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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: HERCULES-BADGER

ALTERNATE NAMES:
BADGER-HERCULES
WOODCHUCK
WATER WITCH
MAJESTIC

MOHAVE COUNTY MILS NUMBER: 137A

LOCATION: TOWNSHIP 24 N RANGE 18 W SECTION 35 QTR. SE
LATITUDE:N 35DEG 25MIN 12SEC LONGITUDE:W 114DEG 10MIN 24SEC
TOPO MAP NAME: CHLORIDE - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:
LEAD-(M)SULFIDE-PRIMARY
SILVER-COPRODUCT
ZINC-(M)SULFIDE-BYPRODUCT
GOLD-(M)LODE-BYPRODUCT
COPPER-(M)SULFIDE-BYPRODUCT

BIBLIOGRAPHY:
USGS CHLORIDE QUAD
ADMR MOHAVE CARD FILE
ADMR MOHAVE CUSTOM MILL PROJ. CARD FILE
HAURY, P.X., USBM RI 4101, P. 8 & 9
ADMR NEW JERSEY MINE FILE
SCHRADER, F.C., USGS BULL 397, P. 61
WILLIS, C., AZ. MNG. JRNL. AUG, 1920, P. 13
DINGS, M., USGS BULL 978-E, P. 147
MALACH, R., MOHAVE COUNTY MINES, 1977, P. 23
ADMR HERCULES-BADGER FILE
ADMR, THOMAS, B.E., GEOL. OF THE CHLORIDE QUAD, GEOLOGY FILE, P. 402
ENGINEERING AND MINING JOURNAL, 5/74, p. 17
RABB, DAVID "RECOVERY OF METAL VALUES PRIOR TO RECLAMATION OF MINED AREAS OF THE SOUTHWEST"

Tennessee Wash
MOUNTAINS
Windy Point Campground
Dardanelles Mine
Argyle Mine
Badger Mine
Hercules Mine
Schenectady Mine
Elkhart Mine
Schuylkill Mine
Distaff Mine
Bullion Mine
New Jersey Mine
Tennessee Mine
North Georgia Mine
Payroll Mine
South Georgia Mine
New Tennessee Mine
New Deal Mine
Rainbow Mine
Lucky Boy Mine
Lucky Boy Spring
Brighter Day Mine
Chloride
(BM 4009)
Johnny Bull Mine
Well
Clyde Mine
Petroglyphs
Samoa Mine
Silver Age Mine
Falls
Altata Mine
Minnesota Conner Mine
Manzanita Mine
Blackfoot Mine
Hidden Treasure Mine
Lone Jack Mine
Uncle Abe Mine
Jupiter Mine
Copper Age Mine
Eureka Mine
Towne Mine
Midnight Mine
DEEP TRAIL
Hercules-Badger
Chloride

miscellaneous

Documentation

1970's

R-H

HERCULES-BADGER MINE

MOHAVE COUNTY

Richard V. Wyman, Pres., Intermountain Exploration Company, P.O. Box 398, St. George, Utah, was in the office and says that they have acquired this property. 2-9-61 LP

Intermountain Exploration Co. which two years ago bought the Hercules-Badger property consisting of 3 claims near and northeast of Chloride is said to be inspecting the property. TPL WR 2-24-61

Visited Pat Patterson - he said 2 partners were doing some work at the Hercules mine 1 mile east of the Tennessee mine. Work consists of cleaning out some of the old drifts and plan limited amount of drilling. One of the partners is a Mr. MacGregor. FTJ WR 5-8-70

Went on to Chloride for a visit with Pat Patterson, but he knew of no activity except Hart's scheelite near Cottonwood Wash. GW WR 3/3/72

NJN WR 5/15/87: Ken Hodgeson reports that he has acquired the patented claim of the Hercules-Badger (file) Mohave County near Chloride and was sent key portions of our file data.

KAP WR 6/3/88: Fred Johnson, Consulting Geologist, Durango, Colorado reported the Smith Energy holdings in the Chloride District, Mohave County, primarily the Hercules-Badger (file) property, have above average gold and silver values along with significant lead and zinc values determined during a precious metal sampling effort. Concepts of how to avoid typical metallurgical problems with mixed base - precious metal ores was discussed.

NAME: HERCULES-BADGER GROUP (B) COUNTY: MOHAVE

T 24 N R 18 W SEC. 33 4800 35? SE center DISTRICT: WALLAPAI CHLORIDE

See BADGER-HERCULES

Mineralization: PbZnAuAg

Geology:

Type Operation: 60' Tunnel 90' Shafts

Production:

References: USGS 397-P60-P61 Topo 7½'
(R Malach Mohave Co p.23)
USBM RI 4101
clipping file

Mohave Cty. Card File

December 22, 1976

Mr. Richard V. Wyman, President
Intermountain Exploration Company
Post Office Box 473
Boulder City, Nevada 89005

Dear Mr. Wyman:

The Mohave County Mine Study is continuing its effort to update the information it already has in the files. The purpose of the mine study is to centralize information about various mines and/or prospects, and make this information available to the public.

Although much of the information is from pervious existing maps and reports, there is some recent sampling and assay data. We will appreciate any information that you may have to offer.

Thank You,

George Pass

GP:vv

Fa[illegible]mountain Exploration Co[illegible]nany

P. O. Box 473 Telephone 293-1098 Boulder City, Nevada 89005

June 12, 1976

Donald R. Aldrige
Supervisor, District 1
P.O.Box 390
Kingman, Ariz., 86401

Dear Mr. Aldridge:

Thank you for your letter of June 7th.

We own the Juno mine, and lease the Hercules-Badger group. Just recently we dug deep trenches and sampled our mine dumps with the idea of leaching these.

We estimate that the Juno mine, three claims, contains ~~75,000~~ 12,000 tons of material that will run over 0.03 Au and over 2.0 oz. Ag/ ton. This material also contdi ns some lead but under 1%.

At the Hercules-Badger group, approximately ~~50,000~~ 21,000 tons contain over 0.05 oz.Au and over 3 oz.Ag/ton and over 2% Pb.

Doe,Inc. also owns the Rambler, which has a dump containing 3000 tons of o.15 oz.Au/ton. This should be trenched and sampled.

In another partnership between myself and Tom King of Prescott, Ariz., we hold a large number of gold claims at Cyclopic. At this place we have two tailings dumps that assay over 0.10 oz.Au/ton that should be sampled. These together total about ~~125,000~~ 52,000 tons.

Please let me know if anything develops.

Yours truly,

Richard V. Wyman

Richard V. Wyman, President

~~ANY NEW DATA~~

~~CALCO MINE DATA~~

New TONNAGE FIGURES
Verbally given TO J.H JETT
BY MR RICHARD WYMAN
IN HIS OFFICE, JAN 18, 1977

Mr Wyman gve permission to use figures in our leadon mell calculations.

J.H Jett

inserted

INTERMOUNTAIN EXPLORATION COMPANY

FROM 1975 ANNUAL REPORT

P.O. BOX 473
BOULDER CITY, NV 89005

OFFICERS AND DIRECTORS

RICHARD V. WYMAN, President and Treasurer. PH.D. in Geological Engineering, Registered Engineer, Chairman of Department of Engineering at University of Nevada, Las Vegas. Twenty-seven years of experience in geology, mining engineering and management in U.S. and Peru.

DONALD R. McGREGOR, Vice President. B.S. in Mining Engineering, University of California. Registered Engineer. Thirty-five years experience in mining engineering and management. Mining Manager for Intermountain.

ANNE F. WYMAN, Secretary. M.S. in Geology, University of Michigan. Assistant Professor of Geology at University of Nevada, Las Vegas. Director of Intermountain since 1959.

ROBERT F. PRITCHETT, Director. B.S. in Geology and M.S. in Mining, South Dakota School of Mines. Mining engineer with Reynolds Electric at Nevada Test Site. Formerly with Homestake Mining. Thirteen years mining and engineering experience.

DUDLEY L. PHILLIPS, Director. Machinist 35 years. Employed by Titanium Metals Co., 23 years. Experienced prospector and lessor of Phillips Copper Mine, Nelson, Nevada.

Incorporated under the laws of the State of Utah
February 1959

Authorized Capital 2,000,000 shares
Shares Outstanding 1,312,210

Transfer Agent:
Fidelity Transfer Co.
318 Boston Bldg.
Salt Lake City, Utah 84111

Cover — aerial photo showing diamond core drilling at Brockbank/Obester ore discovery in Comstock Gold Exploration Ventures property.

INTERMOUNTAIN EXP. CO
1975
ANNUAL
REPORT

Mrs. Bertha G[illegible], a pioneer in the Eldorado Canyon Distr[illegible] a resident of Nelson, and principal owner of Eldorado Empire and Gresh Mines, died in December at the age of 92. She was a good friend and an inspiring woman.

4. White Basin Saline Prospects, Clark County, Nevada (60% Intermountain)

Applications for 1280 acres of sodium prospecting permits were made in September 1972. These have never been acted upon by the Bureau of Land Management, whose policy appears to be to discourage all mining and mineral activity.

Assessment work on 10 gypsum claims was accomplished by trenching to explore and sample part of the 10 million ton deposit and to prospect for colemanite, a calcium borate.

5. Juno and Hercules-Badger Mines, Chloride, Arizona (100% Intermountain)

In 1975 we managed to reopen the collar of a 600 foot shaft on the Juno, which had caved in 1901. Present plans are to repair the collar to give access to the lower levels of the mine for exploration.

6. Sun Valley Mine, Marble Canyon, Arizona (100% Intermountain)

We have leased the Sun Valley uranium-rhenium mine to Western Nuclear corporation, a subsidiary of Phelps Dodge Corp. We received $2,500 down in advance royalty, and are receiving $200 per month. Each year the minimum royalty increases until it reaches $1000 per month in 7 years. Royalty is 7% of the gross sales price against a purchase price of $1 million. The purchase price escalates with the cost of living index. The lessee may drop the lease, but is committed to minimum assessment work to hold the property, with a minimum of $25,000 in exploration drilling.

During 1975, much of the drilling commitment was completed. Two uranium holes were found, one of which assayed 1% U_3O_8 and one 0.25% U_3O_8. No rhenium assays have been reported to us.

7. South Utah Mines Group, Milford, Utah (100% Intermountain)

Essex International ceased operations in Milford in 1975, returning the lease to Toledo Mines Co. Toledo has continued to make the minimum monthly payments to Intermountain. However, the exploration of $20,000 per year required in the lease was not performed in 1975. The Toledo Mines Co. management is negotiating with Intermountain management for a cash settlement in order to keep their lease.

8. Intex Coal Mine, Huntington Canyon, Utah (75% Intermountain)

Intermountain contracted to sell the Intex Mine in 1974 because of difficulties in obtaining financing. In 1975, we received payments totalling $110,280 representing Intermountain's share of the proceeds of the sale, with the purchase price of our interest being $937,500 plus 8½ percent interest on the unpaid balance. Payments are being received at the rate of $22,357 per month, which covers principal and interest. The mine will be paid out over a four year period from August, 1975.

9. Red Hill, San Bernardino County, California (100% Intermountain)

The Red Hill copper-molybdenum prospect was explored by the company in the early 1960's. We are fortunate to have acquired this reserve of open pit ore, 0.7% Cu, 0.30% Mo, for our inventory of future milling ores. The property also has prospects for deeper underground ore of a similar type. During 1975 our work consisted of dozer trenches for assessment work, opening up a western vein zone not previously explored.

10. Madison Wildcat Oil Prospect, Gallatin County, Montana (43% Intermountain)

During 1975, Intermountain purchased a 43% working interest in leases covering 6,680 acres of a Federal Oil and Gas Lease in southwestern Montana. During the year, 5,480 acres were added to this lease block, bringing the total to 12,160 acres.

Negotiations are now underway with an independent oil company to explore this property. The principal objective would be to test the Ellis sandstone and the Madison limestone for oil and gas possibilities. Both formations are good producers in Montana and Wyoming. Field geological and geophysical work is planned during the spring and summer months.

1943

1944

Correspondence

NAME OF MINE: HERCULES BADGER

COUNTY: MOHAVE

DISTRICT: WALLAPAI

METALS: PB, ZN, AG

OPERATOR AND ADDRESS: DATE:		MINE STATUS DATE:	
	J.E.Layton & Albin Larson (dead) Box 227, Chloride	8/5/43 3/11/44	RFC loan granted 2 men working Layton appointed to Board of Governors, Department of Mineral Resources

Hercules-Badger Group, Mohave County

A. T. Dunbar, Saratoga, California.

Examined May 27, 1945 by E. A. Stone. **LEAD-ZINC**

"The Hercules-Badger Group is typical of many of the ore deposits of the Cerbat Range. In most part the orebodies are small . . . If the Cerbat area becomes of interest there are other mines in the area which offer much greater promise for tonnage than the Hercules-Badger."

1. Hercules-Badger Group
2. Mohave County, Arizona
3. A. T. Dunbar, Saratoga, California
4. E. A. Stone
5. May 27, 1945
6. Lead-zinc
7. "The Hercules-Badger Group is typical of many of the ore deposits of the Cerbat Range. In most part the orebodies are small. . . . If the Cerbat area becomes of interest there are other mines in the district which offer much greater promise for tonnage than the Hercules-Badger."
8. _____

* * * * *

THE EAGLE-PICHER MINING & SMELTING COMPANY
MIAMI, OKLAHOMA

INTRA-COMPANY CORRESPONDENCE

TO Grover Duff - Tucson Office DATE April 6, 1951

FROM John W. Chandler - Miami Office

SUBJECT: Exploration Work

Dear Grover:

We are presently compiling a record of all the mines and prospects which we have examined for the Company during the past 10 years.

Starting with 1940, and listing the work done by years, such as 1940, 1941, 1942, etc., we would like to have the following information tabulated:

1. Name of property
2. Location - (State and County)
3. Who it was submitted by
4. Who made the examination
5. Time spent on the examination
6. Metals involved
7. General conclusions drawn from examination
8. Remarks - Under this heading could be shown whether we have done drilling or any other work in addition to the examination. Give brief outline. If the property subsequently became a mine unit and was operated so state.

We do not have a complete file in this office on all properties examined by the Company and we will combine your report with the one being made up from our files to make the final report complete. I would appreciate it if you could put someone on this work until it is completed, sending me three copies of your tabulation.

Best regards,

Jack.

John W. Chandler.

JWC/jm

4-25-51 - Mr. Chandler will send us a list of the properties on which they have reports in their files, and we will then send him the information on the others.

