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03/31/92

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: COMPADRE

ALTERNATE NAMES:

DELEWARE
LEROY
POLATSKI
REED
SUNSET
VELORA ROSE

SANTA CRUZ COUNTY MILS NUMBER: 85A

LOCATION: TOWNSHIP 20 S RANGE 14 E SECTION 35 QUARTER SE
LATITUDE: N 31DEG 38MIN 47SEC LONGITUDE: W 110DEG 52MIN 32SEC
TOPO MAP NAME: MOUNT WRIGHTSON - 15 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

ZINC
COPPER
LEAD
SILVER
GOLD

BIBLIOGRAPHY:

KEITH, S.B., 1975 INDEX OF MINING PROP. IN
SANTA CRUZ CO., AZBM
USBM FIELD NOTES
AZBM CLIPPING FILE, 1951
AZBM CARD FILE SANTA CRUZ CO.
ADMMR COMPADRE FILE

COMPADRE MINE

SANTA CRUZ COUNTY

Active Mine List May 1970 - 3 men - Ralph Patty, Mgr.
Active Mine List Oct. 1970 - 5 men - Ralph Patty, Mgr.

AEC 172-489, p. 39 - no abnormal radioactivity

MILS Santa Cruz Index #85A

USGS Bull. 582, p. 188

ABM Bull. 191, p. 84

USGS PP 748, p. 11-12

Mt. Hopkins 7.5 (included in file)

AKA: Delaware Group, East Compadre Shaft, R.K. Mines, Mary and Polatski Prospects,
Velora Rose Claims

* GENERAL REFERENCES

- REFERENCE 1 F1 < ABGMT-USBI FILE DATA >
 REFERENCE 2 F2 < ADMR FILE DATA, COMPADRE MINE >
 REFERENCE 3 F3 < ABGMT CLIPPINGS FILE, COMPADRE MINE >
 REFERENCE 4 F4 < SCHRADER, F.C., 1915, USGS BULL. 582, p. 188 >

- A13 < - LEROY MINE >
 L110 < PROPERTY INCLUDES 4 UNPATENTED CLAIMS: COMPADRE NO. 1 AND 2 AND LEROY NO. 2 AND 3; MARY AND POLATSKI CLAIMS WERE CONSIDERED, AT ONE TIME, AS PART OF THE COMPADRE GROUP >
 M110 < TRACEABLE 3000 FT ON SURFACE >
 M220 < 55- FT DRIFT ON MARY CLAIM; 60-FT DRIFT AND SHORT TUNNEL ON POLATSKI CLAIM; ABOVE WORKINGS DIMENSIONS ARE FROM MAIN COMPADRE SHAFT >
 N5 < DIKES THAT EXTEND WNW FROM JOSEPHINE CANYON TO GLOVE MINE >
 K5 < DIORITE >
 N70 < INTERBEDDED RHYODACITE WELDED TUFF >
 N75 < DEFINED FOOT AND HANGING WALLS >
 N85 < THOUGHT TO BE CONTINUATION OF RHODE ISLAND VEIN WHICH CONTAINS STRINGERS OF QUARTZ CARRYING GALENA AND CHALCOPYRITE; POLATSKI CLAIM LOCATED ON A 12-FT QUARTZ VEIN STRIKING N60E >
 F5 < KEITH S.B. 1975 ABM BULL. 191 p. 84 >
 F6 < ABGMT FILES STANTON B. KEITH >
 F7 < DREWES H. 1971 USGS MAP I-614 (1:48000) >
 F8 < DREWES H. 1972 USGS PROFESSIONAL PAPER 748, p. 11-12 >
 F9 < USBM FILES, COMPADRE MINE GROUP >

miles # 85A

U.S. CRIB-SITE FORM

RECORD IDENTIFICATION

RECORD NUMBER B10 < _____ > RECORD TYPE B20 < X, I, M > DEPOSIT NUMBER B40 < _____ >
 REPORT DATE G1 < 8, 2, 04 > INFORMATION SOURCE B30 < 1, 2, _____ > FILE LINK IDENT. B50 < USBM-0040230151 >
 REPORTER(SUPERVISOR) G2 < CALDER SUSAN R. > (last, first, middle initial) (last, first, middle initial)
 REPORTER AFFILIATION G5 < ABGMT > SITE NAME A10 < COMPADRE - LEROY MINE GROUP >
 SYNONYMS A11 < DELAWARE GROUP, EAST COMPADRE SHAFT, R.K. MINES, MARY AND POLATSKI PROSPECTS, VELORA ROSE CLAIMS >

LOCATION

MINING DISTRICT/AREA A30 < WRIGHTSON DISTRICT >
 COUNTY A60 < SANTA CRUZ > STATE A50 < A.Z. > COUNTRY A40 < U.S. >
 PHYSIOGRAPHIC PROV A63 < 1, 2 >
 DRAINAGE AREA A62 < 15,050,301, v. LOWER COLORADO >
 QUADRANGLE NAME A90 < MT. HOPKINS (1981) > LAND STATUS A64 < 4, 1, v. (1979) >
 SECOND QUAD NAME A92 < MT. WRIGHTSON (1981) > QUADRANGLE SCALE A100 < 24,000 >
 ELEVATION A107 < 5,200 v. FT. > SECOND QUAD SCALE A91 < 24,000 >

UTM ACCURACY GEODETIC
 NORTHING A120 < 35,010,50 > ACCURATE ACC (circle) ESTIMATED EST < _____ > LATITUDE A70 < 31-38-47 N >
 EASTING A130 < 511,800 > LONGITUDE A80 < 110-52-32 W >
 ZONE NUMBER A110 < 1, 12 >

CADASTRAL
 TOWNSHIP(S) A77 < 029S > RANGE(S) A78 < 01E >
 SECTION(S) A79 < 35 > 31e
 SECTION FRACTION(S) A76 < E2, 35, W2 36 >
 MERIDIAN(S) A81 < GILA AND SALT RIVER >

POSITION FROM NEAREST PROMINENT LOCALITY A82 < 3 MILES SOUTH OF MT. HOPKINS IN JOSEPHINE CANYON >
 LOCATION COMMENTS A83 < LEROY MINE, AND MARY AND POLATSKI PROSPECTS LOCATED 1/2 MILE TO NORTH OF COMPADRE MINE; UTM AND GEODETIC COORDINATES LOCATE COMPADRE MINE >

* ESSENTIAL INFORMATION
 + ESSENTIAL SOMETIMES OR HIGHLY RECOMMENDED

COMMODITY INFORMATION

COMMODITIES PRESENT C10 < Zn, Cu, Pb, Ag, Au, _____ >
 ORE MINERALS C30 < SPHALERITE, PYRITE, CHALCOPYRITE, GALENA, CHALCOCITE, MALACHITE, AZURITE >
 COMMODITY SUBTYPES C41 < _____ >
 GEN. ANALYTICAL DATA C43 < ORE VALUES AVERAGED 7% Zn, 3% Cu, 2% Pb, 3.02 TON Ag >
 COM. INFO. COMMENTS C50 < _____ >

SIGNIFICANCE

	PRODUCER	NON-PRODUCER
MAJOR PRODUCTS	MAJOR < Zn, Cu, Pb, Ag, Au, _____ >	MAIN COMMODITIES PRESENT C11 < _____ >
MINOR PRODUCTS	MINOR < Pb, Ag, _____ >	MINOR COMMODITIES PRESENT C12 < _____ >
POTENTIAL PRODUCTS	POTEN < Au, _____ >	
OCCURRENCES	OCCUR < _____ >	OCCURRENCES OCCUR < _____ >

*PRODUCTION

PRODUCTION	PRODUCER	NON-PRODUCER
(YES) (circle one)	PRODUCTION SIZE (SML) (MED) (LGE) (circle one)	PRODUCTION (UND) (NO) (circle one)

EXPLORATION OR DEVELOPMENT

*STATUS	PRODUCER	NON-PRODUCER
	STATUS AND ACTIVITY A20 < U >	STATUS AND ACTIVITY A20 < L >

DISCOVERER L20 < R.R. RICHARDSON >
 YEAR OF DISCOVERY L110 < 1860'S > NATURE OF DISCOVERY L30 < B > YEAR OF FIRST PRODUCTION L40 < 1941 > YEAR OF LAST PRODUCTION L45 < 1960 >
 PRESENT/LAST OWNER A12 < PEARL DALE (1960) - COMPADRE MINE; WES DONALDSON (1965) - LEROY MINE >
 PRESENT/LAST OPERATOR A13 < HARRY ZABEL AND MARVIN SMITH (1960) - COMPADRE MINE; MISSION MINING CO (1965) >
 EXPL./DEV. COMMENTS L110 < OPERATORS INCLUDED BOULDER MINING CO, ARIZONA CONSOLIDATED GOLD AND COPPER MINES (1949), J.F. JOHNSON, J. KRAMER, O.A. REID (1943), R.R. RICHARDSON, J. WHITE; >

DESCRIPTION OF DEPOSIT

DEPOSIT TYPE(S) C40 < VEIN/SHEAR ZONE >
 DEPOSIT FORM/SHAPE M10 < TABULAR; STRINGERS >
 DEPTH TO TOP M20 < _____ > UNITS M21 < _____ > MAXIMUM LENGTH M40 < 3000 > UNITS M41 < FT >
 DEPTH TO BOTTOM M30 < _____ > UNITS M31 < _____ > MAXIMUM WIDTH M50 < 6 > UNITS M51 < FT >
 DEPOSIT SIZE M15 (SMALL) M15 (MEDIUM) M15 (LARGE) (circle one) MAXIMUM THICKNESS M60 < _____ > UNITS M61 < _____ >
 STRIKE M70 < N60E > DIP M80 < _____ >
 DIRECTION OF PLUNGE M100 < _____ > PLUNGE M90 < _____ >
 P. DESC. COMMENTS M110 < COMPADRE VEIN RANGES IN WIDTH FROM 3-6 FT. HIGHER GRADE ORE USUALLY CASED WITH FROM 8-12 INCHES OF KAOLINIZED GOUGE ON EITHER WALL; VEIN OR LEDGE >

DESCRIPTION OF WORKINGS

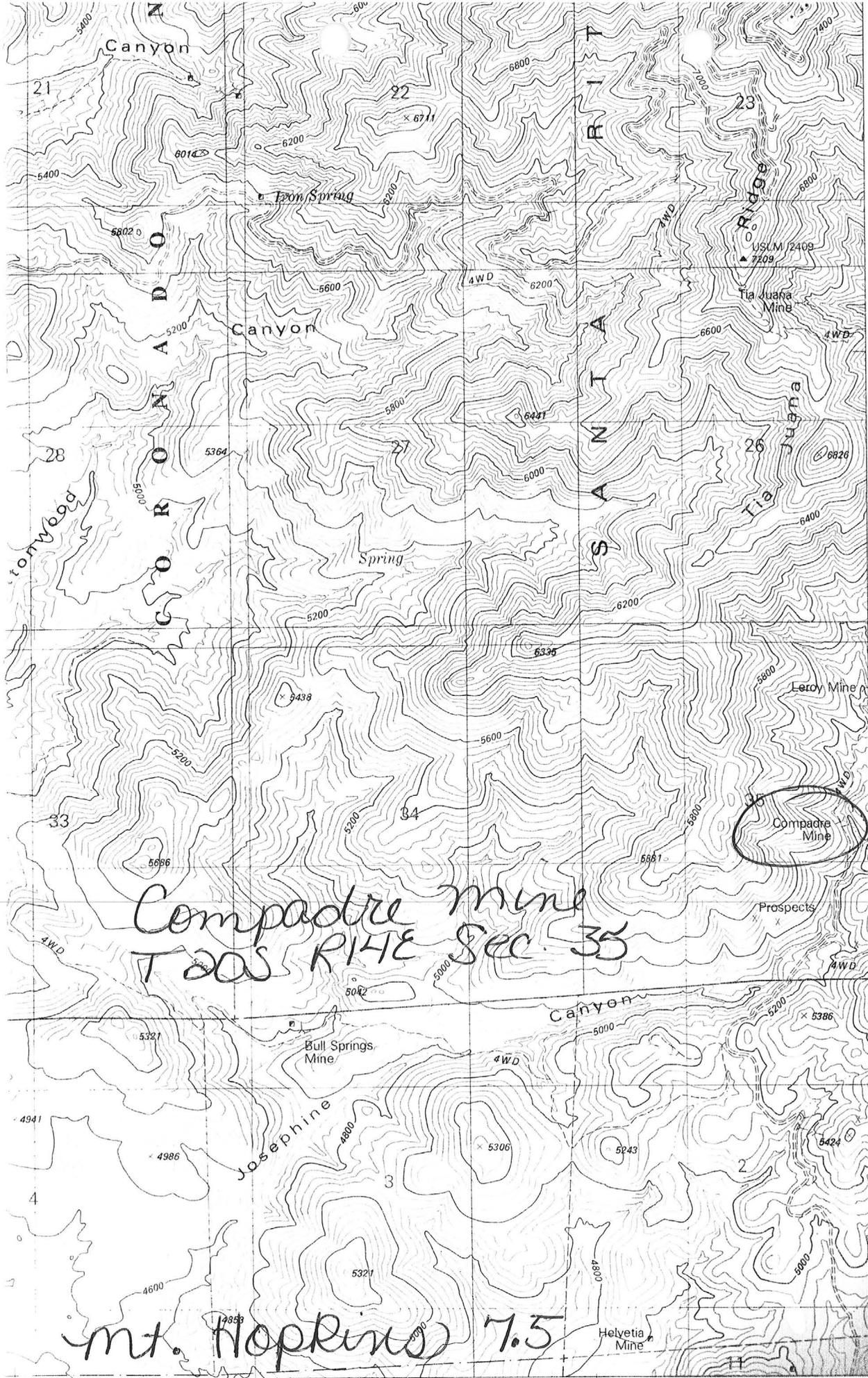
Workings are: SURFACE M120 UNDERGROUND M130 BOTH M140 (circle one)
 DEPTH BELOW SURFACE M160 < 75 > UNITS M161 < FT. > OVERALL LENGTH M190 < 210 > UNITS M191 < FT >
 LENGTH OF WORKINGS M170 < 375 > UNITS M171 < FT. > OVERALL WIDTH M200 < 45 > UNITS M201 < FT >
 DESC. OF WORK. COM. M220 < MAJOR WORKINGS ON COMPADRE NO. 1 CLAIM; DEVELOPMENTS INCLUDED 122-FT TUNNEL, 32-FT DEEP SHAFT WITH 2 SHORT DRIFTS AT BOTTOM, 37-FT LONG OPEN CUT ON VEIN FROM WHICH 18-FT TUNNEL IS DRIVEN, 400-FT OLD ADIT; 40-FT OLD ADIT ON LEROY CLAIMS; >

GEOLOGY

* AGE OF HOST ROCK(S) K1 < JUR, 145 m.y. BY K-AR DATING METHOD (DREWES, H., 1971) >
 * HOST ROCK TYPE(S) K1A < PINK COARSE-GRAINED GRANITE AND QUARTZ MONZONITE >
 * AGE OF IGNEOUS ROCK(S) K2 < L.C.R.E.T., 67 m.y. BY K-AR DATING METHOD (DREWES, H., 1971) >
 * IGNEOUS ROCK TYPE(S) K2A < MODERATELY COARSE-GRAINED QUARTZ DIORITE >
 * AGE OF MINERALIZATION K3 < L.C.R.E.T. >
 * PERT. MINERALS (NOT ORE) K4 < QUARTZ GANGUE; KAOLINITE >
 * ORE CONTROL/LOCUS K6 < QUARTZ STRINGERS IN NE-TRENDING SHEAR ZONE CUTTING GRANITE AND >
 * MAJ. REG. TRENDS/STRUCT. N5 < COTTONWOOD CANYON DIKE SWARM; NEARLY VERTICAL QUARTZ LATITE PORPHYRY >
 * TECTONIC SETTING N15 < SALERO FAULT BLOCK >
 * SIGNIFICANT LOCAL STRUCT. N70 < VEIN/SHEAR ZONE EXTENDS WESTWARD INTO ARKOSIC SEDIMENTS AND >
 * SIGNIFICANT ALTERATION N75 < HEAVY KAOLINIZED GOUGE ON BOTH SIDES OF MINERALIZED ZONE BETWEEN WELL- >
 * PROCESS OF CONC./ENRICH. N80 < OXIDATION NEAR SURFACE >
 * FORMATION AGE N30 < L.C.R.E.T. >
 * FORMATION NAME N30A < SALERO FORMATION - ARKOSE MEMBER >
 * SECOND FM AGE N35 < _____ >
 * SECOND FM NAME N35A < _____ >
 * IGNEOUS UNIT AGE N50 < JUR >
 * IGNEOUS UNIT NAME N50A < SQUAW GULCH GRANITE >
 * SECOND IG. UNIT AGE N55 < L.C.R.E.T. >
 * SECOND IG. UNIT NAME N55A < JOSEPHINE CANYON DIORITE >
 * GEOLOGY COMMENTS N85 < ABOVE DESCRIBES COMPADRE VEIN; PEGMATITE OR BULL QUARTZ FILLING FOUND ON FOOTWALL IN SHAFT; MARY CLAIM ON SHEAR ZONE DIPPING 75N IN DACITE; MARY DEPOSIT >

GENERAL COMMENTS

GENERAL COMMENTS GEN < _____ >



Compadre mine
T20S R14E Sec. 35

mt. Hopkins 7.5

55' 609 110°52'30" 31°37'30"

● INTERIOR—GEOLOGICAL SURVEY RESTON, VIRGINIA—1981

1:100,000 E

ROAD CLASSIFICATION

Primary highway.

Light-duty road, hard or

(PATAGONIA 2007)

COMPADRE MINE

SANTA CRUZ COUNTY

AEC 172-489, p. 39 - No abnormal radioactivity.

Mine visits to Compadre Mine and LeRoy mines - inactive. GWI WR 11/18/76

COMPADRE & LeROY MINES

SANTA CRUZ COUNTY

TYNDALL DISTRICT

Mines are closed down and the operator, Mr. Harry Zabel and his partner Marvin Smith have left town leaving no forwarding address.

ALJ Conf. Report Nov. 2, 1960

LeRoy Mine (Velora Rose Claims) are owned by Wes Donaldson, (371 P.O. box) Patagonia Being leased by Mission Mining Co., Box 501, Patagonia.

GWI WR 7/17/65

Field interview with Wes Donaldson at Arivaca - claims he still has the Velora Rose Claims (5). This is the old Compadre next to the Connecticut Mine.

GWI WR 11/5/66

Mr. Fred Schul and Mr. Castro have been working at the Sunset. (This may have been part of the Compadre Mine as seen on the topographic map.) GWI Quarterly Report 3/1969

Memo for files

5/25/83

John H. Jett

Mr. John McAlpine, Santa Monica, California, grandson of O. V. Anderson, 724 24th St. Santa Monica, California 90402, (one of the owners of the Le Roy Mine, Cochise County) wanted information on previous shipments. They are interested in doing something with the mine.

Data was mailed as requested.

Santa Cruz?

