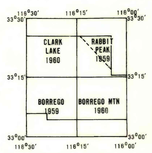
Dry spring, at time of visit

WELL-NUMBERING SYSTEM

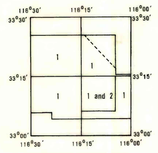
Letter after well indicates position in section thus

D	C	B	A
E	F	G	H
M	L	K	J
N	P	Q	R

For a complete description of well-numbering system see text



INDEX TO TOPOGRAPHIC QUADRANGLE MAPS



INDEX TO GEOLOGIC MAPPING

1 T.W. Dibblee, Jr.
2 Earl R. Morley, Jr.

MAP OF THE BORREGO VALLEY AREA, CALIFORNIA, SHOWING RECONNAISSANCE GEOLOGY, LOCATION OF WELLS AND SPRINGS, AND LINE OF GEOLOGIC AND HYDROLOGIC SECTIONS