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inquiries@azgs.az.gov

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James Doyle Sell Mining Collection

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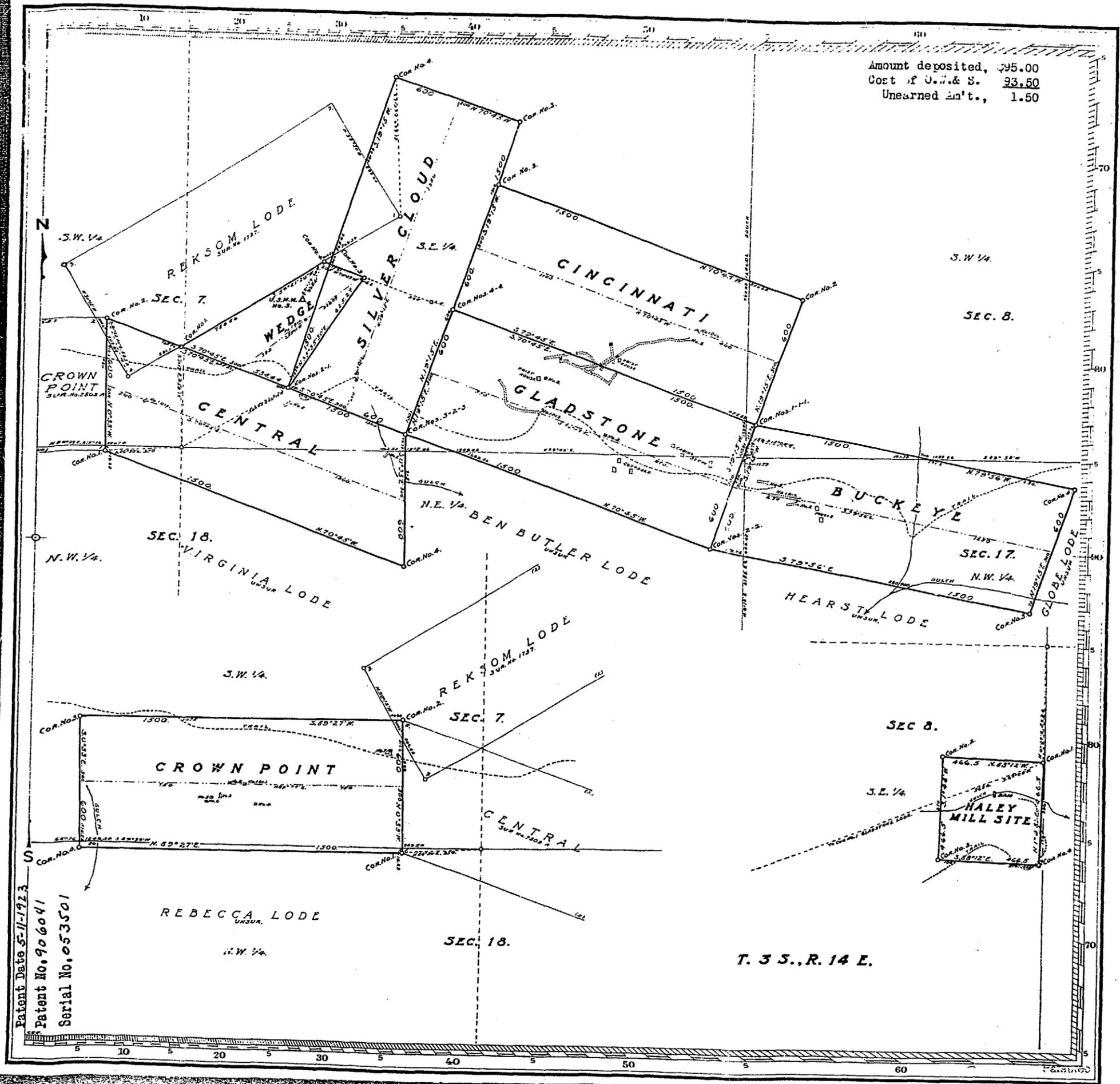
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Amount deposited, \$95.00
 Cost of O.M. & S. 93.50
 Unearned Am't., 1.50

Claim Located - - - - - 19
 Mineral Survey No. 3803 A & B.

Lot No. ARIZONA Land District.
PLAT
 OF THE CLAIM OF
 Ray Silver-Lead Mining Company

KNOWN AS THE
 BUCKEYE, GLADSTONE, CINCINNATI, SILVER CLOUD,
 WEDGE, CENTRAL, and CROWN POINT Lodes and
 HALEY Millsite

LY Mineral Creek MINING DISTRICT,
 Pinal COUNTY, Arizona
 Containing an Area of _____ Acres.
 Scale of 400 Feet to the inch.
 Variation 13° 30' E.
 SURVEYED September 5 - 14 1921 BY
 T. N. Stevens
 U.S. Deputy Mineral Surveyor.

The Original Field Notes of the Survey of the Mining Claim of
 Ray Silver-Lead Mining Company
 known as the
 BUCKEYE, GLADSTONE, CINCINNATI, SILVER CLOUD,
 WEDGE, CENTRAL, and CROWN POINT Lodes, and
 HALEY Millsite

from which this plat has been made under my direction,
 have been examined and approved, and are on file in this Office,
 and I hereby certify that they furnish such an accurate description
 of said Mining Claim as will, if incorporated into a patent,
 serve fully to identify the premises, and that such reference is
 made therein to natural objects or permanent monuments as
 will perpetuate and fix the locus thereof.
 I further certify that Five Hundred Dollars worth of labor has
 been expended or improvements made upon said Mining Claims
 by claimant or its grantors and that
 said improvements consist of 12 shafts, 3 cuts,
 and 10 tunnels, total value \$25,605.

that the location of said improvements is correctly shown
 upon this plat, and that no portion of said labor or improve-
 ments has been included in the estimate of expenditures
 upon any other claim.
 And I further certify that this is a correct plat of said Mining
 Claim made in conformity with said original field notes of the
 survey thereof, and the same is hereby approved.

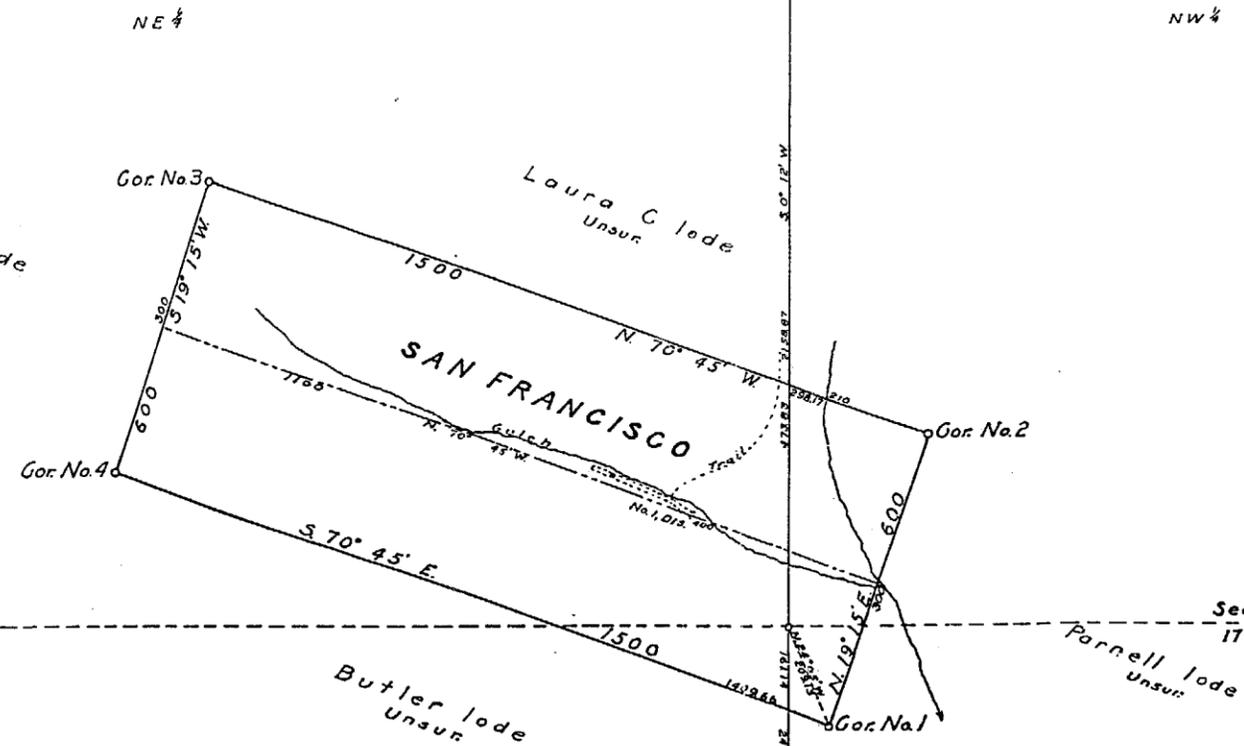
U.S. Surveyor General's Office, *Frank P. Pratt*
 Phoenix, Arizona, U.S. Surveyor General for
 November 30, 1921 ARIZONA.

Patent Date 5-11-1923
 Patent No. 906641
 Serial No. 053501

T. 3 S., R. 14 E.

Amount deposited \$25.00
 Cost of O.W. & S. 19.50
 Unearned Amt. 5.50

T. 3 S., R. 14 E.



Patent Date 5-11-1923
 Patent No. 906042
 Serial No. 053502

Claim Located _____

Mineral Survey No. 3804

Lot No. _____
 ARIZONA Land District.

PLAT

OF THE CLAIM OF
 Ray Silver-Lead Mining Company

KNOWN AS THE

SAN FRANCISCO Lode

IN Mineral Creek MINING DISTRICT,
 Pinal COUNTY, Arizona

Containing an Area of _____ Acres.
 Scale of 300 Feet to the inch.
 Variation 13° 30' E.

SURVEYED September 7 - 8 1921 BY
 T. H. Stevens
 U.S. Deputy Mineral Surveyor

The Original Field Notes of the Survey of the Mining Claim of
 Ray Silver-Lead Mining Company
 known as the

SAN FRANCISCO Lode

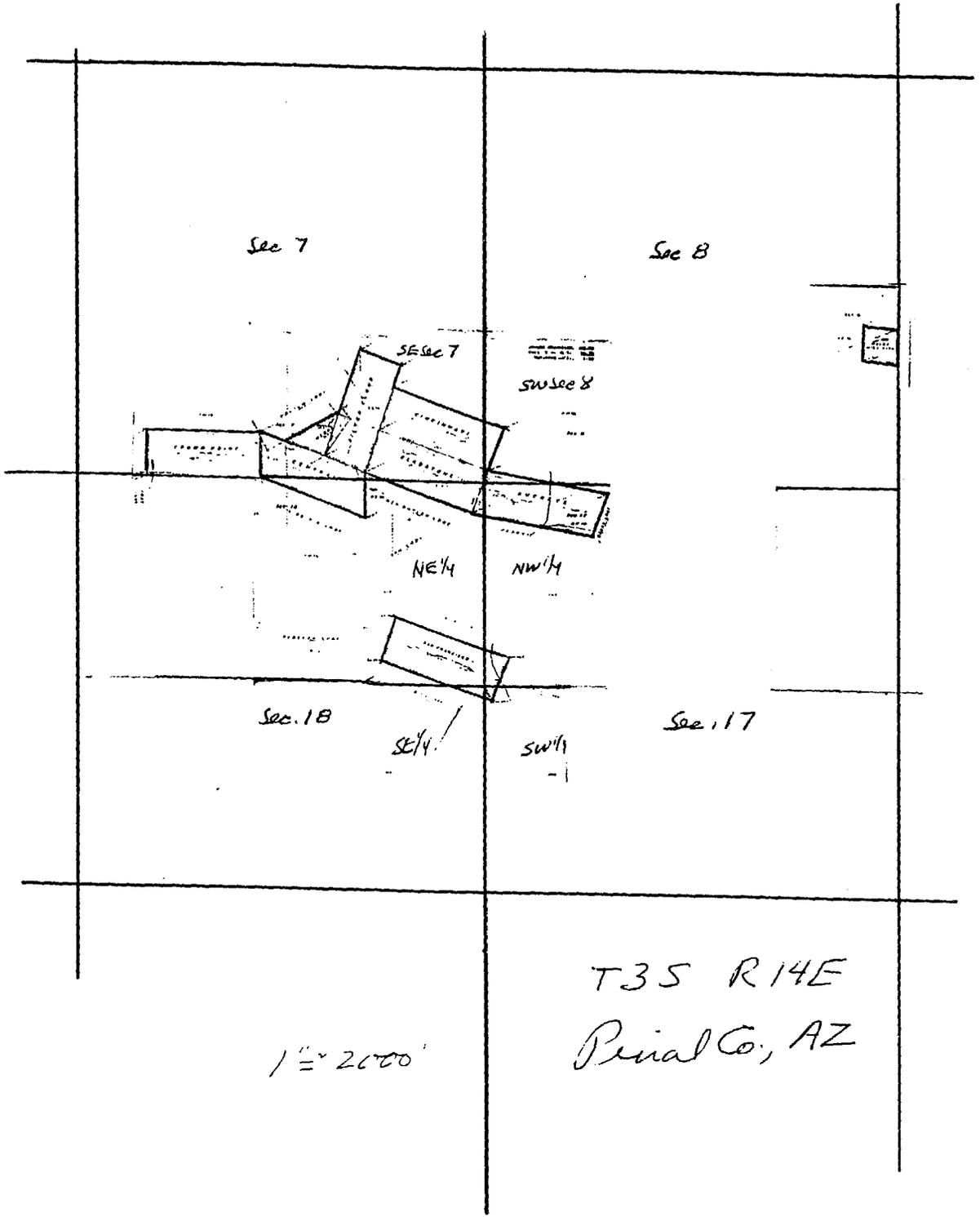
from which this plat has been made under my direction, have been examined and approved, and are on file in this Office, and I hereby certify that they furnish such an accurate description of said Mining Claim as will, if incorporated into a patent, serve fully to identify the premises, and that such reference is made therein to natural objects or permanent monuments as will perpetuate and fix the locus thereof. I further certify that Five Hundred Dollars worth of labor has been expended or improvements made upon said Mining Claim by claimant or its grantors and that said improvements consist of 1 cut and winze, total value \$2350.

that the location of said improvements is correctly shown upon this plat, and that no portion of said labor or improvements has been included in the estimate of expenditures upon any other claim.

And I further certify that this is a correct plat of said Mining Claim made in conformity with said original field notes of the survey thereof, and the same is hereby approved.

U.S. Surveyor General's Office. *Frank A. Frost*

Phoenix, Arizona, U.S. Surveyor General for
 November 28, 1921 ARIZONA.



