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SALTON SEA

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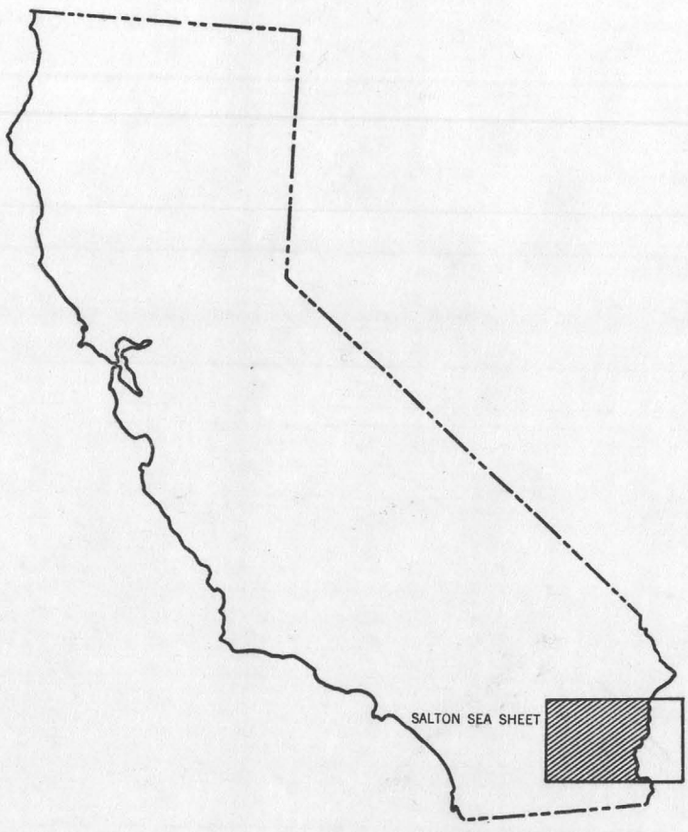
GEOLOGIC MAP OF CALIFORNIA

SALTON SEA SHEET

Scale 1:250,000

1967



DIVISION OF MINES AND GEOLOGY
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SALTON SEA

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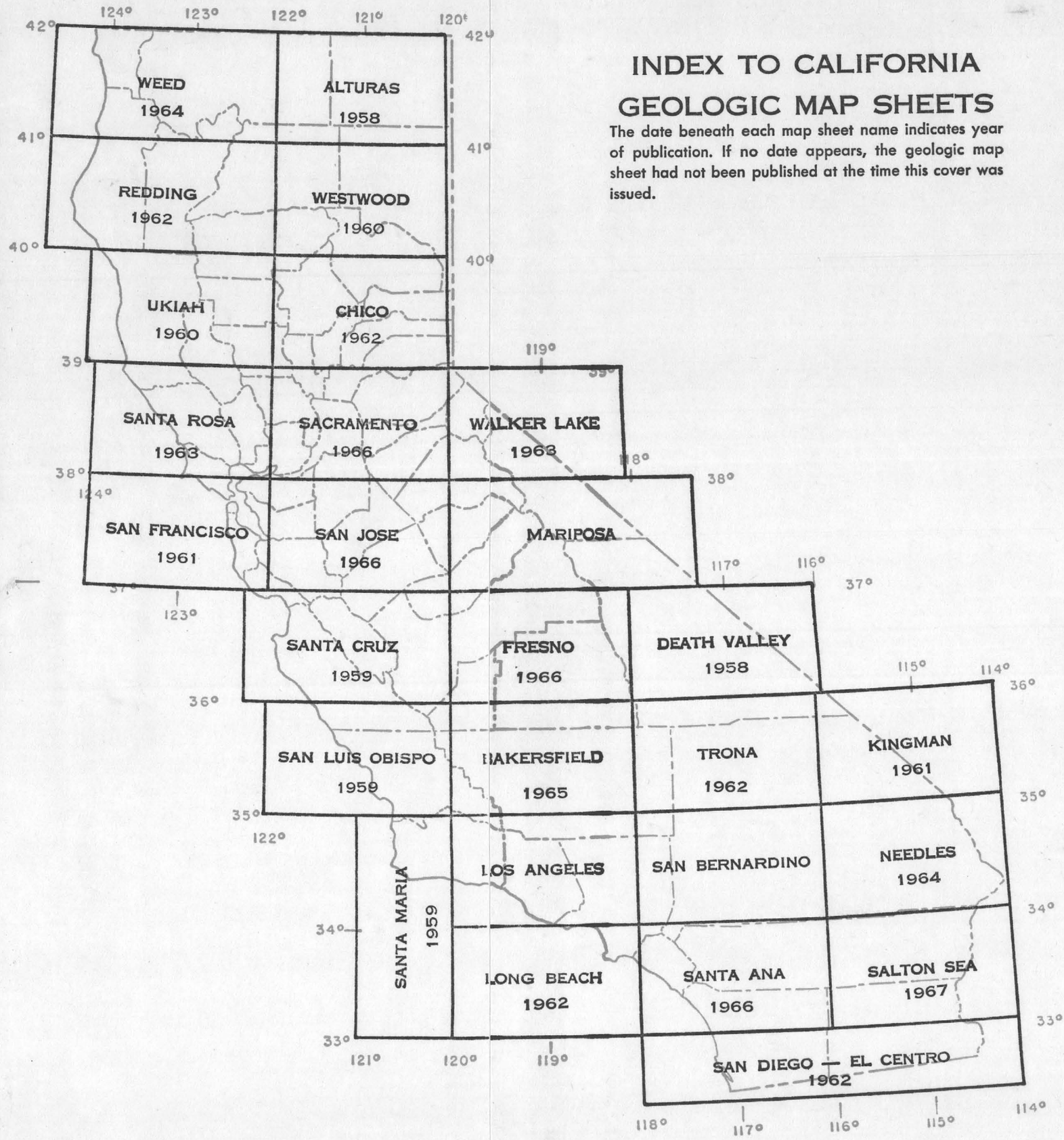

