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James Doyle Sell Mining Collection

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Relation of different mines and
their ore deposits to the intrusive
and locations of Chilson's radio anomalies.

HELMET PEAK AREA
Pima County, Arizona.

Scale: 1"-2000' approx.

Scale: 1 in. = 5000 ft. approx.

Being compiled, various
Helmet Peak area

and locations of Chilson's radio anomalies.
These are deposits to the intrusive
relation of different mines and

(Lead - Silver)
X Baywater Mine

ANOMALY - V
Chilson's
(Silver - Lead)
X Helmet Peak Mine

ANOMALY - C
Chilson's

(Lead - Silver)
X Salsburg Mine

ANOMALY - B
Chilson's

(Silver - Lead)
X Olivette Mine

Peak
Helmet

Glennite

(Copper - Silver) (Lead - Zinc - Copper)
X Glen Copper Mine X San Rafael Mine

(Copper - Zinc)
X San Rafael Exp. Mine

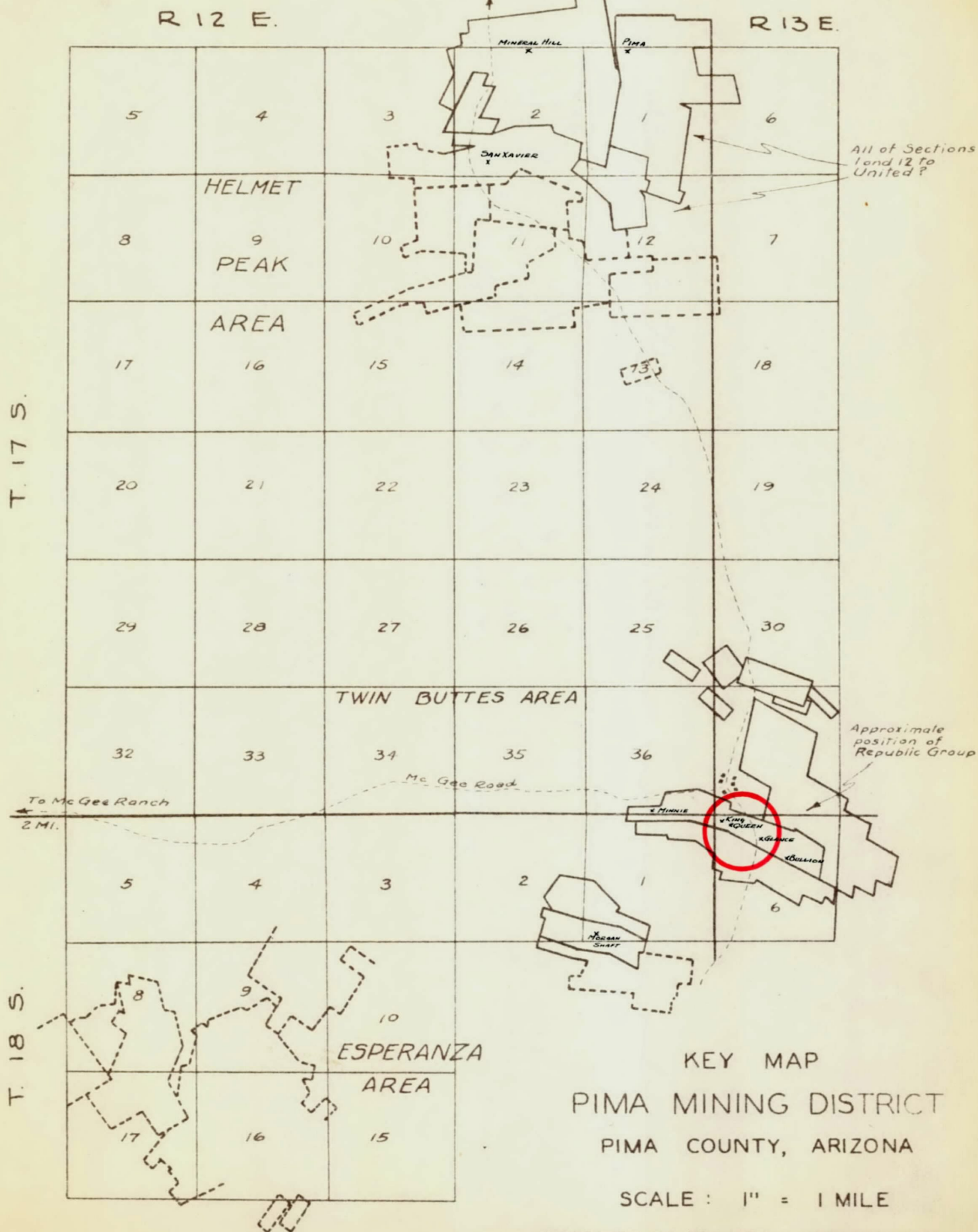
(Copper - Silver)
X Lutescent Mine

(Copper - Silver)
X Mineral Hill Mine

Compiled from records of U.S. Land Office,
County Assessor, County Recorder, and
maps loaned by property owners.

