DIVISION OF MINES AND GEOLOGY
IAN CAMPBELL, STATE GEOLOGIST

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF CONSERVATION

SPECIAL REPORT 95
PLATE 1

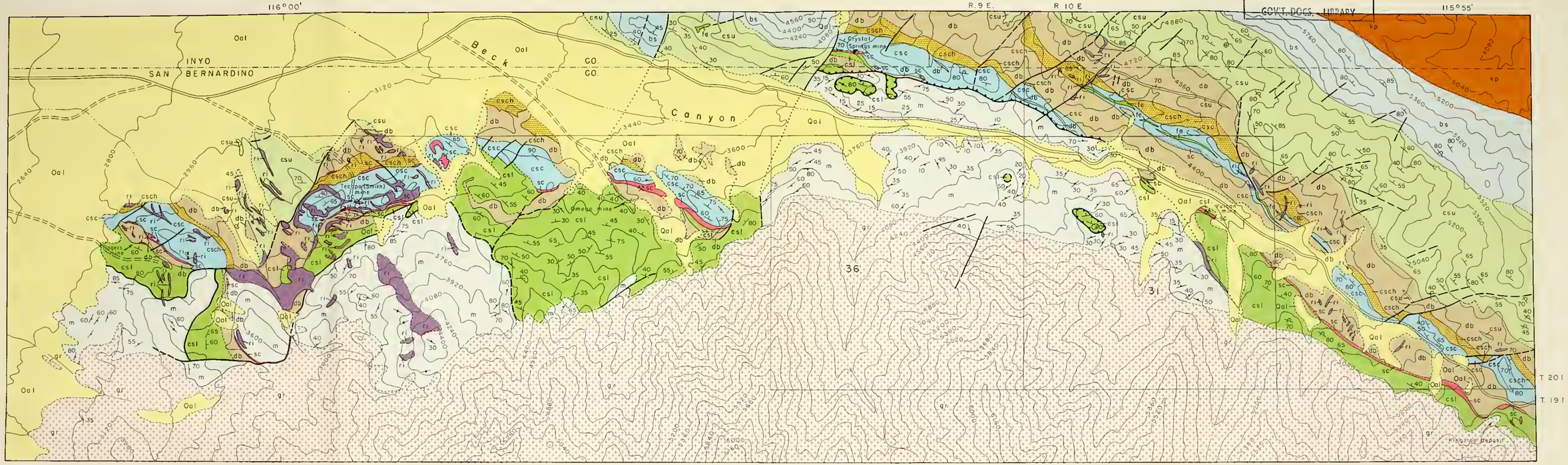


Plate IA Geologic map of talc-bearing area in Beck Canyon, northwestern Kingston Range.

0 1000' 2000 3000 4000 5000 FEET

CONTOUR INTERVAL 160 FEET

EXPLANATION

Qal

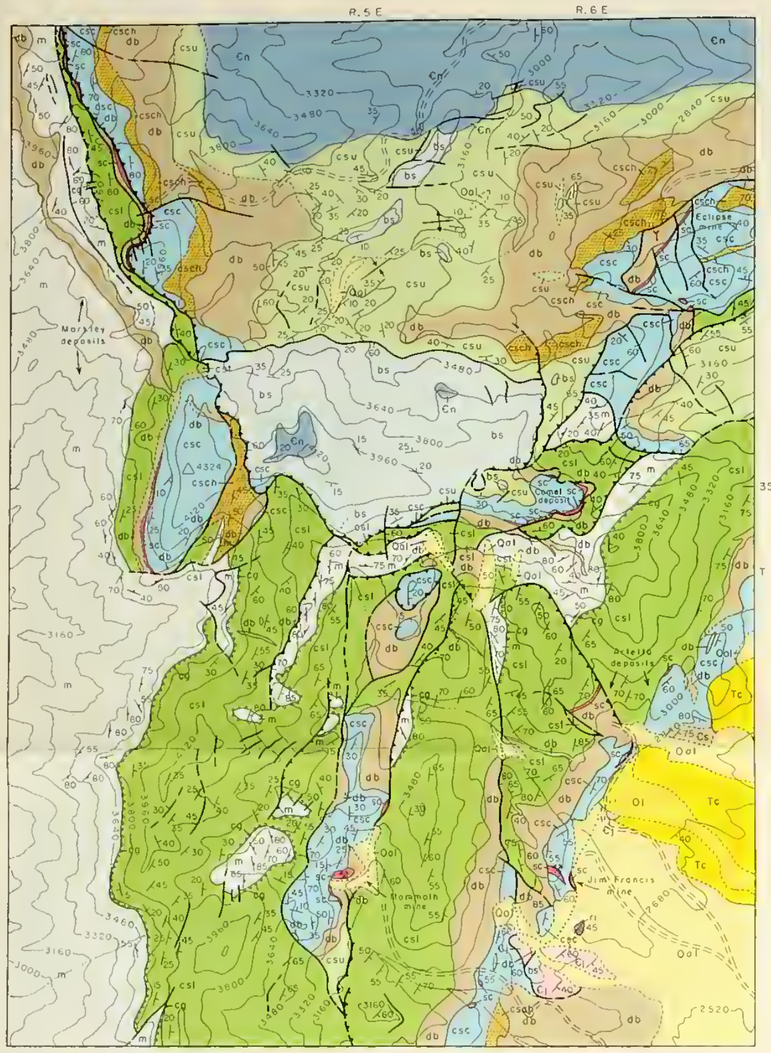


Plate 1B. Geologic map of talc-bearing areas, central Ibex Hills.

