CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
3550 N. Central Ave, 2nd floor
Phoenix, AZ, 85012
602-771-1601
http://www.azgs.az.gov
inquiries@azgs.az.gov

The following file is part of the Walter E. Heinrichs, Jr. Mining Collection

**ACCESS STATEMENT**

These digitized collections are accessible for purposes of education and research. We have indicated what we know about copyright and rights of privacy, publicity, or trademark. Due to the nature of archival collections, we are not always able to identify this information. We are eager to hear from any rights owners, so that we may obtain accurate information. Upon request, we will remove material from public view while we address a rights issue.

**CONSTRAINTS STATEMENT**

The Arizona Geological Survey does not claim to control all rights for all materials in its collection. These rights include, but are not limited to: copyright, privacy rights, and cultural protection rights. The User hereby assumes all responsibility for obtaining any rights to use the material in excess of "fair use."

The Survey makes no intellectual property claims to the products created by individual authors in the manuscript collections, except when the author deeded those rights to the Survey or when those authors were employed by the State of Arizona and created intellectual products as a function of their official duties. The Survey does maintain property rights to the physical and digital representations of the works.

**QUALITY STATEMENT**

The Arizona Geological Survey is not responsible for the accuracy of the records, information, or opinions that may be contained in the files. The Survey collects, catalogs, and archives data on mineral properties regardless of its views of the veracity or accuracy of those data.

9/29/81

No development

For Sale Sign

1-714-449-7633

Much copper on dump

At least One resident rattlesnake

Of two shafts located at a vein of copper was noted about 5" thick.

See grab (surface) sample collected by Mike Anderson ed.

September 3, 1980

Mr. William F. Bradley, Jr.
11834 Rosco Road
Lakeside CA 92040

Yeager Mine
Humboldt Quad
Yavapa County, AZ

Dear Mr. Bradley:

Thank you very much for up dating me with further detail on the Yeager Mine. Such factual information is always most helpful and therefore most appreciated.

After studying these additional data I can better assess the potential hazzards and difficulties attendant to reopening and also speculate on ideas and possibilities for exploring and hopefully developing added new ore reserves for the future.

Meanwhile, will try to keep the situation on our pending agenda and will let you know if our interest should wane and would likewise appreciate hearing from you if the status of the property should change.

Sincerely,
Heinrichs GEOEXploration Co.

Walter E. Heinrichs, Jr., Pres.

WEH:jh

GEOEX
Cable: GEOEX
AUG 22 1980
BOX 5964 TUCSON, ARIZONA 85703
Phone: (AREA 602) 623-0578

William F. Bradley, Jr.
11834 Rocoso Road
Lakeside, CA 92040
(714)561-2285

August 15, 1980

Mr. Walter E. Heinrichs, Jr.
HEINRICHS GEO-EXPLORATION CO.
P. O. Box 5964
Tucson, AZ 85703

RE: Yaeger Mine

Dear Mr. Heinrichs:

Enclosed you will find a copy of the underground assays map for the Yaeger Mine. I hope this will be of assistance to you as you pursue your interest in the mine.

Please feel free to let me know if I can be of further assistance to you in any way.

Sincerely,

William F Bradley Jr

William F. Bradley, Jr.

WFB:rw

Enc.

1+1cc

Ans: Dear Mr. Bradley

H thank you very much for updating me with further detail on the Yaeger Mine. Such factual information is always most helpful and therefore most appreciated. H After studying these additional data I can better assess the potential hazards and difficulties attendent to reopening and also speculate on ideas and possibilities for exploring and hopefully developing added new ore reserves for the future. H Meanwhile, will try to keep the situation on our pending agenda and will let you know if our interest should wane and would likewise would appreciate hearing from you if the status of the property should change.

WRH.

June 11, 1980

Mr. William F. Bradley, Jr.
11834 Rocoso Road
Lakeside, CA 92040

Re: Yaeger Mine

Dear Mr. Bradley:

Thank you for sending me the maps and data on the Yaeger Mine.

Please keep us advised as we are definitely interested, and will be in touch with you as soon as possible.

Sincerely,

Heinrichs GEOEXploration Co.

Walter E. Heinrichs, Jr.
President

WEH:mt

William F. Bradley, Jr.
11834 Rocoso Road
Lakeside, CA 92040
(714)449-7633

June 2, 1980

GEOEX
Cable: GEOEX
1980
BOX 5964 TUCSON, ARIZONA 85703
Phone: (AREA 602) 623-0578

HEINRICHS GEO-EXPLORATION CO.
P. O. Box 5964
Tucson, AZ 85703

RE: Yaeger Mine

Dear Mr. Heinrichs:

Thank you for your response to my letter of May 13, 1980. We are still in the process of gathering information on the surrounding unpatented claims. We currently understand that there are seven such 20.66 acre claims. We will let you know as soon as we have completed our compilation of the available data.

Meanwhile, enclosed you will find maps and other relevant data on the mine for your perusal.

