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ARIZONA B. MINES BULL. 145 1938

high-grade silver can be expected to extend downward more than a very few hundred feet.

Gold has been enriched residually by leaching of zinc and iron from heavy sulphide ore shoots carrying relatively low primary gold. A thin zone of very rich gold ore is reported near the bottom of the oxidized zone in several veins. This may be secondary gold. Nature of gangue, ground-water chloride ion, common presence of pyrite, and persistent though only locally abundant manganese oxides are all favorable for gold enrichment. Some gold enrichment has occurred, but how much residual and how much chemical is unknown. Such gold ore shoots have been small, but some were spectacular. Many sections of veins that are very low grade in the sulphide zone have yielded small bodies of gold ore of shipping grade from the oxidized zone.

Summary.—The Cerbat Range is an area of numerous veins with mostly small ore shoots. The excellent grade ores and fair-sized shoots of several mines indicate the area to be important and worthy of study. The great need of the present is for a good topographic map of adequate scale and for a sufficiently detailed geologic map to bring out essential features. Many problems of structure, petrology, ore occurrence, and mineralogy are unsolved. Microscopic study of ordinary sulphide ores is needed. The exact manner of occurrence of gold and silver in ores of ordinary grade should be determined.

Acknowledgments.—The writer is indebted to G. M. Fowler, of Joplin, Missouri, for direction and for the opportunity to study part of the Cerbat area. Many local people facilitated the field work and gave information.

TENNESSEE-SCHUYLKILL MINE[83]

BY S. K. GARRETT[84]

LOCATION

The Tennessee-Schuylkill Mine is at the western foot of the Cerbat Range, about 1 mile east of Chloride, in the Wallapai mining district, Mohave County, Arizona.

ROCKS

The rocks of the Wallapai mining district can be grouped as diorite gneiss, granite, quartz monzonite porphyry, rhyolite, and diabase. The oldest rock, diorite gneiss, has been intruded by granite, and both the diorite gneiss and the granite have been intruded by quartz monzonite porphyry. The rhyolite and diabase

[83] Paper prepared for, and originally presented at, the regional meeting of the A.I.M.&M.E. held at Tucson, Arizona, November 1-5, 1938.

[84] Geologist, Tennessee-Schuylkill Mine.

occur as dikes, some of which are in the same fissures as veins. In one place a diabase dike has been intruded along an earlier rhyolite dike.

Veins

The fissure veins near Chloride can be grouped according to strike. One set strikes nearly north and the other about N. 25 degrees W.: the dip ranges from 35 degrees E. at the western foot of the range to 85 degrees W. near the crest. The progressive steepening toward the crest of the range may indicate overthrusting stresses as the cause of the fissuring.

The Tennessee-Schuylkill fissure vein, which can be traced for nearly 2 miles, strikes N. 5 degrees W. and dips 85 degrees NE.

Strong gouge is present on both the hanging and footwalls of the vein. There was some movement on the fissure after the formation of the vein.

At abrupt changes in strike, there is some horse tailing of the fissure, but there are no cross fissures.

Ore Deposits

The Tennessee-Schuylkill deposits occur as a vein filling a fissure in the complex of diorite gneiss, granite, and quartz monzonite porphyry. The ore is in shoots which, above the 900-foot level, rake northward and between the 900- and 1,400-foot levels are nearly vertical (Pl. XXX).

Most of the ore shoots range from 35 to 300 feet in length and average about 5 feet in width.

Ore Controls

The different wall rocks have not influenced the deposits; the ore filling is as wide in diorite gneiss as in quartz monzonite porphyry. The only recognized control is that of strike and dip of the fissure.

The four ore shoots in the Tennesee-Schuylkill Mine (Pl. XXX) occur where the vein has changed to a more than average northwesterly strike. The ore filling is wider on steep dips than on flat dips.

The combination of strike and dip control the rake of the ore shoots. A change to a northwesterly strike on a flat dip gives a pronounced northward rake, and a change in strike on a steep dip gives a rake that varies from slightly southward to vertical.

Zoning

There is marked horizontal zoning of the ore minerals in two of the ore shoots above the 900-foot level. The north limits of these two shoots contain principally galena and gold-bearing pyrite with practically no sphalerite. As the south limits of the shoots are approached, the galena and gold-bearing pyrite decrease, and sphalerite increases until, at the southern limits of the shoots, sphalerite is the only ore mineral present (Pl. XXX).

Little is known of the
than a general decrease c
crystalline pyrite with in
a small amount of develo
no galena but considerabl

The hypogene ore mine
ing pyrite, and sphalerite.
fine-grained chalcedonic
opyrite.

Supergene ore minerals,
plumbojarosite, anglesite,
gold, and, rarely, native si
importance.

The paragenesis, determ
sphalerite, galena, pyrite, a

The sphalerite occurs as
jack." Some galena shows
of the walls of the fissure
count for the small amount

The pyrite is of two va
crystallized cubes and pyr
somewhat massive and fine
of gold per ton in the pure
so finely divided that color
pyrite concentrate.

The fine-grained chalcedo
the sulphide ore.

MONTA

BY GEO

I

A brief description of the
Montana Mine is presented
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At a later date it is hoped to
tion as well as to give furth
(Pl. XXXII).

The Montana Mine is in t
Cruz County, Arizona, 5 mile
about 30 miles west of Nogale

