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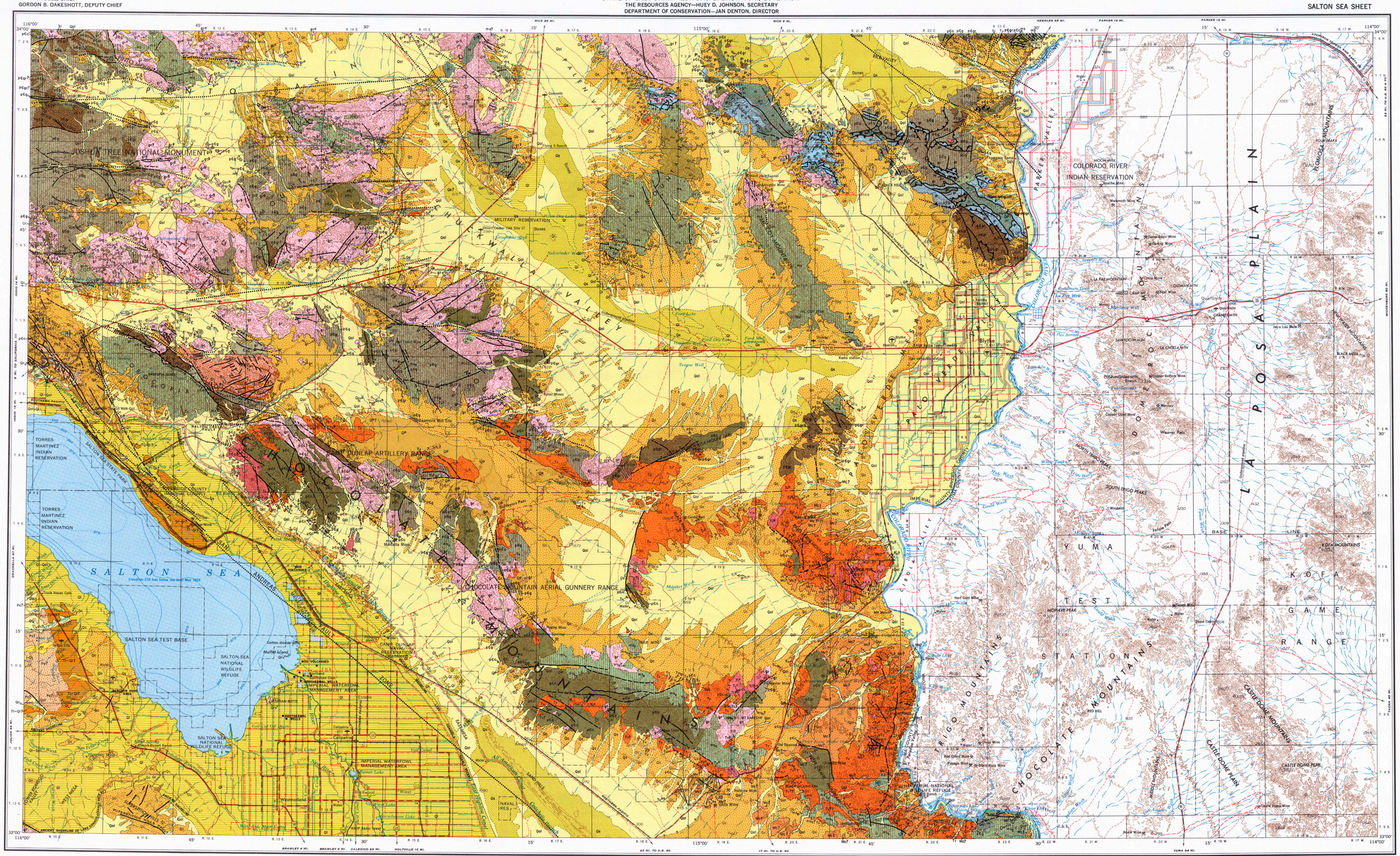
STATE OF CALIFORNIA—EDMUND G. BROWN JR., GOVERNOR
THE RESOURCES AGENCY—HUEY D. JOHNSON, SECRETARY
DEPARTMENT OF CONSERVATION—JAN DENTON, DIRECTOR

