CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
1520 West Adams St.
Phoenix, AZ 85007
602-771-1601
http://www.azgs.az.gov
inquiries@azgs.az.gov

The following file is part of the

Arizona Department of Mines and Mineral Resources Mining Collection

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03/20/90

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: GOLDEN GEM

ALTERNATE NAMES:
CERBAT CANYON MILL

MOHAVE COUNTY MILS NUMBER: 88F

LOCATION: TOWNSHIP 22 N RANGE 17 W SECTION 7 QUARTER S2
LATITUDE: N 35DEG 18MIN 20SEC LONGITUDE: W 114DEG 08MIN 10SEC
TOPO MAP NAME: CERBAT - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

GOLD	LODE
SILVER	
LEAD	SULFIDE
ZINC	SULFIDE
COPPER	
ANTIMONY	
IRON	SULFIDE
GOLD	LODE
SILVER	
IRON	HEMATITE

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MALACH, R. "CERBAT MTN CTRY" P. 19, 20; 1975
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HAURY, P.S. "ZINC-LEAD MINES, WALLAPAI MNG DI ST, AZ" USBM RI 4101, P. 39; 1947
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SCHRADER, F.C. "MIN. DPSTS OF CRBT RNGE, BLCK MTNS, GRND WSH CLFS,AZ" USGS BUL 397, P 92-4
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ELSING, M.J. "AZ METAL PRODUCTION" AZBM BULL 140, P. 95; 1936

CONTINUED ON NEXT PAGE

CONTINUATION OF GOLDEN GEM

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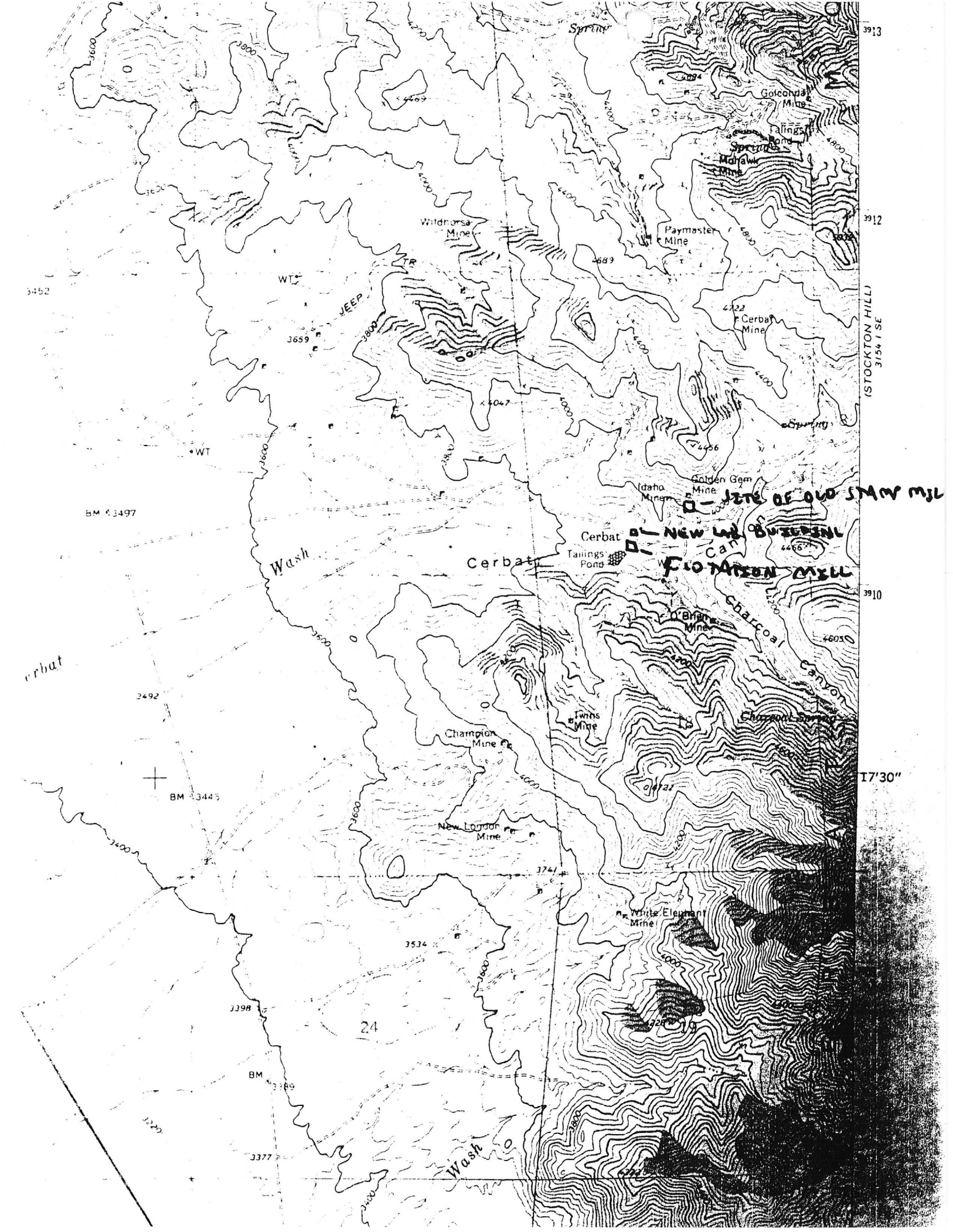
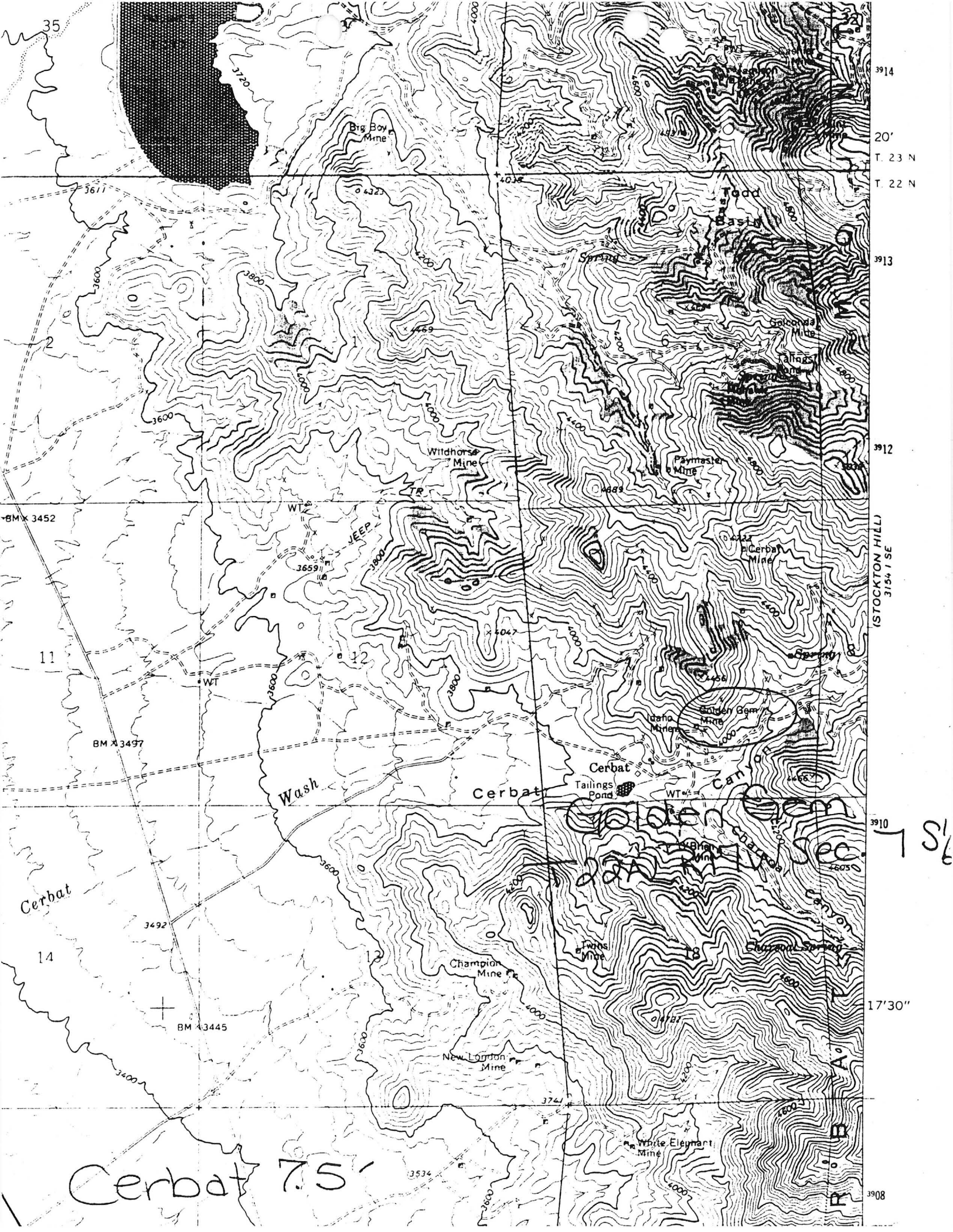
USGS BULL 978-E, P. 147; 1951
AZ. MNG JNL, AUG. 1920, P. 13
AZ. STATE MINE INSP. ANL RPT, P. 5; 1940
MALACH, R. "MOHAVE CTY MINES", P. 20; 1977
PAHER, S. W. "NORTHWEST ARIZONA GHOST TOWNS"
ADMMR GOLDEN JUNE FILE
ALSO CLAIMS IN SEC. 28 & 32