GJD

P 2 of 2

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine HERCULES-BADGER GROUP Date November 13, 1942

District Wallapai, Mohave County, Arizona Engineer Elgin B. Holt

Subject: Re-application for Preliminary Development Loan

LESSEES: J. E. Layton & Albin Larson, Chloride, Arizona.

METALS: Zinc, lead, gold and silver.

LOCATION: This group of patented mining claims, consisting of the Woodchuck, Badger, Hercules, Water Witch, and Majestic claims, is located about two miles northeast of Chloride and about one-half mile northeast of the Tennessee-Schuylkill property.

R. F. C. LOAN APPLICATION: This property was visited by me on November 11, 1942, in company with the said lessees, Layton and Larson, who have arranged with their attorney, E. E. Bollinger, of Kingman, to draw up an application for a preliminary development loan, from R. F. C., in the sum of $5,000.

HISTORICAL - PRODUCTION: HERCULES: The Hercules mine is situated about two miles northeast of Chloride and one-half mile east of Tennessee Wash, at an elevation of 4,750 feet. Per F. C. Schrader, this property was discovered about 1899 and held by Comstock and Ferguson until 1903. They drove a 60-foot tunnel from the canyon side and sunk four shafts to the depth of 20 feet, with no material results. In 1903, F. H. Kraft, sunk a little deeper and struck good $30 ore, and the mine then produced steadily for several years thereafter. The country rock is pre-Cambrian gneiss. The vein is from 25 to 30 feet thick with a pay-streak from 1.5 to 2 feet wide. The vein trends N. 54 degrees W. and dips about 70 degrees southwest, with granitoid-gneiss on the hanging wall and mica-schist on the foot wall. The ore of Hercules is galena, running well in silver and gold.

BADGER: The Badger property is located one-eighth mile north of the Hercules mine. Per Schrader, on what is known as the Badger ground, occurs a large 20-foot vein known as the "Big Vein". It strikes N. 40 degrees W. and dips 80 degrees S. W. It has produced considerable ore running from $12 to $16 per ton in gold, from oxidized outcrop. At about 250 feet northeast of the "Big Vein", and parallel with it, but dipping 80 degrees northeast, lies the Badger vein, on which a tunnel 1,025 feet has been run, in sulphide ore, carrying zinc, lead, gold and silver values, zinc, occurring as sphalerite, predominating. I entered this tunnel around 300 feet to where the ground is caved. Here I inspected an old stope and found the vein to be about 3 feet wide, or more exactly varying from 2 to 4 feet in width, with heavy sphalerite showing in the pillars of vein. The available records of production show that the Hercules and Badger properties have produced around $37,635.87 in lead, gold and silver, no payments being received for the zinc in the ore. On the contrary shipments of ore were penalized for the zinc. Much of the production data of these properties are missing, especially during the early years when the same were operated on a considerable scale.

CHARACTER OF ORE SHIPPED: In order to give the character of ores shipped from this group, the returns from one car shipment is set forth as follows:

On May 1, 1941, 42.48 tons were shipped to the El Paso Smelting Works. An analysis of this lot of ore follows:

Gold	1.32 ounces per ton.
Silver	6.10 " " "

Lead	3.10%
Copper	0.27%
Zinc	5.30%
Insol.	58.40%
Silica	56.00%
Iron	10.00%
Lime (CaO)	0.40%
Sulphur	11.20%
Alumina	2.30%
Arsenic	3.50%
Antimony	0.20%

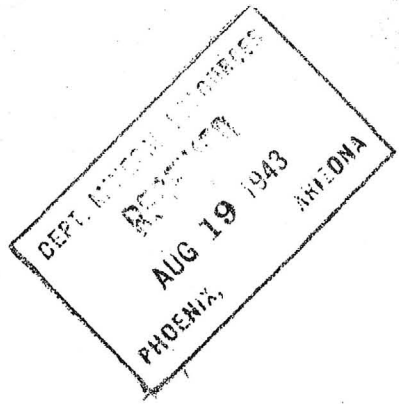
MINE WORKINGS: As stated, the Badger vein has been developed by a tunnel 1,025 feet in length, in sulphide ore, carrying zinc, lead, gold and silver values, the zinc occurring as sphalerite. This tunnel can be entered about 300 feet from portal where the ground is caved. The elevation at the portal of this tunnel is 4,550 feet. The Badger shaft has a depth of 171 feet. Its collar has an elevation of 4,800 feet. It was sunk on a parallel vein to the Badger vein at a point around 75 feet south of the Badger tunnel and about 200 feet N. W. of the end of said tunnel. The said parallel vein on which the Badger shaft is sunk is probably the Big Vein. The Hercules shaft has a depth of 250 feet and lateral work therefrom totals about 140 feet.

OBJECTIVE OF $5,000 LOAN: Applicants state that they propose to use the said loan, when and if granted, to clean out and retimber where needed the said Badger tunnel, which as stated has a length of 1,025 feet. That after this has been accomplished, they propose to apply for a Class B $20,000 development loan from R. F. C., with which to block out the sulphide zincy ores already exposed in the said Badger tunnel, along lines to be agreed upon between them and the examining R. F. C. engineer.

CONCLUSION: From facts herein given, I believe that if adequate money can be found with which to develop this property along intelligent lines, a very large underground supply of sulphide ores can be blocked out, carrying the metals mentioned, sufficient, in fact, to supply at least a 75-ton selective flotation plant over a long period of years. Therefore, I believe this property warrants the granting of the said $5,000 preliminary development loan.

(Signed) ELGIN B. HOLT
Field Engineer

325 Heard Bldg.
Phoenix, Arizona
August 18, 1943



Mr. J. E. Layton
Chloride, Arizona

Re: Layton & Larson
Docket No. C-ND-7982

Dear Mr. Layton:

I haven't the slightest idea what the O.P.A. will approve on royalties. I have R.F.C. troubles, but do not pretend to keep up with all the other federal agencies.

My general understanding is that ~~you~~ prices have to get a royalty approved by the Office of Administration in Washington, and that no royalties can be paid on R & C bonuses for metals. However, I am advised that the department of mineral resources of the state can give you this information, and I am requesting them to send it to you.

Yours very truly,

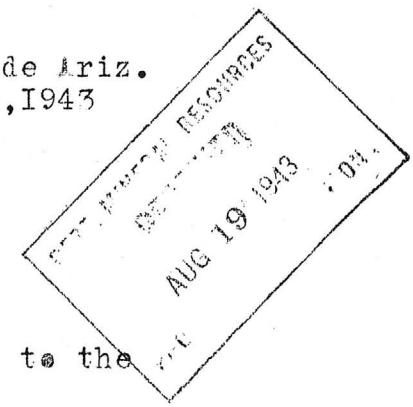
W. B. GOHRING
Supervising Engineer

WBG:MTW
cc: Mr. Coupal

Sam, will you please send Mr. Layton a reply to the enclosed letter.

W. B. G. W.B.G.

Chloride Ariz.
Aug. 16, 1943



Mr. W. B. Gehring
Supervising Engineer
Phoenix, Arizona

Dear Mr. Gehring:

Will you please advise me as to the maxium royalty the O.P.A. would approve.

Will they approve a ten percent net Smelter return with an additional ten percent on the first Subsidy.

Will they approve a ten percent net Smelter return With a minimum of one dollar per ton.

Mr, Larson and I are still working on the Hercules Badger and we expect to make it or break it in two or three weeks.

I hope to get your opinion on this royalty matter soon.

Thanking you in advance for your trouble,

Yours very truly,
J.E. Layton
J.E.Layton

August 19, 1943

Mr. J. E. Layton
Chloride
Arizona

Dear Mr. Layton:

Mr. Gohring of the R. F. C. has given us your letter for reply.

If your lease was made since December 31, 1942, it will be necessary for your to send it in to the O. P. A. in Washington for review.

We are enclosing the directive covering royalties on copper, lead, and zinc ores. The O. P. A. will inform you whether or not the lease is satisfactory to comply with this directive.

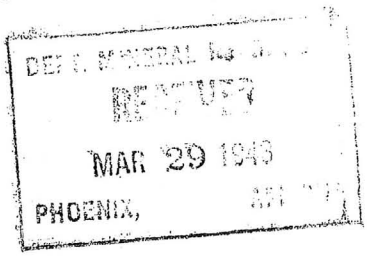
We are also enclosing a summary of the procedure to be followed in bringing new properties into production.

Yours very truly,

George A. Ballam
Assistant to the Director

GAB:JE

Washington, D.C.
March 26, 1943



Subject: Hercules Badger group, Layton.

This outfit has been granted serial number 48-282-T.

Bill Broadgate

March 10, 1943

MEMORANDUM

SUBJECT: P-56 Rating
Hercules-Badger Group

TO: W. C. Broadgate

FROM: J. S. Coupal

I am enclosing an application for a Preference Rating Order on the Hercules-Badger for your attention together with a copy of my letter to Mr. Layton and a copy of a report on the property by Elgin B. Holt.

Will you kindly see that these get into the right channel for quick action?

March 10, 1943

Mr. J. E. Layton
Box 227
Chloride, Arizona

Dear Mr. Layton:

Thank you for your letter of March 9 with the attached application for a P-56 rating. I have forwarded this application together with a copy of the field engineer's report on your property to W. C. Broadgate, Assistant Director of the Department located in Washington. I have asked him to assist in obtaining a Preference Rating Order number for you.

I hope you have taken the advice in my former letter to make application for a PD-1A direct to Phoenix for the items you are in immediate need of. These PD-1A applications to Phoenix are directly authorized from that office and get immediate action so that pending the granting of a P-56 rating. You will get quick action on immediate needs by following the PD-1A instructions.

Very truly yours,

J. S. Coupal, Director

JSC:kk

cc - Mr. W. C. Broadgate
Hotel Harrington
11th and E Streets, N. W.
Washington, D. C.

P.O.Box 227
Chloride Arizona
Mar.9,1943

Mr.J.S.Coupal Director
Department of Mineral Recources
Phoenix Arizona

Dear Mr.Coupal:

I have filled out application for P-56 rating which I am inclosing .

We are opening a tunnel on the Hercules Badger mine which is ten hundred and twenty five feet deep. We have seven hundred feet open at present.

We also have two shaft's to unwater and have all the equipment except some pipe and pipe fittings and a small amount of track timber etc.

However we will need a small amount of things like hack saw blades head gaskets,track spikes fish plates etc. from time to time.

I assure your help in getting us out of this jam will be appreciated.

Yours very truly,
Layton & Larson
By J.E. Layton

March 11, 1988

Geological Investigation

GEOLOGICAL INVESTIGATION

Hercules-Badger Mine (file)

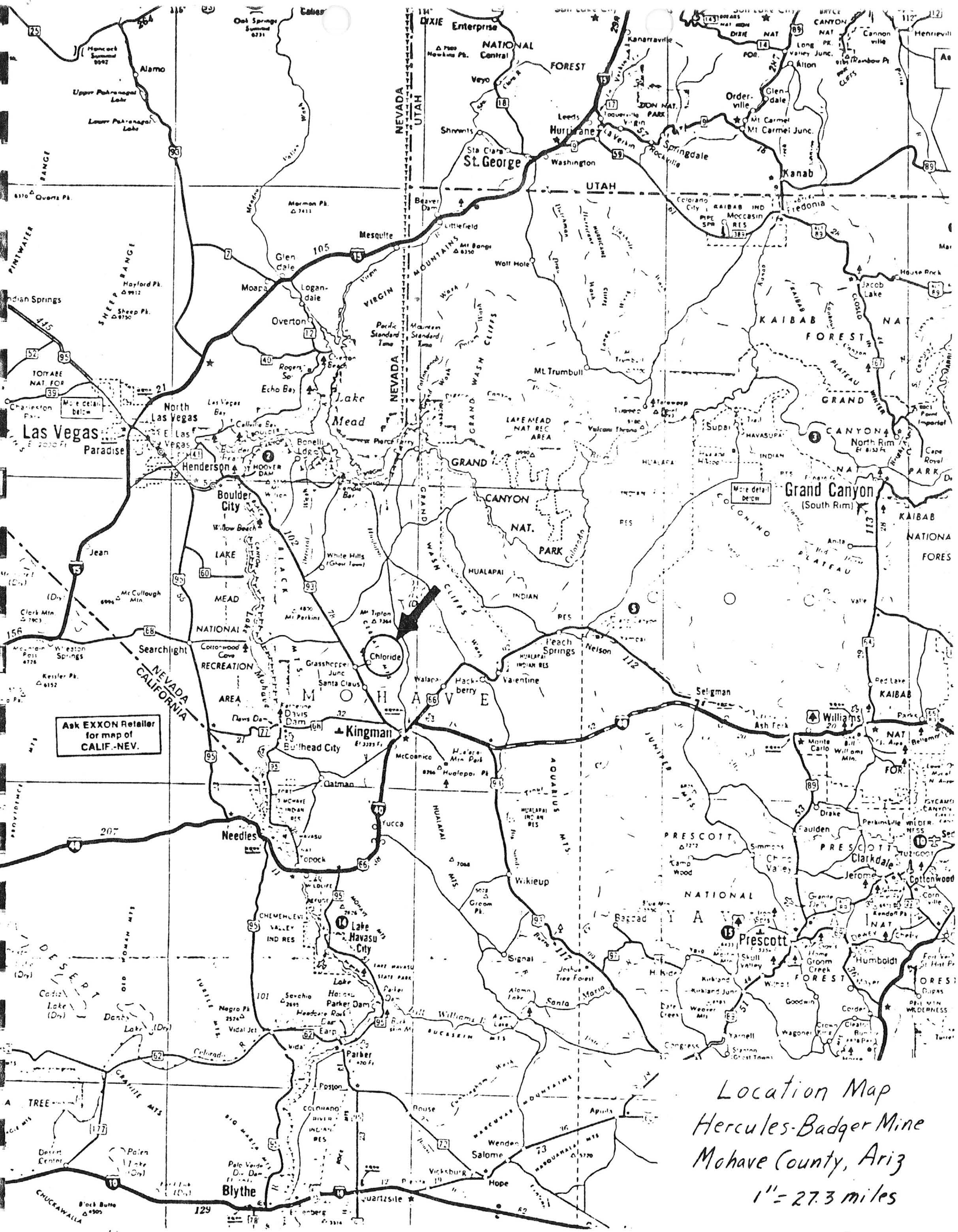
Mohave County, Arizona

Fred M. Johnson, C.P.G.

March 11, 1988

Received from Ken Hodgson, Riben Resources, Ltd
2995 Jamaica Blvd. So., Ste. Havasu City Az 86403

CONTENTS



Location Map
Hercules-Badger Mine
Mohave County, Ariz
1" = 27.3 miles

INTRODUCTION

This report presents the results of a geological investigation of the Hercules-Badger Mine to determine the potential for discovery and development of economic reserves of precious and base metal ores. The investigation included field mapping, underground mapping, sampling and a review of the available geological literature. Only a portion of the Badger Tunnel was accessible for underground examination. Conclusions and recommendations are based on both work by this investigator as well as earlier work by others.