[85] Paper prepared for, and origi
of the A.I.M.&M.E. held at Tu

[86] Consulting geologist, Joplin,

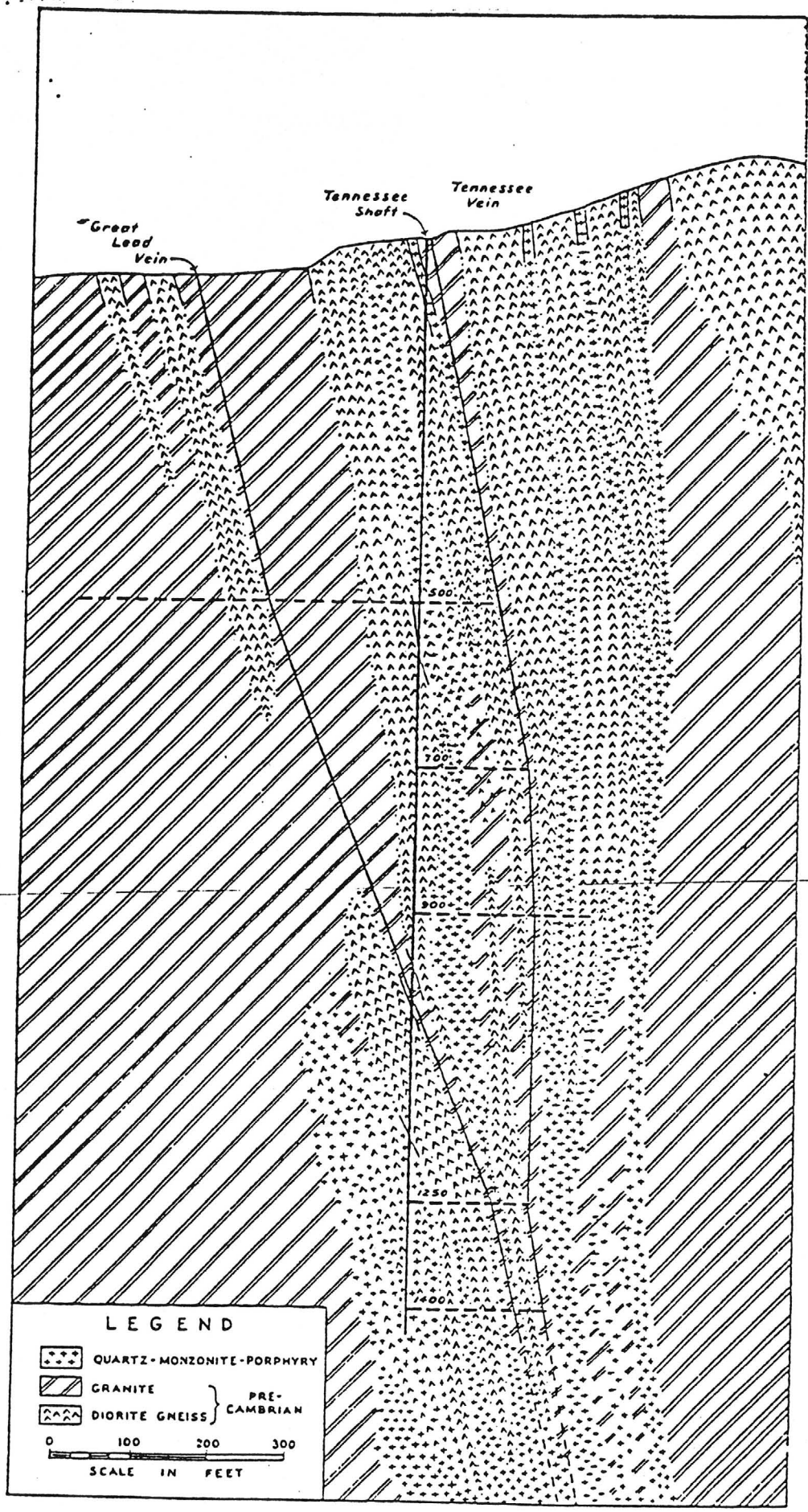
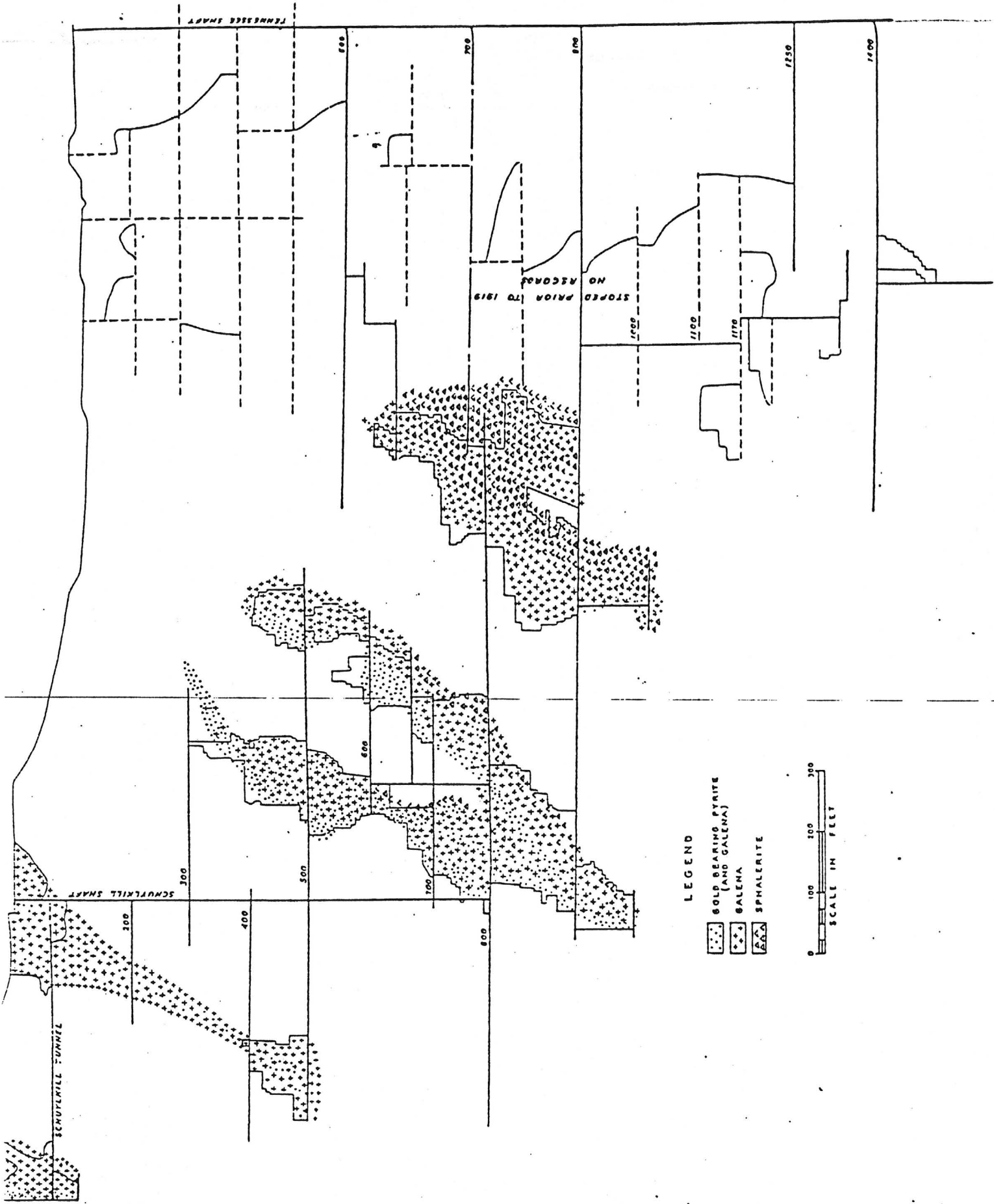


Plate XXXI.—Tennessee-Schuylkill Mine, cross section.



Little is known of the zoning below the 900-foot level other than a general decrease of galena and increase in sphalerite and crystalline pyrite with increased depth. On the 1,600-foot level a small amount of development along one of the ore shoots shows no galena but considerable sphalerite and crystalline pyrite.

Mineralogy

The hypogene ore minerals are galena, fine-grained gold-bearing pyrite, and sphalerite. The gangue minerals are milky quartz, fine-grained chalcedonic quartz, crystalline pyrite, and arsenopyrite.

Supergene ore minerals, found to a depth of about 80 feet are: plumbojarosite, anglesite, cerussite, bromyrite, cerargyrite, native gold, and, rarely, native silver. The supergene ores are of little importance.

The paragenesis, determined megascopically, is milky quartz, sphalerite, galena, pyrite, and fine-grained chalcedonic quartz.

The sphalerite occurs as older "black-jack," and younger "rosin-jack." Some galena shows a flow structure suggesting movement of the walls of the fissure after deposition. Argentite may account for the small amount of silver that the ore contains.

The pyrite is of two varieties. One variety occurs as well-crystallized cubes and pyritehedrons with no gold; the other is somewhat massive and fine grained and contains 0.3 to 15.0 ounces of gold per ton in the pure specimens. The gold in the pyrite is so finely divided that colors cannot be panned from a high-grade pyrite concentrate.

The fine-grained chalcedonic quartz occurs as fracture fillings in the sulphide ore.

Montana Mine, Ruby[85]

By George M. Fowler[86]

