



CONTACT INFORMATION

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Arizona Department of Mines and Mineral Resources Mining Collection

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PRINTED: 08-06-2009

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: HOWARD SILVER

ALTERNATE NAMES:

ECLIPSE
PATENTED CLAIMS MS 3882
H S TUNGSTEN
COW CLAIM GROUP
IRON AGE VEIN

YAVAPAI COUNTY MILS NUMBER: 788A

LOCATION: TOWNSHIP 10 N RANGE 1 E SECTION 12 QUARTER NW
LATITUDE: N 34DEG 13MIN 40SEC LONGITUDE: W 112DEG 12MIN 40SEC
TOPO MAP NAME: BUMBLE BEE - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

TUNGSTEN
SILVER
LEAD
COPPER
ZINC
IRON

BIBLIOGRAPHY:

USGS BUMBLE BEE QUAD
BLM MINING DISTRICT SHEET 6
LINDGREN, W. ORE DEPTS JEROME & BRADSHAW MTNS
QUADS USGS BULL 782 1926 P 159
AZ MNG. JRNL. DEC 15, 1922 P 22
DALE, V.B. TUNG. DEPTS. GILA, YAV. & MOHAVE
CTYS USBM IC 8078 1961 P 26-28
ADMMR HOWARD SILVER FILE

ECLIPSE MINE

YAVAPAI COUNTY
T10N R1E Sec 12

AKA: Howard Silver, H S Tungsten, Patented Claims MS 3882

Mils Yavapai Index # 788A

USGS Bull #782, p. 159

Arizona Mining Journal, Dec 15, 1922, p. 22

USBM IC 8078, p. 26-28

Arizona Mining Journal, Jan 1, 1922, p. 25

* GENERAL REFERENCES

REFERENCE 1 F1 <US GEOL SURVEY ALL 782, p. 159>
 REFERENCE 2 F2 <ABGMT- USBM FILE DATA>
 REFERENCE 3 F3 <ABGMT CLIPPINGS FILE>
 REFERENCE 4 F4 <USBM I.C. 6905, p. 32>

U.S. CRIB-SITE FORM

RECORD IDENTIFICATION

RECORD NUMBER B10 < >
 REPORT DATE G1 < 8.1.89 >
 YR. MO.
 REPORTER(SUPERVISOR) G2 < DEWITT, ED. H. >
 (last, first, middle initial) (last, first, middle initial)
 REPORTER AFFILIATION G5 < ABGMT >
 SYNONYMS A11 < >
 DEPOSIT NUMBER B40 < >
 INFORMATION SOURCE B30 < 1, 2 >
 FILE LINK IDENT. B50 < USBM 004 025 H52 >
 SITE NAME A10 < HOWARD SILVER MINE >

LOCATION

MINING DISTRICT/AREA A30 < BLACK CANYON DISTRICT >
 COUNTY A60 < YAVAPAI >
 PHYSIOGRAPHIC PROV A63 < 1, 2, 3 >
 DRAINAGE AREA A62 < 1, 5, 0, 7, 0, 1, 0, 2, 3 >
 QUADRANGLE NAME A90 < BUMBLEBEE >
 SECOND QUAD NAME A92 < >
 ELEVATION A107 < 2, 8, 0, 0, 0, 0, 0, 0, 0, 0 >
 STATE A50 < AZ >
 COUNTRY A40 < U.S. >
 LAND STATUS A64 < 0, 0, 0, 0, 0, 0, 0, 0, 0, 0 >
 QUADRANGLE SCALE A100 < 24, 0, 0, 0 >
 SECOND QUAD SCALE A91 < >

UTM

NORTHING A120 < 37, 87, 89, 0 >
 EASTING A130 < 38, 84, 5, 0 >
 ZONE NUMBER A110 < 1, 2 >

*ACCURACY

ACCURATE (ACC) (circle)
 ESTIMATED EST < >

GEODETIC

LATITUDE A70 < >
 LONGITUDE A80 < >

CADASTRAL

TOWNSHIP(S) A77 < 0, 1, 0, N, 1, 1, 1, 1, 1, 1 >
 SECTION(S) A79 < 24 >
 SECTION FRACTION(S) A76 < NE OF SW >
 MERIDIAN(S) A81 < GILA AND SALT RIVER >
 RANGE(S) A78 < 0, 0, 1, E, 1, 1, 1, 1, 1, 1 >

POSITION FROM NEAREST PROMINENT LOCALITY A82 < 4.5 MILES SOUTH OF CLEATOR, ARIZONA >
 LOCATION COMMENTS A83 < >

ESSENTIAL INFORMATION
 ESSENTIAL SOMETIMES OR HIGHLY RECOMMENDED

COMMODITY INFORMATION

*COMMODITIES PRESENT C10 A.G. C.U.
 *ORE MINERALS C30 CALEN, SPHALERITE
 COMMODITY SUBTYPES C41
 *GEN. ANALYTICAL DATA C43
 COM. INFO. COMMENTS C50

*SIGNIFICANCE

PRODUCER
 MAJOR PRODUCTS MAJOR A.G. C.U.
 MINOR PRODUCTS MINOR C.U.
 POTENTIAL PRODUCTS POTEN EN
 OCCURRENCES OCCUR

NON-PRODUCER

MAIN COMMODITIES PRESENT C11
 MINOR COMMODITIES PRESENT C12
 OCCURRENCES OCCUR

*PRODUCTION

PRODUCER
 PRODUCTION YES (circle) PRODUCTION SIZE SM MED LGE (circle one)

NON-PRODUCER

PRODUCTION UND NO (circle one)

*STATUS

EXPLORATION OR DEVELOPMENT

PRODUCER
 STATUS AND ACTIVITY A20 4

NON-PRODUCER
 STATUS AND ACTIVITY A20 1

*DISCOVERER L20
 *YEAR OF DISCOVERY L10 EARLY 1900's *NATURE OF DISCOVERY L30 B *YEAR OF FIRST PRODUCTION L40 1922 *YEAR OF LAST PRODUCTION L45 1924
 *PRESENT/LAST OWNER A12
 *PRESENT/LAST OPERATOR A13 HOWARD SILVER COMPANY
 EXPL./DEV.COMMENTS L110

DESCRIPTION OF DEPOSIT

*DEPOSIT TYPE(S) C40 VEIN
 *DEPOSIT FORM/SHAPE M10 TABULAR
 *DEPTH TO TOP M20 400 *UNITS M21 FT *MAXIMUM LENGTH M40 400 *UNITS M41 FT
 *DEPTH TO BOTTOM M30 400 *UNITS M31 FT *MAXIMUM WIDTH M50 250 *UNITS M51 FT
 *DEPOSIT SIZE M15 SMALL M15 MEDIUM M15 LARGE (circle one) *MAXIMUM THICKNESS M60 4 *UNITS M61 FT
 *STRIKE M70 N 50 W *DIP M80 25 NE
 *DIRECTION OF PLUNGE M100
 *DEP. DESC. COMMENTS M110 DEPOSIT CONSISTS OF SOUTHERN CROSS AND ALICE VEINS. IRON AGE AND D.J.H. VEINS NEARBY

DESCRIPTION OF WORKINGS

*Workings are: SURFACE M120 UNDERGROUND M130 BOTH M140 (circle one)
 *DEPTH BELOW SURFACE M160 400 *UNITS M161 FT *OVERALL LENGTH M190 400 *UNITS M191 FT
 *LENGTH OF WORKINGS M170 500 *UNITS M171 FT *OVERALL WIDTH M200 4 *UNITS M201 FT
 *DESC. OF WORK. COM. M220 OVERALL AREA M210 1600 *UNITS M211 SB FT

GEOLOGY

*AGE OF HOST ROCK(S) K1 P.R.O.T. *K. U/PB ZIRCON GREATER THAN 1720 MILLION YEARS
 *HOST ROCK TYPE(S) K1A AMPHIBOLITE
 *AGE OF IGNEOUS ROCK(S) K2 P.R.O.T. *K. U/PB ZIRCON GREATER THAN 1720 MILLION YEARS
 *IGNEOUS ROCK TYPE(S) K2A META-BASALT
 *AGE OF MINERALIZATION K3 M.I.D.
 *PERT. MINERALS (NOT ORE) K4 QUARTZ
 *ORE CONTROL/LOCUS K5 FAULTING, SHEARING
 *MAJ. REG. TRENDS/STRUCT. N5 FOLIATION TRENDS N-S
 *TECTONIC SETTING N15
 *SIGNIFICANT LOCAL STRUCT. N70 ADJACENT TO CRAZY BASIN BATHOLITH
 *SIGNIFICANT ALTERATION N75 NONE
 *PROCESS OF CONC./ENRICH. N80 OXIDATION AT NEAR SURFACE
 *FORMATION AGE N30 P.R.O.T. *K. U/PB ZIRCON GREATER THAN 1720 MILLION YEARS
 *FORMATION NAME N30A UNNAMED PROTEROZOIC METAVOLCANIC UNITS
 *SECOND FM AGE N35
 *SECOND FM NAME N35A
 *IGNEOUS UNIT AGE N50 P.R.O.T.
 *IGNEOUS UNIT NAME N50A
 *SECOND IG. UNIT AGE N55
 *SECOND IG. UNIT NAME N55A
 *GEOLOGY COMMENTS N85 HOWARD SILVER DEPOSIT IS QUARTZ VEIN IN PRECAMBRIAN AMPHIBOLITE