TOPOGRAPHIC QUADRANGLES

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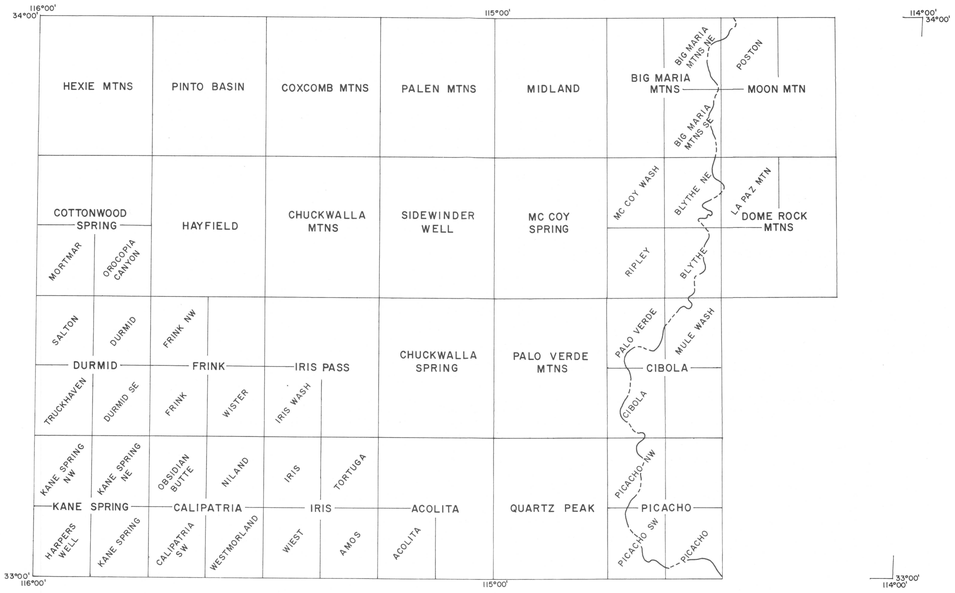

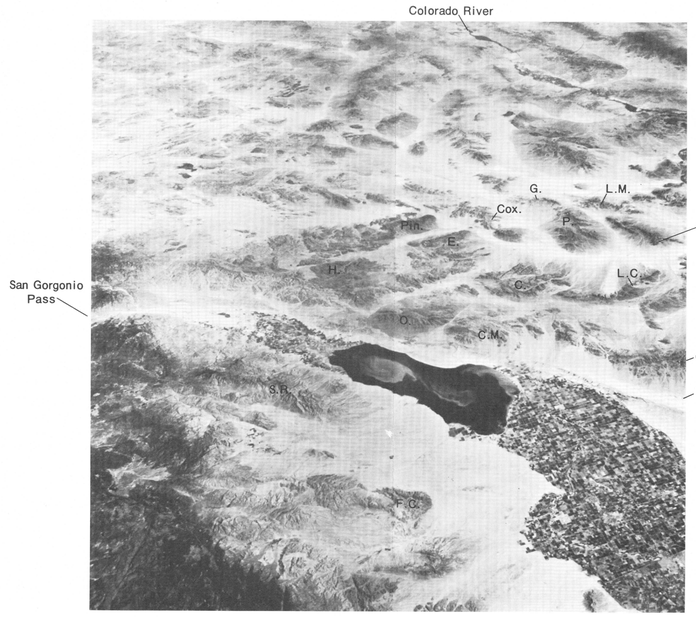

View of Salton Sea area from Gemini 5, 100 miles high. Salton Sea, 35 miles long, lies in the Salton trough, bounded by the cultivated fields of Imperial Valley to the south (right) and the Coachella Valley to the northwest (left). L.M. = Little Maria Mountains, P = Palen Mountains, G = Granite Mountains, Cox. = Coxcomb Mountains, Pin. = Pinto Mountains, E = Eagle Mountains, H = Hexie Mountains, C = Chuckwalla Mountains, L.C. = Little Chuckwalla Mountains, C.M. = Chocolate Mountains, O = Orocopia Mountains, S.R. = Santa Rosa Mountains, F.C. = Fish Creek Mountains. *Photo by NASA, 1965.*

