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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: SEVENTY-NINE PROPERTY

ALTERNATE NAMES:  
MCHUR PROSPECT

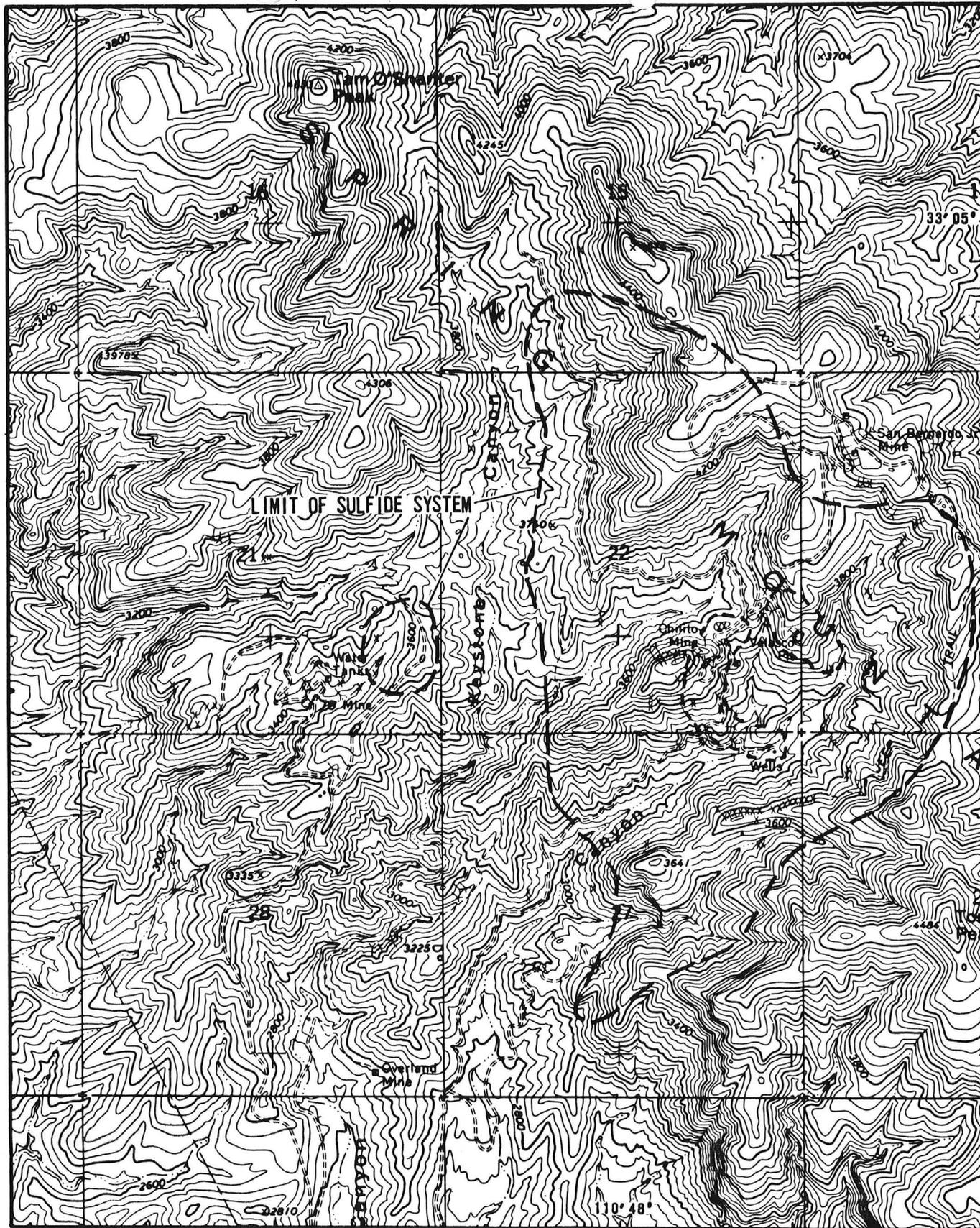
GILA COUNTY MILS NUMBER: 10B

LOCATION: TOWNSHIP 4 S RANGE 15 E SECTION 21 QUARTER SE  
LATITUDE: N 33DEG 03MIN 50SEC LONGITUDE: W 110DEG 48MIN 52SEC  
TOPO MAP NAME: HAYDEN - 7.5 MIN

CURRENT STATUS: EXP PROSPECT

COMMODITY:  
LEAD  
COPPER OXIDE  
SILVER  
ZINC  
MOLYBDENUM

BIBLIOGRAPHY:  
ADMMR 79 MINE FILE  
TENNEY J B 2ND RPT ON MIN IND AZ AZBM BULL  
129 1930 P 75  
LAPIDARY JOURNAL SEP 1980 P 1278  
AZBM BULL 158 AZ ZN & PB DEPTS 1951 P 72-81  
USAEC PRELIM RECON 172-480 GILA CO 1953 P 162  
HICKS C J MOLY OCCUR AZ 1979 P 16  
EAGLE PITCHER GEO. FILE FOWLER, 1938  
ROSS C P ORE DEPTS SADDLE MTN & BANNER MGN  
DISTS USGS BULL 771 1925 P 66 & 68  
KIERSCH G A SEVENTY-NINE THESIS U OF AZ 1947

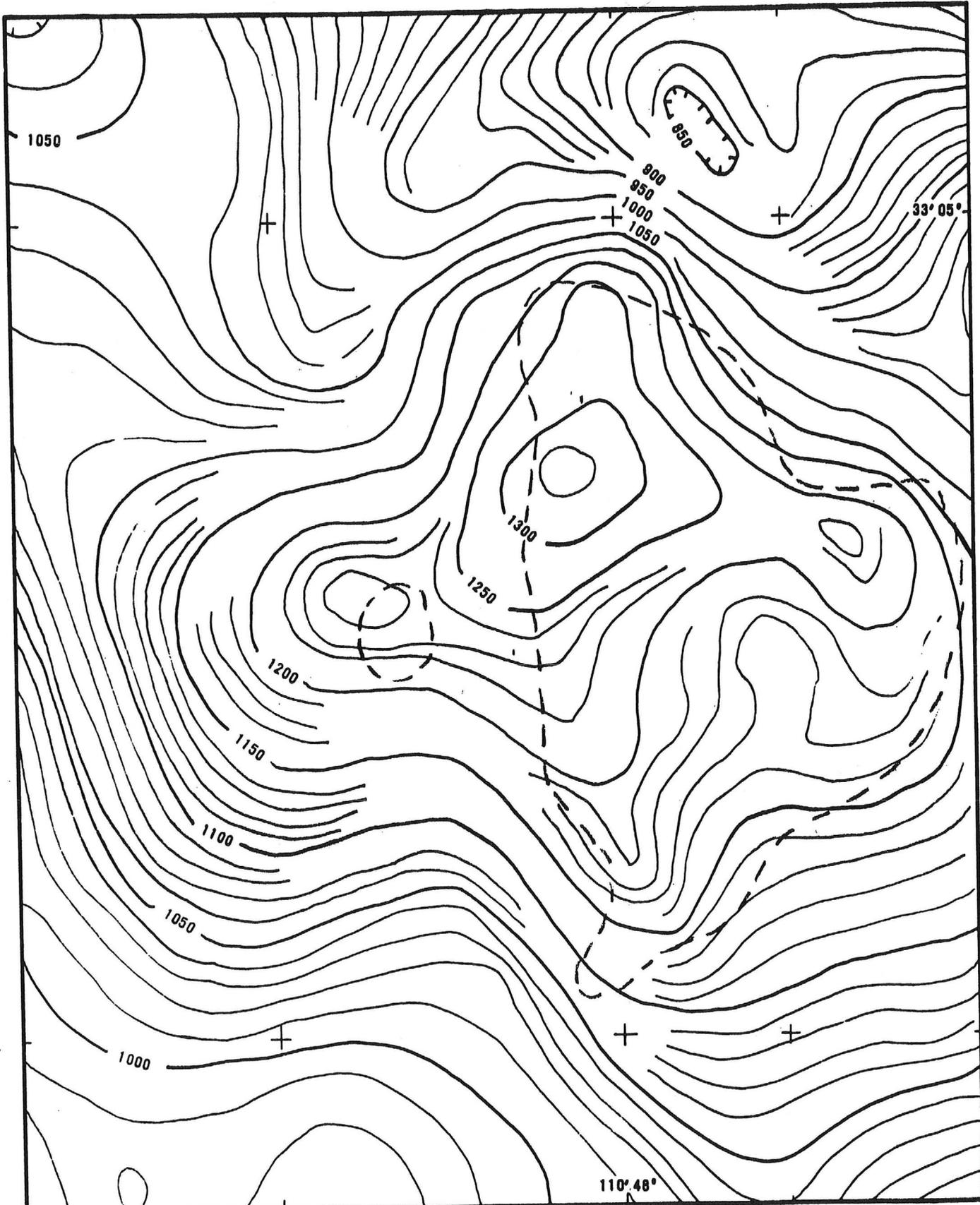


Topography from the Hayden quadrangle, Arizona: USGS, 1964.