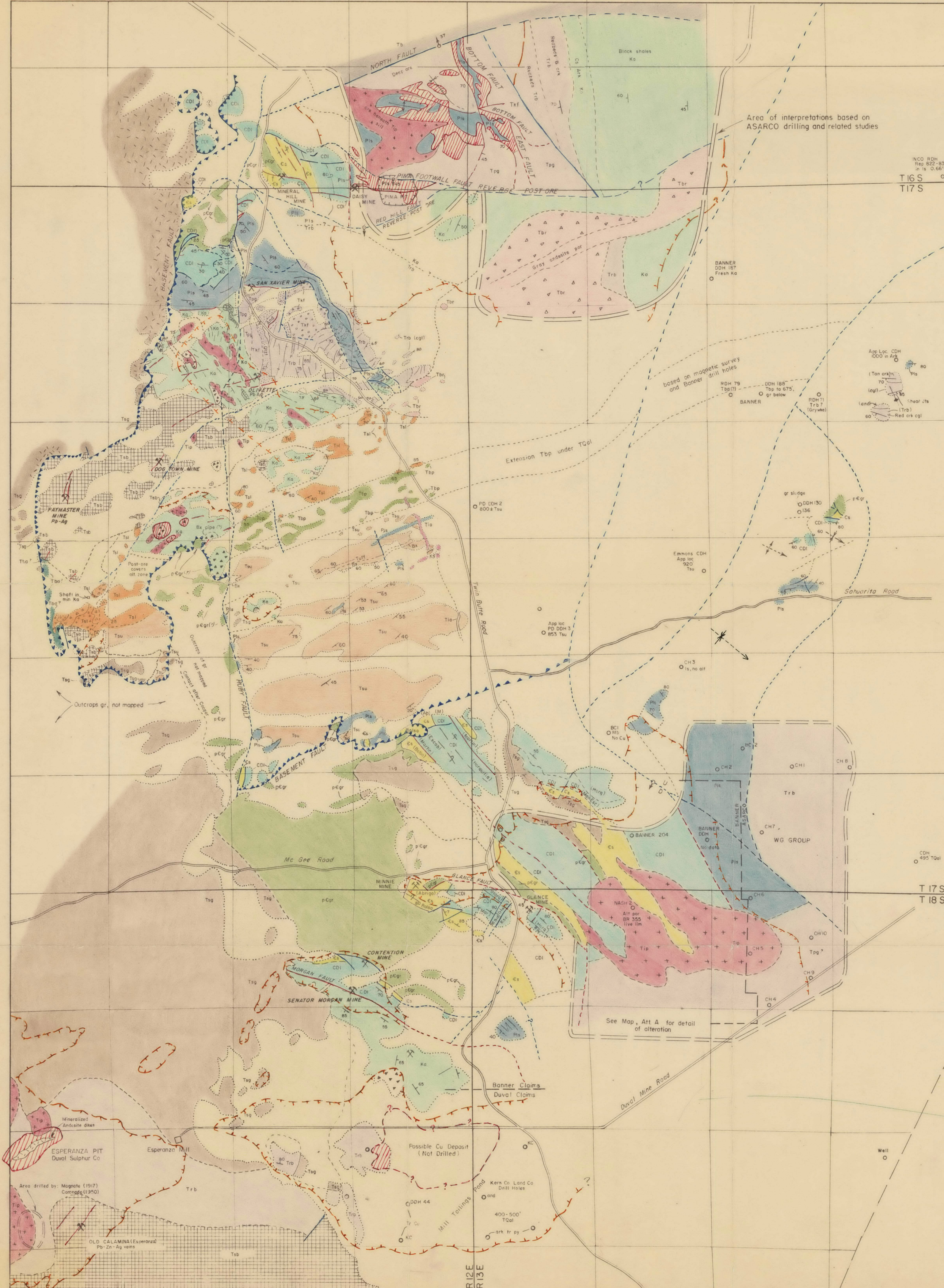
Mission Group

Section 36 under
lease to United

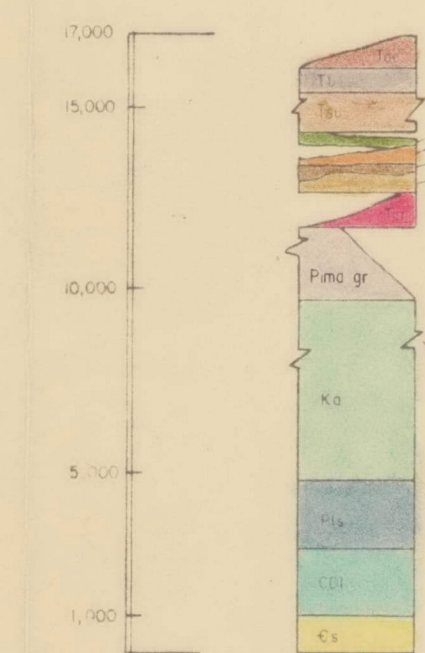
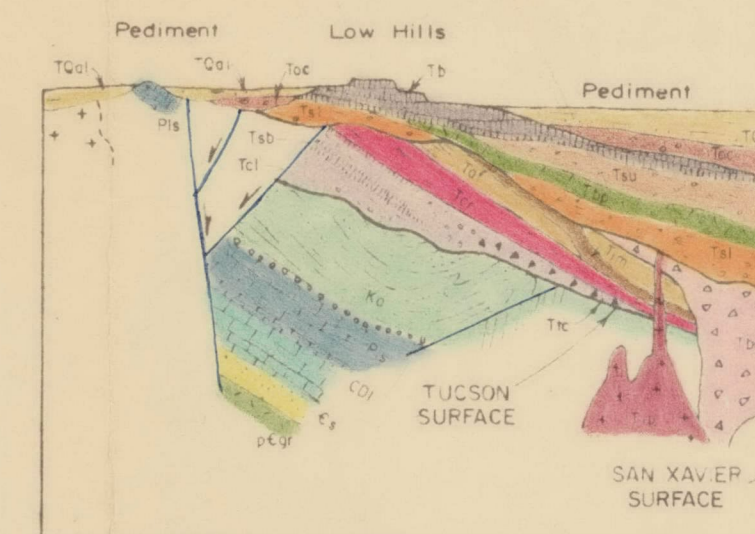


LEGEND

Rocks of the Pima and Amole (Tucson Mts) Mining District



COLUMNAR SECTION

TO SCALE
1 inch = 1 mileDIAGRAMATIC STRUCTURE
STRATIGRAPHIC COLUMN
NOT TO SCALE

As reference for structural disturbance, note that these strata were approx horizontal when deposited:
Es, CDH, Pls, Ka
Tcl, Tcr, Tat
Tbp (i)
Tb

OTHER SYMBOLS

- Maintained road
- Desert auto trail
- Drill hole (not all ASARCO holes shown, within ore zone proper)
- Outline of ASARCO drilling area, geology within, under alluvium, colored as though it were outcrop