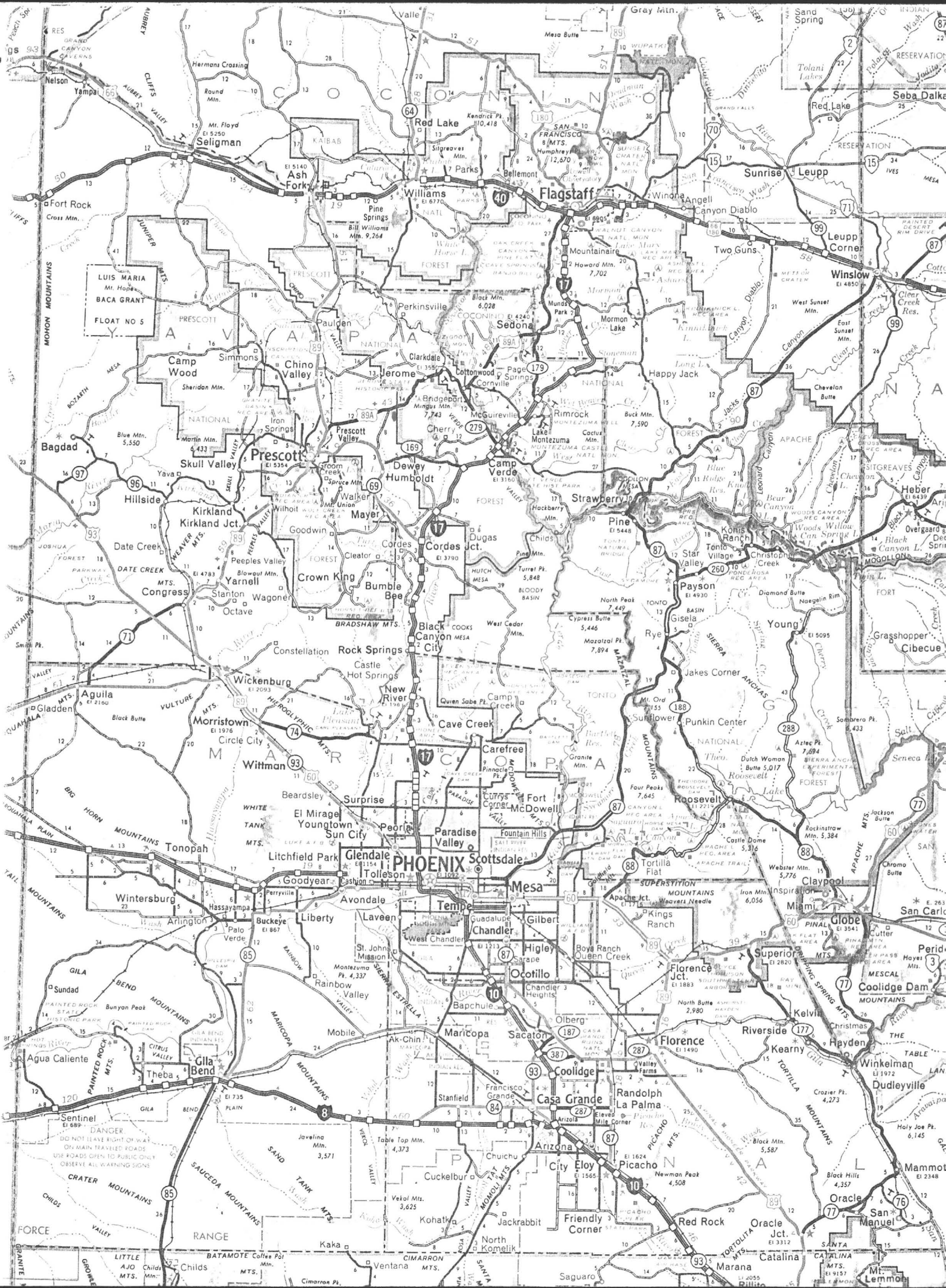
Sincerely,

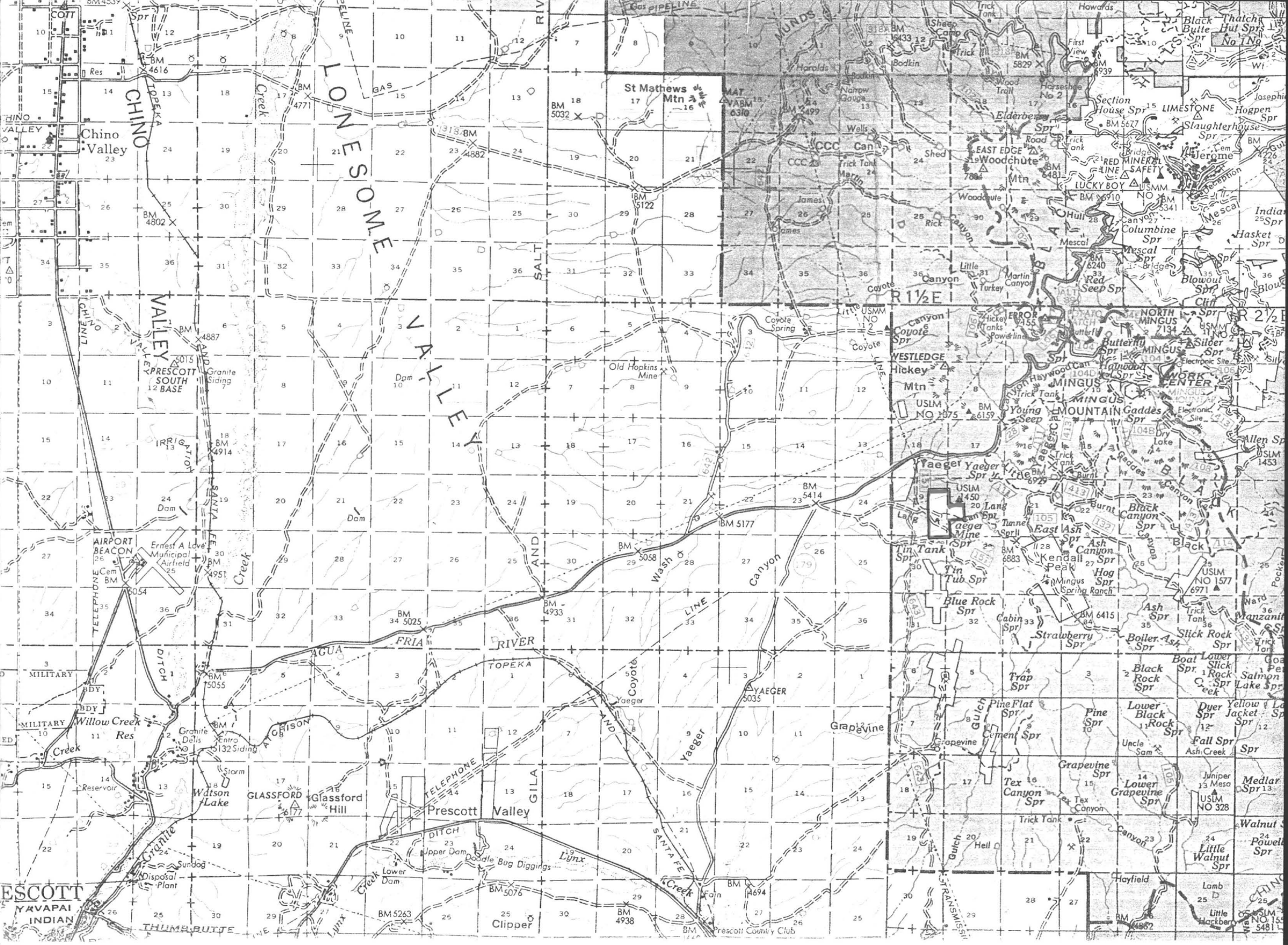
William F Bradley Jr

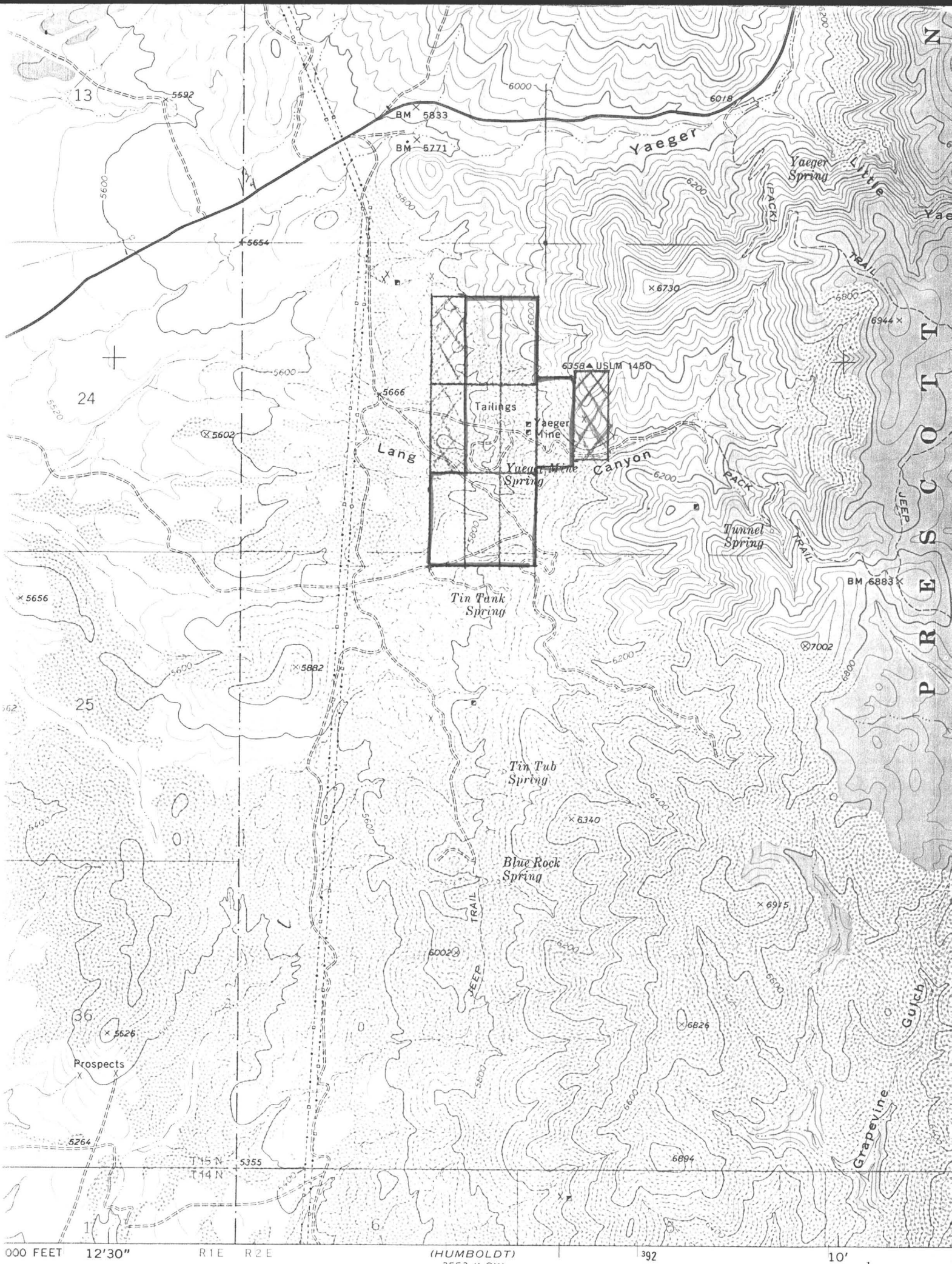
William F. Bradley, Jr.

WFB:rw

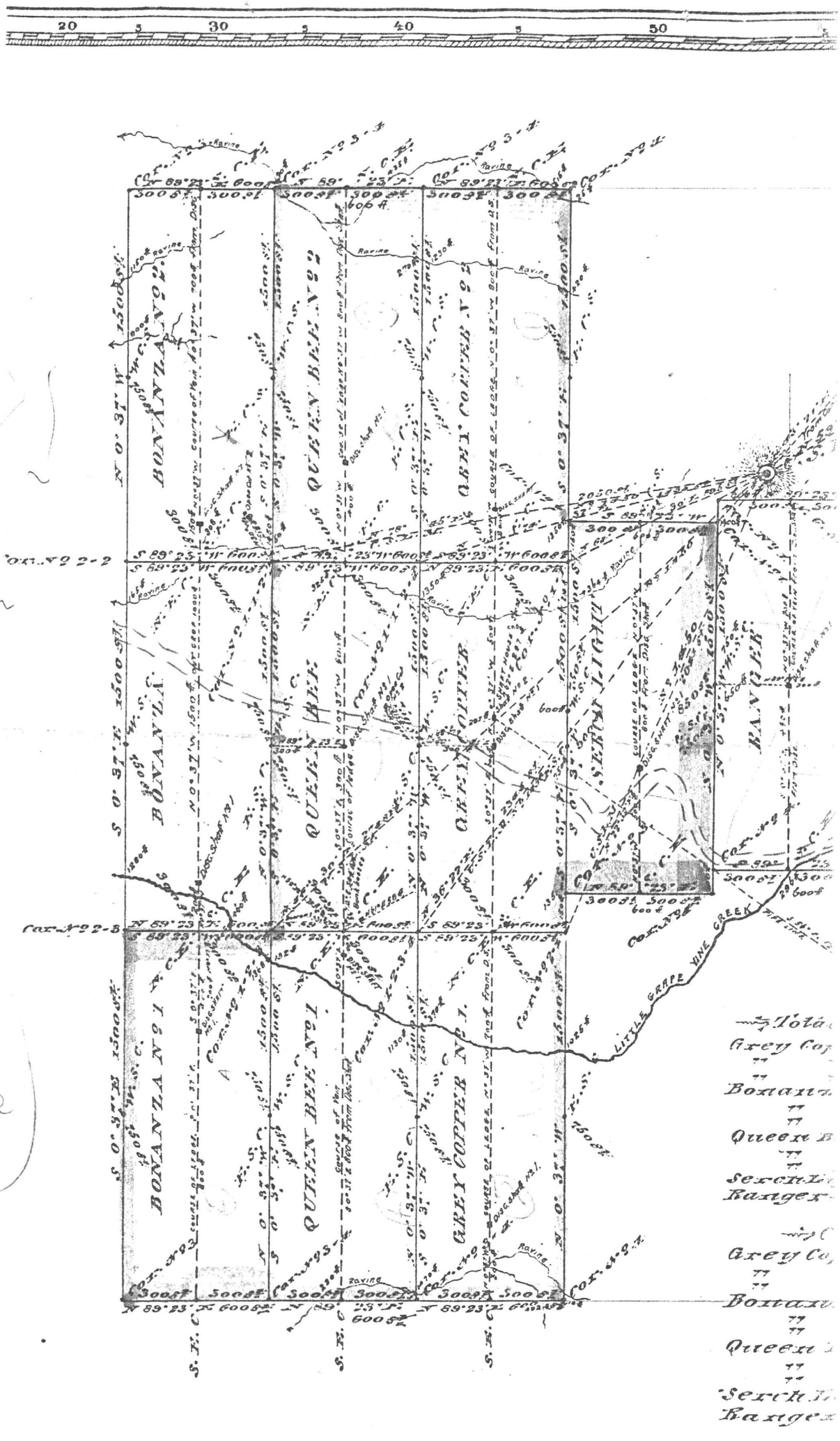
Enc.