TOPOGRAPHIC MAP OF THE 79 AND CHILITO MINES  
GILA COUNTY, ARIZONA

Scale 1" = 2000'

R15E

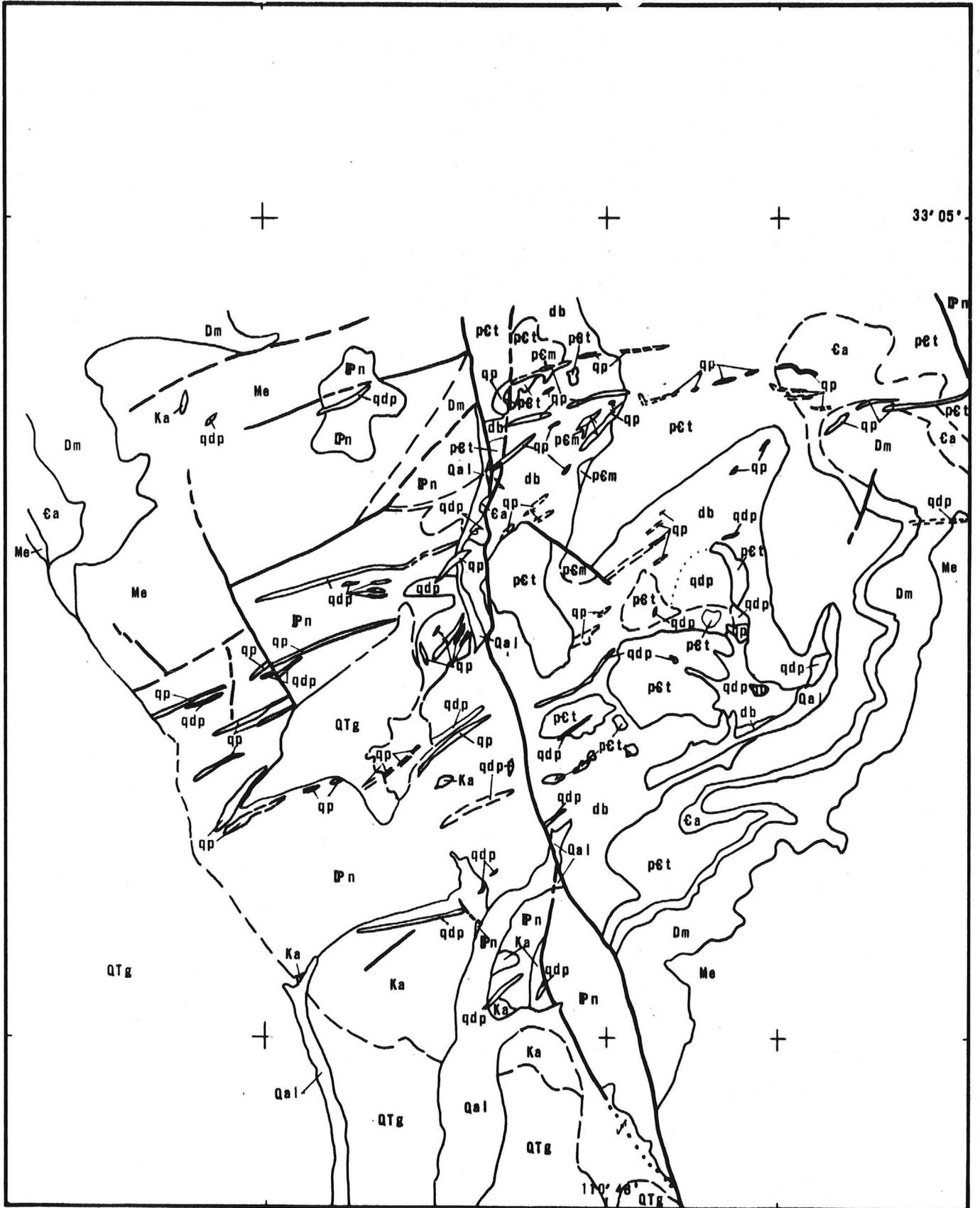


Aeromagnetic map of Area 8 Florence Junction and Saddle Mountain, Arizona;  
BCMC Geophysics Div., no. AZ3-301, 1970.

### AEROMAGNETIC MAP OF THE 79 AND CHILITO MINES GILA COUNTY, ARIZONA

Scale 1" = 2000'  
Contour interval 10 and 50 gammas

TC 500°, FI 1/3 mile, NW-SE.



Lehner, R.E., 1962, Geology map of the Chilito-Kullman-McCool-79 Mine Area, Banner Mining District, Arizona: BCMC, SW Dist., pl.4.

**GEOLOGIC MAP OF THE 79 AND CHILITO MINES  
GILA COUNTY, ARIZONA**

Scale 1" = 2000'



*Fig. 3. The 79 mine area as seen from the East. Note cement plug in main shaft in lower left center.*

79 MINE

GILA COUNTY

USGS Bull. 771 p. 66

ABM Bull. 158 p. 66

AEC 172-480 p. 163 In AEC files

ABM Bull. 180, p. ~~121~~

Eagle-Picher (geology file) Geo.M.Fowler Report June 1938

Skillings Mining Review, July 5, 1975, p. 22 (7/6/35 info.)

MAPS - Upstairs in Drawer 4 - Flat file

ABM Bul. 129, p. 75

Lapidary Journal, September 1980, p. 1278

MILS Sheet sequence number 0040070606

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

INFORMATION FROM MINE CARDS IN MUSEUM

79

ARIZONA		CARD #1
GILA COUNTY		MM 4862 <del>Smithsonite</del> Hemimorphite
79 Mine		5317 Pyromorphite
<u>SEVENTY-NINE MINE</u>		5318 Hemimorphite
MILS # 10 B		5319 Chrysocolla after hemimorphite
1-AKA		7320 Smithsonite
Seventy-Nine Prospects		7321 Hemimorphite on quartz
(file)		7322 Hemimorphite on Ktenasite
		7323 Aurichalcite on hemimorphite
		7324 Rosasite on hemimorphite
		7325 Rosasite on hemimorphite
		7326 Rosasite on hemimorphite
		7327 Quartz ( <del>Smithsonite</del> ) on hemimorphite
		7328 Quartz ( <del>Smithsonite</del> ) on hemimorphite
		7329 Quartz, ( <del>Smithsonite</del> )
		7330 Aurichalcite
		7333 Ktenasite and hemimorphite
		7394 Hemimorphite
		7396 Aurichalcite

ARIZONA		CARD # 2
GILA COUNTY		MM 7386 Rosasite on aurichalcite
79 Mine		7387 Aurichalcite on hemimorphite
<u>SEVENTY-NINE MINE</u>		7388 Aurichalcite
MILS 10 B		7389 Rosasite
		7390 Rosasite on aurichalcite
		7391 Rosasite
		7392 Hemimorphite
		7393 Hemimorphite and Smithsonite
		7397 Hemimorphite and Smithsonite
		7398 Hemimorphite, Cabachon
		7399 Smithsonite
		7400 Aurichalcite on hemimorphite
		7401 " " "
		7402 " " "
		7403 Aurichalcite
		7404 Aurochalcite on hemimorphite
		7405 " " "
		7406 Smithsonite
		7407 Hemimorphite
		7408 Hemimorphite
		7409 "
		7410 Calcite

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

INFORMATION FROM MINE CARDS IN MUSEUM

<p><u>ARIZONA</u> Gila Co. 79 Mine <u>SEVENTY-NINE MINE</u> MILS #10B</p>	<p>Card # 3 MM-7411 Quartz on hemimorphite 7412 Ktenasite 7413- Calcite on hemimorphite 7414 Rosasite on hemimorphite MM- 7791 Aurichalcite MM-K 421 Chrysocolla after Aurichalcite. MM M 778 Aurichalcite MM M 833 Wulfenite</p>
<p>USA Az. Gila Co Hayden 79 Mine <u>SEVENTY-NINE MINE</u> MILS #10B</p>	<p>MM M 209 Chrysocolla M 215 Cerussite M 269 Wulfenite CARD #4</p>
<p><u>ARIZONA</u> <del>GILA</del> <del>PINAL</del> COUNTY 79 MINE <u>SEVENTY NINE MINE</u> MILS # 10 B I-AKA 79 mine file</p>	<p>CARD #1 MM-L569 Hemimorphite</p>