ARIZONA DEPARTMENT OF MINERAL RESOURCES
Mineral Building, Fairgrounds
Phoenix, Arizona

1. Information from: Hoyd Patty
Address: Patagonia Az.
2. Mine: Connecticut & Sunset 3. No. of Claims - Patented _____
Unpatented ?
4. Location: Upper Josephine Canyon, Santa Rita Mts. Santa Cruz Co.
5. Sec 25-35-36 Tp 20S Range 14E 6. Mining District Tyndall
7. Owner: Canyon Mining Inc. Incorporated 1-27-70 Ralph & Hoyd Patty,
Richard Ward & J.M. Teneer
8. Address: P. O. Box 491 Patagonia 85624
9. Operating Co.: Same
10. Address: _____
11. President: Ralph Patty 12. Gen. Mgr.: Ralph Patty
13. Principal Metals: Cu-Ag-Au-Pb-Zn 14. No. Employed: 3
15. Mill, Type & Capacity: 25TPD Flotation
16. Present Operations: (a) Down (b) Assessment work (c) Exploration
(d) Production (e) Rate Starting up tpd.
17. New Work Planned: _____

18. Misc. Notes: Patty brothers owned the Connecticut.
Ward & Teneer have control of the Sunset, (See Compadre mine)

Date: 3-5-70

[Signature]
(Signature)

(Field Engineer)

Compadre & Le Roy Mines (continued)

Proposed Plans: Operators plan on driving this adit ahead for 40 to 50 ft. to reach an intersection of 6 veins (as shown by surface indications), where they hope to find an ore body.

Remarks: Field engineer hopes to be able to visit this property in the near future.

Information by Verner Allen.

DEPARTMENT OF MINERAL RESOURCES

News Items

Date *Sept 5, 1951*

Mine *Compadre Mine*

Location *Josephine Canyon - 18 NW of 2 Patagonia*

Owner *Verner Allen*

Address *156 Montgomery St, San Fr, Calif*

Local - Box 1, Nogales, Ariz

Operating Co. *Verner Allen*

Address *Box 1, Nogales, Ariz.*

Pres.

Genl. Mgr. *Verner Allen*

Mine Supt.

Mill Supt.

Principal Metals *Lead & Zinc*

Men Employed *8 men - (one shift)*

Production Rate *On Exploration Work*

Mill, Type & Capacity *No Production yet*

Power, Amt. & Type

Signed

(Over)

Arvid L. Johnson

NAME OF MINE: COMPADRE

OWNER: H. J. White

COUNTY: SANTA CRUZ S

DISTRICT: TYNDALL

METALS: -CU, PB, ZN

OPERATOR AND ADDRESS:

MINE STATUS

DATE:

DATE:

5/1/44

H. J. White, Box 45,
Patagonia

5/1/44

Closed

7/44

Reopened -

10/46

Shipping
Developing

8-48

Reid & Cramer, Patagonia

Shipping

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine Compadre & LeRoy Mines

Date Sept. 8, 1960

District Tyndall District, Santa Cruz Co.

Engineer Axel L. Johnson

Subject: Field Engineers Report. Information from Harry Zabel.

Location: Sections 25 & 35 - T 20 S - R 14 E. About 10 $\frac{1}{2}$ miles NW of Patagonia by air line and 18 $\frac{1}{2}$ miles by road. Drive SW from Patagonia on the Patagonia-Nogales highway for 3 miles. Turn right (NW) and drive an additional 15 miles on county road, the last 2 miles being steep and rough.

Owner: Mrs. Pearl Dale
Box 631, Sierra Vista, Ariz.

Lessees & Operators: Harry Zabel, Box 5, Patagonia
& Marvin Smith of same address.

Lease was obtained in April 1960, and calls for 10% of the net smelter returns.

Principal Minerals: Copper, zinc, lead, silver.

Present Mining Activity: Mining ore and shipping same. 2 men working - Mr. Zabel and Mr. Smith. Production about 20 tons per month.

Ore Values: Mr. Zabel reports an assay, running 17.5 % copper, 17.0% zinc, 8.0% lead, 9 oz. per ton silver and \$1.50 per ton in gold, at the Compadre Mine, and estimates that the ore will average 9% copper, 17% zinc, 8% lead and 50 oz. per ton of silver.

Ore Estimated: Mr. Zabel estimated probable ore at the Compadre Mine as approximately 3,000 tons, with an ore vein 4 ft. wide.

Milling and Marketing: There is no mill on the property. Mr. Zabel wants to obtain a mill, either by purchase or lease, to mill the ore at the Compadre, which is all sulphides. He would like to have a 25 ton mill with flotation cells.

Old Mine Workings: Reported by Mr. Zabel viz:

- 1 old adit on the Compadre - 400 ft. long
- 1 old adit on LeRoy - 40 ft. long

Review of Recent Operations: The lease was obtained in April, 1960, and work was started about June 15, 1960. A drift was driven on the Compadre for a distance of 60 ft. and 45 tons of ore was taken out from this drift from July 1st to Sept. 1st. This ore was hauled to Patagonia by Strong and Harris, and shipped from there to the A.S. & R. smelter at El Paso, Texas. No returns had been received from the smelter on this ore shipment up to the date of this report. Operators discontinued mining on the Compadre on account of the high zinc content of the ore, until a mill is purchased or leased to treat the ore.

Operators started work on the LeRoy Mine about Sept. 1, and are now engaged in extending an old adit on this property, which was previously in 40 ft. Mr. Zabel reports only a small amount of ore in this adit, the ore vein being 6 inches wide, with all copper carbonates of malachite and azurite.

August 19, 1943

ORE SHOOTS: From the survey there is evidently a roll in the vein near the westerly end of the stope indicated. Beyond this point until about 15 feet from the face of the tunnel little or no mineralization shows, so that the first stope was on a rather short ore shoot. High grade stringers show in the vein material about 15 feet from the face and at the face have consolidated into 2 feet of ore as shown in sample No. 1. Good ore shows from the collar of the shaft to and into the drifts at the bottom of the shaft, indicating a larger ore shoot than the one near the portal of the tunnel.

ROAD: The mine is reached by the Alto highway which leaves the Nogales-Patagonia highway at a point 4 miles south of Patagonia. This is a dirt road with no excessive grades. The distance from the Patagonia highway is about 14 miles. The last two miles before reaching the mine are graded but narrow and call for some slight repair work.

WATER: Ample water for domestic use is available by shallow wells in Josephine Canyon.

TIMBER: The area is sparsely timbered with scrub oak and other scrub - high elevation vegetation.

Submitted by


J. S. COUPAL

EXHIBIT A

1. Not a corporation.
2. Applicant an individual.
 - (a) Hugh Jim White, Box 45, Patagonia, Arizona.
 - (b) No partnership agreements.
 - (c) Married - Wife, Gladys N. White.
3.
 - (a) None.
 - (b) None.
4. Manager - Hugh Jim White.
Mining experience - off and on since 1925.
1925 - Superior and Boston Mine, Globe, Arizona.
1929-30 - Eagle Pitcher Lead and Zinc Co., Ruby, Arizona.
1935-1940 - Magma Copper Co., Superior, Arizona.
5.
 - (a) Lease, attached copy.
 - (b) Lease runs direct from owner to applicant.
 - (c) Copy of lease attached.
6.
 - (a) Tyndale Mining District, Santa Cruz County.
 - (b) Unpatented.
 - (c) Compadre No. 1, Sec. 35, T 20 R 14 E.
Compadre No. 2, Sec. 36, T 20 R 14 E.
Le Roy No. 2, Sec. 36, T 20 R 14 E.
Le Roy No. 3, Sec. 35 & 36, T 20 R 14 E.
7. Shaft and Tunnel - dry at present depths.
8. Will be attached.
 - (a) Attached report by J. S. Coupal.
 - (b) Attached report by J. S. Coupal.
 - (c) Track, 250 feet, good condition. About 100 ft. of $1\frac{1}{2}$ air line.
 - (d) Road to mine needs slight repair work such as shooting off narrow points and making several fills where road is washed out - for a distance of about two miles.
 - (e) Plan to ship ore, hence no metallurgical tests.
9. Yes.
Canyon below portal of tunnel runs 8 months out of year and with small development water can be had throughout the year.
First water rights filed on by O. A. Reid.
10. Proposed Work.
 - (a) Some retimbering about 60 feet. Propose to extend tunnel to 150 ft. beyond shaft and drive a raise from tunnel to connect shaft for ventilation and to take out what ore there is between. Also to continue shaft to depth of about 50 feet below tunnel and from there on will probably be bothered with a large quantity of water. Propose to build an ore bin of 60-ton capacity.

- (b) Attached.
- (c) Water at present is minor. A sump pump run by air is enough to handle all water at present.
- (d) Compressed air - cost of compressor.
- (e) --

11. Estimate of Expenditures for 90 days.

Compressor (purchase)	1,500.00
Leyner drill - column - steel, etc.	400.00
Road repairs	500.00
150 feet drifting @ \$10 per foot	1,500.00
50 feet sinking @ \$25. per foot	1,250.00
30 foot raise @ \$20 per foot	600.00
Extra camp building	250.00
Misc. supplies, track, fuel, etc.	500.00
Working capital (revolving fund) for hauling, freight, mining, etc. in shipping ore.	<u>1,000.00</u>
	\$7,500.00

12. Fixed and other Assets.

- 5. Two camps - land about \$1,000.00.
- 6. Machinery - none.
- 7. Furniture --- 200.00

Liabilities.

- 8. None
- 9. Car payment.
- 10. None.
- 11. None.
- 12. None.
- 13. None.
- 14. None.
- 15. None.

EXHIBIT B

1. Attached.
2. No production for past 10 years.
3. To be sent to custom mill and smelter as there will be both grades of ore.
4. No record of past mining costs.
 - (a) Estimate mining at \$3.00 per ton and development at \$10 per foot in drifts and \$25 per foot shaft sinking.
 - (b) Plan to sell ore to custom mill or to smelter.
Milling charges and treatment will be \$3.50 per ton at the Callahan Lead and Zinc Co., Patagonia, Arizona. Shipping here would make my rates \$3.00 per ton freight.
There are also two other mills in this district: the A.S. & R. Trench Mining and Milling Co. located at Patagonia, Arizona, and the Shattuck Denn Mill located at Bisbee, Arizona.
5.
 - (a) Compressor.
 - (b) Not using electricity at present.
 - (c) --
 - (d) --
 - (e) Compressed air.
6.
 - (a) Yes.
 - (b) Five (5).
 - (c) Wages between \$6 and \$7 per day.
 - (d) 1 bunk house (small).
7. None.
8. --

STATEMENT BY O. A. REID

These mining claims, the Compadre No. 1 and 2, Le Roy 2 and 3, were formerly located and owned by R. R. Richardson as the Delaware group and worked by him. The Compadre No. 1 was located as the Delaware No. 1. Mr. Richardson sank a shaft about 32 feet deep and ran a tunnel in on the vein and stoped out some ore and shipped, I believe, about 3 carloads.

After Mr. Richardson's death Mr. Ed Bollinger took charge of the Richardson estate and told me to relocate the claims. Said that he would try and look up the returns of shipments and give them to me but was unable to find them. I have been trying to locate Mr. Robert P. Hooks who leased the Delaware from Mr. Richardson but have been unable to locate him. He told me that he shipped a carload of ore sinking the shaft which returned \$24 per ton. I wrote to the smelter but they stated that Mr. Richardson shipped considerable ore but could not identify Mr. Hooks' shipment.

Mr. N. Palme shipped or sold to one of the local assayers 11 tons of hand sorted lead ore which ran 22 percent lead and 20 ounces silver.

Mr. Monte Verdier shipped or sold 2 tons of sorted copper ore which netted \$12 per ton. However, I have been unable to get any of these returns as this has been a number of years ago.

I have done over 200 feet of development work on this claim to get more depth and found it looks better as I went deeper. I did not try to ship as the ore was complex and there was too much zinc in it. I have had the theory that I would get more copper at depth and still believe it as the ledge looks better as I go deeper.

I have been able to trace this ledge for about 3000 feet on the surface - some mineralization all along the ledge.

There is an old stope which Mr. Richardson or his leasers stoped out and must have shipped the ore as the ore is not on the dump and I found some good lead, copper and zinc specimens on it.

About 600 feet east of this working on Compadre No. 2 is a 60 foot tunnel with an 8 foot winze in it and good ore in the bottom of winze which I believe is the continuation of the Compadre No. 1 ore shoot.

I timbered the tunnel and gobed the stope myself to make the mine safe and picked out a little ore and it looked to me as if at least 200 tons might have been taken out of the stope.

I am leasing this group of claims to Mr. Hugh J. White so as to get them to producing, as I am developing a copper ledge on the connecting claims and have my hands full.

O. A. Reid.

UNPATENTED MINING CLAIMS IN THE TYNDALE MINING DISTRICT, SANTA CRUZ CO.

Compadre No. 1. &

200 feet in an easterly direction to the east Center Mt.

1300 feet in a westerly direction to the west Center Mt.

Compadre No. 2.

1200 feet in an easterly direction to the east Center Mt.

300 feet in a westerly direction to the west Center and Mt. joins Compadre No. 1.

Le Roy No. 2.

500 feet in a westerly direction to the west Center Mt.

1000 feet in an easterly direction to the East Center Mt.

Le Roy No. 3.

750 feet in an easterly direction to the East Center Mt.

750 in a westerly direction to the West Center Mt.

No. 1 Compadre located 17th day of February, 1931.

Book 22, page 525; also, Book 24, page 494.

Compadre No. 2 located 20th day of August, 1935.

Book 24, page 74.

Le Roy No. 2 located January 25, 1932.

Book 23, page 105.

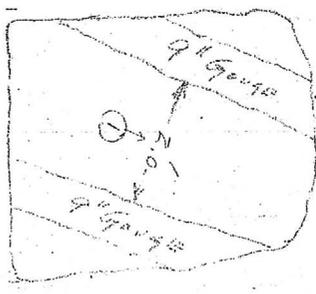
Le Roy No. 3 located January 25, 1932.

Book 23, page 106.

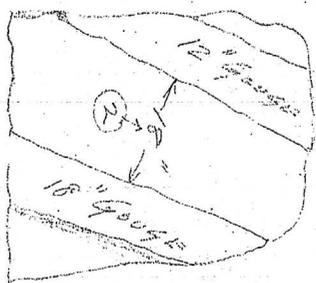
Dam Site and Water Right

September 26, 1934

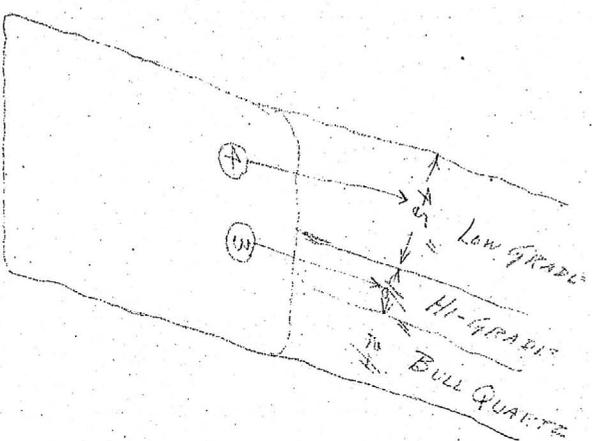
Book 22, page 525.



No. 1. SAMPLE - 7'0" WIDE BREAST OF TUNNEL.



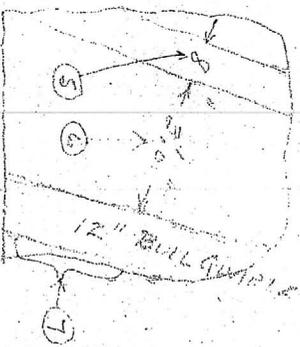
No. 2. SAMPLE 12" WIDE BREAST OF SPENCOR TUNNEL.



SAMPLES No. 3 & 4. NW WALL OF SHAFT 8 FT ABOVE BOTTOM

No.	Width	Au (oz)	Ag (oz)	Cu %	Pb %	Zn %
1.	2.0	0.02	1.7	2.4	0.6	8.2
2.		0.01	2.0	4.2	2.0	7.0
3.		0.01	2.2	1.6	2.7	11.6
4.		tr	1.2	1.75	1.0	5.3
5.		tr	0.6	0.4	1.8	2.0
6.		tr	0.1	0.24	0.3	1.8
7.		tr	1.8	0.64	0.5	3.0

SAMPLES



SAMPLES 5-6 & 7. FACE OF BRIEF - FROM BOTTOM OF SHAFT - 22 FT WEST OF EAST SHAFT. No. 7. SAMPLED MILED UP FROM FOOTWALL UNDER BULL QUARTZ AND ON DIP OF VEIN.

SECTION SHOWING WHERE

SAMPLES TAKEN.

SEE PLAN & ELEV. SKETCH

FOR LOCATIONS.

COMPAZING GROUP

TRINIDAD MINING DISTRICT

SAN JUAN COUNTY

H. J. WITTE - LESSEE

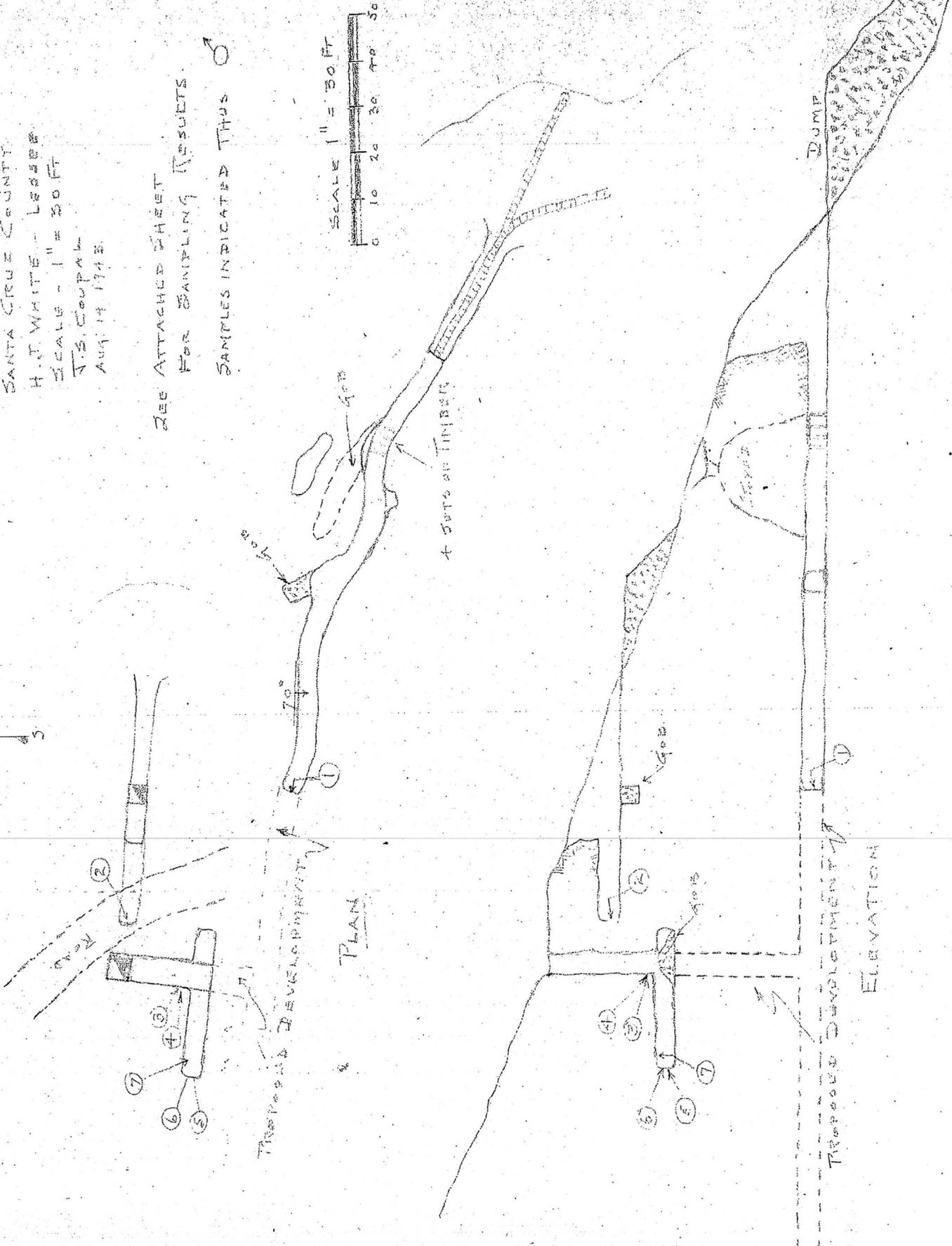
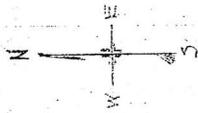
TRINIDAD, Aug. 19, 1943