Golconda Mine
Tailings Pond
Mohawk Mine
Wildhorse Mine
Paymaster Mine
Cerbat Mine
Golden Gem Mine
Idaho Mine
Cerbat
Tailings Pond
Wash
Charcoal Canyon
O'Brien Mine
Twins Mine
Champion Mine
New London Mine
White Elephant Mine
Wash
JEEP TR
WT
BM 3497
BM 3445
BM 3389
24
3913
3912
3910
(STOCKTON HILL)
3154 I SE
I7'30"


Big Boy Mine
Todd Basin
Spring
Wildhorse Mine
Paymaster Mine
Golconda Mine
Tailings Pond
Cerbat Mine
Golden Gem Mine
Idaho Miner
Cerbat
Tailings Pond
Wash
Cerbat
Canyon
Golden Gem
Mine
Champion Mine
Twins Mine
Charcoal Spring
New London Mine
White Elephant Mine
BM X 3452
BM X 3497
BM X 3445
JEEP TR
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3659
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4047
4456
4668
4603
4035
4323
4689
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3720
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12
14
13
3914
3913
3912
3910
3908
20'
17'30"
T. 23 N
T. 22 N
R. 20 W.
(STOCKTON HILL)
3154 I SE

Cerbat 7.5'

GOLDEN GEM (F) MOHAVE 1C

STATE MINE INSPECTOR

COMPLETE AND MAIL TO:

STATE MINE INSPECTOR
616 WEST ADAMS, SUITE 411
PHOENIX, ARIZONA 85007-2627

OCT 6 1989

FOR OFFICE USE ONLY
START-UP NUMBER 92501221
STATE NUMBER 091179
DEPUTY NUMBER BLOV
NEW ✓ MOVE

NOTICE TO ARIZONA STATE MINE INSPECTOR

In compliance with the Arizona Revised Statutes; we are submitting this written notice to the Arizona State Mine Inspector of our intent to start ✓, stop ____, move ____ an operation.

Please check the appropiate boxes: Contractor ☑, Owner ☑, Operator ☐, Open Pit Mine ☐, Underground Mine ☐, Mill ☑, Quarry ☐, Aggregate Plant ☐, Hot Plant ☐, Batch Plant ☐, Smelter ☐, Leach Plant ☐.

If this is a move, please show last location: Not Applicable

If you have not operated a previously in Arizona, please check: ____ If you want the Education and Training Division to assist with your mine safety training, please check: ✓

If this operation will use any hazardous material; ie. cyanide, please check: N/A

COMPANY NAME: Tyro Mines, Inc., and American International Minerals Corp

MINE OR PLANT NAME: Golden Gem Mill

DIVISION: N/A

CHIEF OFFICER: Tyro Mines, Inc. Robert E. Jobes, P.E. TELEPHONE (702)

COMPANY ADDRESS: P.O. Box 2633

CITY: Laughlin STATE: NV ZIP CODE: 89029

MINE OR PLANT LOCATION: (include county and nearest town, as well as directions for locating property by vehicle): Mohave County, mile post 62 U.S Highway 93 (old town of Cerbat).

TYPE OF OPERATION: Mill PRINCIPAL PRODUCT: Gold/Silver

STARTING DATE: 10/2/89 CLOSING DATE: ____

PERSON COMPLETING NOTICE: Robert W. Hughes Pres. American Int'l Minerals Robert E. Jobes TITLE: President

DATE OF REPORT TO STATE MINE INSPECTOR: 10-2-89

FORM 101-106 REV. 03/89

T22N R17W Sec 7

GOLDEN GEM MINE

MOHAVE COUNTY

NJN WR 8/26/83: Bill Vanderwall reported that Equitable Corporation has put the Cerbat Mill - Summit Mine - Golden Gem Mine project on hold for the next 6 months.

NJN WR 9/14/84: It was reported that the flotation mill (Golden Gem Mine and Mill (f) in Cerbat Canyon, Mohave County has been stripped of the crushing curcuit improvements reported in the field visit dated 4/83. Although a watchman remains on site, a cash flow shortage by the Equitable Corp. (c) resulted in the sale of some of the equipment installed there.

NJN WR 3/15/85: Ed Huskinson (c) reported that the Equitable Corp. (c) is active again at the Cerbat Canyon area. They are re-opening the American Legion Mine (c) Mohave County (Fountain Head and Banner Groups - file_) have graded the road west over the Cerbats to the Cerbat Mill and are planning to start once more to rehavilitate the Cerbat Mill (Golden Gem Mine and Mill - file)

NJN WR 6/21/85: Information received from Mrs. Bob Hughes of Equitable Corp. (c) has a Mr. Earl Harrison of Harrison Mining (c) operating the flotation mill in Cerbat Canyon (Golden Gem Mine and Mill, Mohave County) and supplying it with ore from the Fountain Head and Banner Mining Property (f) Mohave County.

NJN WR 1/31/86: William Vanderwall (c) visited and reported that Harrison Mining (c) produced about 6 tons of concentrate at the refurbished Summit or Cerbat Mill (Golden Gem mine and mill - file, Mohave County) from ore mined at the Fountain Head Mine (file) Mohave County. Their operation is gone now with only a watchman remaining at the mill.

TYRO (f)
GOLDEN GEM (f)
FOUNTAIN HEAD (f)

Mine & Milling Accounting Services, Inc.
P.O. Box 2633
Laughlin, Nevada 89029
(702) 382-7556

November 22, 1989

Mr. Nyal J. Niemuth
4227 North 11th St.
Phoenix, AZ 85014

Re: Purchase of Gold at $250 per Troy Ounce-999 Fine.

Dear Mr. Niemuth:

This office is the accounting and gold delivery agent for the General Partners of INDEPENDENT METALS, a Limited Partnership that is offering 4,000 troy ounces of its gold at $250 per ounce and a 1/100th participating interest in an ore block of the Fountain Head Mine.

You expressed your interest in purchasing gold by your answer to an ad placed in the Wall Street Journal some months ago by our principals. We trust you are still interested in gold as part of your investment portfolio, and you agree with the expert financial planners who recommend that 5% to 15% of your assets should be in gold.

At this writing, our principals have poured their first dore bar of precious metals (gold, silver and platinum) from their operation of their Cerbat Mill, and they are mining gold at the Tyro Gold Mine. It is their plan to commence milling and refining gold at their Tyro Gold Mill facility in early January, 1990.

Approximately one-half of the above ounces of gold has been subscribed. Subscriptions will be accepted by this office on a first come, first serve basis for the Partnership.

We would be pleased to send you a Summary of the Offering for your further information and consideration. A representative will call you in a few days inquiring of your interest. If you are not available by telephone, and you are interested, please call us at the above telephone number, and we will mail you a copy of the aforesaid Summary of the Offering.

Our principals project a $66,000 return on a $10,000 investment over a three (3) year term without considering the tax benefits that may enure to you.

The mines and mills are open for inspection, and both are located within 100 miles from Las Vegas, NV. Your are invited to make a personal inspection of their mine and mill facilities.

Sincerely,

MINE & MILLING ACCOUNTING SERVICES, INC.