NAME OF MINE: 79 Mine

COUNTY: Pinal  
DISTRICT: ✓  
METALS: Pb, Zn

OPERATOR AND ADDRESS:		MINE STATUS	
DATE:		DATE:	
	Shattuck Denn Mining Corp. Thomas Bardon, Pres. 120 Broadway New York 5, N. Y.  J. A. Wilcox, Gen. Mgr. T. W. Newell, Mine Supt. H. R. Hendricks, Mill Supt. J. R. Hamilton, Asst. Mill Supt. F. W. Garrett, Ch. Mine Engr. & Geol. E. L. Ingledue, Master Mech. H. Baker, Ch. Electr. J. B. Campbell, Ch. Chem. J. G. McGregor, Pur. Agt. D. I. Fergus, Ch. Cl., Empl. Agt. Box A Bisbee, Ariz.		Shipping & milling

NAME OF MINE: SHATTUCK DENN MINING CORP. COUNTY:  
OWNER: DISTRICT: ✓  
METALS: Cu, Pb, Zn

OPERATOR AND ADDRESS		MINE STATUS	
Date:		Date:	
	Shattuck Denn Mining Corp., Thomas Bardon, Pres. 120 Broadway New York 5, N.Y.		Mining, milling
<del>XXXX</del>	J.A. Wilcox, Box A, Bisbee	4/46 8/46	Idle temp. shipping

NAME OF MINE: 79

COUNTY: GILA

DISTRICT: E

METALS: PB, ZN

OPERATOR AND ADDRESS:

MINE STATUS

DATE:

DATE:

5/1/44

G.A. Warner, Box 1378, Hayden

5/1/44

Shipping

79 MINE

GILA COUNTY

HM WR 4/15/88: Jim Lundy with Inspiration Consolidated Copper Co, Claypool, AZ reports that the 79 Mine (file) Gila County will continue to be held by Inspiration. A copy of the most recent addition to the ADMMR 79 Mine file was requested and subsequently forwarded. Correct leasor is Callahan Mining not Bannder as reported 4/8/88.

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ACM Corp. is headed by D. S. King of LaHabra, California. They own the Yuma Copper mine east of Bouse and the 79 Mine near Hayden, which they optioned to Kennecott. Pilz stated that Kennecott has done some drilling, but he does not know whether or not they intend to exercise the option. The Yuma mine is inactive at present.  
10-10-67

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Bear Creek at the Chillito Mine - also studying the 79 mine. FTJ WR 1-26-68

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Dan King at ACM Corp. said they no longer have lease option on the 79 Mine. He thought Inspiration had it under option. FTJ WR 10/17/69

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KAP WR 6/20/80: Mrs. John Mediz reported that she and her husband have leased the 79 Mine, Gila County, from Inspiration and are mining mineral specimens. The lease includes the right mine ores or sublease the mine.

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AWB WR 7/26/80: Wayne A. Thompson of Southwest Minerals Associates, 1723 East Winter Drive, Phoenix, Arizona 85020, phone 944-6567, reported Southwest is currently working the 79 Mine.

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NJN WR 7/1/83: Art Bloyd reported that John Mediz of Globe is working the 79 Mine, Gila County, for specimens. Minerals being produced include hamimorphite, aurichalcite, chrysocolla, and malachite.

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HM WR 4/8/88: A report on the 79 Mine, Gila County was obtained for inclusion into the file. A polymetallic skarn is reported to contain .01 - .04 opt Au, 2-5 pt Ag, 7-20% Pb, 1-14% Zn, and .22% Cu in 17 million tons of ore. Inspiration Consolidated Copper Co. currently holds a lease on the mine from Banner Mining Co. The mine is subleased to a mineral specimen collector. Mr. James Lundy, Senior Process Engineer with Inspiration was contacted by phone. Mr. Lundy indicated that Inspiration probably would not continue to hold the property since it is, for the most part, a lead-zinc deposit and therefore not the type of property that Inspiration usually develops. He added that they had evaluated the 79 Mine for gold potential sometime ago but the data will be reviewed.

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Active Oct. 1961

Active Feb. 1962

Mr. Goetz stated that they had cleaned up the mine and installed pumping facilities to handle the water coming into the bottom level. Much experimentation has been conducted with the vein to making separate copper, iron, zinc, and pyrite concentrates. Dow Chemical Company's research department has been cooperating with Grissom and Goetz. Mr. Goetz also stated that Kennecott geologists had examined the mine recently and had submitted a tentative proposition to him. He has made no decision as yet. The heavy pyritic ore in places carries 1 to 1½ percent copper and sometimes carries good zinc. Memo LAS 7-12-62

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Active Oct. 1962

Mr. Goetz reported that the 79 was active throughout the first quarter of 1963 doing development work and mill experimentation. The 700 and 800 levels were cleaned up and a new drift on the 800 level struck heavy pyrite containing 11-12 percent zinc, \$3-4 in gold and 5 ounces silver per ton, and a few percent of lead. He said they had installed a new experimental and chemical laboratory. In the mill Grissom is trying to find means of making a better recovery from mixed lead oxidized minerals, galena and sphalerite. Some time back 50 tons of the massive pyrite was tested by Kennecott in their LPF plant and it was satisfactory, but they would not pay enough for it. 3 men besides Grissom are now employed full time, along with 2 part time men. Goetz said that he was presently negotiating with Kennecott and Atlas Minerals Co. (Charlie Steen) for the sale of the property. He will not sell unless they offer more money, since he does not need to. He said that Bear Creek was drilling on the Toledo Group adjacent to the 79 Group. Memo LAS 4-10-63

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Active Mine List Oct. 1963 - 4 men working

Charles E. Goetz, who owns the 79 mine near Hayden was in for recommendations as to whether he should purchase a Longyear or Joy drill rig. He plans to do some exploratory work at the 79 mine and on two other prospects (held by J. Pogue and the La Rucca Group) LAS WR 4-23-64

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79 mine developing - same crew working. FTJ WR 1-28-66

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Conference with Con Pilz - Aguila

Pilz reported that Dan M. King, 2318 W. Whittier Blvd., La Habra, California, had optioned the 79 from Callahan Lead and Zinc Co. This mine was previously operated by Charles Goetz of Phoenix, and most of this work was exploration. Memo LAS 2-14-67

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over lay  
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79 ~~XXXXXXXXXX~~ MINES

GILA COUNTY, ARIZONA

MILS # 10A-C

RECEIVED  
APR 18 1988  
DEPT. OF MINES &  
MINERAL RESOURCES

**79 AND CHILITO MINES  
GILA COUNTY, ARIZONA**

**EXPLANATION**

Qal	Alluvium	}	QUATERNARY
QTg	Gila Conglomerate	}	TERTIARY AND QUATERNARY
qp	Quartz porphyry dike	}	TERTIARY
qdp	Quartz diorite porphyry		
Ka	Andesite	}	CRETACEOUS
Pn	Naco Limestone	}	PENNSYLVANIAN
Me	Escabrosa Limestone	}	MISSISSIPPIAN
Dm	Martin Limestone	}	DEVONIAN
Ca	Abrigo Formation	}	CAMBRIAN
db	Diabase	}	PRECAMBRIAN
p&t	Troy Quartzite		
p&m	Mescal Limestone		

 fault

Skarn

PORPHYRY COPPER PROBABILITY STUDY  
OCCURRENCE DESCRIPTION OUTLINE

I. SULFIDE SYSTEM

A. Name 79-Mine County Gila State Arizona

\*B. Length: Exposed 1000 ft; Extrapolated 2500 ft.

\*C. Width: Exposed 1000 ft; Extrapolated 2500(?) ft.

\*D. Azimuth of Elongation 80 °; Sulfide Concentration \_\_\_\_\_ Vol. %

\*E. Capping (circle one for each)

Oxidized Capping	<u>yes</u>	no		no data
Leached Capping	yes	no		<u>no data</u>
Intensity in Outcrop	subtle	apparent	obvious	<u>no data</u>
Color	red-brown	<u>maroon</u>	bleached-yellow	no data

\*F. Absolute Age (m. y.); Min. \_\_\_\_\_; Max. \_\_\_\_\_; Average \_\_\_\_\_  
Relative Age (bracket): (62 m. y.)

\*G. Drillholes

1. Maximum Depth 1602 ft.

2. Comments BCMC drilled hole CC#3 to 1602 feet which adequately  
tests property proving 79-Mine area does not contain a large  
tonnage PCD.

\*H. Geologic Setting (age, host rocks, intrusive relationships, oldest to youngest formations, contacts, alteration halo to core zone).

Irregular pod-shaped contact replacement sulfide bodies of Pb & Zn with minor Cu are formed in skarn alteration in Paleozoic limestones adjacent to a quartz diorite porphyry stock and ENE granitic dikes. Pb-Zn oxide ores were shipped from 1879 to 1948.

I. Reference:

Caviness, C. R., 1968, Final report 79-Mine, Gila Co., Arizona:  
BCMC rept., July 2, 1968.

\*Note: See Rules and Conventions.