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EXPLANATORY DATA

SALTON SEA SHEET

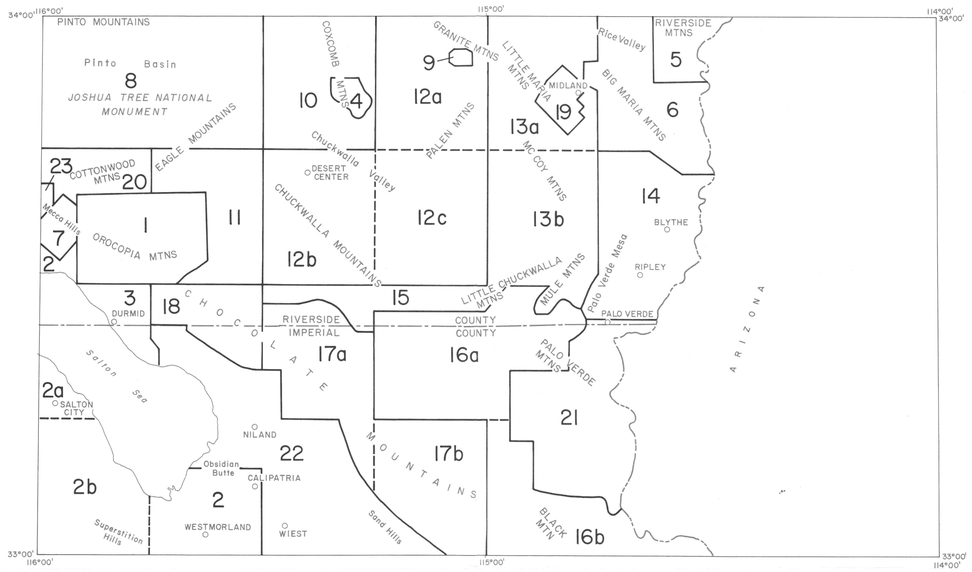
GEOLOGIC MAP OF CALIFORNIA

OLAF P. JENKINS EDITION

Compiled by Charles W. Jennings, 1967

INDEX TO GEOLOGIC MAPPING

USED IN THE COMPILATION OF THE SALTON SEA SHEET



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† Quaternary alluvial deposits largely after F. W. Giesener, 1963. Data on water wells and springs in the Bice and Vidal Valley areas, Riverside and San Bernardino Counties, California: Fed.-State Coop. Ground Water Investigations, Bull. 91–8, Fig. 2: Map of the Chuckwalla Valley area, California, scale 1:63,360.
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For a complete list of published geologic maps of this area see Division of Mines and Geology Special Reports 52 and 52-A.

