



CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
416 W. Congress St., Suite 100
Tucson, Arizona 85701
602-771-1601
<http://www.azgs.az.gov>
inquiries@azgs.az.gov

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REPORTED OCCURRENCES OF SELECTED MINERALS IN CALIFORNIA

Includes most metals and nonmetals; does not include
petroleum and natural gas

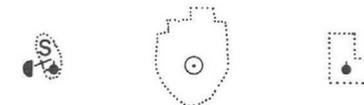
Compiled by
Merritt B. Smith, Vivian L. Engler, Della I. Lee
Katherine J. Horn, and Russell G. Wayland
1967

EXPLANATION

Symbols show reported locations of mines, prospects, and occurrences of selected minerals. Inactive mines are not distinguished, nor is the size or grade of the mineral occurrence indicated. Multiple occurrences of the same mineral within a section are not differentiated from a single occurrence. However, certain symbols such as those for gold, silver, copper, lead, zinc, and tungsten may be combined to show several different minerals in the same locality.* Symbols are shown both according to an alphabetical mineral list and by related groups of symbols

The following minerals are excluded: petroleum, natural gas, oil shale, pumice, cinders, and common varieties of clay, sand, gravel, and stone. Low-grade occurrences of some metals, especially manganese and copper, are not shown. Occurrences of widespread nonmetals, such as limestone, diatomite, and gypsum, are not shown unless currently exploited on a large scale, containing large reserves, or of unique character

Each mineral occurrence is located to the nearest section within a township, but for some minerals of widespread distribution or numerous occurrences an area is outlined

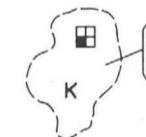


Areas of numerous or widespread mineral
occurrences

*Leadered symbols also indicate widespread
occurrences within areas*



Principal minerals in lake water



Principal minerals in intermittent or dry lake



Geothermal resource



Mine or prospect where mineral is unknown



Copper, lead, and zinc



Chromium and nickel

**Examples of combined symbols*

METALS
ALPHABETICAL

⊗ Antimony	• Molybdenum
⊖ Arsenic	✕ Nickel
△ Beryllium	✕ Platinum group <i>Platinum, iridium, and osmium</i>
⊖ Bismuth	⊕ Rare earths
⊖ Cesium and rubidium	• Silver
✕ Chromium	⊖ Thorium
✕ Cobalt	⊖ Tin
△ Columbium and tantalum	⊕ Titaniferous iron
• Copper	⊕ Titanium
• Gold	• Tungsten
⊖ Iron	✕ Uranium
• Lead	✕ Vanadium
△ Manganese	• Zinc
• Mercury	

METALS
RELATED SYMBOLS

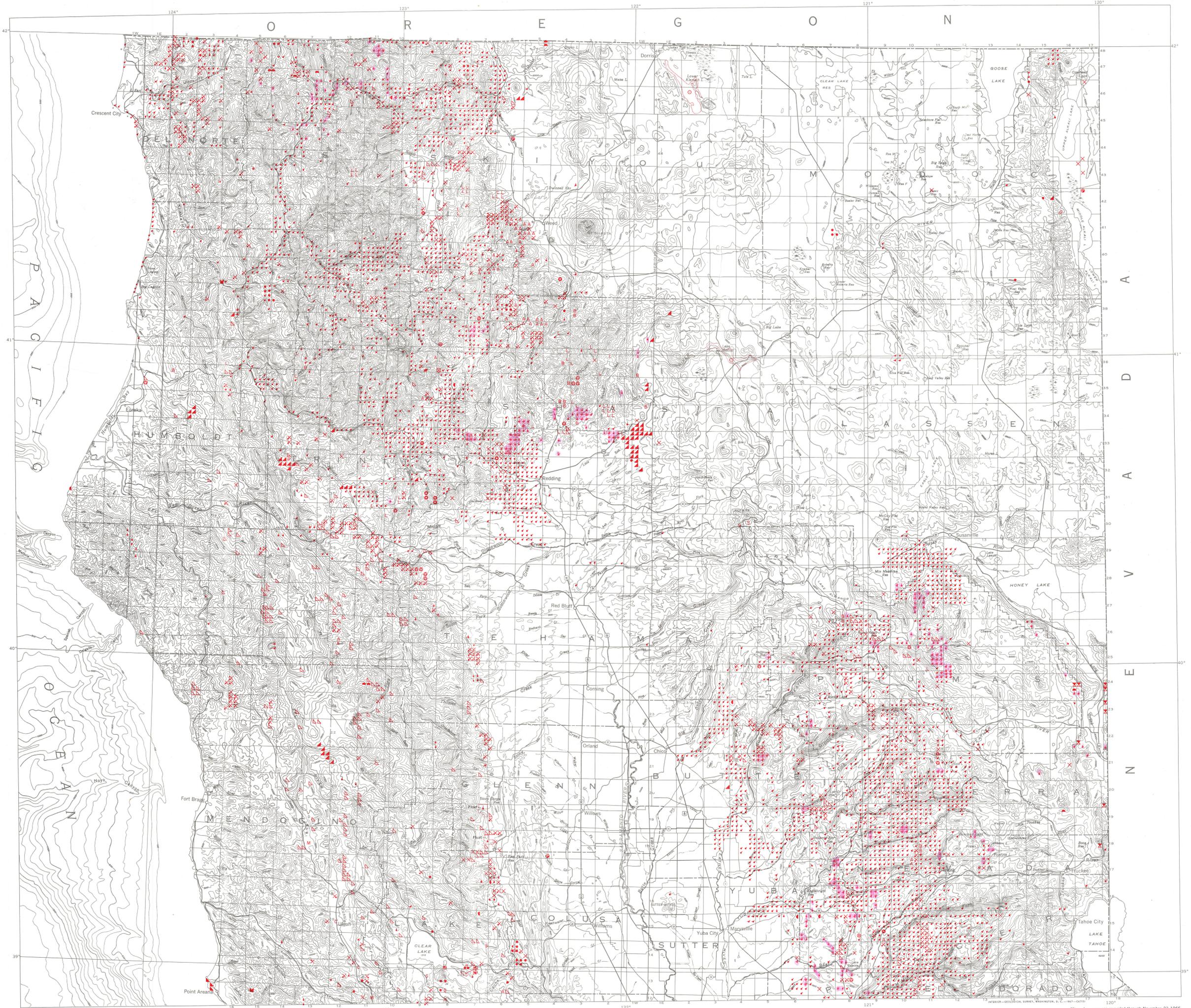
• Copper	• Gold	• Lead	• Molybdenum	• Silver	• Tungsten	• Zinc	• Mercury
✕ Chromium	✕ Cobalt	✕ Nickel	✕ Platinum				
⊖ Iron	⊕ Titaniferous iron	⊕ Titanium	⊗ Antimony	⊖ Arsenic	⊖ Bismuth	⊕ Rare earths	
	✕ Uranium	✕ Vanadium	⊖ Tin				
△ Beryllium	△ Columbium, tantalum	△ Manganese					
⊖ Cesium, rubidium	⊖ Thorium						