Sec 7

Sec 8

SE 1/4

SW 1/4

NE 1/4

NW 1/4

Sec 16

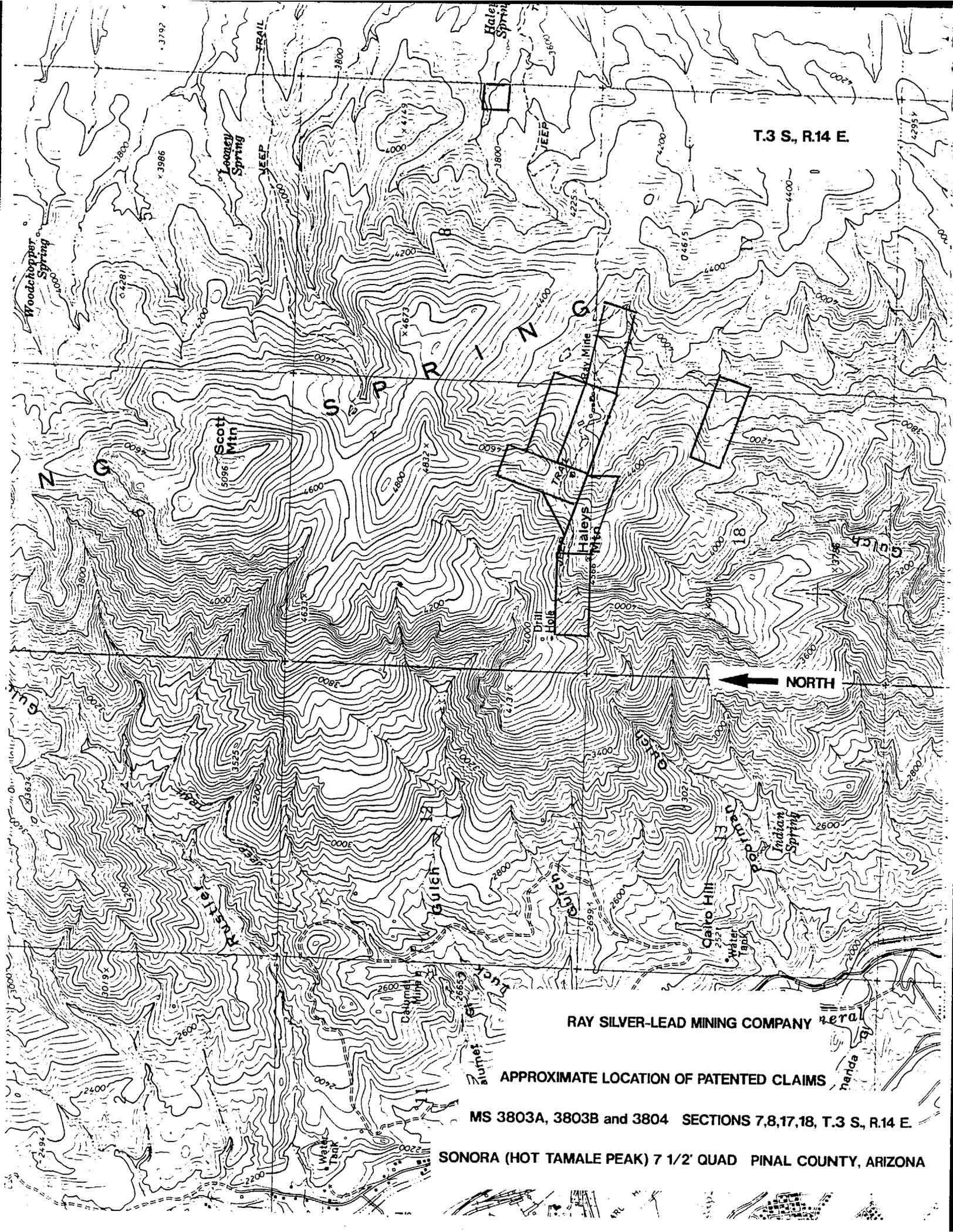
SE 1/4

SW 1/4

Sec 17

1" = 2000'

T35 R14E
Pinal Co, AZ



T.3 S, R.14 E.

S P R I N G

NORTH

RAY SILVER-LEAD MINING COMPANY

APPROXIMATE LOCATION OF PATENTED CLAIMS

MS 3803A, 3803B and 3804 SECTIONS 7,8,17,18, T.3 S, R.14 E.

SONORA (HOT TAMAPE PEAK) 7 1/2' QUAD PINAL COUNTY, ARIZONA

Woodchopper Spring

Looney Spring

Haley Spring

Scott Min

Gray Mine

Haleys

Drill Hole

Calvo Hill

Water Tank

Indian Spring

DeLumet Mine

Ketchikan

Alumet

Water Tank

Verde

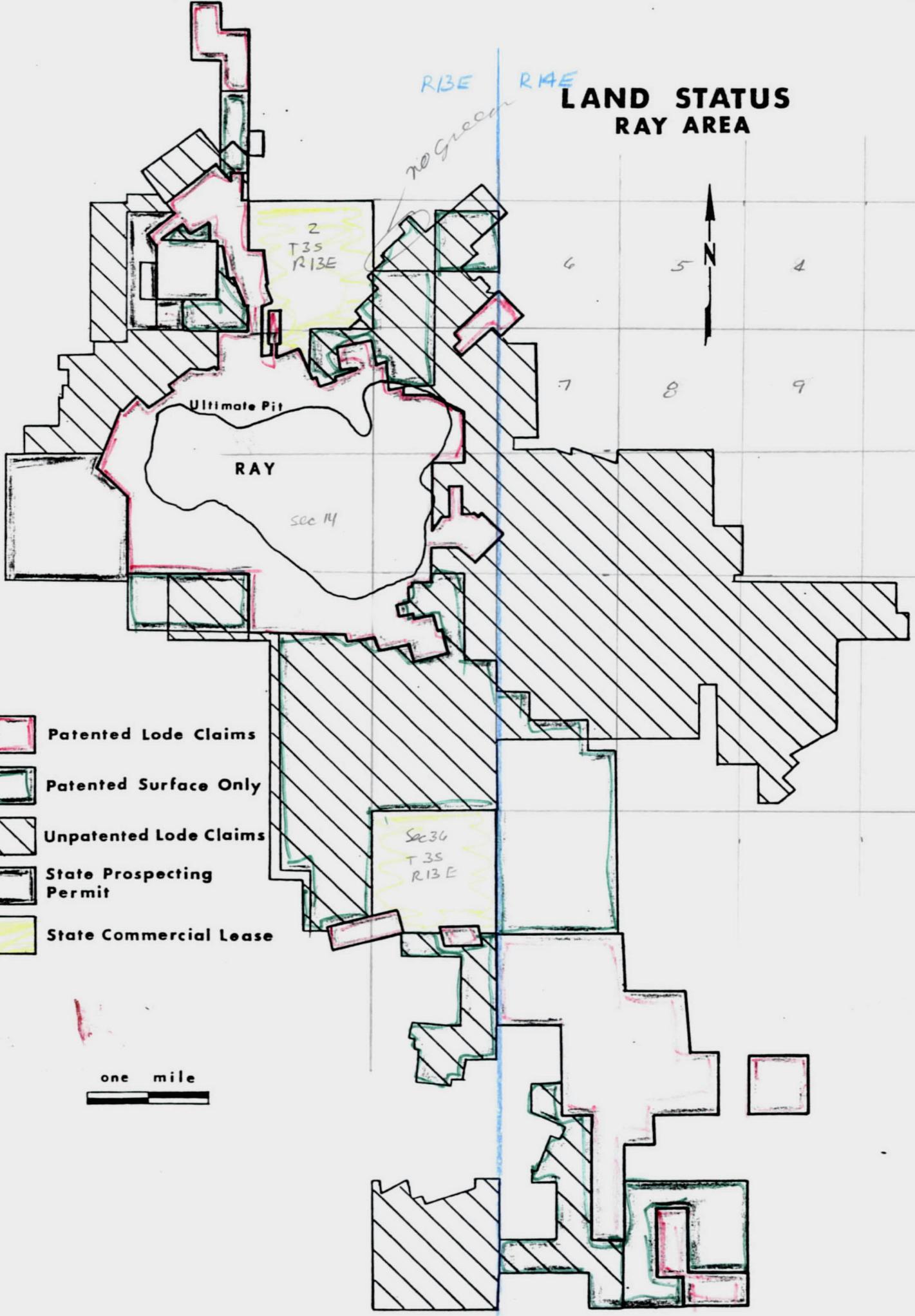
Arroyo

Arroyo

Arroyo

Arroyo

LAND STATUS RAY AREA

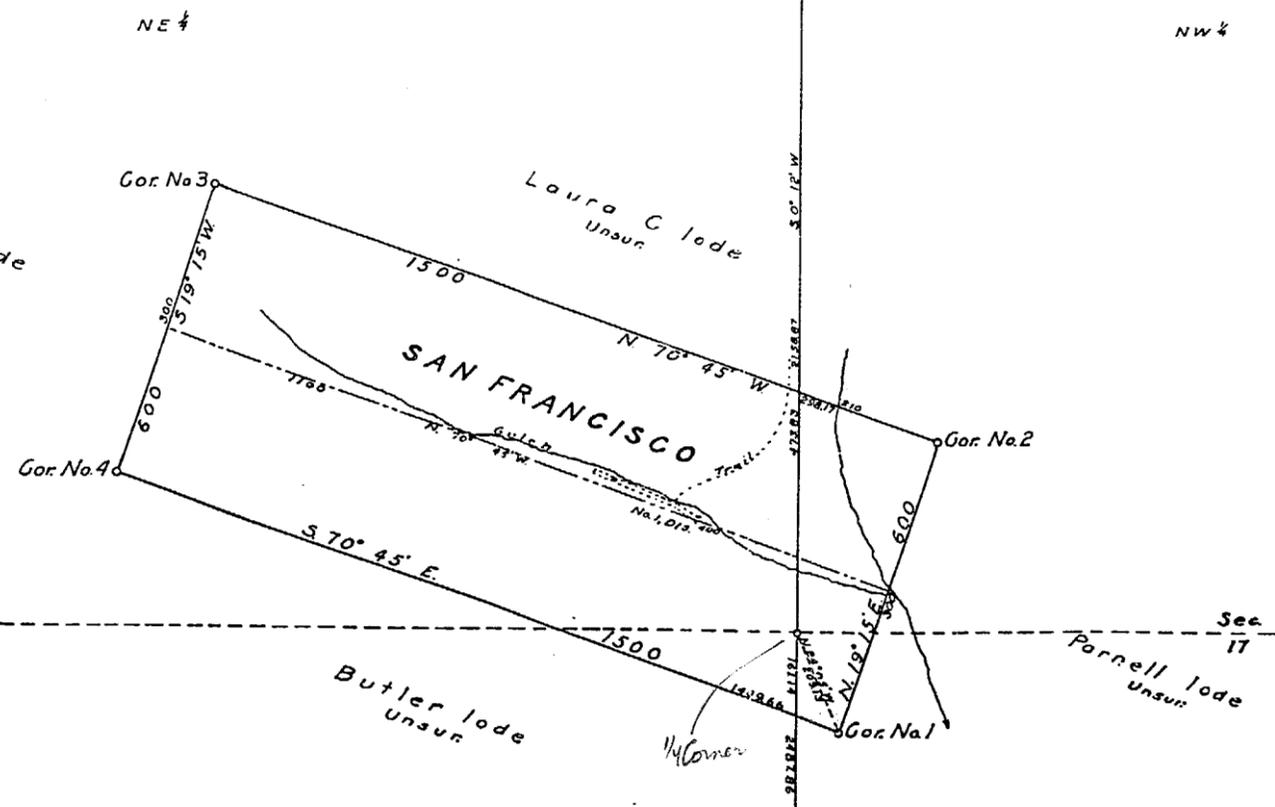


-  Patented Lode Claims
-  Patented Surface Only
-  Unpatented Lode Claims
-  State Prospecting Permit
-  State Commercial Lease

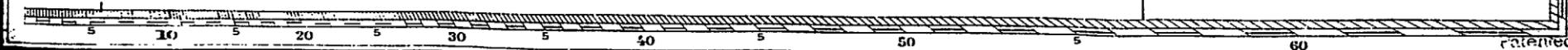
one mile


T. 3 S., R. 14 E.

Amount deposited \$25.00
Cost of O.W. & S. 19.50
Unearned A.M.T. 5.50



Patent Date 5-11-1923
Patent No. 906042
Serial No. 053502



Claim Located _____

Mineral Survey No. 3804

Lot No. _____
ARIZONA Land District

PLAT
OF THE CLAIM OF
Ray Silver-Lead Mining Company

KNOWN AS THE
SAN FRANCISCO Lode

IN Mineral Creek MINING DISTRICT,
Pinal COUNTY, Arizona

Containing an Area of _____ Acres.
Scale of 300 Feet to the inch.
Variation 13° 30' E.

SURVEYED September 7 - 8 1921 BY
T. H. Stevens
U.S. Deputy Mineral Surveyor

The Original Field Notes of the Survey of the Mining Claim of
Ray Silver-Lead Mining Company
known as the

SAN FRANCISCO Lode

from which this plat has been made under my direction,
have been examined and approved, and are on file in this Office,
and I hereby certify that they furnish such an accurate description
of said Mining Claim as will, if incorporated into a patent,
serve fully to identify the premises, and that such reference is
made therein to natural objects or permanent monuments as
will perpetuate and fix the locus thereof.
I further certify that Five Hundred Dollars worth of labor has
been expended or improvements made upon said Mining Claim
by claimant or its grantors and that
said improvements consist of 1 cut and winze,
total value \$2350.

that the location of said improvements is correctly shown
upon this plat, and that no portion of said labor or improve-
ments has been included in the estimate of expenditures
upon any other claim.

And I further certify that this is a correct plat of said Mining
Claim made in conformity with said original field notes of the
survey thereof, and the same is hereby approved.

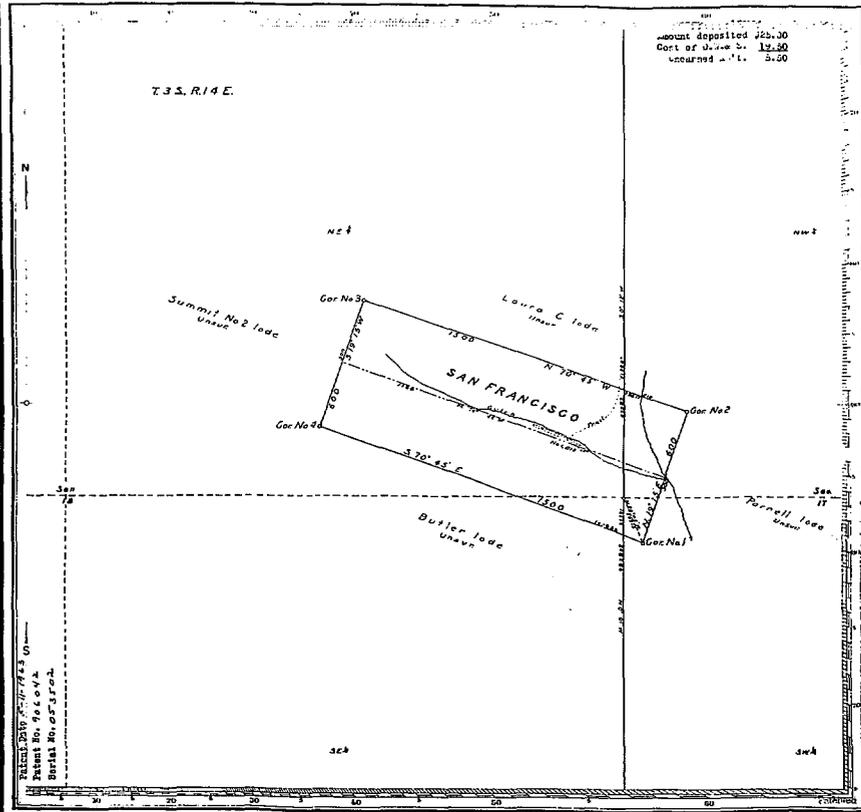
U.S. Surveyor General's Office.

Frank A. Frost
U.S. Surveyor General for

Phoenix, Arizona

ARIZONA.