COMPARK GROUP
 TYNDALE MINING DISTRICT
 SANTA CRUZ COUNTY

H. J. WHITE - LESSEE
 SCALE - 1" = 30 FT
 T.S. COOPER
 AUG. 14 1943

SEE ATTACHED SHEET
 FOR SAMPLING RESULTS

SAMPLES INDICATED THUS ♂

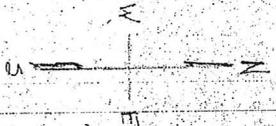


SCALE 1" = 30 FT

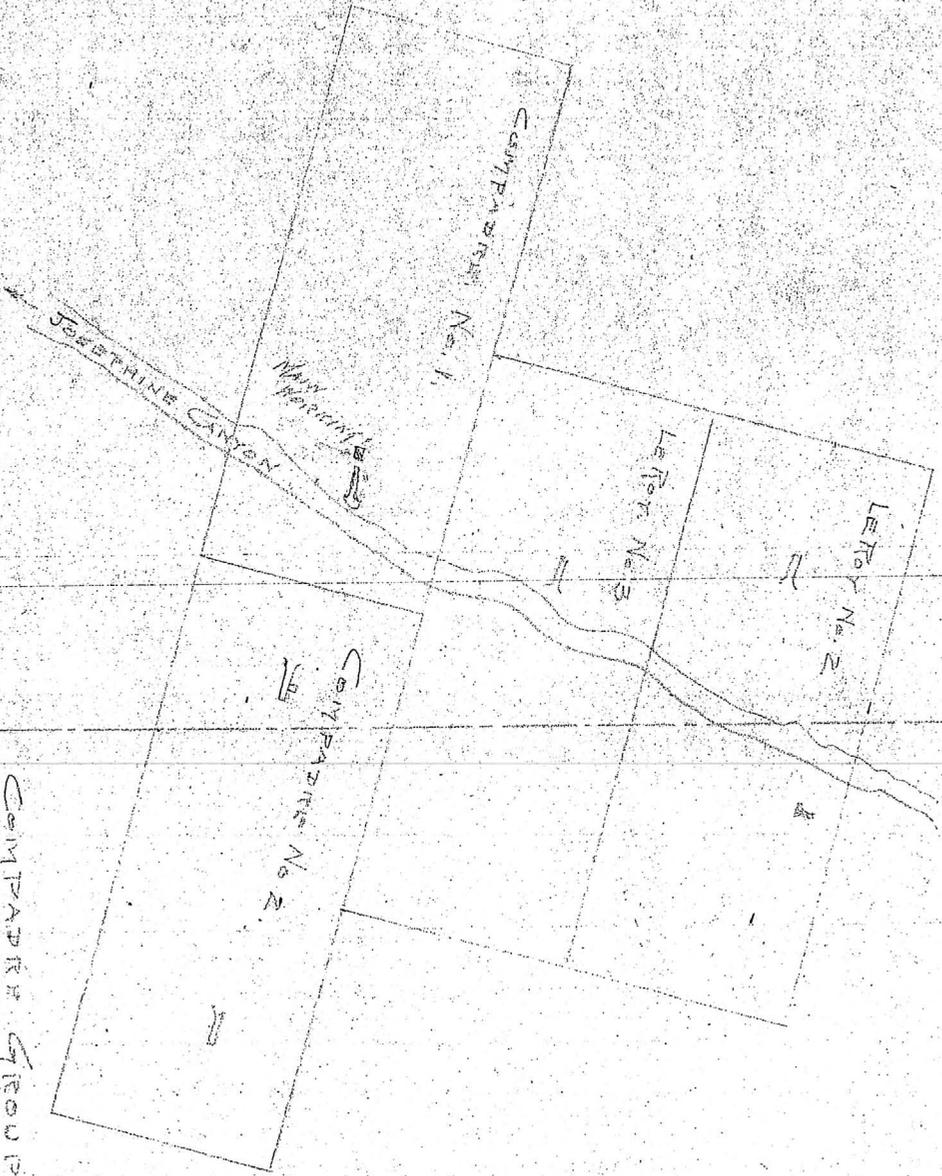
PLAN

ELEVATION

T 20 S - R 14 E



SECTION 35
SECTION 36



COMPARTE GROUP

CLAIM MAP

TINDALE MINING DISTRICT

SANTA CRUZ COUNTY

H. J. WHITE - LESSEE

DEPARTMENT OF MINERAL RESOURCES

REPORT TO OPA ON ACTIVE MINING PROJECT

Date Dec. 4, 1944
 Name of Mine Compadre
 Owner or Operator Jim White
 Address Salagoned, Ariz
 Mine Location Lyndall mining District, Alta

Filing Information

File System.....
 File No.....
 This chart to be used for gallons of gasoline required per month.

PRESENT OPERATIONS: (check X)

Production.....; Development ; Financing.....; Sale of mine.....;
 Experimental (sampling).....; Owner's occasional trip.....;
 Other (specify).....

PRODUCTION: Past and Future.

Tons

Approx. tons last 3 months

Approx. present rate per 3 months

Anticipated rate next 3 months

If in distant future check (X) here

EQUIPMENT OPERATED:

Type	Quantity or Horse Power	Miles or Hours Per Month	Gallons Required Per Month
Personal Cars	1	400 mi.	30
Light or Service Trucks			
Ore Hauling Trucks	1	1750 ml	175
Compressors	85 H.P. Packard motor	80 hrs.	80 gal.
Other Mine or Mill Eqpt.			

PRODUCT PRODUCED OR CONTEMPLATED: Name metals or minerals.

REMARKS:

O. A. Reid property, leased by Jim White.

By.....

Compadre

August 26, 1943

Mr. H. J. White
Box 45
Patagonia, Arizona

Dear Mr. White:

I am returning herewith your application for a mining loan.

I expected that you would make your own estimate of the monies needed and also state the amount, but as you did not do so, I estimated what I considered a reasonable expenditure and the distribution of it for a 90-day period. It comes to \$7,500. I did not include the building of an ore bin and you may want to alter a number of the items.

I have sent three copies and also a new blueprint of the claim map and if all meets with your approval, I would suggest that you complete the first page of the printed form "Application for a Mining Loan", and insert in the line where the amount of the loan should be stated and also insert "none" at the point where it questions about fees, commissions, salaries, charges, etc.

If this meets your approval you should send two forms direct to the R.F.C. Mine Loan Division, 325 Heard Building, Phoenix, and hold one form complete for your own files.

I would suggest that you attach two of the reports with maps which I sent to you and place them in the order indicated by the printed forms. You may want to make some changes in these estimates. I believe that is your problem rather than mine, as you are to do the work but the setup as arranged seems logical and within reason, and I do hope you are successful in getting your loan.

With best wishes, I am

Yours very truly,

J. S. Coupal, Director

JSC:LP
Enc.

August 24, 1943

Mr. H. J. White
Compadre Mine
Patagonia, Arizona

Dear Mr. White:

I am enclosing the three copies of the report and three maps on the Compadre Mine so that you may have two of them to file with your application and one for your own file. I am also enclosing the copy of the analysis on the samples by Hugo Miller.

When you have roughed out your application, I would suggest that you send it to the office and I will gladly go over and make any comments which may be needed.

Yours very truly,

J. S. Coupal, Director

JSC:LP
Enc.

A BRIEF GEOLOGICAL REPORT ON THE COMMON-WEALTH MINE

PEARCE, ARIZONA

The principal ore bodies in this mine are in two shoots of ore, one comparatively small and the other very large, contained in or adjoining a true fissure or fault plane, which dips about 61 degrees to the south. From the large ore shoot there have already been mined something over 500,000 tons of ore, having a gross value of over \$8,000,000. This ore shoot has been found at various levels, including the seventh level (at which water was encountered) to be something over 800 feet long and has averaged over 60 feet in width. The ore occurs as a replacement of andesite and of andesite breccia in the foot wall. These same formations are found in the hanging wall, but, with the exception of a promising body of ore recently discovered, ore has not been found in the hanging wall. While the same formations are found in both the hanging and the foot walls, they have been displaced by the fault above mentioned so that andesite is frequently found opposite to breccia, etc. The ore bodies, especially the great ore shoot above mentioned, rake, i.e. dip approximately with the formations about 35 to 40 degrees to the east. Therefore the assumption is justified that since the formations which contain the ore dip to the east at the angle mentioned, the ore shoot will continue down in them to an unknown depth. There is no reason whatever to believe that this will not be the case or to believe that the ore shoot will not be of great size below the water level, below which it has been very inadequately explored. There will undoubtedly be encountered, as in the case of other mines, an impoverished or leached zone from the water level downward for possibly 200 feet. This is due to two causes, first, that there seems to be a slow but steady circulation of water in the rocks at the point where the water was encountered, the water moving to the south; and second, to the fact that in

the unusual oxidation of the ore and of the rocks above this level a certain amount of carbonic acid and especially of sulphuric acid has been set free. These agents, as is well known, would be effective in dissolving and removing the values from the portion of the vein and of the ore shoot above mentioned which would be subjected to their action, providing moving water is present. I should think it fair to assume that unaltered conditions will be found to exist at approximately 200 feet to 300 feet below water level, and that large sulphide ore bodies exist in the ore shoot at this level on its dip as above described. Such exploration work as has been done below the seventh level bears out this theory exactly. The vein is found to be just as wide as above and the quartz in it is indistinguishable in appearance from the very rich quartz found above. It, however, is barren, the gold and silver values having been removed, presumably in the manner which has been described. By referring to the stope map of the mine, it will be seen that this great ore shoot extends practically uninterruptedly down to water level. Very high values were found at the water level, then the leached zone was encountered. The previous management, in my judgement, made a mistake in not conducting extensive exploratory work on the theory that this leached zone could not extend to any very great depth, and that below it there would be found large bodies of rich sulphide ore. This theory is a correct one, as I very strongly think, and while the expense of pumping the water may be considerable in order to explore them, in my opinion, practically certain continuation of the ore shoot below the leached zone, I regard this expense as fully justified, for should mineable bodies of sulphide ore be encountered, at all comparable in value to the unusually large bodies of oxide ore which have been mined from the upper portions of the ore shoot, the reward would be very great. The proportion of silver and gold in the oxidized zone has been about $\frac{2}{3}$ silver and $\frac{1}{3}$ gold in value,

but the gold values have steadily increased with depth.

A final word should be added to the effect that there is, so far as exploratory work has gone, no indication whatever of the formations or the ore shoot being cut off by faults or intrusions. In short there is no evidence on the surface or underground that these formations of igneous rock and the great ore shoot contained in them, will not continue dipping to the eastward to very considerable depths at about the same inclination which they have been proved to have above the seventh level.

Daniel Morean Barringer.

Philadelphia, October 26th, 1910.

C O P Y 10-10-39

(Courtesy of Mr. Sims).

SUMMARY OF THE ESSENTIAL DATA RELATIVE
TO THE COMMONWEALTH MINE, PEARCE, ARIZONA

- (1) The host rocks most favorable to mineralization and subsequent enrichment are the lower and middle andesites. They are the most susceptible to alteration by primary solutions and are most readily fractured.
- (2) The vein system does not reach up into the later rhyolitic flows (Miocene Age) being separated by a fairly thick layer of conglomerate.
- (3) The veins cross north-south faults (Knox, Smith and Penrose Faults) without being offset but are offset by the Brockman and Huddy faults on the two extremes of the veins. The Knox, Smith and Penrose faults are believed to be pre-enrichment and may even be pre-primary in age.
- (4) The principal values in the mine were produced by supergene argentic enrichment (average grade mined was 25 oz.) of a very low grade protore (2 ounces). This enrichment was closely tied to the old shore lines of "Lake Cochise" between Pearce and Willcox (late Pliocene to post-pliocene in age).
- (5) The overall enriched zones decrease in value from the bottom most to the top most (3rd level) and decrease in value from west to east. The decrease vertically upward is due to depletion of source sulphides (proustite, pyrargyrite and pyrite) and the variable lengths of time consumed during each of the water level stop periods. The decrease longitudinally was probably due to the fan-shaped divergence (spreading) of the veins toward the east coupled with their "horsetailing" into numerous lesser veins or veinlets enclosing a larger portion of wall rocks.
- (6) Post enrichment oxidation, which followed the drop of the water table from the 3rd level, produced some of the embolite and cerargyrite, embolite being nearest the top. Complete oxidation extended as far down as the third level, indicating most of the silver halogens remaining in that area were probably developed during the enrichment period, especially while the lower two zones were being formed. From the third level down to the 6th level, cerargyrite with downward increasing argentite kernels, was common. Below the 6th level argentite with kernels of proustite and pyrargyrite predominated, but even some of this alteration was in the early part of the enrichment period. Post enrichment oxidation was probably of less importance than that which occurred during enrichment because of the drying up accompanying the rapid descent of the water table coincident with the late tertiary change from a comparatively humid to a semi arid climate.
- (7) R. A. F. Penrose, the company's geologist from 1895 to 1910, made a close study of the faults which cut off the ends of the vein system and concluded that the Brockman Fault which showed striations, was more vertical than horizontal in movement, while the Huddy Faults were believed to be partly thrust and partly normal faults with emphasis on the thrust or horizontal component. He believed the Brockman Fault was pre-enrichment

and the Huddy Faults were probably post-enrichment. No evidence of the continuation of the vein fractures past the Brockman Fault was found. Later F.L. Ransome and J.E. Spurr, both of whom studied the mine, were in general agreement with Penrose. Since I was unable to see much of the fault face, due to caving of openings, I can only accept their findings.

In addition the rock west of the Brockman Fault is coarse cretaceous (?) Arkosic sandstone which showed little mineralization other than iron oxide stains. This sandstone is extremely pervious precluding hope of important ore accumulations within it, since no damming effect was present. When penetrated by openings, such as wells, drifts, etc. it gave up large amounts of water at a very rapid rate. (To the north the extremely dense north vein, chalcedonic quartz, separated the flows from the sandstone and except for the Eisenhart vein break, was impervious to the mineralizing solutions.) The Eisenhart vein contained some lead-molybdenum-silver mineralization which is dissimilar to that in the other veins, and may represent a different period geologically. The upthrow side of the Brockman Fault was on the west and the vertical component was enough to expose the flows if present, to sufficient erosion to cause their removal. Since, generally, the sandstone is a very poor host rock and the removed andesites were good host rocks, there should be little anticipation of concentrated mineralization on the west side of the fault opposite the vein system. A 200' well, several feet south of the vein system and west of the Brockman Fault also penetrated sandstone.

One possible prospectable area lies between the Pearce Hill on the north, the Brockman Fault on the west, and the Fisher Hills to the east. Here, there is undoubtedly an area of relatively thin andesitic flows. The work done on the Fisher claims was shallow and therefore gave no indication of the thickness of andesite remaining in the area. This thickness should increase toward the east or down the pitch of the flows. Both the Extension and Fisher Veins as developed are narrow, tight, and intermittent along their strikes. Whether other veins exist under the valley fill is unknown. Since the Extension and Fisher Veins were only worked to relatively shallow depths, their vein fractures possibly may continue downward. The andesite in the Fisher Hills is much less propylitically altered than that in the Pearce Hill, a fact that may be unfavorable since the best ores in the Commonwealth area were found in the most altered portions of the rocks. This summary may give you a good idea of the Pearce set-up so that you can draw a conclusion as to the feasibility of doing work there. Please return the maps and diagrams when finished with them.

From - Department of Mineral Resources files

L.A. Smith

THE BRADY MINE 1896

During the year 1896 this newly developed mine has become a large producer. It is another example of the great amount of mineral wealth lying dormant, awaiting the prospector and the aid of capital. The cropings have been known for years, but being in the low valley land and conveniently under foot and crossed by trails, they were disregarded and neglected until assays revealed the importance of the ore.

The locality is in the Sulphur Spring Valley. It is about 17 miles east of South Cochise Station, on the Southern Pacific Railroad. It was bonded about a year ago and was worked until May, 1896, the ore taken out remaining on the dump. It was then purchased by the bondholders at about \$275,000, according to report, and shipments of the ore began. The shaft is now about 250 feet deep and makes a most satisfactory showing of the vein to that depth. Riffs have been run each way from the shaft, and the ore is raised to the surface by horse skins, which are shortly to be replaced by a steam hoist.

The ore is shipped in bulk from Cochise Station to Pueblo at the rate of from 4 to 10 carloads per day. The freight rate to Pueblo is \$11.75 per ton. It is stated that the ore so shipped carries from 1 to 2 ounces in gold and from 50 to 75 ounces in silver. According to the general report the veins average 16 feet in width and the croppings extend for over half a mile.

TERRITORIAL REPORT OF THE GOVERNOR

THE PEARCE MINE 1896

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1897 The Commonwealth Mining Company, the great gold and silver producer at Pearce, is also attracting prominence and astonishing the mining world with its fabulous riches.

COMMONWEALTH 1899

The discovery of the value of the Pearce or Commonwealth mine in 1895 has resulted in the building up of a thriving community in the Sulphur Spring Valley near to the eastern base of the Dragoon Mountains. It is today one of the largest producers of gold and silver in the Territory.

Silver @ .64¢
 Gold @ \$35

1. LUGS DUMP - COMBINATION
 SAMPLING BY A. E. VANDERCOOK
 MAY, 1939

A. Pit. % No.	Au. Oz	Value	Ag. Oz.	Value	Total Value	Depth Ft.
6	.01	.35	3.0	\$1.92	\$2.27	24
7	.04	1.40	3.78	2.41	3.80	14
8	.01	.35	3.5	2.24	2.59	10
10	.015	.52	3.0	1.92	2.44	18
12	.01	.35	3.1	1.98	2.33	13
13	.01	.35	2.86	1.85	2.18	17
14	.005	.17	2.15	1.38	1.55	15
16	.015	.52	3.2	2.05	2.57	32
18	.005	.17	2.1	1.32	1.49	26
20	.005	.17	1.95	1.25	1.42	40
22	.015	.52	2.8	1.79	2.31	45
24	.01	.35	3.35	1.50	1.85	60
26	.01	.35	2.05	1.60	1.95	60
27	.03	\$1.05	3.81	1.79	2.84	62
28	.01	.35	2.05	1.60	1.95	52
30	.005	.17	2.55	1.63	1.80	52
32	.015	.52	2.6	1.66	2.18	60
33	.03	1.05	3.31	2.11	3.16	50
34	.015	.52	2.55	1.65	2.15	60
36	.015	.52	2.75	1.76	2.28	60
43	.02	.70	3.97	2.45	3.13	35
56	.015	.52	3.10	1.98	2.50	25
58	.005	.17	2.10	1.34	1.51	25
60	.01	.35	2.80	1.73	2.14	25
62	.02	.70	3.20	2.04	2.74	25
64	.01	.35	5.33	3.41	3.76	29
Average Value @ 64¢ \$2.34						
" " 71¢ \$2.54						

OPERATING STATEMENT

SUMMARY OF OPERATIONS

April

1917

ORE RECEIPTS

Bullion Bars 48 to 58 Incl.	\$19990.43
Miscellaneous Receipts	<u>1143.13</u>
	\$21139.56

DISBURSEMENTS

Direct Costs	\$21043.91	
Indirect Costs	<u>2056.56</u>	\$23005.47
April Operating Loss		\$ 2765.91
Special Costs - Interest		<u>\$ 1941.55</u>
April Loss Over All		\$ 4707.46

Ounces Gold	193.133	
Ounces Silver	21337.24	
9825 Tons Mined & Milled		
Mill Extraction	61.1%	
Direct Costs per ton	\$2.474	
Indirect Costs per ton	<u>.238</u>	\$2.709
Pay Rolls April	\$ 8638.10	
Supplies for April	\$11878.77	

The Commonwealth M. & N. Co.