By David Jones
David Jones Controller

DJ/r

Corbat Mill

Sun June 15, 1884 Mohave County Miner No 2

Corbat Mill opened 120 Tns from C.O.D Mine

12 men working at Scallyville May 18, 84 No. 20

Mar 2 84 No 71

Mining in Mohave Mc Cracken Mill is running on Tailings for Present, They are panning out well 2 mills running in Mohave & Kingman Feb 24

Shipping ore To Pueblo Co = 25 Ton

Temple Bare Consolidated Mining Co's Oct 1 1898

Hydrolic Plant ready Telopan

Last Sat. Hoisting works at Hackberry mine destroyed Sun Aug 3 1884,

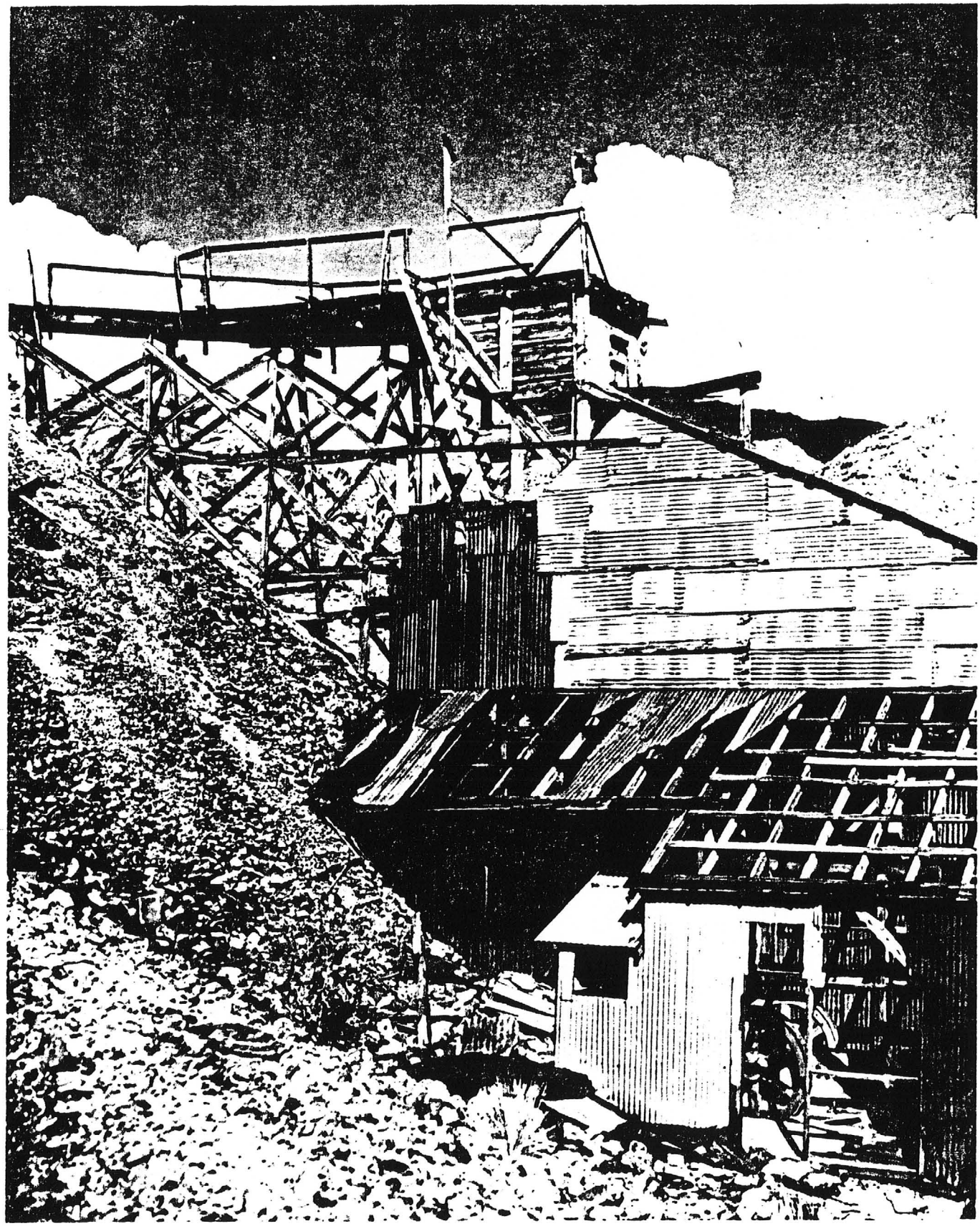
Corbat Mill started up again last week on Tailings from Charley Gross Old arastros (250 T Tailings Aug 31, 85 No

1 Stamp mill (horse power) being run at Hackberry Ap 9, 87

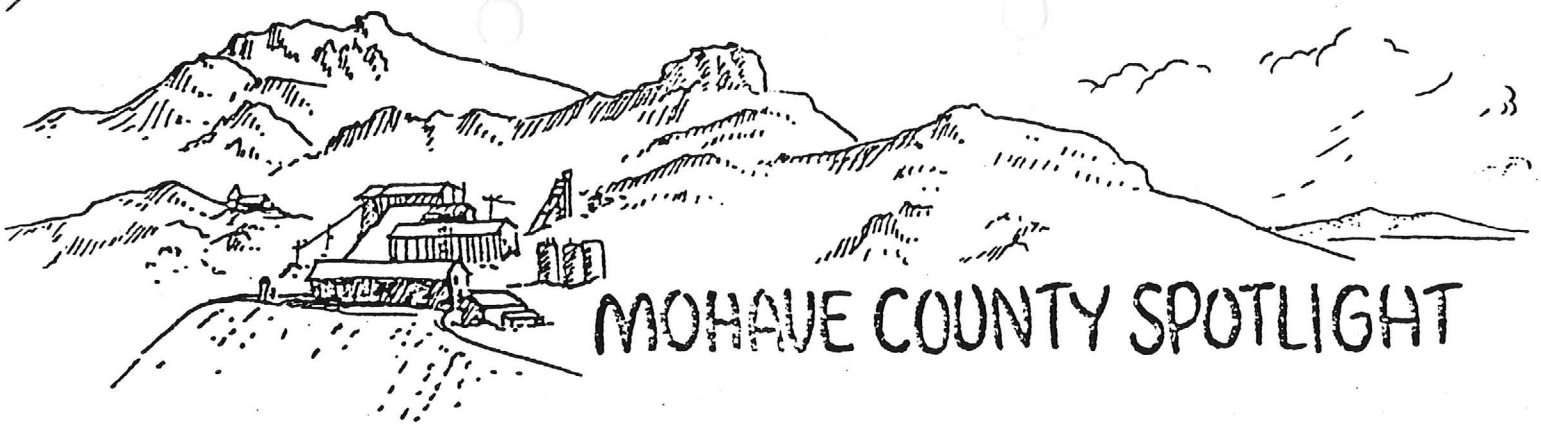
owned by Music Mountain gold mining Co

8 men at work at Monarch mine June 11, 87

FROM NORTHWESTERN ARIZONA GHOST TOWNS



The Golden Gem mill, 1970.



MOHAVE COUNTY SPOTLIGHT

VOL. VI. FEBRUARY 1982 No. 2

Published by Mohave County Historian, P.O. Box 390, Kingman, Arizona 86402

MINING IN MOHAVE COUNTY

Roman Malach with wife Doreen visited the Tyro Mine, Friday, December 17, 1981, upon the invitation of Denys Poyner, who has financial interest in that mine. Poyner was the guide for the Malachs and explained the operation of the just completed new mill for recovery of gold and silver. This very modern mill had already its test run of each machinery unit, and the final adjustments were in progress during the Malachs' visit. The mill will be producing bars of gold valued at $35,000.00 monthly, as per the present price of gold.

Tyro Mine is an old producer after the turn of the century, and its production ceaseddduring the Second World War. The mine is located near the Katherine Landing in the mountain area.

OTHER MINES IN VICINITY

At the Frisco Mine near Union Pass and Highway 68 some leaching of gold on a small scale is in progress. Red Dog Mining Company is the present operator of the Frisco Mine, which was also an old gold producer.

The Thumb Butte Mine adjacent to the Landmark of Thumb Butte by the Highway 68 is at a standstill after a recent short period of activities. The Spring Gold Mine very close to Tyro stopped its operation and is in litigation. The Arabian Mine on Highway 68 is in the hands of a new leasing company.

The company, which operates the Tyro Mine, owns also the land of the Golden Gem Mine at the entrance to the Cerbat Canyon with the adjacent number of claims. There the old mill is in process of remodeling plans for its operation.