Nelson
Yampai
Seligman
Fort Rock
Ash Fork
Williams
Flagstaff
Red Lake
Parks
Bellemont
Winona
Angell
Canyon Diablo
Sunrise
Leupp
Leupp Corner
Two Guns
Winslow
Mountainair
Munds Park
Sedona
Mormon Lake
Perkinsville
Pauldin
Clarkdale
Jerome
Cottonwood
Cornville
Page Springs
Happy Jack
Camp Wood
Simmons
Chino Valley
Bridgeport
McGuireville
Rimrock
Lake Montezuma
Bagdad
Prescott
Prescott Valley
Skull Valley
Dewey
Humboldt
Camp Verde
Strawberry
Pine
Hillside
Kirkland
Kirkland Jct.
Mayer
Cordes
Cordes Jct.
Dugas
Date Creek
Peeples Valley
Yarnell
Congress
Stanton
Wagoner
Octave
Crown King
Bumble Bee
Black Canyon City
Rock Springs
Constellation
Wickenburg
Aguila
Gladden
Morristown
Circle City
Wittman
New River
Cave Creek
Carefree
Beardsley
Surprise
El Mirage
Youngtown
Sun City
Peoria
Paradise Valley
Fountain Hills
Currys Corner
Fort McDowell
Litchfield Park
Glendale
PHOENIX
Scottsdale
Tolleson
Goodyear
Cashion
Mesa
Tonopah
Wintersburg
Perryville
Hassayampa
Avondale
Tempe
Arlington
Buckeye
Liberty
Laveen
Guadalupe
Chandler
Gilbert
West Chandler
Higley
Sarape
Ocotillo
Palo Verde
Sundad
Rainbow Valley
Bapchule
Chandler Heights
Maricopa
Sacaton
Olberg
Mobile
Ak-Chin
Agua Caliente
Theba
Gila Bend
Coolidge
Casa Grande
Randolph
La Palma
Stanfield
Sentinel
Arizona
Chuichu
City
Eloy
Picacho
Cuckelbur
Kohatk
Jackrabbit
Friendly Corner
Red Rock
Oracle Jct.
Kaka
Ventana
North Komelik
Marana
Catalina
Saguaro
Mt. Lemmon
Tortilla Flat
Superior
Florence Jct.
Florence
Kelvin
Riverside
Kearny
Hayden
Winkelman
Dudleyville
Mammoth
Oracle
San Manuel
Claypool
Miami
Globe
Inspiration
Coolidge Dam
Roosevelt
Punkin Center
Sunflower
Tonto Village
Christopher Creek
Payson
Gisela
Young
Rye
Jakes Corner
Heber
Overgaard
Grasshopper
Cibecue
Seba Dalka
Red Lake
Sand Spring
Tolani Lakes
Gray Mtn.
Valle
Mesa Butte
Hermans Crossing
Round Mtn.
Mt. Floyd
Kendrick Pk.
Sitgreaves Mtn.
Humphreys Pk.
Bill Williams Mtn.
Howard Mtn.
Black Mtn.
Mingus Mtn.
Sheridan Mtn.
Blue Mtn.
Martin Mtn.
Cross Mtn.
Buck Mtn.
Cactus Mtn.
Chevelon Butte
West Sunset Mtn.
East Sunset Mtn.
Turret Pk.
Pine Mtn.
Cypress Butte
Mazatzal Pk.
North Peak
Diamond Butte
Naegelin Rim
Sombrero Pk.
Aztec Pk.
Four Peaks
Dutch Woman Butte
Castle Dome
Rockinstraw Mtn.
Webster Mtn.
Iron Mtn.
Chromo Butte
Jackson Butte
Kings Ranch
Boyce Ranch
Queen Creek
Apache Jct.
Weavers Needle
Superstition Mountains
Tonto Basin
Mazatzal Mts.
Sierra Ancha Mts.
Apache Mts.
Pinal Mts.
Mescal Mts.
Tortilla Mts.
Picacho Mts.
Sierra Estrella
Maricopa Mts.
Sierra Bonita
Gila Bend Mts.
Painted Rock Mts.
Bunyan Peak
Montezuma Pk.
Javelina Mtn.
Table Top Mtn.
Vekol Mts.
Sauceda Mountains
Sand Tank Mts.
Crater Mountains
Childs Valley
Granite Mts.
Little Ajo Mts.
Batamote
Coffee Pot Mtn.
Cimarron Pk.
Cimarron Mts.
Santa Rosa Mts.
Tortolita Mts.
Catalina Mts.
Santa Catalina Mts.
Black Hills
Holy Joe Pk.
Crozier Pk.
Newman Peak
Black Mtn.
Danger
Do not leave right of way on main traveled roads
Use roads open to public only
Observe all warning signs


LONESOME VALLEY
CHINO VALLEY
Chino Valley
PRESCOTT SOUTH BASE
AIRPORT BEACON
Ernest A Love Municipal Airfield
Willow Creek Res
Watson Lake
GLASSFORD
Glassford Hill
Prescott Valley
Clipper
Prescott Country Club
YAEGER
Yaeger
Grapevine
AGUA FRIA RIVER
TOPEKA
ATCHISON
SANTA FE
SALT RIVER
GILA
TELEPHONE
DITCH
THUMB BUTTE
YAVAPAI INDIAN
MILITARY
Granite Dells
Granite Creek
Sundog
Disposal Plant
Storm
Reservoir
Lower Dam
Upper Dam
Doodle Bug Diggings
Lynx Creek
Coyote Wash
Coyote Spring
Old Hopkins Mine
Granite Siding
IRRIGATION
Dam
St Mathews Mtn
MAT VABM 6310
CCC
Can
Wells
Harolds
Bodkin
Narrow Gauge
Trick Tank
Martin
James
Shed
Sheep Camp
Wood Trail
Horseshoe No 2
Elderberry Spr
EAST EDGE
Woodchute Mtn
Woodchute
Hull
Mescal
Little Turkey
Martin Canyon
Coyote Canyon
Little Coyote Canyon
Coyote Spr
WESTLEDGE
Hickey Mtn
Hickey Tanks
Powerline
ERROR
NORTH MINGUS
MINGUS
MINGUS WORK CENTER
MINGUS MOUNTAIN
Haywood Can
Young Seep
Gaddes Spr
Gaddes Canyon
Yaeger Spr
Yaeger Mine Spr
Lang Can Spr
Tin Tank
Tin Tub Spr
Blue Rock Spr
Kendall Peak
Mingus Spring Ranch
Hog Spr
East Ash Spr
Ash Canyon Spr
Black Canyon Spr
Cabin Spr
Strawberry Spr
Boiler Ash Spr
Slick Rock Spr
Trap Spr
Pine Flat Spr
Cement Spr
Pine Spr
Lower Black Rock Spr
Black Rock Spr
Boat Spr
Lower Slick Rock Spr
Dyer Spr
Yellow Jacket Spr
Fall Spr
Ash Creek
Tex Canyon Spr
Tex Canyon
Grapevine Spr
Lower Grapevine Spr
Juniper Mesa
Medlar Spr
Walnut Spr
Little Walnut Spr
Powell Spr
Hell Canyon
Hayfield
Lamb
Little Hackberry
Jerome
LIMESTONE
Slaughterhouse
Hogpen Spr
Section House Spr
Black Butte Spr
Thatch Hut Spr
Columbine Spr
Red Seep Spr
Blowout Spr
Cliff Spr
Hasket Spr
Allen Spr
Silver Spr
Butterfly Spr
Haywood Spr
Electronic Site
Dry Lake
Burnt
Trick Tank
Tunnel Spr
Lang
Little
Bridge
Deception
Mescal Spr
Canyon
Gulch
Hell
Transmission
Powerline
Gas Pipeline
Road
Trail
Spr
Res
Creek
Wash
Canyon
Gulch
Line
Telephone
Ditch
Gas
Topeka
Santa Fe
Salt River
Gila
Yaeger
Lynx
Thumb Butte
Prescott
Cemetery
Cem
Hospital
Sanitarium
Reservoir
Disposal Plant
Country Club
Golf Course
Airfield
Municipal
Siding
Entro
Dam
Mine
Tank
Spring
Seep
Canyon
Gulch
Creek
Wash
Res
Reservoir
Lake
Hill
Mtn
Mesa
Peak
Butte
Ridge
Valley
Basin
Flat
Meadow
Park
Camp
Ranch
Farm
Mill
Bridge
Road
Trail
Line
Pipeline
Powerline
Telephone
Ditch
Canal
Railroad
Station
Siding
Junction
Crossing
Ford
Landing
Airport
Beacon
Tower
Antenna
Building
Ruins
Cemetery
Church
School
Hospital
Sanitarium
Hotel
Inn
Store
Post Office
Cabin
Shed
Barn
Corral
Pen
Fence
Gate
Cattle Guard
Bridge
Culvert
Pipe
Well
Spring
Seep
Tank
Pond
Lake
Reservoir
Res
Dam
Levee
Dike
Jetty
Breakwater
Pier
Wharf
Dock
Boat Ramp
Landing
Harbor
Port
Shipyard
Drydock
Lighthouse
Beacon
Buoy
Channel
Shoal
Reef
Rock
Island
Peninsula
Point
Cape
Bay
Gulf
Sound
Strait
Ocean
Sea
River
Stream
Creek
Brook
Rivulet
Wash
Arroyo
Canyon
Gulch
Ravine
Gorge
Chasm
Cliff
Bluff
Escarpment
Ridge
Hill
Mountain
Mtn
Mesa
Butte
Peak
Summit
Pass
Saddle
Notch
Gap




SCALE 1:24 000


BONANZA No 2
QUEEN BEE No 2
GREY COPPER No 2
SERCH LIGHT
RANGER
BONANZA No 1
QUEEN BEE No 1
GREY COPPER No 1
LITTLE GRAPE VINE CREEK
Cor. No 2 2-2
Cor. No 2 2-3
Ravine

Claim Located 18

Mineral Survey No. 1450. 131

Lot No.

PRESCOTT Land District.

# PLAT

OF THE CLAIM OF

Joe Askew et al.

KNOWN AS THE

BONANZA, BONANZA No 1, and No 2.
QUEEN BEE, QUEEN BEE No 1 and No 2
GREY COPPER, GREY COPPER No 1, and No 2
SERCH LIGHT and RANGER LODES,
IN Black Hills MINING DISTRICT,
Yavapai COUNTY, Arizona

Containing an Area of 227.26 Acres.

Scale of 500 Feet to the inch.

Variation 14° 13' E

SURVEYED Jany. 22 to Feby. 3, 1900 BY

R. C. Powers, U.S. Deputy Mineral Surveyor,

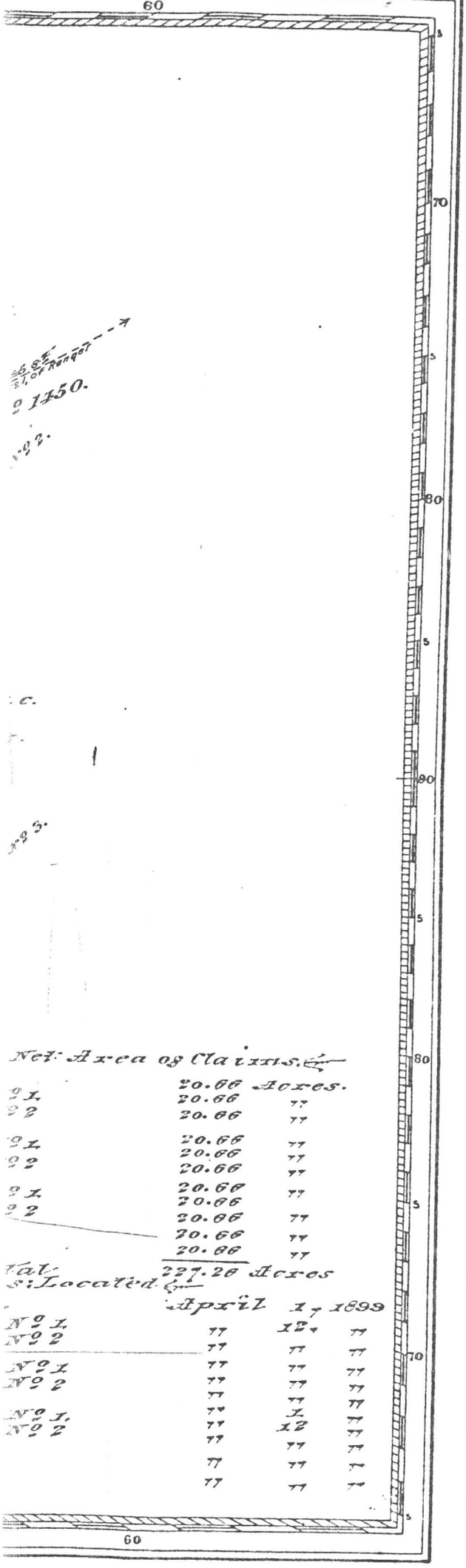
The Original Field Notes of the Survey of the Mining Claim of Joe Askew et al.
known as the
BONANZA, BONANZA No 1 and No 2
QUEEN BEE, QUEEN BEE No 1 and No 2
GREY COPPER, GREY COPPER No 1 and No 2
SERCH LIGHT and RANGER lodes.
from which this plat has been made under my direction, have been examined 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 claimants or their grantors, and that said improvements consist of 12 Shafts, 2 Cuts, Bank Houses, Boarding House, Hoisting works, 1½ Miles of pipe line, Shops, etc, etc,
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, Tucson, Ariz.
May 2, 1900.