GENERAL COMMENTS

GENERAL COMMENTS GEN

NAME OF MINE: ECLIPSE <i>28 E. Catalina Phx</i>		COUNTY: Yavapai
OWNERS: Andreson; Irene Kinnon; W.C. Kinnon, Luhrs Tower, Phx.		DISTRICT: Turkey Creek
OPERATOR AND ADDRESS:		METALS: Tungsten
DATE:	MINE STATUS	
8/44	Andy Anderson, Cleator <i>TABLET</i> <i>Mr. Lee Tablets of (268-7679)</i> <i>Property Maintenance Co. (276-4448)</i> <i>4039 W. Huntington Dr</i> <i>Px 85041 Is now the owner</i> <i>of this property 7-21-74</i>	8/44 Developing

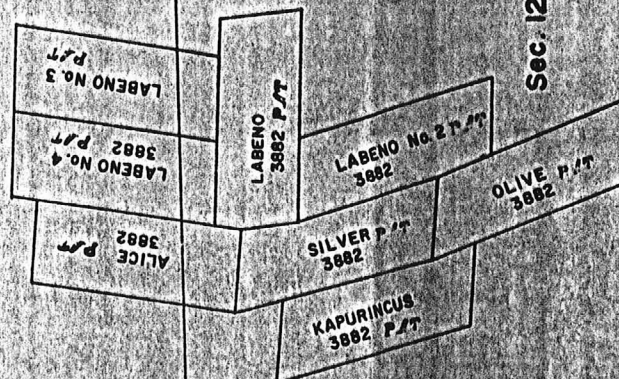
✓ See: U.S.G.S. Bull # 782 p 159, 45
 U.S.B.M. D.C. # 8078 p. 26

Ariz. Mng. Journal, 11/1/22, p. 25
 " " " " 12/15/22, p. 22

6

NE 1/4, T. 10N., R. 1E.
PINE GROVE DIST.
BLACK CANON DIST.

Sec. 1



USL M
3365

BILL ARP
3365 P/T

around Mayer they took over the well known Barbara group of claims on Copper mountain, not far south of the Arizona Binghamton mine. These men propose to spend their own money in preliminary development work and later on will organize a company which will be easily financed by their friends in southern Arizona.

Dr. Vivian of Humboldt and Tom Belford of Mayer have recently encountered a large body of high grade copper-gold ore almost within the town limits of Mayer, across the Big Bug creek. High grade ore has also been found at the Patton mine, south of the Arizona Binghamton mine. Every foot of ground has been staked for several miles around Copper mountain during the past several weeks and there is every indication of a good sized boom striking that section of the belt, based upon the recent developments of the two big properties, the Arizona Binghamton and the Copper Queen.

The new flotation process and the building of the new railroad from Turkey to Phoenix will be the making of the Turkey district. It is one of the strongest mineralized sections of the whole belt, the values being gold, silver, copper, lead and zinc in varying quantities. Milling tests made by some of the operating companies find that a high saving can be obtained by the flotation process. Three mills are being planned for the camp yet this season.

The Black Canyon Mining company, whose officers are W. A. Moses, president; A. L. Harroun, vice president, and Edna Harroun, secretary, all of Kansas City, is developing

A carload of high grade gold and copper ore was this week shipped to Humboldt smelter from the French Lily mine, a mile south of Turkey. J. W. Dawson, of Los Angeles, part owner, superintended the shipment. Another shipment is soon to be made with a view of determining the best process for milling the ore. There is a large amount of ore blocked out that will stand treatment in a mill at the mine and there is also developed considerable shipping ore. It is practically assured the owners will erect a flotation mill at the mine at an early date.

James Blanchard, owner of the Yankee Girl mine, which is located a short distance south of Turkey, reports a sale pending for his property. Two miners have been set to work to get the mine in shape. The values are in the silver, lead and zinc and there is ore on the dumps that can be shipped.

The last reports on the R. and H., which is another silver, lead and zinc mine, two and a half miles south of Turkey, are to the effect that a rich strike had been made in the incline at a depth of 225 feet from the tunnel level. A shipment of high grade to El Paso was gratifying. It showed considerable ruby silver.

One of the most interesting personages among the owners of mining properties in this Turkey district is Mrs. E. H. Hayes, who does not believe in owning mining property and having other people manage it. She has personally taken care of her properties, the E. H. C. mine located, half a mile south of Turkey, which is a well developed gold property; the Los Angeles mine, which adjoins the Swastika mine at Peck siding and the

The Sterling Mine
load of ore has just been from the Sterling mine, a distance southwest of Humboldt lease to L. J. Ross of , which gives a return of 10 per cent copper, 16.85 ounces of \$1.00 in gold. The ore is in a vein 18 inches to four feet thick. The mine is owned by J. H. Ingfield, of Humboldt. He is the townsite of Huron, Humboldt, three miles, the Sterling mine, two miles west of . A vein of ore 80 feet wide was developed in the Walnut mine that will average close to 10 per cent copper. The owner has offered to give a two-year bond and to lease the property at a reasonable price under a contract for two shifts of work. Five carloads of high grade silver-lead-gold ore have been shipped from the Monroe mine.

pects are considered excellent. The May Mining company to develop a property located immediately north of the Blue

The officers of the committee are: President, M. L. Heffley, Sydney, Ohio; secretary and treasurer, J. D. Barnes, also of Sydney.

The general manager is Melman of Mayer. The company expended a considerable amount in developing the property expecting to find the extension of the ore veins that are productive in the Blue Bell. One vein is 100 feet and another 200 feet thick and about 250 feet long and crosscutting have

Mining men believe that the more work is necessary for Blue Bell extension. It is more is being worked in the mine close to the south end of May company's property.

The Mayer Camp
tangible results of the re-
tising given the "Jerome to
belt in the outside newspa-
a Mayer date line, is the
to the Mayer camp four of
ining men of Bisbee. The
John Ross, W. A. Tucker,
th and Lee Hunt, who are
ng the best leasers of that

6.00

AMERICAN SMELTING AND REFINING COMPANY

SOUTHWESTERN ORE PURCHASING DEPARTMENT

810 VALLEY BANK BUILDING

P. O. BOX 2229

TUCSON, ARIZONA

June 12, 1946

BRENT N. RICKARD
MANAGER

Mr. W. C. Kinnon
28 East Catalina Ave.
Phoenix, Arizona

HOWARD SILVER(R & H) MINE, NEAR CLEATOR, ARIZONA

Dear Mr. Kinnon:

This is in reference to your letter of May 27th regarding past shipments from subject property. We have no record of receipts at our Hayden Plant. El Paso Plant advises me their records show the following receipts of crude ore.

Date Received	Shipper	Dry Tons	Assay and Analysis							
			Au	Ag	Pb	Cu	Ins	Fe	Zn	S
1. Nov. 1916	E.J. Temple	11	.02	131.6	5.6		59.6	3.4	11.6	7.4
2. Apr. 1917	James Cleator	) 1	.03	.8		5.9	60.4	12.4		0.1
3. " 1918	and	) 19		22.4	3.4		73.9	3.6	7.9	4.1
4. " "	Tawney	) 59	.17	110.4	6.1		56.2	6.2	10.6	7.7

The net per ton outcome on these four lots after deducting freight from Mayer and present smelting charges and with metal prices as indicated would be as follows.

Quotations: Silver \$.70625 (Mint price) per ounce
Lead .0825 per pound (ceiling price effective 6/3/46)
Copper .1165 " " Cathodes f.o.b. New York

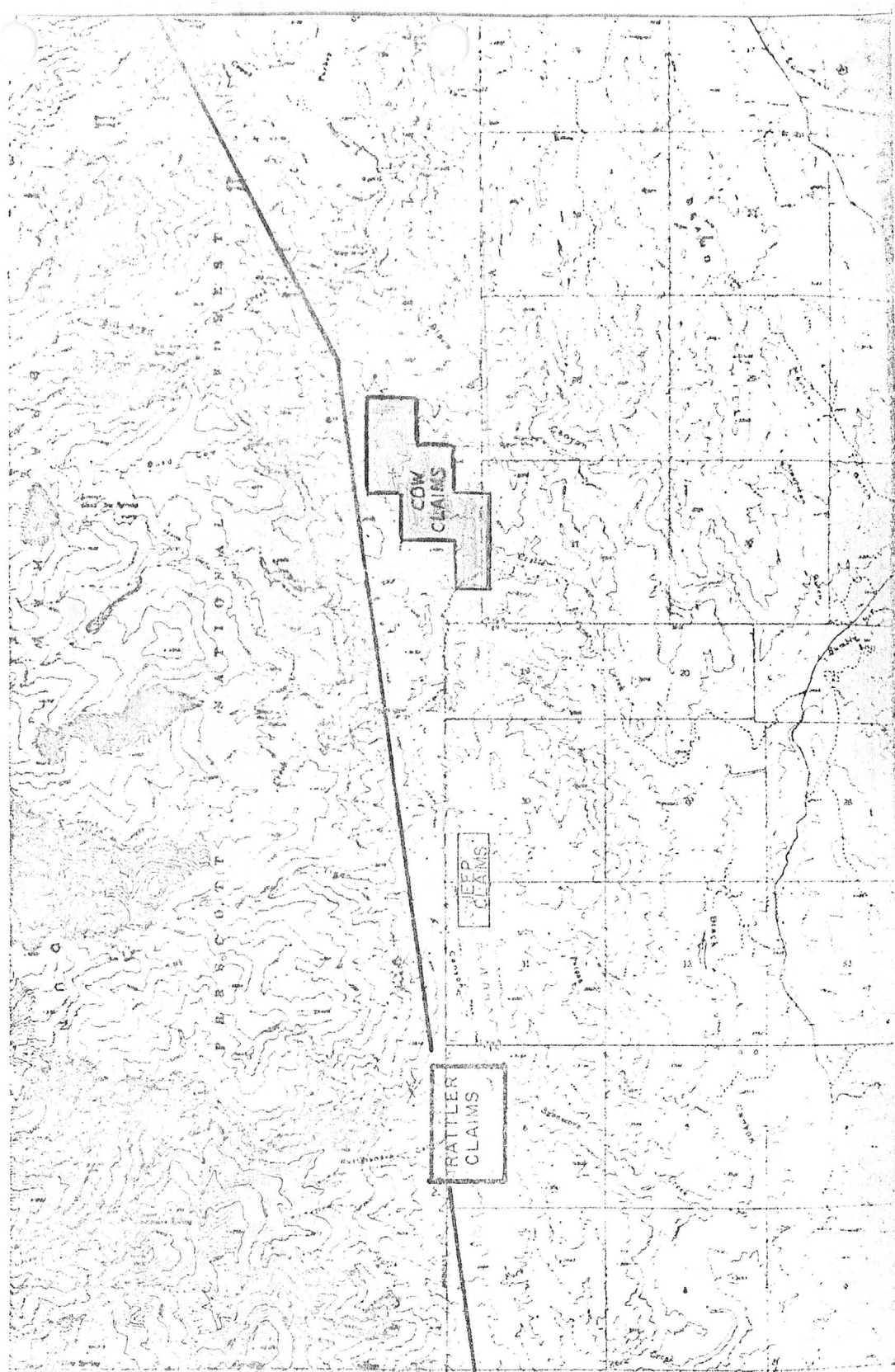
Premiums: Lead - A quota --1¢ per pound for 95%-wet assay
Copper A quota --5¢ " " " 97% " "