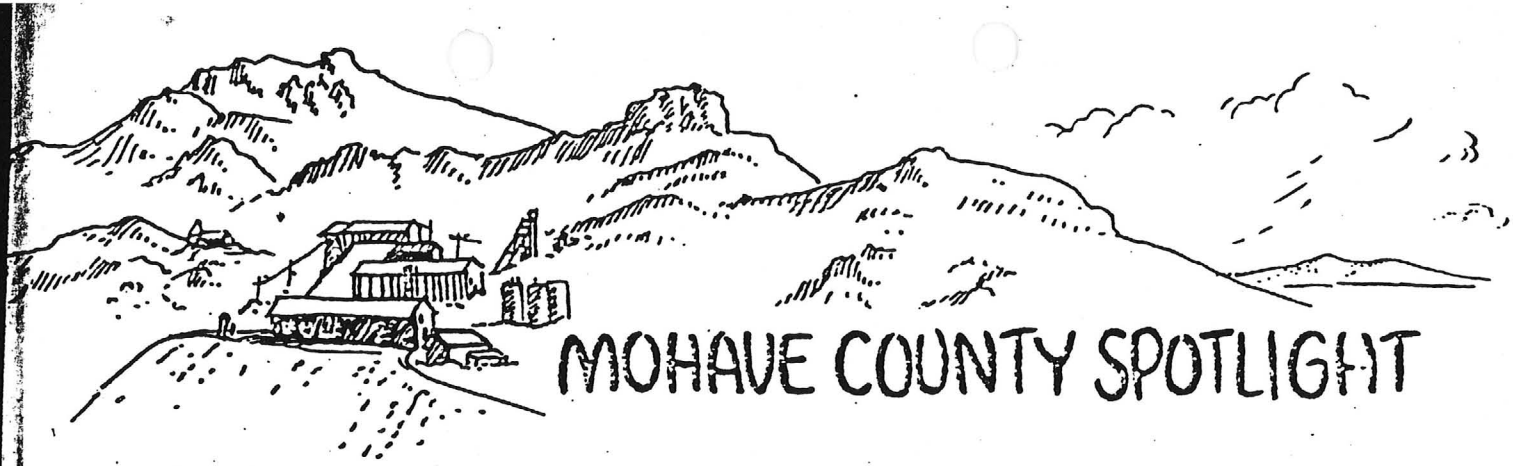
PLACE NAMES IN MOHAVE COUNTY

During the past ten years, Roman Malach was finding names of places in old records, especially in the county voter registers, but the exact location of those places were not known to him.

Every place, mentioned by Malach in his writings, was visited by him and photographed. In the 1981 year, Malach found the locations of two places, where people at one time lived and worked, Lorena Flat and Brownsville. Lorena Flat is located at the foot of the Cerbat Mountains, where straight up on the summit the I.X.L. Mines were operated. Brownsville a small mining community, was on a high plateau in the Walkover Mining District to the right of Valentine and the old Highway 66. Only sites of these places remained.

OTHER PLACE NAMES

What proof is there that people lived in those rather elusive places? Mohave



MOHAVE COUNTY SPOTLIGHT

Volume V. SEPTEMBER 1981 No. 9

GOLDEN GEM MILL

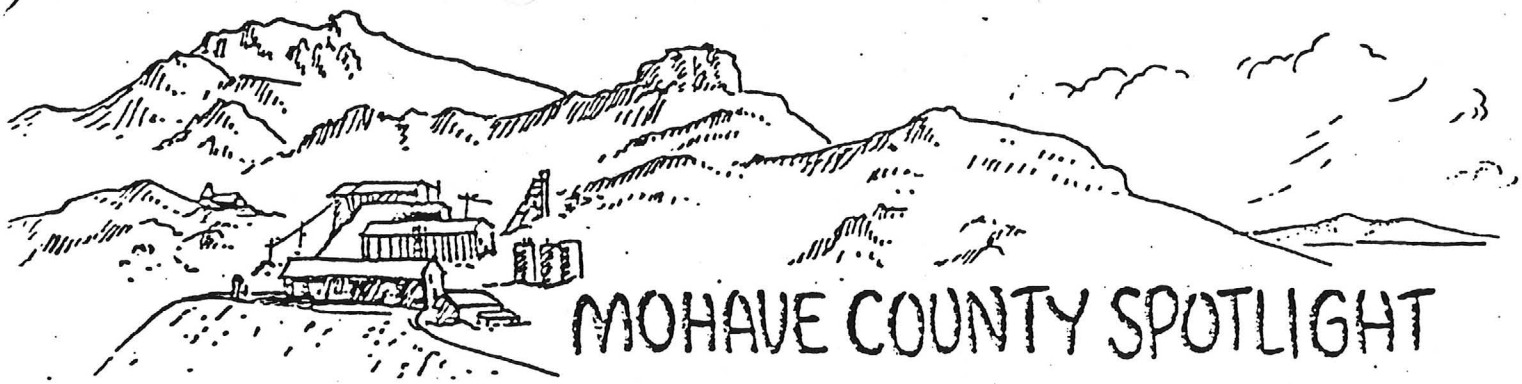
In recent months, the Golden Gem Mine at the entrance to the Cerbat Canyon was purchased at an auction sale. An old mill idle for years came with the purchase deal.

Now the mill is in the process of renovation for its operation. Supt. Hansen, in charge of the mill renovation, told Malach that the owners plan to mill ore

in the near future. They leased the Golconda mine and plan to use the stockpile of the old ore in addition to the other sources of ore.

During a recent visit to the mill, Malach noticed a new and large assay building. An assayer works there already and lives in an adjacent mobile home.

Supt. Hansen said that a good source of water will be the major problem for the mill. Presently, they are pumping water from the Golden Gem mine shaft but it will not be enough for the mill.



MOHAVE COUNTY SPOTLIGHT

Vol. IV December 1980 No. 12
Published by Mohave County Historian, P.O. Box 390, Kingman Az. 86402.

Interest in Mining Continues

Roman Malach was contacted by Tom Freeman of the American International Minerals Co. in Boron, California, in regard to mine reports. Saturday, Nov. 1. 1980, Malach met with Freeman and two of his associates who examined a number of reports of interest to Freeman.

According to Freeman, American International Minerals purchased the old Golden Gem mine located at the entrance to the Cerbat Canyon together with a few other mining properties in that area. The idle for years mill, located near the Golden Gem mine, was also included in the purchase.

The American International plans to renovate the mill for its use, especially when the Golden Gem mine will reopen.

Malach expects to have more sessions with Freeman and his associates in regard to mine reports and maps.

The Golden Gem mine was one of the early discoveries in the 1870's and continued production into the first few decades after the turn of the century.

Golden Gem

New Selective Mill At Golden Jim Pigeonholes Minerals For Smelters

By CARLE HODGE

KINGMAN — An old miner says, with some awe, that the new selective mill at the Golden Jim "takes out everything but the squeal."

What it does is pigeonhole for shipping to different smelters the various minerals extracted from its mine.

Not that the system is unheard-of, but it is unusual, both for Arizona and an area like this, where ore is highly complex — intermixed with varied minerals.

"One of the largest expenses in mining," says the Jim's manager, Bill Howard, "is marketing, especially with this type of ore. That's the expense we're cutting."

Rocks wrested from the 650-foot-deep mine, in the stark Cerbat range north of here, first are crushed through a usual ball mill into water-and-chemical flotation tanks.

With water pressure, a pulsating "jig" then forces lighter metals to the top. Gold and silver, the mine's principal values, are shoved down a trough. They pile up as a wet but shiny sand in a battered wheelbarrow.

"It's nothing but money," a mill worker grins.

Successive flotation finally extracts and separates lead, copper, and zinc. From millhead to mill tailings, the process keeps clawing more minerals from the watery mass. By the time the worthless mud that's left is dumped into a nearby dry wash, no more than a metallic trace remains, a rare accomplishment.

Howard, a mining engineer who first began plumbing the Jim a decade ago, points out that selective milling saves transportation dollars by stripping waste bulk from the concentrates that are to be trucked away.

But by aiming concentrates to the proper smelters, it also earns more. A zinc smelter, for instance, would pay for less than half of the gold.