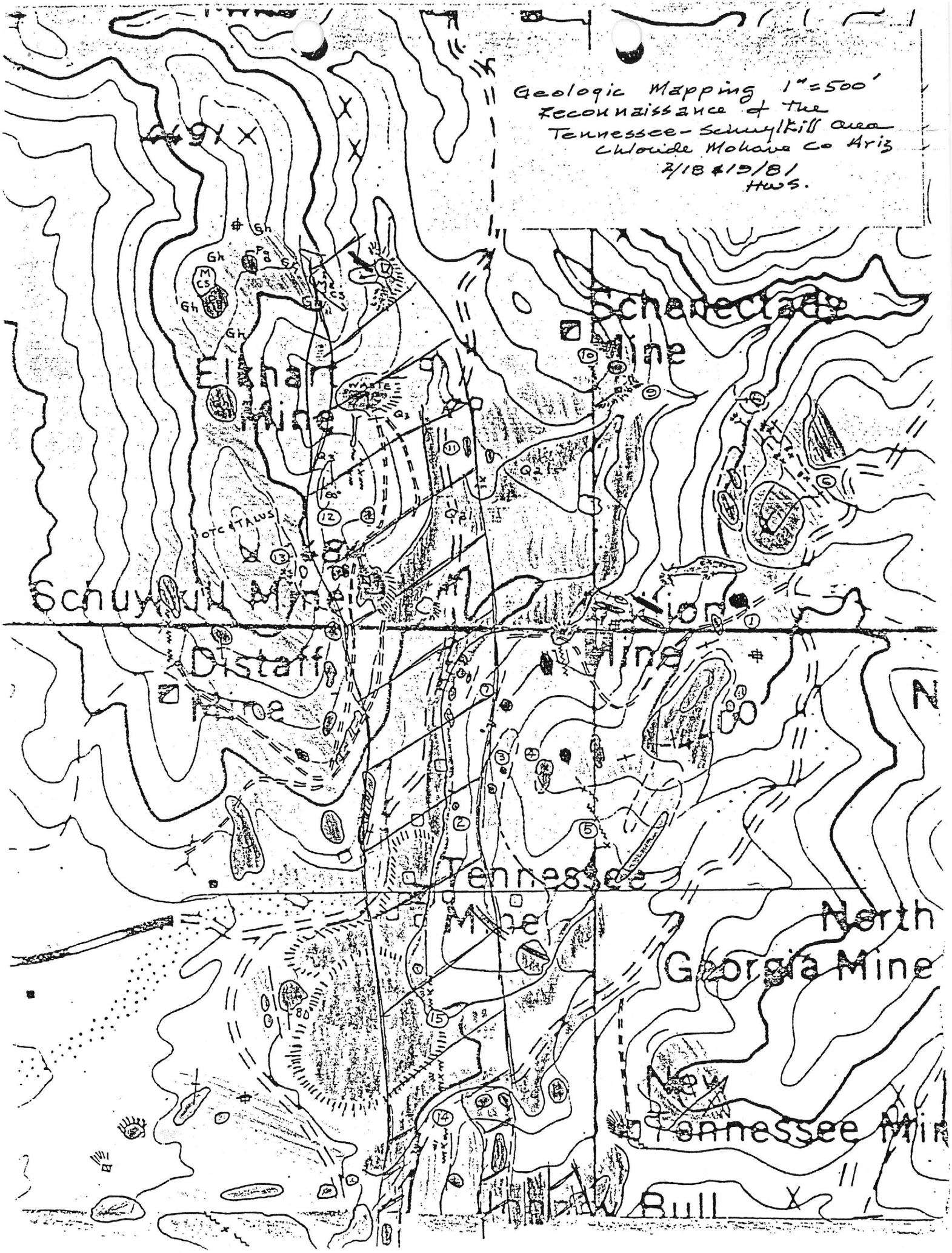
Introduction

A brief description of the geology of a limited area around the Montana Mine is presented in this paper. During the past few years a much larger area was studied in an attempt to find new ore bodies that could be worked in conjunction with this operation. At a later date it is hoped to present the results of this investigation as well as to give further details about the Montana Mine (Pl. XXXII).

The Montana Mine is in the Oro Blanco mining district, Santa Cruz County, Arizona, 5 miles north of the Mexican boundary and about 30 miles west of Nogales, Arizona.

[85] Paper prepared for, and originally presented at, the regional meeting of the A.I.M.&M.E. held at Tucson, Arizona, November 1-5, 1938.

[86] Consulting geologist, Joplin, Missouri.


Geologic Mapping 1"=500'
Reconnaissance of the
Tennessee-Schuylkill area
Chloride Mohave Co Ariz
2/18 & 19/81
HWS.
Schuylkill Mine
Distaff Mine
Tennessee Mine
North Georgia Mine
New Tennessee Mine
Bull
Gh
Pa
Qt
OTC & TALUS

HWS

GEOLOGIC LEGEND - 1"=500' MAPPING OF THE TENESSEE AREA CHLORIDE MOHAVE CO. ARIZ

2/18 & 19/81

MINERALIZATION

Veins of drusy quartz and sulfides

Zones of disseminated sulfides - mainly a dark grey sulfide that on weathering stain the rock with a yellow coating

Massive sulfide of galena and sphalerite can be found on the Tennessee & Schuylkill waste dumps.

Zones of chemical sediments and rocks rich in garnet and biotite, similar to the host rocks found with "gneiss belt" type sulfide ores.

ROCK TYPES & MAP UNITS

Alluvium & Waste Dumps

Tertiary Porphyry Dikes Feldspar porphyry with very fine grained green groundmass. Rubble outcrop. Dikes 10'-20' wide.

Country Rock or Monotonous Gneiss : feldspathic gneiss and granofels with porphyro clasts or blasts of feldspar and interstitial quartz and biotite. Bold outcrops & rubble outcrop. Outcrops may be banded-gneissic, rodded-lineated, or lacking any preferred orientation textures - granofels. In map scale the feldspathic gneiss is the host rock or 'sea of gneiss" that encloses the other rock types

Pegmatoid : coarse grained pegmatitic quartz and alkali feldspar, very little mica, local Trace of garnet. Bold outcrops and "roll down" type scree. In map scale, as pods and masses up to 200' across.

Hornblende Gneiss : Banded (gneiss) & nonbanded (granofel) black hornblende and plagioclase. Bold otc and "rolldown" Talus scree. Map scale as layers, lenses and pods.

Quartz Feldspar Garnet Gneiss : Banded & nonbanded biotite poor garnetiferous gneiss. Bold outcrops & rubble outcrop map scale interbedded with the biotite garnet gneiss and the quartzites.

Biotite Garnet Gneiss : Banded, commonly in contorted folds of biotite rich gneiss with garnet porphyroblasts. Outcrop folds of 1'-10' in amplitude and wavelength.

GEOLOGIC LEGEND - TENNESSEE AREA (contd)

HWS

ROCK TYPES & MAP UNITS contd

Q3 — **Quartzites:** Glassy and massive quartz on broken surface. Banded on weathered surface. Believed to be cherty chemical sediment. Weathered outcrops are rusty & banded as subdued outcrop and rubble. Map scale as layers and lenses in Gqfg and Gbg.

M — **Marble:** light grey crystalline carbonate with scattered grains of non carbonate. Rubble outcrops. Map scale, mixed with quartzite and calcsilicate.

CS — **Calcsilicate:** coarse grained crystalline monomineralic of pale green glassy cleaved mineral believed to be plagioclase. Resembles skarn or pegmatoid outcrop as rubble. Maps as part of Marble and Quartzite

SYMBOLS

- Field Note or sample station.
- Outcrop & Geologic Contact
- Inferred Geologic contact
- Strike or trend on gneissic banding which here is >80°.
- Waste Dump
- Prospect Pit
- Vein
- Shaft
- adit

ABBREVIATIONS

P	Porphyry	f	feldspar
Pg	Pegmatoid	b	biotite
G	Gneiss	g	garnet
Q3	Quartzite	q	quartz
M	Marble	k	hornblende
CS	Calcsilicate		

BARRINGER LABORATORIES INC.

15000 W. 6TH AVE., SUITE 300
GOLDEN, COLORADO 80401
PHONE: (303) 277-1687

1455 DEMING WAY, SUITE 15
SPARKS, NEVADA 89431
PHONE: (702) 358-1158

9-Nov-87

Riken Resources LTD.
2995 Jamica Blvd. S.
Lake Havasu City, Nv 86403

Authority: Alan Brown
Project :

Purchase order :
SAMPLING OF 500,000 ton dump

FINAL report: job number 8715

Type	Sample number	Ag AA ppm	Au FA ppb
Grab	Tenn-1	8.5	2500
	Tenn-2	12.4	2566
	Tenn-3	29.9	10171
	Tenn-4	17.9	3014
	Tenn-5	4.9	9
	Tenn-6	8.5	1529

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Authority: Alan Brown
Project :

Purchase order :

FINAL report: job number 8715

Abbreviations:

Analyses:

Ag	: Silver
Au	: Gold

Methods:

AA	: Atomic Absorption
FA	: Fire Assay

Units:

ppm	: Parts per million
ppb	: Parts per billion

Quality control:

*=Interference	D=Not detected
I=Insufficient sample	M=Missing
N=Not analyzed	P=Questionable precision
T=Trace	

Signed: .....

Vernon K. Peterson
Laboratory Manager

cc: 2995 Jamica Blvd. S.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

M: Tennessee

District: Wallapai

Subject: Production

Date: May 1, 1985

Engineer: Ken A. Phillips

Recorded production from the Wallapai mining district, MOHAVE County according to an abstract of U. S. Bureau of Mines data was obtained from the Arizona Bureau of Geology and Mineral Technology.

Production is recorded for the period

Cumulative totals are:

Tons of ore	534,942
Pounds of copper	850,704
Pounds of lead	60,163,169
Troy ounces of gold	41,265
Troy ounces of silver	1,525,723
Pounds of zinc	67,449,501

The following mines or mining claims in the district contributed to the production: Tennessee AKA: Tennessee Schuylkill

suggested a number of centennial projects, and some of them are now in progress.

Moccasin-Mormon Community

Malach revisited Moccasin, Mormon community of some 50 people, but its history is long and interesting, and starts in the 1960's.

Moccasin - a never changing oasis of deep green old shade trees, fruit trees and beautiful flower gardens in spring and summer.

A talk with the Moccasin people is refreshing for your mind and heart. Because those people are knowledgeable in the country's and world's affairs, the life is in such peaceful surroundings, as not touched by the troubles of the today's world.

Moccasin is a peaceful spot tucked to the vermillion cliffs, which are nature's beauty.