Lot No.	1	2	3	4
Smelter Schedule	Lead	Copper	Copper	Lead
Net Smelter Return	\$77.87	\$ 2.92	\$ 5.42	\$ 67.19
Government Premium	1.06	5.72	.48	1.16
Total	\$78.93	\$ 8.64	\$ 5.90	\$ 68.35

Yours very truly,

Brent N. Rickard

BRENT N. RICKARD



Thomas J. Montgomery

Thomas J. Montgomery
Property Superintendent

TJM/ct

Enc.

P.O. BOX 66
INSPIRATION, ARIZONA 85537



March 12, 1975

Mr. Lee Poague
District Ranger
Thumb Butte District
Prescott National Forest
P. O. Box 2549
Prescott, Arizona 86301

RE: Cow Claim Group

Dear Mr. Poague:

In reference to our Notice of Intent to Operate the Cow Claim Group the Inspiration Development Company would like to notify you of a change in our plans.

A drilling rig will be moved into the Cow Claim area in Township 10 North Range 1 East approximately $\frac{1}{2}$ mile westerly of the Southwest Corner Section 19 Township 10 North Range 2 East. Crews working on the drill rig will be using existing roads and cattle gates and fences will be left closed.

Again, as we stated in our previous letter to you, any change or modifications in our plans that will affect National Forest land, you will be notified.

Very truly yours,

Thomas J. Matney

Thomas J. Montgomery
Property Superintendent

TJM:ct

PLUS GEOLOGY + GEOPHYSICAL WORK

по порядку

ECLIPSE GROUP (HOWARD SILVER)

YAVAPAI COUNTY

NJN WR 7/24/81: Ron Ptolemy, 327 W. Townley, Phoenix, AZ 85021, reported he has a group that is interested in purchasing the Howard Silver mine on Turkey Creek, Yavapai County. He is now seeking proposals from several geologists to do an evaluation of the property prior to purchase.

RRB WR 11/16/84: Harry S. Gair, Geologist, 1920 Washington Avenue, Golden, Colorado 80401 (303) 278-1272 reported that he and partner or partners are in the process of purchasing the Howard Silver and Bill Arp patented claims (Eclipse Group, file, Yavapai Co. Turkey Creek District). They are also filing claims on the surrounding area. When their position is established they will initiate a drilling program to evaluate the property.

No. 85 Ki

Phoenix, Arizona,
Feb. 19, 1946.

CHAS. A. DIEHL

ARIZONA ASSAY OFFICE

Mail: P. O. Box 1148

815 North First Street

Phone 3-4001

THIS CERTIFIES That samples submitted for assay by Mr. W. C. Kimmon.

contain as follows per ton of 2000 lbs. Avo

MARKS	SILVER		VALUE (oz.)	GOLD		VALUE (oz.)	TOTAL VALUE Of Gold & Silver	PERCENTAGE				REMARKS
	Ounces	Tenths		Ounces	Hundredths							
1	Trace			Trace								
2	2.2		\$1.56		.03	1.05	\$2.61					all from trace. about 100% in zinc pyrite ore
3					.01	\$.35						

Charges \$ 3.50

Assayer ARIZONA ASSAY OFFICE



AMERICAN SMELTING & REFINING COMPANY
HAYDEN PLANT

Hayden, Arizona, November 13th, 1924

Bought of Howard Silver Company,

Shipping Point Turkey, Arizona

Classification Conots.

Smelter Lot 542

Shipper's Lot 1

CAR

WEIGHT IN AVOIRDUPOIS POUNDS

N. Y. METAL QUOTATIONS

No.	Init.	Gross	Sacks No. Weight	Net Weight	Moisture %	Dry Weight	Settlement Date	11/13	1924
28868	AT	63340	38660 Sacks	24680 214			Silver	.6975	Cts. per oz.
				24466	1.0	24,221	Lead	N. Y. \$	Per 100 lbs.
			Tons	12.34		12,1105	Date	.134375	11-8-24
							E. & M. J.	.0265	
							Copper	.107875	Cts. per lb.
							London Lead per 2240 lbs.		
							£	S	D
							Exchange N. Y.		
							Exchange Mex. Cy.		

PAYMENTS FOR METALS

VALUE

Elements	Assay per ton 2000 lbs.	Percent. deducted	Net assay	Equivalent in lbs.	Percent. paid for	Net paid for	Rate	Amount per ton	Amount total
Gold									
Silver	243.0	Oz. 5 %	230.85		100	230.85	Oz. .6975	161.02	
Lead		%					Lbs.		
Copper	.25	% 8 #					Lbs.		

TOTAL PAYMENT FOR METALS

161.02

CHARGES AND CREDITS

DEBITS

CREDITS

TREATMENT CHARGE F. O. B. HAYDEN PLANT

BRICKING CHARGE Cu. Deficiency 8# = 5 # = 3# @ .107875

Account Handling of Sacked Shipment

Analysis	Deduction	Net	Rate	
Insoluble	%		%	@ Cts.
Silica	%		%	@ Cts.
Alumina	%		%	@ Cts.
Zinc	10.6	8.0	2.6	@ 30 Cts. .78
Sulphur	%		%	@ Cts.
As Sb Bi	%		%	@ Cts.
	%		%	@ Cts.
Iron	%		%	@ Cts.
	%		%	@ Cts.
Lime	%		%	@ Cts.

TOTAL DEDUCTIONS

7.60

7.60

NET VALUE PER TON

153.42

DEBITS

CREDITS

Total value on	12.1105	dry tons	@	153.42	per ton		1857.99
Less freight on	12.34 (Min 60,000 lb)	wet tons	@	10.90	per ton	327.00	
Less war tax							
Less storage Freight empty sacks returned						1.27	
Less storage Extra Sampling acct. under 15 Tons						10.00	
Less revenue stamps							
Less duties		Brokerage					

BALANCE DUE SHIPPER

1519.72

1857.99

1857.99

Made by

RB

Checked

CCF

Correct

Approved *Oliver*

P. O. Box 1148
Phone 1035

Certify

contain as follows per ton of 2000 lbs. Avoir.

[illegible]

Assayer.

Arizona Assay Office

Phoenix, Arizona, Jan. 30, 1923.