CONCLUSIONS AND RECOMMENDATIONS

1) Average grade of recorded production from 1901-1942 (date of closure) was .66 ounces Au ton, 7.48 ounces Ag/ton, 14.81% Pb, .11% Cu. Zinc was generally not recovered.

2) Results of surface sampling above known ore shoots generally were not of ore grade, but were anomalous in precious metals. Several other anomalies were noted along outcrops. It is therefore likely that extensions of known ore shoots as well as new ore shoots may be discovered by drilling.

3) Ore has been mined to depths of 1600' below surface outcrops on adjoining and nearby properties. The maximum depth of workings below surface on the Hercules-Badger is only 300'. There is no reason to believe that ore will not extend to depth in the Hercules-Badger Mine.

4) Three major veins of the Hercules-Badger Mine have apparent potential for the discovery of economic reserves of precious

and base metals.

5) Potential is apparent both along strike and down dip from existing workings.

6) Veins with potential are: Badger vein, Big vein and Hercules vein.

7) The Badger vein has been developed to a depth of approximately 300'below the highest outcrop, with ore reported by the Arizona Department of Mines on the lowest level. It is therefore recommended that the Badger vein be explored by drilling below the no.3 level.

8) Near ore grade samples were cut on surface on the Big vein. The ore shoot appears to occur between the two shafts with a possible extension along strike to the west. Ore is reported at a depth of 174' on the lowest level of development. It is therefore recommended that the Big vein be explored at depth by drilling between the two shafts.

9) The Hercules vein has been developed to a depth of 200' below surface with ore reported along 400' of drift at the lowest level. It is therefore recommended that the Hercules vein be explored by drilling below the 200' level.

10) All three veins are converging to the southeast and should intersect approximately 600' east of the Hercules shaft. This area is covered by colluvium but would be an excellent second priority exploration and drilling target.

11) If amortization tonnage and economic reserves can be established by drilling and other exploration methods, it is

recommended that a low level adit access be established on the northwest end of the Hercules vein on the Majestic claim at elevation 4480'. This would directly access the Hercules vein 140' below the lowest level. The Big vein would be accessed by crosscut 226' below the lowest level and the Badger vein by crosscut 120' below the lowest level.

LOCATION, PROPERTY AND ACCESS

The property is located in Sections 35 and 36, T24N, R18W, Wallapai Mining District, Mohave County, Arizona, approximately 1.5 miles northeast of the Town of Chloride.

The property consists of 7 patented and 12 unpatented lode claims (See Claim Map).

Access is via approximately 2 miles of unimproved dirt road from the Town of Chloride.

GEOLOGY AND MINERALIZATION

The area of investigation covers a series of steeply dipping, subparallel veins which strike north-westerly through Precambrian granite to biotite granite gneiss. The Precambrian rocks are well jointed with one major system striking NE-SW and dipping steeply SE and another major system striking NW-SE and dipping steeply SW (See Surface Geology Map).

The veins in order of occurrence from North to South are:

1) The New vein which has an average strike of N70°W, dips 79°-87°SW and is composed of white quartz with moderate limonite staining and minor limonite boxwork. The vein on surface varies in width from 2.7' to 6.1' and is paralleled on the foootwall

by a dark diabase dike 8' to 10' in width. Visible strike length is 350'.

2) The Badger vein, which lies approximately 250' south, has an average strike of N48°W, dips 76° to 88° NE, and is composed on surface of white quartz with moderate limonite staining. The vein on surface varies in width from 2.0' to 3.0'. Underground the vein varies in width from 1.5 to 3.0'. The vein is paralleled on either wall by a diorite dike of undetermined width. Visible strike length is 1200'.

3) The Big vein, which lies 50' to 80' south, has an average strike of N55°W, dips 71°-73°SW and is composed on surface of 4.0' to 7.0' of white quartz with moderate limonite staining. On the 174' level the vein reportedly reaches 30.0' in width. Visible strike length is 1000'.

4) The Hercules vein, which lies 120' to 200' south has an average strike of N68°W, dips 81°N to 76°S and is composed on surface of 1.0' to 3.0' of white quartz with moderate limonite staining. On the 200' level the vein is reportedly 3.0' width. Visible strike length is 1800'.

Mineralization:

Mineralization on all veins appears to be similar. Ore minerals observed underground, in shaft collars and dumps are, galena, sphalerite, tetrahedrite, pyrite and minor chalcopyrite. Silver may occur with the tetrahedrite or as argentiferous galena. Gold is detected by assay and may occur as either free gold or auriferous pyrite.

Ore mineralization in the district is generally found in or adjacent to intrusive igneous stocks and dikes which are the probable source of mesothermal mineralizing solutions. The only intrusives noted on the Hercules-Badger property are the diabase dike and the diorite dike paralleling the New vein and Badger vein respectively.

Ore deposition along veins may be structurally controlled, with ore occurring along dilatant zones caused by changes in strike, dip and subsequent movement. Although insufficient structural work has been done to draw final conclusions, it appears that there has been right lateral movement on the Badger and Hercules veins and left lateral movement on the Big vein. If this can be verified, this would be a useful tool in exploration for the discovery of new ore shoots.

SAMPLING

A total of 44 samples were taken on the property, the location of which are shown on the attached assay certificates and geologic maps. Samples were assayed for gold, silver, lead, copper and zinc by Root and Norton Assayers of Silverton, Colorado.

Surface sampling generally did not encounter ore grade mineralization on surface, but did show anomalous gold and silver values over known ore shoots (+.04 Au, +.50 Ag). Base metal values were low, as expected, because of surface leaching.

Underground was accessible only on a portion of the Badger Tunnel and in Big vein shaft collars. Here samples ran higher. (See Assay Certificates and Geologic Maps).

Potential:

If ore is established by drilling in the known ore shoots on each vein between the lowest workings and a new low level access, the following minimum tonnage might be expected:

1) Badger vein ore shoot = 500' length
   Depth to new acess = 120'
   Width = 3.0'
   500' x 120' x 3.0'/12ft³ per ton = 15,000 tons

2) Big vein ore shoot = 120' length (minimum)
   Depth to new access = 220'
   Width = 7.0' (minimum)
   120' x 220' x 7.0'/12ft³ per ton = 15,400 tons

3) Hercules vein ore shoot = 400'
   Depth to new access = 140'
   Width = 3.0'
   400' x 140' x 3.0'/12ft³ per ton = 14,400 tons

   Total = 44,400 tons

If ore were established to a depth of 1600' below the outcrop of each ore shoot, the following tonnage might be expected:

1) Badger, 162,500 tons
   Big Vein, 99,820 tons
   Hercules, 140,000 tons
   Total, 402,320 tons

If the grade of ore encountered were equal to the average produced to date (.66 Au, 7.48 Ag, 14.81 Pb, .11 Cu, 14.00 Zn est.) the net smelter return might compare to the Idarado Mine of Southwestern Colorado where a similar complex sulphide ore has been produced in recent years and milled by flotation and gravity.

82% payment for contained Au, avg. 3 months
83.8% " " " Ag, " " "
49.8% " " " Pb, " " "
61.3% " " " Cu, " " "
33.7% " " " Zn, " " "

Net smelter return values might be:

.66 Au	@	430.00/oz	= 232.72
7.48 Ag	@	6.30/oz	= 39.49
14.81 Pb	@	.34/lb	= 50.15
.11 Cu	@	1.09/lb	= 1.47
7.00 Zn	@	.47/lb	= 22.17

Total n.s.r./ton = $346.00

If the grade of ore encountered were ½ of the average to date (.33 Au, 3.74 Ag, 7.41 Pb, 7.00 Zn est.) the following net smelter return might be expected:

.33 Au	= 116.36
3.74 Ag	= 17.74
7.41 Pb	= 25.00
7.00 Zn	= 22.17
Total	= $181.27

There is potential for the discovery of additional ore shoots along strike of the veins as well as at the area of intersection of the three veins - 600' east of the Hercules Shaft. Other exploration possibilities include a reported vein parallel and north of the Badger vein as well as the New Vein.

PAST PRODUCTION AND DEVELOPMENT

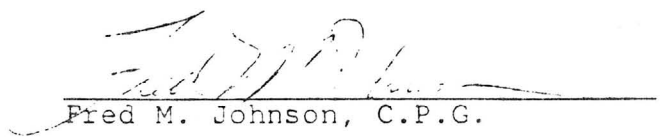
Total recorded production from 1901 to 1942, the date of closure, was 637 tons with an average grade of .66 ounces Au/ton, 7.48 ounces Ag/ton, 14.8% Pb, .11% Cu. Generally no payment was received for zinc.

The Badger vein was developed along approximately 1000 feet through the Badger Tunnel. A winze was sunk to a depth of 100 feet. An ore shoot of 500 feet was reportedly opened - Several hundred feet of which is still visible in the tunnel.

The Big vein was developed by a shaft approximately 174

feet and by drift to the northwest 120 feet. All reportedly in ore, with ore in the northwest face.

The Hercules vein was developed by a shaft approximately 250 feet with the lowest level at 200 feel extending northwest. An ore shoot of 400 feet in length is reported on this level.



Fred M. Johnson, C.P.G.

R. Jones, R.A., Manager
G. Cole, Asst. Manager

Established 1900

CERTIFIED REGISTERED ASSAYERS

P.O. Box 309 — 1025 Empire Street
Silverton, Colorado 81433 USA

CERTIFICATE OF ASSAY

Silverton, Colorado 2/15/88

No.	DESCRIPTION	oz Per 2000# Gold	oz Per 2000# Silver	Pb %	Cu %	Zn %	Remarks
1726	Badger Vein Surface Portal + 160' SE cut 2.0'	0.004	0.67	0.4	0.02	0.3	
27	" " " " Portal + 235' SE, cut 2.0'	0.192	18.37	8.7	0.06	2.3	
28	" " " " Portal + 255' SE cut 2.0'	0.005	0.49	<.1	<.01	0.1	
29	" " " " Portal + 360' SE float grab	0.015	1.61	2.0	0.08	0.2	
1730	" " " " Portal + 395' SE, float grab	0.005	2.46	0.7	0.02	<.1	
31	" " " " Portal + 600' SE, cut 1.5'	0.005	0.81	0.2	0.01	0.1	
32	" " " " Portal + 645' SE cut 2.3'	<.001	0.06	0.2	<.01	0.1	
33	" " " " Upper shaft dump grab	0.012	5.31	1.2	0.01	1.0	
34	Hercules Vein. Surface shaft + 365' W cut 2.0'	0.010	0.11	<.1	0.01	<.1	
1735	" " " " Shaft + 445' W, cut 1.8'	0.070	0.16	<.1	0.01	<.1	
36	" " " " Shaft + 800' W float grab	0.040	0.19	<.1	<.01	<.1	
37	" " " " Shaft + 1100' W float grab	0.036	0.18	0.1	0.01	<.1	
38	" " " " shaft + 1,300' W dump grab	0.026	0.13	<.1	0.01	<.1	
39	" " " " Lower shaft dump grab	0.132	0.91	<.1	0.01	<.1	
1740	Big Vein, Surface Upper Shaft, dump grab	0.500	2.90	0.2	0.06	0.8	
41	Hercules vein surface Upper shaft, dump grab	0.300	0.50	4.7	0.17	4.3	
42	" " " " Upper shaft select	0.784	0.86	0.2	0.03	<.1	
43	" " " " Upper shaft select	0.884	1.92	1.5	0.07	2.4	
44	Badger Vein surface lower portal, dump select	0.080	10.60	0.8	0.09	28.6	
1745	" " " " lower portal, dump select	0.116	8.05	9.5	0.05	6.5	
1746	" " " " lower portal, dump select	0.080	10.88	12.2	0.11	11.6	

PRINTED IN SILVERTON

Assayed for FRED M JOHNSON

Charges $ 472.50

10627 WILLIAM R. JONES

Assayer

J. R. Jones, R.A., Manager
G. Cole, Asst. Manager

ROOT & NORTON ASSAYERS

(303) 387-5472
Established 1900

CERTIFIED REGISTERED ASSAYERS
P.O. Box 309 — 1025 Empire Street
Silverton, Colorado 81433 USA

CERTIFICATE OF ASSAY

Silverton, Colorado 2/29/88

No.	DESCRIPTION	Oz Per 2000# Gold	Oz Per 2000# Silver	Pb %	Cu %	Zn %					Remarks
54	New vein surface Portal+250'NW cut 4.2'	0.005	0.09	<.1	0.02	<.1					
55	" " " " Portal+200'NW cut 1.9'	0.005	0.12	<.1	0.02	<.1					
56	" " " " Portal+150'NW cut 4.3'	0.016	0.06	0.4	<.1	<.1					
57	" " " " Portal+100'NW cut 6.1'	0.005	0.40	0.5	0.02	<.1					
58	" " " " Portal+0.0' cut 2.7'	0.010	0.31	0.1	0.01	0.4					
59	" " " " portal+100'SE cut 4.4'	0.003	0.03	0.2	0.02	0.2					
60	" " " " portal+50.0'SE dump grab	0.012	0.11	0.3	0.01	0.2					
61	Black Rock vein surface Shaft+0.0' cut 3.0'	<.001	<.01	0.6	0.02	0.2					
62	" " " " Shaft+200.0'SW float grab	0.001	<.01	0.1	0.04	0.2					
63	SW Black Rock surface Pit cut 2.3'	0.002	0.06	0.3	0.03	0.2					
64	" " " " Pit cut 2.3'	0.002	<.01	0.2	0.04	0.2					
1765	Big vein surface Upper Shaft+160.0'NW cut 2.4'	0.004	0.22	0.2	<.01	0.3					
66	" " " " Upper Shaft+100.0'NW cut 3.3'	<.001	<.01	0.2	0.02	0.2					
67	" " " " Upper Shaft+140.0'NW cut 3.3'	0.192	1.53	0.4	0.02	0.1					
68	" " " " Lower Shaft+0.0' cut 3.0'	0.252	0.55	0.1	0.02	0.2					
69	" " " " Upper Shaft+0.0' cut 7.0'	0.244	1.62	1.9	0.03	0.3					
1770	Hercules vein surface Upper Shaft select	0.476	1.97	3.5	0.06	2.1					
1771	" " " " Upper Shaft+240.0'NW cut 2.0'	0.050	0.50	0.1	0.02	<.1					
72	Big vein surface West portal+0.0' select	0.030	2.21	<.1	0.02	<.1					
73	void	NO SAMPLE		—	—	—					
74	Badger Underground Portal+350.0' select	0.104	32.11	2.7	0.11	13.4					
1775	" " " " portal+220.0' cut 2.0'	0.064	23.06	8.7	0.14	30.8					
1776	" " " " portal+195.0' cut 1.0'	0.088	17.64	54.0	0.15	12.7					

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Charges $ 517.50

1962 WILLIAM R JONES 88

Assayer 2-29

Presentation by
Dr James Crutchfield

4-4-1980

76.0360
HERCULES-BADGER

Excerpt from U. S. Bureau of Mines R. I. 4101, "Examination of Zinc-Lead Mines in the Wallapai Mining District, Mohave County, Arizona." August 1947, by P. S. Haury - Pages 8-9.