Tenhard Resources Company

For a period of time, the Tenhard Resources Company of Sheridan, Montana works in mining in Chloride. One crew of a few men works at the Tennessee-Schuykill dumps sorting material for treatment and recovery of bullion. At the plant on the other side of Chloride, another crew operates the mill and metal recovery installations.

Bart Hanford, vice-president of engineering, talked with Roman Malach in connection with the County mine survey made in the Cerbats. His company, the Tenhard Resources, is looking for mining grounds where dumps with the content of gold and silver exist.

Report of Operation

Hanford gave Malach the operation report for examination. Here are some dates and figures from the report:

July 1, 1983, during five hours, 60 tons of sorted dump material were treated, with result of 8.09 ounces of gold and 33.8 ounces of silver; on July 5th, 60 tons of material were treated in six hours, bringing 1.10 ounces of gold and 12.52 ounces of silver; on July 11, in 5½ houres, 61 tons of material produced 2.10 ounces of gold and 14.87 of silver; on July 13, out of 60 tons of material in four hours, 1.17 ounces of gold and 8.00 ounces of silver were obtained.

The total from 16 days of operation, representing 88 hours of operation, resulted in obtaining 46.6 ounces of gold and 251.13 ounces of silver.

These gold and silver values are in the concentrates, as determined by assays of daily mill operations. Hence the gold and silver is not in its final form as bullion. Smelting of the concentrates will produce that bullion.

Hanford told Malach that their net profit is three dollars ($3.00) from the processed one ton of dump material.

Frustration of Reporting

In the past few years, Malach personally visited and inspected sites with reported mining operations. Usually, Malach gets the information from the man in charge of work at the mining site. Most of those new camps represented a large investment in machinery, equipment, sometime in building or two and even living quarters.

Then after a period of time, Malach learns that the work at the new mine site was stopped, if not abandoned.

Many Examples

Malach has seen such new mining attempts in different localities, at Cedar,

Pulse Engineering, Inc.

Post Office Box 700
Pioche, Nevada 89043
Phone 702-962-5180

July 1, 1982

Mr. Nick Tanno
1095 East Tropicana
Suite 550
Las Vegas, Nevada 89109

Tennessee Mine dump: 300,000 tons plus

Dear Nick:

This letter will confirm the points we discussed in our Las Vegas meetings on June 29th and 30th.

After reviewing the reports and information on the Tennessee and Goldconda claims, visiting with Mr. Joe Davis of Cimetta Engineering, and Mr. Eldon Lee of Mountain States Resources Development, the following points and recommendations are forth comming.

Mr. Joe Davis, Mining Engineer for Cimetta Engineering and Construction Co. Inc., has thoroughly reviewed the above-mentioned data, and I feel the tonnage figures indicated on page 5, paragraph 7 of 300,000 tons are valid.(Tennessee Mine)

It is my understanding Cimetta is currently conducting metallurgical tests on dump material from the Wallapai District. The results of this project is essential to future planning.

Mr. Davis has used a figure of $65.00/ton Gross Metal Value in his evaluation. After reviewing the data, I would concur and expected Net Smelter Value for Lead-Zinc ores would yield approximately $49.00/ton or 75% of the Gross Metal Value figure indicated. The following recoveries might be expected:

For Au. (gold)	90%
For Ag. (silver)	75%
For Pb. (lead)	85%
For Zn. (zinc)	75-80%

Average Assay are expected to be: Tennessee Dump

Au.	=	0.05 oz/ton
Ag.	=	1.75 oz/ton
Pb.	=	40 lb/ton or 2%
Zn.	=	100 lb/ton or 5%

Metal prices used to calculate the expected Net Smelter Value is as follows:

Au.	=	$[illegible]00.00/oz.
Ag.	=	6.00/oz.
Pb.	=	$0.20/lb.*
Zn.	=	$0.26/lb.*

* These values must be determined with each individual smelter contract.

Smelter charges are expected to be $100-$150.00/ton of concentrate shipped, and is estimated at $5.00/ton on dump ores.

Milling rate is expected to be 200 tons/day, 310 days/year (85% operating time, leaving 55 days/year for repairs and maintenance); therefore, annual production is estimated at 200 tpd X 310 days/year = 62,000 tpy. Expected yearly gross yield (before hauling, milling, and smelting) is 62,000 tpy X 49.00 = $3,038,000. Expected cost to mine, haul and process is given as follows:

A. Mining--1)	Dumps(surface) Load & Haul	$5.00/ton
2)	Open Pit	$25.00/ton
3)	Underground	$60.00/ton
B. Milling		
1)	Crushing	$8.50/ton
2)	Milling	$5.50/ton
3)	Smelting	$5.00/ton
		$19.00/ton

A $5.00/ton Royalty charge has been added below for clarify and may or may not apply to individual mines.

To recap expected costs in dumps only:

Mining & Hauling	$5.00/ton
Milling & Crushing	$19.00/ton
Royalty(where applicable)	$5.00
	$24.00/ton*

*depends on Royalty

Based on the above data:

Dump would be expected to yield
$49.00/ton - $25.00/ton(costs) or $24.00/ton

It is quite obvious open pit and underground mining is not feasible at current metal prices or grade figures indicated above.

Dumps mentioned in the reports reviewed by myself and Mr. Davis can be expected to yield the following:

300,000 tons X $24.00/ton = $7,200,000 at a mining/milling rate of 200 tpd or 62,000 tpy. Expected yield is 4.8 years or $1,500,000/year.

Based on these estimates, it appears the chance of your investors recapping their investment in two years is very good. I would recommend you proceed with your joint venture arrangement with Mountain States Resources Development through Mr. Eldon Lee.

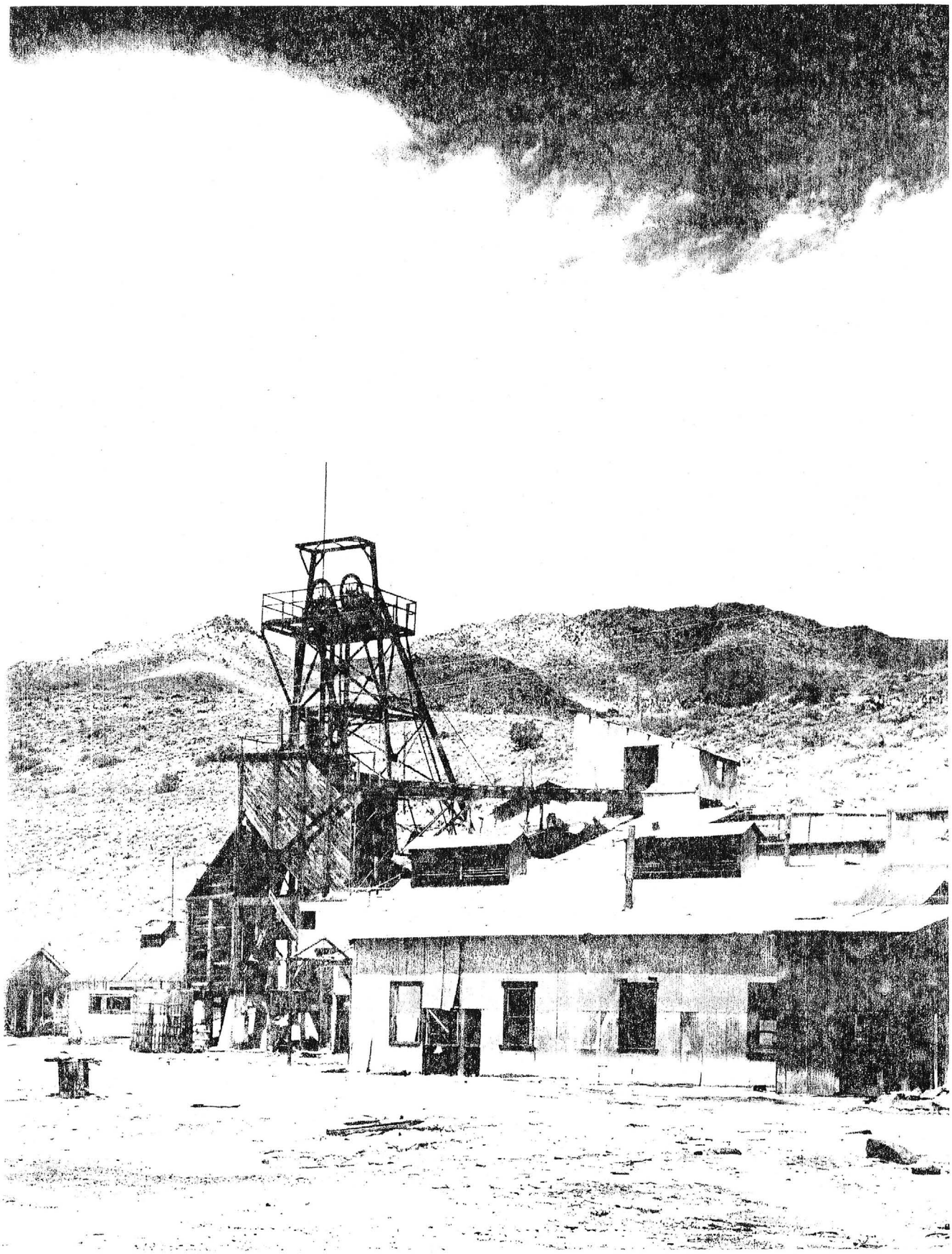
An additional point to be considered is the loading and hauling costs. Over the next two years, $620,000 will be expended for loading and hauling. Planning and development should include the possibility of developing better grade ores from underground and surface sources and construction of a plant closer to the Wallapai Mines.