STRATIGRAPHIC NOMENCLATURE— SALTON SEA SHEET

AGE	STATE MAP SYMBOL	STATE MAP UNIT State Map Units listed here are not necessarily in stratigraphic sequence; the sequence used has been standardized for all sheets of the Geologic Map of California	STRATIGRAPHIC UNITS AND CHARACTERISTIC LITHOLOGIES Formally named formations grouped in sequence (separated by semicolons) are listed from youngest to oldest.
CENOZOIC — QUATERNARY — Recent	Qs	**RECENT DUNE SAND**	Wind-blown sand, mostly in the form of dunes.
	Qal	**RECENT ALLUVIUM**	Alluvial sand, silt, clay, and gravel, including locally some older alluvium. Recent floodplain silt, sand, and clay of the Colorado River.
		RECENT VOLCANIC ROCKS:	
	Qrv^r	**RHYOLITIC**	Quaternary obsidian, rhyolite, and pumice composing the volcanic domes on the southeast shore of Salton Sea; locally obsidian flows interbedded with Quaternary lake beds; age less than 50,000 years according to Kistler and Obradovich.[1]
	Ql	**QUATERNARY LAKE DEPOSITS**	Playa deposits. Lake Coahuila (Cahuilla) Deposits—*claystone, sand, and beach gravel deposited in former extensive lake in Salton trough (locally undifferentiated from Qal); contains abundant nonmarine fossils.* Older lake beds and alluvial deposits above high shoreline of Lake Coahuila. Pinto Formation of Scharf—*coarse boulder fanglomerate and lacustrine clay underlying basalt flows in the Eagle and Pinto Mountains (contains vertebrate fossils of probable Pleistocene age).*
— Pleistocene	Qc	**PLEISTOCENE NONMARINE SEDIMENTARY DEPOSITS**	Qc_1: older alluvium and fanglomerate, mostly dissected or with well-developed desert pavement and desert varnish. Brawley Formation—*red-gray clay, siltstone, sandstone, and pebble gravel of partly lacustrine and partly terrestrial origin* (shown as Ql where intimately associated with Lake Coahuila Deposits). Silt, sand and clay beds of Pleistocene age exposed in terrace west of Blythe. Qc_2: older folded or uplifted fan deposits, extensively dissected. Ocotillo Conglomerate—*gray boulder conglomerate, grading basinward into pink sand and clay.*
		PLEISTOCENE VOLCANIC ROCKS:	
	Qpv^r	**RHYOLITIC**	Quaternary(?) rhyolite plugs in Salton Wash.
	Qpv^b	**BASALTIC**	Highly vesicular olivine basalt flows in the Eagle, Cottonwood, and Pinto Mountains.
— Pliocene	QP	**PLIOCENE-PLEISTOCENE NONMARINE SEDIMENTARY DEPOSITS**	Conglomerate, schist breccia, arkose, and siltstone in the Mecca Hills area, containing vertebrate fossils of Pliocene or Pleistocene age (correlated by some geologists with the Palm Springs Formation). High alluvial fans with surface clasts much diisintegrated (Big Maria Mtns. area). Moderately deformed fanglomerate in the northern Chocolate Mountains consisting of unsorted, poorly consolidated, pale gray-yellow sediments containing mostly angular volcanic clasts.
	Pc	**UNDIVIDED PLIOCENE NONMARINE SEDIMENTARY ROCKS**	Palm Spring Formation (Pc?)—*pink-gray laminated sandstones and red clays containing Pliocene and/or Pleistocene vertebrate fossils (west side Salton Sea).* Mecca Formation(?)[2]—*grayish-red to yellowish-brown basal conglomerate overlain by yellowish-gray arkose and arkosic conglomerate with Pliocene or Pleistocene vertebrate fossils.*
	Pu	**UPPER PLIOCENE MARINE SEDIMENTARY ROCKS**	Travertine containing brackish water fossils of Pliocene or Pleistocene age (Big Maria Mtns. area).[3] Estuarine deposits consisting of interbedded siltstone, fine-grained sandstone, marl, and calcarenite (Palo Verde Mtns. area).[3]
— Miocene	Mc	**MIOCENE NONMARINE SEDIMENTARY ROCKS**	Fanglomerate (Miocene?) composed chiefly of cemented gravel, gray where pebbles are from granitic and metamorphic basement rocks, brown or reddish brown where from Tertiary volcanic rocks (southern Chocolate Mtns. and Palo Verde Mtns.).
— Oligocene	ϕc	**OLIGOCENE NONMARINE SEDIMENTARY ROCKS**	Unnamed nonmarine conglomerate, sandstone, breccia, mudstone and evaporite rocks of probable Oligocene or possible early Miocene age (Orocopia Mtns.).
— Eocene	E	**EOCENE MARINE SEDIMENTARY ROCKS**	Maniobra Formation—*marine siltstone, sandstone, conglomerate, and breccia with some sandy limestone; lower and middle Eocene* (Orocopia Mtns.).
TERTIARY — Undivided		**TERTIARY VOLCANIC ROCKS:**	
	Tv	**UNDIFFERENTIATED**	Undivided volcanic rocks of various compositions. Age of some uncertain; may be Quaternary in places.
	Tv^r	**RHYOLITIC**	Rhyolite porphyry dikes in the Eagle Mountains Metropolitan Water District aqueduct tunnel route. Rhyolitic rocks (Chocolate Mtns. and Palo Verde Mtns.). Dacite flows (Riverside Mtns.).
	Tv^a	**ANDESITIC**	Andesite flows (So. Chocolate Mtns.).
	Tv^b	**BASALTIC**	Basalt flows of uncertain age in the northern Chocolate Mtns. and Palen Mtns. Vesicular basalt flows forming flat-top ridges in the southern Chocolate Mountains (Oligocene? according to F. H. Olmsted, personal communication 11/30/66).
	Tv^p	**PYROCLASTIC**	Pyroclastic rocks, largely tuff, welded tuff, tuff breccia, agglomerate, and minor interbedded flows (Chocolate Mtns., Palo Verde Mtns.).
		TERTIARY INTRUSIVE (HYPABYSSAL) ROCKS:	
	Ti	**UNDIFFERENTIATED**	Tertiary hypabyssal rocks largely acidic in composition (Chocolate Mtns.). Dike rocks in the Eagle Mtns. Dioritic rocks (hypabyssal?) in the Frink quadrangle (northwestern part of Chocolate Mtns.) with a great number of related diabasic dikes and numerous later (Tertiary?) deuterically altered dikes or flows.
	Ti^r	**RHYOLITIC**	Rhyolitic dikes and other intrusive rocks.
	Ti^a	**ANDESITIC**	Volcanic plugs and intrusive masses, dominantly andesite.
	Tl	**TERTIARY LAKE DEPOSITS**	Borrego Formation (Tl-Ql?)—*lacustrine tan-gray clay shales and buff to gray sandstones, containing lenses of sodium sulfate near Bertram (N.E. side of Salton Sea); contains undiagnostic fossils of presumably Pliocene or Pleistocene age* (considered by T. W. Dibblee, Jr., 1954 to be the lacustrine equivalent of the Palm Spring Formation and also locally to overlie the Palm Spring Formation). Tertiary lacustrine sedimentary rocks, mostly well-bedded, white to gray, flaggy tuffs and thin beds of gray to brown limestone (southern Chocolate Mtns.).
	Tc	**TERTIARY NONMARINE SEDIMENTARY ROCKS**	Tertiary (?) well-indurated red fanglomerate of predominantly volcanic fragments with lesser amounts of schist and gneiss fragments, mineralized with manganese ore deposits along fault fissures and fractures (Paymaster Mining District, easternmost Imperial County). Megaconglomerate containing 10-foot blocks; monolithologic breccia consisting of clasts of marble, metadolomite, metachert or quartzite in solid matrix of their own composition; pink, maroon, gray-green, and yellow-brown clay and siltstone, and brick red sandstone and conglomerate (Riverside Mountains).
MESOZOIC		**MESOZOIC GRANITIC ROCKS:**	
	gr	**UNDIFFERENTIATED**	Granitic rocks of several types and ages, mostly Mesozoic but may include pre-Mesozoic; includes granite, quartz monzonite, alaskite, syenite porphyry, diorite, granodiorite. gr? = granitic porphyry of uncertain age at the north end of the McCoy Mountains containing manganese ore in brecciated zones.
	gr^a	**ADAMELLITE (QUARTZ MONZONITE)**	Quartz monzonite of the Pinto Mtns., Hexie Mtns., and Eagle Mtns. Leucogranite, alaskite and aplite in the Little Maria Mtns.
	gr^g	**GRANODIORITE**	Coxcomb Granodiorite— *granodiorite of the Coxcomb, Hexie, and Eagle Mtns.*
	gr^t	**TONALITE (QUARTZ DIORITE)**	Metadiorite in the Little Maria Mtns. (may be Precambrian). Dioritic rocks in the southern Eagle Mtns.
	bi	**MESOZOIC BASIC INTRUSIVE ROCKS**	Gold Park Gabbro-Diorite—*hornblende diorite porphyrs in the Pinto Mountains* (may be Precambrian). Hornblende gabbro, gabbro-diorite, and related basic intrusive rocks.
	gr-m	**PRE-CENOZOIC GRANITIC AND METAMORPHIC ROCKS**	Mixed rocks consisting mostly of Mesozoic(?) granitic rocks which have intruded older (Precambrian?) gneisses and schists.