George Christ
U.S. Surveyor General for Arizona.




Net Area of Claims.

| | | |
|---|---|---|
| | 20.66 | Acres. |
| No 1 | 20.66 | " |
| No 2 | 20.66 | " |
| No 1 | 20.66 | " |
| No 2 | 20.66 | " |
| No 1 | 20.66 | " |
| No 2 | 20.66 | " |
| | 20.66 | " |
| | 20.66 | " |
| | 20.66 | " |
| Total | 227.26 | Acres |

Claims Located

| | | | |
|---|---|---|---|
| | April | 1, | 1899 |
| No 1 | " | 12, | " |
| No 2 | " | " | " |
| No 1 | " | " | " |
| No 2 | " | " | " |
| No 1 | " | " | " |
| No 2 | " | 1 | " |
| | " | 12 | " |
| | " | " | " |
| | " | " | " |
| | " | " | " |

*Copper, lead, gold, and silver produced in Black Hills district, 1904–1923*

[Compiled by V. C. Heikes, U. S. Geological Survey]

| Year | Crude ore (tons) | Copper (pounds) | Lead (pounds) | Gold (fine ounces) | Silver (fine ounces) | Total value |
|---|---|---|---|---|---|---|
| 1904 | 4,012 | 278,050 | | | 11,310 | $42,150 |
| 1905 | 7,505 | 373,600 | | | 13,076 | 66,180 |
| 1906 | 3,063 | 285,303 | | | 11,085 | 62,601 |
| 1907 | 779 | 149,302 | 8,420 | 5.37 | 7,429 | 35,329 |
| 1908 | 61 | 34,060 | | 5.74 | 926 | 5,106 |
| 1909 | 68 | 1,739 | 11,010 | 23.43 | 685 | 1,539 |
| 1910 | | | | | | |
| 1911 | 73 | 2,599 | | .73 | 654 | 687 |
| 1912 | 30 | 4,151 | | 2.39 | 39 | 758 |
| 1913 | 48 | 11,975 | | 1.49 | 604 | 3,252 |
| 1914 | | | | | | |
| 1915 | | | | | | |
| 1916 | | | | | | |
| 1917 | 24 | 3,488 | | .23 | 88 | 1,030 |
| 1918 | 33 | 6,486 | | .65 | 177 | 1,792 |
| 1919 | 67 | 19,594 | | 6.69 | 753 | 4,626 |
| 1920 | 54 | 16,826 | | 1.00 | 561 | 3,728 |
| 1921 | 40 | | | 12.00 | 2 | 270 |
| 1922 | 773 | 265,988 | | 16.07 | 8,095 | 41,335 |
| 1923 | 26 | 2,058 | | 11.34 | 64 | 589 |

### YAEGER MINE

The Yaeger mine, in the western foothills of the Black Hills about a mile south of the road from Prescott to Jerome, at an altitude of 5,400 feet, was idle in 1922, except for some shipments of rich copper ore from the dump. For many years copper ore has been shipped from this deposit. It is now the property of the Shannon Copper Co., A. L. Ferris, manager. Up to 1919 the yield is said to be 9,627,987 pounds of copper, 2,466 ounces of gold, and 77,134 ounces of silver.[44] The mine is developed by an inclined shaft to the 1,300-foot level, with drifts extending mostly to the east a maximum distance of 750 feet. In 1922, 800 tons of copper-silver ore was shipped to the Humboldt smelter. The property has been dismantled and all work discontinued.[44a]

The brown, brushy hills around the Yaeger mine are of complex structure. Below the mine white fissile sericitic schists crop out. At the mine is exposed a dioritic fine-grained rock showing veinlets of epidote and also veinlets of calcite and bornite; above the mine are vertical greenish slates striking due north and also much of a massive fragmental rock that is perhaps a diabase tuff. The "diorite" shows in thin section as a somewhat sheared diorite porphyry with large phenocrysts of oligoclase-andesine in a trachytic groundmass of minute feldspar laths. There is a great deal of secondary chlorite, epidote, and calcite.

The deposit is a fissure vein striking east and having a dip of 35° S. The width is as much as 7 feet; in places there was 3 feet of clear bornite. The ore contains calcite, quartz, bornite, and tennantite, with a little pyrite. There is some secondary chalcocite, and also fine azurite and malachite. The structure of the ore is mainly massive, with rather large aggregates of both bornite and tennantite. In places these two minerals are intergrown. More or less oxidized ore occurs near the surface. There is no chalcocite zone, properly so called. A polished section of the rich ore shows quartz (oldest), tennantite, partly replaced by bornite, and the bornite in turn cut by narrow veinlets of chalcopyrite. The mine makes about 18,000 gallons of water a day. The ore is said to contain 0.65 ounce of silver to 1 per cent of copper. Much of the ore has been of high grade. The ore shoot pitches to the east beginning near the collar of the shaft; it is apparently 200 to 300 feet long in the middle levels but becomes small on the 1,300-foot level.

The composition of the ore is unusual, and there is no definite evidence of the age of the deposit. Probably it is pre-Cambrian.

[44] Weed, W. H., Mines Handbook, 1922, p. 390.
[44a] U. S. Geol. Survey Mineral Resources, 1922, pt. 1, p. 516, 1924.



### SHYLOCK MINE

The Shylock mine, idle for many years, is in the eastern foothills of the Black Hills, 4 miles due south of the Yaeger mine. It is accessible by an old road from Grapevine Gulch. The altitude is 5,800 feet. The mine is developed by an inclined shaft said to be 1,500 feet deep. Yavapai slates, in places fissile, form the principal country rock; an embayment of the main Bradshaw granite area reaches up from the south nearly to the mine. There are also greenstone schists in the vicinity. The Shylock shaft appears to be sunk on a vein striking east-northeast and dipping 60° S. To judge from the dump the ore contained quartz, tetrahedrite, galena, and sphalerite. It is not known whether any shipments were made.

Further information regarding the prospects in this vicinity has been kindly supplied by Mr. P. C. Benedict, of Jerome, who writes as follows:

Near the Shylock mine the Yavapai schist seems to be divisible into three parts:

1. The fissile sedimentary schists, brown or red, forming a continuous belt along the lowest foothills. The strike is northerly, the dip vertical. These phyllites contain some beds of sandstone and thin conglomerates, with steep dips.

2. A "greenstone" occupying the hills east of the Shylock and appearing again in Grapevine Creek, east of the granite contact. This is in part an andesite, in part perhaps a fine-grained diorite.

3. A sedimentary rock, apparently inclosed in greenstone, east of the granite contact on Grapevine Creek. It is a blocky dense rock of dark-brown color similar to the "bedded sediments" of the pre-Cambrian at Jerome. The bedding is flat, and the rocks contain thin strata of hematite.

From U. S. Geol. Survey Prof. Paper 308





### LOGAN MINE

This mine, 2 miles southeast of Cherry, is one of the deepest in the district. An inclined shaft on the vein is 600 feet deep and connects to three levels; at 60, 160, and 400 feet below the surface. The shaft was filled with water in 1951 to within 50 feet of the surface. Ore was not found below the 400 level. The vein ranges from 1 to 5 feet in width and strikes N. 40° W. and dips 35° W.; the northwest strike is unique in the district.

Gold worth about $14,000 was mined from the 160 level and smelter return sheets show that the ore averaged about $30 per ton. A northwest drift 350 feet long on the 400 level produced ore worth about $25 per ton 175 feet from the shaft and near the end of the drift. Lindgren (1926, p. 107) stated that a mill was on the property in 1922, but it was gone in 1951.

## BLACK HILLS MINING DISTRICT

This mining district is on the western slope of the Black Hills and extends eastward along the south margin of Mingus Mountain to near Cherry. Many scattered prospects are in this district, but only one mine, the Yaeger, has had any appreciable production. Small showings of copper occur in many parts of the district, but most prospecting has been disappointing. The district includes much of the quartz diorite in the southern part of the Bingus Mountain quadrangle and much of the Ash Creek and Alder groups. The age of mineral deposition is presumably Precambrian, because of the general similarity to the veins in the Cherry district that are definitely of Precambrian age. Although mineral deposition in the Yaeger mine cannot be proven positively to be of Precambrian age, the absence of mineralized faults and fractures in the nearby Paleozoic rocks is strongly indicative.

### YAEGER MINE

The first production from this mine which is located about a mile south of the Prescott-Jerome highway next to the Shylock fault apparently was in 1890. According to Elsing and Heineman (1936, p. 102), 10,000,000 pounds of copper, $52,000 of gold and $50 of silver, having a total value of $1,500,000, were produced from 1890 to 1922. Much of this production must have been before 1904, as subsequent production from the Black Hills district totals less than $300,000. The mine has been inactive since 1923, except for a few attempts to mill some of the dump ore.

The mine is developed by an inclined shaft to the 1,300 level, with drifts extending mostly to the east for a maximum of 750 feet. The mine is now inaccessible.

The Yaeger mine is in a lithic tuff member of the Grapevine Gulch formation cut by a few narrow diorite porphyry dikes. The vein strikes east and dips 35° S. Apparently, it does not extend westward from the Shylock fault. According to Lindgren (1926, p. 98), the vein locally is 7 feet wide, containing 3 feet of solid bornite. The ore generally consists of calcite, quartz, bornite, and tennantite, and a little pyrite. Secondary chalcocite, azurite, and malachite are also present. Large aggregates of bornite and tennantite are common. Near the surface, oxide copper ore is present, but no well-defined chalcocite zone was found. The ore was reported to contain about 0.65 ounce of silver to the ton and 1 percent of copper, and was chiefly high grade. The ore shoot raked to the east, beginning near the collar of the shaft, and apparently ranges from 200 to 300 feet in length on the middle levels but becomes small on the 1,300 level.

### SHYLOCK MINE

The Shylock mine is along the western front of the Black Hills about 3 miles south of the Yaeger mine. The Shylock fault is west of the shaft. It is not known whether shipments of ore have been made, but the mine is explored by an inclined shaft reported to be 1,053 feet deep with drifts totaling 2,000 feet. The country rock is the bedded tuffaceous member of the Grapevine Gulch formation. The shaft was sunk on a vein striking east-northeast and dipping 60° S. The vein was not found west of the Shylock fault.