0 1000 2000 3000 4000 5000 FEET

CONTOUR INTERVAL 160 FEET

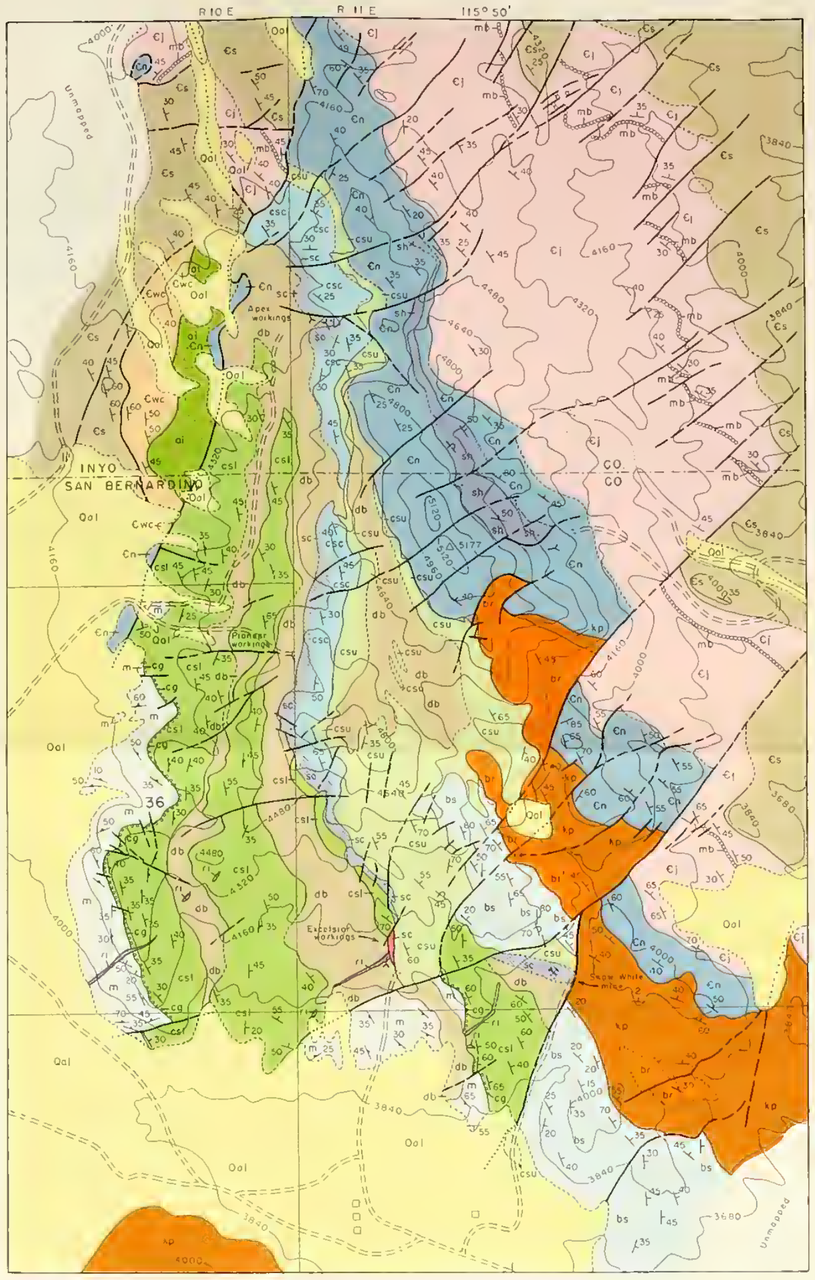
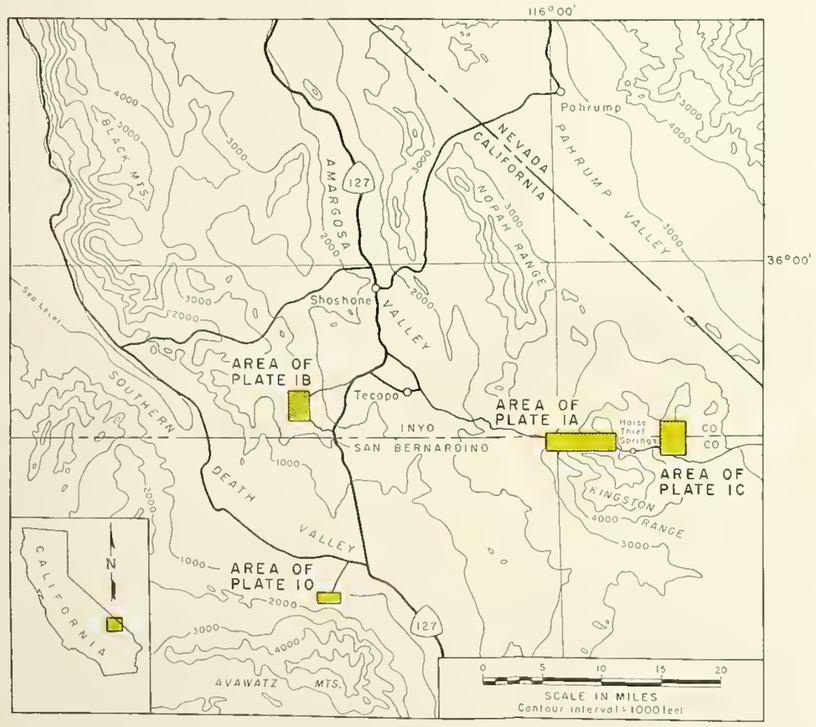