Summary for

April, 1917

<u>RECEIPTS</u>		<u>GROSS VALUE</u>
Bullion Bars 40 to 56 Incl.		\$19998.43
 <u>DISBURSEMENTS</u>		
<u>DIRECT COSTS</u>	<u>PER TON</u>	<u>TOTAL</u>
Mining	\$.723	\$ 6409.23
Maintenance	.047	413.26
General Expense	.103	915.93
Milling	1.554	13717.06
Shipping & Selling	.044	393.43
 Total Direct Costs	 \$ 2.474	 \$21848.91
 <u>INDIRECT COSTS</u>		
Insurance & Watchmen	\$.044	\$ 361.07
Liability Insurance	.040	354.99
Legal Expense	.007	60.00
Mine Water Pumping	.089	783.87
Domestic Water	.005	44.10
Taxes	.049	431.13
Mill Test	.001	1.70
 Total Indirect Costs	 \$.235	 \$ 2056.56
 <u>SPECIAL COSTS</u>		
Interest	\$.220	\$ 1941.55
 Total Cost - April	 \$ 2.929	 \$26947.02
 <u>MISCELLANEOUS EARNINGS</u>		
	\$.129	\$ 1143.13
	\$ 2.800	\$24703.89
 March Loss over all	 \$.535	 \$ 4707.46

RECORD OF ORE TREATED

<u>TONS MINED & MILLED</u>	<u>AVERAGE VALUE PER TON</u>	<u>TOTAL VALUE</u>
8925	\$3.71	\$32786.49

RECORD OF EXTRACTION

<u>GOLD</u>	<u>SILVER</u>	<u>TOTAL</u>
31.9%	57.5%	61.1%

Average price of silver received during the month .75

APRIL RECEIPTS AND DISBURSEMENTS

RECEIPTS

Balance in Bank close of March	\$ 908.02
Balance in Petty Cash close of March	14.85
Balance in Storehouse close of March	28739.92
Rents	101.50
Misc. Earnings	52.65
Lighting	11.50
Water	199.00
Ore Receipts, Company ore	20045.58
Ore Receipts, Leasera ore	308.18
Mill Earnings, " "	779.50
Bills Payable	1097.00
Suspense	854.52

DISBURSEMENTS

Mining	\$ 6409.23	
Milling	13717.06	
General Expense	915.93	
Maintenance	413.26	
Shipping & Selling	323.42	
Mine Water Pumping	723.57	
Domestic Water	44.10	
Fire Insurance	381.07	
Liability Insurance	354.99	
Taxes	431.13	
Legal	60.00	
Mill Testing	1.70	
Interest	1041.55	
Suspense Leasing	1770.73	
Balance in Petty Cash close of April	43.35	
Balance in Bank close of April	2875.54	
Balance in Storehouse close of April	<u>23172.52</u>	
	\$53409.96	<u>\$53409.96</u>
	=====	=====

TRIAL BALANCE
April, 1917

Capital Stock		\$200000.00
Bond Issue		250000.00
Mine	1953851.19	
Property	132114.64	
Storehouse	23172.52	
General Expense	3872.53	
Profit & Loss	21870.30	
Construction	298492.58	
Depreciation	64400.00	
Development	7181.61	
Mining	33678.32	
Milling	66018.94	
Mill Earnings on Leases		778.50
Maintenance	2779.72	
Shipping & Selling	1793.69	
Mine Water Pumping	2930.09	
Mill Testing	349.35	
Tailings Retreatment	1238.54	
Safety & Fire	2.20	
Rents		418.00
Lighting		50.50
Miscl. Earnings		138.93
Tailings		1800.00
Water		627.71
Willcox Bank & Trust Company	4.00	
Bank of Douglas	2571.34	
Petty Cash	43.35	
Accidents	47.50	
Insurance Fire	1524.22	
Insurance Liability	1902.63	
Taxes	1563.48	
Income Tax		268.40
Interest	97422.62	
Legal	241.50	
Discounts	12392.12	
Unpaid Dividends		82.50
Ore Receipts		102083.37
Ore Receipts Lessors' Ore		806.16
Mine Examination	60.60	
Lamps & Wrenches	46.87	
Suspense	613.89	
Suspense Insurance	1437.15	
Suspense Taxes		261.68
Montana-Tonopah Mines Co.		275125.52
Bills Payable		69553.43
Leasing	2226.01	
Eisenhart & Fisher	8.53	
Eisenhart & Fisher Lease		204.62
Lemons & Wain	38.02	
Lemons & Wain Lease		66.24
Berkey & Jones		0.68
Berkey & Jones Lease		142.32
Monmonier & Smith Lease		26.93
Herron & Snyder	16.78	
Herron & Snyder Lease		75.62
Gonzales & Saenz	22.70	
Ramos & Duran	4.49	
J.F. Braun		11621.19
Richard Park		11621.19
C.E. Knox		40.63
Dr. H.A. Nichols		15.60
A.Y. Smith	10.84	
Crano Company	110.36	
C.M. Renaud	30.91	
Geo. Knight	2.71	
Harry Harata	1.25	
Rafael Perez	2.00	
Mert Frazier	1.55	
	<u>32725253.75</u>	<u>32725253.75</u>

cc
Jessen

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine Commonwealth Mine

Date February 20, 1974

District Pearce, Cochise County

Engineer Ken Phillips

Subject:

Mr. Jett received a request from a Don Corgill of Dallas, Texas, regarding delays in obtaining necessary approval from the Arizona Corporation Commission to start operating in Arizona. Don Corgill, Carl Thedford, Archie Barnhill and perhaps others of the C.O.R.-Ford Corporation of Dallas, Texas, intend to operate the Commonwealth Mines.

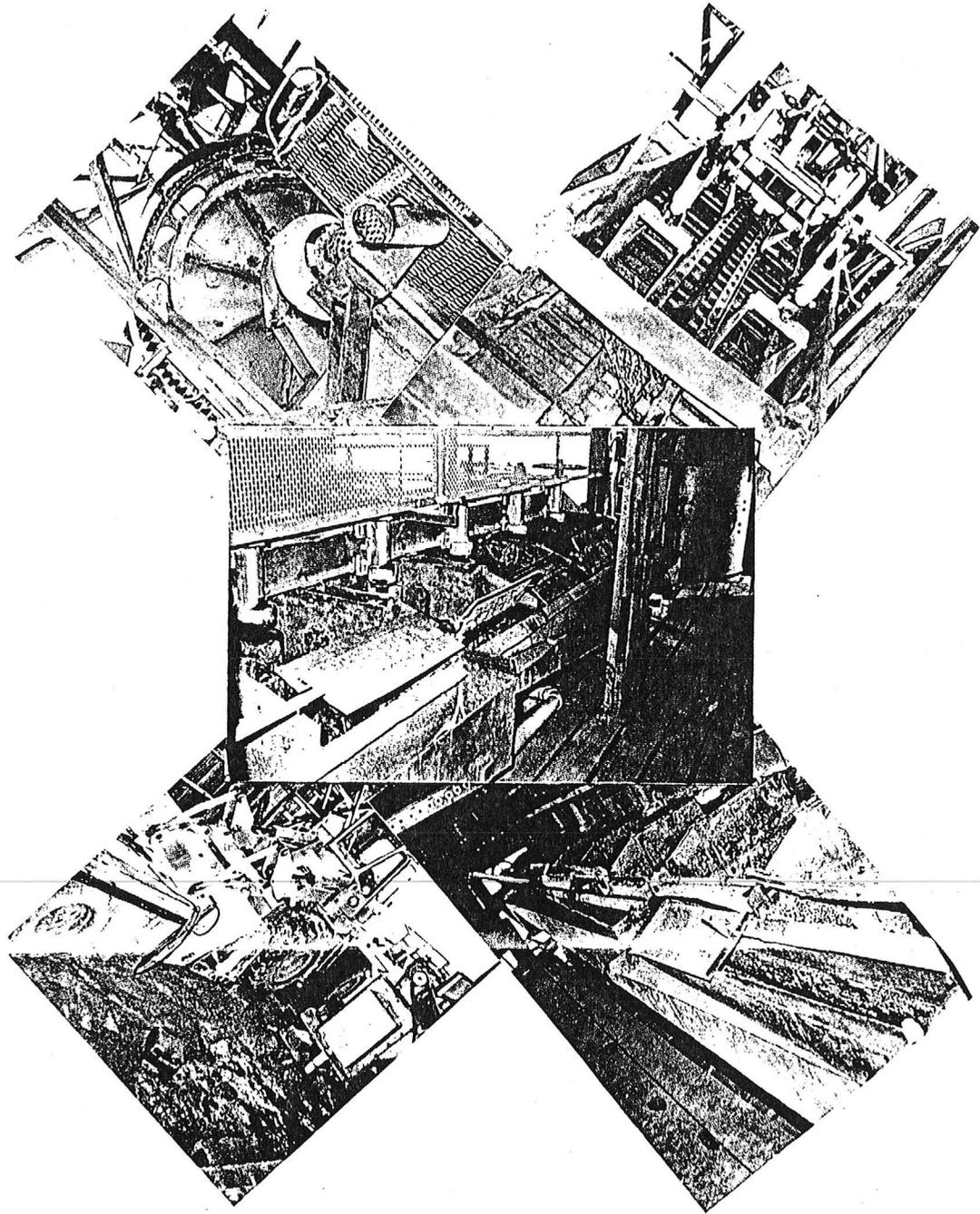
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Feb 19, 1974

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COMMON WEALTH SILVER/GOLD MINE



Melby-Orlady Investments, Inc.
233 Wilshire Blvd., Suite 940, Santa Monica, CA 90401 (213) 451-8482

PRO FORMA LEVERAGE RETURN: TAKE POSSESSION OF .995 SILVER/GOLD

RETURN

CASH	.995 SILVER	.995 GOLD	SILVER @\$10 per oz.
\$5000*	2000 oz.	15 oz.	GOLD @ \$400 per oz.

DOLLAR VALUE \$26,000 % LEVERAGE 520

TAX LEVERAGE

CASH +	10% 5 YEAR NOTE	=	1983 TAX BENEFIT	% LEVERAGE
\$5000*	\$15,000		\$20,000	400%

* Plus \$495 Ore Cost

COST BREAKDOWN

Down Payment	\$ 5,000	\$ 5,000
Estimated Int.	4,500 (deducted annually)	4,500
Less annual interest deduction total 50%		2,250
Plus Ore Cost		495
		<hr/>
NET COST TO INVESTOR		\$ 7,745

NET RETURN TO INVESTOR OCTOBER 1983 GOLD AND SILVER PRICES
 336%

Investor takes possession of 10% of his 2000 ounces of .995 SILVER and 15 ounces of his .995 GOLD each six months starting last quarter of 1984.

MANY PRECIOUS METAL ANALYSTS STATE THAT SILVER AND GOLD IS IN A BULL MARKET AND WILL INCREASE IN VALUE OVER THE NEXT FIVE YEARS, THIS WILL BE ADVANTAGEOUS TO OUR INVESTORS SINCE THEY TAKE POSSESSION OF .995 SILVER AND .995 GOLD BULLION SEMI-ANNUALLY. THE INVESTOR WILL RECIEVE ADDITIONAL SILVER/GOLD TO PAY THE NOTE PRINCIPAL.

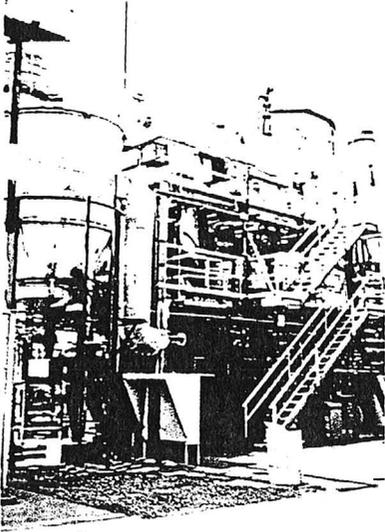
CONTRACTORS AND CONSULTANTS
COMMONWEALTH MINING PROJECT

Melby-Orlady Investments, Inc. has developed precious metal properties for a number of years. One of our associates, Cimetta Engineering of Tucson, Arizona, was founded in 1974 and is now a full service engineering firm covering process testing, mine planning, feasibility studies, engineering design, construction and construction management. Cimetta's billings are in excess of \$50,000,000. annually.

Melby-Orlady Investments, Inc. also utilizes certain specific individuals as consultants on its projects. Mr. Joe B. Davis, Vice-President/Project Manager of Cimetta Engineering has been its Chief Executive officer for seven years and has been involved in engineering, construction, mining, petroleum and manufacturing operations. Mr. Davis is responsible for all operations at the Commonwealth Mine. Mr. Davis is also the Project Manager of the Sonora Gold Corporation's Jamestown Mine, which promises to be one of the largest mining projects in California.

Thomas C. Patton, Consulting Exploration Geologist, received his doctorate in geology from the University of Washington in 1971. From 1973 to 1975, he was senior geologist for Exxon in Northeast Washington and Montana. Dr. Patton switched briefly to ESSO Eastern and did extensive work in West Germany before returning to Exxon in Tucson as exploration supervisor in 1977. As a consultant, Dr. Patton is charged with the responsibility of all geology and development work at the Commonwealth Mine.

Alpine Resources, Inc. headed by J. Daniel Deeter is the lease holder and coordinating company for all activities at the mine site. Mr. Deeter received his Masters Degree in Business Administration from Harvard Graduate School of Business Administration. For the last eight years, he has been active in mineral development through Alpine Resources. Alpine Resources, Inc. acts as managing and general partner for limited partnership groups as well as consultant and contract mining manager for gold and silver mining projects.



CIMETTA ENGINEERING TUCSON TESTING MILL.

ELEVEN MINING PROPERTIES NOW UNDER LEASE.

\$250,000 TO \$2,000,000 VENTURE CAPITAL NEEDED.

SUBSTANTIAL INVESTORS CAN TAKE PART WITH AN ONGOING ROYALTY FOR LIFE OF THE MINE.

ALL OR PART OF ANY OF THESE ELEVEN PROJECTS ARE AVAILABLE.

**Melby-Orlady Investments, Inc.
233 Wilshire Blvd., Suite 940, Santa Monica, CA 90401 (213) 451-8482**

COMMONWEALTH MINE PROJECT

QUESTIONS AND ANSWERS

1. Q: HOW MUCH GOLD/SILVER CAN I EXPECT FOR MY INVESTMENT?
A: 2,000 ounces of silver plus 15 ounces of gold paid in five semi-annual payments starting last quarter of 1984.
2. Q: HOW DO I KNOW THERE IS ENOUGH GOLD/SILVER IN THE COMMONWEALTH MINE?
A: The assays in the report prepared by Dr. Thomas Patton, a consulting certified geologist, show 2.75 million tons of ore at 3 ounces silver and .02 ounces of gold. Only 1.2 tons of ore are needed to pay all of the investors. The value of each ton is \$42.00, cost for mining and processing is only \$20.42.
3. Q: DO I HAVE A SPECIFIC AREA OF TONS OF ORE?
A: Yes, the specific area is the central zone of The Commonwealth Mine of which you own 2,500 tons of this ore.
4. Q: DOES THE INVESTOR OWN ALL THE PRECIOUS METALS IN HIS 2,500 TON PURCHASE?
A: Yes, after the cost of processing and the low 16.2% royalty, the remainder belongs to the investor.
5. Q: WHAT IS THE CAPACITY OF PRODUCTION?
A: The pro forma production schedule is for over 1,500 tons of ore per day.
6. Q: WHO WILL DO THE MINING AND PROCESSING?
A: Cimetta Engineering Company of Tucson, Arizona, whose gross billings for metallurgy, engineering and geology is over \$50,000,000 per year. This professional engineering company will also operate the mine.
7. Q: HOW IS THE TAX WRITE-OFF IN 1983 DETERMINED?
A: The \$20,000 development and mining contract under Internal Revenue Code 616(A) allows the taxpayer to deduct "all expenditures paid or incurred during the taxable year for development of a mine if paid or incurred after the existence of ores or minerals in commercially marketable quantities has been disclosed."
8. Q: HOW DOES THE INVESTOR RECEIVE HIS GOLD/SILVER?
A: .995 pure gold/silver bullion from a major refinery will be delivered to the investor.

INTRODUCTION

The Commonwealth Mine is located in a group of volcanic hills in the heart of the beautiful Sulphur Spring Valley. It is situated at Pearce, Cochise County, Arizona. Ten miles to the west is the famous Cochise Stronghold in the Dragoon Mountains, named for one of Arizona's most noted Indian chiefs; twenty-five miles to the east are the Chiricahua Mountains; and eight miles to the north is the Sulphur Spring, once a rendezvous for Indians and Indian fighters, where the last serious fight with the Apaches took place. East of Sulphur Spring are the ruins of old Fort Bowie, at one time the headquarters of General Crook.

A branch line of the Southern Pacific Railroad extends from Cochise to Pearce, a distance of sixteen miles; thence through Courtland and Gleason, southward a distance of fifty-two miles to Douglas, where the Copper Queen and Calumet and Arizona smelters are located. In recent years all ore from the Commonwealth Mine has been shipped to one or the other of these smelters for treatment.

The town of Pearce originally consisted of one general store, seven saloons, and a boarding house. Water was supplied from a well and hauled in barrels to the people of the town by an "old timer," Jim Harper, until 1897 when the

Commonwealth Company sunk a well which supplied the needs of the mine and the town. Later, water was developed in "B" Shaft, which has to date been found inexhaustible. Wood was hauled from the Chiricahua Mountains, a distance of thirty miles, to supply the needs of the mine. In fact, wood was utilized for fuel until 1898 when petroleum was introduced for use in the boilers. Incidentally, the Commonwealth was one of the first mines to use oil, as a fuel, in Arizona. Among the earlier difficulties experienced were the transportation of the cash for the pay-roll, and the shipping of the bullion from the mill. A group of notorious bandits lived in the vicinity of Pearce, whose activities prevented the regularity of pay-days and ore shipments. The money for the pay-roll was transported by the Norton Morgan Commercial Company, of Wilcox, who often hid it in a sack of flour or in a bag of potatoes in their regular freight shipments to Pearce. The bullion was cast into 2000-ounce bars to lessen the possibility of its being stolen.