LAYERED ROCKS
SEDIMENTARY AND EFFUSIVE

- Tal Valley gravels, surficial alluvium and talus
- Tcr Major Erosion
- Tb Older conglomerate. Overlies Tc
- Tb Black Mountain basalt
- Tbp erosion
- Tbp Upper conglomerate beds
- Tbp Basalt porphyry flows (locally dikes)
- Tbp Lower conglomerate beds
- Tbp SW of Paymaster Mine
- Tbp Breccia
- Tbp Basal talus
- Tbp SAN XAVIER SURFACE
- Tbp Ivy May andesite (sills)
- Tbp Anklam formation
- Tbp Cat Mountain rhyolite
- Tbp Tucson Mountains
- Tbp Silver Bell fm
- Tbp Clifton Ranch fm
- Tbp Tucson Mountain chaos
- Tbp Tucson Mountains - Silver Bell
- Tbp Red Beds (Ash Creek-Recreation beds equivalent.)
- Tbp Kino fm
- Tbp Papago fm
- Tbp Mission Ore Zone (Ox Frame argillite equivalent)
- Tbp TUCSON SURFACE (?)

INTRUSIVE IGNEOUS ROCKS

- Tg Andesite, intrusive as dikes and small bodies. Several ages included together, some of which may be pre-ore.
- Tg POST-ORE
- Tg PRE-ORE
- Tg Sierra granite
- Tg May be post-Cat Mtn rhyolite
- Tg Sierra granite
- Tg Coarse-grained type
- Tg *May include some pre-E
- Tg Porphyry intrusive
- Tg qtz-monz, monz
- Tg Biotite rhyolite
- Tg Spherulitic rhyolite (Tucson Mtns)
- Tg Short's Ranch andesite (Tucson Mtns)
- Tg Post-Cat Mtn rhyolite
- Tg PRE-CAMBRIAN
- Tg Mineral Hill granite

STRUCTURE

- Fault
- Contact
- Low angle fault. Thrust or gravity block
- Strike and dip of sediments
- Strike and dip of igneous flow layering
- Axis of Anticline
- Axis of Syncline
- Generalized bedding structure

NOTE: Structures dashed where obscure, dotted where covered. In the area of ASARCO drilling, structures shown solid where determined by substantial drilling data; dashed where only approx known.

MINERALIZATION

- Vein, or mineralized fault
- Disseminated Cu bodies, > 0.4 % Cu
- Limits of hypogene alteration
- Breccia Pipe