192

P. O. Box 1148
Phone 1035

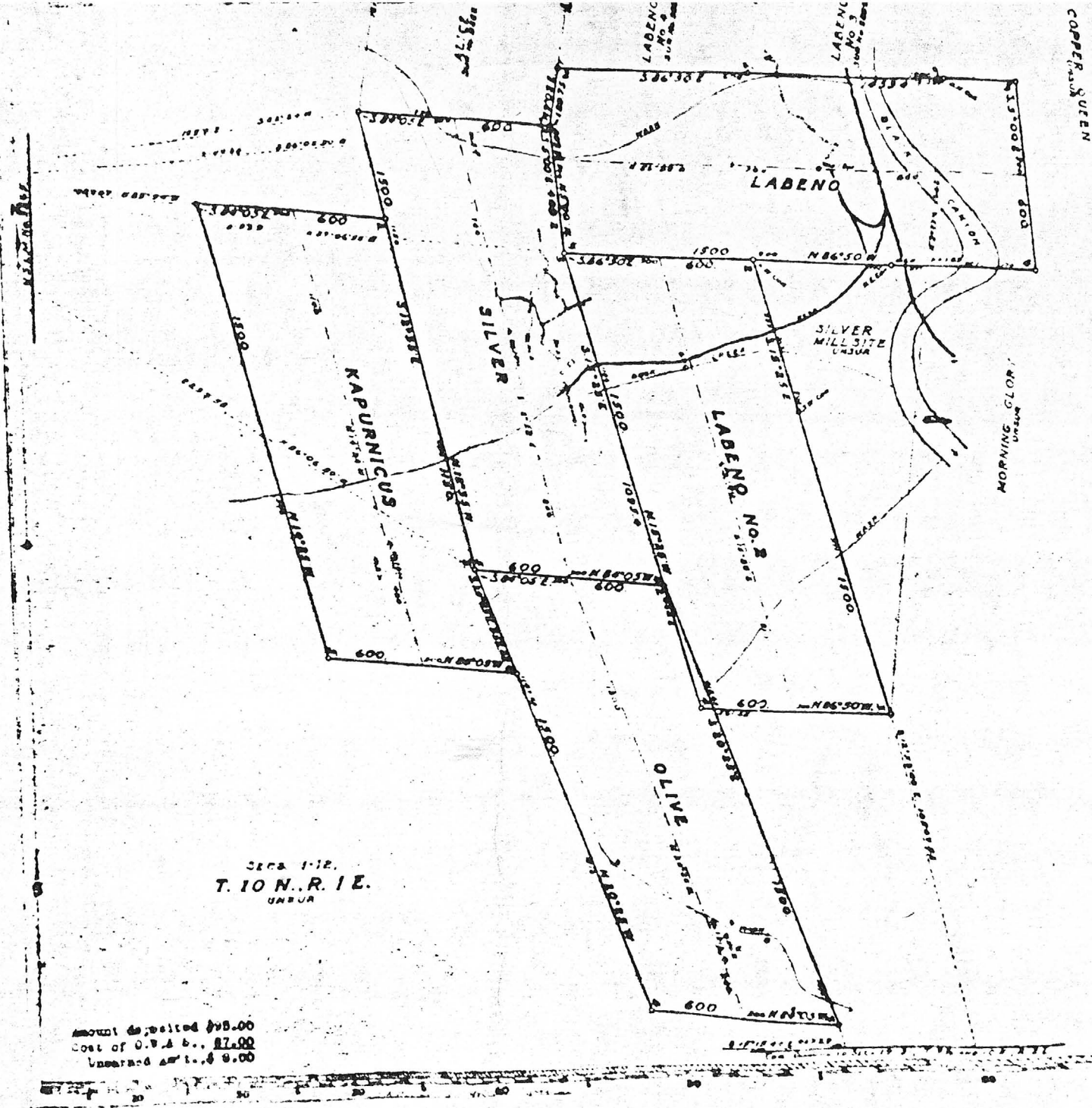
Certify

contain as follows per ton of 2000 lbs. Avoir.

S	SILVER		VALUE	GOLD		VALUE	TOTAL VALUE	PERCENTAGE			REMARKS
	OZS.	HUNDTHS	AT..... PER OZ.	OZS.	HUNDTHS	AT \$20 PER OZ.	GOLD AND SILVER				
1	205.3	30	\$1.00				Curley quartz 530				
2	23.5	50	\$23.50				Black Jack				
3	.6		\$.60				seamy foot-or horse				
4	4.4		\$4.40								
5	9.2		\$9.20				Grab on dump-Jan 29th				
6	2.8		\$2.80								
7	2.9		\$2.90				car samples.				
8	3.1		\$3.10								

Assayer

Arizona Survey Office
cas



SECS. 1-12,
T. 10 N. R. 1 E.
UNBUD

Amount deposited \$25.00
Cost of O.V. & C. \$1.00
Unrecovered \$26.00

Mineral Survey No. 3882 - 2 Sheets

Lot No.
ARIZONA

Land Section

PLAT

OF THE CLAIM OF
HOWARD SILVER COMPANY

KNOWN AS THE
SILVER, KAPURNICUS, LABENO, LABENO NO. 2,
LABENO NO. 3, LABENO NO. 4, ALICE, and OLIVE
lodes

IN Black Canyon MINING DISTRICT,
Yavapai COUNTY, Arizona
Containing an Area of 100 Acres, the width
Scale of 1" = 400' feet
Variation 14° 55' E.
STRIKED February 20 - March 2 1923 AT
Harry E. Jones
Surveyor

The Original Field Notes of the Survey of the Mining Claim of
HOWARD SILVER COMPANY

known as the
SILVER, KAPURNICUS, LABENO, LABENO NO. 2,
LABENO NO. 3, LABENO NO. 4, ALICE, and OLIVE
lodes

from which this plat has been made under my direction,
have been examined and approved, and are in full and true
and I hereby certify that they contain such an accurate description
and of said Mining Claim as will, if incorporated into a patent,
enable title to identify the premises, and that such reference is
made therein to natural objects or permanent monuments as
will perpetuate and fix the lines thereof.
I further certify that Five Hundred Dollars worth of labor has
been expended on improvements made upon said Mining Claim
to claimant or his grantors and that
said improvements consist of 3 shafts, 7 cuts, and
3 tunnels, with underground workings, total
value, \$26,036.

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.

By Surveyor General, Harry E. Jones
Phoenix, Arizona.
JULY 24 1923 - 31102A

Lot No. _____
 Land Interest _____

PLAT

OF THE CLAIM OF

KNOWN AS THE

IN _____ COUNTY, MINNESOTA DISTRICT.

Containing an Area of _____ Acres
 Scale of 800 Feet to the inch.
 Variation _____

STATED _____

U.S. Dept. through survey.

The Original Field Notes of the Survey of the Mining Claim of

known as the _____

from which this plat has been made under the 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 plat, serve fully to identify the premises, and that each reference is made therein to natural objects or permanent monuments as will perpetuate said plat for the future thereof.

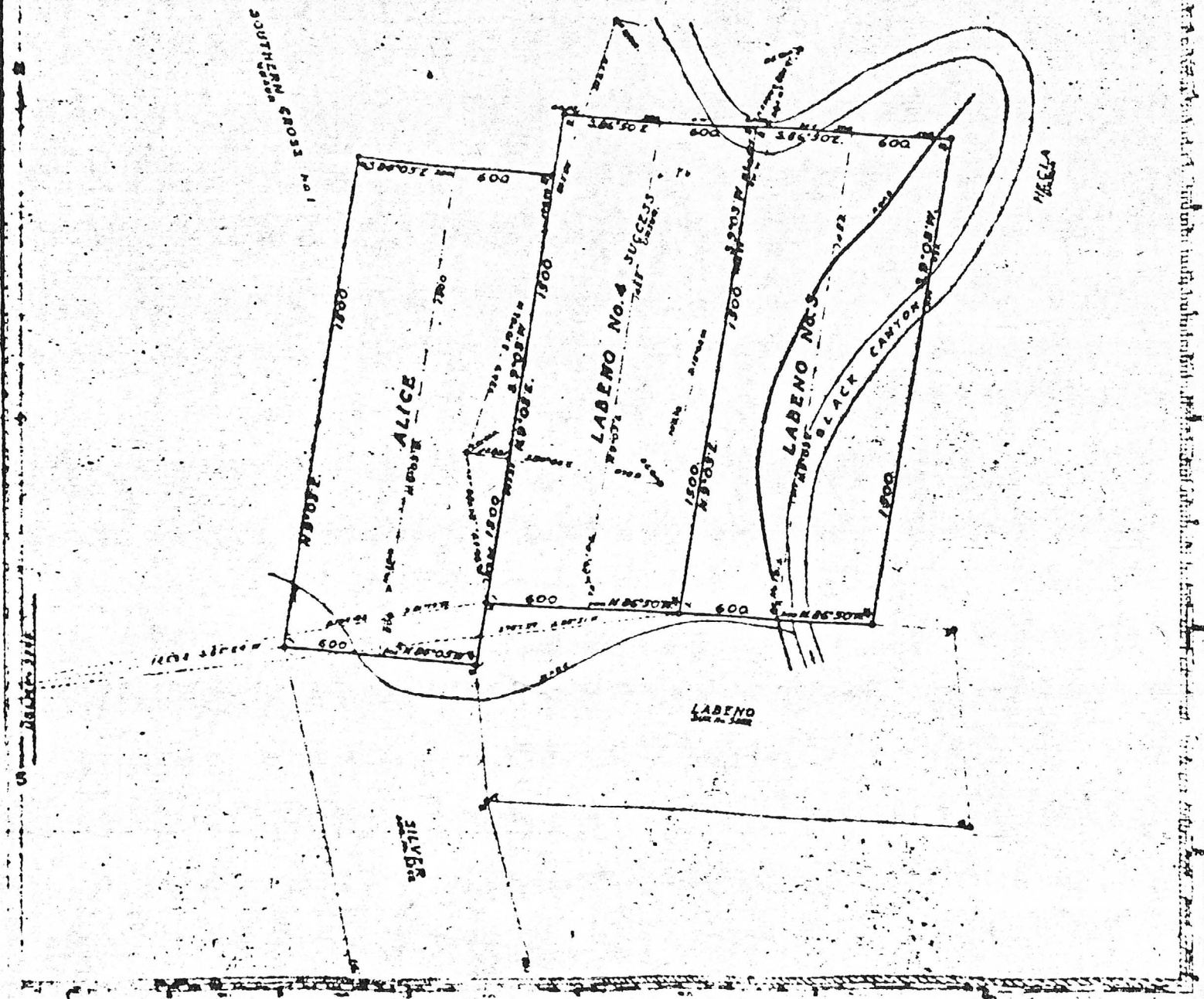
I further certify that Five Hundred Dollars worth of labor has been expended on improvements made upon said Mining Claim by claimant or grantee and that said improvements consist of _____

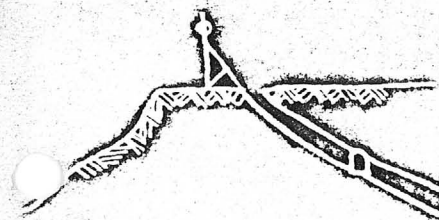
that the location of said improvements is correctly shown upon this plat, and that no portion of said labor or improvements has been expended in the nature of a speculation upon any other claim.