Plate 1C. Geologic map of Excelsior mine area, northeastern Kingston Range.

0 1000 2000 3000 4000 5000 FEET

CONTOUR INTERVAL 160 FEET



Index map of part of eastern California, showing locations of geologic maps on plate 1

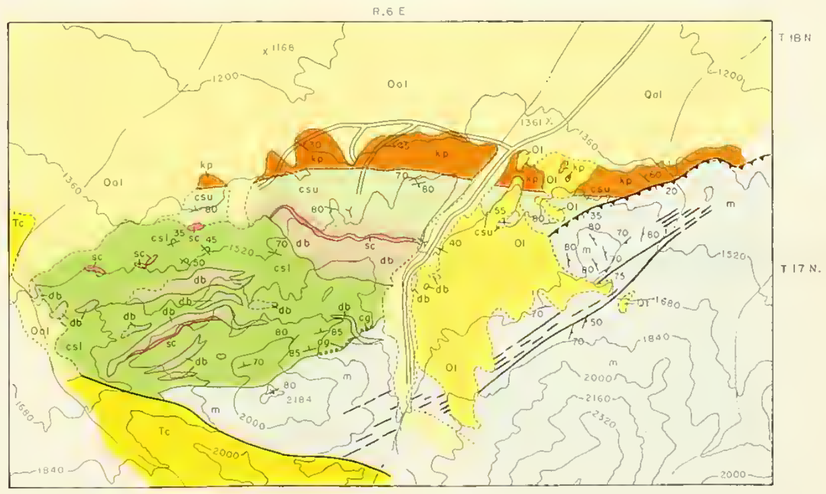


Plate 1D. Geologic map of Sheep Creek talc-bearing area, northern Avawatz Mountains.

0 1000 2000 3000 4000 5000 FEET

CONTOUR INTERVAL 160 FEET

CENOZOIC

Qal

Alluvium

Ol

Terrace deposits

Tc

Nonmarine sedimentary rocks, undivided

ri oi

Hypabyssal intrusive rocks

ri: rhyolitic, oi: andesitic

Granitic rocks

Shown only on map of Beck Canyon map 1A, where they represent Kingston Range Monzonite Porphyry

MESOZOIC(?)

PALEOZOIC (CAMBRIAN ONLY)

€wc

Wood Canyon Formation

Dark, generally coarse-grained quartzite, undivided

€s

Stirling Quartzite

Pale gray to white, mostly medium- to coarse-grained quartzite, undivided

mb €j

Johnnie Formation

Interbedded shale, quartzite, and dolomite, undivided; contains oolite marker bed (mb)

€n sh

Noonday Dolomite

Grayish yellow, massive dolomite, in northeastern Kingston Range (map 1C) upper part of formation contains layer of red shale (sh)

kp br

Kingston Peak Formation

Quartzite and metagraywacke, generally conglomeratic; in northeastern Kingston Range (map 1C) contains bodies of monolithologic breccia (br) composed of fragments of Beck Spring Dolomite

bs

Beck Spring Dolomite

Gray, massive dolomite

db

Diabase

csu csch csc csl cg

Crystal Spring Formation

Upper part (csu): interbedded shale, quartzite, and dolomite, middle part=massive chert (csch) and massive carbonate (csc), mostly dolomite, commonly cherty; lower part (csl)= quartzitic and shaly units generally with basal conglomerate (cg)