Situated at an altitude of 4,500 feet, Pearce has an ideal climate. The mean average rainfall is 10-1/2 inches. Timber, which was used by the company for mine purposes, was brought in from the Chiricahua Mountains. When the Forestry Service took over the timber and included it in the Coronado National Forest, the stumpage rate was so increased that further use was prohibitive, and Oregon Pine was substituted for it.

The mine was discovered in 1895 by John Pearce. While driving some cattle over the Pearce Hill he picked up a rock to throw at one of the cows and, noticing the unusual weight of the rock, he decided to have it assayed. It ran 2100 ounces in silver. He and his brother returned to what is now Pearce and located six mining claims: the Ocean Wave, the Commonwealth, the One and All, the Silver Crown, the North Bell, and the Silver Wave.

A car of rich float was then shipped to the El Paso Smelter. This shipment ran 100 ounces in silver and one ounce in gold. The owners then sank No. 1 shaft to a depth of 50 feet on the west end of the outcrop, cutting the vein diagonally from the hanging wall into the footwall. The ore from this shaft was shipped and had about the same tenor as the first shipment.

In November, 1895, John Brockman of Silver City, New Mexico, visited the property and secured an option for the amount of \$275,000. He, in partnership with Mr. R.A.F. Pearce and Mr. D.M. Barringer, both of Philadelphia, organized the Commonwealth Mining and Milling Company, capitalized at \$1,000,000, placed a bond issue of \$250,000 on the property, and proposed to the Pearce Brothers to pay \$250,000 in cash instead of the \$275,000 covering a period of two years. This they accepted. The new company then issued stock for the development of the mine. A portion of this stock was placed in England and Germany. Among the prominent stockholders were:

Counts Bismark, Fourtales, and Fiele, of Germany; Professors Chamberlin and Salisbury, of the University of Chicago, and other prominent men. The first officers were: R. A. F. Penrose, Jr., President; D. M. Harringer, Secretary and Treasurer, and John Brockman, General Manager.

The company first straightened No. 1 shaft to a sixty-degree angle and followed the vein downward to the water level, a distance of 267 feet. In the meantime, "A" shaft was begun at a point 150 feet west of No. 1 shaft and also sunk to the water-level. The ore from the two shafts and that in between them was hoisted with a one-horse whim and shipped. After shipments were begun, the bond issue was retired within three months and a dividend of \$100,000 a month paid for a period of six months. This ore came from what is known as the Discovery stop. While this ore was being mined, "B" shaft was started at a point 600 feet east of No. 1 shaft and penetrated the largest ore body yet found in the mine.

There being no branch railroad at this time all of the ore had to be hauled to Cochise and supplies returned, by wagons. The wagons were run in trains of four with a total capacity of 50 tons and each train was drawn by twenty horses. The charges made against a ton of ore are as follows:

Hauling of the ore to Cochise.....	\$2.50
Freight from Cochise to El Paso....	3.50
Treatment Charges, at the smelter.	7.50
Cost of mining.....	2.58
Total charge against ore.....	16.08 a ton.

This method was pursued until the early part of 1898 when the first mill was erected and put into operation. Pan-amalgamation was used effectively with an average extraction of 85 per cent. The coarse crushing was done with Blake crushers and the fine crushing by German ball mills. The capacity of the mill was originally 50 tons a day, but this was soon increased to 200 tons by the addition of 60, 1,000-pound stamps. Rolls were added to the intermediate crushing department at the same time. The milling cost was \$2.00 a ton and the mining cost \$1.60 a ton, or a total cost of \$3.60 per ton.

This mill burned in June, 1900, but construction of a new 80-stamp mill was immediately begun and put in operation in January, 1901. "C" shaft was sunk during the construction of the mill. It was located 100 feet in the footwall of the main vein and cross-cuts were run and connected with it from all of the main drifts. During the cutting of the station on the second level the Smith vein was discovered at a point 60 feet in the footwall.

After the new mill was started, the method of mining was changed from stulls to square sets. The change was made necessary by the widening of the stopes to 60 feet and the mining of low-grade ores of the footwall zone of alteration. The period of high-grade milling had ended and a new period of low-grade milling began. The old mill heads averaged 18 ounces and the new were reduced to 10 ounces of silver a ton. This

second mill operated on a 240-ton basis until 1905, or for a period of four years. At this time the big stopes became so heavy that it was necessary either to fill them with gob or to allow the hanging wall to close in. The latter course was pursued. The mine was shut down and ten days later 500,000 tons of waste came in.

The company then decided to grant a lease on the old tailings to D. T. Swatling, the mill superintendent, and A. Y. Smith, the mine superintendent. These men constructed a cyanide leaching plant with a capacity of 250 tons a day. The tailings were hoisted a distance of 300 feet on a tramway by means of a balanced hoist. Side-dump, V-bottom, one-ton cars were used for this work. The plant consisted of 6 California redwood tanks, 40 feet in diameter and 6 feet deep. A tramway was run out over the tanks for filling them. Unloading was done by contractors who shoveled the pulp through gates in the bottom of the tanks into dump cars. The treatment cycle consisted of:

1 day filling the tanks
4 days of solution contact
1 day unloading the tanks.

Precipitation of the rich cyanide solution was done on zinc shavings in the usual manner. A summary of the cost of the work on a ton basis was:

Loading in tailing pond.....	\$ 0.10
Hoisting and dumping.....	0.05
Cost of leaching.....	0.25
Cost of unloading.....	0.12
Cost of precipitation.....	0.09
Cost of power.....	0.10
Cost of repairs.....	0.05
Refining, supervision, etc.....	0.07
	<u>10.84</u>

Gross value of the ore.....	\$5.00
At 80 per cent extraction, net.	1.50
Less cost of treatment.....	.84
Net return.....	<u>5.66</u>

Failings were leached for a period of about five years and 288,000 tons were handled. In 1906 the lease was extended into the mine and a portion of the mill was placed in operation. New cross-cuts were run into the caved area and 187,000 tons were mined and milled under the lease.

In 1910 the mine was purchased by the Montana Tonopah Mining and Milling Company. The officers who reorganized the company were: Charles E. Knox, President; A. Y. Smith, Vice-President; F. L. Bryant, Secretary and Treasurer; and Edgar A. Collins, General Manager.

A new and modern mill was then erected at a cost of \$283,000. While the mill was under construction "D" shaft was sunk to the 5th level and all of the main drifts connected with the new shaft. The new mill was placed in operation in early 1915 and run until May, 1917, when it was found that the ore developed was too low grade for profitable handling, and operations were discontinued.

A total of 275,000 tons were mined and milled at a cost of \$4.20 a ton against an average value of \$5.22 a ton of ore mined.

In October, 1917, A. Y. Smith obtained a lease on the entire mine. This lease is still in operation (1927) under the name of the Commonwealth Development Company. Under this lease 115,000 tons of ore at an average of 12.5 ounces in silver and 0.10 ounces of gold a ton have been mined. The ore has been shipped to the smelters at Douglas, under silica contracts.

The total production of the mine through 1926 has been 940,000 tons of ore with an average grade of \$11.71 a ton, giving a gross value of about \$10,407,000. The average cost of mining and milling was about \$4.20 and the loss in the tailings was \$2.20 a ton, leaving a profit of approximately \$5,000,000.

*above report obtained from ^{author} L. B. Smith
Dec. 1957*

Pioneer Nuclear, Inc.

Plaza One/ Amarillo National Bank Building, Post Office Box 151, Amarillo, Texas 79189, Tel. 806/353-7486

Paul I. Eimon

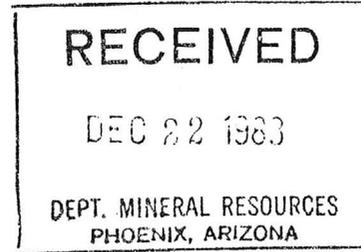
Vice President-Exploration

*File: Commonwealth Mine
Small Coal. For Melby - already at*

*IC Paul
on*



December 13, 1983



Mr. John H. Jett
Director, Arizona Mineral Resources Dept.
Mineral Building, Fairgrounds
Phoenix, Arizona 85021

Dear John:

It was an unexpected pleasure to sit with you at the American Mining Hall of Fame in Tucson earlier this month.

Pursuant to our conversations I will keep you informed on the possible seminar of my Society of Economic Geologists Committee on Information on Mineral Problems in Denver in late spring of 1984. Also, I include two copies of promotional material regarding the Commonwealth Mine near Pearce, Arizona. One copy is for your Tucson office. I did hear at the AIME meeting that one of the corporations involved has serious financial problems and bills are not being paid. You can get more information on this through Grover Heinrichs in Tucson.

Best regards,

Paul
Paul I. Eimon

PIE:ns

Enclosures

Owners & operators of Commonwealth
mill and Tailing Pile, Pearce, Cochise Co.

8/14/75



Phone 214-661-5198

GOURMET CHEF INC.

International Commodity Products

TLX 73-0579

13601 Preston Rd. Suite 909

Carillon Towers East

Dallas Texas 75240

GERRY MCCOLLOM

Vice President

Gerry McCollom
General Delivery
Pearce, Ariz.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine Commonwealth Mine
District Pearce, Cochise County
Subject:

Date February 20, 1974
Engineer Ken Phillips

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COMMONWEALTH MINE

COCHISE COUNTY

1964 -

Mine Supply Incorporated
Commonwealth Division, 103 S. Cooper Street
Silver City, New Mexico
Earl Strong, President
R. R. Davis, Vice-President
Subsidiary of Pedeco Incorporated
4426 Vine Street, Denver, Colorado
J. B. O'Malley, Jr., Pres. & Gen. Mgr.
Commonwealth Mine
Louis Stickradt, Mine Manager at
Pearce, Cochise County
Silver
Mill Construction

HOLE CS-1

Sample #	Depth	oz./T		Sample #	Depth	oz./T	
		Au	Ag			Au	Ag
201	0-6	T	.35	230	145-150	T	.10
2	6-10	T	.10	31	150-155	.005	.55
3	10-15	T	.25	32	155-160	T	.30
4	15-20	T	.15	33	160-165	T	.10
5	20-25	.005	.40	34	165-170	T	.25
6	25-30	.005	.25	35	170-175	T	.20
7	30-35	T	.30	36	175-180	T	.10
8	35-40	T	.10	37	180-185	T	.65
9	40-45	.005	.15	38	185-190	.02	2.35
210	45-50	T	.15	39	190-195	.01	2.00
11	50-55	.005	.35	240	195-200	.01	2.25
12	55-60	.005	.85	41	200-205	.005	1.60
13	60-65	.01	1.85	42	205-210	.02	3.05
14	65-70	.03	7.25	43	210-215	.02	3.55
15	70-75	.04	9.10	44	215-220	.01	2.40
16	75-80	.02	7.85	45	220-225	.015	4.10
17	80-85	.04	21.75	46	225-230	.01	3.35
18	85-90	.015	6.10	47	230-235	.015	3.60
19	90-95	.02	6.50	48	235-240	.02	4.25
220	95-100	.01	3.35	49	240-245	.015	3.45
21	100-105	.005	1.85	250	245-250	.01	2.80
22	105-110	.02	5.20	51	250-255	.015	3.40
23	110-115	.01	2.50	52	255-260	.01	2.45
24	115-120	T	.95	53	260-265	.005	2.30
25	120-125	.01	1.45	254	265-270	.005	2.75
26	125-130	.005	1.00				
27	130-135	T	.55				
28	135-140	T	.20				
29	140-145	.005	.25				

E.O.H. 270'

1200
 ore zone 80-100:
 open back end
 + bottom

2500 over
 under
 mottled

Lyall
 Lecky

Jacob
 602-624-7421

obtained from
 Mr. [unclear]
 6-1-75

HOLE CS-2

Sample #	Depth	oz./T		Sample #	Depth	oz./T	
		Au	Ag			Au	Ag
255	0-6	T	.15	282	135-140	T	.20
56	6-10	T	.20	83	140-145	.005	.40
57	10-15	.005	.20	84	145-150	.005	.75
58	15-20	T	.10	85	150-155	T	.65
59	20-25	T	.15	286	155-160	.01	.80
260	25-30	.005	.25				
61	30-35	T	.50				
62	35-40	.005	1.35				
63	40-45	.01	.85				
64	45-50	.005	1.15				
65	50-55	T	.35				
66	55-60	T	.40				
67	60-65	T	.20				
68	65-70	T	.25				
69	70-75	.01	1.75				
270	75-80	T	.25				
71	80-85	T	.15				
72	85-90	.005	.35				
73	90-95	T	.20				
74	95-100	.005	.50				
75	100-105	.01	1.45				
76	105-110	T	.25				
77	110-115	.005	1.70				
78	115-120	T	.70				
79	120-125	T	.35				
280	125-130	T	.15				
81	130-135	T	.25				

HOLE CS-3

Sample #	Depth	oz./T		Sample #	Depth	oz./T	
		Au	Ag			Au	Ag
287	0-5	.01	.85	16	145-150	T	2.15
88	5-10	.005	.70	17	150-155	.005	2.30
89	10-15	T	.85	18	155-160	.02	5.05
290	15-20	T	.60	19	160-165	.02	6.20
91	20-25	T	.65	320	165-170	.01	3.25
92	25-30	.005	.60	21	170-175	.01	2.40
93	30-35	.005	.50	22	175-180	.02	3.35
94	35-40	T	.55	23	180-185	.005	2.90
95	40-45	T	.65	24	185-190	.005	3.00
96	45-50	.005	.70	25	190-195	.01	4.05
97	50-55	T	.45	26	195-200	.02	2.80
98	55-60	.005	1.95	27	200-205	.01	4.10
99	60-65	T	1.50	28	205-210	.01	3.35
300	65-70	.005	2.45	29	210-215	.02	3.35
1	70-75	.01	3.35	330	215-220	.005	2.55
2	75-80	.005	2.40	31	220-225	.005	1.40
3	80-85	.005	1.90	32	225-230	.01	2.30
4	85-90	T	1.85	33	230-235	.01	3.25
5	90-95	.01	3.50	34	235-240	.02	3.50
6	95-100	.01	6.35	35	240-245	.02	4.75
7	100-105	.01	6.45	36	245-250	.01	3.65
8	105-110	T	3.85	37	250-255	.02	3.60
9	110-115	.005	3.00	38	255-260	T	3.45
310	115-120	.005	1.60	39	260-265	.005	2.55
11	120-125	T	1.45	340	265-270	T	2.20
12	125-130	.005	1.70				
13	130-135	T	1.45				
14	135-140	T	1.65				
15	140-145	.005	2.40				

E.O.H. 340'

HOLE CS-4

Sample #	Depth	oz./T		Sample #	Depth	oz./T	
		Au	Ag			Au	Ag
341	0-5	T	.60	370	145-150	.005	2.25
42	5-10	T	.55	71	150-155	.01	2.00
43	10-15	T	.20	72	155-160	.005	2.95
44	15-20	T	.45	73	160-165	.01	3.35
45	20-25	T	.55	74	165-170	.01	2.60
46	25-30	T	.50	75	170-175	.03	5.15
47	30-35	T	.45	76	175-180	.01	2.85
48	35-40	T	.70	77	180-185	.03	3.20
49	40-45	T	.60	78	185-190	.005	1.15
350	45-50	.005	.85	79	190-195	.005	.85
51	50-55	.005	.70	380	195-200	T	1.60
52	55-60	T	.80	E.O.H. 200'			
53	60-65	T	.75				
54	65-70	.005	2.00				
55	70-75	.005	2.55				
56	75-80	.01	3.00				
57	80-85	.005	2.10				
58	85-90	.005	2.75				
59	90-95	T	2.60				
360	95-100	T	2.65				
61	100-105	T	2.20				
62	105-110	.005	1.75				
63	110-115	.005	1.50				
64	115-120	T	1.40				
65	120-125	T	1.00				
66	125-130	T	1.85				
67	130-135	.005	.90				
68	135-140	.01	3.15				
69	140-145	.01	5.35				

HOLE CS-5

Sample #	Depth	oz./T		Sample #	Depth	oz./T	
		Au	Ag			Au	Ag
381	0-5	T	.65	410	145-150	.01	2.15
82	5-10	T	.20	11	150-155	.005	1.55
83	10-15	T	.55	12	155-160	T	1.30
84	15-20	T	.20	13	160-165	.03	4.25
85	20-25	T	.15	14	165-170	.02	4.40
86	25-30	T	.50	15	170-175	.01	2.15
87	30-35	T	.85	16	175-180	.01	1.90
88	35-40	T	.60	17	180-185	.005	1.25
89	40-45	T	.35	18	185-190	T	.70
390	45-50	.005	.95	19	190-195	T	1.45
91	50-55	T	.15	420	195-200	.07	8.95
92	55-60	.005	.65	21	200-205	.03	6.70
93	60-65	.005	<u>.60</u>	22	205-210	.01	3.30
94	65-70	.01	2.10	23	210-215	.03	8.35
95	70-75	.01	2.70	24	215-220	.01	2.65
96	75-80	.01	4.10	25	220-225	.01	2.10
97	80-85	.01	2.75	26	225-230	.005	1.35
98	85-90	.005	1.70	27	230-235	.005	2.00
99	90-95	T	.85	28	235-240	.005	2.45
400	95-100	T	.40	29	240-245	.01	6.40
01	100-105	T	1.05	430	245-250	.03	4.15
02	105-110	T	1.00	E.O.H. 250'			
03	110-115	T	.80				
04	115-120	.005	1.75				
05	120-125	T	1.15				
06	125-130	T	.50				
07	130-135	.005	1.20				
08	135-140	.005	1.70				
09	140-145	.01	2.10				



Commonwealth (H)

February 14, 1992



Mr. Ken Phillips
Arizona Dept. of Mines and Mineral Resources
1502 West Washington
Phoenix, AZ 85007

Dear Ken:

Pursuant to our telephone conversation, please send one copy each of the following publications:

Laws & Regulations....
Manual....Status

I am enclosing a check in the amount of \$9.50 for the above.

Also, please send a copy of the following circulars;

Pertinent Data
Agency Phone Lists
Arizona Mining Update
Severed Mineral Rights
Publication List

Some update items on Western States Minerals Corporation are:

1. We no longer operate or control the Portland Mine, in Mohave County but continue to finish up some reclamation obligations.
2. We no longer have a local Kingman office or address. (Use the Colorado, letterhead, address).
3. We do maintain several exploration properties (unpatented mining claims) in Mohave County.
4. We have entered into a joint venture with Westland Minerals Exploration Company for the further exploration and possible development of the Commonwealth Mine at Pearce, Arizona.

5. We do have a temporary address at Pearce which is:

Western States Minerals Corporation
P.O. Box 224
Pearce, Arizona 85625

Please feel free to call if you have any questions.

Sincerely,

WESTERN STATES MINERALS CORPORATION

A handwritten signature in cursive script that reads "Allan R. Cerny". The signature is written in black ink and has a long, sweeping tail that extends to the right.

Allan R. Cerny
Land Manger

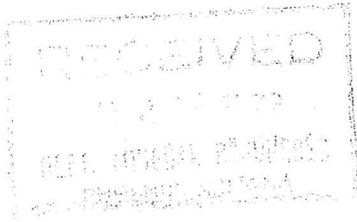
ARC:jr

STRONG & HARRIS, INCORPORATED

P. O. Box 137

VANADIUM, NEW MEXICO
88073

March 22, 1972



Department of Mineral Resources
Fairgrounds
Phoenix, Ariz.
85000

Dear Sirs:

An article in the February 28, 1972 Pay Dirt has been brought to our attention stating that Eagle-Picher has deposited in the Arizona Department of Mineral Resources geological and engineering reports on various Arizona Mining properties.