Sulfide System Name 79-Mine

II. Diagnostic Reconnaissance Characteristics

A. District Prospect Zoning Outside of Sulfide System

1. Prospects/Mines

Metal/Type	Min. Diam. (feet)	(M) Mines (P) Prospects	Rock Types	Deposit Types
Cu	6000	M	Precambrian diabase & lime-stone	contact replacement
Pb-Zn				
Ag-Au	1200	P	Cretaceous andesites	vein
Mn				
Other				
Other				

B. Dike Swarms

Rock Types	granite porphyry			
Length (ft.)	6000			
Width (ft.)	8000			
Azimuth (°)	60			
Age	mineral			
* Spatial Rel.	11 elong. sulfide system			
Contacts				
Other				

\*C. Important Regional Structures (other than dike swarms)

Type	normal faults			
Length	5000			
Azimuth (°)	60-70			
Recognition Factors	invaded breccias along edge dikes			
Age	premineral			
Spatial Rel.	mineralizing dikes follow faults			
Contacts	broken			
Other				

\*D. Other Reconnaissance: (See back of page)

Sulfide System Name 79-Mine

III. Center of Mineralization (zone of best copper)

A. Name no name

\*B. Copper Mineralization

1. Type	*%	Av. Grade	Rock Type	*Other Data
a. Primary				
b. Enriched				
c. Skarn (replacement)	100	1.0	skarn	oxidized
d. Oxide				
e. Mixed				

2. Current Mineral Inventory

a. Tons 17x10<sup>6</sup>; Av. Grade 0.22 Cu %; Cutoff 0.05 Cu%

b. Other Credits Pb & Zn

3. Past Production

a. Tons 1x10<sup>5</sup>; Av. Grade 1.0 %; Cutoff     %

b. Other Credits 7-20% Pb; 1-14% Zn; 2-5 oz. Ag/T; 0.01-0.04 oz. Au/T

C. Cover

1. 20 % Exposed at time of discovery

2. Projected Post Mineral Cover

a. Thickness (ft.) Zero - 100

\* b. Formations Tertiary alluvium

\* c. Estimated  $\Delta$  elevation of base of cover to top of cc blanket (ft.)     

0 (no cc)

3. Premineral Cover

a. Thickness (ft.) none

b. Formations

Sulfide System Name 79 Mine, Gila Co., Arizona

IV. Aeromagnetic Expression of Sulfide System or Mega-District

A. Type Magnetic high

B. Magnitude 310 Gammas, Line Spacing 1/3 mile  
Clearance 1000' AT

C. Source

1. Length 11,000 ft. Width 4,000+(?) ft. Azimuth N 85° E.

2. Susceptibility 1500-2000 x 10<sup>-6</sup> cgs.

D. Diagnostic Character WITHOUT Geology Weak to moderately magnetized  
intrusive, 0-300 feet deep, considerable depth extent.

E. Diagnostic Character WITH Geology Complex intrusive system into  
Paleozoic sediments. The 79 Mine deposit lies just within the  
southern margin of the magnetic source.

F. Other Geophysical Expression \_\_\_\_\_

G. Reference:

Andrews, R. K., 1970, Saddle Mountain aeromagnetic survey, Gila, Pinal, and Graham Counties, Arizona, preliminary interpretation: KEI-GDO.

H. Comments on Quality of Data:

**DEPARTMENT OF MINERAL RESOURCES**  
**State of Arizona**  
**MINE OWNER'S REPORT**

Date August 8, 1980

1. Mine: Seventy-Nine (79) Mine
2. Location: Sec. 28 Twp. 4S Range. 15E Nearest Town. Winkelman Distance. 3 1/2 Mi NW of  
road. Winkelman on private road then  
Direction. NNE on mine Nearest ~~RR~~ Dripping Springs Area. Distance.....  
Road Conditions..... Good road.
3. Mining District and County: Banner Mining District - Gila County
4. Former Name of Mine: ?
5. Owner: ~~Mr & Mrs John Mediz~~ Inspiration Consolidated Copper  
Address:.....
6. Operator: Mr & Mrs John Mediz  
Address: Copper City Rock Shop, Phoenix
7. Principal Minerals:.....
8. Number of Claims: Lode..... Patented..... Unpatented 26 claims  
Placer..... Patented..... Unpatented.....
9. Type of Surrounding Terrain: Fairly steep hills at the SW slope of Mescal Mtns.
10. Geology and Mineralization: various mineral specimens.

MR & MRS MEDIZ REPORTED TO DMR PHOENIX OFFICE THAT THEY HAVE LEASED THE 79-MINE  
FROM INSPIRATION CONSOLIDATED COPPER CO. TO PRODUCE MINERAL SPECIMENS AND GEM MATERIAL  
THIS LEASE INCLUDES THE RIGHT TO MINE ORE OR TO SUBLEASE THE MINE (per Ken Phillips  
6/20/80 Weekly Report) THE MEDIZ'S ALSO REPORT THAT THEY HAVE CONTRACTS WITH  
INSPIRATION CONSOLIDATED COPPER TO PRODUCE MINERAL SPECIMENS AND GEM MATERIAL  
FROM ALL OF INSPIRATION HOLDINGS IN ARIZONA.

11. Dimension and Value of Ore Body:.....

Please give as complete information as possible and attach copies of engineer's reports, shipment returns, maps, etc. if you wish to have them available in this Department's files for inspection by prospective lessors or buyers.

12. Ore "Blocked Out" or "In Sight":.....  
.....  
.....

Ore Probable:.....  
.....  
.....

13. Mine Workings—Amount and Condition:.....

No.	Feet	Condition
Shafts.....		
Raises.....		
Tunnels.....		
Crosscuts.....		
Stopes.....		

14. Water Supply:.....  
.....  
.....

15. Brief History:.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....

16. Remarks:.....  
.....  
.....  
.....  
.....

17. If Property for Sale, List Approximate Price and Terms:.....  
.....  
.....

18. Signature:.....  
.....



DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA  
FIELD ENGINEERS REPORT

Mine 79 Mine

Date May 18, 1961

District Banner District, Gila Co.

Engineer Lewis A. Smith

Subject: Interview with Mrs. Norman C. Grissom.

Mrs. Grissom wanted information on lead-zinc programs or legislation. She was appraised of the present proposal before Congress (S.1747), but that it was uncertain as to when and if such legislation might materialize.

ed

She report/ that Grissom had 5 men developing a new galena find which thus far looks very good. The find lies under the present open pit.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA  
FIELD ENGINEERS REPORT

Mine 79 Mine Date January 20, 1961  
District Banner District, Pinal-Co. Gila County Engineer Lewis A. Smith  
E.  
Subject: Conversation with Charles/Goetz, lessee - 1-20-61.

Mr. Goetz stated that their mill was operating and that one 30 ton car of concentrates was shipped while lead was at 12 cents per pound. The concentrates ran 62% lead, 3 ounces of silver and \$1.50 in gold per ton. Roseveare of the Arizona Bureau of Mines is now experimenting with the separation of molybdenum from the lead concentrate. Three men are now employed. Their recovery is very good, but they hope to better it somewhat.

The plant besides the usual crushing circuit, contains tables and flotation cells. It is hoped that eventually a series of cells will be installed so as to make recovery of copper, zinc, lead, and molybdenum possible.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA  
FIELD ENGINEERS REPORT

Mine 79 Mine

Date January 19, 1961

District Banner District, Gila County

Engineer Lewis A. Smith

Subject: Mine and mill visit with N.C. Grissom.

Location: S 21, T 4 S, R 15 E, ( $2\frac{1}{2}$  miles from Hayden Junction - to NW and thence 4 miles north by graded road).