PAHRUMP GROUP

LATER PRECAMBRIAN

m

Metamorphic rocks

Complex of metamorphic rocks, mostly quartz-feldspar-mica gneiss of metasedimentary origin, also includes quartz-mica schist, migmatite, and amphibolite, intruded by granitic dikes

EARLIER PRECAMBRIAN

sc

Silicated rock

Silicated rock containing abundant talc and/or tremolite. Solid red where composed largely of material of commercial interest, shaded where undivided or mixed with abundant waste rock

fe

Magnetite-hematite body

SYMBOLS

Contact
Dashed where approximately located

Fault
Dashed where approximately located, dotted where concealed

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

Axis of anticline

Axis of syncline

35 Strike and dip of bedding

45 Strike and dip of overturned beds

Horizontal beds

25 Strike and dip of foliation

90 Strike of vertical foliation

Mine

Shaft

Entrance to adit

GEOLOGIC MAPS OF TALC-BEARING AREAS IN THE IBEX HILLS, KINGSTON RANGE AND AVAWATZ MOUNTAINS, EASTERN CALIFORNIA.

By
L. A. WRIGHT

1968

Base maps adapted from the following U.S. Geological Survey Topographic sheets: Shoshone, Horse Thief Springs, Tecopa, and Avawatz Pass.

Geology mapped by L.A. Wright (1955-1960)

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SPECIAL REPORT 95
PLATE 2

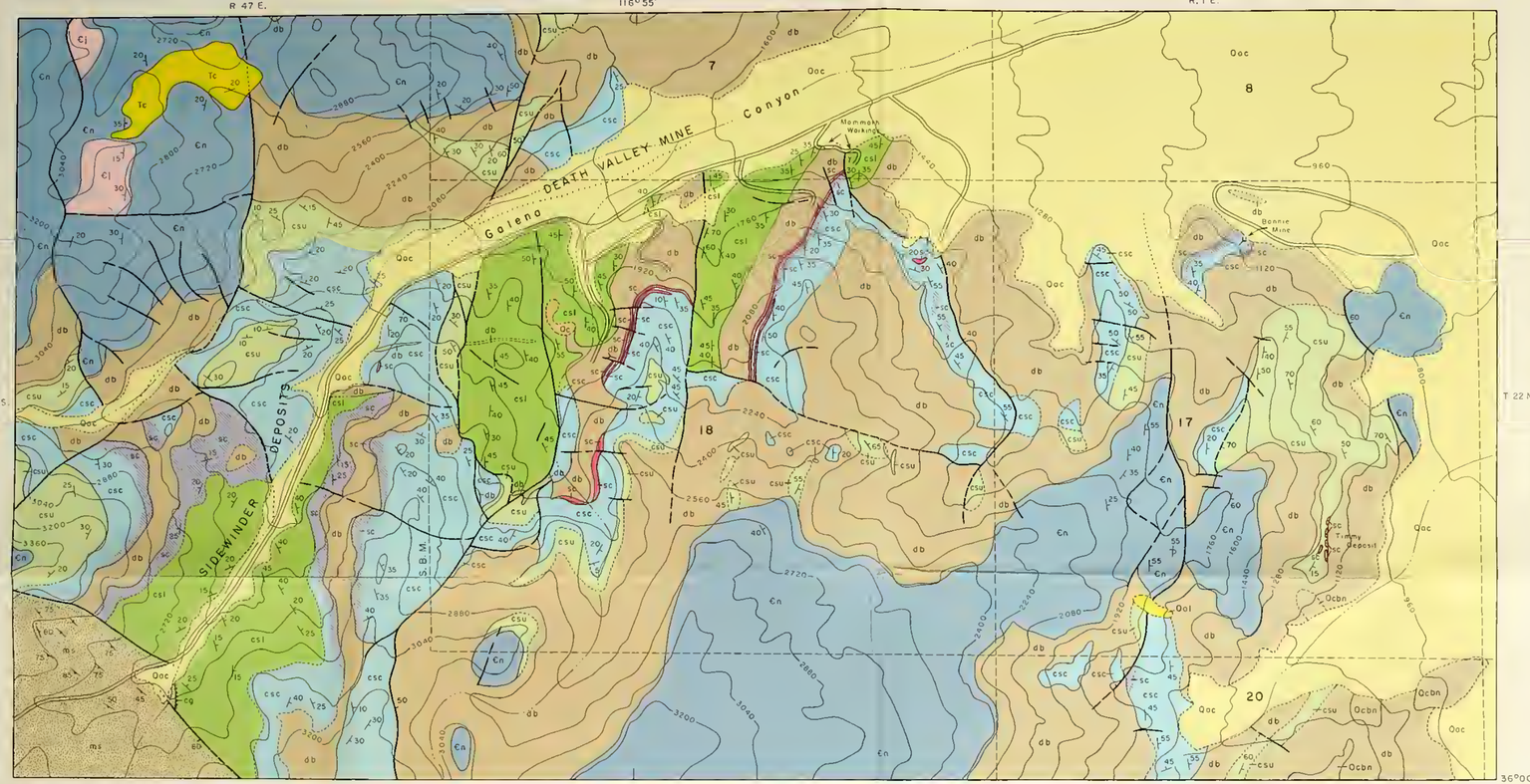
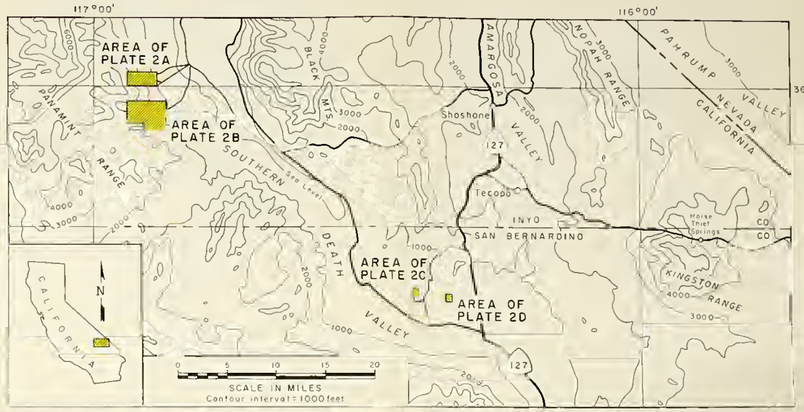