HERCULES-BADGER MINE

LOCATION AND OWNERSHIP

The mine is situated 2 miles by road northeast of Chloride.

The Hercules-Badger Group, consisting of five patented claims, is owned by the Arizona and Western Mines Corp., A. T. Dunbar, President, Berkeley, California. Albin Larsen and J. E. Layton of Chlordie Ariz., the present operators, have a five year lease on the property.

HISTORY

It is reported that the property has been worked intermittently since about 1900. Some production for 1911, 1912, and 1914 is recorded.

PRODUCTION 1901 – 1948 5610 oz Au; 12,287 oz Ag; 1,418 #/Cu; 331,365 # Pb 52,524 # Zn.

Ref Dings 1951 p. 147

A considerable early production of gold-silver ore from the property is reported, but no reliable records are available. Smelter returns from one carload shipped in May 1941 were as follows: 3.10% Pb., 5.30% Zn., 0.28% Cu., 1.32 Oz. Au., and 6.10 Oz. Ag. per ton.

DEVELOPMENT

The Badger mine workings consist of an adit drift 1,025 feet long, a 100 foot winze from the drift, and about 250 feet of drifts on levels 50 and 100 feet below the main drift. The adit drift attains a depth of 175 to 200 feet below the outcrop. All the workings are in the Badger Vein. Caved and flooded portions of the mine were reopened recently with the aid of an RFC loan. This work revealed that all the originally developed ore had been mined. The vein area from the lowest level to some distance above the main drift had been stoped. Lead-Zinc-Gold-Silver mineralization in a narrow vein is reported to continue downward from the 100 level, and a 2 to 5 inch vein of sulfides in the breast of the main drift is reported to assay 20% lead, 25% zinc, and about $36 per ton in gold and silver. However, no exploratory or development work is being done in either of these places.

The present work consists of clearing the drift of cavings on the 100' level.

DESCRIPTION OF THE DEPOSIT

Gold-silver-lead-zinc are occurred in denticular shoots in a vein striking northwest and dipping about 80° northeast. Stope widths indicate the ore was locally as wide as 3 feet. Portions of the oxidized part of the vein near the surface carried considerable gold. High gold content has characterized the metal-bearing portions of the vein. Ore widths now exposed in the stope faces are too narrow to be minable.

Presented by
DR. JAMES CRUTCHFIELD
4 APRIL 1980

Copy of undated report by E.H. Crabtree, Los Angeles, Calif. on the Hercules Badger mine

1912
1915

The Hercules-Badger Group
of mining claims owned
by
Arizona Western Mines Company

The Hercules-Badger group consists of six patented claims known as the Hercules, Badger, Woodchuck, Wild Cat, Majestic, and Water Witch, located on the western part of the Corbat Range in the northern part of the Wallapai Mining District. The property is about two miles from Chloride, Mohave County, Ariz. and one mile from the Tennessee Mine, and is assecoible by wagon road to the claims.

There are four distinct fissure veins running directly through the property, and the mineral belt can be traced for about 8 miles. These veins are in a direct line from the Banner mine at Stockton Hill, and the ore in the Hercules Mine is practically the same as the ore at the Banner Mine.

A shaft has been sunk on the Hercules Claim 250 feet deep, and drifts at the bottom of the shaft to an extent of four hundred feet showed an average of two feet of ore the entire distance. This work was done by the direction of E.L. Talbot, E.M., who states that there is $180,000 worth of ore blocked out in the Hercules claim. He also reports that the geological conditions are very similar to Butte, Montana, and that a depth of 500' to 1000' will open up the largest orebodies. This fact has been proven in the neighboring mines which have produced millions of dollars.

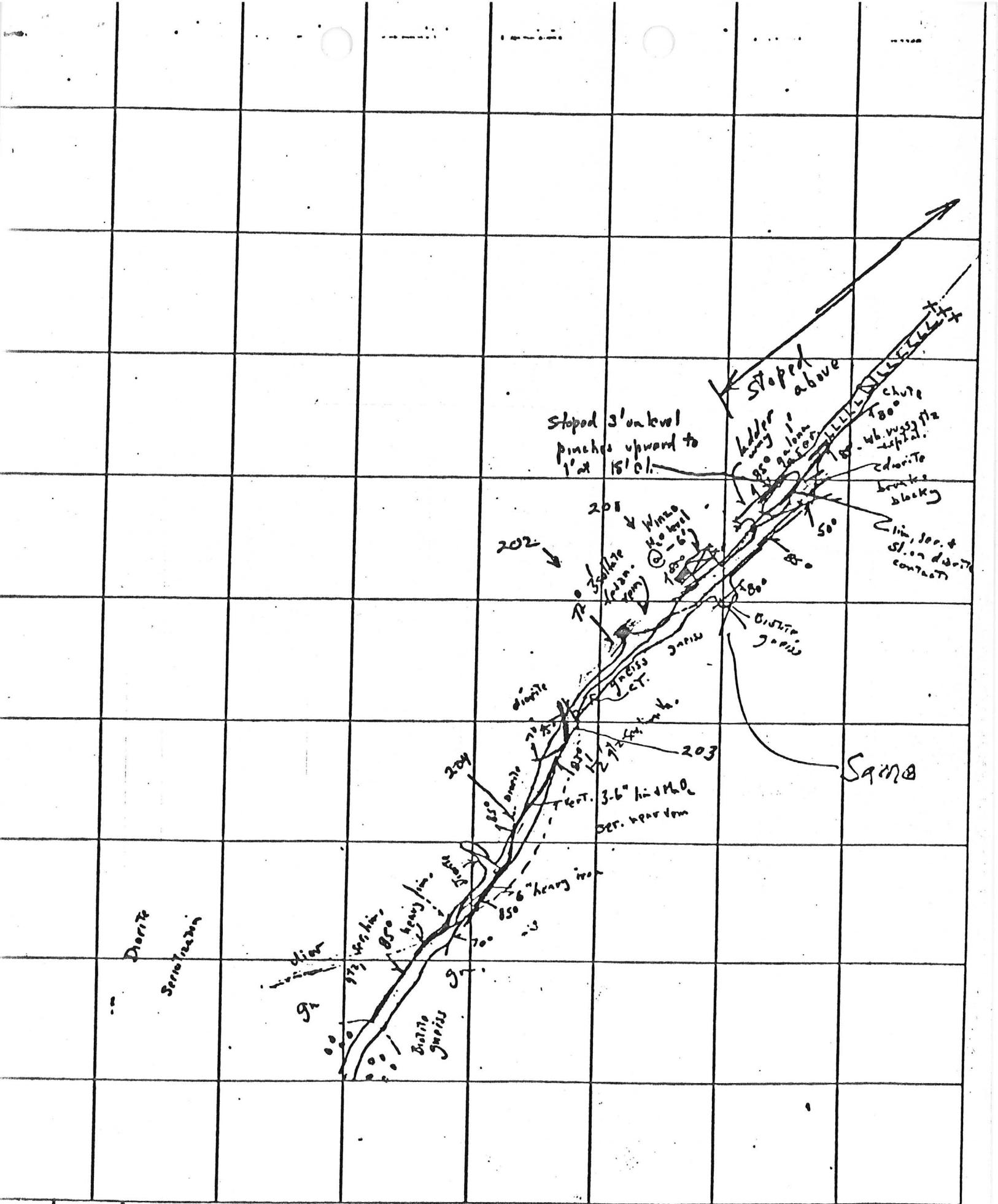
The orebodies of these mines have increased in size and richness as they obtained depth, ranging from four to twenty feet in width. The Hercules-Badger group of claims has the very same geological conditions as those mentioned above. The smelter statements afford the best evidence of value contained in the ore, and these claims (Hercules) have the advantage of not being a depleted property, for it has only been worked in a small and crude manner which has tended to prove the merits of the property and values in large untouched orebodies.

There are two parallel veins running through the Badger ground and a tunnel 1023 feet long which penetrates the No.1 vein, from which a large tonnage of high grade ore was shipped in former years. A shaft has recently been sunk on the No.2 vein to a depth of 174 feet and a drift to the west for 30', together with a crosscut of 30' showing 30' of mineralized quartz across the vein, with 2½ feet of ore in the face of the drift that assays $36.00. It is the opinion that the face of the drift is just entering a large ore shoot, and that with greater depth an immense ore body will open up.

Badger Vein
middle Big
1 3/4 ?? 207 A-

The three main veins intersect further up the canyon on the company's property, and at that point there should be very large bodies of rich ore. There are seven known ore shoots which show on the surface of the claims and as the ground has been only scratched up to the present time, the opportunities for future operations offer great possibilities.

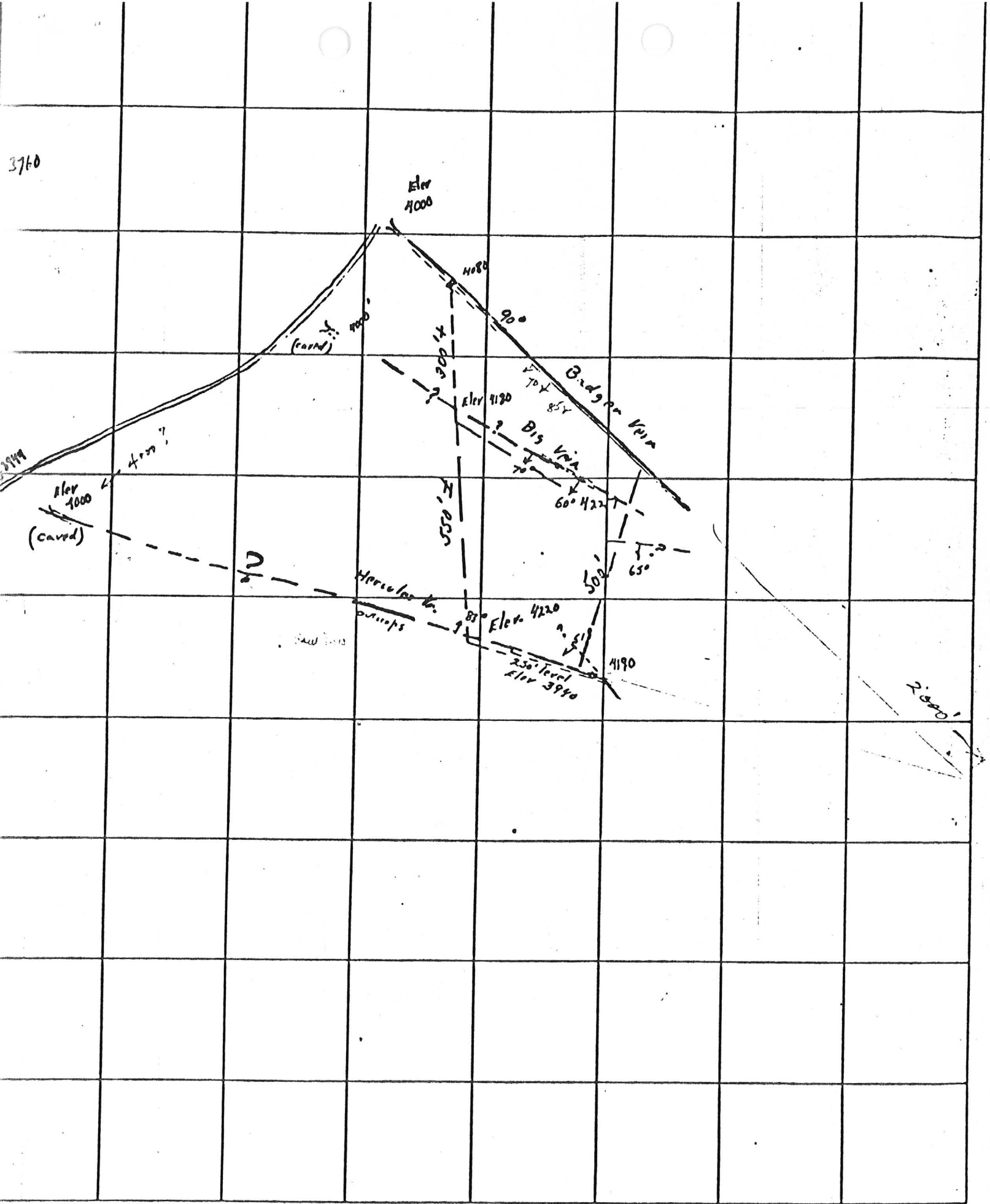
(NOTE" This report was written for the promotion of the property, probably about 1915. The three veins may be easily seen on the surface. There is no known block of ore as described, although the shaft is not accessible)