As owners of the Commonwealth mine at Pearce we are interested in obtaining a copy of reports pertaining to that mine.

We shall, of course, gladly reimburse the department for any costs or expenses involved.

Very truly yours,

STRONG & HARRIS, INC.

by Ellis Hunter by gs.
Ellis Hunter, Secretary-Treasurer

EH/gs

*Low
\$m 11*

SUMMARY OF THE ESSENTIAL DATA RELATIVE
TO THE COMMONWEALTH MINE, PEARCE, ARIZONA

R. A. Smith
Lewis A. Smith

(1) The host rocks most favorable to mineralization and subsequent enrichment are the lower and middle andesites. They are the most susceptible to alteration by primary solutions and are most readily fractured.

(2) The vein system does not reach up into the later rhyolitic flows (Miocene⁽²⁾ Age) being separated by a fairly thick layer of conglomerate.

(3) The veins cross north-south faults (Knox, Smith and Penrose Faults) without being offset but are offset by the Brockman and Huddy faults on the two extremes of the veins. The Knox, Smith and Penrose faults are believed to be pre-enrichment and may even be pre-primary in age.

(4) The principal values in the mine were produced by supergene argentic enrichment (average grade mined was 25 oz.) of a very low grade product (2 ounces). This enrichment was closely tied to the old shore lines of "Lake Cochise" between Pearce and Willcox (late Pliocene to post-Pliocene in age).

(5) The overall enriched zones decrease in value from the bottom most to the top most (3rd level) and decrease in value from west to east. The decrease vertically upward is due to depletion of source sulphides (proustite, pyrrargyrite and pyrite) and the variable lengths of time consumed during each of the water level stop periods. ^{and the protective influence of a rising water table} The decrease longitudinally was probably due to the fan-shaped divergence (spreading) of the veins toward the east coupled with their "horsetailing" into numerous lesser veins or veinlets enclosing a larger portion of wall rocks. ^{The major enrichment concentrations were mostly confined to the 3rd level (A-B-850)}

(6) Post-enrichment oxidation, which followed the drop of the water table from the 3rd level, produced some of the embolite and cerargyrite, embolite being nearest the top. Complete oxidation extended as far down as the third level, indicating most of the silver halogens remaining in that area were probably developed during the enrichment period, especially while the lower two zones were being formed. From the third level down to the 6th level, cerargyrite with downward increasing argentite kernels, was common. Below the 6th level argentite with kernels of proustite and pyrrargyrite ^{in increased} predominated, but even some of this alteration was in the early part of the enrichment period. Post-enrichment oxidation was probably of less importance than that which occurred during enrichment because of the drying up accompanying the rapid descent of the water table coincident with the late Tertiary change from a comparatively humid to a semi arid climate. ^{Far cerargyrite was found throughout the mine, but was less common in the bottom levels.}

(7) R.A. F. Penrose, the company's geologist from 1895 to 1910, made a close study of the faults which cut off the ends of the vein system and concluded that the Brockman Fault, which showed striations, was more vertical than horizontal in movement, while the Huddy Faults were believed to be partly thrust and partly normal faults with emphasis on the thrust or horizontal component. He believed the Brockman Fault was pre-enrichment

and the Huddy Faults were probably post-enrichment. No evidence of the continuation of the vein fractures past the Brockman Fault was found. Later F. L. Ransome and J. E. Spurr, both of whom studied the mine, were in general agreement with Penrose. Since I was unable to see much of the fault face, due to caving of openings, I can only accept their findings.

In addition the rock west of the Brockman Fault is coarse ^Cretaceous (?) Arkosic sandstone which showed little mineralization other than iron oxide stains. This sandstone is extremely pervious precluding hope of important ore accumulations within it, since no damming effect was present. When penetrated by openings, such as wells, drifts, etc. it gave up large amounts of water at a very rapid rate. (To the north the extremely dense North vein, chalcedonic quartz, separated the flows from the sandstone and except for the Eisenhart vein break, was impervious to the mineralizing solutions.) The Eisenhart vein contained some lead-molybdenum-silver mineralization which is dissimilar to that in the other veins, and may represent a different period geologically. The upthrow side of the Brockman Fault was ^{subsequent to the} on the west and the vertical component was enough to expose the flows, if present, to sufficient erosion to cause their removal. Since, generally, the sandstone is a very poor host rock and the removed andesites were good host rocks, there should be little anticipation of concentrated mineralization on the ^{west} west side of the fault opposite the vein system. A 200' well, several ^{feet} feet ~~south of the vein system and west of the Brockman Fault~~ also penetrated sandstone.

One possible prospectable area lies between the Pearce Hill on the north, the Brockman Fault on the west, and the Fisher Hills to the east. Here, there is undoubtedly an area of relatively thin andesitic flows. The work done on the Fisher claims was shallow and therefore gave no indication of the thickness of andesite remaining in the area. This thickness should increase toward the east or down the pitch of the flows. Both the Extension and Fisher Veins as developed are narrow, tight, and intermittent along their strikes. Whether other veins exist under the valley fill is unknown. Since the Extension and Fisher Veins were only worked to relatively shallow depths, their vein fractures possibly may continue downward. The andesite in the Fisher Hills is much less propylitically altered than that in the Pearce Hill, a fact that may be unfavorable since the best ores in the Commonwealth area were found in the most altered portions of the rocks. This summary may give you a good idea of the Pearce set-up so that you can draw a conclusion as to the feasibility of doing work there. Please return the maps and diagrams when finished with them.

Since the extension of the Brockman fault to the north and south is covered by valley fill, I cannot say as to whether it had a strong horizontal component. However, this may be possible. The andesite flows in the Six Mile Hills, south and west of the mine, and west of the Brockman fault, are petrographically and lithologically similar to those east of the mine. The pitch of these flows is unknown. I found no definitely identifiable andesite under them although it has been reported recently. If there is prospectable ground west of the Brockman fault, it could be in this area. The absence of drilling west of the fault always leaves room for some speculation.

COMMONWEALTH MINE

INTRODUCTION

The Commonwealth Mine is located in a group of volcanic hills in the heart of the beautiful Sulphur Spring Valley, It is situated at Pearce, Cochise County, Arizona. Ten Miles to the west is the famous Cochise Stronghold in the Dragoon Mountains, named for one of Arizona's most noted Indian chiefs; twenty-five miles to the east are the Chiricahua Mountains; and eight miles to the north is the Sulphur Spring, once a rendezvous for Indians and Indian fighters, where the last serious fight with the Apaches took place. East of Sulphur Spring are the ruins of old Fort Bowie, at one time the headquarters of General Crook.

A branch line of the Southern Pacific Railroad extends from Cochise to Pearce, a distance of sixteen miles; thence through Courtland and Gleason, southward a distance of fifty-two miles to Douglas, where the Copper Queen and Calumet and Arizona smelters are located. In recent years all ore from the Commonwealth Mine has been shipped to one or the other of these smelters for treatment.

The town of Pearce originally consisted of one general store, seven saloons, and a boarding house. Water was supplied from a well and hauled in barrels to the people of the town by an "old timer", Jim Harper, until 1897 when the Commonwealth Company sunk a well which supplied the needs of the mine and the town. Later, water was developed in "B" Shaft, which had to date been found inexhaustible. Wood was hauled from the Chiricahua Mountains, a distance of thirty miles, to supply the needs of the mine. In fact, wood was utilized for fuel until 1898 when petroleum was introduced for use in the boilers. Incidentally, the Commonwealth was one of the first mines to use oil, as a fuel, in Arizona. Among the earlier difficulties experienced were the transportation of the cash for the pay-roll, and the shipping of the bullion from the mill. A group of notorious bandits lived in the vicinity of Pearce, whose activities prevented the regularity of pay-days and ore shipments. The money for the pay-roll was transported by the Norton Morgan Commercial Company, of Willcox, who often hid it in a sack of flour or in a bag of potatoes in their regular freight shipments to Pearce. The bullion was cast into 2000-ounce bars to lessen the possibility of its being stolen.

Situated at an altitude of 4,500 feet, Pearce has an ideal climate. The mean average rainfall is 10-1/2 inches. Timber, which was used by the company for mine purposes, was brought in from the Chiricahua Mountains. When the Forestry Service took over the timber and included it in the Coronado National Forest, the stumpage rate was so increased that further use was prohibitive, and Oregon Pine was substituted for it.

The mine was discovered in 1895 by John Pearce. While driving some cattle over the Pearce Hill he picked up a rock to throw at one of the cows and, noticing the unusual weight of the rock, he decided to have it assayed. It ran 2100 ounces in silver. He and his brother returned to what is now Pearce and located six mining claims: the Ocean Wave, the Commonwealth, the One and All, the Silver Crown, the North Bell, and the Silver Wave.

A car of rich float was then shipped to the El Paso Smelter. This shipment ran 100 ounces in silver and one ounce in gold. The owners then sank No. 1 shaft to a depth of 50 feet in the west end of the outcrop, cutting the vein diagonally from the hanging wall into the footwall. The ore from this shaft was shipped and had about the same tenor as the first shipment.

In November, 1895, John Brockman of Silver City, New Mexico, visited the property and secured an option for the amount of \$275,000. He, in partnership with Mr. R.A.F. Penrose and Mr. D. M. Barringer, both of Philadelphia, organized the Commonwealth Mining and Milling Company, capitalized at \$1,000,000, placed a bond issue of \$250,000 on the property, and proposed to the Pearce Brothers to pay \$250,000 in cash instead of the \$275,000 covering a period of two years. This they accepted. The new company then issued stock for the development of the mine. A portion of this stock was placed in England and Germany. Among the prominent stockholders were: Counts Bismark, Pourtales, and Tiele, of Germany; Professors Chamberlin and Salisbury, of the University of Chicago, and other prominent men. The first officers were: R.A.F. Penrose, Jr., President; D. M. Barringer, Secretary and Treasurer, and John Brockman, General Manager.

The company first straightened No. 1 shaft to a sixty-degree angle and followed the vein downward to the water level, a distance of 267 feet. In the meantime, "A" shaft was begun at a point 150 feet west of No. 1 shaft and also sunk to the water-level. The ore from the two shafts and that in between them was hoisted with a one-horse whim and shipped. After shipments were begun, the bond issue was retired within three months and a dividend of \$100,000 a month paid for a period of six months. This ore came from what is known as the Discovery stope. While this ore was being mined, "B" shaft was started at a point 600 feet east of No. 1 shaft and penetrated the largest ore body yet found in the mine.

There being no branch railroad at this time all the ore had to be hauled to Cochise and supplies returned, by wagons. The wagons were run in trains of four with a total capacity of 50 tons and each train was drawn by twenty horses. The charges made against a ton of ore are as follows:

Hauling of the ore to Cochise	\$2.50
Freight from Cochise to El Paso	3.50
Treatment Charges, at the smelter	7.50
Cost of mining	2.58
Total charge against ore	\$16.08 a ton.

This method was pursued until the early part of 1898 when the first mill was erected and put into operation. Pan-amalgamation was used effectively with an average extraction of 83 percent. The coarse crushing was done with Blake crushers and the fine crushing by German ball mills. The capacity of the mill was originally 30 tons a day, but this was soon increased to 200 tons by the addition of 60, 1,000 pound stamps. Rolls were added to the intermediate crushing department at the same time. The milling cost was \$2.00 a ton and the mining cost \$1.60 a ton, or a total cost of \$3.60 per ton.

This mill burned in June, 1900, but construction of a new 80-stamp mill was immediately begun and put in operation in January, 1901. "C" shaft was sunk during the construction of the mill. It was located 100 feet in the footwall of the main vein and cross-cuts were run and connected with it from all the main drifts. During the cutting of the station on the second level the Smith vein was discovered at a point 80 feet in the footwall.

After the new mill was started, the method of mining was changed from stulls to square sets. The change was made necessary by the widening of the stopes to 60 feet and the mining of low-grade ores of the footwall zone of alteration. The period of high-grade milling had ended and a new period of low-grade milling began. The old mill heads averaged 18 ounces and the new were reduced to 10 ounces of silver a ton. This second mill operated on a 240-ton basis until 1905, or for a period of four years. At this time the big stopes became so heavy that it was necessary either to fill them with gob or to allow the hanging wall to close in. The later course was pursued. The mine was shut down and ten days later 500,000 tons of waste came in.

The company then decided to grant a lease on the old tailings to D. T. Swatling, the mill superintendent, and A.Y. Smith, the mine superintendent. These men constructed a cyanide leaching plant with a capacity of 250 tons a day. The tailings were hoisted a distance of 300 feet on a tramway by means of a balanced hoist. Side-dump, V-bottom, one-ton cars were used for this work. The plant consisted of 6 California redwood tanks, 40 feet in diameter and 6 feet deep. A tramway was run out over the tanks for filling them. Unloading was done by contractors who shoveled the pulp through gates in the bottom of the tanks into dump cars. The treatment cycle consisted of:

- 1 day filling the tanks
- 4 days of solution contact
- 1 day unloading the tanks

Precipitation of the rich cyanide solution was done on zinc shavings in the usual manner. A summary of the cost of the work on a ton basis was:

Loading in tailing pond	\$ 0.10
Hoisting and dumping	0.05
Cost of leaching	0.26
Cost of unloading	0.12
Cost of precipitation	0.09
Cost of power	0.10
Cost of repairs	0.05
Refining, supervision, etc. ...	0.07
	<u>\$ 0.84</u>
Gross value of the ore	\$ 3.00
at 50 per cent extraction, net,	1.50
Less cost of treatment84
Net return	<u>\$ 0.66</u>

Tailings were leached for a period of about five years and 288,000 tons were handled. In 1906 the lease was extended into the mine and a portion of the mill was placed in operation. New cross-cuts were run into the caved area and 187,000 tons were mined and milled under the lease.

In 1910 the mine was purchased by the Montana Tonopah Mining and Milling Company. The officers who reorganized the company were: Charles E. Knox, President; A. Y. Smith, Vice-President; F. L. Bryant, Secretary and Treasurer; and Edgar A. Collins, General Manager.

A new and modern mill was then erected at a cost of \$ 283,000. While the mill was under construction "D" shaft was sunk to the 8th level and all of the main drifts connected with the new shaft. The new mill was placed in operation in early 1913 and run until May, 1917, when it was found that the ore developed was too low grade for profitable handling, and operations were discontinued.

A total of 275,000 tons were mined and milled at a cost of \$4.20 a ton against an average value of \$5.22 a ton of ore mined.

In October, 1917, A. Y. Smith obtained a lease on the entire mine. This lease is still in operation (1927) under the name of the Commonwealth Development Company. Under this lease 115,000 tons of ore at an average of 12.5 ounces in silver and 0.10 ounces of gold a ton have been mined. The ore has been shipped to the smelters at Douglas, under silica contracts.

The total production of the mine through 1926 has been 940,000 tons of ore with an average grade of \$11.71 a ton, giving a gross value of about \$10,407,000. The average cost of mining and milling was about \$4.20 and the loss in the tailings was \$2.20 a ton, leaving a profit of approximately \$5,000,000.

From Department of Mineral Resources files

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TO THE COMMONWEALTH MINE, PEARCE, ARIZONA

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Mr. T.B. Smith,
Pierce, Arizona.

GEOLOGICAL COLUMN:

The deepest member of the geological column exposed by the workings of the Commonwealth mine, now accessible, is plotted on your geological maps as a Cretaceous Sedimentary, presumably Quartzite. In all probability this rock is a rhyolite tuff, deposited, sorted and stratified in water and later intensely silicified; as such it would be one of the Tertiary series. (Specimen No. 1).

On top of this lies an Andesite flow of about _____ feet in thickness. For purposes of identification this will be referred to as the Brockman Andesite.

On top of this lies a layer of Rhyolite Breccia about _____ feet thick. In the groundmass of this rock cementing the breccia are well developed quartz phenocrysts. Apparently the body of this layer is a rhyolite porphyry flow rolling over and absorbing previously deposited breccia and was being rained on by a contemporaneous ejection as it flowed. At the Commonwealth mine this layer is largely breccia; at the Six Mile Hill it is almost all Rhyolite Porphyry. This layer will be referred to as the Commonwealth Breccia. (Specimen No. 2)

On top of the Breccia at the present surface lies a later andesite flow of a thickness that can not be determined. It is now largely eroded except at the east end of Pearce Hill where it has been dropped by faulting and protected from erosion and where due to intense silicification it has resisted erosion. This Andesite will be referred to as the Pearce Andesite. It is now largely eroded except at the east end of Pearce Hill where it has been dropped by faulting and protected from erosion and where due to intense silicification it has resisted erosion. This Andesite will be referred to as the Pearce Andesite.

Both Andesites have been plotted on the geological maps in the same color and shade. This leads to confusion. These maps as they stand however are invaluable and the slightest tampering will throw them under suspicion and render them useless as evidence. New maps should be started and carry this distinction for all future work.

Rock specimens 1 and 2 should be forwarded at the earliest convenience to a petrographer of known reputation for classification by microscopic examination with the warning as to the difference of opinion in field classification.

INTRUSIVES:

No intrusive rock has been plotted on the geological maps and none has yet been identified. The possibility that one or more of the enormous quartz veins were thoroughly shattered and silicified Rhyolite dykes has been considered and rejected though it might be well to carry this possibility in mind. Mineralized rhyolite dikes are not uncommon.

DOMING:

The Pearce Hill is a perfect example of doming. This doming was probably caused by a spill undiscovered spur or plug from a deep seated batholith. The intense silicification under the apex of the present hill suggests its presence but it has not been found. The next most probable place

for its occurrence would be directly under the apex of the original dome which would be to the westward under the present flat. Erosion has removed the western half of the dome from the present surface.

PRE-MINERAL FAULTING:

Due to the stresses incident to intrusion and doming the southern half of the dome was dropped at least several hundred feet bringing the upper or Pearce Andesite into juxtaposition with the Bressia, the Breccia into juxtaposition with the Brockman andesite and this andesite into juxtaposition with the underlying tuff. A careful study of the surface, underground conditions and the geological maps confirm both the doming and faulting. The North vein is a transverse fault leaving the main fault at an acute angle. This also shows displacement with the Pearce Andesite dropping into juxtaposition with the Tuff, at the extreme eastern end. A number of smaller transverse faults leave the main vein between these two and parallel the North Vein.

PRIMARY MINERALIZATION:

The main Commonwealth vein is a strong fault fissure of considerable displacement. It cuts off the North Vein fault and all the minor faults on both strike and dip. It is unquestionably deep-seated and is the mineralizer. Structural conditions have proven just right for the segregation of the viscous high temperature, practically intrusive, quartz into the footwall fissure, while the more volatile precious metals segregated into the hanging wall fissures particularly the main Commonwealth vein. (See Spurr's pegmatitic quartz and Lingren's Beta Quartz, also Billingsly and Locke on hangingwall pipes and veins).

EROSION AND SECONDARY ENRICHMENT. LOCII OF ORE SHOOTS:

Judged by the history of the mine the great bonanza ore bodies of the past were largely due to secondary enrichment. The erosion has been considerable. The greater part of the Pearce Andesite is gone and all of the other overlying flows, if any. Judged by a lime cemented surface conglomerate on the east end of the mine the Andesite has a good percentage of lime. This would act as a precipitant and perhaps influence the deposition of the secondary enriched ore shoots from the descending solutions, giving them an easterly pitch or inclination. It is more probable however, that the principal precipitant was the original primary ore shoots and that the position and easterly inclination of these primary shoots was determined by the intersection of the footwall faulting and shearing with the main vein. These intersections in turn are determined by the strike and dip of the intersecting fractures. This does not mean, necessarily, because the downward trend of the ore shoots has been to the eastward that the original source of the ores lies in that direction.