Owners: Callahan Zinc-Lead Company, Inc. See - Callahan Mining Corp. (card)

Lessee: Charles E. Goetz, S-27th Ave., Phoenix (Box 2228) Home  
Office (P.O. Box 126 - Tolleson, Arizona)  
Telephones: (BR 6-2246 and WE 6-3721)

Superintendent: N.C. Grissom, Box 79, Hayden

Work: The mine is entered through a 600 foot inclined shaft which pitches eastward at about 70 degrees. Three deeper levels, the 5th, 6th and 7th levels are located at approximate vertical depths of about 300, 420 and 500 feet respectively. The 6th and 7th levels are largely in sulphides to the south and oxides to the north and nearly all stoping above this has been in oxidized areas with some residual sulphides. The four upper levels are at variable intervals. The 6th level has several hundred feet of drifts and some short crosscuts and the 5th level has more than 300 feet of drifts and similarly a number of crosscuts. The stopes are generally discontinuous because the ore lenses were originally so. The stopes stretch over a length of over 600 feet along the east side of the north dike and extend locally along shear fractures to the south dike. The surface area north of the shaft has now been developed into a small open pit 100 feet long, 75 feet wide, and about 45 feet deep on the north face. The entire area is honeycombed by numerous small burrowlike stopes which were apparently wormed along sinuous high-grade lenses. The pit ore now averages 10% lead, as mined. One of the principal orebodies outcrops in this area, which is about 100 to 175 feet north of the shaft and lies under a strong iron-silica gossan which apparently is superimposed on epidotized shaley limestone. The host rock consists of impure Naco limestone (Pennsylvanian) with alternate layers of shaley and siliceous strata which dip 25 to 35 degrees south and strike about N 75 degrees E. The mineralization now being worked appears to be about 50 feet thick and from the indicated gossan may extend for several hundred feet along the strike and could extend in variable sinuous veins and lenses to the south for 250-300 feet or to the south dike. The north dike material in the immediate area is rhyolite porphyry, but north of the north dike at a distance of 600 feet a monzonite porphyry dike parallels the north dike. In between the two dikes a fault with a vertical displacement of 185 feet displaces the formation upwards on the north side of the fault. The second largest orebody within the thin bedded-limestone-shale series in the "Massive Pyrite" orebody lies immediately east of the main (with the up-throw on the southside) fault which displaces the orebody on the west between the 5th and 6th levels and fades out within 175 feet eastward in the limestone. On the 6th level, thin shaley calcareous beds, dipping approximately 45 degrees south have been replaced by massive pyrite accompanied by spongy silicification, as vuggy quartz. The pyritic orebody extends south to the "79" dike (composed of quartz diorite porphyry) northward to the south dike (composed of monzonite porphyry) and vertically from about 50 ft. below the 6th level to 15 feet above that level. The "79" dike downthrown segment on the south side of the fault is probably below the present mine workings. An attempt to market the massive pyrite to Kennecott for their acid plant, so far has failed to materialize,

## 79 Mine (continued)

but because of the short haul, as compared to that to the Magma mine, the pyrite may eventually be sold to them.

The oxidized mineralization occurs mainly against the north dike, appearing to be far more concentrated along the south border. A series of transverse and roughly parallel shear faults at various distances apart (30 to 75 feet) trend generally north and dip variably (near to vertical). These apparently control solution movements, the solutions apparently moving in from the south or southeast. Vein type replacements along these have formed lenses, which are usually discontinuous. Most of the ore in recent years has come from these although some lenses were located in the dike and to the north of it. Mr. Grissom states that most of the ore is on the east side. George A. Kiersch describes these and structural controls on pp 76 and 77 of Arizona Bureau of Mines Bull. 158 (Part II) ("Arizona Zinc and Lead Deposits") July 1951.

The principal sulphide minerals are pyrite, galena, chalcopyrite and quartz. Covellite and chalcocite are minor, the latter being mainly observed with sphalerite. The oxidized minerals include anglesite, azurite, brochantite, cerussite, chalcantite, limonites, malachite, manganite, melanterite, psilmelane, wulfenite, vanadinite (uncommon) and some plumbojarosite. Wulfenite was found sparingly in blebs or pods except on the 4th level near the main fault. Manganese is common between the second and fifth levels. Anglesite appears to be prevalent throughout the oxidized zone, although cerussite is the principal oxidized lead mineral. Some mixed sulphide and oxide ores were mined profitably (shortly after World War II). These contained lead, zinc, copper and silver. The present ore contains some silver and pods of sulphide (mainly galena) but oxides are predominant.

The mine is being worked toward the east face of the Pit. Loading is done by front loader into a 5 yd. truck. The distance from the pit to the mill bin is about 450 feet. Drilling is done by means of Denver Jackhammers. The ore shatters well and to small size. The toe holes are nearly horizontal and 6-10 feet deep.

The mill consists of an ore bin which feeds a 24-inch jaw crusher (Blake Type) where it is reduced to 1/2 inch. The crushed material is passed over a 10-mesh screen to eliminate the fines which carry good values. The oversize is routed to a Tornado impact machine, which on the first pass moves at 1400 revolutions. The discharge is screened to again remove the minus 10-mesh. The oversize is returned to the Tornado machine and reground at 1800 revolutions. The discharge is again passed over a 10 mesh screen and the oversize (mostly relatively barren quartz) is discarded, since it runs less than 0.40 percent lead. The fines, all minus 10 mesh, from the three screenings are channeled to a Denver ruffer Wilfley Table which separates about 45 to 50 percent of the lead values. The waste discharge is sent to a 30 x 54 inch Denver ball mill and ground to 60-65 mesh. Classification is done by a rake classifier. The mill discharge is sent to a cleaner Wilfley table where an additional 10-15% of the lead is extracted. The discard is sent to a battery of 6 Denver flotation cells where another variable percentage of the lead is extracted (this largely recovers finely divided sulphides). The flotation and Wilfley concentrates are combined and dried in vats. A thickener recovers much of the water after filtering. Extraction is calculated at about 90 percent. Power is furnished by a Fairbanks-Morse 110 horizontal diesel engine directly connected to a Westinghouse

79 Mine (continued)

generator. A motor driven compressor furnished air to the mill and pit by means of pipe lines.

Recently a 30-ton car of concentrates was shipped to El Paso. This ran about 62% lead and 3 ounces of silver and a little gold.

The operation is worked on an alternate mill and mine operation. The mill is now idle but the pit is being worked. Three men are employed, full time, and 1 or 2 men do weekend work. The recent drop in lead price has caused the operation to be considerably curtailed.

It was suggested that certain gossans similar to the one over the pit area, be core drilled and sampled down dip. Once the orebodies are outlined, a systematic mining plan can be developed. The proposal to increase the mill size would be dependent upon adequate reserves. The drilling should determine whether such reserves are definitely available. A plan of systematic drilling was tentatively worked out with Mr. Grissom, on multiple hole plan from single setups.

The geological map of the area is shown on p 68 of Bulletin 158, Arizona Bureau of Mines (1951).

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA  
FIELD ENGINEERS REPORT

Mine ✓ 79 Mine

Date June 1, 1960

District Banner District, Gila County

Engineer Lewis A. Smith

Subject: Interview with Charles E. Goetz (Lessee)

Owner: ✓ Callahan Lead & Zinc Co., 100 Park Avenue, New York 17, New York (since 1950).

Lessee: ✓ Charles E. Goetz, S 27th Avenue, Phoenix, Arizona (P.O. Box 2228) (WE 6-3721)  
(present operator).

Supt.: ✓ N. C. Grissom, Box 79, Hayden

Mr. Goetz stated that a new mill has been built for treating the ore from an open pit at the 79 mine. The pit is equipped with a Gardner-Denver 1 yard trackscavator, two 5 yard trucks, Ingersal Rand drills, and an Ingersol Rand compressor. The mill consists of: -

1. Crusher (jaw type)
2. Marcy Ball Mill
3. 3 Wilfley tables
4. Impact crusher
5. Multiple screens
6. Marcy rod mill
7. Denver flotation cells

The mill will treat 20 tons per hour, or 160 tons per day. The mill heads run 3-5% lead, 12% zinc and small amounts gold, silver and copper. The concentrates run 60% lead, 3-4 oz. of silver and \$1.75 in gold. It is hoped that 4-5 tons of concentrates will be recovered per day.

Geology: The geology is described in Arizona Bureau of Mines Bull. 158, pp 67-81 ("Arizona Zinc and Lead Deposits"). This reference is to a thesis by George A. Kiersch, University of Arizona (1947).

Mr. Goetz said that from the 600 ft. level down there is a massive pyritic replacement and it is hoped that eventually this pyrite can be sold to Kennecott. However, at present costs, the mining of the pyrite, to meet the offered price, could not be done profitably. Therefore, it is planned to work with the oxidized lead-zinc ores down to the 4th level.





P.O. Box 1  
Winkelman, Ariz

Phoenix, Arizona  
October 4, 1957

TO: ARIZONA LEAD-ZINC PRODUCERS

The Emergency Lead-Zinc Committee filed a formal petition with the Tariff Commission on September 27th and it needs the support of all producers of these metals.

Mr. C. E. Schwab, Chairman of this industry committee has requested the information listed on the questionnaire below, which we ask you to fill in and return to us as soon as possible. Your very prompt answer is urged because the information must be assembled and forwarded for use within the next few weeks.

We thank you for your immediate attention.

Yours very truly,

*Frank P. Knight*

FRANK P. KNIGHT, Director

LEAD-ZINC QUESTIONNAIRE

October 7 1957.

Do you approve of the Emergency Lead-Zinc Committee's seeking relief for the lead-zinc industry and has it your authorization to speak for you? Yes

What Arizona Mines and Mills in the lead-zinc class do you control?