The gangue in the vein is chiefly massive white quartz, but includes some ankerite, and tetrahedrite, galena, and sphalerite irregularly distributed through it. The ore is in part oxidized, and cinnabar has been recognized in the oxide zone. According to Lindgren (1926, p. 100), decomposition of mercurial tetrahedrite probably resulted in the deposition of the cinnabar, which occurs as coatings, and fracture fillings. On the two upper levels, the width of the quartz vein reached 5 to 6 feet. Benedict (quoted by Lindgren, 1926, p. 100) believes that the deposit was essentially a quartz lens that pinched out in both directions from the shaft.

### BRINDLE PUP MINE

The Brindle Pup mine is about midway between Black Canyon and Ash Creek, south of Mingus Mountain. Two small prospect pits were sunk in Buzzard rhyolite beneath a capping of Tapeats sandstone(?). The main workings, however, are in the wide granodiorite porphyry dike that cuts the Deception and Buzzard rhyolite masses (1,327,500 N.; 441,800 E.). The shaft is caved and no information is available as to the extent of the underground workings. On the dump, quartz

vertical shaft, has lead-silver, copper, zinc ore, occurring in small lenticular masses in limestone bedding. Has produced 900 tons of ore assaying 20 oz. silver, and 4% copper from the 200' level. Idle.

**SAN XAVIER MINE** ARIZONA

Owned by **Empire Zinc Co.** of Colorado and described thereunder.

**SARATOGA MINING CO.** ARIZONA

Crown King, Yavapai county, Ariz. J. L. Deming, mgr. According to report the company was reorganized in 1915, and in Dec., 1915, completed a 75-ton mill to treat Saratoga ore.

No 1923 returns.

**SCHUYKILL MINING CO.** ARIZONA

Fully described in Volume XIV. Geo. N. MacBean, receiver, Holbrook, Arizona. Litigation settled and entire holdings acquired by **Cole-Tennessee Mining Co.**, which in turn became financially involved, the property reverting to Schuykill in 1922, and later becoming a part of **Arizona Mng & Sm. Co., which see.**

**SCOTT-DAY MINING CO.** ARIZONA

Address: Winkelman, Arizona.

Directors E. D. Scott, Tucson; Cullen A. Little and Chas. Rawlins, Globe. Inc. 1923 in Arizona. **Cap.** $150,000.

**SECRET PASS GOLD TOP MINING CO.** ARIZONA

Dead; see Vol. XV.

**SENATE MINE** ARIZONA

Address: Herman Hershkowitz, Congress, Ariz. Mine reopened and shipment of 5% copper ore made to Hayden smelter, Sept. 1923.

**SENATE SILVER MINING CO.** ARIZONA

Officers: C. C. Spicer, pres.; A. G. Keating, v. p.; J. N. Harper, treas.; S. M. Warmbath, sec.; with P. C. Thorne, directors.

Inc. in Arizona. **Cap.** $150,000; 10c par; 50,000 shares issued.

**Property:** 4 claims, 3 miles from Hackberry, and 30 miles from Kingman. Reported that development would be carried on through vertical shaft of Hackberry Cons. until company sinks its own shaft, which was 200' deep, September 1919, and still sinking on vein with 30" of 48 oz. silver ore.

**Equipment:** includes 25-h. p. hoist and a compressor. Is a prospect.

**SESAME COPPER CO.** ARIZONA

Dead. Described in Volume XIV.

**SEVENTY-NINE MINING CO.** ARIZONA

Address: Gerald Jones, agt., Tucson, Ariz.

Inc. 1922 in Arizona, by Abraham M. Franklin, John C. Lesley and T. M. Smith, all of Tucson. **Cap.** $2,000,000; par $1.

Was organized to take over the Seventy-Nine mine of the **Continental Commission Co.**, and operations begun in May 1922. Litigation, however, ensued, but Continental failed to make payment due, and in October 1923, the mine reverted to Seventy-Nine Co.

**SHAMROCK MINING CO.** ARIZONA

Address: Bernard McEntee, gen. mgr., via Vicksburg, Yuma Co., Ariz.

**Property:** in the Plomosa district. Ore is said to carry 5% copper and 20 oz. silver per ton. Shipments amount to $12,000 to date.

**SHANNON COPPER CO.** ARIZONA

Office: 209 Washington St., Boston, Mass.

Officers: Nathan L. Amster, pres.; H. M. Stonemetz, v. p.; Chas R. Jeffers, sec.-treas., with Wm. A. Paine, M. W. Cole, C. J. McGilravy, J. B. Beaty and Edgar J. Lownes, directors. J. W. Bennie, gen. mgr., Gleeson, Ariz.

Inc. Nov. 13, 1899 in Delaware. **Cap.** $3,000,000; $10 par; increased July 1909, to $3,300,000; $3,000,000 outstanding. Shares are listed on the Boston Exchange. National Shawmut Bank Boston, registrar; Boston Safe Deposit & Trust Co., transfer agent. Annual meeting, third Wednesday in March.



In 1920, the directors were authorized to invest in business outside of metal mining, more especially in oil, but neither mineral nor oil properties of sufficient merit have as yet been found.

Company's subsidiary, **Leonard Copper Co.**, has been liquidated and its Copper Belle mine transferred to the parent company.

**Financial statement, years ending Dec. 31:**

| Year | Sales | Profit | Dividends | Year's Surplus | Current assets | Current liabilities |
|---|---|---|---|---|---|---|
| 1915..... | $1,102,275 | $205,606 | ..... | $209,678 | ..... | ..... |
| 1916..... | 2,620,950 | 783,216 | $150,000 | 671,055 | ..... | ..... |
| 1917..... | 1,824,947 | 161,219 | 525,000 | 380,032† | ..... | ..... |
| 1918..... | 2,254,774 | 277,583* | ..... | 277,583† | $234,732** | $250,262 |
| 1919..... | ..... | ..... | ..... | ..... | 466,890 | 12,266 |
| 1920..... | ..... | ..... | ..... | ..... | 395,263 | 5,664 |
| 1921..... | ..... | ..... | ..... | ..... | 390,612 | 5,974 |
| 1922..... | ..... | ..... | ..... | ..... | 341,579 | 4,469 |
| 1923..... | ..... | ..... | ..... | ..... | 185,707 | 3,591 |

* Loss. † Deficit. ** Exclusive of $540,710 investments.

Current assets include funds deposited with the Cosmopolitan Trust Co., which is in hands of the Bank Commissioner, amounting to $145,000 in 1920 and 1921; $130,473 in 1922. Dividends previously paid were: 50¢ per share in 1906; $1 in 1907; and 50¢ in 1912 and 1913, each.

**The Arizona Copper Co.**, in 1919, took over the Cliton-Metcalf properties of the Shannon, including mines, reduction works, railroads, together with a 53% stock interest in the **Coronado Mng. Co.** The price was $600,000. With this money company paid off $200,000 outstanding bonds of Shannon-Ariz. Ry. Co. and paid off its floating debt. The Metcalf mines had been idle for some time, the ore having declined in grade until it could not be profitably treated.

**Property:** the company retains the Copper Belle mine, 8 claims, in the Turquoise (Courtland) district, at Gleeson, Cochise county, and the Yaeger Canyon properties, 8 miles SW of Jerome in the Black Hills district, Yavapai county. The Yaeger mine was closed down in March 1919, to await a better copper market, and has remained so since, except for a little development work in 1920-21. Ore from this work averaged about 12% copper.

The Yaeger canyon mine near Jerome opened to the 1,300' level by an inclined shaft, has been abandoned. The mine is said to have cost $75,000; an additional $125,000 was spent on development.

Development at the Copper Belle is by shaft with about 1 mile of workings, opening several orebodies on 3 different contacts. Ore is nearly solid pyrite with considerable chalcopyrite and some bornite. Ore reserves are reported to be between 300,000 and 500,000 tons, averaging 2% copper with $2 gold and silver.

**Equipment:** at Copper Belle includes steam plant, 2 hoists and compressors. Company is employing 20 men.

**Production:** from Yaeger in 1918 amounted to 9,627,987lb. copper, 2,466 oz. gold and 77,314 oz. silver. Of the copper production, 7,164,918lb. were sold at 22.10c. per lb. The 1921 balance sheet shows $29,882 for value of ore in stock piles at the 2 mines, and early in 1923 it was said that shipments of these ores had netted $35,000.

Company is reported to have been spending $3,500 per month on maintenance and development of its 2 properties, but contemplates resumption of ore shipments from the Copper Belle mine during 1923.

**SHATTUCK ARIZONA COPPER CO.** ARIZONA

**Office:** 120 Broadway New York. **Mine office:** Bisbee, Arizona.

**Officers:** L. C. Shattuck, pres.-gen. mgr.; H. L. Mundy, and Thos. Bardon, Jr., v. ps.; A. M. Chisholm, treas., with L. K. Baker, directors. N. E. La Mond, v. p.-sec.; T. O. McGrath, aud.-asst. gen. mgr.; Jos. Walker, supt.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

DEPT. MINERAL RESOURCES
PHOENIX, ARIZONA
1943 AUG

Mine YAEGER Date August 27, 1943

District Black Hills of Yavapai County Engineer B. W. Brown

Subject: Examination of Yaeger Mine for George Hansen, Lessee ( Address; Humboldt, Arizona)

The Yaeger Mine, owned by Everett Breckenridge ( address; Mayer, Ariz.) and now under bonded lease to George Hansen ( address; Humboldt, Ariz.) is located in the Black Hills mining district of Yavapai county at an elevation of 5,866 ft.. It is reached from Prescott by about 20 miles of paved highway ( U.S. 89 Alternate to Clarkdale ) and thence by about 1½ miles of passable mine road.

The mine was one of the older copper operations in the county and is said to have yielded $1,000,000 in copper, $50,000 in gold, and $77,000 in silver which, according to Lindgren, would place it in the same production range with other pre-cambrian deposits such as the United Verde, U.V.X., Blue Bell, etc.. The mine was owned and operated by the Shannon Copper Co. until 1922 at which time operations ceased for causes unknown. It is believed, however, that the operators were having difficulty in operating through the Yaeger shaft due to caves, excessive water ( Lindgren reports 18,000 gallons per day as the average flow during operations ), and difficulties encountered in maintaining a shaft through sheared and blocky ground. A study of pencil notations by the Shannon Co. engineer on the original "hard-copy" map would indicate that, at the time of suspension of operations, drifting was being advanced on the 900 level to contact an intersection of the Yaeger vein with a more nearly vertical vein which outcrops on the Grey Copper claim and on which the Old Incline, sometimes called Grey Copper shaft, was driven. It is reported that the Shannon Company had planned to sink a new shaft to a point of contact at the 900 level when operations were suspended.