FUTURE DEVELOPMENTS:

That the present Pearce hill is but a remnant of the original dome which extended many hundred feet to the west under what is now a flat is clearly delineated by the geologic maps as they stand. The lower andesite on its course northwestward around the dome is plotted in the footwall of both major faults there combined. The maps also indicate that it has been cut off by some minor fault. This fault is evidently normal and the main mass should be picked up along the hanging of the main break as it is followed westward. Naturally the overlying breccia and upper andesite will come in the same way in their turn. The brittleness and lack of cohesion of the fragmental breccia may prove of vital importance as the same kind of a fractured mass can be expected to the westward as has been encountered in the old workings to the eastward. There is always the possibility that erosion has cut the dome under the flat down to water level. Nothing but digging can tell this. Cheap churn drill work might help here. The eastward inclination of the dome in its downward course indicates that the plug must be from that direction.

The molten plug would form a conduit for the metals and there certainly would be a tendency to segregate to the hanging. On the other hand such a great mass of metals as this mine produced did not come from a small plug but rather from a general anticlinal of the main batholith and it is only reasonable to expect that the main commonwealth vein occupying a fault of such magnitude might extend down to the main batholith. The higher temperature of what might be considered the foot of the plug could be a more favorable place for the deposition of gold. The history of the Discovery stope and the Brockman ore bodies----- to confirm this. Note the tendency of the Discovery stope to----- westward.

There is just one thing to do; drive one of the deep----- above water say the 5th westward crosscutting northward----- footwall every hundred feet or so until the breccia and ----- bers of the column have been picked up. A short watch ----- be kept for them in the hanging. They should be picked ----- the footwall.

(Copy of an undated report, bearing the initials R. H. W.)

THE COMMONWEALTH MINE

PEARCE, ARIZONA

The main ore-bearing vein at the Commonwealth dipped about 60° and was mined for a considerable distance with several separate bodies of enrichment. Underneath the main vein at a considerable distance was the North Vein, which dipped in the same direction at an angle of about 45°. This North Vein was a very large, massive, quartz vein, perhaps 18 or 20 feet thick. Considerable surface exploration work had been done on the vein; at all points some values were found, ranging from 20¢ to perhaps \$2.

In the course of developing the main vein a drift was run several hundred feet to the left of the "D" shaft just above the water level. Since the main vein showed poor mineralization along this drift, a crosscut was run from the main vein to and through the North Vein. On account of the distance from the shaft much of this work was done by hand drilling, and on account of the hardness of the vein, a drift was run along the footwall of the North Vein and various crosscuts were driven through the vein to determine its nature. The North Vein itself proved to be of no value, but samples taken in the footwall drift indicated a small ore body in the footwall running about \$5 a ton.

Since the values in the footwall were principally in gold it was decided to mine this ore body in 1914 or 1915, at a time when the price of silver was unusually low. When mining was started, it developed that a very rich ore body had been formed in the footwall and just above the water level. This ore body assayed as high as \$500 a ton near the center. It went to a sharp point against the vein at one end and faded off to an assay wall at the other end. The footwall of the ore body was not vertical but sloped at perhaps 60 or 70°. It also was an assay footwall.

It is my belief that this ore body was due entirely to secondary enrichment. It did not go below the water level.

Although the North Vein itself was not of commercial grade, I believe that there may be other pockets along this vein where leaching from the vein and re-deposition in the footwall might make ore bodies of economic interest. I have heard a theory that there have been in the past other water levels, above the present one. Each might have had some effect in forming another pocket of enrichment. It is also possible that leaching solutions from the main vein might have reached the hanging wall of the North Vein and traveled downward to form ore pockets at or near water level.

Russell C. McGinnis

Russell C. McGinnis

September 9, 1939.

I spent about three hours underground with Walter Sims, going through such drifts and crosscuts as are open on the 3rd, 5th, 6th, and 7th levels. Most of the openings are probably on the 3rd, although they have done considerable work opening old caved drifts on the 500, and it is on the 5th where Sims expects to obtain most of his expected 150,000 tons of \$6 ore which has been promised him by one of the old time leasers who is now ranching in the valley.

When the railroad was still in operation, until about 1932, the leasers were able to ship to the Douglas smelters \$6 silicious ore and there were many thousands of tons so shipped. The leasers would go into the low grade ore sections which were left on the 5th and 6th levels and which were located between the lower apices of the two ore bodies and which low grade body is now supposed to run about \$4 possible value. They would follow streaks of high grade ore through this body and the shipments from this high grading would run about \$6. Several leasers are reported to have made stakes of 15 to \$30,000 by this high grading.

In the old mining the stopes were held open with square sets, but no filling was done, or at least many stopes were not filled and of course as caving eventually started the square set stopes all caved away and are now a mass of timber and waste. Much of this waste is in the form of large boulders, but the old timers and leasers tell Sims that if this waste was all drawn and screened, the screenings would make high grade mill feed, (\$6-\$10).

The mine is nice and dry and extremely well ventilated due to the numerous old shafts and cavings; in fact would be a very dusty place to work, I expect. The boys in there now working along shoots always use respirators.

Sims is opening up about 20 feet of old hanging wall drift on the 5th (?) level to get at about 20 tons of ore which he found on the hanging wall scab that he believes will assay \$80 to \$100 a ton. It is such bunches of high grade ore as this that have kept the leasers gophering around through the old workings for the past twenty years. They made their expenses by shipping \$6 and \$7 ore, hoping for high grade kernels occasionally. Sims is inclined to believe that the leasers have gouged out much of the \$6 ore left in the mass of low grade material in the neighborhood of the "C" shaft, which means the body of low grade located between the lower apices of the 2 shoots of high grade ore.

There was another body of low grade ore lying to the west of the western body of high grade ore and between there and the big fault which cuts the vein off on the West. Sims believes that this western body of low grade ore, located in the neighborhood of the Brockman shaft has not been high-graded much by the leasers, and expects to find a better average grade of ore there than has been left along the "C" shaft. It seems that drifts and communications leading toward this western low grade ore have called for more cleaning out and work than the leasers were willing to undertake to reach it, so they have left it along. The Brockman shaft is supposed to be in fairly good condition, but it is inclined for about half its depth and then becomes vertical so it has not made as promising a working shaft as they want.

The "B" shaft and the "D" shaft both are in excellent condition. They are inclines of about 60 degrees and probably could be used immediately with very little repair work. There is a hoist on both of them, with skips and cables, motor driven. However, I expect that many of the timbers are really rotten for half their depth, that portion contacting the ground and while they are fairly good for prospecting and development, for heavy production it probably would be necessary to replace many of the foot wall plates. There seems to be no weight on the ground of the hanging wall and end plates would probably be satisfactory as long as they would stand in place.

The leasers claim they were able to mine and deliver the ore to the shaft for \$1 a ton and I expect they were right, inasmuch as all the mining they did was open stope work. By the time a stope became so large it needed timbering they had probably gotten beyond the limits of their grade. Having to go in and mine the low grade ore there is left, trying to make a clean extract and working along and through the old caved stopes would probably mean a more expensive mining cost than would seem to be expected at first glance.

The ground stands well but in opening it up to 30 to 60 feet wide, which would be the width of much of this ore, it would not stand without timbers or a well planned caving system of some type. My thought is that enough of the old drifts and crosscuts should be opened up, which would probably require one to two months work, - so that a survey could be made and the tonnage of low grade ore located and estimated, together with the position and condition of the old caved stopes. If thorough sampling of this low grade ore would indicate satisfactory tonnage, then to see whether it would be feasible to attempt a sort of caving system so that very little timber would be needed. If it could be mined in this way, I believe it is reasonable to consider a \$4 possible value might be the mill head. \$4 gross value with an 80% recovery would mean a net value of \$3.20. But it is thought that recovery could now be boosted in a modern mill to about 90% which would make a \$3.60 net head. I

I am frank that it is the firm and honest belief of Sims that most of this mass of low grade ore would average \$4, but in looking over car samples, stope samples and many various mine samples of the Tonopah-Belmont operation of 1914-1917 I saw many assays that were between two and three dollars, and their average heads were a little below \$5, and they were mining what is now looked back upon as the high grade stopes, - or what was left of the high grade stopes. But they were working on \$20 gold and 57¢ silver, and under steam power; though labor and taxes were much lower than today and probably counter-balanced most of their other high costs.

The leasers tell Sims there is considerable ore left below the water level, remnants of the high grade ore shoots which the leasers have been unable to reach because of the water. This tonnage would not be great, but would go far toward bringing up the average of the lower grade.

I have been unable so far to find where any geological work or deductions as to the possible persistence of the vein and ore bodies in depth. Sims says that all the miners and old timers with whom he has talked claim that

the vein is just as strong on the lowest levels as it was above, but that the values drop too low to be any good, around \$1 to \$2. But I noted from the maps that while "C" shaft was sunk to the 10th level there was but little work and drifting done on the 9th level and almost none on the 10th. Un-

Unless some negative reasons can be developed from some geological work it would seem that a few diamond drill holes would be warranted to prospect the vein along about the 10th to 15th levels. An attempt was made by one of the old companies to put down a churn drill hole, but after three failures the attempt was given up.

It is claimed that they were steadily pumping about 1300 gallons per minute when they were sinking and working below water level. It might be possible this pumping expense might be much offset by the use of the water for irrigation in the immediate vicinity. The water level in the mine, which is now but a few feet below the 700 level, is probably the water level at this particular location of the Sulphur Springs valley, and as depth would be reached the flow might be expected to increase, from hydrostatic pressure.

Whether there is anything to be said for prospecting to the West of the fault, hoping to pick up the vein there is questionable, but it is another one of the geological problems to be considered. There are some prospects to the Southwest of the town which Sims believes may be on the extension of the vein beyond the fault, but the values down to date have not been very promising. There has been considerable prospecting to the East for a couple of miles on what is believed to be the Eastern extension of the vein, but no showing at all comparable with the Pearce hill has been uncovered.

Sims says that every engineer who has been around always talks quite interestingly and hopefully and of secondary sulphide enrichment somewhere below the present water level, but nothing has ever been found to indicate such so far as I can learn. He says the only sulphide he has ever seen in the mine were occasional pieces in the drag of the big fault in the West end.

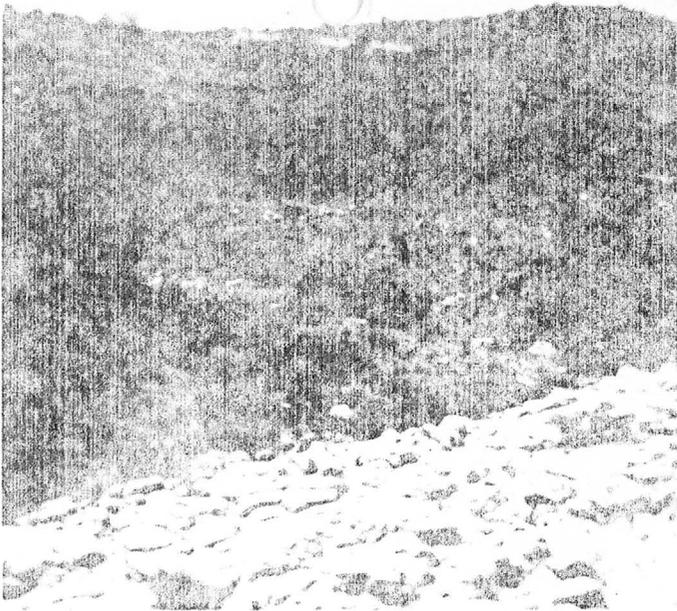
Sims now holds a tentative lease from the estate of David Cole, which they promised to put into legal form as soon as the formalities of administration have been completed. He holds a letter from Fred Cole, the son, who will be one of the administrators, which would seem to have the effect of an honored lease. This lease calls for straight 5% royalty for 10 years with option to renew for another 10 years. No option price is given. He has to meet the taxes which are now about \$500 a year. There appears to be no strings or unreasonable considerations to meet. Merely the requirement of sixty shifts a month to be performed.

Sims is now attempting to raise 15 to \$25,000 to put the milling equipment into shape to mill about 300 tons of tailings together with about 50 tons of \$6 mine ore. With this set-up he claims that he would have a nice stake and

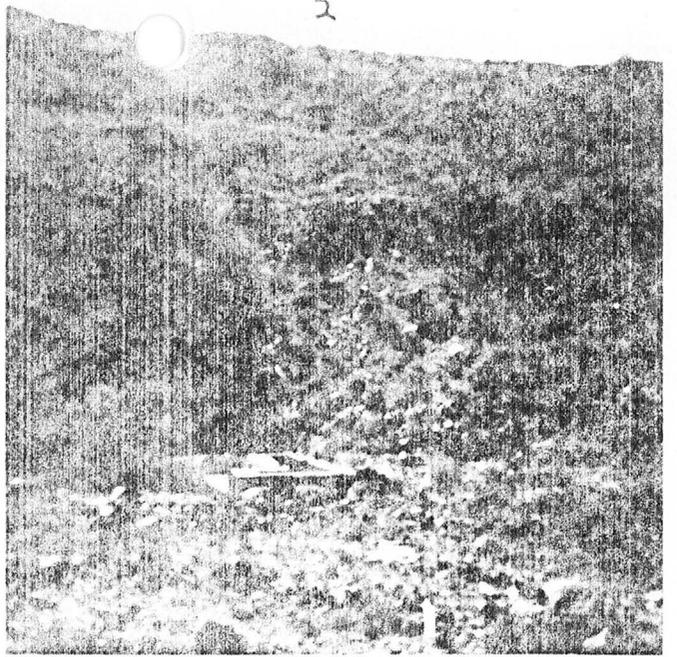
would be able to do more extensive development work underground and possibly enlarge the mining operation later. He seems to have thoroughly sampled the dump and made a tonnage estimate, which of course would have to be confirmed, though they look to be O.K. His cyanide tests on the tailings have been conducted by A.E. Vandercook of Sacramento, who he thinks is one of the best cyanide men in the country and who he believes has some advanced and patented ideas along cyanide lines, one of them being the application of mercuric oxide ~~some-where~~ in the circuit, which has a tendency to increase their recovery from 5 to 10% at a very low additional cost.

He has worked with Vandercook a great deal and claims to have staked Vandercook for operating capital at various times and has access and use for this operation of any and all of Vandercook's ideas, together with his personal assistance. I believe he remarked that for this he is carrying Vandercook for 5% interest in what he may obtain.

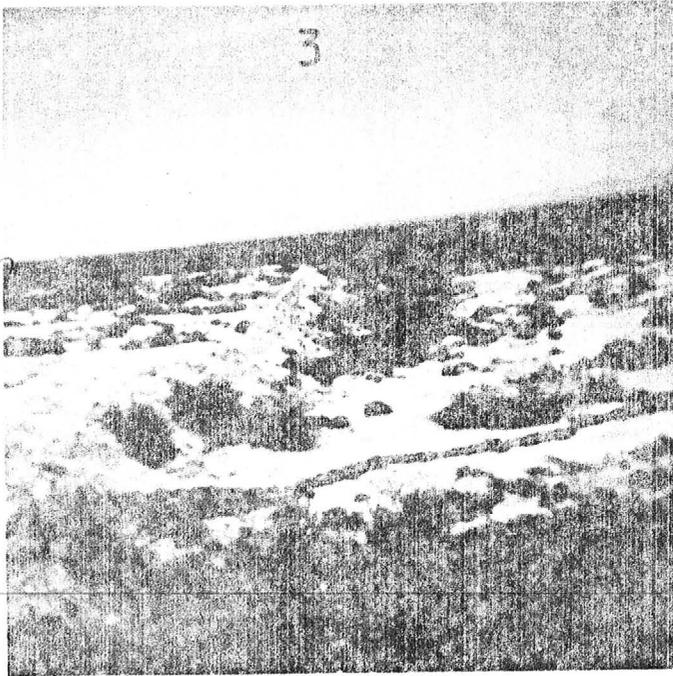
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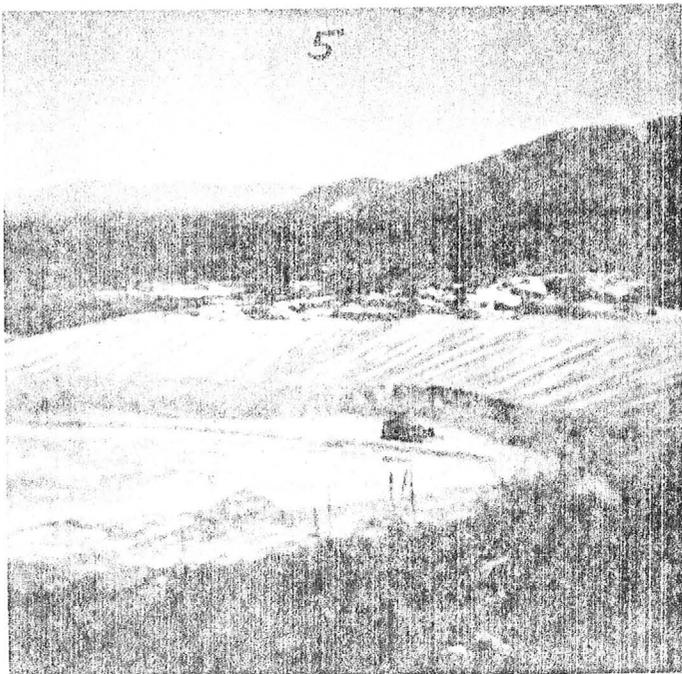