(1) " 79 Mine "

(2) \_\_\_\_\_

Which ones are operating? (1) None (2) \_\_\_\_\_

If not operating, when shut down? (1) August 57 (2) \_\_\_\_\_

Number employed, prior to shut-down, in mine, mill or sections thereof producing lead or zinc ores? (1) 8 (2) \_\_\_\_\_

Number so employed on January 1, 1957? (1) 11 (2) \_\_\_\_\_

Number so employed on October 1, 1957? (1) 0 (2) \_\_\_\_\_

Remarks Not able to operate, and make expense

*Note in 1929 this property was the leading Lead producer of the State.*

Grisson Mines Inc

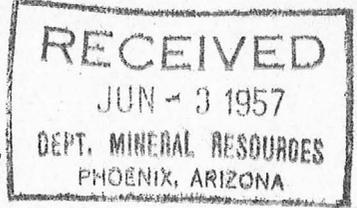
Company  
Lessee of 79 mine

By: W. B. Grisson Pres & Gen Mgr  
Signature

Please fill in NOW, tear off, and mail to:

Arizona Department of Mineral Resources  
Mineral Building, Fairgrounds  
Phoenix, Arizona

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
FIELD ENGINEERS REPORT



Not for publication

Mine 79 Mine

Date May 23, 1957

District Banner District --- Gila Co.

Engineer Axel L. Johnson

Subject: Present Status. Not visited. Information from Gordon Wainwright.

Referances Reports of June 19, 1953, Sept. 24, 1954, and Jan. 24, 1957.

For Location, Number of Claims, Owners, Lessees, and Principal Minerals, see report of Jan. 24, 1957.

Present Mining Activity Mine is, at present, idle. Mr. N. C. Grissom, of Grissom Mines, Inc., lessees, is, however, reported to be doing some repair work on the mill.

Past History See report of Sept. 24, 1954. Items (1), (2), (3) & (4).  
Addendo. (5) Inspiration-Anaconda reported by Mr. Wainwright as exploring the property by means of diamond drilling on an option acquired direct from the Callahan Zinc and Lead Co. (owners), some time in summer of 1956. Diamond drilling was reported to have started in August, 1956, and discontinued in March or April, 1957. Option by Anaconda-Inspiration was reported as cancelled about 6 weeks ago (about April 10, 1957). Two or more diamond drill holes of depths of 2,000 ft. of more ~~is~~ <sup>are</sup> reported to have been drilled.

1  
DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
FIELD ENGINEERS REPORT

Mine 79 Mine

Date Jan. 24, 1957

District Banner Mining District -- Gila Co.

Engineer Axel L. Johnson

Subject: Mine Report. Information from Gordon Wainwright. No visit.

Location Secs. 21, 22, & 23 -- T 4 S - R 15 E. Drive on Highway # 177 for 1 mile N. of Hayden Jct. Turn right and drive NE for a distance of 4 miles to the mine.

Number of Claims 26 unpatented claims.

Owners Callahan Zinc and Lead Co., 100 Park Ave., New York City.

Lessees Grissom Mines, Inc., P. O. Box 1, Winkelman, Ariz. Belief was expressed by Mr. Wainwright that this lease is subject to cancellation in the event that the owners sell the property to another company who wishes to operate the mine.

Principal Minerals Minerals in the old mine workings (660 ft. deep on 55 deg. incline) is lead and zinc ore, almost all oxides. The lead ore is in the form of cerussite, with some anglesite. Also a very small part of wulfenite and vanadinite is found. There is a small amount of sulfides on the lower levels of the mine.

Present Mining Activity Exploration work, consisting of drilling by Inspiration-Anaconda joint venture by an option from the Callahan Zinc and Lead Co.

Geology See report of Sept. 24, 1954.

Ore Values See report of Sept. 24, 1954.

Ore in Sight See report of Sept. 24, 1954, (discounting Mr. Grissom's estimate of the amount of broken ore in the old stopes).

Probable Ore See report of Sept. 24, 1954.

Milling Facilities See report of Sept. 24, 1954. Milling equipment is, for the most part obsolete and in need of repair, and inadequate for a large operation.

Present Mine Workings See report of Sept. 24, 1954.

Past History See report of Sept. 24, 1954.

Present Mining Operations Inspiration-Anaconda now exploring the property on option direct from the Callahan Zinc and Lead Co. Boyle Bros. is doing the drilling. One drill rig is now operating, but the plans call for starting another drill rig on the property. Drilling was started in August, 1956

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Page 1.

Mine 79 Mine

Date Sept. 24, 1954.

District Banner Mining Dist., Gila County.

Engineer Axel L. Johnson

Subject: Field Engineers Report. Information from N. C. Grissom and Personal Visit.

Location Secs. 21, 22, & 28 --- T 4S -- R 15E. Go about 1 mile NW of Hayden Jct. to Burns Siding. Turn right and go straight north for a distance of 4 miles to the mine.

Number of claims 26 unpatented claims.

Owners Callahan Zinc and Lead Co., 100 Park Ave., New York City.

Lessees Grissom Mines, Inc., P. O. Box 1, Winkelman, Ariz.

A closed stock corporation, with N. C. Grissom and Mrs. Grissom owning 52 % of the stock. Grissom Mines, Inc. has a 10 year lease, with 9 more years to run. It is a straight lease with option to renew. It calls for 10 % royalty of the net smelter returns.

Officers N. C. Grissom, manager, P. O. Box 1, Winkelman, Ariz.

Principal Minerals Lead and Zinc ores, <sup>almost</sup> all oxides. In some parts of the mine, the ore is predominantly lead, and in other parts of the mine, it is predominantly zinc. Operator expects to ship mostly lead concentrates, but may have some zinc concentrates. The majority of the lead ore is in the form of cerussite, with some anglesite, and a very small part wulfenite and vanadinite. Some sulphides in spots, particularly in the lower levels.

Number of Men employed 2 (Mr. Grissom and one millman on mill construction.)

Production Rate No production at present, as mine and mill is not yet in operation.

Geology Limestone replacement, with some replacement in rhyolite porphyry. Ore occurs in lenses. Ore lenses are from 4 to 50 ft. wide, averaging about 20 ft. in width. Length of the ore lenses would average about 150 ft, and the depth of same about 300 ft. The ore lenses pitch quite consistently about 55 degrees.

Ore Values Mr. Grissom estimates that the broken ore remaining in the old stopes will average about 10 % in lead. He bases this estimate on 180 samples taken on same.

Ore in Sight A few thousand tons of 10 % ore (conservative estimate about 3,000 tons.)

Broken ore in stopes Mr. Grissom states that an engineer by the name of Dan King\* spent about one week estimating the tonnage of milling ore that is now broken in the various stopes. He states that Mr. King's estimate was 1,000,000 tons in the 24 stopes measured, and that this broken ore in the stopes assayed an average of 10 % lead from 180 samples taken. Zinc and copper was not run on these samples. Mr. Grissom, however, has no figures to show to substantiate this estimate, and no copy of the assays made, and neither has he a copy of Mr. King's report. He claims that this ore was broken by the former operators of the mine in order to get at the high grade ore, which they shipped directly to the smelter. This ore, being too low grade for direct shipping, was left in the stopes by the former operators. He indicated, however, that some of the material in these stopes may be backfill or waste. I saw a couple of these stopes, which were partly filled, and contained low grade lead-zinc carbonate ores. (*\*Dan King, Consulting Engineer - Feb. 1952.*)

Probable Ore The ore along the drifts, I would judge, runs all the way from 5 to 12 % in lead and zinc values. In some places it is mostly lead, and in other places it is more zinc.

## DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

## FIELD ENGINEERS REPORT

page 2.

Mine 79 Mine

Date Sept. 24, 1954.

District Banner Mining Dist., Gila County

Engineer Axel L. Johnson

Subject: Field Engineers Report. Information from N. C. Grissom and Personal Visit.

Probable Ore (continued) Mr. Grissom has a map of the mine, but there are no assays shown on this map, and he has no records of any such assays. However, he has a large number of assays on ore specimens, which are numbered, and a sample of the ore kept in small card board boxes. These are all specimen assays, and have no value in estimating the probable amount of ore in the mine. Without knowing what the ore in the drifts of the mine assays in lead and zinc, it is extremely difficult to make any kind of an estimate of the amount of probable ore. All that can be said is that it seems to be considerable in amount.

Milling Facilities Mr. Grissom has renovated ~~and~~, remodeled and repaired the old mill on the property, adding new machinery wherever it is necessary. The mill is now ready for operation, but the water supply is wholly inadequate. Mr. Grissom is now working on an old pipe line, about 4 miles long from a well at the Gila River, which he claims will supply sufficient water for the milling operations. The well is 32 ft. deep with the water level at 12 ft., and Mr. Grissom estimates that the well, pump and pipe line, when repaired, will supply the mill with 35 g.p.m. of water. The pump and pipe line is still in need of considerable repair work, and Mr. Grissom wishes to loan some money to complete this. The mill has a capacity of 50 tons per day, which Mr. Grissom hopes to increase to 100 tons per day, and later to be able to add flotation units. Mr. Grissom states that Vern Given, former mill superintendent at the Tiger Mine, made some mill tests of his ore about 2 or 3 years ago, and the results of these mill tests indicated at least 50 % recovery on all the grades of ore in the mine. Mr. Grissom, however, has no figures on these various mill tests. The mill tests were made by running the ore over tables, with about the same kind of milling equipment that is now installed at Grissom's mill.

