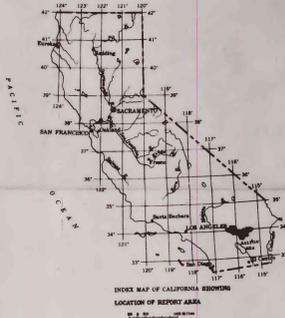
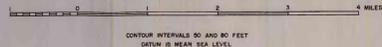


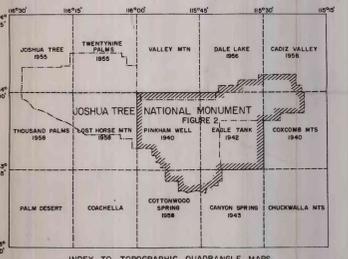
MAP OF THE EASTERN PART OF THE JOSHUA TREE NATIONAL MONUMENT AND VICINITY, CALIFORNIA
SHOWING RECONNAISSANCE GEOLOGY AND LOCATIONS OF WELLS AND SPRINGS



EXPLANATION

Recent	Qya Younger alluvium Unconsolidated poorly sorted sand, gravel, silt, and clay deposited as fans, channel sediments, and in former lakes in large valleys and small mountain basins. Locally contains minor quantities of windblown sand and gravels; may yield some water to wells in eastern Pinto Basin.	Qp 811 Fluvial deposits Unconsolidated silt, clay, and sand deposited in a small plain in sec. 3, T. 3 S., R. 10 E.; yield no water.	Qs 803 Windblown sand Dunes composed of unconsolidated sand and granite gravel; yields no water.
Pleistocene	Qoa Older alluvium Unconsolidated to moderately-consolidated, dissected, very poorly sorted sand, gravel, silt, and clay deposited primarily as fans and channel sediments in large valleys and small mountain basins. Fans in large valleys typically are surfaced with desert pavement composed of boulders, cobbles, and pebbles coated with desert varnish; where saturated, yields moderate to large amount of water to wells.	Ql 853 Lacustrine deposits Moderately-consolidated to well-cemented clay, calcareous tuff, sand, and silt deposited in and along shorelines of a former lake; may contain small amount of water locally.	Qpo 863 Qpb 864 Pinto Formation of Schuch, 1955 Moderately-consolidated fanglomerate and interbedded lacustrine deposits (Qpo), and associated basalt (Qpb); fanglomerate unit yields moderate amount of water to wells in eastern Pinto Basin.
Pliocene (?) and Pleistocene	Qta Old alluvial deposits Moderately-consolidated fanglomerate, silt, and sand, deformed by faulting; probably contains saturated beds in western Pinto Basin and yield some water to wells in eastern Pinto Basin.	Qtr 844 Olivine basalt Vesicular olivine basalt interbedded with old alluvial deposits; yields no water to wells.	Basement complex yTu igneous and metamorphic rocks, un differentiated yTr residuum, composed of quartz monzonite and some granite, moderately-consolidated and developed in place by weathering, sometimes referred to as decomposed granite, unit locally is covered by a thin veneer of alluvium; locally yields small amount of water to wells yTi igneous intrusive rocks, consisting of quartz monzonite and other granitic rocks; joints and fractures locally yield small amount of water to wells and springs yTm metamorphic rocks, consisting of schist, gneiss, and quartzite, closely associated with granitic rocks; yield no water

Geology and well locations by J. E. Weir, Jr. and J. S. Bader, 1961. Geology, in part, adapted from Gleason, P. V., 1948



Base compiled, 1962, from topographic maps of U.S. Geological Survey and U.S. Army Corps of Engineers, scale 1:62,500. Land lines located approximately by projection, in part by Ground Water Branch, U.S. Geological Survey

MAP SYMBOLS

	Contact		Domestic, test, or unused well
	Fault		Dry or destroyed well
	Strike and dip of beds, number is dip in degrees		Well equipped with turbine pump Numbers in parentheses indicate altitude of ground-water surface in eastern Pinto Basin
	Precipitation station		Flowing spring
			Dry spring
			Boundary of ground-water storage unit in eastern Pinto Basin

Letter next to well or spring indicates position in section as shown below:

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

Letter X indicates the well is in an area where planimetric control is poor and location can not be definitely established

Letter Z indicates the well was plotted from an unverified location description

Site 4
Area suggested for exploratory drilling