Thanks again for the opportunity to work with you and your group. We are looking forward to reviewing the Pioche East Side Project with Mr. Lee.

Respectfully Submitted,

Philip C Hulse

Philip C. Hulse, P.E. (Mining)
Hulse Engineering



The Tennessee Mine at Chloride, 1970.

Chloride can serve as the starting point for visiting area mining camps. After visiting the mines and the murals at Chloride, venture north on US 93 to visit White Hills and Gold Basin. To the south, nearby Mineral Park, the former county seat of Mohave County, is nearly engulfed by the modern mining and milling operations of the Duval Mining Company.

Further south is Cerbat with mine and mill ruins. There are mine ruins in almost every canyon on the west flank of the Cerbat Range. From Kingman, it is possible to visit Camp Beale Springs, Stockton and Hackberry. To the west, on a narrow paved road are Goldroad and Oatman with picturesque ruins of buildings, burros and some supplies and services. Take your camera.

For directions to these and other area mining camps, see *Colorado River Ghost Towns* by Stanley W. Paher. The book is available locally or from the publisher, Nevada Publications, Box 15444, Las Vegas, NV 89114. Write for complete list of ghost town publications which includes *Central Arizona Ghost Towns, Tombstone, Death Valley Ghost Towns, Goldfield,* and *Tonopah.*

May 7 ✓

Tennessee - Schuylkill ~~Bullion Mining~~

Located - ½ mile above the town of Chloride Mohave Co. Arizona, and 25 miles from Kingman

this property is developed by a 1400 ft shaft and drifts with crosscuts and a 200 ft winze below the 1400 ft level making a total depth of 1600 ft.

The equipment consists of a large hoist, compressor steel headframe, ~~great~~ number cars, motors, etc a well equiped machine shop, blacksmith shop, timber framing shed, change house, offices, assay labatory, etc, etc.

A 150 ton flotation mill with all the necessary accessories.

The metals produced are lead and zinc with a small value in gold and silver.

The ore, at the mill head, assays lead 3%, Zinc 7.5%, gold .03 oz, silver 2.5 oz. per ton.

The ratio of concentration is 10 to 1, making a concentrate of lead assaying form 55% to 60% lead, and a zinc concentrate assaying 55% Zinc.

At present 150 tons of ore is milled per day.

(over)

The mine is developed ahead of the requirments of the mill. It is claimed there is now blocked out 150000 tons of ore, and plans are now being made to construct a 250 ton mill. Mr H. G. Weimer is now in Washington. D.C. consulting with Metal Reserve officials.

The company employs a total of 97 persons, 62 of the 97 persons are employed underground, 10 in the mill, 17 in repair shops and other surface work, 8 persons in the office and Engineering work.

The company is willing to enter into a contract to do custom work, so more of the small mines can get into production.

Mr Frank. C. Cassidy is in charge of the operations. Mr Cassidy has done a splended job, in the short time he has been on the property, getting it up to the present production with large ore reserves to draw from.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine ✓TENNESSEE-SCHUYLKILL Date October 2, 1942

District Chloride, Mohave Co. Engineer Elgin B. Holt

Subject: PRODUCTION POSSIBILITY

OWNER: ✓Tennessee-Schuylkill Corp., Chloride, Arizona.
✓N. A. Wimer, Pres.
✓W. C. Wimer, Manager.

METALS: ✓Lead, zinc, gold and silver.

LOCATION

This property is located one mile east of Chloride, Arizona, at the western foot of the Cerbat Mountains. It is an old producer of zinc, lead, gold and silver ore; its total production being estimated at around $20,000,000. It is now equipped with a 175-ton selective flotation mill, and power is furnished from Boulder Dam.

PRODUCTION, 1941

	Tons	Au, oz. per ton.	Ag, ozs. per ton.	pb,%	Zn,%
Ore milled -	45,150.00	0.071	2.63	5.44	6.56
Pb conc.----	6,596.28	0.400	15.43	36.69	4.80
Zn conc.----	4,616.58	0.065	2.89	0.42	53.84
Tails-------	33,910.40	0.008	0.12	0.10	0.54

PRODUCTION, 1942, First ½ YEAR

Ore milled -	10,025.00	0.069	2.63	4.91	5.83
Pb conc.----	1,245.22	0.458	18.53	38.97	0.49
Zn conc.----	892.98	0.063	2.69	0.51	53.87
Tails ------	7,886.80	0.008	0.11	0.10	0.53

Concentrates are trucked from mill to Kingman, over a paved highway, a distance of 23 miles; lead concentrates being shipped to the El Paso Smelting Works and zinc concentrates to Amarilla, Texas.

MEN NOW EMPLOYED

During the Spring months, 1942, 90 men were employed in mine and mill; but at the time of my visit, Oct. 1, 1942, only 42 men were employed in the mine and 9 in the mill, due to a shortage of laborers.

I talked to both N. A. Wimer, and his son, W. C. Wimer, Manager, of this property. They gave me the following information concerning the serious handicaps under which they have been operating:

They stated that the production rate fell to 83 tons of ore milled per day during September, 1942, due to shortage of laborers, labor difficulties, etc. That all this was due to the fact that three large defense projects,

Echo From Oatman's Past

George Getz of Scottsdale, owner of the Getz Ranch in the Hualapai Mountains near Kingman, called Malach with a request of copies of the two editions of the Oatman publication. With the call, came the background of the request.

Getz plans to send those books to his friend, Olive Carry, over 80 years old, and widow of Harry Carry, well known actor of western movies. According to Getz, Olive Carry, former movie actress, lived in Oatman, made movies with her husband in that area, and, in general, holds many memories of that former mining town. Getz hopes to revive her memories of Oatman.

Getz keeps contact with Malach for some ten years and has the collection of all his 28 publications.

Work At Tennessee Mine

Malach visited the Tennessee Mine in Chloride on March 30, 1983 and found works in progress on the enormous dumps. According to J.R. Trout, superintendent, the Tenhart Resources Co. from Montana has in operation the screening of the dump material through elaborate process, cleaning all waste and retaining the fine particles of the crushed ore from previous operations.

This fine material is hauled to the mine camp near Chloride, where it is processed in a mill, resulting in gold-silver concentrates, which will be shipped to the El Paso smelter for turning into bullion.

Supt. Trout expects to have enough of the Tennessee Mine dump material for two years of operation. The company picks also dump material from other mine dumps in the surrounding area for processing. The Tenhart Resouces Co. has other mining operations. Right now, some 11 men have employment at the Tennessee Mine.

SPECIMEN L-15 K104

.binet

:ction

ıelf f,6

Presented by Tennessee Schuylkill Corporation

Collected by Robert E. Morrow

Date received November, 1940

.ass (principal mineral) Lead

;her minerals Zinc

ıngue

:pth at which specimen taken 1070-1170 ft.

)proximate mineral content (in terms of average per ton)

:antity Value $ 50.00

Name of mine or claim Tennessee Mines Corp.

Group

District Cerbat

County Mohave

Location (distance and direction by highway from what town) Chloride

Mine active or inactive Active

If inactive, when operated

Owner Tennessee Schuylkill Corporation

Operator

·tes: The mines in the Cerbat mountains in the northwestern corner of the State have been the .argest producers of lead ore of any in Arizona. Most of the lead has been produced as a bi-)roduct of silver. The Cerbat range north of Kingman has several mining camps which have pro-luced notably in the past. The principal ones are the Chloride, Mineral Park, Golconda, 'erbat, and Stockton Hill. Probably 70,000,000 pounds of lead constitutes the reserve within Mohave county.