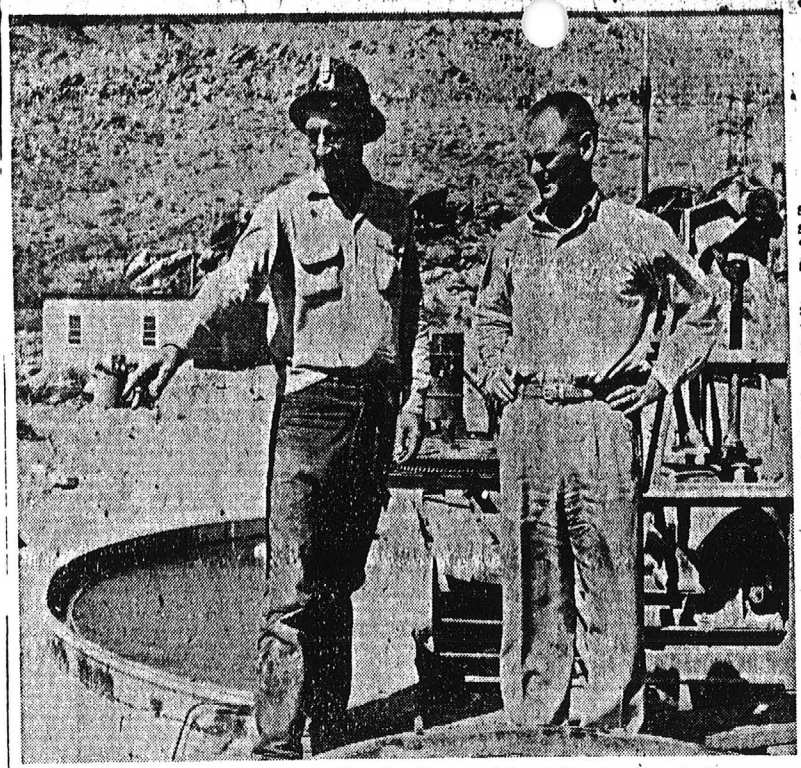
The Golden Jim is within a nugget's throw of the now barren flat that once was thriving Cerbat, Mohave's first county seat. Mexicans first worked the mine in 1863. In recent years it had gone almost untouched, mainly because no one had, or tried, a way of breaking down its contents.

Almost three years ago, Howard turned his lease over to newly-formed Sevier (pronounced "severe") Minerals, a company that already had a gold mine in Nevada and a uranium mine in Utah.

With his help, Sevier's president, Bill Robertshaw, installed the selective mill, largely with second-hand materials, and put it into operation three months ago.

Robertshaw is an enthusiastic young Yale ('50) economics graduate who has his family's thermostat-control fortune to fall back on. He insists, though, that his mines pay for themselves.

He expects the Jim to start doing precisely that within a few more months. "I guess," Robertshaw admits, "that this is sort of an unorthodox operation."



Miners Mine Foreman Chuck Barnes,' left, shows Bill Robertshaw, mine owner, tanks in which Sevier recovers water for reuse. Mine, in Cerbat Mountains north of Kingman, pays off because selective mill pigeonholes for shipping to different smelters various minerals extracted from ore.

CERBAT MINING COMPANY IS AWARDED OME CONTRACT

A contract for exploration assistance has been awarded to the Cerbat Mining and Milling Company of Kingman, Arizona, by the Office of Minerals Exploration. The contract covers an exploration project in Mohave County, expected to cost $49,920, with OME's participation limited to 50 per cent, or $24,960.

In announcing the contract, Representative Morris K. Udall of Arizona reported it is the first OME contract signed with an Arizona operator. Under the former Defense Minerals Exploration Administration, Udall said, 37 Arizona operators held contracts covering projects estimated to cost $1,734,397, with government participation limited to $1,090,549. Actual government expenditures totaled $600,840. Royalties paid to the government on minerals produced under the contracts had totaled $139,196, as of last March 31, Udall commented.

The Cerbat Mining and Milling Company has been developing and producing from the Golden Gem and other properties in the Cerbat district of Mohave County for over a year. Old workings have been repaired, additional exploration undertaken, and the 50-ton mill rehabilitated. Recent production has been at the rate of 20 to 25 tons daily, employing a crew of 25 men. Vic Howard of Kingman is manager.

U.S. To Aid Cerbat Firm

R 6/15/62

Republic Washington Bureau

WASHINGTON—Rep. Morris K. Udall, D-Ariz., yesterday said the Office of Minerals Exploration has made its first contract in Arizona with the Cerbat Mining and Milling Co. of Kingman.

The company will explore for silver, lead and zinc in Mohave County in a program expected to cost $49,920, of which $24,960 is to be provided by the OME.

Udall said Arizona had 36 contracts under the former Defense Minerals Exploration Administration amounting to $1,734,000 of which $600,840 is for work completed. Royalties paid to the government on minerals produced under the contracts have totaled $139,196 as of last March 31, Udall said.

The congressman explained that under the OME program, the government participates in the cost of exploring for certain minerals and the funds provided by the OME are then repaid by a royalty on production.

THE MINING JOURNAL

January 15, 1946

Final preparations are being made to start milling operations at the Golden Gem mine 14 miles north of Kingman, Arizona, which A. W. Clapp, Box 892, Kingman, and associates are operating. The Clapp interests acquired the property last fall and have been overhauling both mine and mill equipment and modernizing the camp. Ore values are in gold. High-grade is reported to have been opened by lessees of the adjoining Columbus mine while sinking a winze.

DEPARTMENT OF MI AL RESOURCES.

News Items

Date

Mine GLEN MINE

Location Chloride (Mohave)

Owner

Address H.C. DUNDAS

Chloride

Operating Co. HAS 50 ton MILL

Address RUNNING ON

STOPE FILL.

Pres.

Genl. Mgr.

Mine Supt.

Mill Supt.

Principal Metals Au Ag

Men Employed 50 ton mill

Production Rate

Mill, Type & Capacity on stope fills

Power, Amt. & Type

Signed H.C.

The 50-ton flotation-gravity concentration mill at the Golden Gem mine, 12 miles north of Kingman, Arizona, is running one shift a day, treating from 10 to 12 tons of ore daily. The ore is coming from the No. 2 level at present, but the 300-foot level also has been opened up. From six to seven men are employed under the direction of A. C. Dundas, superintendent, Box 455, Kingman. Values are in lead and silver. Robert J. Shields, 1144 Fifth Avenue, Los Angeles, California, is associated with Dundas in operation of the Golden Gem. MINING JOURNAL 1942

The 50-ton flotation plant at the Golden Gem mine 12 miles north of Kingman, Arizona, is operating one shift, treating 15 tons of ore daily. Values are in gold, silver, zinc, and lead. It is planned to open up some lead veins in the group and to increase the mill output to 50 tons daily, working on a 24-hour basis. Ralph R. Langley, Box 455, Kingman, who owns the Golden Gem, is reported to have under consideration plans for taking over under lease a lead mine near the Golden Gem. In that case, the mill capacity will be increased to around 100 tons daily. MIN JOURNAL 6/30/42

Mining at the Golden Gem mine is being carried on from the 200-foot level at present and an average of 18 tons of gold-silver-lead ore is being produced daily. Nine men are employed under the direction of Ralph R. Langley, Box 455, Kingman, Arizona, operator of the mine and mill. Future operations will include dewatering of the 650-foot shaft. MIN. JOURNAL 10/30/42

NA[illegible] TY: MOHAVE

[illegible]RICT: Cerbat

METALS: ~~ZN,PB,AG,AU~~ Au,Ag

14 mi. N. of Kingman

OPERATOR AND ADDRESS: MINE STATUS

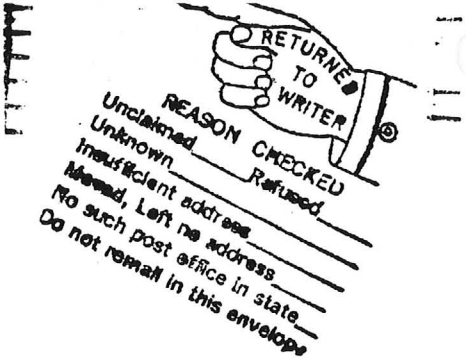
DATE:		DATE:	
	Ralph R. Langley 1045 South Bedford st. Los Angeles 191		RFC loan granted
2/46	A.W. Clapp, Box ~~892~~, Kingman	2/46	Repairing
		3/46	Developing
		4/47	Shipping

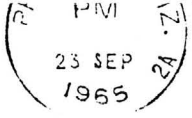
★W. J. Howard and V. H. Hazen, operators of the Golden Gem mine in the Cerbat district, plan the construction of a 250-ton custom mill for the selective treatment of lead, zinc and silver from the mining districts near Chloride and Kingman. ENGIN. & MINING JOURNAL - A-48 - Vol. 142 - No. 11

ARIZONA

MINING JOURNAL 3/28/42

The Golden Gem mine 12 miles north of Kingman, Arizona, in the Cerbat mining district, has been acquired by Ralph R. Langley, Los Angeles, California. Mining and milling equipment are being reconditioned and the 300-foot level prepared for production. Installation of a lighting plant is under way preparatory to 24-hour operations. Resumption of production is scheduled for this month. A. C. Dundas, Box 455, Kingman, who has been acting superintendent and has had an interest in the property, will continue in charge of the work. The property is equipped with a 50-ton flotation-gravity concentration mill which has been handling from 10 to 12 tons of lead-silver ore daily.