I do 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 (Office)

U.S. Surveyor General for



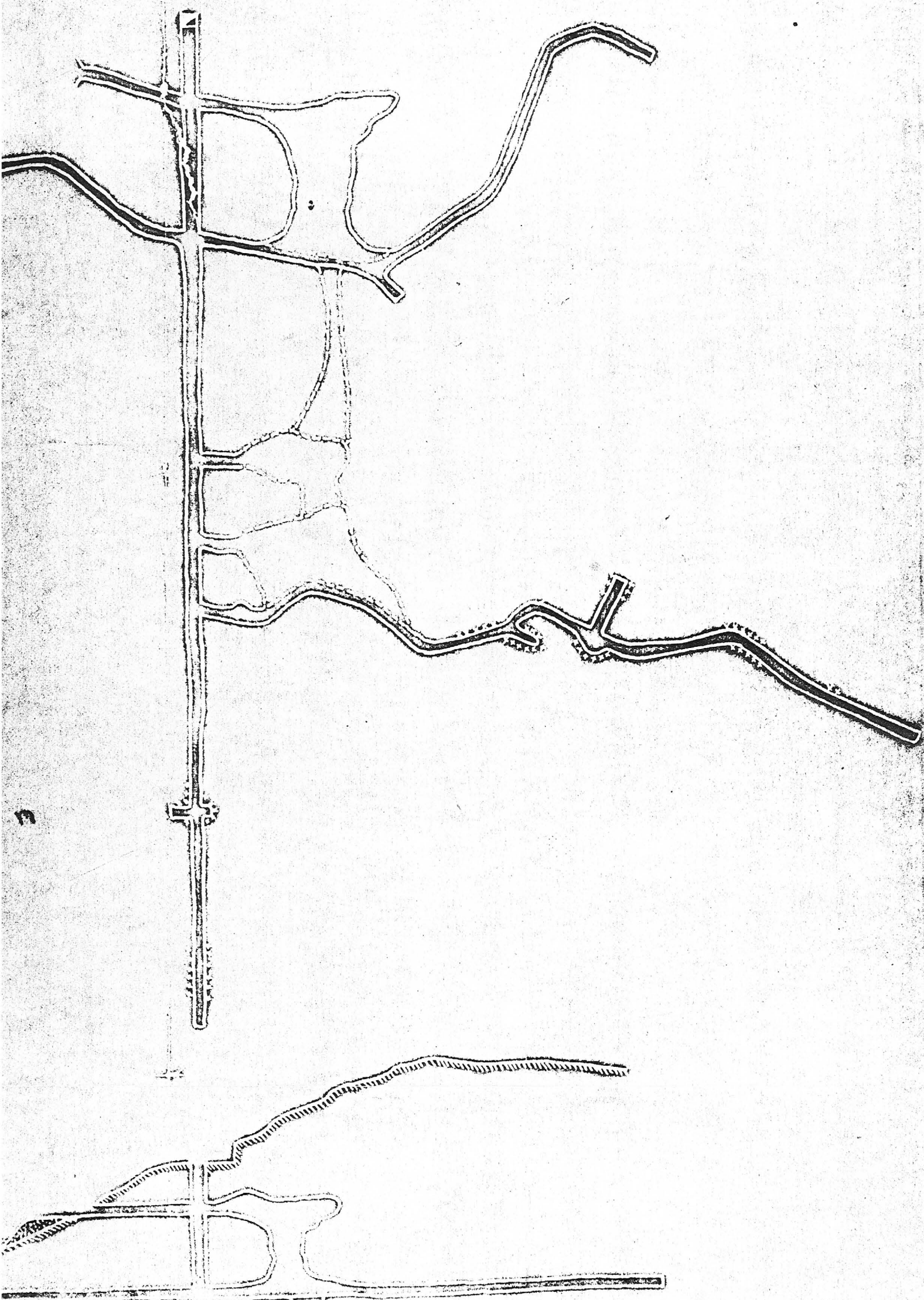


200' Level

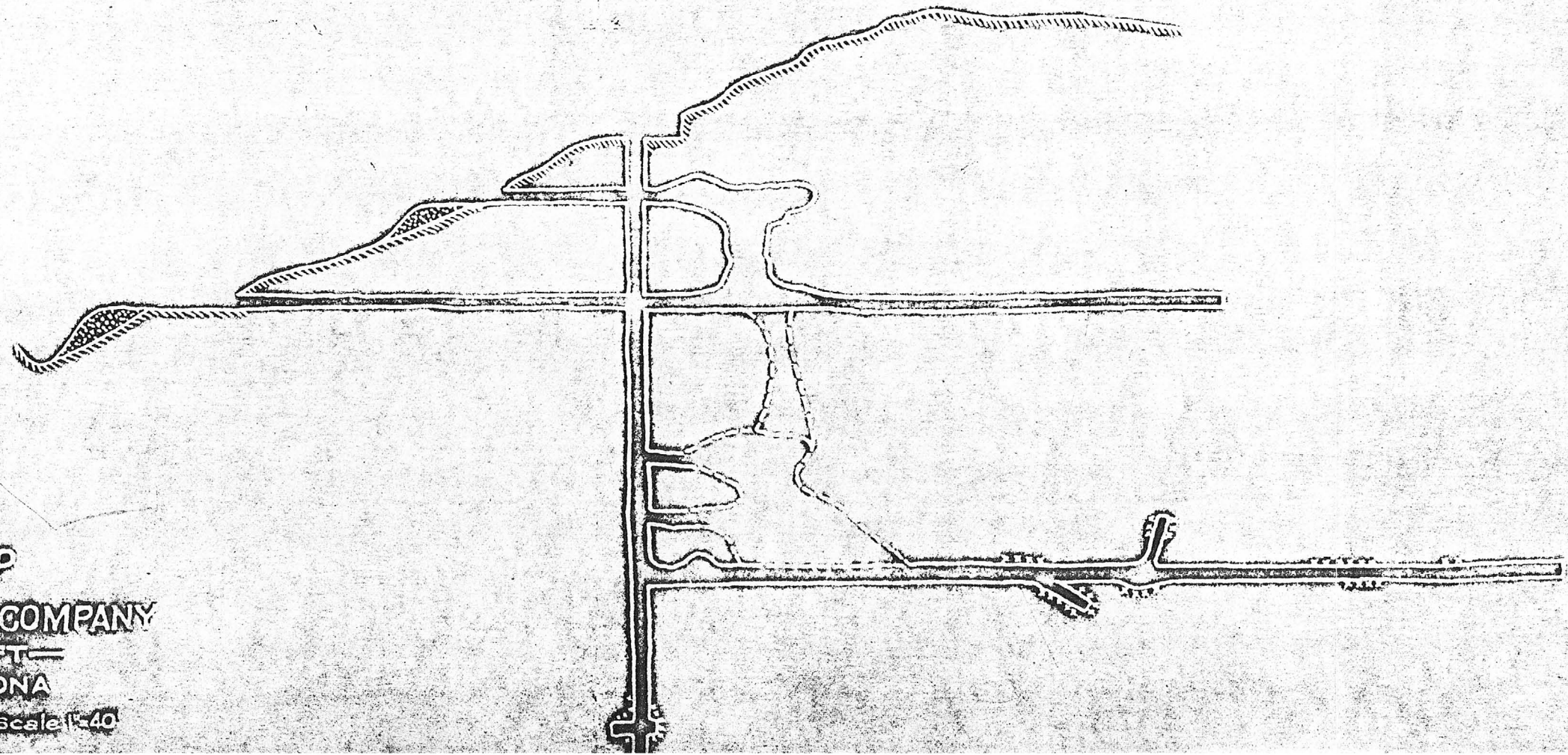
400' Level

500' Level

600' Level



11
7
11



SKETCH MAP
Hand-drawn **OF**
SILVER COMPANY
SILVER SHAFT
TRUCKEE ARIZONA
Scale 1"=40'

December
Second
1922.

TO THE STOCKHOLDERS AND DIRECTORS
of the HOWARD SILVER COMPANY:

Gentlemen:-

During the last half of November of this year, we visited the property of the company, Mr. E. F. Thompson and myself. We made a thorough examination of the workings, the location and character of the claims, the machinery, etc. placed at the mine.

Your property is situated in Yavapai County, Arizona, and is about four (4) miles from Turkey Station on a branch of the Atchison, Topeka and Santa Fe Railroad. It is situated in what is known as the Black Canyon on Turkey Creek. It is probably fifteen hundred (1500) feet below the level of the railroad, and at an elevation of about three thousand feet above tide water.

Originally the property consisted of six (6) claims; the Labeno, Labeno #2, Labeno #3, Labeno #4, the Olive and Alice, comprising about one hundred and twenty (120) acres.

Fifteen or twenty years ago, considerable work was done on the Olive and Alice claims.

The map which accompanies this report shows the location of the veins on your property and also the points at which the first work was done.

Previous to acquiring the property, a shaft was started on the Labeno. A small engine, compressor and hoist were installed and a shaft on the vein was carried to permanent water level, about one hundred eighty (180) feet. The vein in this shaft showed very good walls, and carried at the bottom or foot-wall eight (8) inches of high grade sulphide ore. When this shaft reached permanent water level, the machinery was not sufficient to keep the mine unwatered, and a drift was started at a point above the bottom of the shaft so that there would be little trouble from water. This drift was carried some two or three hundred feet on the Labeno vein, and showed values for almost the entire length. The material between the high grade on the foot-wall and the hanging-wall was what is termed mill-dirt, and carried values in silver and lead, and the greater part of it would be concentrating ore. The concentrating, as you are aware, rejects the barren material and saves the metal, the concentration being, as a rule, from eight (8) to fifteen (15) to one, that is to say, eight tons being reduced to one.

You will note on the map a claim marked "Run and Hide". This claim will be referred to as the "R. & H." This claim was purchased about a year or more ago. About fifteen or twenty years ago, this claim was worked extensively, entirely by hand, and several thousand tons of low grade was left in the stopes and is still there. The high grade ore was taken out and shipped by burrows to Turkey Station and thence to the smelter. Where small quantities of the high grade ore in these stopes has been left, it shows very high grade, and in some places a little ruby-silver, which is the richest silver-ore, except the pure metal.

The stoping which has been done by the original owners is shown on the profile map and marked "old stopes".