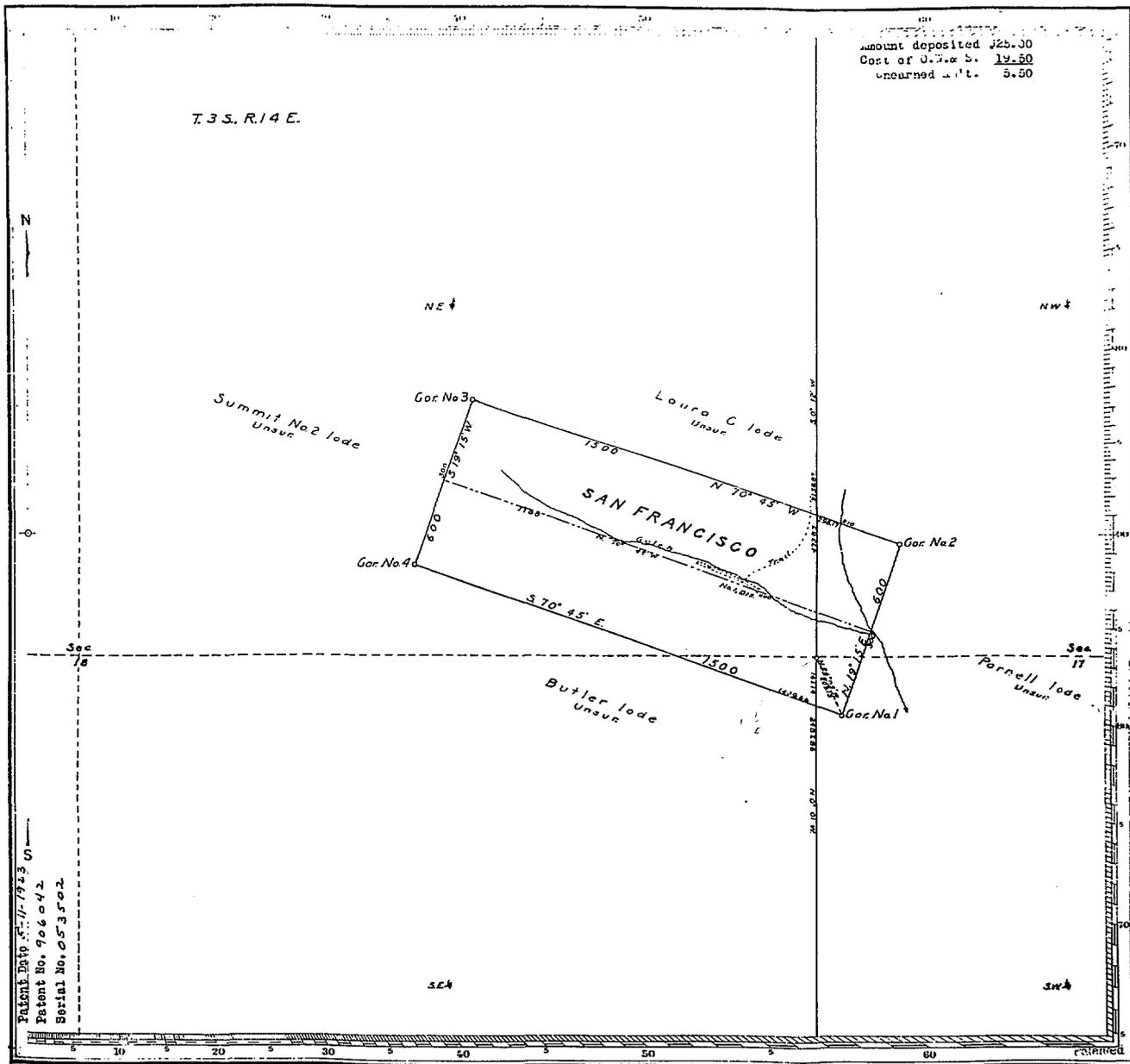
November 28, 1921



Amount deposited \$25.00
Cost of Office 12.50
Unearned " 5.50

Class Located _____
 Mineral Survey No. **3804**
 LOT No. _____ Land District _____
PLAT
 OF THE CLAIM OF
 Jay Silver-Lead Mining Company
 KNOWN AS THE
 S. J. FRANCISCO Lode
 IN Mineral Creek **MINING DISTRICT**
 of **YAVAPAI** COUNTY, ARIZONA
 Containing an Area of _____ Acres
 More or less
 Bounded by the
 NEARLY **September 7 - 8 1921** A.D.
 T. H. Stevens
 U.S. Deputy Mineral Surveyor
 The original field notes of the Survey of the Mining Claim of
 Jay Silver-Lead Mining Company
 known as the
S. J. FRANCISCO Lode
 from which this plat has been made under my direction,
 have been examined and approved and are on file in this office,
 and I hereby certify that they furnish such an accurate description
 of said Mining Claim as will, if incorporated into a patent,
 more fully identify the premises, and that such reference is
 made therein to natural objects or permanent monuments as
 will perpetuate and fix the locus thereof.
 I further certify that Five Hundred Dollars worth of labor has
 been expended or improvements made upon said Mining Claim
 by claimant or its grantors and that
 said improvements consist of 1 cut and mine,
 total value \$2500.
 that the location of said improvements is correctly shown
 upon this plat, and that no portion of said labor or improve-
 ments has been included in the estimate of expenditures
 upon any other claim.
 And I further certify that this is a correct plat of said Mining
 Claim made in conformity with said original field notes of the
 survey thereof, and the same is hereby approved.
 U.S. Surveyor General's Office, _____
 Phoenix, Arizona _____
 November 20, 1921 ARIZONA.

Blanchard, P.M. No. 11743
 Patent No. 90204
 Serial No. 21743



Claim Located _____

Mineral Survey No. 3804

Lot No. _____
ARIZONA Land District

PLAT
OF THE CLAIM OF
Ray Silver-Lead Mining Company

KNOWN AS THE

SAN FRANCISCO Lode

IN Mineral Creek MINING DISTRICT,
PINAL COUNTY, Arizona

Containing an Area of _____ Acres.

Scale of 300 Feet to the inch.

Variation 13° 30' E.

SURVEYED September 7 - 8 1921 BY

T. H. Stevens

U.S. Deputy Mineral Surveyor

The Original Field Notes of the Survey of the Mining Claim of
Ray Silver-Lead Mining Company
known as the

SAN FRANCISCO Lode

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Claim made in conformity with said original field notes of the
survey thereof, and the same is hereby approved.

U.S. Surveyor General's Office

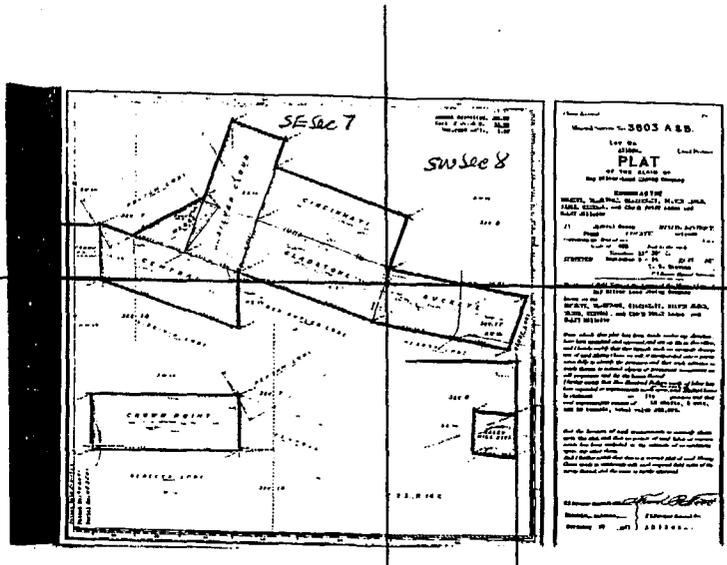
Frank A. Smith

Phoenix, Arizona

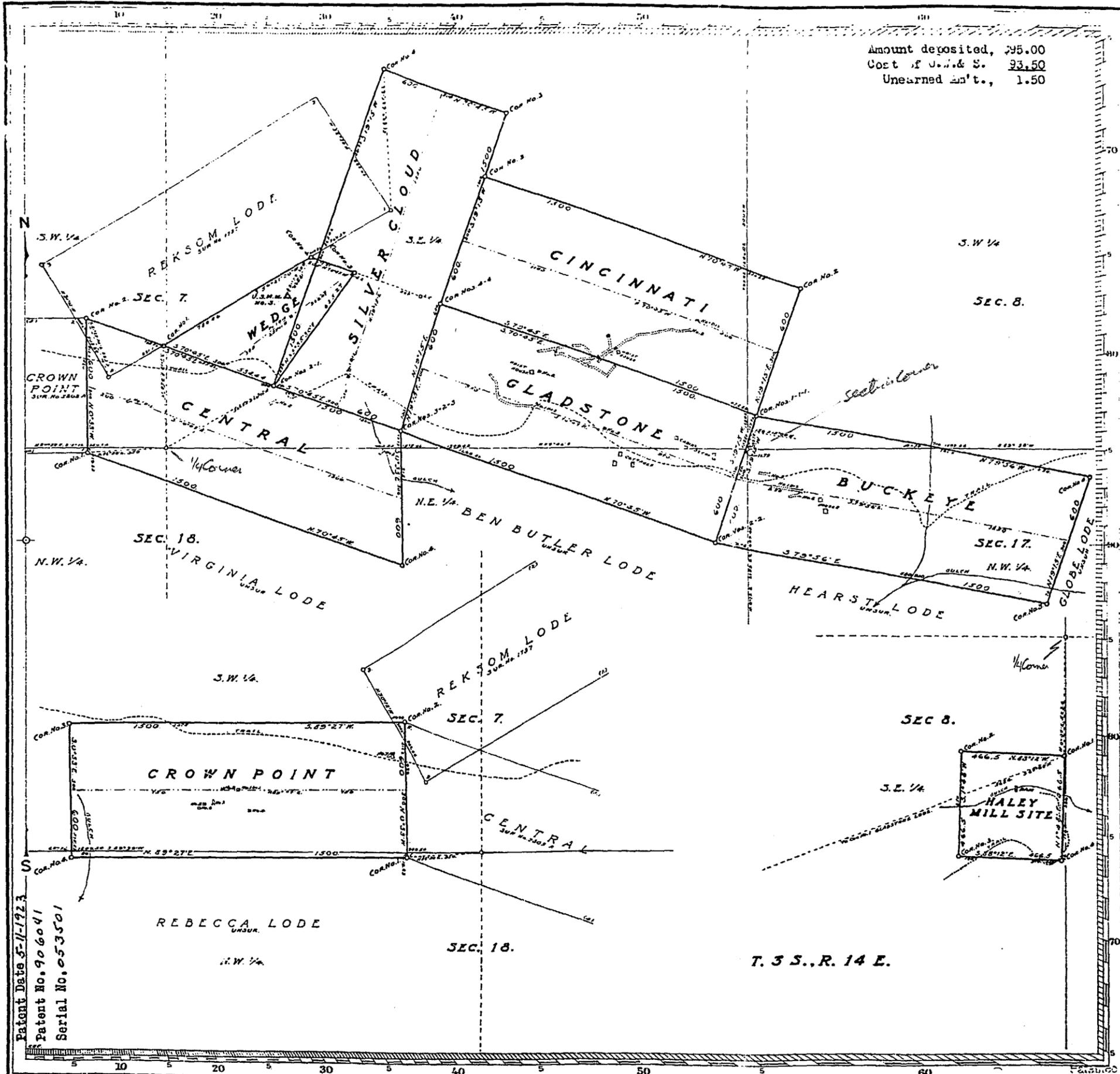
U.S. Surveyor General for

November 20 1921

ARIZONA.



1" = 2000'



Amount deposited, \$95.00
 Cost of U.S. & S. \$93.50
 Unearned amt., 1.50

Claim Located 19
 Mineral Survey No. 3803 A & B.

Lot No. ARIZONA Land District.
PLAT
 OF THE CLAIM OF
 Ray Silver-Lead Mining Company

KNOWN AS THE
 BUCKEYE, GLADSTONE, CINCINNATI, SILVER CLOUD,
 WEDGE, CENTRAL, and CROWN POINT Lodes and
 HALEY Millsite

IN Mineral Creek MINING DISTRICT,
 Pinal COUNTY, Arizona
 Containing an Area of _____ Acres.
 Scale of 400 Feet to the inch.
 Variation 13° 30' E.
 SURVEYED September 5 - 14 19 21 BY
 T. N. Stevens
 U.S. Deputy Mineral Surveyor.

The Original Field Notes of the Survey of the Mining Claim of
 Ray Silver-Lead Mining Company
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 BUCKEYE, GLADSTONE, CINCINNATI, SILVER CLOUD,
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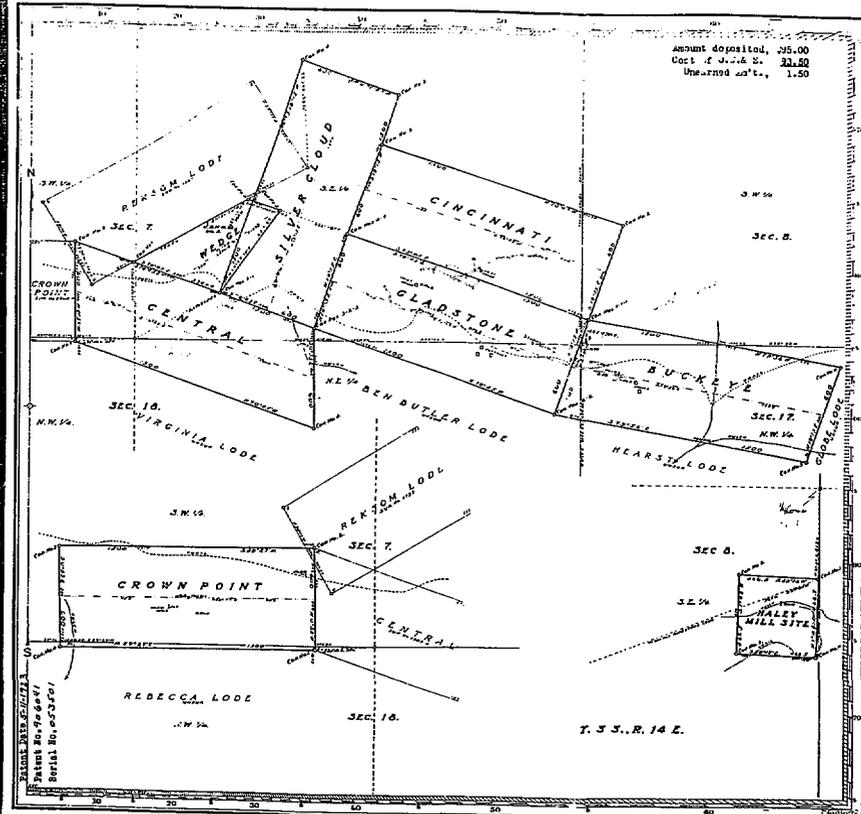
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 said improvements consist of 12 shafts, 3 cuts,
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 Claim made in conformity with said original field notes of the
 survey thereof, and the same is hereby approved.

U.S. Surveyor General's Office *Frank R. Pratt*
 Phoenix, Arizona, U.S. Surveyor General for
 November 30, 1921 ARIZONA.

Patent Date 5-11-1923
 Patent No. 906041
 Serial No. 053501

T. 3 S., R. 14 E.



Claim Located

Mineral Survey No. 3803 A & B.

Lot No. 211202, Land District.

PLAT
OF THE CLAIM OF
Ray Silver-Lead Mining Company

KNOWN AS THE
BUCKEYE, CLARSTONE, CINCINNATI, SILVER CLOUD,
JEDIE, CENTRAL, and GEORGE FOLZ Lodes and
HALSEY Millsite

1/4 Mineral Creek MINING DISTRICT,
Pinal COUNTY, Arizona

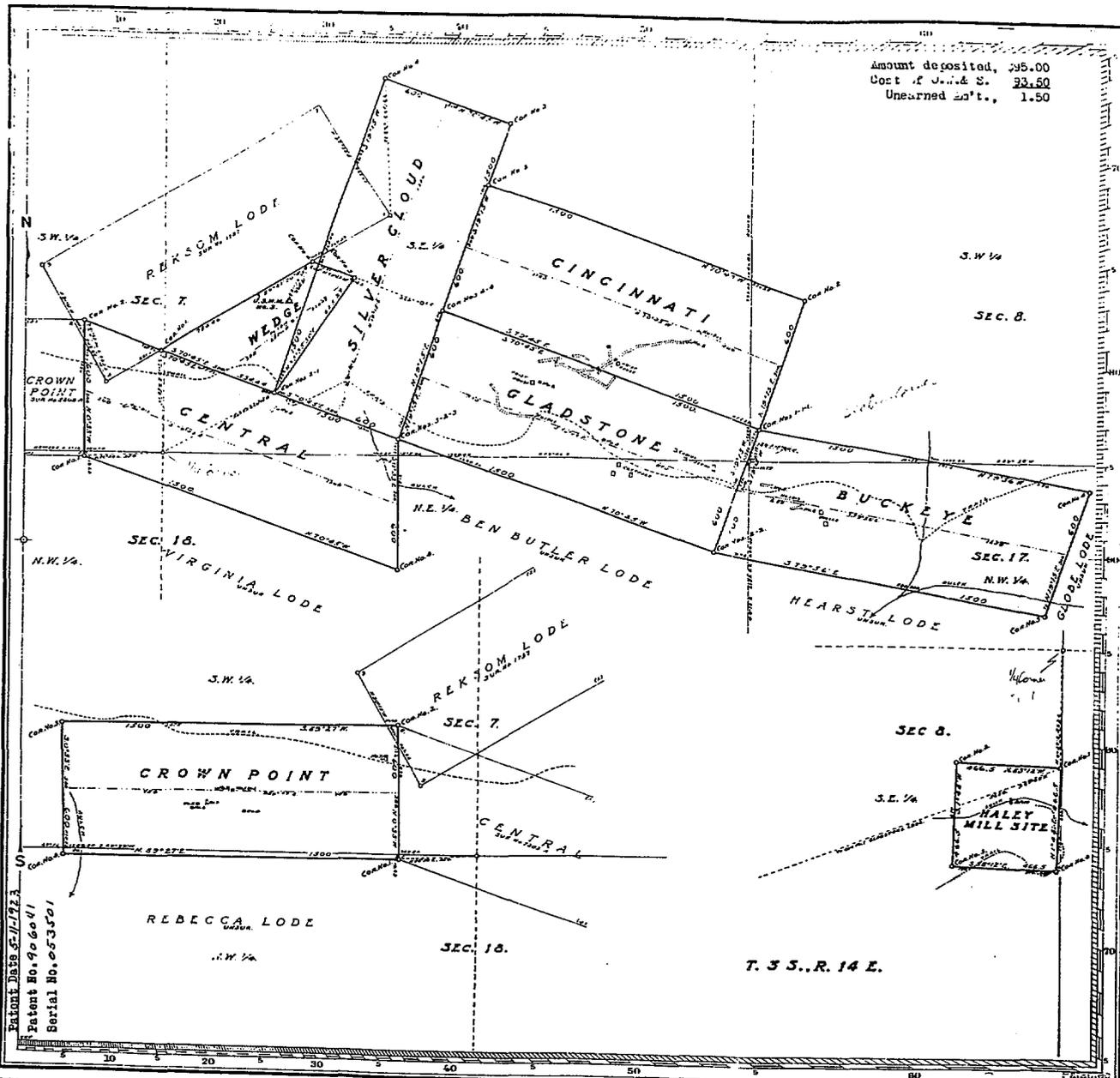
Containing an Area of 400 Acres to the inch.
Variation 13° 30' E.
September 5 - 14 19 21 111
T. S. Stevens
C.S. Surveyor Mineral Surveyor

The original field notes of the Survey of the Mining Claim of
Ray Silver-Lead Mining Company
known as the
BUCKEYE, CLARSTONE, CINCINNATI, SILVER CLOUD,
JEDIE, CENTRAL, and GEORGE FOLZ Lodes, and
HALSEY Millsite

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upon any other claim.
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Claim made in conformity with said original field notes of the
survey thereof, and the same is hereby approved.