AUTHORIZED TIME FOR FORWARDING HAS EXPIRED.

Mr. William Howard
Sevier Minerals Co.
514 4th St.
Kingman, Arizona

Information from MINE INSPECTOR'S OFFICE - August 15, 1957

GOLDEN GEM (6 Claims) Walapai Dist. MOHAVECO. 6-11-57

Owner: W. J. Howard, 514 - 4th St., Kingman, Ariz.
Operator - Sevier Minerals Co.
W. R. Robertshaw. " "
Supt - W. J. Howard

G. S. L. Z. C. Development work - 15 men

L.A.S.

Sevier Minerals Co., 514 -4th St., Kingman, Ariz.

Seventy t/day flotation gold mill. - Operating.

From - Report - MILLS - NORTHERN DIST. - Sept. 30, 1957)

B.J.SQUIRE
Field Engineer

Mining World 10/1957

Sevier Minerals Corporation, Kingman, Arizona, has completed a 50-ton flotation mill at the *Gem* mine for production of lead and zinc concentrates. The mill consists of a jaw crusher, secondary gyratory crusher, ball mill, jig in the grinding circuit, lead cells, zinc cells, and a scavenger cell with two-product filters. The mill is running on dump material. Wm. Howard is manager; Wm. L. Kern, assayer.

STATE OF ARIZONA
DEPARTMENT OF MINERAL RESOURCES
MINERAL BUILDING, FAIRGROUNDS
PHOENIX, ARIZONA 85007

NOVEMBER 4, 1975

COPY

MR. CARTER A. MARTIN
ENERGY RECOVERY SYSTEMS, INC.
2642 GATES AVENUE
IRVINE, CALIFORNIA 92714

DEAR CARTER:

MANY THANKS FOR THE DATA ON THE GOLDEN GEM MINING AND MILLING PROPERTIES. IT WILL BE PUT IN OUR FILES.

I AM RELUCTANT TO CRITICIZE REPORTS OF THE CONSULTING ENGINEERS, BUT I WILL POINT OUT A COUPLE OF ITEMS THAT WOULD BE IMPORTANT TO ME. I WOULD NOT PERMIT A REPORT OF MINE TO GO OUT WITH THE SYMBOL FOR GOLD BEING SPELLED WRONG. THIS INDICATES LACK OF ATTENTION TO DETAIL, WHICH IS MANDATORY WITH THE MONIES INVOLVED.

THERE ARE TOO MANY ASSUMPTIONS MADE THROUGHOUT THE REPORT. HOW WAS THE 50,000 TONS ESTIMATED? BY SEEING INTO THE ROCK? DRILLING? I WOULD LIKE TO SEE ENGINEERING DATA TO BACK UP THE ESTIMATE. PLEASE NOTE THE AVERAGE DOLLAR VALUE OF THE 50,000 TONS IS $12.63 PER TON. NOW TAKE A LOOK ON PAGE 2 UNDER ECONOMICS. NOTE THE FIGURE USED FOR SUMMIT ORE FEED IS VALUED AT $26.00 PER TON.

THE COST BREAKDOWN UNDER ECONOMICS IS QUITE INCOMPLETE. IT HAS BEEN MANY YEARS SINCE WE HAVE HEARD OF COSTS THAT LOW. I WOULD INSIST ON A JUSTIFICATION OF MINING COSTS, INTEREST ON MONEY, RETURN ON INVESTMENT, AMORTIZATION ON MINING EQUIPMENT, SMELTER SCHEDULES, FREIGHT COSTS, AND OTHERS.

ABOVE ALL, DO NOT START ANY CUSTOM MILL OPERATION UNLESS YOU HAVE PROVEN ORE RESERVES. MUCH OF THE HISTORY OF THE STATE HAS BEEN WRITTEN AROUND CUSTOM MILLS BEING ERECTED ON THE STRENGTH OF A SMALL MINE OPERATOR'S ESTIMATE OF RESERVES BASED ON GOOD FAITH ONLY.

WE HAVE BEEN LOOKING FOR PROVEN RESERVES IN MOHAVE COUNTY. THEY MAY BE THERE, BUT WE HAVE NOT ENCOUNTERED THEM AS YET, TO ANY DEGREE.

THE AUTHOR OF THE REPORT DOES STATE THAT FURTHER EVALUATION WORK WILL BE JUSTIFIED AND THAT A COMPLETE STUDY IS RECOMMENDED. AT THIS TIME,

WE CAN AGREE WITH THIS. WE SEE NOTHING TO INDICATE ANY OTHER COURSE OF ACTIVITY OTHER THAN FURTHER INVESTIGATION. WHAT ARE THE "NUMBER OF UNKNOWN FACTORS INVOLVED" AS WRITTEN IN THE REPORT?

UNDER CONCLUSIONS, WHERE IS THIS ORE? IS IT PROVEN OR ESTIMATED? WHAT JUSTIFIES THE ACTUAL PRESENT VALUE (FIGURE NOT MENTIONED)?

UNDER RECOMMENDATIONS, NUMBER ONE AND NUMBER TWO SHOULD BE REVERSED, WITH NO ACTION ON REHABILITATION OR PURCHASING UNTIL THE DETAILED STUDY HAS BEEN MADE. HOWEELSE WILL YOU KNOW WHAT YOU ARE BUYING?

I HAVE ENCLOSED A COPY OF A REPORT DATED JUNE 18, 1938. I HAVE DELETED SOME DATA SINCE WE ARE NOT FREE TO RELEASE THIS REPORT YET.

I HOPE THIS IS OF SOME HELP TO YOU.

VERY TRULY YOURS,

JOHN H. JETT
DIRECTOR

ENCLOSURE

JHJ:PP

ENERGY RECOVERY SYSTEMS, INC.
2642 Gates Avenue
Irvine, California 92714

October 16, 1975

Bureau of Mines
Department of Mineral Resources
Mineral Building, Fairgrounds
Phoenix, Arizona 85007

Attention: Mr. John Jett

Dear John:

It was a pleasure to talk to you after many years. Thank you for the information concerning the Golden Gem Mining Company. I think we will find it most helpful. We are awaiting further information which you said you would mail to us.

Please find enclosed the copy of the engineering report done by Geode, Inc. I seem to feel there are some discrepancies in this report, and would appreciate your comments.

Once again, thank you for your trouble.

Sincerely yours,

CARTER A. MARTIN

CAM/fs
Enc.

October 26, 1942

Mr. Ralph R. Langley
P. O. Box 455
Kingman, Arizona

Dear Mr. Langley:

Many thanks for your letter of October 12th and please pardon my delay in replying. I have noted the copy of the letter to Mr. Gohring and hope it results in the action you desire.

Regarding your inquiry on the application of a loan on the New Moon property by Mark F. Jones--if you will advise me when the loan was applied for, the title under which the application was made and in case you have heard from your loan, the docket number of the application, I will try and find out the status and advise you.

With best wishes and kindest regards, I am

Very truly yours

J. S. Coupal, Director

JSC:BA

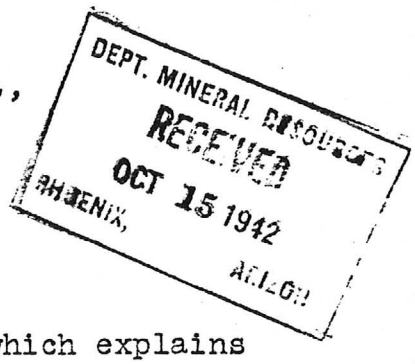
Golden Gem

RALPH R. LANGLEY
1045 SOUTH BEDFORD STREET
LOS ANGELES, CALIFORNIA

P. O. BOX 455
KINGMAN, ARIZONA

Kingman Arizona.
October I4th,I942.

A.



Mr. J. S. Coupal,
Chairman,Arizona Mineral Resources Department,
Home Builders Building,
Phoenix,
Arizona.

Dear Mr. Coupal:

Inclosed find copy of letter to Mr. Gohring which explains itself.

I appreciate your activity in this matter.

Will be in touch with your o fice again shortly.

I meant to ask Mr. Gohring abo ut the application of Mr. Mark F. Jones for a development loan on the New Moon property. Will you please ascertain that status of that and advise me?

Sincerely,

Ralph R. Langley.

RALPH R. LANGLEY
1045 SOUTH BEDFORD STREET
LOS ANGELES, CALIFORNIA

P. O. BOX 455
KINGMAN, ARIZONA

Kingman Arizona.
October I4th,I942.

Mr. W. B. Gohring,
Supervising Engineer,
Reconstruction Finance Corporation,
325 Heard Building,
Phoenix,Arizona.