Plate 2A. Geologic map of Goleno Canyon talc-bearing area, southeastern Panamint Range

GEOLOGY BY L.A. WRIGHT (1955-60)



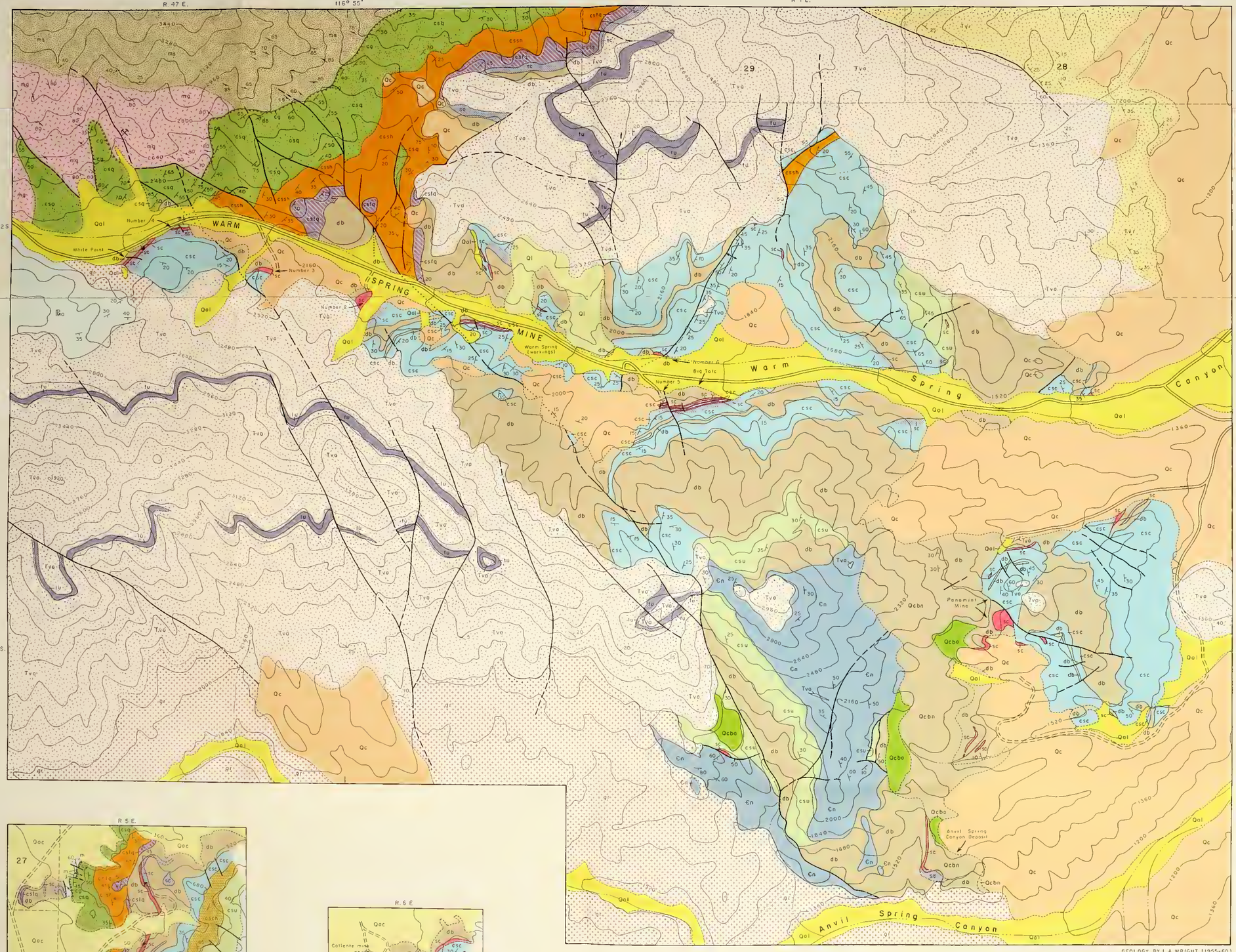
Index map of part of eastern California, showing locations of geologic maps on plate 2