STRATIGRAPHIC NOMENCLATURE—Continued

AGE	STATE MAP SYMBOL	STATE MAP UNIT State Map Units listed here are not necessarily in stratigraphic sequence; the sequence used has been standardized for all sheets of the Geologic Map of California	STRATIGRAPHIC UNITS AND CHARACTERISTIC LITHOLOGIES Formally named formations grouped in sequence (separated by semicolons) are listed from youngest to oldest.
PALEOZOIC		**PRE-CRETACEOUS METAMORPHIC ROCKS,**	
	m	**UNDIFFERENTIATED**	McCoy Mountain Formation (undifferentiated)— *predominantly metasedimentary rocks (slate, schist, phyllite, metaconglomerate), with lesser amounts of metavolcanic rocks (metatuff and other metapyroclastic rocks);* subdivided into ms and mv in most areas. Metasandstone, metaconglomerate, phyllite, meta-andesite and other volcanic rocks of basic composition in the Chocolate Mtns. (tentatively correlated with McCoy Mountain Formation). Albite-quartz-biotite schist in the Palen Pass area. Metavolcanic and metasedimentary rocks undivided, in the Big Maria Mtns. (age uncertain, although younger than Middle Permian).
	ls	**LIMESTONE AND/OR DOLOMITE**	Dolomite and marble in the Eagle Mtns., locally replaced by iron ore (hematite and magnetite) and in part metamorphosed to rock containing actinolite, tremolite, garnet, serpentine, diopside, and muscovite.
	ms	**PRE-CRETACEOUS METASEDIMENTARY ROCKS**	McCoy Mountains Formation (metasedimentary rocks)—*predominantly metasandstone, phyllite, metaconglomerate, quartzite, argillite with minor amounts of metavolcanic rocks* (areas predominantly metavolcanic shown as mv), age uncertain (possibly Paleozoic or Triassic). Orocopia Schist—*albite-chlorite-sericite schist* (age uncertain, considered to be Mesozoic by some geologists, Precambrian by others).[4] Low grade Upper Permian (?) and Mesozoic metasedimentary rocks in the Riverside Mountains consisting of sandstone and slate, phyllite, white calcareous schist, calcareous metasandstone, metaconglomerate, and some calcite and dolomite marble. Quartzite, hornfels, schist, metaconglomerate, marble and dolomite in the Eagle and Pinto Mountains. ms_s = Metasedimentary rocks in the Chocolate Mountains, predominantly schist, tentatively correlated with the Orocopia schist—includes sericite-albite-schist, quartz-sericite-schist, biotite schist, actinolite schist, phyllite, and quartzite.
	mv	**PRE-CRETACEOUS METAVOLCANIC ROCKS**	McCoy Mountains Formation (metavolcanic rocks)— *greenish gray-brownish gray, well bedded, fine-grained metatuff* (southern parts of the Coxcomb, Palen, and McCoy Mountains. Piemontite metatuff in the central Palen Mountains. Metatuff, greenstone, and greenschist in the Riverside Mountains.
	ℙ	**PALEOZOIC MARINE SEDIMENTARY AND METASEDIMENTARY ROCKS,**	Maria Formation— *quartzite, schist, wollastonite hornfels, and metasandstone with thick beds of gypsum and anhydrite* (Palen Pass area and Little Maria Mountains).[5] Marine metasedimentary rocks including calcite and dolomite marble, quartzite, calc-silicate rocks, and schist (Big Maria Mtns.).[5]
	ls	**LIMESTONE AND/OR DOLOMITE**	Marble, siliceous marble, and dolomitic marble (Palen Pass area and Little Maria Mtns.).[5]
PRECAMBRIAN		**UNDIVIDED PRECAMBRIAN METAMORPHIC ROCKS:**	
	p€g	**GNEISS**	Pinto Gneiss—*quartz biotite gneiss and some quartzite.* Predominantly gneissic parts of the Chuckwalla Complex (shown elsewhere as p€c). Gneiss, augen gneiss, granitic gneiss, some amphibolite, migmatite, hornblendite and quartzite. Precambrian age of these rocks is uncertain and is based largely on lithologic comparison with similar rocks in the Marble Mountains to the north which underlie fossiliferous Cambrian strata, and one radiometric age date of 2,400 million years from a migmatite gneiss in the Orocopia Mountains.[6]
	p€	**UNDIFFERENTIATED**	White and gray quartzite with minor schist underlying the Pinto Gneiss in the southern Eagle Mountains.
	p€gr	**UNDIVIDED PRECAMBRIAN GRANITIC ROCKS**	Gabbro, diorite, anorthosite, syenite and related rocks (Orocopia Mtns.). Metagranite and granite gneiss (Big Maria and Riverside Mtns.). Elsewhere foliated granitic rocks, some gneissic. Precambrian age of some of these rocks is uncertain.
	p€c	**PRECAMBRIAN IGNEOUS AND METAMORPHIC ROCK COMPLEX**	Chuckwalla Complex—*undivided gneiss and schist with intrusive metaigneous rocks.* Gneiss complex in the Riverside and Big Maria Mountains. The Precambrian age of some of these rocks is uncertain.