The workings on the five claims of the Hansen lease may be considered under four categories. There is, first, the main workings of the Yaeger shaft which dip about 35 to 45 degrees southerly and extend to the 1300 level-- the portal of this shaft or incline is badly caved and it is believed that water now stands at the 200 level or above. It is also believed that the shaft itself may be caved in several instances. Secondly, there are several prospects and test pits on a vein of oxidized copper which crops under the old reservoir. This vein segment is believed to be a fractured fragment of the Yaeger vein. Thirdly, there is an older incline which together with two connecting vertical shafts of around 75 feet in depth comprise the workings on a cross vein at a point where the Cross vein and Yaeger vein would normally intersect at the surface. This shaft is caved at the collar and caved again within about thirty feet of the bottom where some "chloriding" had been done. And, lastly, there are numerous

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine YAEGER Date

District Engineer

Subject: Continued 

test pits on the continuation of the Yaeger vein to the east of the Old Incline or Grey Copper shaft.

Lindgren describes the main Yaeger shaft workings as follows: "The deposit is a fissure vein ( in shear strained diorite ) striking east and having a dip of 35 degrees south. The width is as much as 7 feet; in places there was 3 feet of clear bornite. The ore contained calcite, quartz, bornite, and tenantite with a little pyrite. There is some secondary chalcocite and also fine azurite and malachite. The structure of the ore is mainly massive..."

The Shannon Company assay map would indicate that the ore-shoot strikes to the East in the general direction of shear action and would also support that the contact with the cross vein was never quite reached but definitely indicated, and that work at depth was never effected East of the Grey Copper vein where geological considerations would dictate a reasonable chance for ore-placement. It is estimated that to extend the Grey Copper shaft on the plane of contact would prove the most economical way to develop the eastern extension of the Yaeger vein and explore the eastern continuity of the Yaeger ore-shoot. It is also estimated that an extension of the Grey Copper incline will not encounter the major tuff shear zone which was encountered in the Yaeger shaft until a greater depth than the present Yaeger workings has been reached. It may also be emphasized that the ground elevation increases markedly to the East along the Yaeger strike.

In conclusion, the Grey Copper Shaft should be cleaned and timbered for examination to determine the advisability of any development program through it.

B. W. Brown

2 calls.

9:12

9:11

1 Minute

9:35

9:13

22 Minutes

Lakeside Calif.

Job # 1408

5/23/80

(714) 561-2285

(714) 449-7633

Mr. Walling, Glen.

~~Mr.~~ Realestate Development.

FreeWest Properties.

Investors.

15,000 tons.

11 Patented

8 owned.

Mr. Bradley.

3 other

Unpatented

National Forest.

Will send more data, maps etc.

W.

May 13, 1980

GEOEX
Cable: GEOEX
MAY 21 1980
BOX 5964 TUCSON, ARIZONA 85703
Phone: (AREA 602) 623-0578

Heinrichs Geoexploration Company
810 W. Grant Road
P. O. Box 5964
Tucson, AZ 85703

RE: YAEGER MINE Available for Exploration
Lease and/or Purchase
Price: $1,200,000 (Final Purchase)
Terms: Flexible and conducive to exploration

Gentlemen:

I am the owner of the Yaeger Mine located in the Black Hills Mining District of Arizona, approximately 20 miles from Prescott, and would like to submit the property to mining and exploration firms that might have an interest in such an exploration target. My ownership in the mine consists of eight patented mining claims totaling 165 acres of land.

Most of the production from the mine occurred prior to 1923 and the mine has had only small activity since that date. There is an incline shaft to the 1,200 foot level with veins as much as seven feet wide. The total yield to date is approximately 10,000,000 pounds of copper, 2,500 troy ounces of gold and 70,000 troy ounces of silver.

Enclosed you will find assay results from mine samples, recent assay results from the surface of the dump and tailings, and a copy of USGS Bulletin 782 for your inspection. Also enclosed is a letter from Ken Phillips of the Arizona Department of Mineral Resources regarding the potential of the mine. (Mr. Phillips may be contacted for additional information at (602)225-3791).

If you are interested in making an offer to lease or buy the mine, discussing a joint venture, or just obtaining more information, please feel free to call or write me at: 11834 Rocoso Road, Lakeside, CA 92040, Telephone: (714)561-2285 Home; or (714)449-7633 Office.

Sincerely,

William F. Bradley Jr.

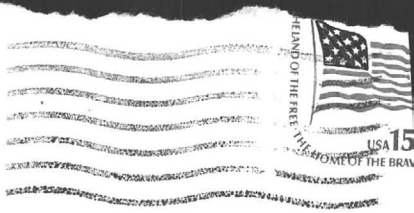
William F. Bradley, Jr.

WFB:rw

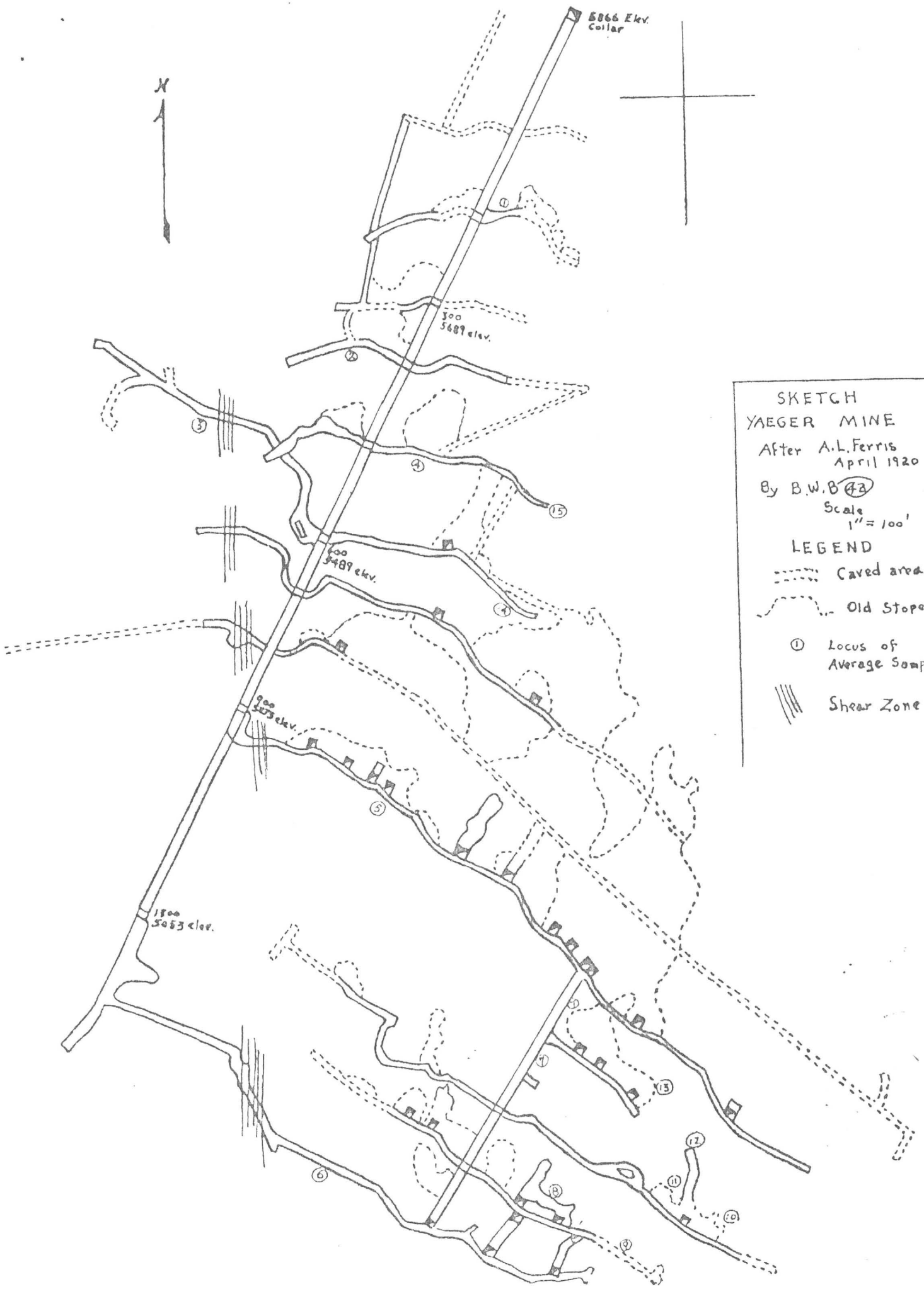
Enc.

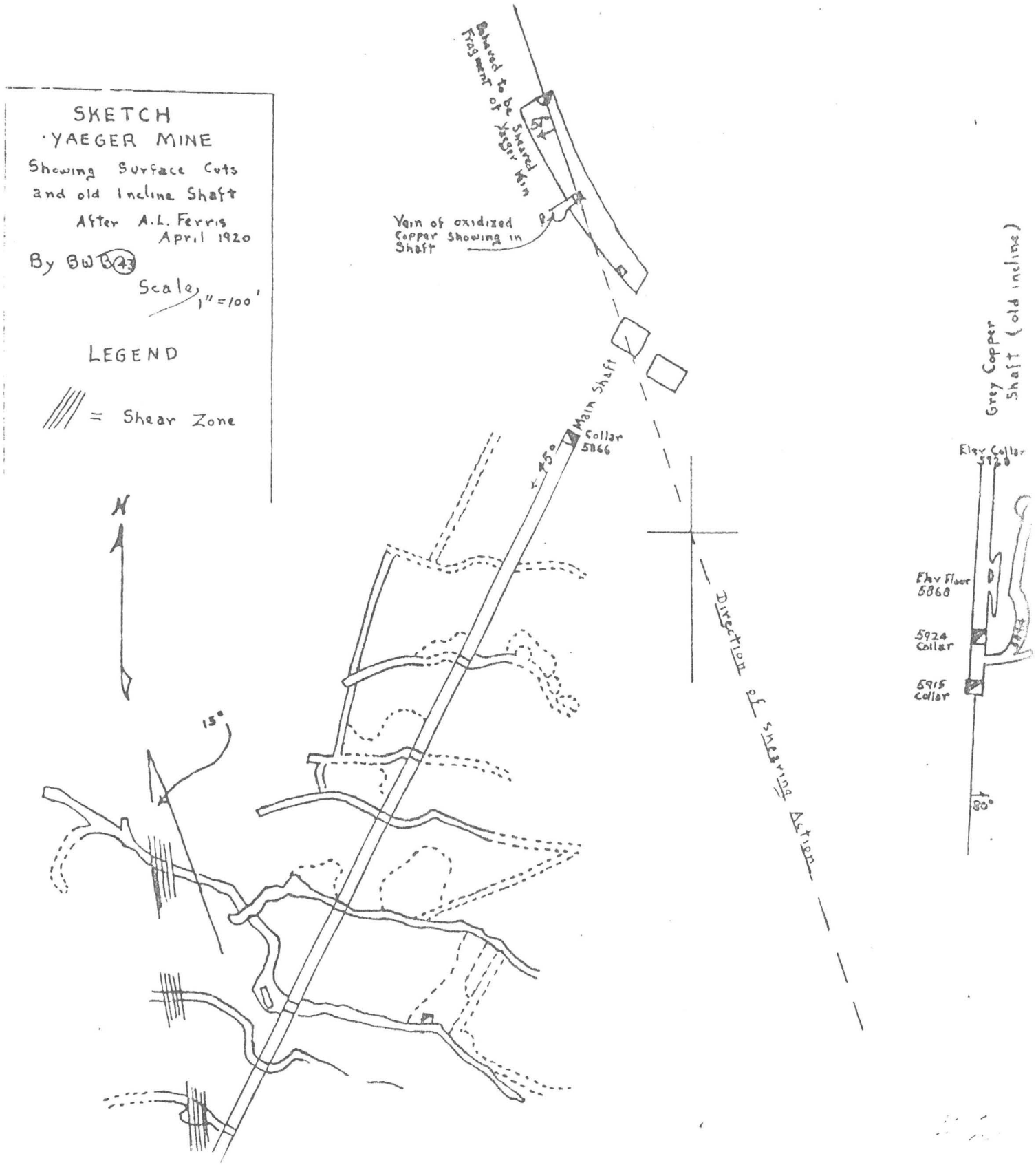
William F. Bradley, Jr.
11834 Rocoso Road
Lakeside, CA 92040