Dear Mr. Gohring;

I have received copy of the letter from Mr. Kuehl and the resolution and other enclosures,with respect to the Preliminary loan. Considering the status of the leases and assignments I feel that the matter has ben handled very promptly and in a very workable manner.

Of course it is necessary to adjust the status of the leases and assignments either along the lines Mr. Kuehl has set up or otherwise. I will go about that immediately now that I know that the loan is approved otherwise. I prefer to simplify matters by eliminatig all the present lease and assignment documents and take a new lease direct from the owner of the claims and a new contract with Dundas and Shields. I think that will be possible due to the fact that the upper workings have not worked out so well from an operating standpoint and that the interests of Dundas and Shields are subject to rather quick foreclosure in case adjustments are not made. I have a subordination agreement executed by both of them now but am not sure it will cover this loan situation. However I will work oit that phase without delay.

My plan has been and is to finish milling the ore I have broken in the stopes--which will take perhaps four weeks--and then mill some lead-gold ore from another working while using the shaft, hoist etc to unwater and rehibilitate the underground workings. That will enable me to hold the milling crew while doing this opening up and developing of the underground.

I will no doubt have some questions to ask you soon,meantime will proceed as fast as practical to get the lease situation in acceptable shape.

Yours very truly,

Ralph R. Langley.

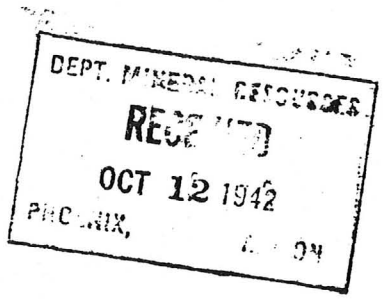
cc Frank W. Kuehl
J. S. Coupal

RALPH R. LANGLEY
1045 SOUTH BEDFORD STREET
LOS ANGELES, CALIFORNIA

P. O. BOX 455
KINGMAN, ARIZONA

Golden Gem

Kingman Arizona.
October 10th, 1942.



Mr. J. S. Coupal, Director,
Arizona Mineral Resources Department,
Home Owners Building,
Phoenix, Arizona.

Dear Mr. Coupal;

Inclosed find copy of letters addressed to Mr. Gohring.

Am getting anxious to know about the application for the Preliminary loan on the Golden Gem Property. I am trying to make plans for the near furure and much will depend upon whether that loan--also Mr. Mark F. Jones has made for a Development loan on the New Moon-- is approved.

I been very busy since my return from Phoenix doing some repair work on my diesel engine. Have had several talks with Mr. Holt however and intend to submit some things to him this coming week with respect to combining a group of properties and applying for a loan thereon.

Yours very truly,

Ralph R. Langley

Ralph R. Langley.

Kingman Arizona.
October 10th, 1942.

Mr. W. B. Gohring,
325 Heard Building,
Phoenix, Arizona.

Dear Mr. Gohring;

I am inclosing the discussion I have written up for whatever it may be worth. Am having some extra copies made in case needed. My facilities here are pretty poor.

I now intend to work up a combination of properties in one or more camps and set up detail facts, reports and maps of each property included and apply for some financing that should properly equip and operate the project.

I am wondering what has happened to my application for Preliminary loan for the Golden Gem property. Would surely like to know about it either way.

Has the application of Mark F. Jones for a Development loan on the New Moon property come to your notice yet? I am anxious about that also as I will no doubt be interested in the develpp ment of that property and want to make my plans in accordance with whatever action is taken regarding the loan.

Will appreciate such information regarding either or both loans as you can send me.

Sincerely,

Ralph R. Langley.

P. S. I assume you will transmit the inclosed to whatever Government Agency you had in mind when we mentioned the matter when I was in Phoenix. Am sending a copy to Mr. Coupal.

RALPH R. LANGLEY
1045 SOUTH BEDFORD STREET
LOS ANGELES, CALIFORNIA

P. O. BOX 455
KINGMAN, ARIZONA

Kingman Arizona.
October 9th,1942.

Mr. W. B. Gehring
Supervisory Engineer
Reconstruction Finance Corporation,
325 Heard Building,
Phoenix,Arizona.

Dear Mr. Gehring:

In accordance with my recent conversations with you and with Mr. J. S. Goupal,Chairman Arizona Department of Mineral Resources,regarding the production of zinc,or rather the lack of it,in the Wallapai Mining District,I submit the following discussion.

The District,known to be rich in zinc,lead,gold and silver with some occurances of copper,is and has been for some time dormant and non productive for reasons stated herein.

The surface workings of several hundred workings in the district were oxidized and therefore could be treated by amalgamation. They were so treated before the flotation method was developed. After flotation came into use ore carrying not too much lead and zinc,along with gold and silver values,could be treated more economically but as the workings got deeper lead and zinc occured in greater proportion and gold and silver in less. The cost of operation became greater at depth whereas the price paid for lead and zinc declined so no profit could be realized under conditions then existing,therefore,with one exception,all operations have discontinued.

Several projects have intermittantly attempted to operate but with little or no success. There are six milling and treating plants in the immediate district. All are idle except one having a capacity of about 175 tons daily and one of 50 tons now operating 12 hours daily.

The 175 ton project reached a depth of about 1,600 feet where the ore is heavy in lead and zinc. The milling and treating plant is equipped with selective flotation units so that the zinc can be produced in a seperate concentrate. The project owns its own trucks,portable mining equipment and has ample capital to economically operate. It is an example of what can be done in this district if ample finances are made available for development and operation in volume.

One other project reached a depth of 1,400 feet and was operating

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1045 SOUTH BEDFORD STREET
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KINGMAN, ARIZONA

successfully in heavy lead-zinc ore when its milling and treating plant burned down. At the prices then prevailing for lead and zinc the margin of profit was very narrow and so it was not possible nor practical to finance the erection of a new plant--so that project is dormant.

These two projects are several miles apart--in seperate mining camps,thus illustrating the fact that the entire district carries lead and zinc in volume at depth.

The four idle mills and the one operating part time (which belongs to me) have a total capacity of over 500 tons of ore daily--or the equivalant of 50 or 60 tons of lead-zinc concentrates daily. Such production would no doubt be quite important to the War Production Board at this time.

None of the mines belonging with these mills are developed deep enough to be able to supply the mills with lead-zinc ore at capacity but while the necessary development work is being done enough lead-zinc ore could be obtained from other mines in the respective vacinities,if trucks and portable mining equipment were provided,to keep the mills in production which production should be of interest to the War Production Board.

It will be necessary to recondition and equip the mills with selective flotation units and some of them should be enlarged so that each can serve the camp it is located in.

Capital for reconditianing,modernizing and enlarging these plants must be provided. Such projects should be financed to such an extent that they can develop their own mining properties and serve the other mines in the camp. If each camp had such a basic plant where the ore produced by every operator of his own claims could market his ore as produced then the four types of loans now effective from the Government Agencies would be very effective and a flow of zinc and lead also copper,would soon be on its way to the War Production Board.

Such production cannot be accomplished without ample,sound Government financing--not as a n owner but as the banker for the basic projects and also the individual operator.

There are many reasons for the present dormant status some of which I bring to your attention herewith.

HIGH MARKETING COST OF ZINC CONCENTRATES.

Smelting charges,discounts and shrinkages and transportation costs of marketing zinc contrates are very excessive. When ore carrying gold,silver and lead as well as zinc is mined and milled the zinc concentrate always carries along with it some substantial portion of the lead,gold and silver. The smelters pay nothing for the lead and pay a price substantially

RALPH R. LANGLEY
1045 SOUTH BEDFORD STREET
LOS ANGELES, CALIFORNIA

less than the quoted prices for only 75% of the gold and silver content of the concentrates so, even at the present premium prices for lead and zinc the operator actually gets far less than the quoted or posted prices for his metals.

Where bulk concentrates are made--in the absence of selective flotation units or where the zinc content of the ore is low, smelters pay nothing for the zinc and in fact if the zinc content of the concentrates is more than about 7% a penalty is charged--thus 11¢ zinc price is often very much misunderstood. When the zinc content of the ore is such that the the concentrates would carry more than perhaps 7% but less than about 40% it is necessary for the operator to depress the zinc and discard it in order to avoid being penalized, thus throwing away valuable metal now so badly needed by the War Production Board.

LABOR AND TRANSPORTATION.