NOTES

[1] Oral communication, 1964, cited in B. R. Doe, C. E. Hedge, and D. E. White, 1966, Preliminary investigation of the source of lead and strontium in deep geothermal brines underlying the Salton Sea geothermal area: Econ. Geol. v. 61, pp. 462–483.

[2] Mecca Formation as defined and mapped by W. H. Hays (1957, unpublished) in the Mecca Hills area. This differs from the Mecca Formation as defined and mapped by T. W. Dibblee, Jr., 1954.

[3] Hamilton, Warren, 1960, Pliocene(?) sediments of salt water origin near Blythe, southeastern California: U. S. Geol. Survey Prof. Paper 400-B, p. B276–277 and written communication from Patsy Smith, U.S.G.S. 12/12/66.

[4] The Orocopia Schist was considered to be probably Precambrian by W. J. Miller, 1944, Geology of the Palm Springs-Blythe strip, Riverside County, California: California Jour. Mines and Geol., v. 40, no. 1, p. 21, and subsequently by T. W. Dibblee, Jr., 1954, and others. Recently J. C. Crowell and John W. R. Walker, 1962, (map 1) indicated a Mesozoic age for these rocks.

[5] The age of these rocks was considered to be Paleozoic by Miller (1944, p. 28) based on the tentative identification of crinoidal remains. Hamilton (personal communication, 1966), has correlated these rocks lithologically with Permian and older rocks in the Plomosa Mountains, Arizona, 35 miles east of the Big Maria Mountains.

[6] Bushee, Jonathan, and others, 1963, Lead-alpha dates for some basement rocks of southwestern California: Geol. Soc. America Bull. v. 74, no. 6, pp. 803–806.

Crescentic dunes or barchans near the southwest shore of Salton Sea. View toward the north with the edge of Salton Sea in the upper right hand corner of photograph. The horns of these graceful barchan dunes point eastward in the direction of the wind (left to right), while the upwind surface presents a streamlined form to the wind. The dunes are migrating gradually toward Salton Sea. *Photo by R. C. Frampton, 1956.*

DIVISION OF MINES AND GEOLOGY
IAN CAMPBELL, CHIEF
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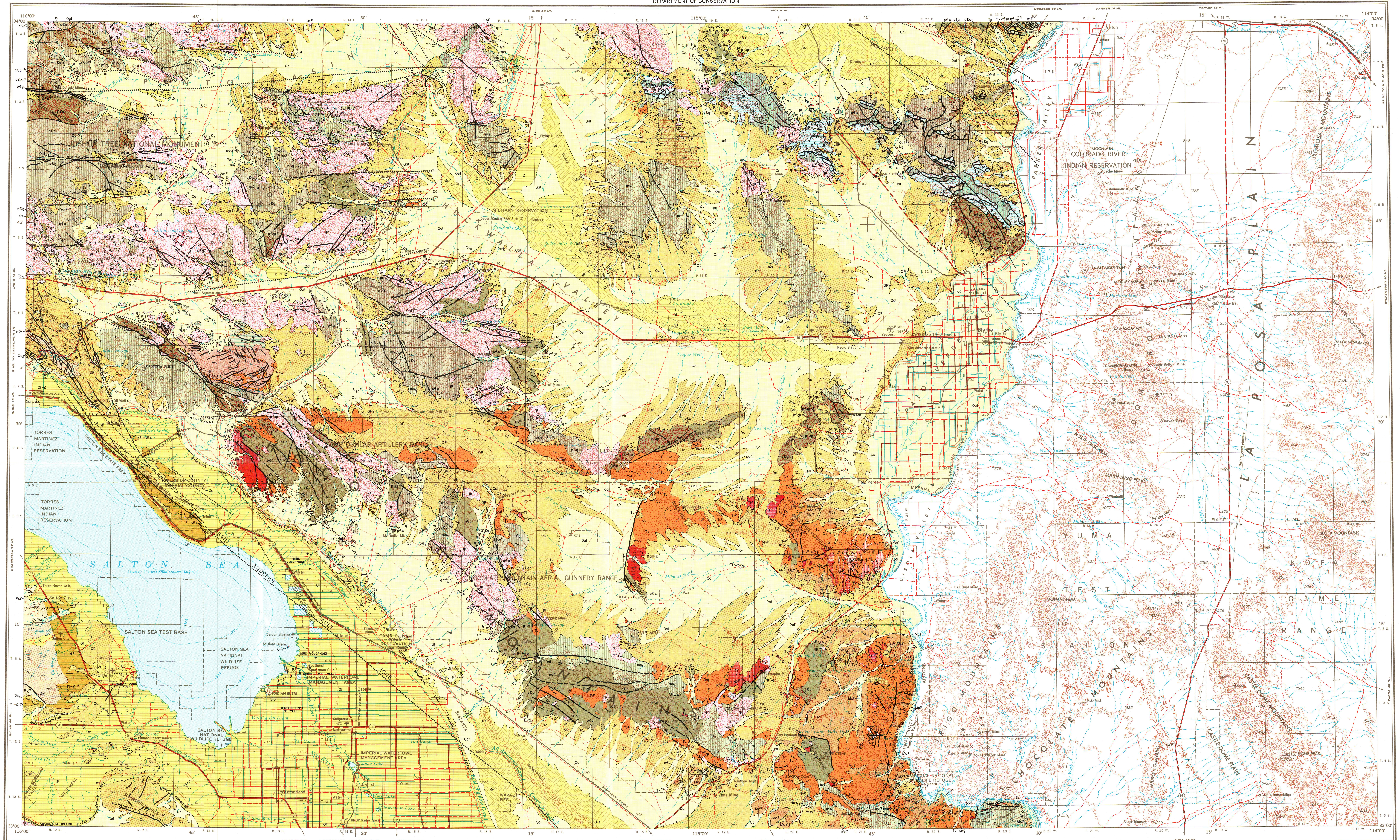
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF CONSERVATION