GEOLOGIC MAP OF CALIFORNIA
SALTON SEA SHEET




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

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

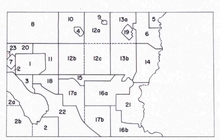
# GEOLOGIC MAP OF CALIFORNIA

OLAF P. JENKINS EDITION

# SALTON SEA SHEET

COMPILATION BY CHARLES W. JENNINGS, 1967

FIFTH PRINTING, 1992



## EXPLANATION

### SEDIMENTARY AND METASEDIMENTARY ROCKS

**CENOZOIC — QUATERNARY**

*Recent*

- Qs — Dune sand
- Qal — Alluvium
- Qsc, Qf, Qb — Stream channel deposits, Fan deposits, Basin deposits (GREAT VALLEY)
- Qsl — Salt deposits
- Ql — Quaternary lake deposits
- Qg — Glacial deposits
- Qt — Quaternary nonmarine terrace deposits

*Pleistocene*

- Qm — Pleistocene marine and marine terrace deposits
- Qc — Pleistocene nonmarine
- QP — Plio-Pleistocene nonmarine

**CENOZOIC — TERTIARY**

*Pliocene*

- Pc — Undivided Pliocene nonmarine
- Pun — Upper Pliocene nonmarine
- Pu — Upper Pliocene marine
- Pmn — Middle and/or lower Pliocene nonmarine
- Pm — Middle and/or lower Pliocene marine

*Miocene*

- Mc — Undivided Miocene nonmarine
- Mun — Upper Miocene nonmarine
- Mu — Upper Miocene marine
- Mmn — Middle Miocene nonmarine
- Mm — Middle Miocene marine
- Ml — Lower Miocene marine

*Oligocene*

- Oc — Oligocene nonmarine
- O — Oligocene marine

*Eocene*

- Ec — Eocene nonmarine
- E — Eocene marine

*Paleocene*

- Epc — Paleocene nonmarine
- Ep — Paleocene marine

*Undivided*

- QTc — Cenozoic nonmarine
- Tc — Tertiary nonmarine
- Tl — Tertiary lake deposits
- Tm — Tertiary marine

**MESOZOIC — CRETACEOUS**

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

**MESOZOIC — JURASSIC**

- Kv — Knoxville Formation
- Ju — Upper Jurassic marine
- Jm — Middle and/or Lower Jurassic marine

**MESOZOIC — TRIASSIC**

- TR — Triassic marine

**UNDIVIDED**

- Ls — Pre-Cretaceous metamorphic rocks (ls = limestone or dolomite)
- Ms — Pre-Cretaceous metasedimentary rocks
- P — Paleozoic marine (ls = limestone or dolomite)

**PALEOZOIC — PERMIAN**

- Pe — Permian marine

**PALEOZOIC — CARBONIFEROUS**

- C — Undivided Carboniferous marine
- CP — Pennsylvanian marine
- CM — Mississippian marine

**PALEOZOIC — DEVONIAN**

- D — Devonian marine

**PALEOZOIC — SILURIAN**

- S — Silurian marine
- pSs — Pre-Silurian metasedimentary rocks

**PALEOZOIC — ORDOVICIAN**

- O — Ordovician marine

**PALEOZOIC — CAMBRIAN**

- Є — Cambrian marine
- Єt — Cambrian – Precambrian marine

**PRECAMBRIAN**

- pЄ — Undivided Precambrian metamorphic rocks pЄg = gneiss, pЄs = schist
- pЄc — Later Precambrian sedimentary and metamorphic rocks
- pЄe — Earlier Precambrian metamorphic rocks