C.S. Surveyor General's Office *Frederick C. Bennett*
Phoenix, Arizona C.S. Surveyor General Ariz.
November 30 1921 A. R. I. S. G. A.



Claim Located

19

Mineral Survey No. 3803 A & B.

Lor No.

ARIZONA

Land District.

PLAT

OF THE CLAIM OF
Ray Silver-Lead Mining Company

KNOWN AS THE
BUCKEYE, GLADSTONE, CINCINNATI, SILVER CLOUD,
WEDGE, CENTRAL, and CROWN POINT Lodes and
HALCY Millsite

IN Mineral Crook MINING DISTRICT,
Pinal COUNTY, Arizona

Containing an Area of _____ Acres

Scale of 400 Feet to the Inch.

Variation 13° 30' E.

SURVEYED September 5 - 14 19 21 1921

T. H. Stevens

U.S. Deputy Mineral Surveyor

The Original Field Notes of the Survey of the Mining Claim of
Ray Silver-Lead Mining Company

known as the
BUCKEYE, GLADSTONE, CINCINNATI, SILVER CLOUD,
WEDGE, CENTRAL, and CROWN POINT Lodes, and
HALCY Millsite

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survey thereof, and the same is hereby approved.

U.S. Surveyor General's Office *Frank A. Pratt*

Phoenix, Arizona, U.S. Surveyor General for

November 30 1921 ARIZONA

108

and loading on cars at mine, from
 and from income statement includes
 on of copper is from smelter re-
 ore shipments. Cost per pound
 about 0.1c per lb. Low recovery
 mill improvements at a time when
 able to overload such sections as
 concentration was 17.99 to 1 in 1914.
 25 oz., sold at 71.077c per oz., and

s full capacity of 10,000 tons a day.
 full capacity on the average grade
 of over 80,000,000 lbs. of copper
 original estimates by the company's
 east \$1.75 per ton of ore could be
 ped places the Ray Consolidated
 world, with a certainty that the
 increased, and a possibility that it
 practically the same as that of the
 he so-called porphyry mines of the
 strong and capable.

ARIZONA

Line at Ray, Ariz.
 s.; J. G. Hopkins, E. P. Earle, Geo.
 Armstrong, August Heckscher, Jos.
 A. A. Wren, drill supt. and sampler.
 500,000 shares, \$5 par; 1,263,000 out-
 ssued Arizona Hercules Copper Co.
 company is issued, company will
 no preferred stock. As the 500,000
 and \$1,000,000 was put in the treas-
 t of the purchase price.
 of the Ray district, at Ray, Ariz.,
 ay Consolidated Co. Tract shows
 conglomerate and wash and invaded
 nsion and part of the Ray Consoli-
 lt with 350' drop to the east, which

y Krumb made an examination after
 owed ore averaging 73.6' thick over
 tal ore developed by these holes was
 The area S. E. and E. has since de-
 working, putting down holes at 200'
 s aggregating 89,000' cost \$2.90 a ft.,
 and supplies, \$1.55; sampling and
 moving drill, 27c. Drills are run in
 at \$6 per day, helper at 40c per hour
 average 30' per day and consume
 ter.

one 522' shaft at N. W. corner of
 thods formerly used by C. E. Addams
 a. Company is erecting a 1,200-ton
 s. copper per ton at 8½c total cost.
 10,000 at 13c copper.
 ace reserves at 10,000,000 tons of 2%
 expected.

Company is backed by big financial houses, has expert technical ad-
 visors, and is very favorably regarded. The stock has been kept down
 in price by the greed of various brokerage houses, but is understood to
 now be held largely by strong investment interests.

By Sept., 1917, the mill buildings were nearly complete, the power
 plant finished, and a spur line is to be constructed costing \$200,000. Mill
 expected to be ready by end of 1917.

RAY SILVER LEAD MINING CO.

ARIZONA

Address: care Lawhon & Bradford, Phoenix, Ariz.

Officers: William McDermott, pres.; Jos. Cassou, v. p.; A. W. Lantz,
 sec.; J. H. Page, treas., with K. K. Koontz, directors.

Inc. Dec., 1916, in Arizona. Cap., \$1,500,000; shares \$1 par; 712,505
 shares outstanding.

Property: 48 claims, 960 acres, 2 miles E. of Ray, Pinal county, on top
 of high limestone mountains. Shows replacement deposits of high-grade
 lead carbonate ore in fissures and along porphyry dikes intrusive in lime-
 stone, the ore occurring just above quartzite series.

There are three or four mines on the property, all showing shipping
 ore.

Reserves estimated by manager at 50,000 tons.

Production: began in June, 1917, 200 tons being shipped that month,
 500 tons in July, and an average of 750 tons a month since, ore averaging
 21% lead, with small silver-gold values.

Employs 35 men. Uses 231 burros for packing ore into Ray. Ship-
 ments made to Empire S. & R. Co., Deming, said to cover all operating
 expenses and 10% on issued stock.

Management expects to increase shipments to one car per day in
 September.

SULTANA-ARIZONA COPPER CO.

ARIZONA

See Kelvin-Sultana Copper Co.

UNITED STATES VANADIUM DEVELOPMENT CO.

ARIZONA

Address: E.

Property: 3
 to have opened
 thORIZED. The E
 In May, H.
 that a low-grade
 of "molybdate,"
 lic" lead. A prc

The Mines Handbook
Wood
Vol XIII
1918

ment by tunnels is said
 a 50-ton mill was au-
 process is to be used.
 Co. of Denver reported
 adium, an equal content
 and about 48% "mctal-
 s ore at Tucson.

JNTY

ATLAS COPP:

ARIZONA

Officers: R. ... John Barber, v. p.; A. J.
 McIlhinney, 2nd v. p., 34 Nassau St., New York City; E. W. Clayton, treas.;
 T. J. Sparkes, sec., with G. H. Hirschfeld, directors. R. J. Young, supt.;
 L. A. Dunham, cons. engr.

Inc. 1917 in Arizona. Cap., \$1,000,000; shares \$1 par; non-assessable.
 Is a reorganization of the San Juan Copper Co.

Property: the San Juan mines, 13 claims, 260 acres, in the Lone Star
 district, Graham county, 8 miles N. of Safford. Ore occurs in granitic
 porphyry traversing diorite and is said to average 3.6% copper, with gold
 and silver values. Developed by 330' main shaft, 750' of drifting and 2,500'
 of diamond drilling, and equipped with hoist, compressor, churn drills
 and pump. Management is reported contemplating the erection of a 300-
 ton mill.

volt, 3-phase, 60-cycle generators. Power is transmitted to mill at 2,200 volts. Water for power plant and mill is obtained from shallow wells along S. bank of Gila river.

Mill: 3 units with rated daily capacity of 400 tons each. First section went into commission August 12, 1918; the third about the middle of September. Equipment includes 3 Marcy mills, 3 Hardinge mills, 15 Deister-Overstrom tables, 42 Callow flotation cells, 9 Dorr classifiers, 3 Oliver filters and 2 Connersville blowers for the flotation machines. The mill was designed for an 80% recovery of total copper. The output has been 854 tons daily. The output has been 854 tons daily. The output has been 854 tons daily.

The output has been 854 tons daily. The output has been 854 tons daily. The output has been 854 tons daily.

Since start operations, and of patents. The company has prospered.

RAY-KELVIN MINING CO.

Address: 418 National Bank of Arizona Bldg., Phoenix, Ariz.
Inc., March, 1918, in Arizona, by Wm. E. Cogdell, A. L. Kelly and John L. Pascale, for the purpose of operating a lead-silver property of 24 unpatented claims, 6 miles N. of Kelvin. In Nov., 1918, H. E. Easterday asked that a receiver be appointed for the company. No later information.

RAY SILVER LEAD MINING CO.

Address: 215 Noll Bldg., Phoenix, Ariz.
Officers: William McDermott, pres.; J. E. Rowlands, v. p.; J. H. Page, treas.; H. H. Smith, sec.-asst. treas., with A. W. Lautz, directors.
Inc., Dec., 1916, in Arizona. **Cap.,** \$1,500,000; \$1 par; 723,805 shares outstanding; \$94,950 8% convertible mortgage bonds outstanding.
Property: 48 claims, 960 acres, 2 miles E. of Ray, Pinal county, on top of high limestone mountains. Shows replacement deposits of high-grade lead carbonate ore in fissures and along porphyry dikes intrusive in limestone, the ore occurring just above quartzite series.

There are three or four mines on the property, all showing ore.
Production: began in June, 1917, and totaled 2,005 tons shipped to Jan. 31, 1919, contained 4,145,327 lbs. lead, 544 oz. gold, and 20,422 oz. silver with gross value of \$270,784. Shipments, June 1 to Dec. 31, 1918, averaged 27.5% lead; shipments in Jan., 1919, averaged 33% lead.

Property leased to Chas. E. Addams, formerly gen. mgr. of Ray Hercules Mng. Co., to May 31, 1920, for half net earnings. First 8 months' operation under lease resulted in earnings of \$65,251.

Employs 35 men. Uses over 100 burros for packing ore into Ray. Shipments made to El Paso smelter.

RAY VERDE COPPER CO.

Office: 52 Vanderbilt Ave., New York. **Mine office:** Kelvin, Ariz.
Officers: W. B. Duvall, pres.; L. H. Bradshaw, sec.; F. W. Nye, treas.
Inc., Oct., 1919, in Arizona. **Cap.,** \$500,000; par \$1.
Property: 140 acres, 12 miles S. of Ray, said to show disseminated chalcopryrite in a large porphyry dike, the whole being low-grade copper ore. Management states, Nov., 1919, "Operations are expected to begin shortly."

SOUTH RAY COPPER MINING CO.

Office: 52 Vanderbilt Ave., New York. **Mine office:** Kelvin, Ariz.
Officers: A. N. Rice, pres.; F. W. Nye, v. p.; S. H. Bradshaw, sec.-treas.

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Inc., 1917, in Maine. **Cap.,** \$3,000,000
7% notes.

Property: 600 acres, 9 miles S. of Ray of "Old Ripsey" and subsequently as the "Old Ripsey" shaft. Management states, Nov. 1918, "The mine is unwatered in June, 1919, and operations are being conducted." **SULTANA-ARIZONA COPPER CO.**
See Kelvin-Sultana Copper Co., and **UNITED STATES VANADIUM DEVELOPMENT CO.**
Address: 306 Goodrich Bldg., Phoenix, Ariz.

Officers: E. P. Palmer, pres.; O. Palmer, treas., with H. B. Holloway, and W. J. Holloway, v. p.
Inc., Dec. 31, 1915, in Arizona. **Cap.,** \$1,000,000; par \$1.
shares; non-assessable.

Property: 40 claims, 800 acres. 300' tunnel to 250' and 400' tunnels is said to have been completed in 1918, a 50-ton mill was completed. The process was used; the plant never produced.

In May, 1917, H. S. Bryan, of the Mine Development Co., showed that a low-grade sample of ore showed "molybdate," gold and silver worth \$76 per ton.

A process had been evolved to treat the ore. Reported in July, 1918, that the All-American mine has a 10-year lease on the mine. Property is being developed after the lease had run for one year.

Late in 1919 mine was to be re-opened with a new process.

AMERICAN BOY MINE

Owned by Geo. Clarke, J. Petersen and A. F. Groves, Santa Cruz county, Ariz., but bonded to A. F. Groves, supt.

Property: 6 claims near Patagonia, Ariz. Ore contains gold, silver, copper, lead, 12 oz. silver and 10% copper.

Development: by an 80° incline shaft, cuts the bottom of shaft. On the 40' level a tunnel level 250'. The small shipments of ore are being developed. New machinery was installed in 1919.
ARIZONA EUROPEAN MINING CO.

Office: Nogales, Ariz.
Officers: Manuel Escalada, pres.; Manuel Escalada, pres. Januel, directors. Jas. Ritchie, supt.

Property: the Buena Vista group of claims, said to show a 6' ledge of ore. **Development:** by shaft 115' deep. Drift opened, reported as 2.58% copper. 50 tons of ore monthly are stated to be produced.
\$3 gold per ton.

Employs 16 to 20 men.
AUSTERLITZ GROUP OF MINES
Owned by A. H. Noon, Nogales, Ariz., & Rives, of El Paso, Texas.

Property: 5 claims, about 100 acres, Santa Cruz county.

Development: by 150' shaft and show quartz fissure vein in porphyry and silver. Steady work continued during 1919.

made a report, after drilling 27 up 17 of these holes there were developed ore assaying 2.36% copper. Drilling will increase the present property on 13.37 acres out of a total of 13.37 acres to the east and southeast of the area and on the whole I consider the property as being worth \$3,916,000 tons averaging 2.42% copper. Churn drill and underground work has been mined, leaving 3,744,000

existing shaft 862' deep at N. W. 43' deep. Both connect with the main shaft. Also by churn drilling of underground work.

a double-drum, electrically-driven motor and an electrically-driven com-

3 Gates gyratory crusher and rolls, main ore bin, capacity 5,000 tons, per day. Mine and mill are served by Hercules owning connecting station. Length of 3 miles, bridge and rail. Mine is equipped with electric

on. Comprises 3 units with daily output went into commission August 12, 1919. Equipment includes 3 No. 86 5 Diester-Overstrom tables, 42 blowers and 2 Connersville blowers for recently added increasing the return carries considerable quantities. In 1919, treating 1.81% ore and making output is obtained from the Company's at Ray Junction.

4,994,355 lbs. copper in 12 months 1920 when, by reason of the copper output was about 8,000,000 lbs.

late to enjoy the war prosperity of copper to contend with depressed copper opportunity to get on a satisfactory

til 5, 1922, \$300,000 cash and 350,000 good position to resume operations

0,000 pounds of copper per month. men and has good prospects. ter, see Ray Hercules Copper Co.,

ARIZONA

na Bldg., Phoenix, Ariz.
E. Cogdell, A. L. Kelly and John
a lead-silver property of 24 unpat-

ented claims, 6 miles N. of Kelvin. In Nov., 1918, H. E. Easterday asked that a receiver be appointed for the company. No later information.

RAY SILVER LEAD MINING CO. ARIZONA

Address: 215 Noll Bldg., Phoenix, Ariz.

Officers: William McDermott, pres.; J. E. Rowlands, v. p.; J. H. Page, treas.; H. H. Smith, sec.-asst. treas., with A. W. Lautz, directors.

Inc. Dec., 1916, in Arizona. Cap. \$1,500,000; \$1 par; 723,805 shares outstanding; \$94,950 8% convertible mortgage bonds outstanding.

Property: 48 claims, 960 acres, 2 miles E. of Ray, Pinal county, on top of high limestone mountains. Shows replacement deposits of high-grade lead carbonate ore in fissures and along porphyry dikes intrusive in limestone, the ore occurring just above quartzite series. There are three or four mines on the property, all showing ore. Survey for patent being made for 9 claims.