GEOLOGIC MAP OF CALIFORNIA
SALTON SEA SHEET



Williams & Heintz Map Corporation, Washington, D.C. 20027

EXPLANATION

SEDIMENTARY AND METASEDIMENTARY ROCKS

IGNEOUS AND META-IGNEOUS ROCKS

CENOZOIC

QUATERNARY

Recent

- Qs — Dune sand
- Qal — Alluvium
- Qsc — Stream channel deposits (GREAT VALLEY)
- Qf — Fan deposits (GREAT VALLEY)
- Qb — Basin deposits (GREAT VALLEY)
- Qst — Salt deposits
- Ql — Quaternary lake deposits
- Qg — Glacial deposits
- Qt — Quaternary nonmarine terrace deposits
- Qrv — Recent volcanic: Qrv^r—rhyolite; Qrv^a—andesite; Qrv^b—basalt; Qrv^p—pyroclastic rocks

Pleistocene

- Qm — Pleistocene marine and marine terrace deposits
- Qc — Pleistocene nonmarine
- QP — Plio-Pleistocene nonmarine
- Qpv — Pleistocene volcanic: Qpv^r—rhyolite; Qpv^a—andesite; Qpv^b—basalt; Qpv^p—pyroclastic rocks
- Quaternary and/or Pliocene cinder cones

TERTIARY

Pliocene

- Pc — Undivided Pliocene nonmarine
- Puc — Upper Pliocene nonmarine
- Pu — Upper Pliocene marine
- Pmlc — Middle and/or lower Pliocene nonmarine
- Pml — Middle and/or lower Pliocene marine
- Pv — Pliocene volcanic: Pv^r—rhyolite; Pv^a—andesite; Pv^b—basalt; Pv^p—pyroclastic rocks

Miocene

- Mc — Undivided Miocene nonmarine
- Muc — Upper Miocene nonmarine
- Mu — Upper Miocene marine
- Mmc — Middle Miocene nonmarine
- Mm — Middle Miocene marine
- Ml — Lower Miocene marine
- Mv — Miocene volcanic: Mv^r—rhyolite; Mv^a—andesite; Mv^b—basalt; Mv^p—pyroclastic rocks

Oligocene

- Φc — Oligocene nonmarine
- Φ — Oligocene marine
- Φv — Oligocene volcanic: $Φv^r$—rhyolite; $Φv^a$—andesite; $Φv^b$—basalt; $Φv^p$—pyroclastic rocks

Eocene

- Ec — Eocene nonmarine
- E — Eocene marine
- Ev — Eocene volcanic: Ev^r—rhyolite; Ev^a—andesite; Ev^b—basalt; Ev^p—pyroclastic rocks

Paleocene

- Epc — Paleocene nonmarine
- Ep — Paleocene marine

Undivided

- QTc — Cenozoic nonmarine
- Tc — Tertiary nonmarine
- Tl — Tertiary lake deposits
- Tm — Tertiary marine
- QTv — Cenozoic volcanic: QTv^r—rhyolite; QTv^a—andesite; QTv^b—basalt; QTv^p—pyroclastic rocks
- Ti — Tertiary intrusive (hypabyssal) rocks: Ti^r—rhyolite; Ti^a—andesite; Ti^b—basalt
- Tv — Tertiary volcanic: Tv^r—rhyolite; Tv^a—andesite; Tv^b—basalt; Tv^p—pyroclastic rocks

MESOZOIC

CRETACEOUS

- K — Undivided Cretaceous marine
- Ku — Upper Cretaceous marine
- Kl — Lower Cretaceous marine

JURASSIC

- Jk — Knoxville Formation
- Ju — Upper Jurassic marine
- Jml — Middle and/or Lower Jurassic marine