The zinc deposits of Arizona are of two major types, those associated with lead and hose associated with copper. Those of Mohave county are associated with lead and are considered

specimen is now in the ADMR Museum - see K number 16.0 x 13.5 x 2.5

the most important in the state. The principal mines are the Tennessee-Schuykill, Golconda, Ore Plata, Stockton Hill, and Jim Canes. The total reserve has been estimated at 170,000,000 pounds.

304 xx

April 6, 1944

Tennessee-Schuylkill Corporation
70 Pine Street
New York 5, New York

Attention: Dorothy A. Decker, Secretary.

Gentlemen:

I am sending under separate cover a copy of the annual report of the Department of Mineral Resources for the year July 1, 1942 to June 30, 1943, as requested.

Yours very truly,

J. S. Coupal, Director

JSC:LP

December 27, 1943

Mr. N. A. Wimer
Tennessee-Schuylkill Corp.
70 Pine Street
New York City 5, N. Y.

Dear Mr. Wimer:

Thank you for your letter of December 23 and for the full information regarding the labor situation. The inefficiency of labor is going to be one of our gread difficulties in getting back to normal and it would seem as though we must continue with premiums until we can get our costs and production per man back to where they belong.

The custom mill plan for Chloride is a problem and we are trying to see what can be done regarding it. We are keeping close watch on any cutbacks on premiums on metals and I believe will be in position to soften any cutback which may occur. The present position of zinc makes it rather hopeless to get any Government aid and also rather difficult to interest any sound private capital in a plan for a custom mill, even though the small mines in the Chloride area would be benefitted.

With best wishes for the New Year, I am

Very truly yours,

J. S. Coupal, Director

JSC:LP

December 15, 1943

Mr. N. A. Wimer
Tennessee-Schuylkill Corp.
70 Pine Street
New York City 5, N. Y.

Dear Mr. Wimer:

I was in Chloride last week and was informed that your labor problem has been greatly eased during the past month.

The Chloride Council and the operators in that district would like to have a custom mill to treat their various ores and I believe a decision on this hinges on the question of available labor for your operations.

I would appreciate a statement from you regarding this and advice as to whether or not your labor shortage is still critical.

Yours very truly,

J. S. Coupal, Director

JSC:LP

CC: Chloride, Arizona

October 25, 1943

Mr. William J. Bloxham
Tennessee-Schuylkill Corporation
70 Pine Street
New York, New York

Dear Sir:

I am sending a copy of the Fourth Annual Report of the Department of Mineral Resources as requested. This is a preliminary copy and a printed report will be sent you as soon as they are received from the printers which will be shortly.

Very truly yours,

J. S. Coupal, Director

JSC:JES

June 24, 1949

Mr. L. A. [illegible], President
Tennessee Schuylkill Corp.
70 Pine Street
New York, N. Y.

Dear Mr. [illegible]:

[illegible] interested in your letter of June 22nd and am forwarding a copy of the bulletin on [illegible] Deposits on Copper, Lead and Zinc Ores to your New York office.

With best wishes and kindest personal regards.

Very truly yours

J. [illegible], Director

cc-Chloride, Arizona

Washington, D.C.
June 3, 1943

SUBJECT: Tennessee-Schuylkill Corporation

Senator Hayden dumped in my lap his copy of the Willis letter to Wimer and of course, I got one as well.

I am letting Hayden do the answering, as I think is proper under the circumstances, and prepared a memo from which to write a letter.

For your information,

WPB Zinc branch will consent to the preliminary expenditure of 20 to 25 thousand dollars for improvements in the Tennessee mill and for expansion.

It is not felt that the expenditure of materials for a completely new plant is warranted at this time.

When the improved old plant proves the existance of enough custom ore to warrant a new mill, together with increased Tennessee production, this will then be considered.

In the meantime, Bureau of Mines is to make a preliminary survey, and I have asked Jim Douglas to write you for the material you may have on the district.

I think a strong report from you will help the situation a l ot.

I don't think Douglas is cold to expansion at all. In fact he has supported our expansionist policies in the Coordinating Committee and he has fought L-208 also.

Benedict I can't say so much for. He has always had the feeling of the big Company. I wouldn't, as I stated years ago, have him on a small mine on a bet. He may be a crackerjack big copper geologist, but it has to be 100 feet wide and half a mile deep as a minimum for him to see it. He is the one who told me Gladiator is a "drop in the bucket" and intimated it was not worth wasting his time on.

Bill Broadgate

May 14, 1943

Mr. N. A. Wimer, President
Tennessee-Schuylkill Corporation
70 Pine Street
New York City

Dear Mr. Wimer:

Thank you for your letter of May 12. I wish to express my hearty approval of your plan to increase the capacity of the mill at Chloride so as to accommodate custom ore. I believe the district thoroughly warrants such an expansion.

I am turning your letter over to Mr. Willis as he is in close contact with the officials in Washington. We will also advise W. C. Broadgate, who is Assistant Director for the Department at Washington.

On your next trip to Washington, I suggest that you contact Mr. Broadgate at the Hotel Harrington. I know that he can be of real assistance to you as he is very familiar with the Chloride situation and he has personal contacts and knows how to assist in any such project as you have in mind.

With best wishes and kindest regards, I am

Very truly yours,

J. S. Coupal, Director

JSC:kk

April 15, 1943

Mr. N. A. Wimer
Tennessee Schuylkill Mines
Chloride, Arizona

Dear Mr. Wimer:

I am sorry to have missed you on your visit to the office on April 12 as I would like to have talked over your present plans. I was also very pleased to get your note saying that you had received the advanced premiums on zinc.

We were able to present to the sub-committee on mining of the Senate Small Business Committee sufficient evidence of the difficulties encountered by the smaller mines so that they are equipped with enough information to justify them in trying to simplify the procedure and assist us in getting out increased production.

I have not entirely given up hopes of some day seeing a zinc reduction plant in the Kingman area.

With best wishes and kindest personal regards, I am

Very truly yours,

J. S. Coupal, Director

JSC:kk

March 5, 1943

Mr. N. A. Wimer
Tennessee-Schuylkill Corporation
70 Pine Street
New York, New York

Dear Mr. Wimer:

Your letter of March 1 was received during my absence and the three copies on "Federal Aids for War Mineral Production" were mailed to you.

We have been very busy here in Phoenix on our general plans and I would say that there are now three or four groups who are considering plans for custom mills in the Kingman-Cerbat area. They are all looking for Federal aid and I hope something may develop from it.

If I can be of any further service to you at any time on any of your problems, I will be most glad to do so. We have a man in Washington, W. C. Broadgate, who is Assistant Director and who is liaison man between the Department and the various boards in Washington. If you have any special problems, we will be glad to work with you. Mr. Broadgate's address is Hotel Harrington, Washington, D. C.

If there is any special problem and you care to submit full details to us, we will forward it to Broadgate for his action. If, however, you are in Washington and contact him, he, undoubtedly, will be able to work directly with you.

Very truly yours,

J. S. Coupal, Director

JSC:kk

From Arizona Bureau of Mines Bulletin # 140

	Cu	Pb (lbs)	Au	Ag	Total Value
Tennessee 1890-1930	1,000,000 lbs	30,000,000	$50,000	$650,000	$5,500,000*
Schuylkill 1900-1930	-	2,000,000	5,000	20,000	125,000

* includes about 20,000,000 lbs Zn

From U.S.B.M. Minerals Yearbooks

1

Tennessee - Schuylkill

	Tons Produced	% Cu	Pb	Zn	Au	Ag	Remarks
							T-S one of 34 mines producing 14,775 tons
1931-5	None						
1936							60 Ton mill Pb-Zn;
7	59,990						T-S 2nd largest Pb producer in Ariz
8	54,092						
9	11,588						Closed Jan. to Oct.
1940	55,521						
1	45,150						150 Ton mill. 2nd in Pb 3rd in Zn
2	40,055						
3	38,286	0.1	3.7	5.65	.04	2.01	
4	20,300						Closed Oct. 6 "lack of labor"
5	11,523		6.01	7.17	.075	2.517	Jan 1 - Oct 20 by Mines Operating Co.
6	3,555		4.15	7.03	.05	2.5	Miners Co-op Assoc.
7	11,797		3.60	6.50	.02	1.95	"
8	13,231		2.74	6.04	.024	1.48	Closed 1 Dec 1948
	None since						
Total 1931-1958	365,088						(From U.S.B.M. MINERALS YEARBOOKS)

From Arizona Bureau of Mines Bulletin # 140

	Cu	Pb (lbs)	Au	Ag	Total Value
Tennessee 1890-1930	1,000,000 lbs	30,000,000	$50,000	$650,000	$5,500,000*
Schuylkill 1900-1930	-	2,000,000	5,000	20,000	125,000

* includes about 20,000,000 lbs Zn

It is reported that a company to be formed called Mohave Enterprises, headed by Henry J. Olson, Chloride, Arizona, has arranged with the court to operate the Tennessee mill - that several men are now employed in reconditioning the plant. Is is further reported that this company expects to operate several mines in the area as asource of ore. Mr. Olson was not in Arizona so no direct information was obtainable.