Milling equipment and operation is as follows: Ore is dumped into a 6 ton ore bin, and then passed to a jaw crusher, where it is crushed to -1 in. From there, it goes into 2--25 ton ore bins. It is then elevated by belt conveyors and elevators to a trommel, the undersize (-10 mesh) going directly to the table, and the oversize (plus 10 mesh) going to a rod mill for further grinding. From the rod mill the undersize (-10 mesh) goes to the table, and the oversize goes to waste. The table is a Wilfley table, giving 3 products, concentrates, middlings, ~~and~~ and tailings, the middlings being returned back to the rod mill for further grinding.

Mr. Grissom estimates the feed to average 10 % lead, with some zinc and a little copper, and the concentrates to run about 50 % in lead. He intends to ship the concentrates to the A. S. & R. Co. at El Paso.

Present Mine Workings

- (1) 1 inclined shaft (55 deg. incline) ----660 ft. deep on incline (~~357 ft. vert.~~)
  - (2) Approximate amount of drifts on all the levels of the mine ----12,000.
- This includes the 100ft. and 200 ft. levels not connected with the shaft, but reached by adits, the 300, 400, 500, and 600 ft. levels connected to the shaft, and the 700 ft. level reached through a winze from the 600 ft. level. The main drifts on the 500 ft. and the 600 ft. levels are each about 1,200 ft. long.
- (3) 1 winze (vertical) 100 ft. deep, connecting the 600 ft. and 700 ft. levels.
  - (4) Mr. Grissom estimates 100 stopes, 24 of which were measured and assayed as to their tonnage and ore values remaining in same.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Page 3

Mine 79 Mine

Date Sept. 24, 1954

District Banner Mining Dist., Gila County

Engineer Axel L. Johnson

Subject: Field Engineers Report. Information from N. C. Grissom and Personal Visit.

Past History

(1) From 1923 to 1935 (approx) Jamison and Peacock operated the mine as the "179 Lead and Copper Co." and sold stock in same. They mined all the sulphides they could find, and milled same in their mill on the property, using lead-zinc differential flotation and tables. There are, according to Mr. Grissom, no records of the tonnages mined, but Mr. Grissom believes that they mined and milled about 120 tons per day during a two or three year period, and also shipped about 120 tons of carbonate ores direct to the smelter per day. This would amount to about 216,000 tons of ore mined.

(2) Mine was closed down from 1935 to about ~~1940~~ 1940.

(3) From 1940 to 1945, Shattuck Denn Mining Co. operated the mine. They mined direct shipping ore, and did not operate the mill.

(4) In Aug. 1950, the mine was leased to N. C. Grissom, who incorporated as the Grissom Mines, Inc. in Nov. 1951.

Present Operations Repairing the mill and the pipe line to furnish water to the mill.

Proposed Plans Mr. Grissom wishes to borrow \$2,500 as soon as possible to enable him to repair the pump and the pipe line in order to get water to his mill for the milling operations. He states that he will be able to repair the pipe line and start operating the mine and the mill in about 2 weeks after the money is obtained.

Mr. Grissom, then, wishes to make a further loan ~~to~~ for making additions to his milling equipment. He would like to install copper leaching tanks, flotation cells, and an additional 1,2, or 3 tables. He would also like to purchase additional mining equipment, including a power locomotive, mucking machines, and a couple of slushers.

Mr. Grissom has contacted the SBA regarding a mine loan, and conferred with Gordon Boudreau of the S. B. A. Phoenix office. He states that he was informed by Mr. Boudreau that the SBA would require that he operate the mine and mill for one year and show a one year's profitable production record, before they would be able to give him a loan.

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
FIELD ENGINEERS REPORT

Mine 79 Mine

Date June 19, 1953

District Banner District ---- Gila County

Engineer Axel L. Johnson

Subject: Mine Report ----- Information from A. C. Grissom, operator.

Location Approximately Sec. 28 -- T 4 S -- R 15 E

Go on Winkelman-Ray Highway north from Winkelman. Turn right about 3 1/2 miles north-west of Winkelman on private mine road. Drive 4 miles north-north-east on this mine road. Road good.

Number of Claims 26 unpatented claims.

Owners Callahan Zinc and Lead Co., 100 Park Ave, New York, N. Y.

Lessees and Operators Grissom Mines, Inc.,  
N. C. Grissom, Mgr., Box 1, Winkelman, Ariz.  
Straight 10 % lease.

Principal Minerals Lead and Zinc (some copper in places)

Number of Men Employed 2

Production Rate None at present. Plan to start mining and milling about July 10.

Topography Fairly steep hills at the south-western slopes of the Mescal Mts.

Geology Replacements in the limestone formation along faults and fissures, near the contact with andesite porphyry.

Ore Values Lead -- 15 to 20 % (carbonates down to 400 and 450 ft. in depth)  
(sulphides start about 400 to 450 in depth)  
Zinc -- 7 to 8 %  
Copper in scattered localities.

Milling Facilities Operators are now installing milling equipment, composed of crusher, screens, elevators, table, etc., which will be used for treating the lead carbonate ores. Mill near completion, and operators expect to start operations about July 10. Enough water to run the mill is expected to be obtained from pumping from the shaft.

Mine Workings 1 inclined shaft (about 50 deg incl)-- 670 ft. deep on ~~max~~ incline. Drifts on the 200, 300, 470, 500, & 600 ft. levels. Also caved drifts on the 400 ft. level. Also a few open cuts on the surface.  
A winze, 100 ft. deep on the 600 ft. level, with several drifts from same on the 700 ft. level.

Present Operations Have been doing repair work, and some exploration and development the past few months. At present, are installing milling equipment, as shown above.

Proposed Plans Intend to start to operate about July 10, and milling the ore. Capacity of present mill about 1 ton per hour. Operators plan on mining the Lead Carbonate ores on the 200 ft. and 300 ft. levels, producing enough ore to keep the mill in full operation. If the results are satisfactory, they plan on installing a larger mill (100 or 150 tons) later on. Some of the high grade ores will not be run through the mill.  
Plan on hiring an additional 3 or 4 men, when operations start.

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
FIELD ENGINEERS REPORT  
Page 2.

Mine 79 Mine (continued)

Date June 19, 1953.

District Banner District --- Gila County

Engineer Axel L. Johnson

Subject: Mine Report -----Information from A. C. Grissom, Operator.

Past History

- (1) Owned and operated by "79 Lead-Copper Co." prior to 1931. Closed down operations in Oct. 1931.
- (2) Leased by Shattuck Denn Co. (10 year lease), who operated the mine for about 5 years (1943 to 1948), and closed down operations in Dec. 1948, giving up their lease early in 1950.
- (3) Purchased by Callahan Zinc and Lead Co. on June 1, 1950.
- (4) Leased to present operators, Grissom Mines, Inc. soon afterwards, who operated the mine, but was forced to close same down last summer, due to the low price of lead.

April 29, 1948

COPY

Mr. Thomas Bardon  
120 Broadway  
New York, N. Y.

Dear Mr. Bardon:

In accordance with your recent request, accompanied by Mr. T. Newell, I examined the 79 Mine on April 24th.

After studying the exploration and mine maps we went underground, paying particular attention to the eastern end of the sixth level. In that part of the mine, for a distance of about 500 feet along the north dike mining has been more or less continuous for ten years and has been the source of all the ore produced during that time. The ore has occurred over a vertical range of 200 feet in isolated bodies of various sizes, none really large, but the tonnage removed in that time has been impressive. The revenue from the mining of this ore has been sufficient to pay all expenses and leave a little surplus. In general, very little ore was ever in sight; it was more or less a hand to mouth arrangement. It speaks well for the management that it was possible to keep from losing money under these adverse conditions.

The entire productive ore zone, now about 1500 feet long, has shown that the ore has a quite definite trend along the dikes easterly, with some tendency to the north which is probably accounted for by the increasing amount of porphyry south of the north dike in the eastern end of the mine. That is, the ground south of the north dike was probably too hot for lead ores to be precipitated at the time of the mineralization.

No. 31 cross cut has been driven easterly about 300 feet beyond the last ore stope, and at least a couple of hundred feet beyond any signs of mineralization. Short cross cuts No. 38 and 39 show the width of the North dike and the limestone on both sides.