NONMETALS
ALPHABETICAL

▬ Abrasives <i>Corundum and garnet</i>	▲ Coal	L Limestone <i>Not for road metal or other low-grade uses</i>	▼ Quartz, crystal
A Asbestos	⊖ Diatomite	⊕ Lithium minerals <i>Spodumene, lepidolite, etc.</i>	⊖ Silica sand
▬ Asphalt and bituminous rock	▽ Feldspar	M Magnesite	⊕ Sodium carbonate
B Barite	F Fluorite	⊕ Magnesium sulfate	⊕ Sodium chloride
▽ Bentonite	△ Fuller's earth	⊕ Mica	⊕ Sodium sulfate
⊕ Borates	● Gem and ornamental stones	⊗ Mineral pigments	Z Sodium zeolite
⊕ Bromine	▬ Graphite	● Nepheline	● Strontium minerals <i>Celestite and strontianite</i>
▬ Calcite, optical	▬ Gypsum	⊖ Nitrate	S Sulfur
⊕ Calcium chloride	● Kaolin	P Phosphate	● Talc, soapstone, and pyrophyllite
C Carbon dioxide	△ Kyanite and andalusite	K Potash	▽ Vermiculite
			t Wollastonite

NONMETALS
RELATED SYMBOLS

⊕ Borates	⊕ Sodium carbonate	⊕ Sodium chloride	⊕ Sodium sulfate	⊕ Lithium minerals	⊖ Diatomite	● Strontium minerals	● Talc, soapstone, pyrophyllite
A Asbestos	B Barite	C Carbon dioxide	F Fluorite	K Potash	L Limestone		
N Nitrate	M Magnesite	P Phosphate	S Sulfur	t Wollastonite	Z Sodium zeolite		
⊕ Bromine	⊕ Calcium chloride	⊕ Magnesium sulfate	⊗ Mica	⊖ Nepheline	⊖ Silica sand		
▬ Abrasives	▬ Asphalt, bituminous rock	▲ Coal	▼ Quartz, crystal	● Kaolin	● Gem and ornamental stones	● Mineral pigments	▬ Graphite
▬ Calcite, optical	▬ Gypsum	▽ Feldspar	△ Fuller's earth	▽ Bentonite	△ Kyanite, andalusite	▽ Vermiculite	



Base map from U.S. Geological Survey map of the State of California, 1953 edition, revised by Branch of Mineral Classification in 1965.

SCALE 1:500 000
10 0 10 20 30 40 50 MILES
10 0 10 20 30 40 50 KILOMETERS
CONTOUR INTERVAL 500 FEET
DATUM IS MEAN SEA LEVEL
DEPTH CURVES IN OCEAN AT 100 FATHOM INTERVALS

Mineral occurrences compiled through November 23, 1966, from publications of the California Division of Mines and Geology, U.S. Geological Survey, U.S. Bureau of Mines, Southern Pacific Company, and other sources.

REPORTED OCCURRENCES OF SELECTED MINERALS IN THE NORTHERN THIRD OF CALIFORNIA

Includes most metals and nonmetals; does not include petroleum and natural gas

Compiled by
Merritt B. Smith, Vivian L. Engler
Della I. Lee, and Russell G. Wayland