From Mark Gemmill
January 1954

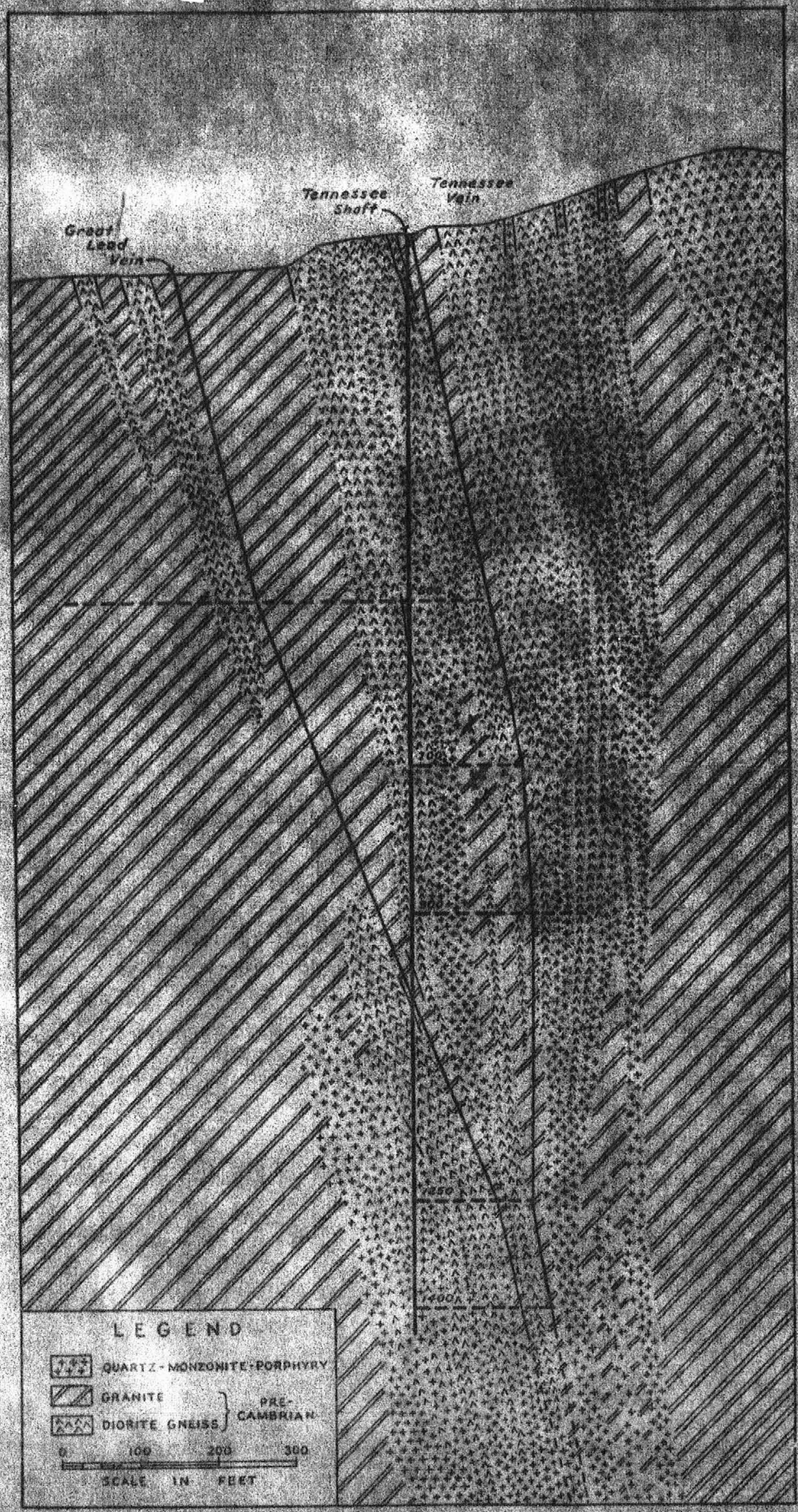


Plate XXXI.—Tennessee-Schuylkill Mine, cross section.

TENNESSEE-SCHUYLKILL

October 2, 1942

Chloride, Mohave Co.

Elgin B. Holt

PRODUCTION POSSIBILITY

OWNER: Tennessee-Schuylkill Corp., Chloride, Arizona.
N. A. Wimer, Pres.
W. O. Wimer, Manager.

METALS: Lead, zinc, gold and silver.

LOCATION

This property is located one mile east of Chloride, Arizona, at the western foot of the Cerbat Mountains. It is an old producer of zinc, lead, gold and silver ore; its total production being estimated at around $30,000,000. It is now equipped with a 175-ton selective flotation mill, and power is furnished from Boulder Dam.

PRODUCTION, 1941

	Tons	Au, oz. per ton.	Ag, ozs. per ton.	Pb,%	Zn,%
Ore milled -	45,150.00	0.071	2.65	5.44	6.56
Pb conc.----	6,596.28	0.400	15.43	56.69	4.80
Zn conc.----	4,616.58	0.065	2.89	0.42	55.04
Tails-------	33,910.40	0.008	0.12	0.10	0.54

PRODUCTION, 1942, First ½ YEAR

Ore milled -	10,025.00	0.069	2.65	4.91	5.83
Pb conc.----	1,245.22	0.458	18.53	58.97	0.49
Zn conc.----	892.98	0.063	2.69	0.51	55.87
Tails ------	7,886.80	0.008	0.11	0.10	0.53

Concentrates are trucked from mill to Kingman, over a paved highway, a distance of 23 miles; lead concentrates being shipped to the El Paso Smelting Works and zinc concentrates to Amarilla, Texas.

MEN NOW EMPLOYED

During the Spring months, 1942, 90 men were employed in mine and mill; but at the time of my visit, Oct. 1, 1942, only 42 men were employed in the mine and 9 in the mill, due to a shortage of laborers.

I talked to both N. A. Wimer, and his son, W. O. Wimer, Manager, of this property. They gave me the following information concerning the serious handicaps under which they have been operating:

They stated that the production rate fell to 83 tons of ore milled per day during September, 1942, due to shortage of laborers, labor difficulties, etc. That all this was due to the fact that three large defense projects,

within a few hours auto travel of this property, pay much higher wages than their company can afford to pay at present metal prices.

RATE OF PAY

Attached hereto is a detailed statement, furnished me by Mr. N. A. Wimer, showing how the rate of pay has gradually increased at this property from January 1, 1941, to August 15, 1942. Wimer stated that notwithstanding the fact that a raise of 6 cents per hour had been granted, to apply on all labor, just prior to August 20, 1942, a strike was called on that date, with a demand for an additional increase of 6 cents per hour, to be effective on August 15, 1942. He further stated that Jerome M. Kelleher, U. S. Commissioner, conciliation Service, Department of Labor, 1522 W. Encanto, Phoenix, Arizona, was called in by the company, through the War Production Board, Zinc Branch, and a settlement was made in four days, by the granting of a slight advance, as shown on page No. 5, of the said detailed statement mentioned, furnished me by Mr. Wimer, and which is attached hereto as stated. On August 25th, per Wimer, organizers representing U. M. W. A., District 50, arrived at Chloride and eventually presented the company with many new demands, including one for an increase in wages another 6 cents per hour, retroactive to August 15, 1942. But the company refused to recognize the said union as the proper bargaining agency for its employees.

The union then took a strike vote, with reported result that authority has been placed in the hands of a committee to call a strike of the employees, if and when the said committee considers such action necessary to the best interests of the workmen and in order to obtain a satisfactory agreement. The above is the status of the labor situation at the Tennessee property at the time this report is being prepared.

However, on September 22, 1942, the U. M. W. A. organizers caused the Tennessee crew to stay off duty for one shift in order to hold a meeting. This caused the mill to close for practically 24 hours.