Production: began in June, 1917, and totaled 2,005 tons shipped to Jan. 31, 1919, contained 4,145,327 lbs. lead, 544 oz. gold, and 20,422 oz. silver with gross value of \$270,784. Shipments, June 1 to Dec. 31, 1918, averaged 27.5% lead, and in 1919 and 1920, averaged 33% lead. Shipments made to El Paso smelter.

Property leased to O. B. Stanton, et al, to December, 1923. Development work reported to show high grade ore.

RAY VERDE COPPER CO. ARIZONA

Office: 26 W. 44th St., New York. W. B. Duvall, mgr., Jefferson Hotel, Phoenix, Ariz.; Geo. Pruitt, supt., Kelvin, Ariz.

Officers: Edw. A. McSweeney, pres.; J. H. Doolittle, sec.; F. W. Nye, treas., with L. F. Vaught, directors.

Inc. Oct., 1919, in Arizona. Cap. \$450,000; \$1 par; 450,000 shares outstanding; \$1,000,000 in 1920; J. H. Doolittle, regis-

Property: 72 claims, 1,440 acres, 7 miles E. of Ray, Pinal county, said to show disseminated lead carbonate veins carrying copper.

Development: Churn drilling planned for 1921. Mined 500,000 tons.

RECORD LODE MINE ARIZONA

Address: J. J. McCarthy, Phoenix, Ariz.

Officers: Chas. Wallace, sec.-treas., with J. J. McCarthy, directors.

Inc. Jan., 1916, in Arizona. Cap. \$250,000; shares 25¢ par.

Property: 10 claims, located on Hardy vein. An incline shaft was sunk on the vein to 250' level where vein left the shaft. At last accounts shaft was 500' deep.

Equipment: hoist, compressor, etc.

RED CHIEF MINING CO. ARIZONA

Address: Casa Grande, Pinal county, Ariz. T. P. Copening, mgr.

Shipped some lead ore in 1919.

RED CLOUD CONS. MINES CO. ARIZONA

Defunct. See Red Cloud mine in this book and Vol. XIV.

RED CLOUD MINE ARIZONA

Formerly property of Red Cloud Cons. Mines Co. (q. v. in Vol. XIV). Now controlled by syndicate of 6, headed by L. B. Johnson, Mesa, Ariz.

Lessee: Paul Kimball, Yuma, Ariz.

Property: 40 miles N. of Yuma, in Yuma county, developed by a 500' shaft. Is an "antigua" said to have produced \$3,000,000 in shipping ore in the 80's. All high grade exhausted to bottom of shaft, or water level, but

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RAY-KELVIN MINING CO.

Address: 418 National Bank of Arizona Bldg., Phoenix, Ariz. Inc. March, 1918 in Arizona, by Wm. E. Cogdell, A. L. Kelly and John L. Pascale, for the purpose of operating a lead-silver property of 24 unpatented claims, 6 miles N. of Kelvin. In Nov., 1918, H. E. Easterday asked that a receiver be appointed for the company. No later information.

RAY SILVER LEAD MINING CO.

Address: 215 Noll Bldg., Phoenix, Ariz. **Officers:** William McDermott, pres.; J. E. Rowlands, v. p.; J. H. Page, treas.; H. H. Smith, sec.-asst, treas., with A. W. Lutz, directors. Inc. Dec., 1916 in Arizona. Cap. \$1,500,000; \$1 par; 723,805 shares outstanding; \$94,950 8% convertible mortgage bonds outstanding. **Property:** 48 claims, 960 acres, 2 miles E. of Ray, Pinal county, on top of high limestone mountains. Shows replacement deposits of high-grade lead carbonate ore in fissures and along porphyry dikes intrusive in limestone, the ore occurring just above quartzite series. There are three or four mines on the property, all showing ore. Nine claims are in process of patent.

Production: began in June 1917, and totaled 2,005 tons shipped to Jan. 31, 1919, containing 4,145,327 lbs. lead, 544 oz. gold, and 20,422 oz. silver with gross value of \$270,784. Shipments, June 1 to Dec. 31, 1918, averaged 27.5% lead, and in 1919 and 1920, averaged 33% lead. A small shipment made also in 1921. Shipments made to El Paso smelter.

RAY VERDE COPPER CO.

Office: 26 W. 44th St., New York. W. B. Duvall, mgr., Jefferson Hotel, Phoenix, Ariz.; G. W. Wood, sec.; F. W. Nye, sec.; Thornton, directors.

Officers: Edw. Wood, treas., with L. F. Nye, sec.; Thornton, directors. ad to \$1,000,000 in 1920; New York, registrar

Inc. Oct., 1919 par \$1; 450,000 shares and transfer agent

Property: 72 Mineral Creek disseminated chalcocite copper, gold, silver

Development: estimates of ore

Equipment: in

A small shipment of ore made in 1920, assaying 7.7% copper, \$2 gold and \$6 silver per ton.

RECORD LODE MINING CO.

Address: J. J. McCarthy, supt., Oatman, Ariz.

Officers: Chas. A. L. Gehrman, pres.; Lee R. Myers, v. p.; L. L. Wallace, sec. treas., with J. J. McCarthy and Chas. A. Bowman, directors. Inc. Jan., 1916 in Arizona. Cap. \$250,000; 25c. par.

Property: 10 claims, located on Hardy vein in San Francisco district, Mohave county, 4 miles NW. of Oatman, developed by 500' incline and 250' of drifting. **Equipment:** hoist, compressor, etc.

RED CHIEF MINING CO.

Probably dead. See Vol. XV.

RED CLOUD CONS. MINES CO.

Defunct; see Vol. XIV. See also Red Cloud Mine in this volume.

RED CLOUD MINE

Formerly property of Red Cloud Cons. Mines Co., controlled later by syndicate headed by L. B. Johnson, Mesa, Ariz.

Lessee: Paul Kimball, Yuma, Ariz.

Property: 40 miles N. of Yuma, in the Silver district, Yuma county, developed by a 500' shaft. Is an "antigua" said to have produced \$3,000,000 in shipping ore in the 80's. All high grade exhausted to bottom of shaft, or water level, but estimates show 60,000 tons of ore in dumps and pillars, averaging 5% lead and 10 oz. silver per ton. Is leased to Salt Lake interests who have erected a small mill. Last production was apparently made in 1918.

ARIZONA**ARIZONA****ARIZONA****ARIZONA****ARIZONA****ARIZONA****ARIZONA**

REDEMPTION COPPER MINING & M
Dead. Lost its property, 1914; see Vol. 10, Mohave county, was sold to Dr. M. 1917.

RED GAP GOLD MINES CO.

Defunct; see Vol. XV for description. dead and options forfeited.

RED GAP MINES CO.

Address: J. S. Withers, Kingman, Ariz.

Officers: Jno. T. Burns, pres.-mgr., L. Wallace, v. p.; J. S. Withers, sec.-treas. that of Northern Cons. Mines Co.

Inc. 1922 in Arizona. Cap. \$150,000; was given, March 1923.

Property: in the Weaver district, Mohave county, about 5 miles from the Colorado divide and about 5 miles from the Colorado divide. Ore carries gold and silver. Expose veins, 10-12' wide. Ore carries gold and silver.

RED LION MINING CO.

Address: John Smeddle, mgr., Oatman, Ariz.

Officers: W. L. Stowers, pres.; C. I. Stowers, sec.

Property: in the San Francisco district, adjoining the Telluride and Lucky Boy mines.

Development: by 500' shaft and crosscut.

RED METAL COPPER CO.

Address: Parker, Ariz.

Officers: Dr. A. H. Littlefield, pres.; John Pritt, treas.-supt., with J. F. Parker, sec.

Property: in Bill Williams district, near the mouth of the Colorado River, a large deposit of porphyry, with an iron goethite.

Development: by 225' shaft. Completed in 1917, to procure funds for further development.

Dead.

RED MT. CONS. COPPER MINES

Probably idle. **Address:** J. L. Anderson, Calif. Mrs. Berkely, sec.

Inc. April, 1917 in Ariz. Cap. \$5,000,000; 25c. par.

shares: Manager reported \$25,000 spent in machinery.

Property: 21 claims in Dixie district, Mohave county, NW of Phoenix, said to show gold, silver and copper. Shallow shaft, less than 100', and 2 tunnels.

Equipment: includes a 50 h. p. hoist and 200' of 12" diameter shaft.

RED MOUNTAIN COPPER MINING CO.

Dead; see Vol. XV. Was the successor of the Four Metals Mng. Co. Four Metals Mng. Co.

RED MOUNTAIN COPPER MNG. CO.

Address: Dr. G. M. Ruff, Safford, Ariz.

Inc. 1916. Cap. \$1,000,000; par \$1.00.

granted, February 1922.

Property: near the Graham-Cochise divide, Mohave county, Ariz.

Apparently idle for a number of years, in mid-1923.

RED MOUNTAIN DEVELOPMENT CO.

Office: P. O. Box 3007, Lowell, Ariz.

Officers: Frank Briggs, pres.-treas.; E. J. Briggs, sec.

Inc. Oct. 5, 1908 in Arizona. Cap. \$1,000,000; 25c. par.

Property: 17 claims, 340 acres, in Mohave county, Ariz., crossed by the Southern Pacific Railroad.

to the south from the northerly
 the basin. The area within the
 and in two general directions.
 resulted in a roughly circular
 e. This zone has been the de-
 ocite, cuprite and native copper.
 are also found, but to a much
 e also occurs in small restricted
 d amount of chysocolla.
 vere very extensive, have been
 rations.
 k piles; a very small amount is

equipped with tractors, steam
 g plant, equipped with 48"x60"
 and breaking up coarse material

9 miles from the mine on the
 with original capacity of 5,000
 but is now equal to 11,000 tons
 ods, and addition of 2 units,

consisting of gyratory crushers,
 nding and Garfield Chilean mills
 consists of Garfield and Wilfley
 ines and Dorr thickeners.
 d in 1924 and 1925, largely com-
 gravity concentration, flotation
 owl classifiers on sections 3, 4,
 d and Wilfley tables in sections
 hree tube mills replaced Chilean

Heine boilers, three 1,250-k. w.
 ss engines, and one 2,000-k. w.
 ry water is secured from the
 rley, from underflow of White-
 key Creek draw. There is also
 the dam forming this reservoir
 ing storage area of nearly 3,000
 the Gallup field of New Mexico.
 923 cost \$1,200,000.
 on to mill and accessory build-
 dwellings, town having popula-
 Rita, on company ground, has

reserves for the Ray and Chino
 ce as to the unavoidable dilution,
 le material other than capping,
 and decrease the grade of the
 ptal tonnage of developed ore as
 here will be produced from the
 of run-of-mine ore.

	Tons	% Copper
...	89,860,223	1.68
...	105,242,094	1.44
...	195,102,317	1.55

und mine ore. At Chino mine
 ved by shovel or other relatively
 ing 25%, which lies at deeper
 ds.

Since the beginning of operations and up to the end of 1925, there have
 been mined at the two properties the following tonnages of ore:

Ray Mine.....	33,826,511
Chino Mine.....	31,954,586
Total	65,781,097

It is pointed out by the management that the above estimate of ore
 reserves does not represent the total production possibilities from the two
 properties, as at each additional mineralized areas are known to exist though
 they have not been sufficiently developed to warrant their inclusion in tonnage
 estimates.

Comment: presumably the Ray and Chino mines must now be considered
 a part of Nevada Consolidated. The large developed ore reserves in Ray
 and Chino, together with the improved mining and treatment processes
 effected during recent years should combine to return very fair profits under
 normal operating and metal market conditions.

RAY HERCULES MINES, INC. ARIZONA

Address: L. D. Doane, treas., 24 Broad St., New York.

Property was sold at Sheriff's sale on November 19, 1924 and a Stock-
 holders' Protective Committee was formed to try to refinance the company
 and negotiations are now pending. Fully described in Vol. XVI.

RAY-KELVIN MINING CO. ARIZONA

Mail returned from 418 National Bank of Arizona Bldg., Phoenix, Ariz.
 Thos. O. Branch, 188 N. 1st St., Phoenix, Ariz. 1918 in Arizona, by Wm. E.
 Cogdell, A. L. I silver property purpose of operating a lead-
 H. E. Easterda later information of Kelvin. In Nov., 1918,
 RAY PINAL The Mines Handbook ed for the company. No
 Address: I The Handbook Co.
 Mine address: 1 Vol. XVII
 Officers: H 1925
 sec.-treas.
 Inc. March
 Property: :
 trict, Pinal cour
 and some produ

RAY PORTLAND MINING CO. ARIZONA

Address: J. R. Paisley, pres., International Life Bldg., St. Louis, Mo.

Mine address: Ray, Ariz. Permit to sell stock was granted by Ariz. Corp.
 Comm. in Sept. 1924.

Property: 7 claims, in Mineral Creek district, Pinal county, near the
 Ray Cons. Ore carries silver, copper and lead. A little development, by
 tunnels, has been done on the property.

RAY SILVER LEAD MINING CO. ARIZONA

Address: J. H. Page, Luhrs Bldg., Phoenix, Ariz. Officers: William
 McDermott, pres.; J. E. Rowlands, v. p.; J. H. Page, treas.; H. H. Smith,
 sec.-asst., treas., with A. W. Lautz, directors. Inc. Dec., 1916 in Arizona.
 Cap. \$1,500,000; \$1 par; 723,805 shares outstanding; \$94,950 8% convertible
 mortgage bonds outstanding. Property: 48 claims, 960 acres in Mineral
 Creek district, 2 miles E of Ray, Pinal county, on top of high limestone moun-
 tains. Shows replacement deposits of high-grade lead carbonate ore in fissures
 and along porphyry dikes intrusive in limestone, the ore occurring just above
 quartzite series. There are three or four mines on the property, all showing
 ore. Nine claims are in process of patent.

Production: began in June 1917, and totaled 2,005 tons shipped to Jan.
 31, 1919, containing 4,145,327 lbs. lead, 544 oz. gold, and 20,422 oz. silver with
 gross value of \$270,784. Shipments, June 1 to Dec. 31, 1918, averaged 27.5%
 lead, and in 1919 and 1920, averaged 33% lead. A small shipment made also
 in 1921 and shipments were made in 1924. Shipments made to El Paso
 smelter.

RANIER DEVELOPMENT CO.

Controlled through 98% stock ownership by the Ranier Mines Corp., which see. Property purchased 1923 by the Juno Copper Co., which see. Fully described in Vol. XVI.

RANIER MINES CORPORATION

Address: Geo. E. Blood, 262 Washington St., Boston, Mass. Bankrupt; controlled the Ranier Dev. Co. and the Harqua Hala Ridge M. & M. Co., described under those titles. Fully described in Vol. XVI. See also Juno Copper Co.

RAY-ARIZONA COPPER CO.

Address: Fritz Bock, Jr., mgr., Kelvin, Arizona. Inactive. See Vol. XVI.

RAY CENTRAL COPPER MINING CO.

Company conveyed by direct deed all assets to Ray Consolidated Copper Co. in June, 1912, but still has a corporate entity. Address: Care Gen. Dev. Co., 61 Broadway, N. Y. City.

RAY CONSOLIDATED COPPER CO.

Assets sold to Nevada Cons. Copper Co. (q. v.), May 26, 1926. The first and final liquidating dividend of \$15.95 per share ordered by the Supreme Judicial Court of Maine, in April 1929.

RAY EXTENSION MINING CO.

Address: Earl B. Hyde, mgr., Ray, Ariz. Inc. 1927 in Arizona. Cap. \$100,000; 10c par. Property: 242 acres adjoining Ray Consolidated Copper Co., in Pinal county, near Ray, Ariz. Opened by 3-compartment shaft 300' deep, and 300' of drifting. Under development in small way in 1929. Ore of shipping grade is reported on 300' level. A prospect.

RAY HERCULES

Property which see. RAY INTEGRATED Address: Fritz, lessees. same year. Property: miles NW of low shaft and Denver drills. Reported Valencia Copp tion mill.

RAY-KELVIN MINING CO.

Mail returned from 418 National Bank of Arizona Bldg., Phoenix, Ariz. Presumably dead. See Vol. XVII.

RAY PORTLAND MINING CO.

Address: J. R. Paisley, pres., International Life Bldg., St. Louis, Mo. Mine address: Ray, Ariz. Permit to sell stock was granted by Ariz. Corp. Comm. in Sept. 1924.

Property: 7 claims, in Mineral Creek district, Pinal county, near the Ray Cons. Ore carries silver, copper and lead. A little development, by tunnels, has been done on the property. Inactive.

RAY SILVER LEAD MINING CO.

Address: J. H. Page, Luhrs Bldg., Phoenix, Ariz. Company is dead. Title to property held by the Phoenix Savings Bank & Trust Co. for benefit of former bondholders. Property under lease to Phelps Dodge Corp., Bisbee, Ariz. Regular shipments to Douglas smelter in 1929.