TRIASSIC

- ꞦR — Triassic marine

- KJf — Franciscan Formation
- KJfv — Franciscan volcanic and metavolcanic rocks
- gr — Mesozoic granitic rocks: gr^a-granite and adamellite; gr^g-granodiorite; gr^t-tonalite and diorite
- bi — Mesozoic basic intrusive rocks
- ub — Mesozoic ultrabasic intrusive rocks
- JꞦv — Jura-Trias metavolcanic rocks

UNDIVIDED

- m, ls — Pre-Cretaceous metamorphic rocks (ls = limestone or dolomite)
- ms — Pre-Cretaceous metasedimentary rocks
- ꟼ, ls — Paleozoic marine (ls = limestone or dolomite
- mv — Pre-Cretaceous metavolcanic rocks
- gr-m — Pre-Cenozoic granitic and metamorphic rocks
- ꟼv — Paleozoic metavolcanic rocks

PALEOZOIC

PERMIAN

- P — Permian marine
- Pmv — Permian metavolcanic rocks

CARBONIFEROUS

- C — Undivided Carboniferous marine
- CP — Pennsylvanian marine
- CM — Mississippian marine
- Cv — Carboniferous metavolcanic rocks

DEVONIAN

- D — Devonian marine
- Dv — Devonian metavolcanic rocks
- Dv? — Devonian and pre-Devonian? metavolcanic rocks

SILURIAN

- S — Silurian marine
- pSs — Pre-Silurian metasedimentary rocks
- pS — Pre-Silurian metamorphic rocks
- pSv — Pre-Silurian metavolcanic rocks

ORDOVICIAN

- O — Ordovician marine

CAMBRIAN

- Є — Cambrian marine
- Є? — Cambrian – Precambrian marine
- pЄc — Precambrian igneous and metamorphic rock complex

PRECAMBRIAN

- pЄ — Undivided Precambrian metamorphic rocks; pЄg = gneiss, pЄs = schist
- lpЄ — Later Precambrian sedimentary and metamorphic rocks
- epЄ — Earlier Precambrian metamorphic rocks
- pЄgr — Undivided Precambrian granitic rocks

HEAVY BORDER ON BOXES INDICATES UNITS THAT APPEAR ON THIS SHEET

TOPOGRAPHIC BASE MAP

Prepared by the Army Map Service (KCLD), Corps of Engineers, U.S. Army, Washington, D.C. Compiled in 1959 by photogrammetric methods and from United States Quadrangles 1:24,000, 1:25,000, 1:48,000, 1:50,000, 1:62,500, U.S. Geological Survey and AMS, 1927-56. Planimetric detail revised by photo-planimetric methods. Control by USGS, USC&GS, CE, USBR and State of California. Map field checked, 1959.

Minor corrections and additions to culture by California Division of Mines and Geology, 1966

Land net prepared by U.S. Geological Survey

Depth contours in Salton Sea (in feet) from W. M. Littlefield, 1966, Hydrology and Physiography of the Salton Sea, California: U.S. Geol. Survey Hydrologic Investigations, Atlas Ha-222

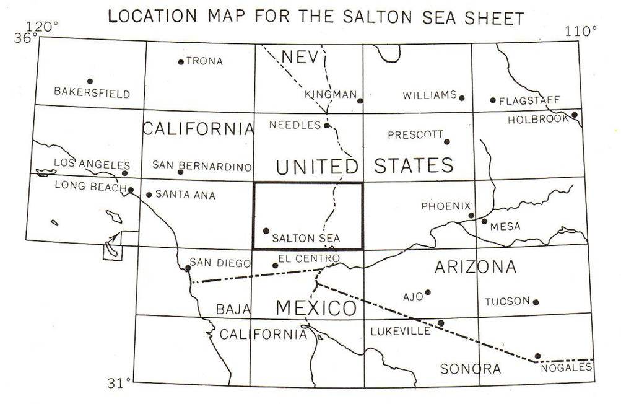
Contact
Dashed where approximately located, gradational or inferred

Fault
Dashed where approximately located; dotted where concealed

Thrust fault
Barbs on upper plate; dashed where approximately located, dotted where concealed

● GEOTHERMAL WELLS
+ MUD VOLCANOES

LOCATION MAP FOR THE SALTON SEA SHEET



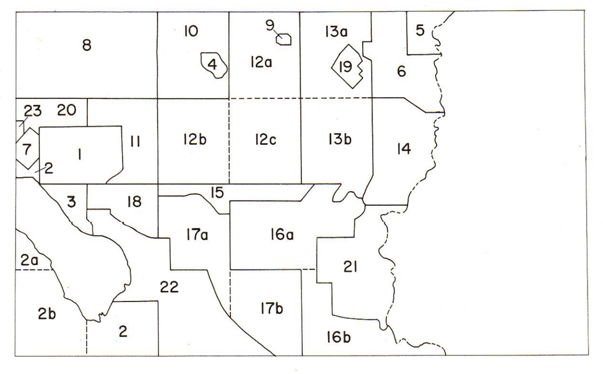
Scale 1:250,000

5 0 5 10 15 20 Statute Miles

5 0 5 10 15 20 25 30 Kilometers

CONTOUR INTERVAL 200 FEET
WITH SUPPLEMENTARY CONTOURS AT 100 FOOT INTERVALS
TRANSVERSE MERCATOR PROJECTION

GEOLOGIC MAP OF CALIFORNIA
OLAF P. JENKINS EDITION
SALTON SEA SHEET
COMPILATION BY CHARLES W. JENNINGS, 1967



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