EXPLORATORY WORK BEING RETARDED

I asked Mr. W. C. Wimer what was being done with a view to opening up new ore reserves in the mine. He answered as follows: "The labor situation underground is such that miners cannot be spared for new development work in waste. The only development that can be done is that in ore, which will help maintain the tonnage. The rest of the crew is mining already developed ore. When the crew is large enough to maintain the present capacity, the company plans to put men on development work with the hope of increasing the ore reserves which will eventually lead to increased production."

Elgin B. Holt.

May 25, 1942

OPERATING MINES,
Mohave County

To: J. S. Coupal

From: Elgin B. Holt

TENNESSEE-SCHUYLKILL CORP., Chloride, Arizona.
N. A. Wimer, Pres.
J. L. Fisher, General Manager.
Fred B. Eichelberger, Asst. Sec. & Treas.
H. E. Tucker, Mine Supt.
W. L. Witt, Mill Supt.
Metals: Lead, zinc, gold & silver.
Men employed in mine & mill: 90.
Production rate, during March and April, 1942: 135 tons ore per day.
Mill, Type & Capacity: Selective flotation, 150 tons daily.
Power: Electric, from Citizens Utilities Co., Kingman, Ariz.

Production, 1941:

	Tons	Au, ozs. per ton.	Ag, ozs. per ton	Pb.%	Zn, %
Ore milled -	45,150.00	0.071	2.63	5.44	6.56
Pb conc.----	6,596.28	0.400	15.43	36.69	4.80
Zn conc.----	4,616.58	0.065	2.89	0.42	53.84
Tails ------	33,910.40	0.008	0.12	0.10	0.54

Prod., 1942, 1st ¼ year:

Ore milled -	10,025.00	0.069	2.63	4.91	5.83
Pb conc. ---	1,245.22	0.458	18.55	38.97	0.49
Zn conc. ---	892.98	0.063	2.69	0.51	53.87
Tails ------	7,886.80	0.008	0.11	0.10	0.53

Concentrates are trucked from mill over paved highway to Kingman a distance of 23 miles; lead concentrates being shipped to the El Paso Smelting Works and zinc concentrates to Amarillo, Texas.

Mr. Fisher stated that the mill is now operating under former capacity; also that he has no present plans for increased production of plant; that all he is trying to do, get back to former production. He is now running two crews on diamond drill work with a view to finding new ore reserves. Some new ore has already been found by this diamond drill work.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine ✓TENNESSEE-SCHUYLKILL Date October 2, 1942

District Chloride, Mohave Co. Engineer Elgin B. Holt

Subject:

PRODUCTION POSSIBILITY

OWNER: ✓Tennessee-Schuylkill Corp., Chloride, Arizona.
✓N. A. Wimer, Pres.
✓W. C. Wimer, Manager.

METALS: ✓Lead, zinc, gold and silver.

LOCATION

This property is located one mile east of Chloride, Arizona, at the western foot of the Cerbat Mountains. It is an old producer of zinc, lead, and gold and silver ore; its total production being estimated at around $20,000,000. It is now equipped with a 175-ton selective flotation mill, and power is furnished from Boulder Dam.

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Elgin B. Holt.

NEW INCREASE PAY SCALE IN EFFECT JANUARY 1, 1941

RATE OF PAY - HOURLY BASIS

Hours worked	Straight Time 8	8	8	8	8	Over Time 8	8	Pay 7 day week	Daily scale if full time worked	
Rate per hour	.46	3.68	3.68	3.68	3.68	3.68	5.52	5.52	$29.44	$4.20-4/7	Janitor, Crusherman Etc.
" " "	.52	4.16	4.16	4.16	4.16	4.16	6.24	6.24	$33.28	$4.75-3/7	Muckers, Etc.
" " "	.58	4.64	4.64	4.64	4.64	4.64	6.96	6.96	$37.12	$5.30-2/7	Miners, B.Mill Etc.
" " "	.64	5.12	5.12	5.12	5.12	5.12	7.68	7.68	$40.96	$5.85-1/7	Hoistmen, Etc.
" " "	.74	5.92	5.92	5.92	5.92	5.92	8.88	8.88	$47.36	$6.76-4/7	Shift Bosses

TENNESSEE-SCHUYLKILL CORPORATION,
Chloride, Arizona.

-/-

NEW INCREASE PAY SCALE IN EFFECT MAY 16, 1941

RATE OF PAY - HOURLY BASIS

	Straight Time					Over Time		Pay 7 Day Week	Daily scale if full time worked	
Hours worked	8	8	8	8	8	8	8			
Rate per hour	.52	4.16	4.16	4.16	4.16	4.16	6.24	6.24	$33.28	$4.75-5/7	Janitor, Crusherman, etc
" " "	.58	4.64	4.64	4.64	4.64	4.64	6.96	6.96	$37.12	$5.30-2/7	Mucker, etc.
" " "	.64	5.12	5.12	5.12	5.12	5.12	7.68	7.68	$40.96	$5.85-1/7	Miners, B. Mill etc.
" " "	.70	5.60	5.60	5.60	5.60	5.60	8.40	8.40	$44.80	$6.40	Hoistmen, etc.
" " "	.80	6.40	6.40	6.40	6.40	6.40	9.60	9.60	$51.20	$7.31-3/7	Shift Bosses

NEW INCREASE IN PAY SCALE IN EFFECT FEBRUARY 1, 1942

RATE OF PAY - HOURLY BASIS

	Straight Time					Over Time		Pay 7 day week	Daily scale if full time worked	
Hours worked	8	8	8	8	8	8	8			
Rate per hour	.55	4.40	4.40	4.40	4.40	4.40	6.60	6.60	$55.20	$8.02-6/7	Janitor, Cruncherman, etc.
" " "	.81	4.88	4.88	4.88	4.88	4.88	7.32	7.32	$39.04	$6.57-6/7	Muckers, Etc.
" " "	.87	5.36	5.36	5.36	5.36	5.36	8.04	8.04	$42.88	$6.12-4/7	Miners, B. Mill, etc.
" " "	.73	5.84	5.84	5.84	5.84	5.84	8.76	8.76	$46.72	$6.67-5/7	Hoistmen, Etc.
" " "	.83	6.64	6.64	6.64	6.64	6.64	9.96	9.96	$53.12	$7.58-6/7	Shift Bosses

NEW INCREASE IN PAY SCALE IN EFFECT AUGUST 1, 1942

RATE OF PAY - HOURLY BASIS

	Straight Time					Over Time		Pay 7 day week	Daily scale if full time worked	
Hours Worked	8	8	8	8	8	8	8			Surface Labor
Rate per hour	.61	4.88	4.88	4.88	4.88	4.88	7.32	7.32	$39.04	$5.57-5/7	Muckers,
" " "	.67	5.36	5.36	5.36	5.36	5.36	8.04	8.04	$42.88	$6.12-4/7	Crushermen. Miners, Ball
" " "	.73	5.84	5.84	5.84	5.84	5.84	8.76	8.76	$46.72	$6.67-3/7	Mill, Mine Hoist, etc.
" " "	.79	6.32	6.32	6.32	6.32	6.32	9.48	9.48	$50.56	$7.22-2/7	Hoistmen, etc.
" " "	.89	7.12	7.12	7.12	7.12	7.12	10.68	10.68	$56.96	$8.13-5/7	Mill Fore-man

NEW INCREASE IN PAY SCALE IN EFFECT AUGUST 15, 1942

RATE OF PAY - HOURLY BASIS

	Straight Time					Over Time		Pay 7 Day week	Daily scale if full time worked	
Hours worked	8	8	8	8	8	8	8			
Rate per hour	.61 4.88	4.88	4.88	4.88	4.88	7.32	7.32	$39.04	$5.57-5/7	Janitor, Crusherman, etc
" " "	.67 5.36	5.36	5.36	5.36	5.36	8.04	8.04	$42.88	$6.12-4/7	Muckers, etc.
" " "(78)	73.6 5.89	5.89	5.89	5.89	5.89	8.83	8.83	$47.11	$6.73	Miners, B. Mill etc.
" " "(79)	80.5 6.44	6.44	6.44	6.44	6.44	9.66	9.66	$51.52	$7.36	Hoistmen, etc.

Min.Journal 6/30/1942

[redacted]

[redacted]

NAME OF MINE:

COUNTY:

DISTRICT:

METALS:

OPERATOR AND ADDRESS:

MINE STATUS

DATE:

DATE:

[redacted]

Mines Handbook Vol XVI