EXPLANATION

Ool
Younger alluvium

Ol
Landslide material

Qoc



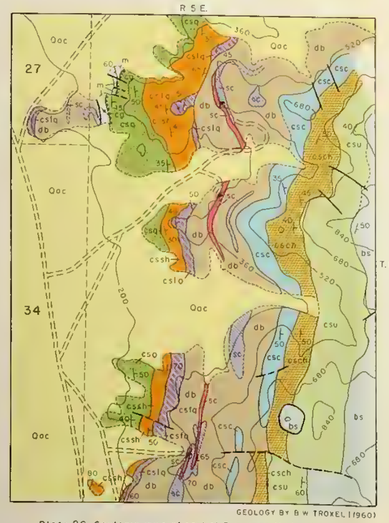


Plate 2C. Geologic map of part of Saratoga Hills showing area of Saratoga talc mine

GEOLOGY BY B.W. TROXEL (1960)

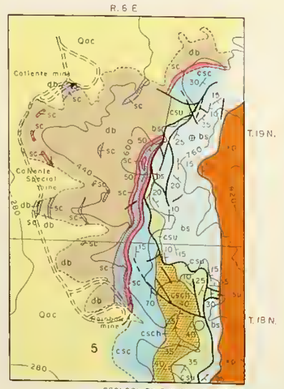


Plate 2D. Geologic map of part of Saddle Peak Hills showing area of Rainbow mine.

GEOLOGY BY B.W. TROXEL (1960)

Plate 2B. Geologic map of Warm Spring Canyon-Anvil Spring Canyon talc-bearing area, southeastern Panamint Range.

GEOLOGY BY L.A. WRIGHT (1955-60)

GEOLOGIC MAPS OF TALC-BEARING AREAS IN THE SOUTHEASTERN PART OF THE PANAMINT RANGE, SARATOGA HILLS AND SADDLE PEAK HILLS, EASTERN CALIFORNIA

By

L.A. WRIGHT AND B.W. TROXEL

0 1000 2000 3000 4000 5000 FEET

CONTOUR INTERVAL 160 FEET

1968

Base maps adapted from the following U.S. Geological Survey topographic sheets: Wingate Wash, Bennetts Well and Avawatz Pass

Geology mapped by L.A. Wright and B.W. Troxel (1955-1960)

CENOZOIC

Younger and older alluvium and conglomerate

Undivided on maps 2A, B, and D

Qc | Qcbn | Qcbo

Older alluvium and conglomerate (Qc)

(Separated from Qal on map 2B), associated with masses of monolithologic sedimentary breccia composed of fragments of Noonday Dolomite (Qcbn) and andesite (Qcbo)

Tc

Nonmarine sedimentary rock, undivided

Tvr | Tvo | tu

Volcanic rocks

Mostly flows and pyroclastics; Tvr = rhyolitic, commonly glassy, Tvo = andesitic rocks containing layer of white tuff (tu)

MESOZOIC(?)

gr

Granitic rocks

PALEOZOIC

PRa

Anvil Spring Formation

Mostly limestone

Cj

Johnnie Formation

Dark brown, sandy dolomite

Cn

Noonday Dolomite

Grayish yellow, massive dolomite

Cp

Kingston Peak Formation

Quartzite and metagraywacke, generally conglomeratic

bs

Beck Spring Dolomite

Gray, massive dolomite

db

Diabase

LATER PRECAMBRIAN — PAHRUMP GROUP

csu | csch | csc | cstq | cssh | csq | csl

Crystal Spring Formation

Upper part (csu) = interbedded shale, quartzite, dolomite, and chert (csch; differentiated on maps 2C and 2D); middle part (csc) = massive carbonate member, mostly dolomite, lower strata are cherty; lower part = fine grained quartzite member (cstq) with subordinate dolomite and silicated rock; purple shale member (cssh) containing purple to pale blue shale and fine-grained quartzite; feldspathic quartzite member (csq), medium- to coarse-grained, generally with basal conglomerate (cg). On Galena Canyon map (2A) lower part is undivided (cst)