NE Herc.-Badger LOCATION Badger Tunnel LEVEL 1

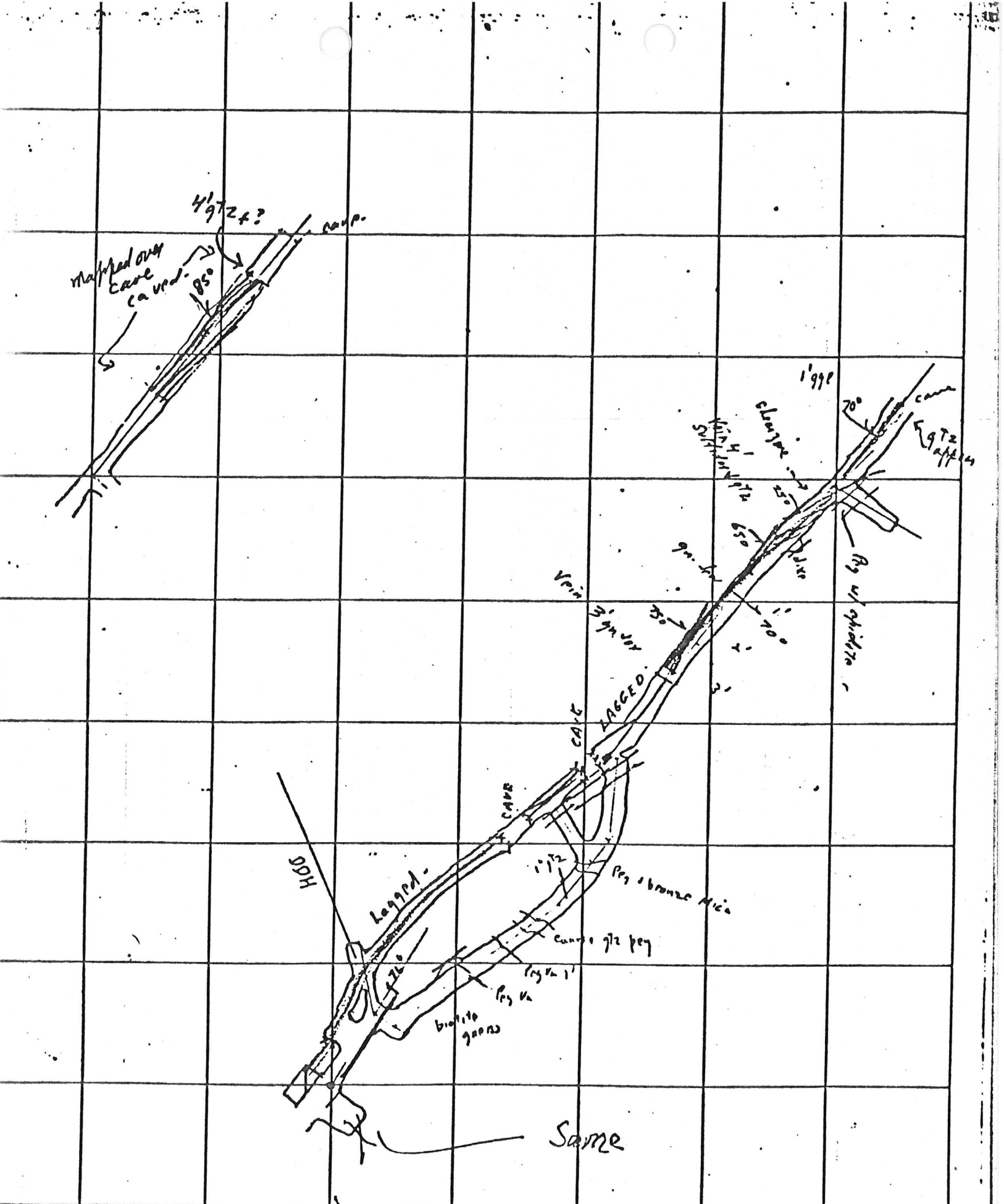
OLOGY BY RVW-JW SURVEY Bruxton SCALE 1"=40' DATE

Tape



MINE Hercules - Badger LOCATION Chloride, Ariz. LEVEL Proposed

GEOLOGY BY R.H. SURVEY SCALE 1"-300' DATE 11/1/63



LOCATION BADGER TUNNEL LEVEL 1ST

LOGY BY RW / JVH SURVEY B.T SCALE 1-50 DATE

encountered thus far has been taken from the 500-foot level. Here the vein is reported to be 14 feet thick and to contain some very high-grade ore. The dumps, which are large, contain much ore and are all to be milled.

DISTAFF MINE.

Three-quarters of a mile east of Chloride and about one-fifth of a mile west of the Tennessee vein and about parallel with it, lies the Distaff-Mollie Gibson vein, on which are situated the Distaff, Mollie Gibson, and other properties.

The Distaff mine is located on a patented claim in the foothills just north of Tennessee Wash, at an elevation of 4,100 to 4,400 feet. It is owned by Charles E. Sherman, of Mineral Park. The country rock is the younger medium-grained granite described under "Geology" as characteristic of the region lying north of Chloride. Hornblende and mica schist also occur, notably on the east side of the claim. The granite is roughly schistose and the vein is about parallel with the schistosity. The vein strikes north with vertical dip and has a known extent of about a mile. It is but 2 or 3 feet in width and is easily worked, but pinches on the northern part of the Distaff ground.

The principal developments consist of about 2,000 feet of underground workings, including a 240-foot shaft and drifts. Recent shipments of what was formerly considered low-grade ore from the old dumps of the Distaff are reported to have netted several hundred dollars per carload. The production has been about $50,000, the ore being chiefly chloride or horn silver, with much native silver occurring in slabs or chunks many pounds in weight in the deeper part of the workings.

MOLLIE GIBSON MINE.

The Mollie Gibson is situated south of the Distaff and beyond Chloride Wash, the Bullion-Beck claim intervening. It is on the same vein as the Distaff. It is credited with developments 200 feet in depth and with having produced considerable lead-silver ore, some being of high grade.

HERCULES MINE.

The Hercules is a small mine, situated about 2 miles northeast of Chloride and about one-half mile east of Tennessee Wash, at an elevation of about 4,700 feet. It is close to the wagon road leading to the Lucky Boy and Samoa mines.

The Hercules was discovered about 1899 and held by Comstock & Ferguson until 1903. They drove a 60-foot tunnel from the canyon side and sunk four shafts to the depth of 20 feet, with no material results. In 1903 F. H. Kraft, the present manager and part owner of the property, sunk a little deeper and struck good $30 ore, and the mine has been a steady though small producer ever since.

The country rock is the usual pre-Cambrian gneiss. The vein is 25 to 30 feet in thickness. It trends N. 54° W. and dips about 70° SW., with porphyritic granitoid gneiss on the hanging wall and black hornblende-mica schist on the foot wall. A neighboring vein trends N. 80° W. and dips 80° N. It occurs in the dark foliated schist, and the mine is probably on a chimney or ore body enriched by the intersection of this vein with the Hercules.

The principal developments are a 90-foot shaft sunk on the vein and some drifting, notably on the 50-foot level. The bottom of the shaft shows a pay shoot of very good ore 1½ feet thick. The mine yields a plentiful supply of excellent potable water. The ore is galena, running high in silver and containing good values in gold.

BADGER MINE.

Two miles northeast of Chloride and one-eighth mile north of the Hercules mine, on what is known as the Badger ground, occurs a large 20-foot vein known as the "Big vein." It strikes N. 40° W. and dips 80° SW. It has produced considerable ore. Tests from surface pits sunk on it show $10 ore, of which $12 is in gold. In a canyon one-eighth mile east of the Hercules the vein is cut by a close sheeting or cleavage structure trending N. 80° E.

At about 250 feet northeast of the "Big vein" and parallel with it, but dipping 80° NE., lies the well-known Badger vein. It has been mined to a considerable extent at several points to the northwest and has produced considerable ore.

Among the properties situated on it are the Badger group and the Badger and Woodchuck mines, located on eastern tributaries of Tennessee Wash. The two latter, owned by S. L. Chadwick, have produced considerable rich lead ore, which occurs in large bodies, but some of the ore is said to contain much zinc. The Badger group property is reported to have produced several hundred tons of good ore, chiefly in gold and silver, from a 300-foot tunnel 150 feet deep at the face.

EMPIRE MINE.

The Empire mine is situated about 2 miles north-northeast of Chloride, in a northeast gulch of Tennessee Wash, on a large vein which is supposed to be the northwestward extension of the Badger vein. It is one of the oldest and first patented properties in the district. It is developed principally by a shaft 200 feet deep. The values are principally in silver, which is very soft and very rich, and the yield has been good from the surface down. The production has been about $70,000. The mine was owned by William Raymond, one

Partial List of Ore Shipments

from

Hercules-Badger Mines.

Pounds Net	Ounces Gold	Ounces Silver	% Lead	% Zinc	Net Value per ton	Net Returns	Remarks
17973 6.06	1.38	19.8	21.6		$41.65	$355.43)	
24271 6.06	0.76	7.4	7.5		10.76	114.60)	. . . . . $469.03
50321 9.06	1.12	12.4	18.0		30.01	704.92)	. . . . . 835.94
15689 9.06	0.84	9.4	11.6		18.78	131.02	
30187 5.07	0.92	8.3	16.0		22.32	306.13)	
17998 5.07	0.75	11.2	34.3		33.41	274.26)	- - - - - - 580.39
24925 7.07	1.11	9.5	18.2		27.66	318.77)	- - - - - -
20813 7.07	0.73	14.0	39.7		37.14	264.03	- - Concentrates
44518 9.07	1.18	12.0	22.0		30.99	643.28)	. . . . . 937.80
14312 9.07	0.62	19.2	49.5		43.25	294.52	- - - Concentrates.
47550 1.08	0.95	17.8	28.0		25.97	572.43	
31105 4.08	0.62	18.7	40.5		26.90	394.38)	. . . . . 856.90
37068 4.08	1.13	14.3	21.5		24.60	426.38	- - - Concentrates
		Balance paid after umpire $30.30					
16136 4.08	1.03	20.2	38.0		30.30	297.86	
82725 1.11	0.11	36.1	60.3	10.7	46.25	1200.56	Conc. from 96 tons
6254 1.11	1.64	17.5	24.8	10.6	44.42	46.50	" " 44 "
25111 4.11	0.08	39.7	49.8	13.4	38.63	489.17	
34972 -?						413.23	Zinc Concentrates
82594 9-11	0.52	44.8	41.4	12.5	45.08	1108.06	Conc. from 209 tons
34711-7-11	0.02	24.0	1.6	42.9	34.18	Zn Conc 949.63	
36652 4.12	0.09	66.14	33.2	15.1	45.10	708.32)	
9306 4.12	1.75	7.8	13.0	25.52		99.96)	. . . . $808.28
31340 7.12	0.94	12.2	18.7	12.2	29.35	683.30	
42770-4-13	0.87	15.5	24.1	10.8	25,73	752.38	
35982 4-13	0.67	19.6	37.7	11.2	33.93	582.47	. . . . . 1354.85
35852 4.14	0.21	19.2	13.5	17.2	8.51	254.61	
71577-4-14	0.70	10.3	11.8	9.7	15.91	339.85	
							$12.642.19

HERCULES BADGER MINE

WALLAPAI MINING DISTRICT

CHLORIDE, ARIZONA

U. S. BUREAU OF MINES, PERMANENT RECORD CARD

PRODUCTION RECORD:

	TONS	Au. Oz.	Ag. Oz.	Cu #	Pb #	Zn #
1901	-					
1902	21	3	820	-	18,100	-
1903	-					
1904	-					
1905	-					
1906	-					
1907	159	74	1007		40,755	
1908	-					
1909	-					
1910	-					
1911	-					
1912	54	49	648	324	22,140	
1913	49	39	834	258	28,538	
1914	-					
1915	2	2	25		817	
1916	-					
1917	27	31	352	108	13,716	
1918	72	93	675		33,965	
1919 none to 1936 none						
1937	78	47	872	320	14,894	3,783
1938	7	5	218	35	2,527	
1939	110	12	118	39	4,028	
1940	33	37	219	174	5,279	
1941	25	33	150	133	3,983	
1942 none to 1959 none						
	637 tons	425 oz.	5,835 oz.	1,391 #	188,742 #	3,783 #

Average grade: 0.66 Oz. Au/ton
7.48 Oz. Ag/ton
14.81 % Pb

$148.50
41.14
88.80
$278.44 /ton (1978)

396.00
224.40
88.80
709.20

EL PASO SMELTING WORKS

1/15/71

BOUGHT OF Intermountain Exploration CO — EL PASO, TEXAS, 19
ADDRESS PO Box 472 Boulder City, Nev. 89005 — SMELTER LOT 3533.
SHIPPING POINT Kingman Ariz. — SHIPPERS LOT
NAME OF MINE Badger — CLASSIFICATION Lot 5.
RATES, EXCEPT ON CONTRACTS, SUBJECT TO CHANGE WITHOUT NOTICE — PURCHASE TERMS 4402

MIX	ARRIVAL DATE	CAR NUMBER	CAR RR	GROSS WEIGHT	TARE WEIGHT	CONTAINERS NO.	CONTAINERS WEIGHT	WET WEIGHT	% H2O	DRY WEIGHT	QUOTATIONS
902	12-7	72329	AT.					17140.	5.5	16197	SILVER 1.6084
											LEAD .1450
											COPPER
											Am. 37.24
											B/L DATE:

ASSAYS	OZ. PER TON GOLD	OZ. PER TON SILVER	WET LEAD %	COPPER %	SiO2 %	Fe %	CaO %	Zn %	S %	Al2O3 %	As %	Sb %	Ni %	Bi %	%	%
SMELTER	.045	35.2	42.4	.15				3.6			.30	.25		.20		
SHIPPER	.06	32.11	42.36	.11												
UMPIRE																
METALLICS	—	—	—	—												
SETTLE	.0525	35.155	42.38	—												

VALUES PER TON

PAYMENT

		PAY CONTENT	PRICE	AMOUNT	
GOLD	MIN 95 %	.04599225	37.24	1	81
SILVER LESS	MIN 55 %	33.39725	1.5784	52	71
LEAD LESS 30 @ 90 %		735.84	.115	84	62
COPPER, LESS @ %					
GROSS VALUE				139	14
LESS DEDUCTIONS (NET CHARGE)				15	50
FREIGHT VALUE				X X	X
NET VALUE				123	64

FREIGHT (FIXED): @ 8.0985

DEDUCTIONS

	CHARGE	CREDIT
BASE, INCL. LABOR ADJ.	15	50
EXCESS VALUE OVER $		
¢ PER UNIT Pb/Cu ± %		
LEAD--COPPER PRICE ESCALATOR		
ZINC		
As: Sb: Bi:		
NET CHARGE	15	50

— WET TON
DRY TONS

	DEBITS	CREDITS
NET VALUE		1001 30
LESS FREIGHT: WET TONS @ P.T.		
LESS SWITCHING: REBETS: REWEIGHS:		
LESS SAMPLING:		
LESS UMPIRE:		
LESS THAN 10 TONS	25 00	
LESS HAULING:		
LESS REPRESENTATION: 2 1/2	36 50	
LESS ROYALTY:		
LESS ADVANCE:		
BALANCE DUE SHIPPER/SMELTER	939 80	
TOTALS	1001 30	1001 30

HERCULES-BADGER MINE

CHLORIDE, ARIZONA

January 2, 1969

Location and Physical Conditions

The Hercules-Badger group, consisting of six patented mining claims, lies one and one-half miles east of Chloride, Arizona, and is accessible via automobile over a road which was recently repaired (December, 1968) by Intermountain Exploration Company. Maintenance will be done by the county without extra charge except the occasional encouragement to the grader operator.

The climate is mild the year around, and there is an ample supply of local labor for a small operation available at Chloride. Mining contractors are also available locally for such work as may be desired.