When your company acquired this "R. & H." claim the machinery at the Labeno shaft was moved to the R. & H. tunnel, which is marked "Adit" on the profile map, and operations began on this claim. Owing to the condition of the tunnels it was necessary to do considerable timbering before mining operations could be commenced. Subsequently your company purchased and installed on this property a 65 h.p. Primm Oil Engine and also an Ingersoll and Rand two-stage compressor, having a capacity of 385 cu. ft. under 90 lbs. pressure. Also the necessary air receivers, tanks for cooling and storage for oil were installed. This is a very complete plant, and is capable of developing a mine to at least the six (6) or seven (7) hundred foot level. It furnishes air for two jack-hammers, a station pump, electric lights in the mine and the hoist.

After the tunnels were cleaned up and timbered, mining operations began, and the four hundred (400) foot level was carried in to a distance of two hundred and eighty (280) feet from the Main Shaft. Good mill-ore was developed in this tunnel of a considerably high grade. The work on this tunnel was discontinued and the main shaft is now being carried down to the five hundred (500) foot level, where a pump will be put in and drifting under the ore-shoot will be commenced. On the four hundred (400) foot level, a distance of one hundred and sixty-five (165) feet from the Main Shaft, a winze was put down to a depth of sixty-five (65) feet in carbonate ore, with many high grade streaks throughout the vein. Immediately below the four hundred (400) foot level on this winze, five (5) tons of high grade ore was taken out and shipped directly to the smelter.

AN ASSAY OF THIS ORE WAS MADE BY THE ARIZONA
ASSAY OFFICE AT PHOENIX, AND RAN OVER 144 OZ.
TO THE TON.

The mill-dirt in this chute also carried silver of a lower grade, but is good for milling.

There is a shaft on the southerly end of the Olive Claim, put down many years ago to the water level. It is quite close to the water-course, and when the permanent water level was reached, it was apparently abandoned for the reason that they could not handle the water. This shaft is about fifty (50) to seventy-five (75) feet deep, and still has water at the bottom of the shaft, but some ore taken just above the water level, near the hanging-wall, an oxidized ore was sampled and assayed and showed 55 oz. per ton. This streak was about eight (8) inches in thickness. It is said by those who were familiar with this work that the bottom of the shaft showed ruby-silver. Another small shaft was put down on this claim about five hundred (500) feet to the northwest, and an assay made of the high grade ore, lying on the dump, showed values of about thirty-five (35 oz.

The OLIVE SHAFT is about thirteen hundred (1300) feet south of our operations on the "R. & H."

Some work was done on the ALICE CLAIM many years ago, but was not carried to any great depth. A piece of high grade ore on the dump at this shaft showed about 57 oz. to the ton.

ALL THE EXAMINATIONS ON THE "R. & H.", THE OLIVE AND THE ALICE SHOW DISTINCT FOOT- AND HANGING-WALLS AND WILL CARRY VALUES DOUBTLESS TO A GREAT DEPTH.

THE CAMP.

The CAMP is equipped with very comfortable buildings, consisting of a dining-room, kitchen, a bunk-house for the men, a building for the Superintendent and his family and an office and sleeping-room for the officers of the company. Very substantial buildings are over the compressor and engine and also over the small machinery which was taken from the LABENO. This small machinery is also installed and can be operated in case anything should happen to the larger plant.

The Howard Copper Company about three miles below our property in the Black Canyon, has installed machinery and substantial head-frame and intend carrying their shaft to a depth of 800 feet or more. They have many claims which are developed and have surveyed a road from their property over ours and thence to Turkey Station. It is probable that this road will be constructed in the near future, and will be a great improvement, and reduce the cost of transportation to us very largely.

While we were on the property sixteen (16) different samples were taken of the mill-dirt in the stopes, in the tunnels and the Main Shaft. These were assayed at Phoenix and the results are attached hereto.

It is estimated that we have from six (6) to eight (8) thousand tons of low grade ore broken down and in the stopes, and running in value from \$3 or \$4 per ton to \$10 or \$15, and is very good concentrating ore. In addition to this, while the former owners were working the "R. & H." claim, they carried out and put on the dump at the Adit perhaps twenty-five (25,000) or (30,000) thirty thousand dollars' worth of ore of the mill grade. This ran about \$9 or \$10 per ton, and can easily be concentrated.

All of the work of development has been in charge of Mr. H. O. Howard, President of the company. Mr. Howard has wide mining experience in this country and in Mexico.

The development has gone forward so that we are warranted in building a concentrating plant to treat the ores already broken down and developed.

The mining plant is started at 7 o'clock in the morning and the operations continue until 2 o'clock or 3 o'clock in the afternoon, then the power-plant is shut down. Mr. Howard has suggested that we attach a generator to our engine and produce sufficient power to operate the necessary concentrating machinery, consisting of crusher and a small ball-mill and flotation cells. This mill, if operated for twelve (12) hours continuously, it is estimated would treat twenty-five (25) tons of mill-ore, producing 2-1/2 tons of concentrate having a value of say \$100 per ton. This would make a very handsome profit. The cost of operating the mill being very small, as the oil-engine consumes only fifty gallons of oil during the operation, at present. This oil is a low grade fuel oil, and costs us about 10¢ per gallon delivered at the mine.

Of course, during mining operations, where high grade ore is encountered it would be shipped directly to the smelter. A carload of this character of ore, consisting of twenty-three (23) tons, was shipped to the Humboldt Smelter and produced 78-1/2 oz. of silver per ton.

MANY ASSAYS MADE OF THE HIGH GRADE ORE ENCOUNTERED IN OUR MINING OPERATIONS RAN AS HIGH AS TWO HUNDRED (200) OZ.

Respectfully submitted,

(Signed) C. A. COOPER.

I went thru the Thunderbolt workings with Mr. Howard, and the geology there seems to be very simple. The vein is strong and continuous for a great length.

The vein at the Howard shaft, at the 500-ft. level, attains a steeper pitch. Frequently such changes are accompanied by ore enrichment, and this seems to be the case in the present instance.

The nature of the occurrence of the high grade ore in the mine remains to be determined with further development. For example, a sample taken a foot wide at the bottom of the 500-ft. shaft, thru a streak of high grade ore, assayed \$299.48 oz. in silver. I assume it is these rich streaks, which come and go, that bring up the average tenor of the ore to a good milling grade, as shown by the general dump sample taken of the sulphide ore for experimental and testing purposes.

Samples were taken from various parts of the mine to determine the nature of the ore, its value, and its amenability to treatment in a mill for the recovery of the silver. The samples below the fourth level may be considered as sulphides and those above the fourth level as oxides. Manifestly, if the mine develops favorably, as seems probable, practically all the ore in the future will be sulphide, and the treatment must be worked out on that basis. For this purpose a general sample was taken of the sulphide ore dump - about a wheel barrow full - which, presumably, represents the ore as it will be mined, assuming present conditions to continue. This wheel barrow full was then crushed and quartered to about a 75 pound sample, which represents the sulphide ore for the tests. This sample assayed 18.88 oz. in silver per ton.

The samples taken assayed as follows:

	<u>Oz. Silver per ton:</u>
No. 1. 30 ft. adit level stope,	7.04
No. 2. Drift. Grab sample, 50 ft. long. 80 ft. below adit.	11.90
No. 3. Stope, upper level. Oxide.	4.40
No. 4. Stope above adit level. Oxide.	5.12
No. 5. Oxidized dump.	6.48
No. 6. Stope 2. 187 ft. north. 400-ft. level.	2.84
No. 7. Stope. Grab. Sulphide, 187 ft. north, 400-ft. level,	10.56
No. 8. Car sample. So. drift, 500-ft. level.	8.20
No. 9. Car sample, 500-ft. level.	13.10
No. 10. Bottom shaft, 500-ft. level, 5-ft. cut both sides drift, south, and 4-ft. cut on north side.	13.54
No. 11. Car sample taken from dump, 500-ft. level, high grade.	44.00
No. 12. Sample South drift, one ft. wide. Dec. 29.	299.46
No. 13. Waste sulphide dump.	3.28
No. 14. General sample dump sulphide ore, for testing,	18.88

A composite sample was made for testing purposes, of the oxidized ore above the fourth level, which would pay to mill. All of the samples taken above the fourth level, were taken from the stopes, and presumably represents ore from which the high grade was sorted and shipped.

Metallurgical Tests. Since practically all the future ore from the mine will be sulphide, most of the test work was done on the general sample of sulphaire ore from the dump, assaying 18.88 oz. in silver. It may be assumed that this fairly represents the great mass of the ore as mined, both as to value and mineralogical composition.

A number of preliminary tests were made to get a general idea of the ore, after which regular quantitative tests were made. The preliminary tests indicated that a partial separation, at least, could be made between the lead and the zinc mineral in the ore. The ore was therefore given a preliminary concentration, followed by flotation. For the table concentration test the ore was ground to 20 or 30 mesh, and treated on a full size concentration table, with the object of determining what percentage of values could be recovered by this simple method, preparatory to flotation. Since lead concentrate can be marketed to much better advantage than zinc concentrate, an attempt was made to make a rough separation of the lead and the zinc mineral on the table. The results of the test were as follows:

Table Concentration Test.

	Silver oz.	Lead %	Zinc %	Weight grams.
Head ore	18.88	1.30	5.00	17,300
Lead Concentrate,	634.50	55.00	13.85	92
Zinc concentrate,	356.80	11.55	36.25	403
Tails (inc. slime & middling)	12.92	0.35	4.50	
Middling,	16.92			
Sand Tails,	5.20			

This indicates that fully 35% of the total values can be recovered by simple table concentration, with a resulting very high grade concentrate, and that a very fair separation can be made between the lead and the zinc portion. With a little experience, it is probable that a better separation can be made between the lead and the zinc than that above indicated. It will be noted that about 1.0 lb. of lead concentrate would be produced to 4.5 lb. of zinc concentrate, and that the lead concentrate is of higher value than the zinc concentrate. At the present price of lead, the lead in the lead concentrate would be worth about \$75 to \$80 per ton. The ratio of concentration is about 35 tons of ore into one ton of concentrate.