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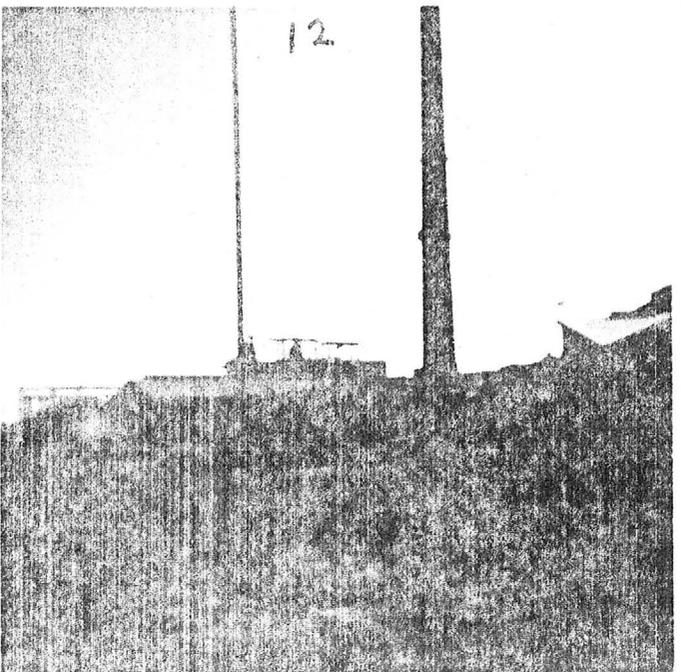
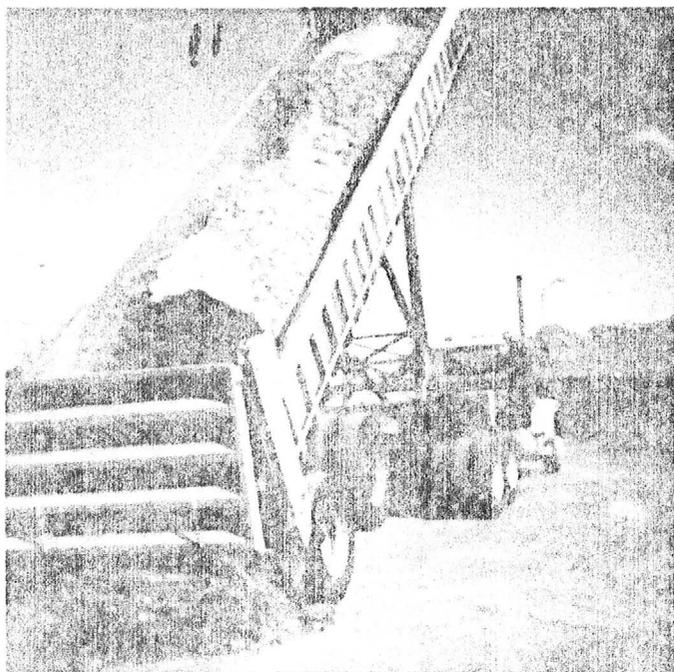
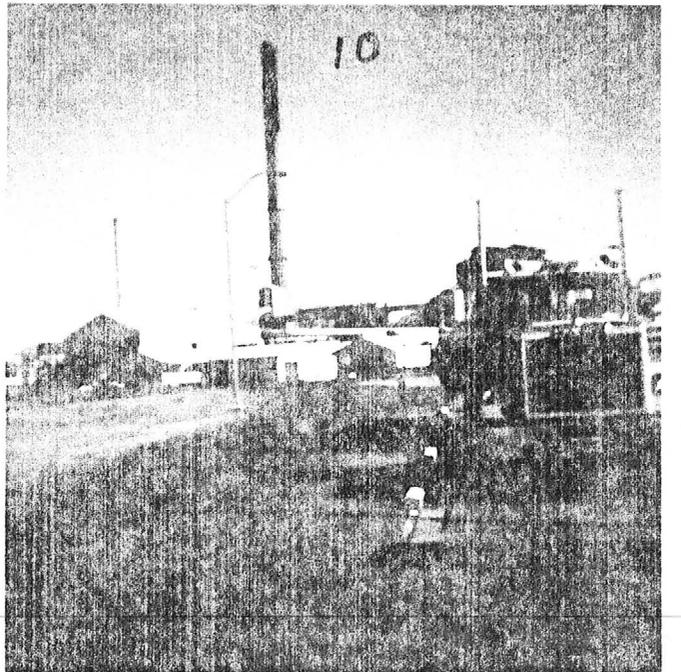
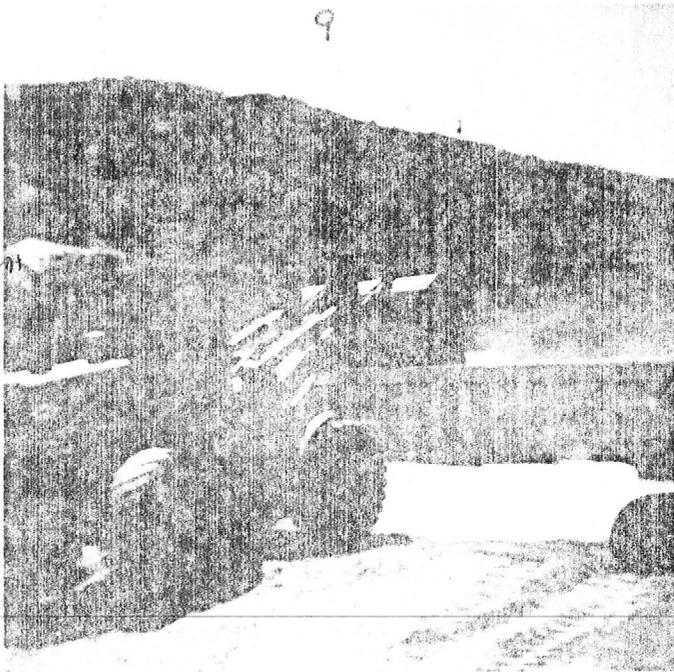
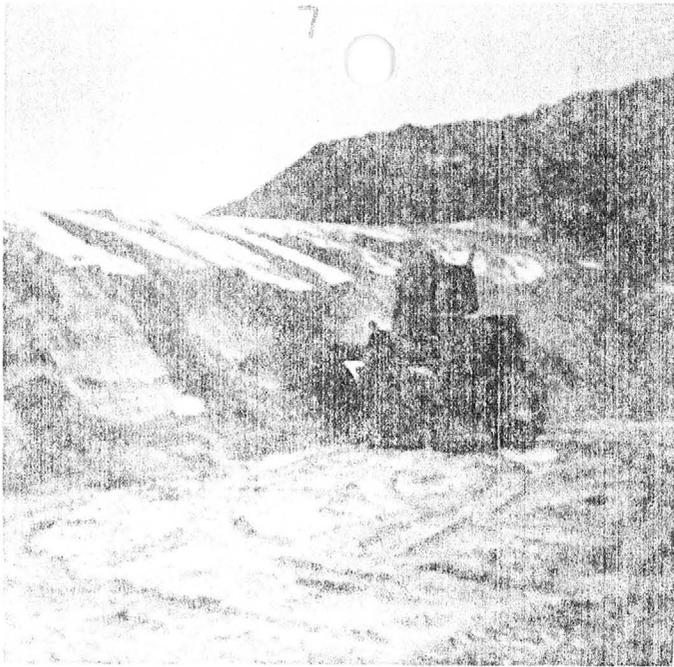
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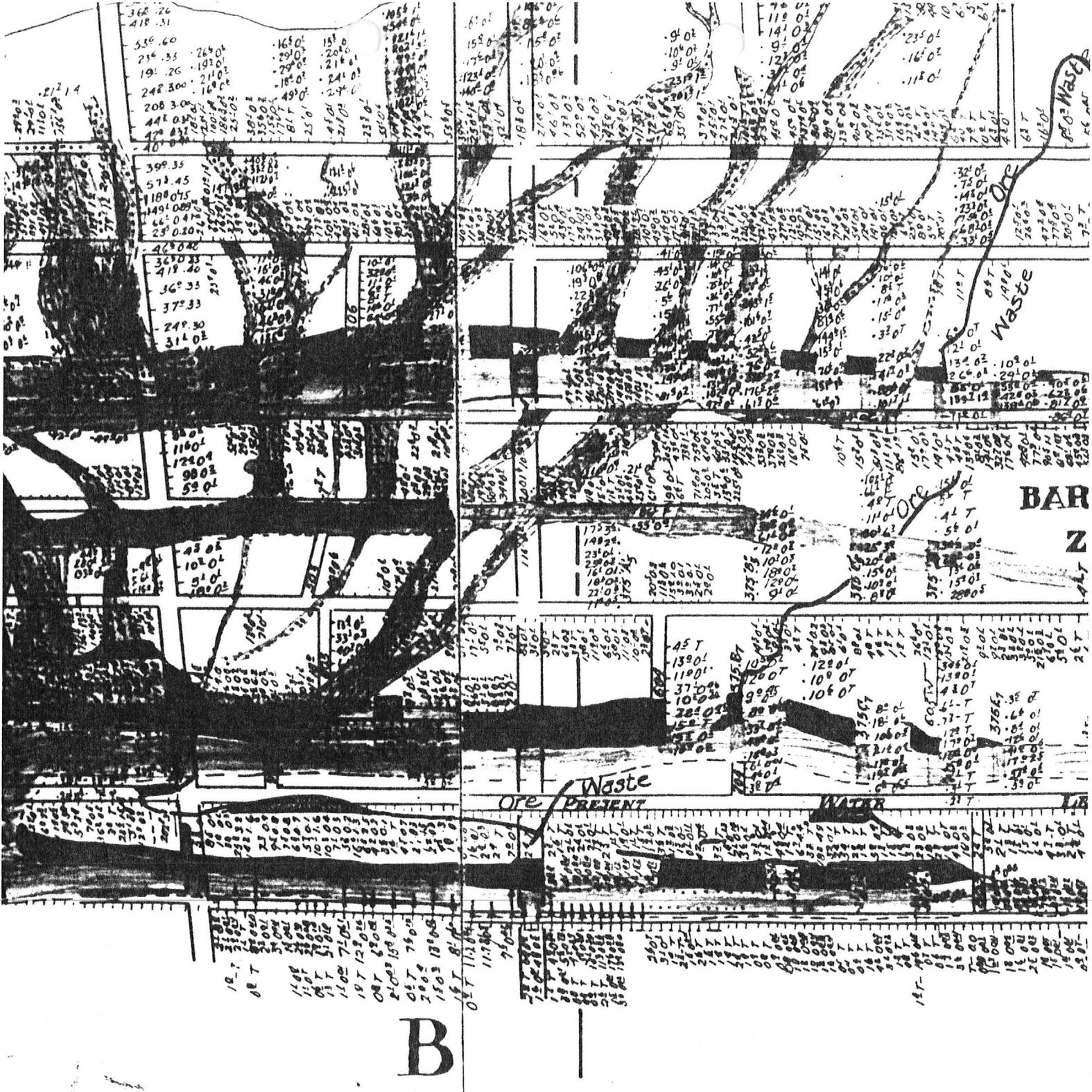
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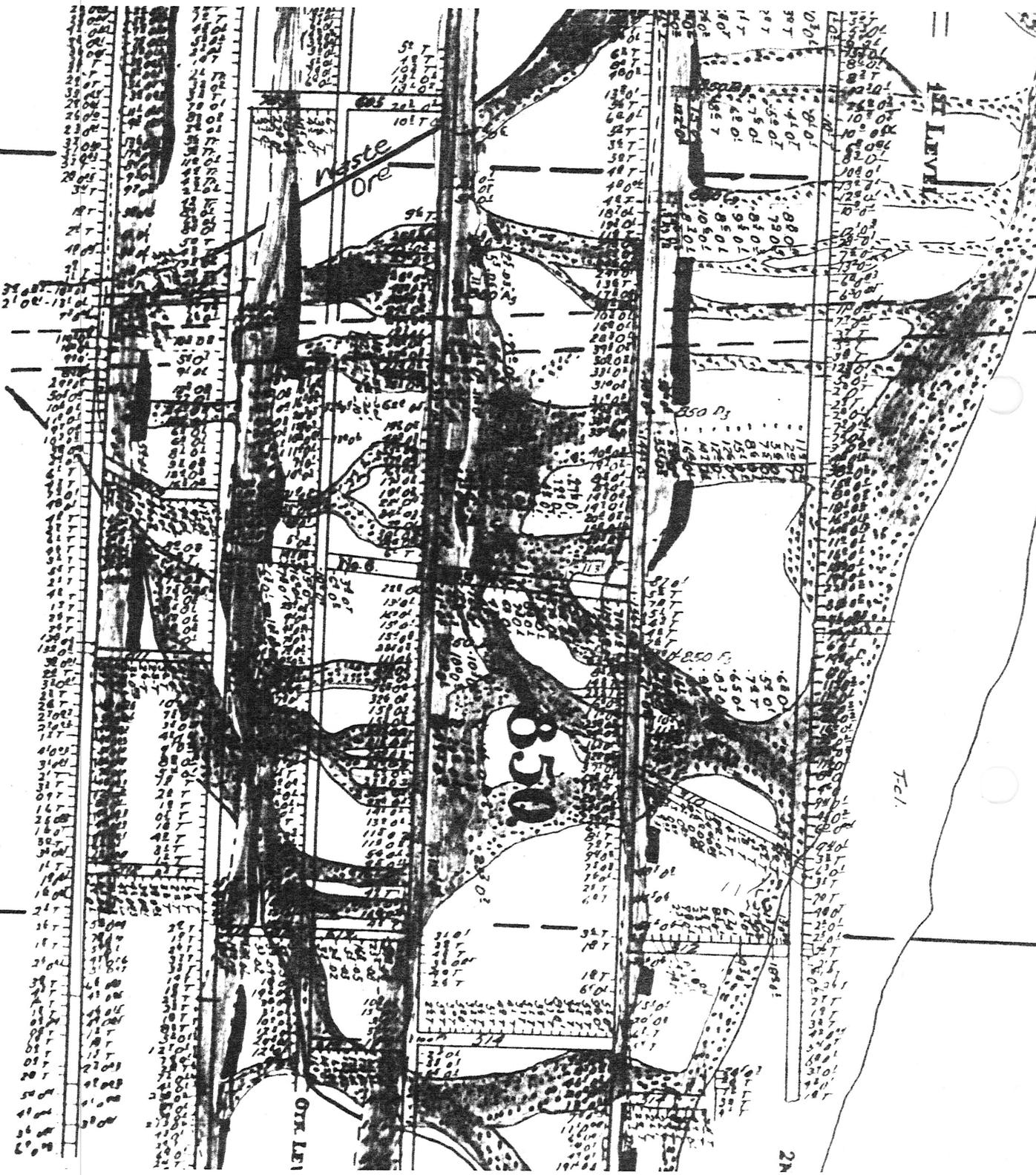


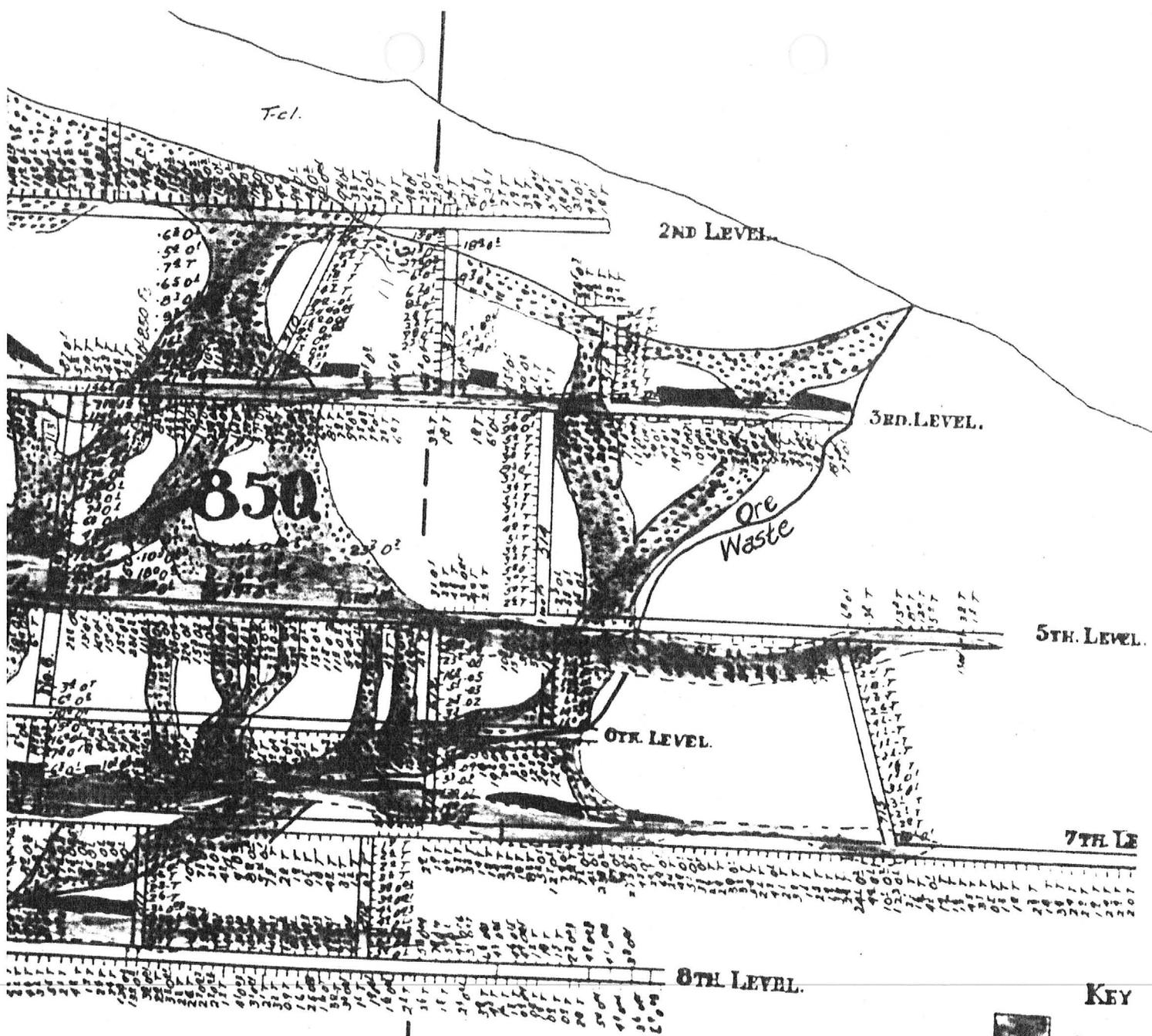


B

SCALE: 1"=60' (120')

850





KEY

	SILV
	GOLD
	HIGH
	ORE
	FOUR

1-1916
LARGE OUTPUT OF ARIZONA
MINES IN 1915

Increase in Value of Metal Output 50
Per Cent. Over 1914

The output of gold, silver, copper, lead and zinc at mines in Arizona in 1915 was valued at \$88,551,000, according to the United States geological survey, an increase of nearly 48 per cent from that of 1914, which was \$59,956,029. There was very little change in the output of gold, but there were notable increases in the other metals, especially in lead and zinc. Increased prices made a difference of nearly \$26,000,000 in copper, \$400,000 in lead and over \$2,000,000 in zinc. These figures are the estimates of V. C. Heikes, statistician of the geological survey.

The output of gold in Arizona mines increased about 1 per cent from that of 1914, which was \$4,179,155. Gold production from copper ores increased, as every effort was made to market copper bullion when the price advanced, but gold from silicious ores decreased three of the largest producers of the state having a combined decrease of about 30 per cent in gold and silver bullion. The Commonwealth mine at Pearce was also a large producer, though the main value of the bullion was in silver. The discovery of gold near the Tom Reed mine at Oatman was of interest in 1915. There was considerable activity in the camp, where a large body of gold ore is said to be opened at the United Eastern property east of the Tom Reed mine. In August about 20 tons were being shipped daily to the Gold Road mill and later in the year preparations were made for building a 200-ton mill.

A record production of silver was made from Arizona mines in 1915, or over 24 per cent. The value of this output increased to about \$2,718,000. The greater part of the silver, as formerly, came from the copper ores, but

the increase in the shipments of silver-lead ores also contributed to the increase. The silver production from zinc ores and lead-zinc ores is not great but silicious ores in Cochise county supply a material percentage. The Commonwealth mine at Pearce was treating approximately 10,000 tons of ore a month, making bullion containing principally silver. At the

Tombstone property operated by the Bunker Hill Mines company, ore and tailings were being treated by cyanidation toward the end of the year. Work was resumed at the McCracken silver mine in the Owens district of Mohave county, for which a mill is

Commonwealth Extension 1915
A recent new strike is announced from this property which is west extension of the Commonwealth. The property is mainly owned by Bisbee stockholders. The ore was encountered on the 200 foot level and is reported to be five feet in width and of excellent value.

The Commonwealth company at Pearce, are running their mill as usual at full capacity and shipping their product as bullion and concentrates.

The extension of the Commonwealth are steadily developing and according to latest reports have opened up more ore.

9161-K