RAY VERDE COPPER CO.

Address: Lester H. Bradshaw, 67 W. 50th St., New York. Inactive. See Vol. XVI.

RECORD LODE MINING CO.

Address: J. J. McCarthy, supt., Oatman, Ariz. Idle since 1922. Described in Vol. XVI.

ARIZONA**RED CLOUD MINING &**

Address: R. B. McGinn

History: mine is owned was operated in 1918 by the under option, circa 1926, to Philadelphia, but he relinquished "antigua" said to have produced

Property: 25 miles N of developed by a 500' shaft. Al water level, but estimates sl averaging 5% lead and 10 oz.

RED CROWN MINES, IN

Address: Chas. E. Force, & Foote, 136 Liberty St.

Officers: Chas. E. Force, Stimpson, treas., with L. K. of New York except Force.

Inc. Jan. 23, 1926, in Delaw was reorganized under present changed at reorganization from

Property: 4 claims in Secr have county, 16 miles W of K are but little developed.

Also, the Crosby mine, 7 miles NW of Hillside, the near \$35 per ton, in the oxidized sulphide zone. Developed to cludes steam plant using fuel (erected 1910), but amalgamation concentration.

Also, company acquired in is silver-bearing.

Company in mid-1927, re Crosby mine and that developed of good grade. Suspended on lease to C. G. Barth, Jr., a former in 1928 from the Crosby Diffendorfer, Hillside, Ariz.

RED GAP MINES CO.

Address: J. S. Withers, I XVII.

RED HILLS CONS. COPPER

Address: R. S. Minnis, Tu Florence, Ariz.

Inc. 1926 in Arizona.

Property: a lease on Pric about 12 miles E of Florence, ment purchased and a small Operations suspended early in

RED METAL COPPER CO.

Address: Parker, Ariz. I

R. E. D. MINING CO.

Address: Dos Cabezas, Ar

Officers: John H. Robinson gen. supt.

Inc. August 1925 in Arizo. Mng. Co. Cap. \$200,000.

Property: the Gold Prince Cochise county, near Dos Cal posits between limestone and C.-P. compressor, drills and mi tables and Krogh sand pump.

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*Rapp Mng., Dev. & Prospng. Co.,		
Ltd., Can.		
*Rapu-Rapu Gold Mng. Co., Inc., P. I.		
*Rara Avis Mines Co., Colo.		
*Rara Avis Mng. Asscn., Colo.		
*Rare Metals Co., Ariz.		
*Rare Metals Co., S. D.		
*Rare Metals Corp., Colo.		
Rare Metals Corp., Nev.....	630	
Rare Metals Corp., Wyo.....	787	
*Rare Metals Mng. Co., Colo.		
*Rare Mnrls. Co., S. D.		
*Rare Ores Co., N. Mex.		
Raritan Copper Works, N. J.....	73	
*Rarus Mng. & Smitg. Co., Utah		
*Rarus Warrior Mines Co., Colo.		
*Rasoon Gold Mng. Co., Alaska		
Rathfon Red. Works, Wash.....	149	
*Ra-Tor Mng. & Mfg. Co., N. Mex.		
*Rattler Gold Mng. Co., Colo.		
*Rattlesnake Jack Mng. & Mlg. Co.,		
S. D.		
Ravalli Gold Mng. Co., Mont.....	787	
Raven & Beacon Gold Mines, Inc.,		
Colo.	312	
Raven Hill Mng. & Lsng. Assoc., Colo.	312	
*Raven Mng. Co., Ltd., Ida.		
*Raven River Mines, Ltd., Ont.		
*Raw Gold Mng. Co., Nev.		
Rawley Mines, Inc., Colo.....	32	
*Rawlings (Fanny) Lsng. Co., Colo.		
*Ray Broken Hill Mng. Co., Ariz.		
Ray Central Copper Co.....	470	
Ray Cons. Copper Co.....	470	
*Ray Extn. Copper Co., Ariz.		
*Ray Extn. Mng. Co., Ariz.		
Ray Hercules Mines, Inc.....	470	
*Ray Integrity Mng. Co., Ariz.		
Ray Jefferson Mng. Co., Ida.....	787	
Ray Mines, Ariz.....	478	
*Ray Pinal Mng. Co., Ariz.		
*Ray Portland Mng. Co., Ariz.		
*Ray Silver Lead Mng. Co., Ariz.		
*Ray Verde Copper Co., Ariz.		
*Ray-Arizona Copper Co., Ariz.		
*Rayida Mines Co., Colo.		
*Ray-Kelvin Mng. Co., Ariz.		
*Ray-Lor Gold Mines, Que.		
*Ray-Lorr Gold Mines, Ltd., Que.		
*Raymond Ely Extn. Mines Co., Nev.		
*Roymand Tiblemont Gold Mines, Ltd.,		
Ont.		
*Raymond Tiblemont Synd., Ont.		
*Raymond-Illinois Mng. Co., Utah		
Raymore Gold Mines, Ltd., Ont.....	786	
*Raynor Mines, Ltd., Que.		
Rayner-Hutchinson Lake Synd., Ont... 649		
*Rayo Mng. & Dev. Co., El, Chih.		
Rayon Mng. Co., Chih.....	788	
*Rea Cons. Gold Mines Co., Ltd., Ont.		
*Rae Mines, Inc., Calif.		
Read-Authier Mine, Ltd., Que.....	788-916	

An asterisk (*) in front of a name indicates that the mine is either inactive or that no information was received or was received too late to be included in this volume.

Que; J E Bourget, pres; Bernard
040,000 shs outstanding, incl 900,000
old; under development.

Colo. MINE: Cripple Creek, Colo;
ing Co; reorg, 1934, when property
y shaft and laterals.

ronto, Ont. MINE: Raymore, Ont.
erson, sec-treas; with Wilfred Jones
t.
on with Raymore Gold Mines, Ltd.
par; 1,305,956 shs outstanding, incl
Tr agt and reg: Toronto General

Larder Lake div, Ont, 2 mi from

Louis, Mo.
ard F Meyer, sec-treas, with E W
Ang & Mill Co. CAP: \$500,000; \$1

ow and Jefferson counties, Mont,
at last accounts. Shows silver-gold-
ssure veins, in granite. DEVELOP-
in the Major Budd vein. No recent
itz and Sam Barker, Jr.

en mgr.
ino county, Calif, near Victorville;
and several tunnels of 400' to 600'
ocked out.
l prod to date, \$60,000.
l mill, Akins classifier, diesel power;

; B N Ramsey, gen mgr.
and the Eagle group owned outright,
4 mi S of Lake City; values avg
00' of tunnel and 700' shaft.

MINE: Bayhorse, Ida.
er, sec; R W Salisbury, treas; with
outst; assessable.

ilver-lead claims, approx 200 acres,
nnels with over 6½ mi of workings.
lding \$5,501. 1939 oper resulted in
of Challis, Ida, who employs about

ing gold; developed by 330' shaft

D Morris, mgr.
or Roy, Jr, treas.
is outst.
00 acres, in the Ivanhoe dist, Elko
RES: est 20,000 tons. MILL: 30-ton

Ottawa, Ont.
Murray Milne, sec-treas; with W L
f.
alarctic Mines, Ltd, for 900,000 shs.
ding. Tr agt: Montreal Trust Co.
under development.

inct, Alaska; under development.

MINE: Wawa, Ont.
G Atkin, KC, sec.
as; no par; 80,000 shs outstanding.

St Marie div, Ont, approx 1,300
MILL: small mill. PRODUCTION:

pres; E L Cull & Kenneth Water-
ase and bond. CAP: \$50,000; \$1 par.
pin county, at Black Hawk, Colo.
ne was being dewatered, 1939, by

RAPID MILLING & SMELTING CO—Oroville, Wash; Carl M Lundstrom, owner; Neil Parker, gen
supt.
PROPERTY: Four Metals group, 11 claims, held under lease, in Nighthawk dist, Okanogan county,
Wash, near Oroville. MILL: operated partly as custom mill.

RARE METALS CORP—Box 7, Newberry, Calif; c/o Donald C Hare, gen mgr.
PROPERTY: Silver Bell mine, 10 mi S of Hector and approx 20 mi E of Daggett, Calif. Co
rep having installed 10-ton plant, equipped with elec furnaces and employing a chemical process
for extraction of rare metals.

RARE METALS CORP—Oreana, Nev; Otto F Heizer (Lovelock, Nev), mgr.
PROPERTY: gold-silver prospect, in Pershing county, 5 mi from Oreana, Nev.

RARE METALS CORP—Laramie, Wyo. MINE: Albany, Wyo; R N Black, gen mgr.
OFFICERS: E J Stoll, pres; W H Dorrance, v p; J M Nachtigall, sec; R A Webster, treas; E W
Plotz, asst sec, with Grant Augustine, J H Staley, C A Schneider and J J Larkin, directors.
HISTORY: inc, 1936, in Wyo. CAP: \$500,000; 1c par; issued shs not stated.
PROPERTY: (a) 2 placer claims, 265 acres, in the Medicine Bow Mt Range, near Albany, Wyo.
(b) 7 lode claims, 60 acres, in same area as (a) group, adj the Rambler Mine, held on a 10% royalty
basis. (c) 4 claims, approx 70 acres, the Gold Crater group, 1 mi E of Keystone and 8 mi NW of
Albany, Wyo.
DEVELOPMENT: at (a) and (b) groups by surface work. At (c) by 3 tunnels, of 100' to 575'
lengths.

RATTLESNAKE DRIFT MINE—Forest Hill, Calif; R F Oliphant, owner.
PROPERTY: quicksilver mine, on Forest Hill Divide, Calif, near Forest Hill; reported, 1938,
being reopened.

RATTLESNAKE MINE—Downieville, Calif; Roy H Elliott, lessee.
PROPERTY: in Sierra county, Calif, near Downieville, with 505' adit; under development.

RATTLESNAKE PLACER MINE—918 Hobart Bldg, San Francisco, Calif; c/o Roy H Elliott, lessee.
MINE: Downieville, Calif, Harold C Haughton, supt.
HISTORY: org as limited partnership June 15, 1938, in Calif, leasing and optioning prop from
J E Deal.
PROPERTY: 9 placer gold claims, 480 acres, Sierra county, Calif, near Downieville, dev by
1,200' tunnel; employ 5 men.

RAVEN MINING CO OF
v p-gen supt.
OFFICERS: L F Linc
Harmon and B C Beckn
HISTORY: inc Mar,
CAP: \$200,000; \$100 par;
PROPERTY: 31 claim
and elaterite; developed

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MINE: Myton, Utah; F C Ferron,
sec; with W S Oppenheimer, R M
Pariette Gilsonite Co, for \$100,000.
tah, near Myton, showing gilsonite
td.

RAVEN RIVER MINES
RAWLEY MINE—Box 3f
PROPERTY: silver-l
15,000' of workings. PR
MILL: early 1940, R
the Bonanza region to h
in Utah and Arkansas

e.
depth of 1,200' with 10 levels and
ly; 25 men employed.
10-ton smelter from Ouray, Colo, to
ne to Midvale and Garfield smelters

RAWLINGS (FANNY) MINING CO—Room 60, Independence Bldg, Colorado Springs, Colo. MINE:
Breece Hill, Leadville, Colo.
OFFICERS: Alvin Perrine, pres; F W Marcroft, sec-treas.
HISTORY: inc, 1891, in Colo. Prop has been oper entirely by lessees, among which have been
the now defunct Fanny Rawlings Operating Co, the Fanny Rawlings Leasing Co and Kanawha Gold
Ming Co. CAP: \$10,000; 1c par; all issd. LISTED: Colorado Springs Stock Exch. Paid ¼c per sh
in Dec 1939, totalling \$2,500.
PROPERTY: the Fanny Rawlings claim, about 22 acres, on Breece Hill, Lake county, Colo, near
Leadville. Ores carry copper, gold and silver. DEVELOPMENT: by 2 shafts to 800' depth; elec
power.

RAY SILVER-LEAD MINE—Box 784, Casa Grande, Ariz, Raymond L Dye, mgr.
PROPERTY: 3 ml from Ray, Ariz, rep, late 1939, shipping a carload of silver-lead ore weekly.

RAY SOUTHERN MINE—Ray, Ariz; B R Ferrell, lessee.
PROPERTY: gold claims, at Ray, Ariz, shipping gold ore early 1940, to Magma smelter at
Superior, Ariz; said to aver 1.20 oz per ton.

RAYMOND-ELY WEST MINING CO—163 Main St, Salt Lake City, Utah. MINE: Pioche, Nev.
OFFICERS: Julian M Bamberger, pres; Clarence G Bamberger, v p; H A Cohen, sec; with
Leo McNamee and H L Balsger, directors.
HISTORY: inc June 18, 1902, in Utah, as closed corp; property now being operated under lease
by Combined Metals Mining Co. CAP: \$200,000; \$1 par; 166,000 shs outstanding.
PROPERTY: 13 claims, 263 acres, in Lincoln county Nev, near Pioche, showing zinc, lead, gold
and silver; developed by 1,400' shaft.

RAYMOND TIBLEMONT GOLD MINES, LTD—200 Bay St, Toronto, Ont; W G Chapman, pres;
Edward Smith, sec-treas.
HISTORY: inc Sept, 1934, in Ont; succ Raymond Tiblemont Synd on basis of 200 shs per unit;
inc Raymond Tiblemont Gold Mines (Quebec), Ltd, as wholly-owned subsidiary to hold title to
properties.
PROPERTY: 20 claims, in Vauquelin twp, Que, showing gold; under development.

Ragged Chutes Mng. Synd., Ltd., Ont.
 Rahn Lake Mines Corp., Ltd., Ont.
 Rahn Lake Mng. Corp., Ltd., Ont.
 Raliway Gold Mng. & Mlg. Co., Nev.
 Railway Reserve Mines, Ltd., Can.
 Rainbow Associates Corp., Mont.
 Rainbow Bridge Mng. Co., Nev.
 Rainbow Cons. Gold Mng. Co., Ore.
 Rainbow Cons. Mng. Co., Ore.
 Rainbow Divide Mng. Co., Nev.
 Rainbow Electric Mng. Co., Ida.
 Rainbow End Mng. Co., Ida.
 Rainbow Expln. & Dev. Co., Calif.
 Rainbow Extension, Inc., Ore.
 Rainbow Gold Mines Co., Nev.
 Rainbow Gold Mines Co., Colo.
 Rainbow Gold Mng. Co., Colo.-Tex.
 Rainbow Gold Mng. Co., Wash.
 Rainbow Lake Gold Mines, Ltd., Ont.
 Rainbow Lode Dev. Co., Mont.
 Rainbow Lode Mines, Inc., Ore.
 Rainbow Mine, Ore.
 Rainbow Mine or Nicks Pride, Inc., Calif.
 Rainbow Mines (Canada), Ltd., Ont.
 Rainbow Mines, Inc., Ariz.-Calif.
 Rainbow Mines, Ltd., Can.
 Rainbow Mng. Co., Ariz.-Alaska
 Rainbow Mng. Co., Calif.
 Rainbow Mng. Co., Okla.
 Rainbow Mng. Co., Ore.
 Rainbow Mng. & Mlg. Co., Colo.
 Rainbow Mng. & Mlg. Co., Del.
 Rainbow Porcupine Mng. Synd., Ltd., Ont.
 Rainbow Ridge Mng. Co., Calif.
 Rainbow's End Placer Mines Synd., Calif.
 Raincor Gold Mines, Ltd., Ont.
 Rainier Red Lake Gold Mines, Ltd., Ont.
 Rainey Creek Placers, Alaska
 Raingold Mines, Ltd., Ont.
 Rainier Mines, Inc., Wash.
 Rainville Copper Mines, Ltd., Ont.
 Rainy Day Mine, Mont.
 Rainy River Kirkland Gold Mines, Ltd., Ont.
 Rajah Mng. Co., Ariz.
 Raleigh Mng. Co., Utah
 Raleigh Red Lake Mines, Ltd., Ont.
 Ralf Mng. Co., Inc., Colo.
 Ralston Mng. Co., Nev.
 Ralston-Central Mng. Co., Nev.
 Ramage Mng. Co., Okla.
 Rambler-Cariboo Mines, Ltd., B. C.
 Rambler Cons. Mines Corp., Wyo.
 Rambler Gold Synd., Ltd., Que.
 Rambler Mine, Colo.
 Rambler Silver Mines, B. C.
 Ramco Mines, Ltd., Que.
 Rambull Gold Mines, Ont.
 Ramore Gold Mines, Ltd., Ont.
 Ramon Coronada de Naica, S. A. Cia Min, Mex.
 Ramon Gold Mng. Synd., Man.
 Ramon Mng. Corp., Ltd., Man.
 Ramona Gold Mng. Co., Colo.
 Ramona Mines Co., Colo.
 Ramona Mines, Ltd., Ont.
 Ramona Mng. Co., Calif.
 Ramona Mng. Co., Ida.
 Ramore Gold Mines, Ltd., Ont.
 Rampart-Minook Gold Drdg. Co., Alaska
 Rampart Mtn. Mng. Co., Mo.
 Rams Horn & Antelope Mng. Claims, Utah
 Ramsay Comstock Trust, Nev.
 Ramsay & Sons, Colo.
 Ramsdell Mines Co., Ariz.
 Ramsay-Canyon Copper Co., Ariz.
 Ramsay Central Mng. Co., Nev.
 Ramsay Comstock Cons. G. Mines Co., Inc., Nev.