### IGNEOUS AND META-IGNEOUS ROCKS

- Qrv — Recent volcanic: $Qr_r^v$—rhyolite; $Qr_a^v$—andesite; $Qr_b^v$—basalt; $Qr_p^v$—pyroclastic rocks
- Qpv — Pleistocene volcanic: $Qp_r^v$—rhyolite; $Qp_a^v$—andesite; $Qp_b^v$—basalt; $Qp_p^v$—pyroclastic rocks
- Qc — Quaternary and/or Pliocene cinder cones
- Pv — Pliocene volcanic: $P_r^v$—rhyolite; $P_a^v$—andesite; $P_b^v$—basalt; $P_p^v$—pyroclastic rocks
- Mv — Miocene volcanic: $M_r^v$—rhyolite; $M_a^v$—andesite; $M_b^v$—basalt; $M_p^v$—pyroclastic rocks
- Ov — Oligocene volcanic: $O_r^v$—rhyolite; $O_a^v$—andesite; $O_b^v$—basalt; $O_p^v$—pyroclastic rocks
- Ev — Eocene volcanic: $E_r^v$—rhyolite; $E_a^v$—andesite; $E_b^v$—basalt; $E_p^v$—pyroclastic rocks
- QTv — Cenozoic volcanic: $QT_r^v$—rhyolite; $QT_a^v$—andesite; $QT_b^v$—basalt; $QT_p^v$—pyroclastic rocks
- Td — Tertiary granitic rocks
- Ti — Tertiary intrusive (hypabyssal) rocks: $T_r^i$—rhyolite; $T_a^i$—andesite; $T_b^i$—basalt
- Tv — Tertiary volcanic: $T_r^v$—rhyolite; $T_a^v$—andesite; $T_b^v$—basalt; $T_p^v$—pyroclastic rocks
- Kfv — Franciscan volcanic and metavolcanic rocks
- gr — Mesozoic granitic rocks: $gr^g$—granite and adamellite; $gr^d$—granodiorite; $gr^t$—tonalite and diorite
- bi — Mesozoic basic intrusive rocks
- ub — Mesozoic ultrabasic intrusive rocks
- JRv — Jura-Trias metavolcanic rocks
- mv — Pre-Cretaceous metavolcanic rocks
- gum — Pre-Cenozoic granitic and metamorphic rocks
- Pv — Paleozoic metavolcanic rocks
- Pe — Permian metavolcanic rocks
- Cv — Carboniferous metavolcanic rocks
- Dv — Devonian metavolcanic rocks
- Dv — Devonian and pre-Devonian? metavolcanic rocks
- pSv — Pre-Silurian metamorphic rocks
- pSv — Pre-Silurian metavolcanic rocks
- pЄgr — Precambrian igneous and metamorphic rock complex
- pЄgr — Undivided Precambrian granitic rocks
- pЄan — Precambrian anorthosite

Franciscan Formation

HEAVY BORDER ON BOXES INDICATES UNITS THAT APPEAR ON THIS SHEET

## INDEX TO GEOLOGIC MAPPING
### (COMPLETE INDEX ON EXPLANATORY DATA SHEET)

1. Crowell, J. C., unpublished.
Crowell, J. C., 1962.
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9. Hoppin, R. A., 1954.
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13. Jennings, C. W. and Saul, R. B., unpublished
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15. Jennings, C. W. and Morton, P. K., unpublished.
16. Morton, P. K., unpublished.
17. Morton, P. K., Turner, B. W., Weber, F. H., Jr. and Jennings, C. H., Jr., unpublished.
18. Morton, P. K. and Jennings, C. W., unpublished.
19. Shiraiska, Roman, unpublished.
20. Southern Pacific Company, unpublished.
Jennings, C. W., and Rogers, T. H., unpublished.
21. Southern Pacific Company, unpublished.
22. Southern Pacific Company, unpublished.
Jennings, C. W., unpublished.
23. Ware, G. C., Jr., unpublished.