The Eastern end of this No. 31 cross cut is out of the mineralization that has been following the dike for a long way. Neither Newell, McKay or I believe that the eastern end of the mineralization has been reached; it is just a problem of finding it and getting back into it again. In fact the mineralization goes to the eastern boundary of the lime block, as shown by the surface iron blow-outs. No. 36 crosscut disproved the southern side of the dike, so there is only the northern side left to explore. A drill station has already been cut in No. 38 crosscut and it is planned to drill several holes from there. Two holes are to be drilled northerly, one horizontal or nearly so, the other one down so as to cut the formation at about the seventh level. The third hole will go down steeply to the south to cut the contact with the north dike, to find out

Mr. Thomas Bardon

April 29, 1948

if mineralization comes in with depth. More drilling will depend upon what these holes show. The holes were planned by Messrs. Newell and McKay, and I endorse and highly recommend this drilling.

The mining along the north dike has shown the ore occurrences to extend from the seventh to the fifth levels. The same is true of the iron mineralization which may be, but not always is an indicator of ore. The problem then is to find this mineralization that may be as deep as the seventh level, or deeper, and as high as the fifth level, or possibly but probably not higher and may have jumped northerly to the next dike. The original ore bodies hugged the South dike, then the mineralization jumped to the north dike; now it may jump north again to the next dike.

All the ground north of the north dike, with the exception of about one hundred feet next to the dike is unexplored. This ground should be thoroughly explored before any plans are made to shut down and abandon the mine.

Let us take in a little more territory in considering this north ground. The very first ore body mined before the present company acquired the property extended up to the north dike. Next, the eastern end of the main oxide ore body also extended up to within a few feet of the north dike, and during the last ten years the mining has been done on both sides and in the dike. So there is a history of ore making along this dike for 1500 feet, but the ground to the north has remained unexplored despite the fact that it is geologically favorable for ore deposition.

I called the attention of Messrs. Newell and McKay to a spot on the fifth level between the old big oxide stope and north dike where there is probably a small faulted segment of ore that has been overlooked. A couple of short drill holes will prove or disprove this. If successful it may produce a thousand tons more or less of ore that will help to pay expenses while exploration is in progress in the eastern end of the mine.

It was a pleasure to visit the 79 Mine again, and I sincerely hope that the contemplated exploration will result in finding ore and keeping the mine alive.

Respectfully submitted,  
/s/ D. C. Peacock  
D. C. Peacock

COPY

Albuquerque

May 12, 1948

Mr. Thomas Bardon, President

79 Mine

I was very much pleased to have a copy of Mr. Peacock's report on the 79 mine. I heartily agree that the north dyke, close to the lime contact has always proven to be the best place to look for ore. I never did agree with any of the former geologists that there were a series of dykes, such as the North, South, 79, Main, gulch, etc. Also, the area to the west, often referred to as the sluff or slump area, in my mind never was anything else but an area  $\phi$  cut away by simple faulting. The main fault was proven up in the shaft and by at least two drifts, one above the fifth level and the drift heading toward the slump area driven on the sixth level. I do not recall that it was ever determined just how far the slump area was displaced.

Apparently there is some question regarding the so-called east fault. It is my belief that the east fault does exist and that the movement was after the main fault action and further, the movement was more in a horizontal direction, rather than a vertical thrust. Here again I never did decide the direction the ground moved.

It is true that the mass of porphyry and limestone making up the mineralized area at the 79 mine, at the time it was laid down, was intensely hot, and volatilized many low melting point metals such as lead. For this same reason the area in the porphyry lime mass close to the limestone on the north would have chilled with greater speed and thereby trap any volatilized metal before it could escape through cracks and crevices out into the atmosphere.

It has been four years or more since I left the 79 and I am not familiar with the location of the drifts mentioned in Mr. Peacock's letters. However, I still believe that additional large and small ore bodies can be expected by further exploration to the east and parallel  $\frac{1}{2}$  with the limestone on the north of the north dyke. The Senator, Keystone and Hilltop claims out to the northeast side of the 79 group are somewhat inaccessible, but please recall that I have always advocated exploring these by diamond drill. If ore was discovered it would have be trucked to the railroad down through the Great North Gulch.

Mr. Peacock mentions the probable faulted segments of ore which fell away from the fifth level ore body. I recall these segments and the number of comments that were made regarding them by several people, miners and former operators. No doubt the ore was cut off and does exist. As I recall the reason no attempt was made to check on this before was because of the expense.

Mr. Barden

May 12, 1948

These segments should either be proved or disproved. Please recall that one segment was proven in a cross-cut drift to the right on the fifth level from the drift driven toward the northwest. The ore was mostly oxides and carbonates, and contained copper, silver and gold.

With copper at 21¢ per pound, I wonder if something could be done with the large low grade copper pyrite ore body on the sixth level. As I recall it, the average grade was better than 1% copper. Because of the increased tonnages of copper oxides and carbonates being shipped to the smelter these days, perhaps a favorable smelter contract for the 78 sulphide could be worked out. Maybe a small two man concentrator at the foot of the hill near water and power would be the answer.

Original signed by  
George A. Warner  
General Superintendent

GAW:w

cc: Mr. J. A. Wilcox  
Bisbee, Arizona

## DEPARTMENT OF MINERAL RESOURCES

TO ALL PRODUCERS OF COPPER, LEAD and ZINC IN ARIZONA:

This department and others are making strenuous efforts to bring about legislation which will help ameliorate the restrictions and difficulties faced by the producers of copper, lead and zinc, and other strategic minerals.

To assist in these efforts it is advisable that we have an authentic survey of the results of the President's veto of the Allen Bill, and the results that would take place if a new bill, such as the Russell Bill, were passed by Congress. The Russell Bill includes all strategic minerals.

While we have all learned to love questionnaires just as we love stomach ulcers, will you please give the answers in your best judgment to the following questions:

1. What was your approximate production in pounds per month for the period preceding the President's veto of the Allen Bill?

(Copper 6634 Lbs.) (Lead 103443 Lbs.) (Zinc 102985 Lbs.)

2. What has been your average production per month since that veto has affected your price?

(Copper 1334 Lbs.) (Lead 28493 Lbs.) (Zinc None Lbs.)

3. What is your estimate of your production per month for the first few months of 1948 if prices remain as they are now and no premiums are in effect?

(Copper 1000 Lbs.) (Lead 75000 Lbs.) (Zinc None Lbs.)

4. What is your estimate of production per month if some incentive plan such as the Russell Bill were in effect?

(Copper 8000 Lbs.) (Lead 125000 Lbs.) (Zinc 115000 Lbs.)

5. General remarks: above figures cover the period from  
Oct. 1947

An addressed envelope is enclosed for your convenience, but you will have to help with the stamp.

Yours very truly,

*Chas. H. Dunning*

Chas. H. Dunning  
Director

CHD:mh

SURVEY OF OPERATING MINES

DEPT. MINERAL RESOURCES

June 9, 1942

By: Fred H. Perkins

RECEIVED

✓ 79 Lead and Copper Co.

JUN 16 1942

PHOENIX,

ARIZONA

79 Lead and Copper Company

Thomas Bardon, President  
T. J. Lamond, Secretary  
Geo. A. Warner, Supt. of Mine

P. O. Box 1378, Hayden, Arizona

79 Mine

Located 3 miles west and 4 miles north of Hayden Depot.

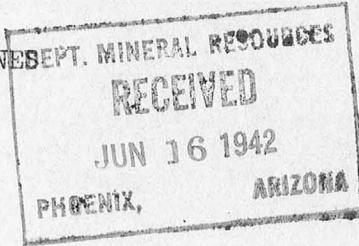
1941 Production nil. This year spent in development work. Incline shaft 600 feet deep. 5 levels. I could not get length of drifts done in this year. An average of 30 men employed during 1941.

1942 Production 130,000 lbs. of Lead  
200,000 lbs. of copper.

This ore was shipped as lead ore but Company was paid for the copper at El Paso Smelter. At present shipping 400 tons per month to mill in Bisbee, Arizona and under present arrangement they are getting settlement on all gold, silver, lead, zinc and copper content. An average of 16 men per month employed the last 4 months.

SURVEY OF OPERATING MINE

By: Fred H. Perkins



20  
June 9, 1942

✓ 79 Lead and Copper Co.

Problems:

Warner's problems are scarcity of labor and where to explore for new ore and what to expect. The present work is turning to a heavy zinc ore and whether more depth will bring in a copper mine or not, - he is wondering. Anyway, he is doing his utmost to step up production of essential metals.

79 MINE

GILA COUNTY

Hernon and Higdon made a preliminary examination of this property in October, 1937 and Hernon, Stone, and Conrow completed a more detailed study in June 1938.

The Property is developed by a shaft and is unfavorably located, being on a ridge about 1,000 feet above the Gila River. An Adit from the most favorable site to intersect the 600 level (483 feet vertically below the collar of the inclined shaft) would be 3,300 feet long.

The ore bodies are confined to very limited zone of deformation. Additional ore may be found in the downward extensions of these zones, but there seems to be little chance of developing enough ore to warrant the investment.