Electricity is available at the Tennessee Mine about one mile west and down the draw. The Black Rock Spring, where the Tennessee obtained milling water, is just west of the property. Water is available in the mine, where the level stands about six feet below the adit sill; although it has not been pumped, and we have no knowledge of its quantity. The town of Chloride was somewhat interested in this water in former years.

The nearest railroad loading point for shipments to southern Arizona or El Paso would be on the Santa Fe at Kingman (25 miles distance), all but the mine road (one and one-half miles) being paved highway. For northbound ore to Tooele, the nearest loading point is on the Union Pacific at Boulder City, Nevada (60 miles north by paved highway).

Ore Reserves and Possibilities

The dump of the old Hercules shaft indicates much drifting was done on the vein, and considerable galena is seen on the dump. The copy of the enclosed report by Crabtree contains the claim of an ore body which, as can be seen from the production record, has not been mined. The most recent work has been done through the Badger Tunnel, subject of the report by the U. S. Bureau of Mines.

The intermediate vein has had even less work and was described in a report as being 20 feet wide. However, that report is not enclosed herewith. The shaft collar of the Hercules has been caved by vandals but can be repaired for access without undue expense. The shaft on the intermediate vein is full of water but appears in good shape. The work on the Badger Tunnel is cleaned up partway through a caving stope and is shown on the enclosed map--geologic and assay plan.

Ore Reserves and Possibilities (cont.)

About 10 tons of ore is on the tunnel dump, which runs .055 oz. Au, 11.1 oz. Ag, and 10.1% Pb. A study of the shipping record shows that the ore shipped was usually much better than this. In fact, much production went unreported, as a comparison of the old shipping record with the USBM record will show.

About 7,000 tons of dump material is available for handling through a portable plant to recover sulfides and heavy minerals.

Vein widths will probably be narrow and high grade, in any case; and from the exposures and stopes seen, a width of two to three feet would be expected for the vein. Narrower high grade veins may be reused.

The order of magnitude of the ore which could be developed can be ascertained, although exact data is lacking concerning possible reserves. In the Badger Tunnel they drifted on the vein for over 1,000'. Much is stoped, and we can assume that half the distance was ore. The widths were as noted, but if they averaged 3' of ore, there would be 110 tons per foot of depth. If similar bodies are found on the other two veins, an expectation of 300 tons per foot of depth becomes possible. The potential to the southeast of other ore shoots, or the still untested possibility of a shoot where the veins converge, gives greater promise to the property.

In the nearby mines the ore shoots indeed became wider and longer with depth, a fact worthy of note. Also no mine in the district has bottomed mineralogically, although two have been developed to 1,600 feet. The uniform structure and mineralogy, typical of mesothermal conditions of deposition, allow projections to greater depths with confidence.

Conclusions

The ore that has been worked through the Badger Tunnel is of sufficient grade to allow profitable mining of the narrow width. Old reports are sufficiently accurate to suggest a similar situation of the other two veins. Extensions to the south and possible vein intersection have not been tested. The mine has a good possibility of increasing in size gradually with depth.

The 300 tons per foot of depth would probably be the most reasonable possibility for the property. Additional tonnages would be the subject of further work. Grade of ore, which is a sulfide, should be comparable to that produced in the past except for variations in leaching of zinc or enrichment of silver near the surface.

Recommendations

1. Recovery of collar of Hercules Shaft and examination of the purported ore block.

2. Repair cave in the Badger Tunnel. This work will give access to ground at depth under the hill from which long hole or diamond drilling can be accomplished and which will allow further drifting on the vein.

3. Long hole drilling of the No. 2 vein, the first vein south of the Badger Tunnel.

4. Crosscut from Badger Tunnel to Hercules vein.

Estimated cost of above	#1.	$ 4,000
	#2.	$ 3,000
	#3.	$ 1,200
	#4.	$25,000

Dump material consists of 7,000 tons which can be concentrated by tables and jigs. Grab samples averaged 0.19 oz. Au, 2.20 oz. Ag and 2.65% Pb. A concentration ratio of 20/1 should yield over 300 tons of shipping ore worth $300/ton in recoverable values.

Richard V. Wyman
Registered Geologist
President, Intermountain
Exploration Company

RVW:gft

Encl.
1. Pictures of mine dumps
2. U. S. Bureau of Mines Report
3. U. S. Bureau of Mines record of production (incomplete)
4. Copy of ore shipments from Badger Tunnel
5. Copy of undated report by E. H. Crabtree, E. M.
6. Maps in back cover
   a. Patent plat
   b. Underground mapping
   c. Recommended work

HERCULES-BADGER MINE

The Hercules-Badger mine consists of six patented mining claims owned in fee by the Intermountain Exploration Company. They are approximately 1½ miles east of Chloride Arizona, in the Wallapai Mining District, in approximately Section 35, T 24 N, R 18 W, G. & S. R. B. & M.

GEOLOGY

The claims cover a series of nearly vertical veins which strike northwest through pre-Cambrian biotite granite gneiss. Parallel with the Badger vein, which has received the principal development in the past, is a diorite dike, which appears to be structurally related to vein emplacement. In some places the vein follows the contact, and in all cases there is some mineralization along this contact.

No attempt has been made as yet to map the surface outcrops, which appear to be predominantly one rock type. One useful function this mapping would serve would be the locating of diorite dikes and other related structural phenomena.

The Badger tunnel has been mapped for over 300 feet, to a point where stope fill blocked further work. The vein on the main adit (tunnel) level appears as a narrow vein steeply north dipping, and containing visible sulfides of lead and zinc in a gangue of quartz, sericite, and limonite.

Sampling showed unexpectedly high silver values, but did not show any ore with commercial widths.

A winze, reported to be 100' deep, was filled with water to within 6 feet of the tunnel level. The vein below was reported to be narrow and stoped to the 100 level, but this could not be observed. Stoping above the tunnel level showed a narrow vein, with average width of about 2'.

The other veins of similar character occur on the property, at distances of 200' and 500' south of the Badger vein. Surface workings and inaccessible shafts on these veins have exposed veins that contain galena, sphalerite, gold, and silver in important amounts. Other veins could well exist between these known veins and beneath other parts of the property where the outcrops are poor.

RECOMMENDATION AND PROPOSED WORK

Intermountain Exploration Company proposes to clean up the caved stope fill and retimber the drift on the Badger vein, to give access to the full 1025 feet of old drifting. No attempt will be made at present to pump out the lower level of the mine. From the geologic mapping of the reopened drift, other exploration will likely be planned. During this period of rehabilitation, an attempt will be made to rescue the collar of the Hercules shaft, and repair this for access to the mine workings.

Exploration of the Hercules vein and the intermediate vein can be done with a diamond drill from the surface when more is known concerning disposition of ore shoots.

Richard V. Wyman

7/11/59 Richard V. Wyman, Mining Geologist

Brief Report

7-21-1943

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

MINE: HERCULES-BADGER GROUP DATE: July 21, 1943

DISTRICT: Wallapai, Mohave Co., Ariz. ENGINEER: Elgin B. Holt

Subject: BRIEF REPORT

LESSEES: J. E. Layton and Albin Larson, Chloride, Arizona.

METALS: Zinc, lead, gold and silver. Ore occurs as complex sulphides, mainly sphalerite and galena; hence it is suitable for treatment by selective flotation.

LOCATION AND AREA: This group of patented mining claims, known as: Woodchuck, Badger, Hercules, Water Witch, and Majestic claims, is located about 2 miles northeast of Chloride, Arizona, and about one-half mile northeast of the Tennessee-Schuylkill property. A good mountain road leads from the property to Chloride.

HISTORICAL-PRODUCTION

HERCULES: Per F. C. Schrader, the Hercules mine was discovered about 1899 and held by Comstock and Ferguson until 1903. They drove a 60-foot tunnel from the canyon side and sunk four shafts to the depth of 20 feet, with no material results. In 1903, F. H. Kraft sunk a little deeper and struck good $30 ore, and the mine then produced steadily for several years thereafter. The country rock is pre-Cambrian gneiss. The vein is from 25 to 30 feet thick, with a pay-streak from 1.5 to 2 feet wide. The vein trends N. 54 degrees W. and dips about 70 degrees S. W., with granitoid-gneiss on the hanging wall and mica-schist on the foot wall. The ore of Hercules is galena running well in silver and gold.

BADGER: The Badger property is located one-eighth mile north of the Hercules mine. Per Schrader, on what is known as the Badger ground, occurs a large 20-foot vein known as the "Big Vein". It strikes N. 40 degrees W. and dips 80 degrees S. W. It has produced considerable ore running from $12 to $16 per ton in gold, from oxidized outcrop. At about 250 feet northwest of the Big Vein, and parallel with it, but dipping 80 degrees N. E., lies the Badger vein, on which a tunnel 1,025 feet has been run, in sulphide ore, carrying zinc, lead, gold and silver values, zinc occuring as spalerite, and lead as galena.

PRODUCTION: The available records of production show that the Hercules and Badger properties have produced around $37,635.87 in lead, gold, and silver; no payment being received for the zinc in the ore. On the contrary, shipments of ore were penalized for the zinc content. Much of the production data of these properties are missing, especially during the early years when these mines were operated on a considerable scale.

CHARACTER OF ORE SHIPPED: In order to give the character of ores shipped from this group, the returns from one car lot is set forth as follows: On May 1, 1941, 42.48 tons of ore were shipped to the El Paso Smelting Works. An analysis of this lot of ore follows:

Zinc----------	5.30%
Lead----------	3.10%
Copper----------	0.27%
Gold----------	1.32 ounces
Silver----------	6.10 ounces
Insol.----------	58.40%
Silica----------	56.00%
Iron----------	10.00%

Lime----------	0.40%
Sulphur----------	11.20%
Alumina----------	2.30%
Arsenic----------	3.50%
Antimony----------	0.20%

MINE WORKINGS: As stated, the Badger vein has been developed by a tunnel 1,025 feet in length, in sulphide ore, carrying zinc, lead, gold and silver values. This tunnel, at its portal, has an elevation above sea level of 4,550 feet. The Badger shaft has a depth of 171 feet, with an elevation at its collar of 4,800 feet. It was sunk on a parallel vein to the Badger vein at a point around 75 ft.(?) south of the Badger tunnel, and about 200 ft. N.W. of the end of said tunnel. The said parallel vein on which the Badger shaft is sunk is probably the Big Vein. The Hercules shaft has a depth of 250 ft., and lateral work therefrom totals 140 ft.

RFC LOAN: During February, 1943, Layton & Larson, lessees, were granted by RFC a loan in the sum of $5000, to be used to make accessible certain workings of the property.

WORK PERFORMED: The work carried out by lessees, with the loan mentioned, is outlined as follows: The Badger tunnel was cleaned out and retimbered from a point 300 feet from its portal to the face of said tunnel, which, as stated, has a total length of 1,025 feet. This work was more or less disappointing, inasmuch as at the back end of said tunnel a small ore shoot was found, with a length of 100 feet and a small pay-streak of sphalerite and galena from 2 inches to 5 inches in width, and assaying around: 23% zinc, 20% lead and about $36.00 per ton in gold and silver. However, no attempt was made to do any mining on this small showing of ore.

WINZE IN BADGER TUNNEL: Layton & Larson then cleaned out and retimbered a winze which is sunk on the Badger vein at a point 225 feet from the portal of the Badger tunnel; said winze having a total depth of 100 feet, with levels at depths of 50 feet and 100 feet. On the 50-foot level, there is an old drift, which per the mine maps, runs southeast on vein 125 feet. Lessees cleaned out 100 feet of this drift, and found that all ore in vein had been stoped out above to the Badger Tunnel level. This stope indicates that the vein material removed was about 3 feet in width. On the 100-foot level in winze, per the said mine maps, there is a drift 100 feet southeast on vein and another drift 50 feet northwest on vein. This level was being cleaned out on the day of my last visit to property, on July 15, 1943. On the said date, this 100-foot level could be entered 50 feet S. E. and 14 feet N. W. Also in the portion cleaned out there is a vein of zinc-lead sulphide ore about 26 inches in width, which seems to be widening below the 100-foot level. At the time of visit, there was around 300 pounds of clean galena-sphalerite ore piled on dump, and which had been removed from the 26-inch vein on the said 100-foot level of the winze.

SULPHIDE ORE RESERVES: From the above figures, it would seem that there are around 500 tons of sulphide milling ore indicated above the 100-foot level of the winze; but the average tenor of this ore is not available as this report is being prepared.

ESTIMATED DAILY PRODUCTION: Lessees stated that during the course of development work in the winze mentioned, they would have no trouble at all in supplying a custom mill with at least 10 tons daily of excellent grade zinc-lead sulphide ore; also after the mine is further developed, they could supply 25 tons daily of such ore. However, while I believe their estimates in this regard to be reasonable, inasmuch as they had no assay data to back up their estimates, it would be out of the question in this report to claim any definite daily production, of any grade of ore from this property.

/s/ Elgin B. Holt
Field Engineer

MINE WORKINGS:

As stated, the Badger vein has been developed by a tunnel 1,025 feet in length, in sulphide ore, carrying zinc, lead, gold and silver values, the zinc occurring as sphalerite. This tunnel can be entered about 300 feet from portal where the ground is caved. The elevation at the portal of this tunnel is 4,550 feet. The Badger shaft has a depth of 171 feet. Its collar has an elevation of 4,800 feet. It was sunk on a parallel vein to the Badger vein at a point around 75 feet south of the Badger tunnel and about 200 feet N. W. of the end of said tunnel. The said paralllel vein on which the Badger shaft is sunk is probably the Big Vein. The Hercules shaft has a depth of 250 feet and lateral work therefrom totals about 140 feet.

OBJECTIVE OF $5,000 LOAN:

Applicants state that they propose to use the said loan, when and if granted, to clean out and retimber where needed the said Badger tunnel, which as stated has a length of 1,025 feet. That after this has been accomplished, they propose to apply for a Class B $20,000 development loan from R. F. C., with which to block out the sulphide zincy ores already exposed in the said Badger tunnel, along lines to be agreed upon between them and the examining R. F. C. engineer.

CONCLUSION:

From facts herein given, I believe that if adequate money can be found with which to develop this property along intelligent lines, a very large underground supply of sulphide ores can be blocked out, carrying the metals mentioned, sufficient, in fact, to supply at least a 75-ton selective flotation plant over a long period of years. Therefore, I believe this property warrants the granting of the said $5,000 preliminary development loan.

Elgin B. Holt,
Field Engineer.

Elgin B. Holt

The ore of Hercules is galena, running well in silver and gold.