TO ACCOMPANY Report
DATED April 12, 1961
BY J. E. Kinnison

American Smelting and Refining Company

GEOLOGY
of the
PIMA MINING DISTRICT

Pima County, Arizona

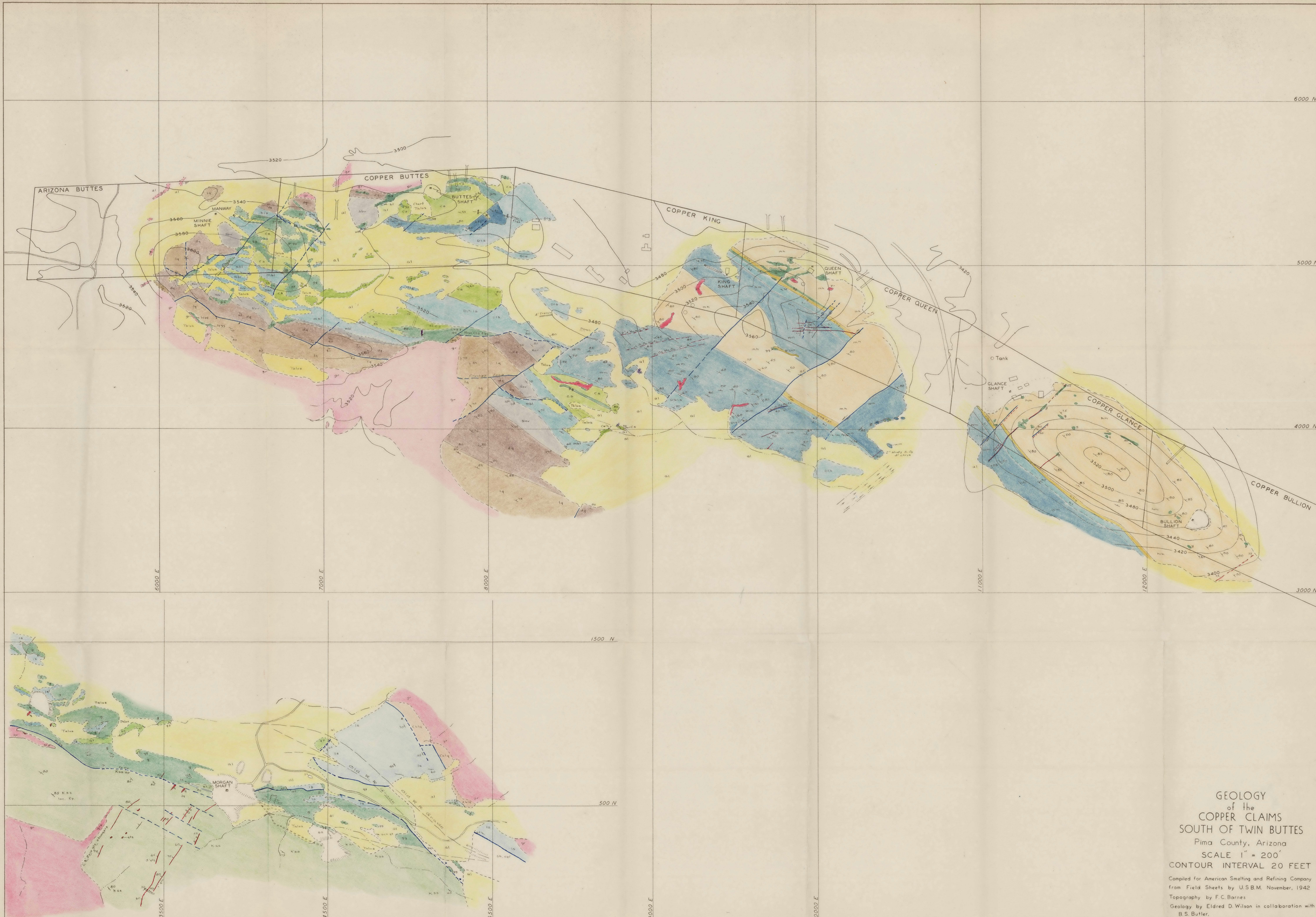
Scale 1:31,250
(2 inches = 1 mile approx.)