It is believed that it will pay to make a separation between the lead and the zinc concentrate and market them separately. If marketed together mixed, it is quite certain that the smelters will figure that the pay for the lead will about counterbalance the penalty for the zinc.

The tailing from the table concentration test was re-ground and subjected to flotation in a Greenawalt flotation machine, using various combinations of oils.

Flotation Test No. 1. Sulphide Ore.
Ore ground to 40 mesh.

	Silver oz.	Lead %	Zinc %	Weight grams.
Head sample. (Table tails)	12.92	0.35	4.50	1,000
Concentrate	250.40			28
Flotation tails	1.28			

Flotation Test No. 2. Sulphide Ore.
Ore ground to 48 mesh.

	Silver oz.	Lead %	Zinc %	Weight grams.
Head Sample (table tails)	12.92	0.35	4.50	2,000
Concentrate (not cleaned)	194.00			78
Flotation tails	0.88			
Small amt. of middling from table after flotation,	24.40			

The concentrate was not cleaned in this test.

Flotation Test No. 3. Sulphide Ore.
Ore ground to 48 mesh.

	Silver oz.	Lead %	Zinc %	Weight grams.
Head sample (table tails)	12.92	0.35	4.50	1,000
Flotation concentrate,	340.70	10.55	40.00	23.5
Flotation tails,	0.80			

These tests indicate a total extraction of about 95%, on the original ore. It is believed that in practice fully 90% extraction can be realized on ore assaying 15 ounces, or more, in silver.

The ratio of table concentration is about 30 to 35 into 1. The ratio of flotation concentration is from 35 to 40 into 1. The total ratio of concentration is from 20 to 25 tons of ore into 1 ton of concentrate.

Flotation and concentration test was made on the oxidized ore. A composite sample was made of the payable oxidized ore and given a preliminary gravity (table) concentration, followed by flotation.

Flotation Test. No. 4. Oxidized Ore.
Ore ground to 48 mesh.

	Silver oz.	Weight grams.
Head sample,	8.60	2,000
Gravity concentrate,	273.40	13.5
Flotation concentrate (uncleaned)	51.00	95.4
Flotation tails,	2.48	

An extraction of from 70 to 75% is indicated by these results, which appears quite promising, and would indicate that the oxidized ore could be treated to advantage, the same as the sulphide ore, but that the percentage of extraction would be somewhat less.

Various oil combinations were tried in the flotation tests. The combination, or mixture, which gave the best results, is as follows:

1 part No. 5. G.N.S.
1 part No. 4. G.N.S.
2 parts No. 8. G.N.S.
3 parts Wyoming gas oil, and
Small various amounts of No. 28 G.N.S.

The combination of oils which will give the best results in the mill can best be determined after the mill is in operation, using the above mixture to start with.

Similarly, some experimenting will have to be done after the mill is in operation to determine the best mesh for the best average results. It is believed, however, that 48 mesh will be found most satisfactory, all things considered.

The Mill. The accompanying flow sheet will give a good idea of the proposed treatment of the ore, based on the results of the tests.

The results of the tests clearly indicate that most excellent results can be obtained by the method proposed, in working plant at the mine. The ratio of concentration will

be from 20 to 25 tons of ore into one ton of concentrates. The value of the concentrate for shipment will be from \$400 to \$500 per ton. A recovery of 95% of the silver was obtained in the tests, and in practical milling operations a recovery of about 90% should be realized. The ore should be ground to 48 mesh. Possibly finer grinding would give a higher extraction, but it would have to be determined whether the extra finer grinding would leave a margin of profit over the cost. Further details of milling are best worked out after the mill is in operation.

The milling scheme consists, briefly, in crushing the ore in a No. 3 gyratory crusher, as it is hoisted from the mine and dumped into the mill bin. One shift in hoisting and crushing will supply the mill with ore for the full 24 hours. The ore is fed in an even stream from the bin into the rod mill, where it is ground to 48 mesh. The unclassified pulp from the rod mill goes to the rougher concentrating table, where, according to the tests, fully 35% of the value in the ore is removed in the form of a very high grade concentrate. A partial separation can be made on the table between the lead and the zinc. The lead concentrate, according to the full size table test, assayed 634.50 oz. silver per ton, and the zinc concentrate, 356.80 oz. The ratio of concentration, on the roughing table, is about 35 into 1. The ore from the rougher concentrating table then goes to the classifier. The 48 mesh material and finer goes to the flotation machine. The oversize is returned to the rod mill. Practically all the remaining values are recovered, from the 48 mesh material, in the flotation machine, in the form of a mineral froth, contaminated, more or less, with barren slime. The tailing from the flotation machine is then passed over the slime table, where a low grade middling product is removed, assaying from \$20 to \$30 per ton. This middling may be returned to the rod mill for further grinding and treatment, or it may be removed and stored for future chemical treatment at the mine. It will not be of sufficient value to ship, and it is preferable to store this low grade middling and get a leaner tailing than to waste the middling with the tailing. The table and flotation concentrates are de-watered, and passed over the finishing table to get a high grade concentrate for shipment. The slime is returned to the classifier and flotation machine. The middling, or low grade concentrate, is returned to the rod mill to be reground, and again passes through the circuit, until the valueless gangue is eliminated and the mineral recovered as a high grade concentrate. If an excess of middling product accumulates, it is removed from the system and stored. The tests indicate that concentrates assaying from \$400 to \$500 per ton can be made. Such a concentrate can be advantageously marketed, as compared with a low grade concentrate or a high grade ore.

The rod mill is the most efficient grinding machine from the crusher product to about 60 mesh. The ball mill is more

efficient if much finer grinding than 60 mesh is contemplated. It is believed that no advantage worth while can be gained by grinding finer than about 48 mesh.

Comments of the design of the mill: The coarse crushing is designed so that the ore can be hoisted from the mine and dumped directly into the bin crusher without manual labor. A No. 3 gyratory will be large enough for this purpose on the Howard silver mine ore, which breaks rather fine. A gyratory is preferred in this case to a jaw crusher, for the reason that if the crusher runs empty, as it will much of the time, very little power will be consumed and a gyratory will run smoothly and harmlessly. A jaw crusher, when running empty, will shake the bin and will soon knock itself out of smooth running condition. It is assumed that the day shift will hoist and crush enough ore to keep the mill running the full 24 hours. It is believed that the Greenawalt flotation machine will give the best results in flotation. This machine is made by one of the best mining machinery manufacturing companies in the west, and the tests show that excellent results are obtained with this flotation machine. The rod mill is of the standard type, well constructed, and preferably direct driven by an electric motor. The concentration tables are as good as any made, and probably the best, judging by competitive tests recently made in some of the large mills.

It was thought best to get the very best machinery, and to drive the machinery electrically, so that all shafting in the mill can be eliminated. This gives the greatest operating efficiency. An advantage is also gained in the installation of the mill, because all expensive mill construction is avoided. A shed, simply as a housing, should be sufficient, in the way of a building, and this is the way it is intended to construct the mill. The machinery should be the best, the foundations should be secure, but the building should be as cheap as possible, for the reason that an expensive does not add anything to the metallurgical results.

Mr. Howard can get an engine like the one now operating for the mine, as also an electric generator, at a low figure. This engine and generator should be set up in a building adjoining the present engine and mine compressor, so that one man on a shift can attend both the mine and mill power generating machinery.

Under these conditions, one man on a shift should be able to run the mill, with a helper on the day shift to dry and sack the concentrate and do general roustabout work. If anything goes wrong in the mill, and extra help is required for a few minutes, the man in the power house can be called upon, if necessary.

The electric power arrangement, as suggested, presents other advantages. If the mill is driven by the engine di-

rect, the engine would have to be located in or at the mill. This would make it inconvenient to operate with engines so far apart, and a system of line shafting would be necessary, and consequently a sturdy and complicated building, and quite certainly, also, two men would be required for operation instead of one, as contemplated.

The question of the mill site received serious consideration. Two schemes were presented: one at the opening of the shaft with the shaft continued to the surface; the other, around the hill at the tunnel level. A mill at the tunnel level would require tramping, and quite likely also labor feeding for the crusher. This would probably necessitate three extra men, for it is not likely that 50 or more tons of ore could be put through the crusher in one shift, under such an arrangements. If the mill is enlarged, the trouble would be increased. It was thought, all things considered, that the location of the mill at the tunnel level would be wrong and never could be made right. It would be poor economy and worse engineering to put the mill anywhere but at the collar of the shaft, extended to the surface, so that the ore could be dumped directly from the mine into the mill bin.

The nominal rated capacity of the proposed mill is 50 tons per day of 24 hours, grinding to 48 mesh. With comparatively small additions the capacity can be increased to 75 tons per day. These additions would probably be a small ball mill for re-grinding the oversize from the rod mill, another concentrating table, and probably an additional flotation machine.

A partial separation of the lead and zinc concentrate can be made, as shown by the tests. The flow sheet of the mill could easily be modified to embody this separation, if it is found that the concentrate can be marketed more profitably than by shipping the mixed concentrate.

It is suggested, in connection with the construction of the mill and the installation of the new engine and generator that Mr. Howard look about for a small cheap concrete mixer. This will greatly expedite and cheapen the mill construction. Hand concrete mixing, where labor is as expensive as it is in that section of the country, should be avoided as much as possible.

It is highly desirable to install a mill which will treat the ore at the lowest possible cost, and this will be especially vital some time later, when the price of silver and lead will evidently be lower than they are now.