BADGER: The Badger property is located one-eighth mile north of the Hercules mine. Per Schrader, on what is known as the Badger ground, occurs a large 20-foot vein known as the "Big Vein". It strikes N. 40 degrees W. and dips 80 degrees S. W. It has produced considerable ore running from $12 to $16 per ton in gold, from oxidized outcrop. At about 250 feet northeast of the "Big Vein", and parallel with it, but dipping 80 degrees northeast, lies the Badger vein, on which a tunnel 1,025 feet has been run, in sulphide ore, carrying zinc, lead, gold and silver values, zinc, occurring as sphalerite, predominating. I entered this tunnel around 300 feet to where the ground is caved. Here I inspected an old stope and found the vein to be about 3 feet wide, or more exactly varying from 2 to 4 feet in width, with heavy sphalerite showing in the pillars of vein.

The available records of production show that the Hercules and Badger properties have produced around $37,635.87 in lead, gold and silver, no payments being received for the zinc in the ore. On the contrary shipments of ore were penalized for the zinc. Much of the production data of these properties are missing, especially during the early years when the same were operated on a considerable scale.

CHARACTER OF ORE SHIPPED:

In order to give the character of ores shipped from this group, the returns from one car shipment is set forth as follows:

On May 1, 1941, 42.48 tons were shipped to the El Paso Smelting Works. An analysis of this lot of ore follows:

Gold	1.32 ounces per ton.		
Silver	6.10 " " "		
Lead	3.10%		
Copper	0.27%		
Zinc	5.30%		
Insol.	58.40%		
Silica	56.00%	Arsenic	3.50%
Iron	10.00%	Antimony	0.20%
Lime (CaO)	0.40%		
Sulphur	11.20%		
Alumina	2.30%		

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine HERCULES-BADGER GROUP Date November 13, 1942.

District Wallapai, Mohave Co., Ariz. Engineer Elgin B. Holt

Subject:

RE- APPLICATION FOR: PRELIMINARY DEVELOPMENT LOAN

LESSEES: J. E. Layton & Albin Larson, Chloride, Arizona.

METALS: Zinc, lead, gold and silver.

LOCATION:

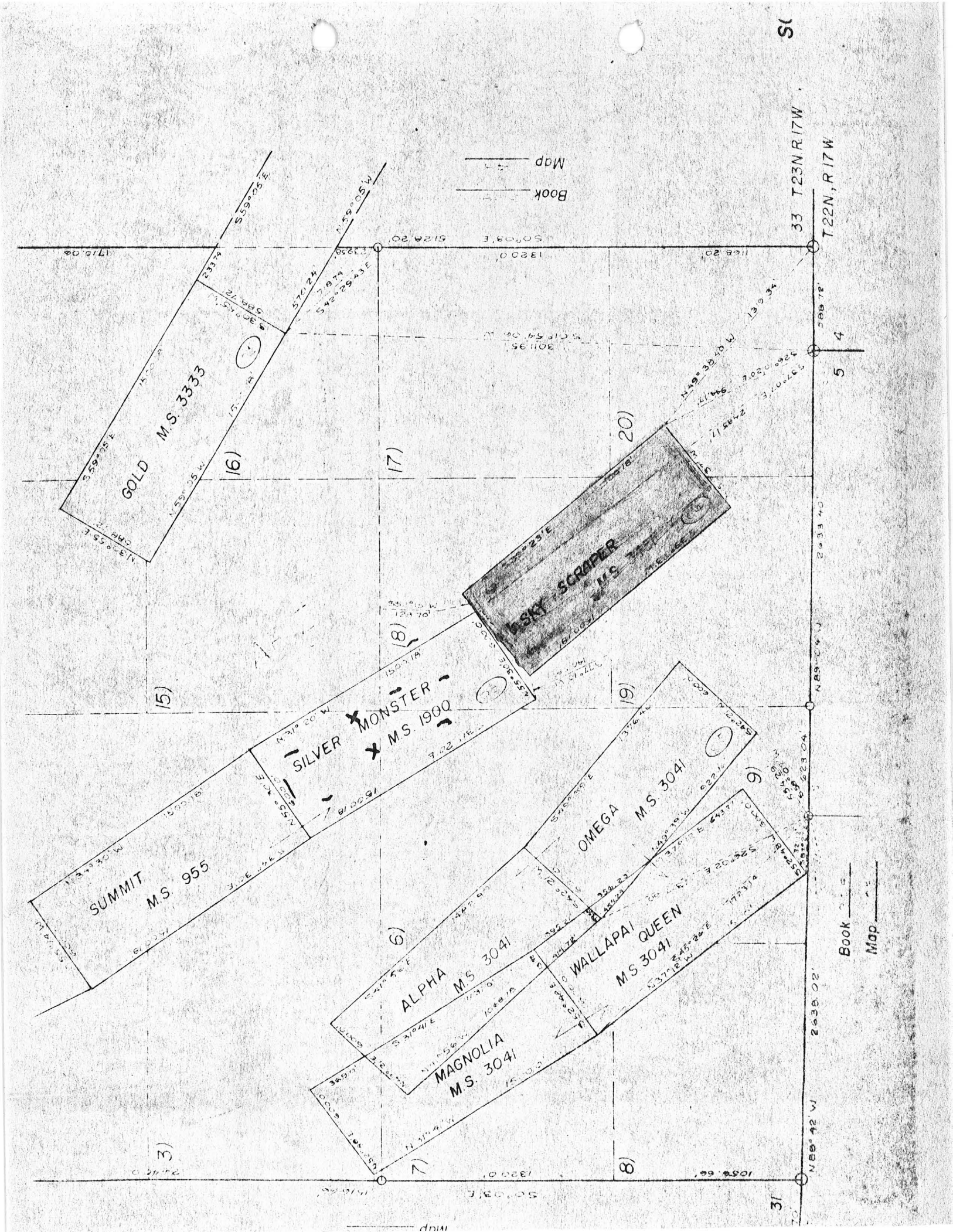
This group of patented mining claims, consisting of the Woodchuck, Badger, Hercules, Water Witch, and Majestic claims, is located about two miles northeast of Chloride and about one-half mile northeast of the Tennessee- Schuylkill property.

R. F. C. LOAN APPLICATION:

This property was visited by me on November 11, 1942, in company with the said lessees, Layton and Larson, who have arranged with their attorney, E. E. Bollinger, of Kingman, to draw up an application for a preliminary development loan, from R. F. C., in the sum of $5,000.

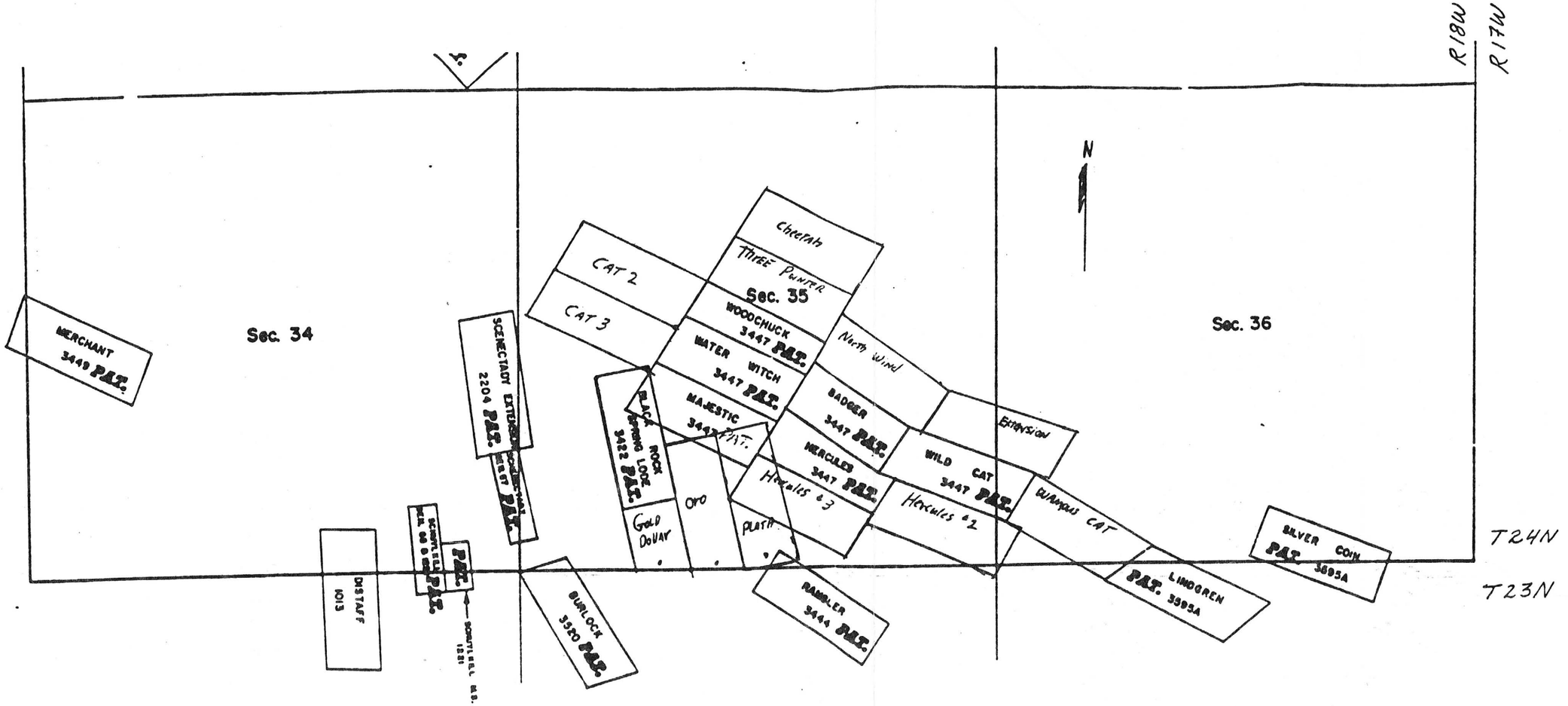
HISTORICAL - PRODUCTION:

HERCULES: The Hercules mine is situated about two miles northeast of Chloride and one-half mile east of Tennessee Wash, at an elevation of 4,750 feet. Per F. C. Schrader, this property was discovered about 1899 and held by Comstock and Ferguson until 1903. They drove a 60-foot tunnel from the canyon side and sunk four shafts to the depth of 20 feet, with no material results. In 1903, F. H. Kraft, sunk a little deeper and struck good $30 ore, and the mine then produced steadily for several years thereafter. The country rock is pre-Cambrian gneiss. The vein is from 25 to 30 feet thick with a pay-streak from 1.5 to 2 feet wide. The vein trends N. 54 degrees W. and dips about 70 degrees southwest, with granitoid-gneiss on the hanging wall and mica-schist on the foot wall.


33 T23N R17W
T22N, R17W
GOLD M.S. 3333
SILVER MONSTER M.S. 1900
SUMMIT M.S. 955
OMEGA M.S. 3041
ALPHA M.S. 3041
MAGNOLIA M.S. 3041
WALLAPAI QUEEN M.S. 3041
Book
Map

SKYSCRAPER Patented
Mining Claim Survey # 3451,
Section 32, Township 23 N,
Range 17 west of the Gila
and Salt River Base and
Meridian in Mohave County,
Arizona. 20-Acres.
Parcel # 309-47-4
Wallapai Mining District.
Full year 1976 Taxes. — $5.76

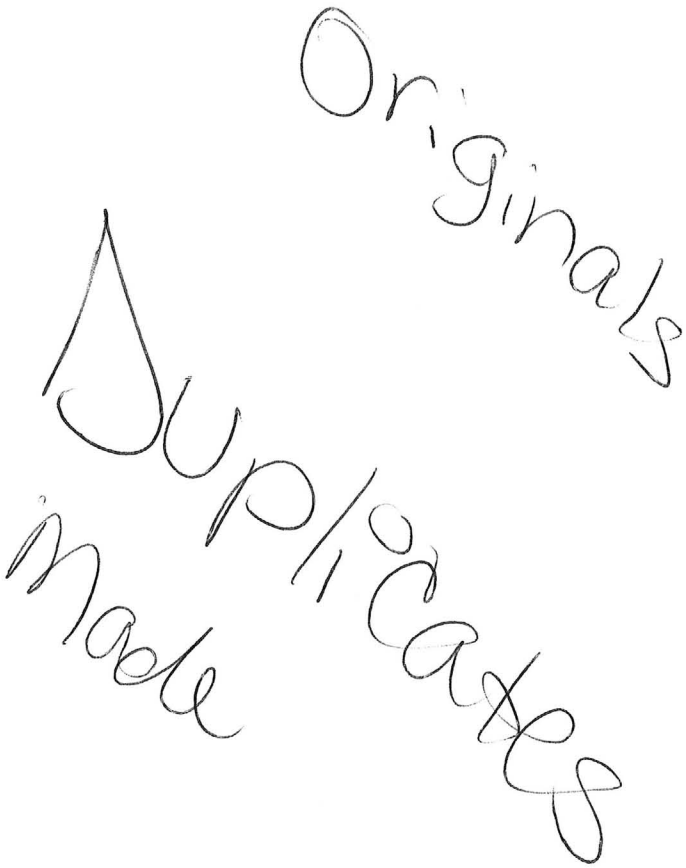
Hercules Patented Mining Claim
Mineral Survey #2737 and the East
half (½) of the Scandia Mining
Claim Mineral Survey # 2737,
located in Section 5, Township
19 N, Range 20 W. Mohave
County, Arizona, 25-Acres.
Parcel # 212-05-009.
Located in the San Francisco
Mining District.
Full year 1976 Taxes. — $10.52



Kenneth P. Hodgson
2995 Jamaica Blvd So.
Lake Havasu City, AZ 86403

1" = approx. 1250'

Claim Map
Hercules-Badger Mine
Mohave County, Arizona


Originals
Duplicates
made

NAME OF MINE: HERCULES BADGER

COUNTY: MOHAVE

DISTRICT: WALLAPAI

METALS: PB,ZN,AG

OPERATOR AND ADDRESS: DATE:		MINE STATUS DATE:	
	J.E.Layton & Albin Larson Box 227, Chloride	8/5/43 3/11/44	RFC loan granted 2 men working Layton appointed to Board of Governors, Department of Mineral Resources

Hercules-Badger Group, Mohave County

A. T. Dunbar, Saratoga, California.

Examined May 27, 1945 by E. A. Stone. **LEAD-ZINC**

"The Hercules-Badger Group is typical of many of the ore deposits of the Cerbat Range. In most part the orebodies are small . . . If the Cerbat area becomes of interest there are other mines in the area which offer much greater promise for tonnage than the Hercules-Badger."