March, 1961

K. R. C. copy

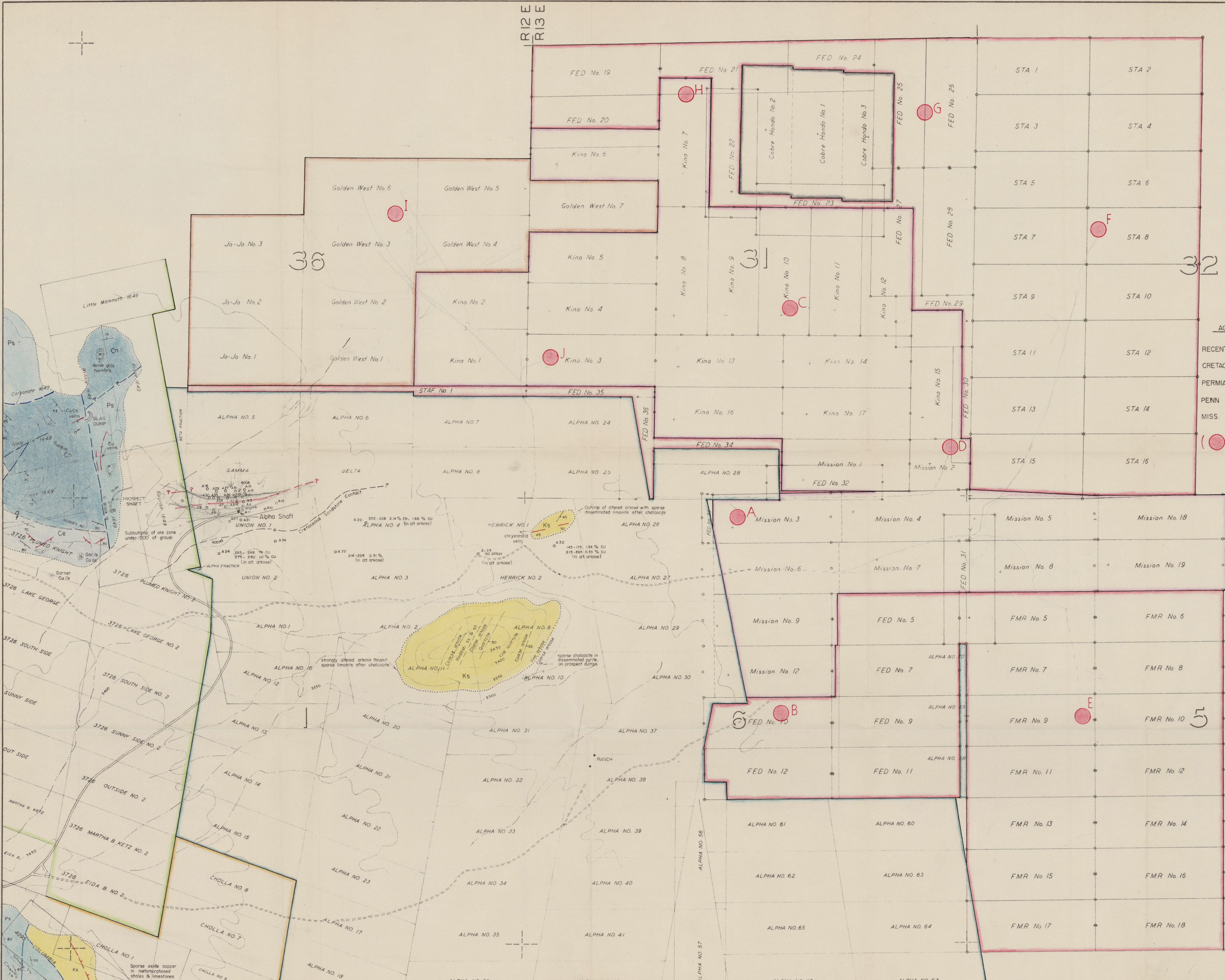
Compiled & field checked, J.E. Kinnison
Sources: Mapping by J.H. Courtright
O.D. Evans
R.E. Cribbs
J.E. Kinnison

(Note: Banner ground now denied access)



GEOLOGY
of the
COPPER CLAIMS
SOUTH OF TWIN BUTTES
Pima County, Arizona
SCALE 1" = 200'
CONTOUR INTERVAL 20 FEET

Compiled for American Smelting and Refining Company
from Field Sheets by U.S.B.M. November, 1942
Topography by F.C. Barnes
Geology by Eldred D. Wilson in collaboration with
B.S. Butler,
Map No. 946



EXPLANATION
SEDIMENTARY ROCKS

AGE	Symbol	Description
RECENT	Gravel	Gravel Deposits
CRETACEOUS	Ks	Arkose cong. shale & quartzite
PERMIAN	Ps	Limestone with minor shale & quartzite
PENN.	Cn	(Naco) Limestone and shale
MISS.	Ce	(Escabrosa) Thick bedded ls

(●) Proposed Shallow Drill Holes

PROPERTY OWNERSHIP

American Smelting and Refining Company	A. S. & R. Co. holds by lease
Chilson	
Nauman	
Mc Gavock	
Pima Mining Company and United Geophysical Group	
Banner Mining Company	
Eagle Picher Group	

AMERICAN SMELTING AND REFINING COMPANY
GEOLOGY AND PROPERTY OWNERSHIP
PIMA MINING DISTRICT
Pima County, Arizona
SCALE 1" = 500'