EARLIER PRECAMBRIAN

ms | mg | m

Metamorphic rocks

Complex of metamorphic rocks intruded by pegmatite dikes in Warm Spring and Galena Canyon (maps 2A and B) mostly quartz-mica schist (ms) intruded by body of granitic gneiss (mg); undivided (m) in Saratoga Hills

sc

Silicated rock

Silicated rock containing abundant talc and/or tremolite. Solid red where composed largely of material of commercial interest, shaded where undivided or mixed with abundant waste rock

SYMBOLS

Contact
Dashed where approximately located

Fault
Dashed where approximately located, dotted where concealed

Axis of anticline

35 Strike and dip of bedding

45 Strike and dip of overturned beds

Horizontal beds

25 Strike and dip of foliation

90 Strike of vertical foliation

Mine

Shaft

Entrance to adit

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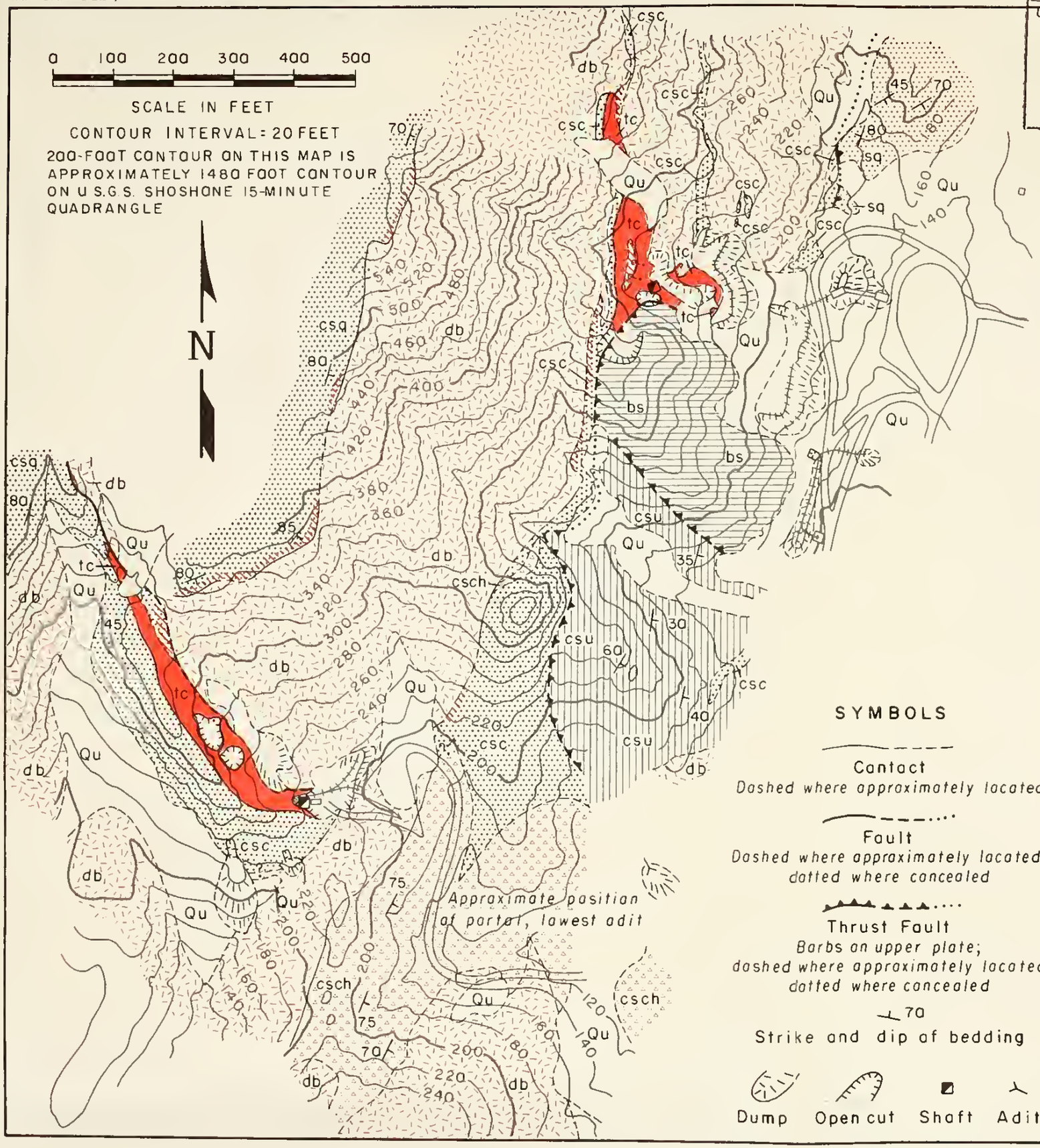
SPECIAL REPORT 95
PLATE 3



EXPLANATION

CAMBRIAN (?) QUATERNARY

Qu — Alluvium and talus undivided

sq — Stirling Quartzite
White, vitreous quartzite

bs — Beck Spring Dolomite
Gray massive dolomite

tc — Talcose silicated rocks
Mostly talc-carbonate schist; sub-commercial grade is shaded