1. Hercules-Badger Group
2. Mohave County, Arizona
3. A. T. Dunbar, Saratoga, California
4. E. A. Stone
5. May 27, 1945
6. Lead-zinc
7. "The Hercules-Badger Group is typical of many of the ore deposits of the Cerbat Range. In most part the orebodies are small. . . . If the Cerbat a area becomes of interest there are other mines in the district which offer much greater promise for tonnage than the Hercules-Badger."
8. _____

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THE EAGLE-PICHER MINING & SMELTING COMPANY
MIAMI, OKLAHOMA

INTRA-COMPANY CORRESPONDENCE

TO Grover Duff - Tucson Office DATE April 6, 1951

FROM John W. Chandler - Miami Office

SUBJECT: Exploration Work

Dear Grover:

We are presently compiling a record of all the mines and prospects which we have examined for the Company during the past 10 years.

Starting with 1940, and listing the work done by years, such as 1940, 1941, 1942, etc., we would like to have the following information tabulated:

1. Name of property
2. Location - (State and County)
3. Who it was submitted by
4. Who made the examination
5. Time spent on the examination
6. Metals involved
7. General conclusions drawn from examination
8. Remarks - Under this heading could be shown whether we have done drilling or any other work in addition to the examination. Give brief outline. If the property subsequently became a mine unit and was operated so state.

We do not have a complete file in this office on all properties examined by the Company and we will combine your report with the one being made up from our files to make the final report complete. I would appreciate it if you could put someone on this work until it is completed, sending me three copies of your tabulation.

Best regards,

Jack.

John W. Chandler.

JWC/jm

4-25-51 - Mr. Chandler will send us a list of the properties on which they have reports in their files, and we will then send him the information on the others.

GJD

P 2 of 2

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

MINE: HERCULES-BADGER GROUP DATE: July 21, 1943

DISTRICT: Wallapai, Mohave Co., Ariz. ENGINEER: Elgin B. Holt

Subject: BRIEF REPORT

LESSEES: J. E. Layton and Albin Larson, Chloride, Arizona.

METALS: Zinc, lead, gold and silver. Ore occurs as complex sulphides, mainly sphalerite and galena; hence it is suitable for treatment by selective flotation.

LOCATION AND AREA: This group of patented mining claims, known as: Woodchuck, Badger, Hercules, Water Witch, and Majestic claims, is located about 2 miles northeast of Chloride, Arizona, and about one-half mile northeast of the Tennessee-Schuylkill property. A good mountain road leads from the property to Chloride.

HISTORICAL-PRODUCTION

HERCULES: Per F. C. Schrader, the Hercules mine was discovered about 1899 and held by Comstock and Ferguson until 1903. They drove a 60-foot tunnel from the canyon side and sunk four shafts to the depth of 20 feet, with no material results. In 1903, F. H. Kraft sunk a little deeper and struck good $30 ore, and the mine then produced steadily for several years thereafter. The country rock is pre-Cambrian gneiss. The vein is from 25 to 30 feet thick, with a pay-streak from 1.5 to 2 feet wide. The vein trends N. 54 degrees W. and dips about 70 degrees S. W., with granitoid-gneiss on the hanging wall and mica-schist on the foot wall. The ore of Hercules is galena running well in silver and gold.

BADGER: The Badger property is located one-eighth mile north of the Hercules mine. Per Schrader, on what is known as the Badger ground, occurs a large 20-foot vein known as the "Big Vein". It strikes N. 40 degrees W. and dips 80 degrees S. W. It has produced considerable ore running from $12 to $16 per ton in gold, from oxidized outcrop. At about 250 feet northwest of the Big Vein, and parallel with it, but dipping 80 degrees N. E., lies the Badger vein, on which a tunnel 1,025 feet has been run, in sulphide ore, carrying zinc, lead, gold and silver values, zinc occuring as spalerite, and lead as galena.

PRODUCTION: The available records of production show that the Hercules and Badger properties have produced around $37,635.87 in lead, gold, and silver; no payment being received for the zinc in the ore. On the contrary, shipments of ore were penalized for the zinc content. Much of the production data of these properties are missing, especially during the early years when these mines were operated on a considerable scale.

CHARACTER OF ORE SHIPPED: In order to give the character of ores shipped from this group, the returns from one car lot is set forth as follows: On May 1, 1941, 42.48 tons of ore were shipped to the El Paso Smelting Works. An analysis of this lot of ore follows:

Zinc----------	5.30%
Lead----------	3.10%
Copper----------	0.27%
Gold----------	1.32 ounces
Silver----------	6.10 ounces
Insol.----------	58.40%
Silica----------	56.00%
Iron----------	10.00%

Lime	0.40%
Sulphur	11.20%
Alumina	2.30%
Arsenic	3.50%
Antimony	0.20%

MINE WORKINGS: As stated, the Badger vein has been developed by a tunnel 1,025 feet in length, in sulphide ore, carrying zinc, lead, gold and silver values. This tunnel, at its portal, has an elevation above sea level of 4,550 feet. The Badger shaft has a depth of 171 feet, with an elevation at its collar of 4,800 feet. It was sunk on a parallel vein to the Badger vein at a point around 75 ft.(?) south of the Badger tunnel, and about 200 ft. N.W. of the end of said tunnel. The said parallel vein on which the Badger shaft is sunk is probably the Big Vein. The Hercules shaft has a depth of 250 ft., and lateral work therefrom totals 140 ft.

RFC LOAN: During February, 1943, Layton & Larson, lessees, were granted by RFC a loan in the sum of $5000, to be used to make accessible certain workings of the property.

WORK PERFORMED: The work carried out by lessees, with the loan mentioned, is outlined as follows: The Badger tunnel was cleaned out and retimbered from a point 300 feet from its portal to the face of said tunnel, which, as stated, has a total length of 1,025 feet. This work was more or less disappointing, inasmuch as at the back end of said tunnel a small ore shoot was found, with a length of 100 feet and a small pay-streak of sphalerite and galena from 2 inches to 5 inches in width, and assaying around: 23% zinc, 20% lead and about $36.00 per ton in gold and silver. However, no attempt was made to do any mining on this small showing of ore.

WINZE IN BADGER TUNNEL: Layton & Larson then cleaned out and retimbered a winze which is sunk on the Badger vein at a point 225 feet from the portal of the Badger tunnel; said winze having a total depth of 100 feet, with levels at depths of 50 feet and 100 feet. On the 50-foot level, there is an old drift, which per the mine maps, runs southeast on vein 125 feet. Lessees cleaned out 100 feet of this drift, and found that all ore in vein had been stoped out above to the Badger Tunnel level. This stope indicates that the vein material removed was about 3 feet in width. On the 100-foot level in winze, per the said mine maps, there is a drift 100 feet southeast on vein and another drift 50 feet northwest on vein. This level was being cleaned out on the day of my last visit to property, on July 15, 1943. On the said date, this 100-foot level could be entered 50 feet S. E. and 14 feet N. W, Also in the portion cleaned out there is a vein of zinc-lead sulphide ore about 26 inches in width, which seems to be widening below the 100-foot level. At the time of visit, there was around 300 pounds of clean galena-sphalerite ore piled on dump, and which had been removed from the 26-inch vein on the said 100-foot level of the winze.

SULPHIDE ORE RESERVES: From the above figures, it would seem that there are around 500 tons of sulphide milling ore indicated above the 100-foot level of the winze; but the average tenor of this ore is not available as this report is being prepared.

ESTIMATED DAILY PRODUCTION: Lessees stated that during the course of development work in the winze mentioned, they would have no trouble at all in supplying a custom mill with at least 10 tons daily of excellent grade zinc-lead sulphide ore; also after the mine is further developed, they could supply 25 tons daily of such ore. However, while I believe their estimates in this regard to be reasonable, inasmuch as they had no assay data to back up their estimates, it would be out of the question in this report to claim any definite daily production, of any grade of ore from this property.

/s/ Elgin B. Holt
Field Engineer

Chloride Ariz.
Aug. I6, I943

Mr. W. B. Gehring
Supervising Engineer
Phoenix, Arizona

Dear Mr. Gehring:

Will you please advise me as to the maxium royalty the O.P.A. would approve.

Will they approve a ten percent net Smelter return with an additional ten percent on the first Subsidy.

Will they approve a ten percent net Smelter return With a minimum of one dollar per ton.

Mr, Larson and I are still working on the Hercules Badger and we expect to make it or break it in two or three weeks.

I hope to get your opinion on this royalty matter soon.

Thanking you in advance for your trouble,

Yours very truly,

J.E. Layton

J.E.Layton

P.O.Box 227
Chloride Arizona
Mar.9,1943

Mr.J.S.Coupal Director
Department of Mineral Recources
Phoenix Arizona

Dear Mr.Coupal:

I have filled out application for P-56 rating which I am inclosing .

We are opening a tunnel on the Hercules Badger mine which is ten hundred and twenty five feet deep. We have seven hundred feet open at present.

We also have two shaft's to unwater and have all the equipment except some pipe and pipe fittings and a small amount of track timber etc.

However we will need a small amount of things like hack saw blades head gaskets,track spikes fish plates etc. from time to time.

I assure your help in getting us out of this jam will be appreciated.

Yours very truly,
Layton & Larson
By J.E. Layton

MINE WORKINGS:

As stated, the Badger vein has been developed by a tunnel 1,025 feet in length, in sulphide ore, carrying zinc, lead, gold and silver values, the zinc occurring as sphalerite. This tunnel can be entered about 300 feet from portal where the ground is caved. The elevation at the portal of this tunnel is 4,550 feet. The Badger shaft has a depth of 171 feet. Its collar has an elevation of 4,800 feet. It was sunk on a parallel vein to the Badger vein at a point around 75 feet south of the Badger tunnel and about 200 feet N. W. of the end of said tunnel. The said parallel vein on which the Badger shaft is sunk is probably the Big Vein. The Hercules shaft has a depth of 250 feet and lateral work therefrom totals about 140 feet.

OBJECTIVE OF $5,000 LOAN:

Applicants state that they propose to use the said loan, when and if granted, to clean out and retimber where needed the said Badger tunnel, which as stated has a length of 1,025 feet. That after this has been accomplished, they propose to apply for a Class B $20,000 development loan from R. F. C., with which to block out the sulphide zincy ores already exposed in the said Badger tunnel, along lines to be agreed upon between them and the examining R. F. C. engineer.

CONCLUSION:

From facts herein given, I believe that if adequate money can be found with which to develop this property along intelligent lines, a very large underground supply of sulphide ores can be blocked out, carrying the metals mentioned, sufficient, in fact, to supply at least a 75-ton selective flotation plant over a long period of years. Therefore, I believe this property warrants the granting of the said $5,000 preliminary development loan.

Elgin B. Holt,
Field Engineer.

Elgin B. Holt.

 Copy

The ore of Hercules is galena, running well in silver and gold.

BADGER: The Badger property is located one-eighth mile north of the Hercules mine. Per Schrader, on what is known as the Badger ground, occurs a large 20-foot vein known as the "Big Vein". It strikes N. 40 degrees W. and dips 80 degrees S. W. It has produced considerable ore running from $12 to $16 per ton in gold, from oxidized outcrop. At about 250 feet northeast of the "Big Vein", and parallel with it, but dipping 80 degrees northeast, lies the Badger vein, on which a tunnel 1,025 feet has been run, in sulphide ore, carrying zinc, lead, gold and silver values, zinc, occurring as sphalerite, predominating. I entered this tunnel around 300 feet to where the ground is caved. Here I inspected an old stope and found the vein to be about 3 feet wide, or more exactly varying from 2 to 4 feet in width, with heavy sphalerite showing in the pillars of vein. The available records of production show that the Hercules and Badger properties have produced around $37,635.87 in lead, gold and silver, no payments being received for the zinc in the ore. On the contrary shipments of ore were penalized for the zinc. Much of the production data of these properties are missing, especially during the early years when the same were operated on a considerable scale.

CHARACTER OF ORE SHIPPED:

In order to give the character of ores shipped from this group, the returns from one car shipment is set forth as follows:

On May 1, 1941, 42.48 tons were shipped to the El Paso Smelting Works. An analysis of this lot of ore follows:

Gold	1.32 ounces per ton.
Silver	6.10 " " "
Lead	3.10%
Copper	0.27%
Zinc	5.30%
Insol.	58.40%
Silica	56.00%
Iron	10.00%
Lime (CaO)	0.40%
Sulphur	11.20%
Alumina	2.30%

Arsenic ----- 3.50%
Antimony ---- 0.20%

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Holt-Copy

Please return

Mine HERCULES-BADGER GROUP Date November 13, 1942.

District Wallapai, Mohave Co., Ariz. Engineer Elgin B. Holt

Subject:

RE- APPLICATION FOR: PRELIMINARY DEVELOPMENT LOAN

LESSEES: J. E. Layton & Albin Larson, Chloride, Arizona.

METALS: Zinc, lead, gold and silver.

LOCATION:

This group of patented mining claims, consisting of the Woodchuck, Badger, Hercules, Water Witch, and Majestic claims, is located about two miles northeast of Chloride and about one-half mile northeast of the Tennessee- Schuylkill property.

R. F. C. LOAN APPLICATION:

This property was visited by me on November 11, 1942, in company with the said lessees, Layton and Larson, who have arranged with their attorney, E. E. Bollinger, of Kingman, to draw up an application for a preliminary development loan, from R. F. C., in the sum of $5,000.

HISTORICAL - PRODUCTION:

HERCULES: The Hercules mine is situated about two miles northeast of Chloride and one-half mile east of Tennessee Wash, at an elevation of 4,750 feet. Per F. C. Schrader, this property was discovered about 1899 and held by Comstock and Ferguson until 1903. They drove a 60-foot tunnel from the canyon side and sunk four shafts to the depth of 20 feet, with no material results. In 1903, F. H. Kraft, sunk a little deeper and struck good $30 ore, and the mine then produced steadily for several years thereafter. The country rock is pre-Cambrian gneiss. The vein is from 25 to 30 feet thick with a pay-streak from 1.5 to 2 feet wide. The vein trends N. 54 degrees W. and dips about 70 degrees southwest, with granitoid-gneiss on the hanging wall and mica-schist on the foot wall.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine HERCULES-BADGER GROUP Date November 13, 1942

District Wallapai, Mohave County, Arizona Engineer Elgin B. Holt

Subject: Re-application for Preliminary Development Loan

LESSEES: J. E. Layton & Albin Larson, Chloride, Arizona.

METALS: Zinc, lead, gold and silver.

LOCATION: This group of patented mining claims, consisting of the Woodchuck, Badger, Hercules, Water Witch, and Majestic claims, is located about two miles northeast of Chloride and about one-half mile northeast of the Tennessee-Schuylkill property.

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(Signed) ELGIN B. HOLT
Field Engineer