SAN DIEGO, CALIF.
PM
19 MAY
1980




Heinrichs Geoexploration Company
810 W. Grant Road
P. O. Box 5964
Tucson, AZ 85703


5866 Elev.
Collar
N
300
5689 elev.
600
5489 elev.
900
5253 elev.
1500
5053 elev.
SKETCH
YAEGER MINE
After A.L. Ferris
April 1920
By B.W.B 42
Scale
1" = 100'
LEGEND
Caved area
Old Stope
Locus of
Average Sump
Shear Zone


SKETCH
YAEGER MINE
Showing Surface Cuts
and old Incline Shaft
After A.L. Ferris
April 1920
By BWB 43
Scale 1" = 100'
LEGEND
= Shear Zone
N
15°
Behaved to be Sheared Fragment of Yaeger Vein
Vein of oxidized Copper Showing in Shaft
Main Shaft
Collar 5866
45°
Direction of Shearing Action
Grey Copper Shaft (old incline)
Elev Collar 5928
Elev Floor 5868
5924 Collar
5915 Collar
80°

IRON KING ASSAY OFFICE

# ASSAY CERTIFICATE

BOX 14 — PHONE 632-7410
HUMBOLDT, ARIZONA 86329

REGISTERED ASSAYER
CERTIFICATE NO. 2978
WALTER G. STATLER
Designed
ARIZONA, U.S.A.

ASSAY MADE FOR
FREE WEST PROPERTIES INC.
10765 Woodside Ave.
Santee, Cal. 92701

April 19, 1980

| REF. NO. | DESCRIPTION | oz/ton Au | oz/ton Ag | | % Fe | % Pb | % Zn | Oxide % Cu |
|---|---|---|---|---|---|---|---|---|
| | Composite of samples | | | | | | | |
| | D-1,2,5,7,10,11 | | | | | | | 1.18 |
| | T-1,2,3 | | | | | | | |
| | S-3 | | | | | | | |

CHARGES $4.00

ASSAYER

IRON KING ASSAY OFFICE

# ASSAY CERTIFICATE

BOX 247 — PHONE 632-7410
HUMBOLDT, ARIZONA 86329

REGISTERED ASSAYER
CERTIFICATE NO. 2978
WALTER G. STATLER
Date Signed
ARIZONA, U.S.A.

ASSAY MADE FOR

FREE WEST PROPERTIES INC.
10765 Woodside Ave.
Santee, Cal. 92071

April 9, 1980

| SAMPLE DESCRIPTION | Ref no. | Gold oz/ton | Silver oz/ton | Copper percent | | |
|---|---|---|---|---|---|---|
| D-1 | 03-18-25 | .010 | 1.64 | 1.47 | | |
| D-2 | -26 | Tr | Tr | 0.65 | | |
| D-3 | -27 | .014 | 0.12 | 0.52 | | |
| D-4 | -28 | Tr | 0.32 | 0.88 | | |
| D-5 | -29 | .004 | 0.80 | 3.61 | | |
| D-6 | -30 | .004 | 0.22 | 0.69 | | |
| D-7 | -31 | Tr | 0.64 | 1.97 | | |
| D-8 | -32 | Tr | 0.20 | 0.69 | | |
| D-9 | -33 | Tr | 0.18 | 0.72 | | |
| D-10 | -34 | .008 | 0.36 | 1.36 | | |
| D-11 | -35 | .006 | 0.38 | 1.43 | | |
| T-1 | -36 | .010 | 0.86 | 1.87 | | |
| T-2 | -37 | .006 | 1.06 | 2.00 | | |
| T-3 | -38 | Tr | 0.66 | 1.88 | | |
| S-1 | -39 | .008 | 0.58 | 0.42 | | |
| S-2 | -40 | .006 | 0.46 | 0.88 | | |
| S-3 | -41 | .016 | 1.76 | 1.70 | | |

CHARGES $174.25 paid

ASSAYER

AVERAGE COMPOSITE OF ASSAYS

YAEGER MINE

After assay map by A. L. Ferris

| Sketch Map Number | Width Ft. | Cu% | Ag/oz. | Number of assays averaged |
|---|---|---|---|---|
| 1) | 1.6 | 1.44 | | 2 |
| 2) | .5 | 1.83 | | 4 |
| 3) | 1.2 | .05 | | 2 |
| 4) | 1.7 | 4.02 | | 6 |
| 5) | 1.4 | 1.65 | 1.45 | 2 |
| 6) | 1.7 | .22 | 0 | 5 |
| 7) | 3.5 | 6.22 | 3.9 | 14 |
| 8) | 2.2 | 7.56 | 4.8 | 3 |
| 9) | 1.0 | 12.24 | 10.00 | 1 |
| 10) | 1.2 | 12.12 | | 3 |
| 11) | 1.2 | 2.63 | 1.00 | 3 |
| 12) | .7 | 11.18 | 2.7 | 3 |
| 13) | 1.2 | 6.50 | 6.1 | 3 |
| 14) | 2.0 | 2.81 | | 2 |
| 15) | 1.7 | .1 | | |

From U.S. Geol. Survey ~~Prof. Paper~~ Bulletin 782



*Copper, lead, gold, and silver produced in Black Hills district, 1904–1923*

[Compiled by V. C. Heikes, U. S. Geological Survey]

| Year | Crude ore (tons) | Copper (pounds) | Lead (pounds) | Gold (fine ounces) | Silver (fine ounces) | Total value |
|---|---|---|---|---|---|---|
| 1904 | 4,012 | 278,050 | | | 11,310 | $42,150 |
| 1905 | 7,505 | 373,600 | | | 13,076 | 66,180 |
| 1906 | 3,063 | 285,303 | | | 11,085 | 62,601 |
| 1907 | 779 | 149,302 | 8,420 | 5.37 | 7,429 | 35,330 |
| 1908 | 61 | 34,060 | | 5.74 | 926 | 5,106 |
| 1909 | 68 | 1,739 | 11,010 | 23.43 | 685 | 1,539 |
| 1910 | | | | | | |
| 1911 | 73 | 2,599 | | .73 | 654 | 687 |
| 1912 | 30 | 4,151 | | 2.39 | 39 | 758 |
| 1913 | 48 | 11,975 | | 1.49 | 604 | 3,232 |
| 1914 | | | | | | |
| 1915 | | | | | | |
| 1916 | | | | | | |
| 1917 | 24 | 3,488 | | .23 | 88 | 1,030 |
| 1918 | 33 | 6,488 | | .65 | 177 | 1,792 |
| 1919 | 67 | 19,594 | | 6.69 | 753 | 4,626 |
| 1920 | 54 | 16,826 | | 1.09 | 561 | 3,728 |
| 1921 | 40 | | | 12.00 | 2 | 250 |
| 1922 | 773 | 265,988 | | 16.07 | 8,095 | 44,335 |
| 1923 | 26 | 2,038 | | 11.34 | 64 | 589 |

YAEGER MINE

The Yaeger mine, in the western foothills of the Black Hills about a mile south of the road from Prescott to Jerome, at an altitude of 5,400 feet, was idle in 1922, except for some shipments of rich copper ore from the dump. For many years copper ore has been shipped from this deposit. It is now the property of the Shannon Copper Co., A. L. Ferris, manager. Up to 1919 the yield is said to be 9,627,987 pounds of copper, 2,466 ounces of gold, and 77,134 ounces of silver.[44] The mine is developed by an inclined shaft to the 1,300-foot level, with drifts extending mostly to the east a maximum distance of 750 feet. In 1922, 800 tons of copper-silver ore was shipped to the Humboldt smelter. The property has been dismantled and all work discontinued.[44a]

The brown, brushy hills around the Yaeger mine are of complex structure. Below the mine white fissile sericitic schists crop out. At the mine is exposed a dioritic fine-grained rock showing veinlets of epidote and also veinlets of calcite and bornite; above the mine are vertical greenish slates striking due north and also much of a massive fragmental rock that is perhaps a diabase tuff. The "diorite" shows in thin section as a somewhat sheared diorite porphyry with large phenocrysts of oligoclase-andesine in a trachytic groundmass of minute feldspar laths. There is a great deal of secondary chlorite, epidote, and calcite.

The deposit is a fissure vein striking east and having a dip of 35° S. The width is as much as 7 feet; in places there was 3 feet of clear bornite. The ore contains calcite, quartz, bornite, and tennantite, with a little pyrite. There is some secondary chalcocite, and also fine azurite and malachite. The structure of the ore is mainly massive, with rather large aggregates of both bornite and tennantite. In places these two minerals are intergrown. More or less oxidized ore occurs near the surface. There is no chalcocite zone, properly so called. A polished section of the rich ore shows quartz (oldest), tennantite, partly replaced by bornite, and the bornite in turn cut by narrow veinlets of chalcopyrite. The mine makes about 18,000 gallons of water a day. The ore is said to contain 0.65 ounce of silver to 1 per cent of copper. Much of the ore has been of high grade. The ore shoot pitches to the east beginning near the collar of the shaft; it is apparently 200 to 300 feet long in the middle levels but becomes small on the 1,300-foot level.

The composition of the ore is unusual, and there is no definite evidence of the age of the deposit. Probably it is pre-Cambrian.

[44] Weed, W. H., Mines Handbook, 1922, p. 300.



SHYLOCK MINE

The Shylock mine, idle for many years, is in the eastern foothills of the Black Hills, 4 miles due south of the Yaeger mine. It is accessible by an old road from Grapevine Gulch. The altitude is 5,800 feet. The mine is developed by an inclined shaft said to be 1,500 feet deep. Yavapai slates, in places fissile, form the principal country rock; an embayment of the main Bradshaw granite area reaches up from the south nearly to the mine. There are also greenstone schists in the vicinity. The Shylock shaft appears to be sunk on a vein striking east-northeast and dipping 60° S. To judge from the dump the ore contained quartz, tetrahedrite, galena, and sphalerite. It is not known whether any shipments were made.