Ramsey Comstock Extn., Inc., Nev.
 Ramsey Comstock Mines, Inc., Nev.
 Ramsey Gold Mines, Ltd., Que.
 Ramsey Gold Mng. & Dev. Co., Nev.
 Ramsey Hldg. & Dev. Co., Nev.
 Ramsey Rutherford Gold Corp., Alaska
 Ranch Mine, Calif.
 Rancheria Mng. & Dev. Co., Calif.
 Ranchview Mng. Co., Wash.-Calif.
 Rand Co., Nev.
 Rand Consolidated Mines, Ltd., Ont.
 Rand Cons Silver Mng. Co., Calif.
 Rand Contact Mng. Co., Calif.
 Rand Deep Synd., B. C.
 Rand Divide Mng. Co., Calif.
 Rand Guibord Synd., Ont.
 Rand Mng. Co., Nev.
 Rand-Ore Mines, Ltd., Ont.
 Rand Silver King, Inc., Calif.
 Randall Mine, Alaska
 Randall Mines Corp., Que.
 Randall Mines, Ltd., Que.
 Randall Yellowknife Mines, Ltd., Ont.
 Randlett Mng. Co., Colo.
 Randolph Cons. Mines, Nev.
 Randolph Gold Mng. & Tunnel Co., Colo.
 Randolph Mine, Ariz.
 Randon Silver-Lead Mng. Co., B. C.
 Randsburg Associated Mines, Inc., Calif.
 Randsburg-Aster Gold Mng. Co., Calif.
 Randsburg Dev. Co., Calif.
 Randsburg Gold Mines, Ltd., Calif.
 Randsburg Silver Mines Corp., Calif.
 Randsburg Silver Mng. Co of Ariz., Calif.
 Randsburg Silver Mng Corp., Calif.
 Range Prop. Synd., Ont.
 Ranger Cadillac Mines, Ltd., Que.
 Ranger Gold Mines, Ltd., Man.
 Ranger Lake Mines, Ltd., Ont.
 Ranger Mng. Co., Wash.
 Ranger Mng. Co., Calif.
 Ranger Red Lake Mines, Ltd., Ont.
 Ranic Mines, Ltd., Que.
 Ranier Dev. Co., Ariz.
 Ranier Mines Corp., Ariz.
 Rankin Creek Placer Mines Co., Ida.
 Rans Mng. & Sm. Co., Utah
 Ransom Mines, Ltd., Ont.
 Ranson Mines, Ltd., Ont.
 Ras Mng. Corp., Calif.
 Raoul Mines, Inc., Colo.
 Rapid River Mng. & Mlg. Co., Ltd., Ida.
 Rapide Boisvert Gold Mines Co., Ltd., Que.
 Rapp Mng. Dev & Prospng (Ltd.), Can.
 Rapid Mlg. & Smltg. Co., Wash.
 Rara Avis Mines Co., Colo.
 Rara Avis Mng. Asscn., Colo.
 Rare Metal Mines, Inc., Wash.
 Rare Metals Co., Ariz.
 Rare Metals Co., S. D.
 Rare Metals Corp., Colo.
 Rare Metals Corp., Wyo.
 Rare Metals Engineering, Mng & Dev Co., Inc., Ore.
 Rare Metals Mng. Co., Colo.-Ariz.
 Rare Minerals Asso., Calif.
 Rare Mnrls. Co., S. D.
 Rare Mnrls. Mng. Co., Calif.
 Rare Ores Co., N. Mex.
 Raritan Copper Works, N. J.
 Raroy Metals, Inc., Ore.
 Rarus Mng. & Smltg. Co., Utah
 Rarus Warrior Mines Co., Colo.
 Rasoon Gold Mng. Co., Alaska
 Rathfon Red. Works, Wash.

Ra-Tor Mng. & Mfg. Co., N. Mex.
 Rattler Gold Mng. Co., Colo.
 Rattlesnake Drift Mine, Calif.
 Rattlesnake Jack Mng. & Mlg. Co., S. D.
 Rattlesnake Mine, Calif.
 Rattlesnake Placer Mine, Calif.
 Rattlesnake Quicksilver Mine, Ariz.
 Ravalli Gold Mng. Co., Mont.
 Raven & Beacon Gold Mines, Inc., Colo.
 Raven Hill Mng. & Lsng. Asso., Colo.
 Raven Mng. Co., Ill.
 Raven Mng. Co., Ltd., Ida.
 Rayen River Gold Mines, Ltd., Can.
 Ravine (Morris) Mng. Co., Calif.
 Raw Gold Mng. Co., Nev.
 Rawhide Mines, Ltd.
 Rawley Mines, Inc., Colo.
 Rawlings (Fanny) Lsng. Co., Colo.
 Ray-Arizona Copper Co., Ariz.
 Ray Broken Hill Mng. Co., Ariz.
 Ray Central Copper Co.
 Ray Cons. Copper Co.
 Ray Extn. Copper Co., Ariz.
 Ray Extn. Mng. Co., Ariz.
 Ray Hercules Mines, Inc.
 Ray Integrity Mng. Co., Ariz.
 Ray-Kelvin Mng. Co., Ariz.
 Ray Jefferson Mng. Co., Ida.
 Ray-Lor Gold Mines, Que.
 Ray-Lorr Gold Mines, Ltd., Que.
 Ray Mines, Ariz.
 Ray Mng. Co., N. Mex.
 Ray Pinal Mng. Co., Ariz.
 Ray Portland Mng. Co., Ariz.
 Ray Silver Lead Mine, Ariz.
 Ray Silver Lead Mng. Co., Ariz.
 Ray Verde Copper Co., Ariz.
 Raybell Gold Mines, Ltd., Ont.
 Ray-Lac Gold Mines, Ltd., Ont.
 Rayvida Mines Co., Colo.
 Rayvartic Prospectors Synd., Que.
 Raymond-Illinois Mng. Co., Utah
 Raymond Tiblertmont Gold Mines, Ltd., Que.
 Raymore Gold Mines, Ltd., Ont.
 Rayner-Hutchinson Lake Synd., Ont.
 Raynor Mines, Ltd., Que.
 Rayo Mng. & Dev. Co., Mex.
 Raysoo Mines, Ore.
 Rayson Mines, Ore.

Recovery Mlg. Co., Nev.
 Recovery Placer Mng. Co., Nev.
 Red Arrow Extn. Mng. Co. Colo
 Red Arrow Mines, Inc., Colo.
 Red Area Gold Mines, Ltd., Ont.
 Red Bark Gold Mines, Ltd., Ont.
 Red Bank Gold Placer Co., Ariz.
 Red Banks Mine, Calif.
 Red Bell Mng. Co., Utah
 Red Bird Mng. Co., B. C.
 Red Bird Mng. Co., Wash.
 Red Bird & Owl Mines, Ore.
 Red Bird & Quail, Calif.
 Red Bird Silver Rule Mine, Utah
 Red Bluff Gold Mng. Co., Mont.
 Red Bluff Mng. Synd., B. C.
 Red Boy Mng. & Dev. Co., Ore.
 Red Boy Mng. & Mlg. Co., Ore.
 Red Buck Mines, Ltd., Ont.-Wash.
 Red Canyon Mng. Co., Calif.
 Red Cap Quartz & Placer Mng Co., Calif.
 Red Chief Mng. Co., Ariz.
 Red Cliff Mng. & Mlg. Co., Colo.
 Red Cloud Lead & Zinc Mng Co., Inc., Del.
 Red Cloud Mng. Co., Ariz.-Ore.
 Red Cloud Mng. Co., Calif.
 Red Cloud Mng. Co., Ida.
 Red Cloud Mng. Co., Utah
 Red Cloud Mng. Co., Wash.
 Red Cloud Mng. & Mlg. Co., Ariz.
 Red Crest G. Mines, Ltd., Ont.
 Red Crown Gold Mines, Inc., Ariz.
 Red Colley Gold Mines, Ltd., Ont.
 Red Deer Gold & Rfg. Co., Ltd., (NPL), Alta.
 Red Dog Mine, Ariz.
 Red Dog Mining Co., Inc., Ida.
 Red Dog-You-Bet Gold Mines Co., Calif.
 Red Eagle Gold Mng. Co., Mont.
 Red Eagle Mng. & Mlg. Co., Colo.
 Red Elephant Cons. Mines Co., Ida.
 Red Elephant Metals, Inc., Colo.
 Red Elephant Mng. Co., Colo.
 Red Elephant Mtn Mng Corp., Colo.
 Red Elephant Quicksilver Mng. Co., Calif.
 Red Fir Mng. Corp., Ida.
 Red Fir Mng. Corp., Wash.
 Red Gap Mines Co., Ariz.
 Red Gold Mng. Co., Ltd., Que.
 Red Hawk Mine, Nev.
 Red Hawk Quicksilver Co., Calif.
 Red Hill Mine, Ariz.
 Red Hill Mines, Inc., Calif.
 Red Hill Mng. Co., Nev.
 Red Hill Mng. Co., Ltd., B. C.
 Red Hill Mng. & Mlg. Co., Ida.
 Red Hills Cons. Copper Co., Ariz.
 Red Hills Mng. Co., Utah
 Red Horse Lake Mng. Synd., Ont.
 Red Horse Mng. Co., Ltd., Ida.
 Red Indian G. Mines, Ltd., Ont.
 Red Indian Lake Mines, Ltd., Nfld.
 Red Jacket Gold Mng Co., Ida.
 Red Jacket Mng Co., Ore.
 Red Lacus Mines, Ltd., Can.
 Red Lake Bay Synd., Ont.
 Red Lake Centre Mines, Ltd., Ont.
 Red Lake Cons. Synd., Ont.
 Red Lake Developers Synd., Ont.
 Red Lake Gold Mines, Ltd.
 Red Lake Gold Shore Mines, Ltd., Ont.
 Red Lake Goldfields Co., Ltd., Ont.
 Red Lake Goldrock Synd., Can.
 Red Lake Heart Synd., Ont.
 Red Lake Metals Corp., Ltd., Ont.
 Red Lake Mines, Ltd., Ont.
 Red Lake Mng. Co., Ont.
 Red Lake Patricia Synd., Ont.
 Red Lake Prosptns., Ltd., Ont.
 Red Lake-Rouyn Gold Mines Expln. Co., Ltd., Que.-Ont.
 Red Lake Tiger Gold Mines, Ltd., Ont.

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a little silver and lead.

Ripsey mine.—The Ripsey mine is in the southwest corner of the quadrangle and at the time of the writer's visit in 1911 had evidently been long idle. The Ripsey vein strikes N. 70° E. and dips 45°–50° S. The granite in the vicinity of the shaft—an incline on the vein—is cut by many intrusive masses of diabase, some of which rock appears in the hanging wall of the vein at the collar of the shaft. Nothing could be learned of the character or extent of the now inaccessible underground workings. Fragments of ore picked up on the dump show chalcopryrite, pyrite, sphalerite, and galena in a matrix consisting of a finely crystalline aggregate of quartz and calcite. This vein material may be a much altered dike rock. Although this ore might be successfully concentrated if a large quantity of it were available, it is apparently too low in grade to be worked on a small scale, and presumably the past operation of the mine was based on the former presence of material near the surface which had a larger content of gold and silver than is apparently present in the ore examined.

LEAD-SILVER DEPOSITS.

In the vicinity of Haley's cabin, about $2\frac{1}{4}$ miles east of Ray and 2,225 feet higher than that town, occur deposits of lead ore from which small shipments had been made from time to time prior to 1912, the ore being brought down to Ray on burros. The country rock of this ore, so far as could be seen from openings accessible in 1912, is the Devonian Martin limestone.

The principal work at that time had been done on the Cincinnati claim, a short distance northwest of the cabin. Here a thin sheet of diorite porphyry in Devonian limestone is cut by fissures that strike nearly east and west. The ore, chiefly cerusite together with some anglesite and residual galena, associated with abundant hematite and some limonite, occurs in the fissures and has replaced certain beds of the limestone for a few feet from the fissures. A considerable fault, which has dropped the Martin limestone against the Troy quartzite, passes just southwest of the cabin and curves to the west to its intersection with two other faults. (See the geologic map.) The fissures in which the ore occurs lie just north of this fault and presumably are subsidiary fractures that were opened at the time of the faulting. The workings in 1912 consisted of a small tunnel with branch drifts and had probably nowhere attained a depth of over 100 feet.

Since the visit on which the foregoing description is based was made the Ray Silver Lead Mining Co. has been shipping ore from this locality and apparently from the Cincinnati

⁷⁸The Mines Handbook, vol. 14, pp. 195–196, 1920.

USGS
Geologic Atlas
Ray, AZ
FL Ransome
Folio 127
1923

USGS
Geologic Atlas
Ray, AZ
F. L. Ransome
Folio 127
1923

claim. It is reported⁷⁴ that production began in 1917 and that in the middle of 1918 shipments were averaging about 750 tons a month. The ore was brought down to Ray by pack burros and at that time was shipped to the Empire Smelting & Refining Co., at Deming, N. Mex. This smelter is understood to be no longer in operation.

A short distance east of the cabin on the San Francisco claim a tunnel about 200 feet long has been run on a strong fissure that strikes N. 70° W. and dips 60° S. The tunnel is mostly in the Martin limestone, but the fissure for a part of its course follows a decomposed diorite porphyry dike. A seam of iron oxide, chiefly hematite, lies along the hanging wall, and in places some sandy cerusite lies under the hematite. No galena was seen. The hematite is not confined to the fissure but occurs in rather bunched masses along a bed from 15 to 20 feet above the base of the Martin limestone, especially where the limestone has been fissured.

The Crown Point claim on the west slope of the main ridge, about three-quarters of a mile west of the cabin, is located on a fissure that strikes nearly east and dips about 72° N. The country rock is Devonian limestone. A shaft, 150 feet deep in March, 1912, had been sunk on this fissure and showed gouge, abundant oxide of iron, and a little cerusite. The zone of soft oxidized material is in places 5 feet wide. The main fissure appeared to be that of a normal fault with a throw of 50 to 100 feet. There are at least two nearly parallel fissures north of the one explored by the shaft.

MISCELLANEOUS MINERAL RESOURCES.

Vanadium.—The vanadium prospects of Mr. J. J. Sullivan, afterward taken over by the United States Vanadium Development Co., are 4 miles in a straight line east-northeast of Kel-

⁷⁴The Mines Handbook, vol. 14, p. 326, 1920.

See

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cipal develop
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80°-85° S.