A mill should be installed immediately, if installed at all. The more important considerations which make this desirable are, that domestic silver, under the Pitman Act, is now about \$1 an ounce, while foreign silver is quoted at 65¢.

When the Pitman Act expires, the domestic silver will doubtless have the same price as foreign silver. There is not much lead in the ore, but what there is will go, at least part way, in overcoming smelter penalties on the zinc. The price of lead is now 7¢ per lb. It is not likely that this price will continue indefinitely. The normal price is usually below 4¢. While the amount of ore which is actually developed so that it can be measured and valued is small, yet the condition of the mine and the present favorable development would seem to clearly indicate the desirability of installing a small mill, and put all the ore hoisted from the mine in development through the mill, and if the amount of ore so mined is not sufficient to run the mill at full capacity, that ore be stoped to make up the deficiency. Mr. Howard thinks the mine would be self-sustaining, and very likely profitable, immediately the mill is in operation. I am inclined to agree with this opinion, taking the precaution, however, to add that no one can see very far into the ground; nevertheless, the indications for favorable development are most excellent. Besides, the ore at present developed would warrant the erection of a small mill to recover the values already mined. On the other hand, even if the property should fail, the mill machinery would still have a practically full-value asset, which could be placed elsewhere, and would not represent a very great loss. Attention, in this connection, is again called to the recommendation that the expense be put largely in the mill machinery and not in expensive mill buildings. If the mill is placed at the collar of the shaft, extended to the surface, as recommended, the reclamation of the dump will be a very simple matter. The car track, at the tunnel level, will simply be started at an incline, and the dump material shoveled into the cars direct; the loaded cars are then pulled back with a tugger to the tunnel track, and the car pushed back into the tunnel and the ore dumped into the skip and hoisted to the mill bin with mine hoist. By this arrangement, the only manual labor required will be the shovelling of the ore from the dump into the cars.

It is strongly recommended that the mill be run to full capacity with the very highest grade ore the mine can produce, by any method of mining, while the Pitman Act is in force. Every effort should be made to market as much silver at \$1 an ounce as possible. It would be poor economy and very poor judgment to develop a lot of ore when silver is worth \$1 an ounce, to be later mined when it is worth only 65¢. It is better economy and better engineering to develop the mine for 65¢ silver when the silver is that price. My urgent recommendation would be to simply take out all the ore possible, even to depletion if need be, while the present price of silver maintains. How long this price will continue I do not know; presumably for about nine months longer. No doubt, other mines are figuring the same way.

The order for the mill machinery should be placed directly the Board of Directors of the Company have given the matter sufficient consideration. Mr. Howard could then make the excavations for the mill, and prepare the foundations for the machinery, and I would make every effort in Denver to have the machinery made and shipped so that it would be placed on the foundations as soon as the foundations are ready to receive it. Mr. Howard could also immediately begin the installation of the engine and generator, the water supply system, and the mine hoist and mill bin. It is believed that in this way the mill could be installed and ready to operate within from 60 to 90 days after the order for the machinery is placed. Mr. Howard is of the opinion that the shaft could be completed and put in shape for this installation in about 50 days. The shaft hoist, headframe, and the mill bin are necessarily closely connected, and should be constructed together. Presumably the crusher will be placed on top of the mill bin, so that the ore is dumped from the mine skip into the crusher and drops into the mill bin.

Scale drawings of the mill will be made as soon as the order for the mill machinery is given, so that Mr. Howard would not be delayed in preparing the foundations, so that the machines will have their proper relations when positioned.

Cost of milling: The cost of milling will depend considerably on the management. However, it is believed that the following will be a fairly close approximation, with ordinary good management:

Cost of Milling, per 24 hrs. 50 tons per day

Mill men, 3 shifts, @ \$5.00	\$15.00
Helper, 1 shift, @ \$4.00	4.00
Engine men, 3 shifts, 1/2 to mine, 1/2 to mill,	7.50
Assayer, 1/2 to mine, 1/2 to mill,	2.50
Superintendence, 1/2 to mine, 1/2 to mill,	4.25
Fuel oil, for power,	10.00
Flotation oil,	3.50
Iron consumption, rod mill, 2 lbs. iron per ton ore,	3.00
Repairs, renewals,	2.50
General mill supplies, misc.	1.50
General overhead at property,	2.50
	<hr/> \$58.25
Interest on \$20,000. @ 6%,	3.30
Amortization, \$20,000. @ 10%	5.50
	<hr/> \$65.05

Cost, per ton, @ 50 tons per day, \$1.30.

It is believed that 75 tons of ore could be treated per day with the same general equipment and crew at a slight

additional cost, or say \$75 per day. At this capacity the milling cost would be \$1 per ton.

The accompanying estimate and proposal by the Denver Engineering Works Co. for the proposed mill, shows a cost of about \$11,000. for the mill machinery, F.O.B. Denver. The motors, for individual drive as proposed and recommended, will probably be about \$1,000. more, making a total of \$12,000.

A little later the treatment of the mill tailings of the oxidized ore, by cyanidation, should be given consideration. If the oxidized ore tailings can be cyanided, a very high extraction should be obtainable at a low cost. Similarly, the treatment of the zinc concentrate should be considered, if the smelters impose a high penalty for the zinc.

Very truly yours,

(Signed) Wm. E. Greenawalt.

*Workings maps and other
reports available on this property*



May 25, 1943

Memorandum:

To: J. S. Coupal
From: B. W. Brown
Subject: Tungsten prospect

A ledge of scheelite has been discovered in the Black Canyon District, four and one-half miles south of Cleator. The discovery was made by Andy Anderson who now holds the property under the name of the Eclipse Group. Mr. Eldred D. Wilson of the Arizona Bureau of Mines recently made an examination of the property

Bahrguell W. Brown

ARIZONA SMALL MINE OPERATORS ASSOCIATION

OFFICE OF STATE SECRETARY
CHARLES F. WILLIS
528 TITLE AND TRUST BLDG.
PHOENIX, ARIZONA

COUNCILS

AGUILA
AJO
ALAMO
ARIVACA
BENSON
BISBEE
BOUSE
CASA GRANDE
CAVE CREEK
CHERRY
CHLORIDE
CLEATOR
CLIFTON-MORENCI
CONGRESS
CROWN KING
DOUGLAS
DUNCAN
ELLSWORTH
FLORENCE
GLOBE
HUACHUCA
KINGMAN
KIRKLAND
KLONDYKE
MARICOPA
MAYER
MESA
MIAMI
MOHAVE
MORRISTOWN
NOGALES
NO. COCHISE
OATMAN
ORACLE
PARKER
PATAGONIA
PAYSON
PEARCE
PHOENIX
PRESCOTT
QUARTZSITE
QUIJOTOA
RAY
SAFFORD
SALOME
SELLS
SO. COCHISE
SUNFLOWER
SUPERIOR
TOMBSTONE
TUCSON
TURQUOISE
VERDE
WICKENBURG
WILLCOX
WINKELMAN
YARNELL
YAVAPAI
YUMA

July 8, 1944

Miss Grace M. Sparkes, Secretary
Yavapai County Council
Box 346
Prescott, Arizona

Dear Grace:

I have your letter of July 7 making inquiry
regarding the Eclipse Mine.

✓ This is the property which at one time was the
old Howard Silver mine and is owned jointly by W. C.
Kinnon of Phoenix and Andy Anderson of Cleator.
W. C. Kinnon is the Phoenix manager of Allis Chalmers
Mfg. Company.

It is a tungsten property located in the Turkey
Creek district near Cleator.

(W. C. Kinnon is entirely responsible and reliable.
He is an A-1 man in every respect and thoroughly de-
pendable.)

With kindest personal regards, I am

Yours very truly,

Charles F. Willis
CHARLES F. WILLIS
State Secretary

CFW:MH

Eclipse Tungsten

July Meeting

July 11, 1944

Mr. W. C. Kinnon, Manager
Allis Chalmers Manufacturing Company
28 East Catalina Avenue
Phoenix, Arizona

Dear Mr. Kinnon:

We were pleased to be advised by Mr. Charles F. Willis recently that you are owner jointly with Andy Anderson of the Eclipse Tungsten mine located in the Turkey Creek district near Clifton. We would be glad to have your membership in the Yavapai County Council of the Arizona Small Mine Operators Association and if you are in Prescott in the near future we invite you to call at the offices located on the groundfloor of the courthouse. We would also like to have a sample of your ore for the Yavapai County exhibit.

This Council meets on the third full Thursday of each month. We have an active group and would welcome your attendance and identification with the Yavapai County Council.

Sincerely,

Grace M. Sparkes, Secretary

GMS:cc

July 20/44
7:30 p.m.

July 7, 1944

Mr. Charles F. Willis, State Secretary
Arizona Small Mine Operators Association
528 Title and Trust Building
Phoenix, Arizona

Dear Charlie:

Will you kindly give us any information you may have pertaining to Mr. W. C. Kimmon of the Eclipse Mine. In checking our records, we do not have anything covering this property.

At the last meeting of our Council which was attended by "Hap" Mills, Chuck Dunning, Bill Brown, and others, I inquired respecting this property and I could not obtain any information. Please let us hear from you as promptly as possible respecting the operations. Definite information should be here so we can present this to the Ration Board on the basis of an application which has been filed here.

Sincerely,

Grace M. Sparkes, Secretary

MS:ec

MEMO

TO: J. W. BROWN

July 5, 1944

FROM: GEORGE BALLAM

W. C. Kinnon is preparing to do some development and mining on his Eclipse Tungsten property, 4 1/2 miles south of Cleator.

Some weeks ago he made application to the Prescott ration board for non-highway gasoline for compressor. He has heard nothing from the board as yet, and is anxious to get started.

He requests you contact the board regarding this application and ask them to forward the coupons to W. C. Kinnon at Cleator.