LATER PRECAMBRIAN

db — Diabase

csu / csch / csc / csq — Crystal Spring Formation
Sedimentary units
Upper unit is mostly interbedded quartzite and shale (csu); middle part is mostly dark silicated rock, chert, and limestone (csch); and brown massive dolomite (csc); lower part is fine quartzite (csq)

SYMBOLS

Contact
Dashed where approximately located

Fault
Dashed where approximately located; dotted where concealed

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

70 — Strike and dip of bedding

Dump · Open cut · Shaft · Adit

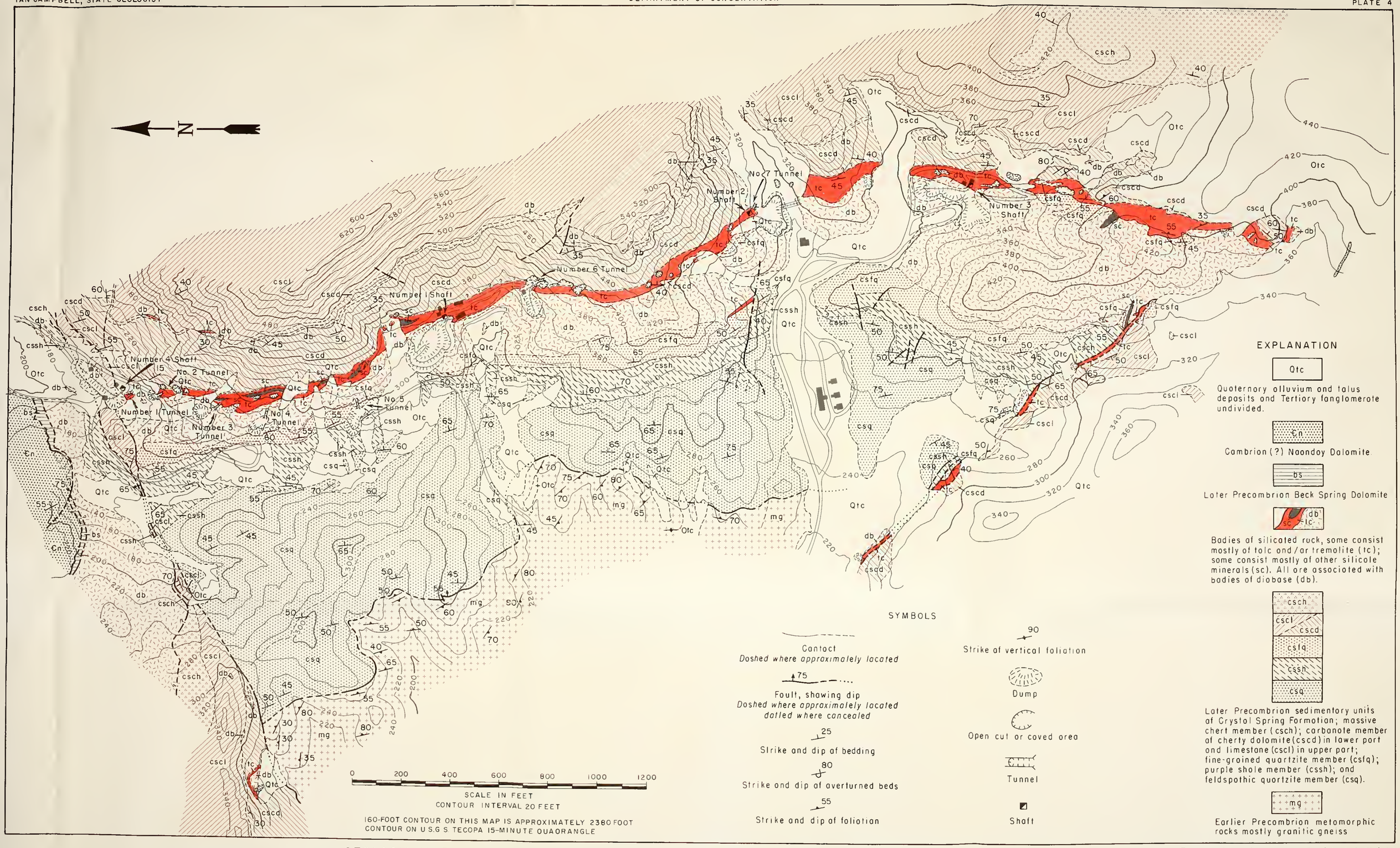
Topography and geology mapped by L.A. Wright

GEOLOGIC MAP OF MONARCH-PLEASANTON MINE AREA

By

L.A. Wright

1968



GEOLOGIC MAP OF SOUTHEASTERN PART OF WESTERN MINE AREA, SHOWING LINDSAY TALC BODY

By
L. A. Wright
1968

Topography and geology mapped by L. A. Wright