Further information regarding the prospects in this vicinity has been kindly supplied by Mr. P. C. Benedict, of Jerome, who writes as follows:

Near the Shylock mine the Yavapai schist seems to be divisible into three parts:

1. The fissile sedimentary schists, brown or red, forming a continuous belt along the lowest foothills. The strike is northerly, the dip vertical. These phyllites contain some beds of sandstone and thin conglomerates, with steep dips.

2. A "greenstone" occupying the hills east of the Shylock and appearing again in Grapevine Creek, east of the granite contact. This is in part an andesite, in part perhaps a fine-grained diorite.

3. A sedimentary rock, apparently inclosed in greenstone, east of the granite contact on Grapevine Creek. It is a blocky dense rock of dark-brown color similar to the "bedded sediments" of the pre-Cambrian at Jerome. The bedding is flat, and the rocks contain thin strata of hematite.

STATE OF ARIZONA
DEPARTMENT OF MINERAL RESOURCES
MINERAL BUILDING, FAIRGROUNDS
PHOENIX, ARIZONA 85007
602/255-3791

March 11, 1980

Mr. Bill Bradley
10735 Woodside Avenue, Suite X
San Diego, California 92071

Dear Mr. Bradley:

Some information on the Yaeger Mine is enclosed.

Arizona Bureau of Geology and Mineral Technology Bulletin 140, Arizona Metal Production, credits the Yaeger Mine with production of 10,000,000 pounds of copper, about 2,516 troy ounces of gold, and approximately 70,000 troy ounces of silver. At present 1980 prices, that production would have a gross value of $16,000,000. It is not known whether or not the property was mined out.

Geology and Ore Deposits of the Jerome Area, Yavapai County, Arizona, by C.A. Anderson and S.C. Creasey, published in 1958 by the U.S. Geological Survey as Professional Paper 308, contains the most recent technical description of the property. A few items of particular interest are contained in that article, a copy of which is enclosed. Note that,

(1) Most of the production was prior to 1909.

(2) The mine has apparently been inactive since 1923.

(3) Activity since 1923 has consisted of attempts to reprocess dumps and tailings.

(4) The vein was up to 7 feet wide.

(5) The ore contained important amounts of copper and silver with some gold.

(6) The mine is now inaccessible; likely due to flooding with water.

Note also the sentence which states, "The ore was reported to contain about 0.65 ounces of silver to the ton and 1.0 percent copper, and was chiefly high grade." Such ore in today's terms for a small underground mine is definitely not high grade and in 1926 I doubt it was either. The sentence is probably a misquote from the 1926 publication referenced. The actual reference from W. Lindgren's U.S. Geological Survey Bulletin 782, Ore Deposits of the Jerome and Bradshaw Mountains Quadrangles, Arizona, 1926, is "The ore is said to contain 0.65 ounces of silver to (each) 1 percent of copper. Much of the ore has been of high grade." A copy is enclosed.

The 1924 edition of The Mines Handbook mentions development work on the Yaeger Mine by the Shannon Copper Company. The ore developed is reported as averaging 12% copper. We might infer by the copper-silver ratio discussed above that that ore might average 7.8 ounces per ton silver. I can find no notation as to the quantity of ore that was developed or whether or not it was mined out.

Our file on the property indicates attempts were made to leach copper from the mine's dumps in the early 1960's by a group known as "SKS Mineral Processing" or H. R. Scott & Son. Apparently they ran out of funds before the operation got started.

The potential of an old mine is very difficult to determine and such evaluation can be costly. On the other hand, the effort occasionally pays off many many fold. If an attempt is made to perform such an evaluation, it must be done in a businesslike and professional manner. Mining ventures have been known to end in disaster when based on hunches and remembrances.

One of our (Department of Mineral Resources) Engineers (probably myself) can visit the property with you to give you initial ideas on which way to proceed. The visit is a free service. At that time we can note conditions on the property, such as surface outcrops, condition of mine openings, quantity and type of material on dumps and suggest a way to proceed.

In summary, the historical data, regional geology and current metal prices warrant taking a look at the property and adjacent land for its mineral potential. Any detailed surveys, evaluations or opening, repairing and dewatering of the mine would require your hiring of independent professional engineering services or forming a joint venture with a mining or engineering company.

I am looking forward to meeting with you and visiting the property.

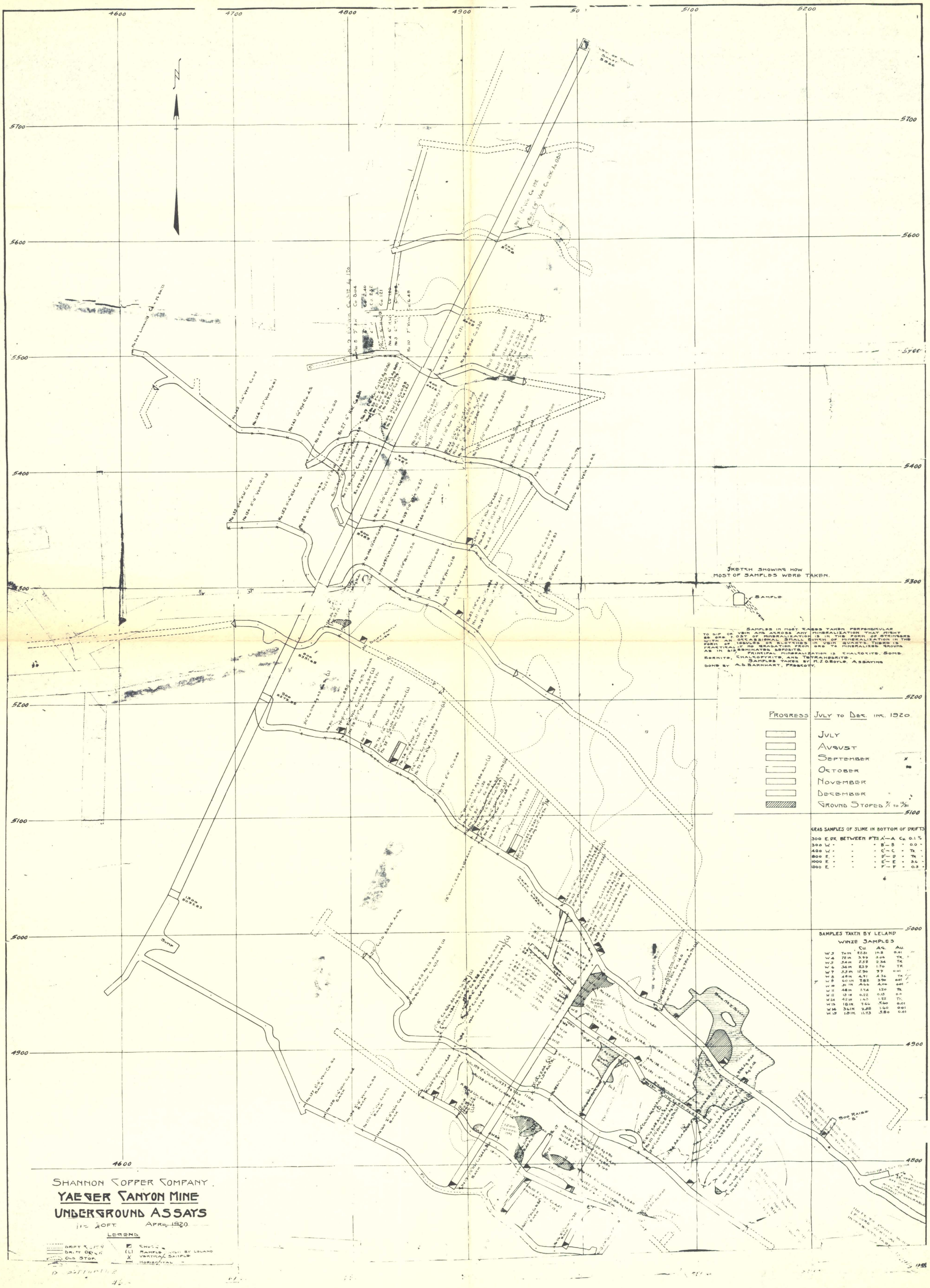
Sincerely,

Ken A. Phillips

Ken A. Phillips
Mineral Resources Engineer

KAP:mw

Enclosure


SHANNON COPPER COMPANY
YAEGER CANYON MINE
UNDERGROUND ASSAYS
1" = 20 FT.
APRIL 1920
LEGEND
DRIFT
CROSS CUT
OLD STOPE
SHUTE
(L) SAMPLE
VERTICAL SAMPLE
HORIZONTAL "
SAMPLES TAKEN BY LELAND
SKETCH SHOWING HOW MOST OF SAMPLES WERE TAKEN.
SAMPLE
VEIN
SAMPLES IN MOST CASES TAKEN PERPENDICULAR TO DIP OF VEIN AND ACROSS ANY MINERALIZATION THAT MIGHT BE ORE. MOST OF MINERALIZATION IS IN THE FORM OF STRINGERS WITH AN OCCASSIONAL SMALL BUNCH OF MINERALIZATION IN THE FORM OF IRREGULAR OR BLOTCHES IN VEIN QUARTZ. THERE IS PRACTICALLY NO GRADATION FROM ORE TO MINERALIZED GROUND AS IN DISSEMINATED DEPOSITS.
PRINCIPAL MINERALIZATION IS CHALCOCITE, SOME BORNITE, CHALCOPYRITE, AND TETRAHEDRITE.
SAMPLES TAKEN BY M.J.O.BOYLE. ASSAYING DONE BY A.D. BARNHART, PRESCOTT.
PROGRESS JULY TO DEC. INC. 1920
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER
DECEMBER
GROUND STOPED 7/1 TO 12/31
GRAB SAMPLES OF SLIME IN BOTTOM OF DRIFTS
300 E. DR. BETWEEN PTS. A'—A Cu. 0.1 %
300 W. " " " B'—B " 0.0 "
400 W. " " " C'—C " TR. "
800 E. " " " D'—D " TR. "
1000 E. " " " E'—E " 3.6 "
1300 E. " " " F'—F " 0.3 "
SAMPLES TAKEN BY LELAND
WINZE SAMPLES
Cu. Ag. Au.
W3 70 IN 22.31 10.8 0.01
W4 72 IN 3.99 3.06 TR.
W5 34 IN 2.52 2.34 TR.
W6 34 IN 2.39 1.70 TR.
W7 33 IN 12.90 9.9 0.01
W8 48 IN 4.91 4.36 TR.
W9 60 IN 7.82 3.90 0.01
W10 31 IN 4.66 4.06 0.01
W11 48 IN 1.74 1.20 TR.
W12 13 IN 0.22 0.15 0.0
W24 42 IN 1.63 1.22 TR.
W13 18 IN. 7.66 5.60 0.01
W14 36 IN 2.88 1.60 0.01
W15 18 IN. 11.73 5.80 0.01
1000 STOPE
SUMP
300 RAISE
4600
4700
4800
4900
5000
5100
5200
5300
5400
5500
5600
5700