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USGS
 Geologic Atlas
 Ray, AZ
 FL Ransome
 Folio 127
 1923

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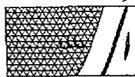
DEPARTMENT OF THE INTERIOR
 ALBERT B. FALL, SECRETARY
 U.S. GEOLOGICAL SURVEY
 GEORGE OTIS SMITH, DIRECTOR

IGNEOUS ROCKS
 (continued)



Andesite tuff and breccia

(chiefly consolidated pyroclastic material with contemporaneous dikes, possibly including some lava flows)



Diabase

(typically a medium-grained, ophitic, olivinitic diabase or dolerite. Irregular veins with many cross-cutting connections, intruded especially in the Mescal limestone)



Madera diorite

(quartz-mica diorite, apparently grading locally into gneissoidite or quartz monzonite, in places gneissoid. Irregular batholithic intrusions in the Pinal schist of the Pinal Range)



Granite

(biotite granite, generally coarsely porphyritic and crumbly. Batholithic intrusions mass extensively exposed in the Tornillo Range)

Known fault

Probable fault

Concealed fault

(covered by younger deposits)

α Dip of fault plane

β Overthrust side of thrust fault

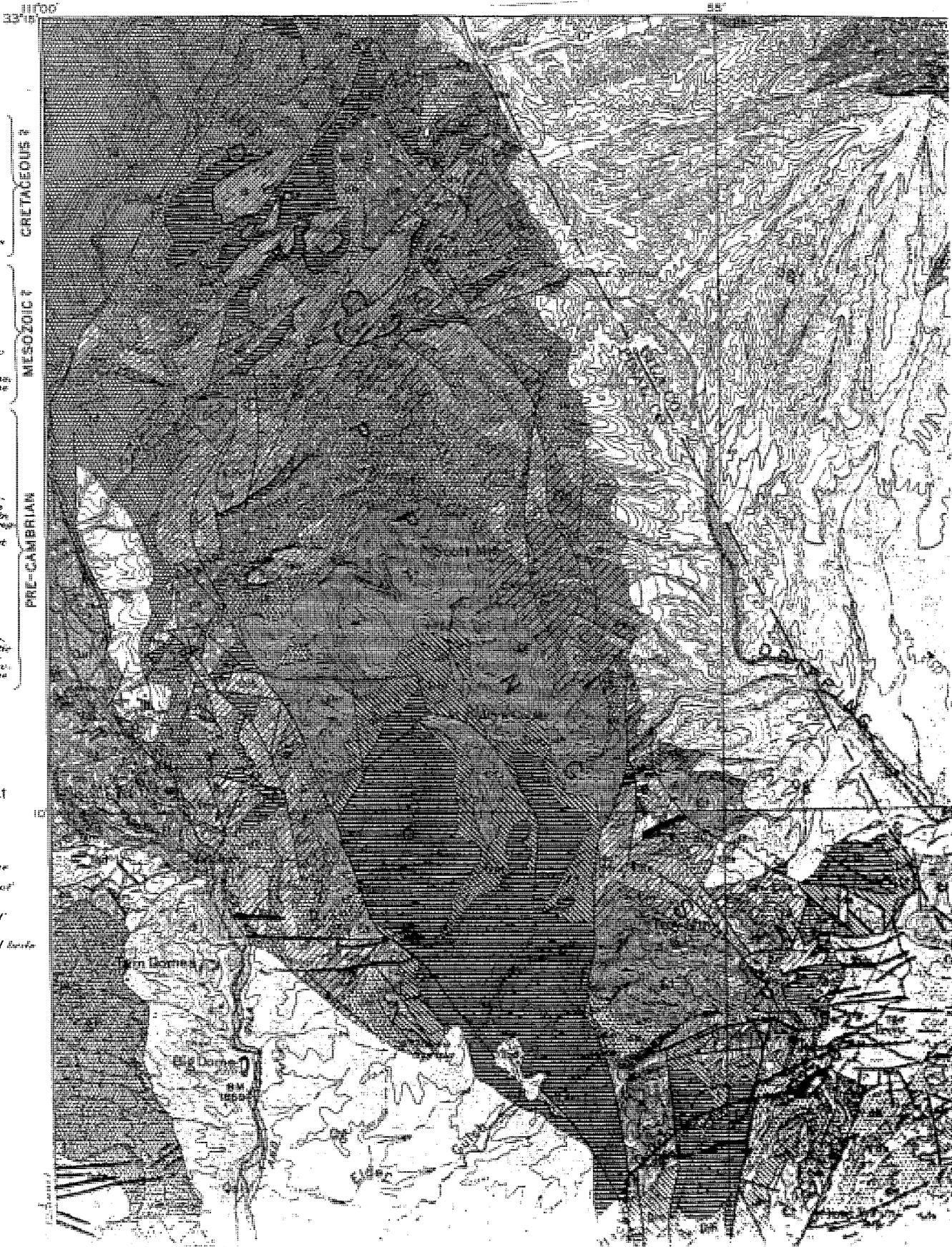
γ Strike and dip of stratified rocks

\circ Strike of vertical beds

\ominus Horizontal beds

\times Mine

\times Prospect



USGS
 Geologic Atlas
 Ray, AZ
 F.L. Ransome
 Folio 127
 1923

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STRU

EXPLANATION
 (continued)

IGNEOUS ROCKS

SHEET SYMBOL SECTION SYMBOL



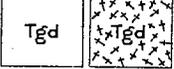
Dacite
(thick extensive flow with a thin bed at base in northwestern part of quadrangle)



Rhyolite porphyry
(rhyolite porphyry dikes east of Tano's Shantar Peak)



Quartz diorite porphyry
(dikes and small intrusive masses, particularly abundant near Troy and Tornado Peaks)



Granodiorite
(intrusive mass in Troy Basin)



Teapot Mountain porphyry
(dikes and irregular intrusive masses of quartz monzonite porphyry near Ray)



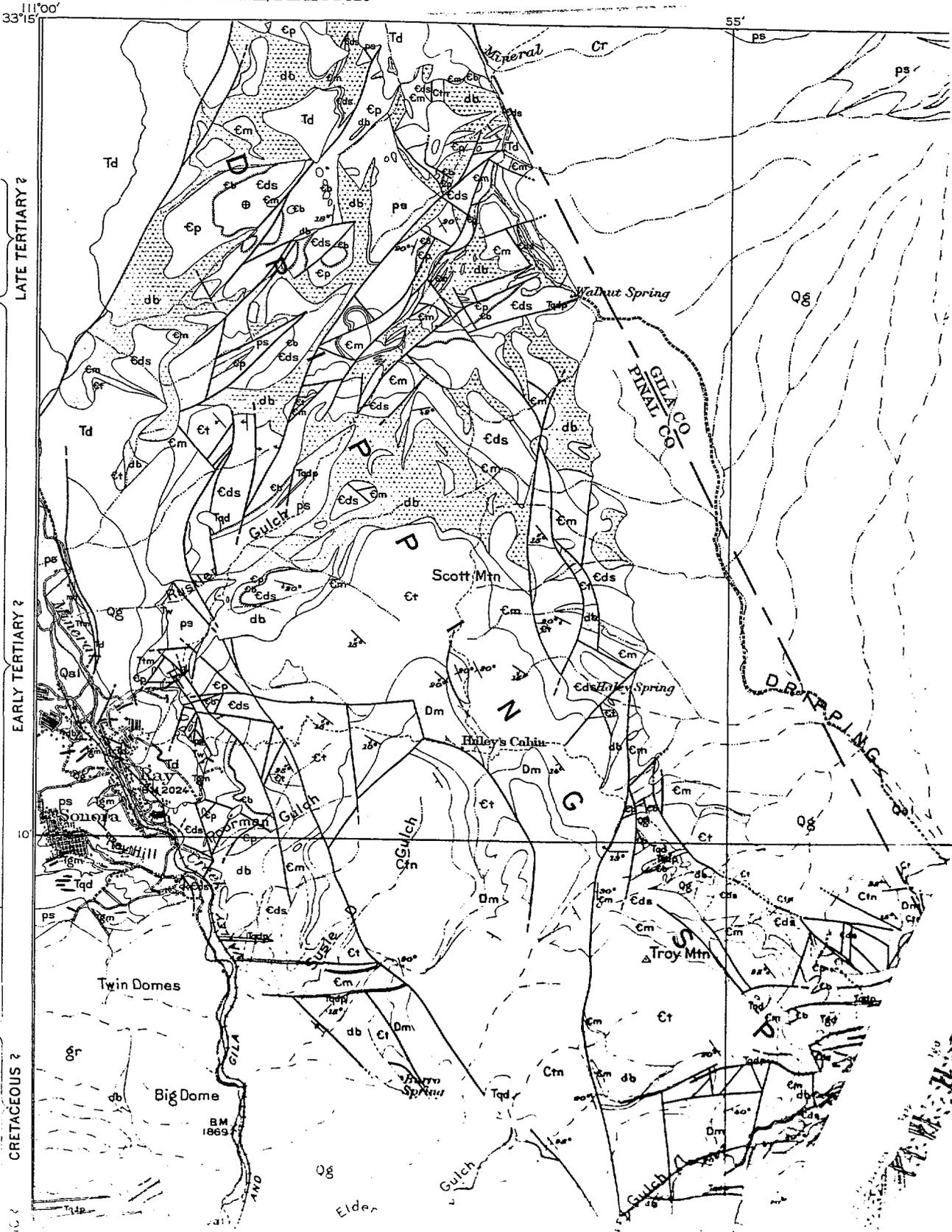
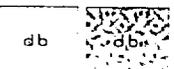
Granite Mountain porphyry
(irregular intrusive masses of quartz monzonite porphyry near Ray)



Quartz diorite
(dikes and comparatively small intrusive masses)



Andesite tuff and breccia
(chiefly consolidated pyroclastic material with contemporaneous dikes, possibly includes some lava flows)



12'30"
1 25
1 35

3750 II NE
(TEAPOT MPN.)

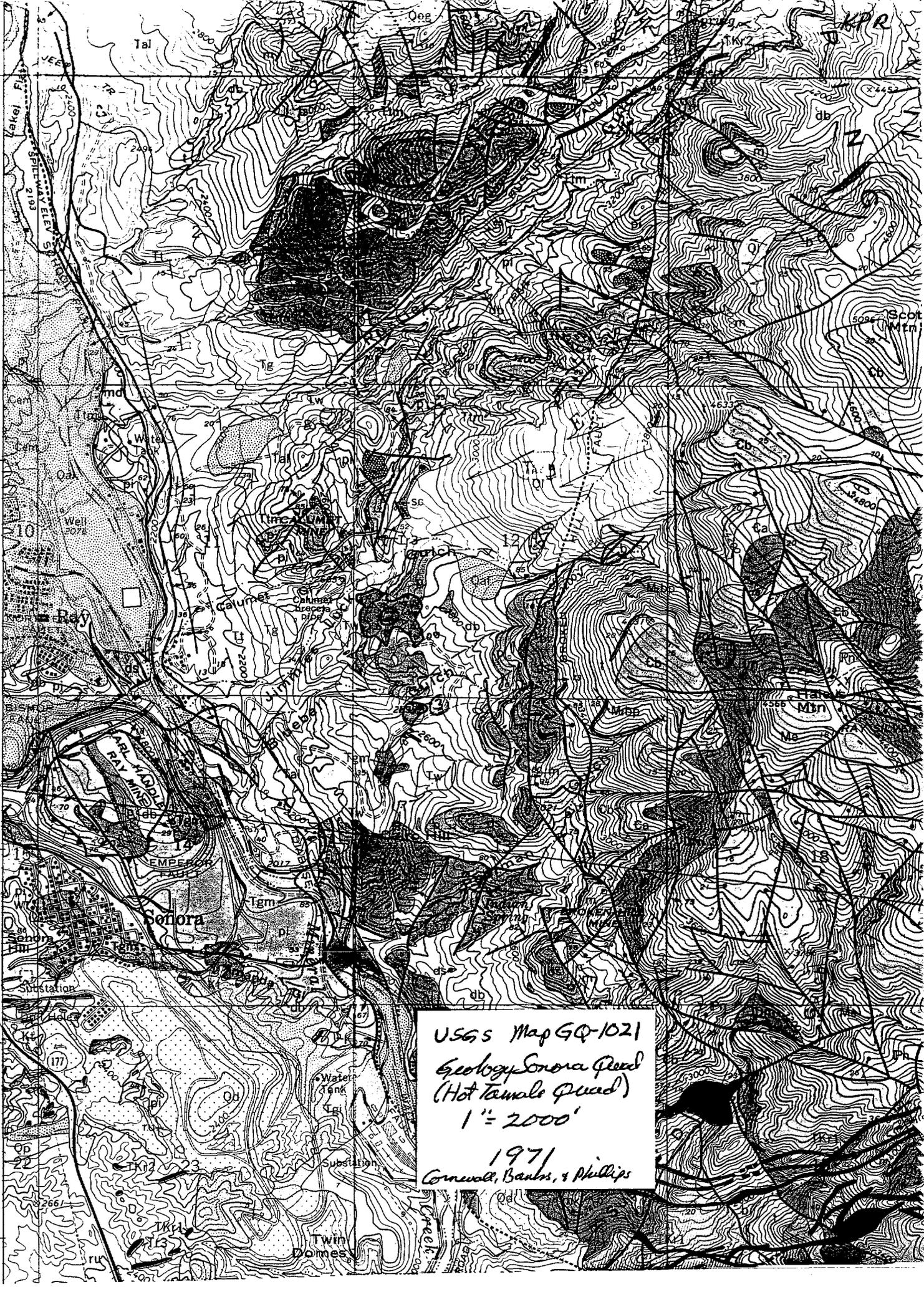
3671

3670

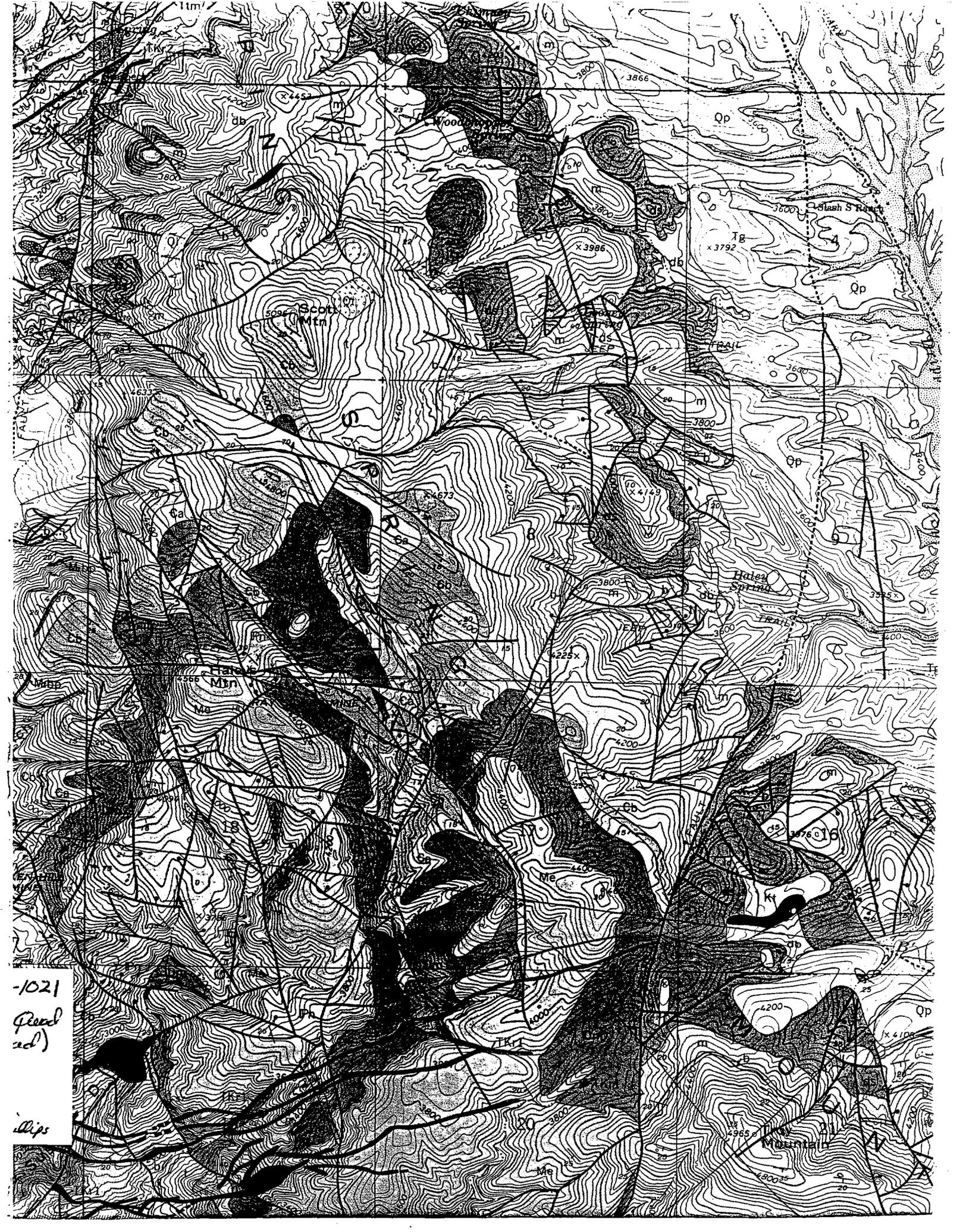
10'

PHOENIX 78 MI.
SUPERIOR (U.S. 60 & 70) 13 MI.

3668



USGS Map GQ-1021
Geology Sonora Quad
(Hot Tamale Quad)
1" = 2000'
1971
Cornwall, Bains, & Phillips



-1021
Pland
ad)
illips