War production industries operating at or on a cost plus basis are paying wages much higher than can be paid in the mining industry while the prices paid for the metals are fixed and limited to present levels. Wages--in fact living costs-- are easily one half higher than at the time when the premium prices were established for lead, zinc and copper, which is a higher increase in cost than the increase in price of those three metals, therefore the producer is in worse position than under the conditions which inspired the premium price.

Transportation (rubber) is equally serious. Miners and millmen must be transported back and forth to work. Tires are not available for private cars and it is difficult to obtain tires for vehicles to carry laborers to and from work. Of course mines cannot operate unless its laborers can be transported to the mines--and if the mines do not operate no zinc can be produced. Tire rationing Boards may authorize the purchase of tires for trucks which are used to transport ten or more laborers to and from work where essential metals are produced--but there seems to be no certainty when such tires may be available.

PRIORITIES RATINGS.

Permission to purchase supplies and equipment necessary for the production of zinc and lead is often slow to obtain and the supplies are often slow in coming after permission is obtained. An operator must hold his labor at regular wages while waiting to get permission and then while getting the supply or equipment even though the laborer may be idle part or all of that time, because if the operator lets his employees go while waiting he is not likely to be able to re-hire them--a condition which further increases the cost of production.

These hurdles and others added together raise the cost of production well above the price or return for the metals produced and therefore adjustments must be made and ample

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P. O. BOX 455
KINGMAN, ARIZONA

financing done by Government Agencies if zinc and lead are to be produced in this district in quantity.

Ultimately and as soon as possible, if this highly potential district is to continue producing these metals after the present emergency, a reduction plant--preferably an electrolytic plant which can be erected in practical units as the capacity warrents, must be established within the district so that the zinc concentrates can be reduced to metallic form here on the ground thus saving the high cost of smelting, discounts and shrinkage and transportation mentioned elsewhere herein. Due to the immediate urge for zinc and to the fact that the Government must absorb these excess costs for the present anyway, the erection of such a reduction plant can be temporarily defered but must be ebentually provided.

It has also been suggested that large working tunnels should be driven under the ore bodies of each major camp, financed and operated as independent projects to serve the communities, financed by Government Agencies on a toll payout basis per ton of ore transported through them. Such projects should be considered but like a reduction plant, can temporarily be defered because it is quite possible to start producing zinc and lead concentrates to help meet war requirements much sooner than either such ultimate advantages can be established.

SUGGESTED ADJUSTMENTS.

Next to providing finances the most important and urgent adjustments are those effecting labor and transportation. If metals are to be produced labor must be made available and in order to do so it is necessary to put mine wages on a par with other Government sponsored wage standards and provide transportation for the laborers to and from work. Providing transportation in this district should not be difficult. Let Tire Rationing Boards make tires more freely available for trucks that can be used to transport laborers. The number of tires necessary for such use in comparatively infinitesimal. That might be accomplished by the Government purchasing passenger car tires from car owners who are willing to voluntarily lay up their cars for the duration.

But the wage matter is a problem. My general suggestion is to put the production of lead and zinc metals on a cost plus basis and confine the operations included in such an arrangement to or in cooperation with the privately owned basis projects in each camp.

Let the Government Agency advance sufficient funds so the basic unit can pay wages consistent with competing Government sponsored war industries. Since the production of zinc and lead and also copper, is indespensable to war effort, Government Agencies must absorb the abnormally high cost of production for the duration. It can best do so by financing these basic units to such an extent that they can operate most economically under existing conditions thus holding the cost of

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LOS ANGELES, CALIFORNIA
P. O. BOX 455
KINGMAN, ARIZONA

production to the lowest figure possible. The Government can share or absorb the abnormal costs by adjusting the financing so h that it will look to the owner for repayment, on easy terms and at low rates of interest, only of an amount which will be equivalent to a loan which can be safely amortized and paid off under normal postwar conditions the same as any loan made by a private individual or institution,and absorb the excess as part of the cost of war.

Individual properties within each camp, operated by owners or lessees,capable of producing ore which the basic unit can mill, treat and market,should remain in the hands of such owner or lessee who should be financed through one of the four types of loans now authorized by Government Agencies,or by the Government acting through the basic unit in the camp, on a basis which allows the owner or lessee to pay the same wage and have the same operating advantage and same transportation facilities as the major basic unit. Since the basic unit provides milling, treating and marketing facilities for the entire camp,such financing would be practical and the so called small mine owner would be at no disadvantage with respect to the stronger operator and would have the same opportunity as in normal times to develop a large project of his own out of his holdings if such holdings warrent.

The best method of "freezing" labor to the job is by adjusting the wage so as to remove competition and so as to meet the higher living costs. Mine labor will then prefer to be employed in work they are accustomed to do. However,I would be in favor of some such "freezing" plan as is outlined in the "Cooperative Plan to Prevent Unnecessary Migration" which the War Manpower Commission has recently made effective.

In my opinion there are--or were--enough mine laborers in this district to supply the requirements,even after satisfying the military needs,if the lure of higher wages being paid by Government sponsered War industries did not or had not lured them away. Even though many have left this district for such jobs,in which they are neither efficient nor happy,they will quickly return if wage and transportation problems are adjusted to the higher costs of living. Experienced mine labor, above the military age limits, are usually highly efficient and fill the major proportion of the jobs in connection with mining.

PRODUCTION QUICKLY AVAILABLE.

By prompt and ample financing the four or five mills in the various camps could be quickly reconditioned,equipped with selective flotation units and put in shape to operate economically. The cost of such reconditioning and improvement would range from $15,000 to $30,000 for each plant. In addition, trucks, portable

RALPH R. LANGLEY
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LOS ANGELES, CALIFORNIA

P. O. BOX 455
KINGMAN, ARIZONA

mining equipment, transportation and ample capital must be immediately provided--also ample capital for development of ore bodies. Under such conditions production in quantity can be gotten under way within three months with ore from the many partly developed properties in the district while enough development work is being done on the properties within each camp so that the ore thus developed will thereafter supply the full capacity of the mills and treating plants.

Being an operator in the district I am quite familliar with the properties and conditions existing therein and in each of the camps thereof. I have quite definite ideas as to the the layouts,programs and finances required for each camp to get it into almost immediate production and prepare it for permanent production but such ideas are flexable and should be discussed in person rather than attempt to set up fixed plans and programs by such correspondence as this.

If zinc and lead are really urgantly needed or likely to be over the next few years, those metals can be produced in this district without undue delay provided the Government Agencies abandon formalities and go about the matter of providing financing and looking into and approving programs in a prompt and business like way.

I ,like many others, am deeply concerned about our national situation, perhaps particularly so due to having members of my family in or nearing combat service, and so you may be sure that my services are available to you or to Government Agencies without hope of material personal reward, in any capacity in which I can serve.

Respectfully submitted,

Ralph R. Langley.

Golden Item

RALPH R. LANGLEY
1045 SOUTH BEDFORD STREET
LOS ANGELES, CALIFORNIA

P. O. BOX 455
KINGMAN, ARIZONA

Kingman Arizona.
September 24th,1942.

Mr. Earl F. Hastings
Assistant Director,and
Projects Engineer,
413 Home Builders Building,
Phoenix,Arizona.

Dear Mr. Hastings;

I appreciate very much your adding the copy of a geological map to my application papers--and will be very glad to receive the copy you are sending under seperate cover.

I am mailing a check to the Phoenix Blue Print Company today in payment of the bill.

I will be in Pheenix the first part of next week when I expect the pleasure of a visit with you.

Yours very truly,
Ralph R. Langley.

September 23, 1942

Mr. Ralph R. Langley
Box 455
Kingman, Arizona

Dear Mr. Langley:

Your letter of September 22 has been received. We expect Mr. Coupal to be in the office all of next week. In the event that Mr. Gohring is not in his office, no doubt Mr. Rockwood will be, so that any business you have there can be competently handled.

Your application for a Class "C" development loan on the Golden Gem has been forwarded by the R.F.C. to this office for review. We have taken the liberty of adding to the docket photostats of a geological map from my own personal files. We believe this will be an asset in the consideration of your loan. While we included this photostat without your permission, we thought it possible that you would pay for the reproductions. We are enclosing the bill and, if this is satisfactory with you, suggest that you remit directly to the Phoenix Blue Print Company that the amount will be deducted from our account.

We are sending under separate cover one of these reproductions which we thought you might want for your own files.

Very truly yours,

Earl F. Hastings
Assistant Director
and Projects Engineer

EFH:LP
Enc.

Kingman Arizona,
September 22nd, I942.

Mr. J. S. Coupal,
Director,
Arizona Department of Mineral Resources,
Phoenix,
Arizona.

Dear Mr. Coupal;

I intend to be in Phoenix within the next week and want to time my trip so as to be there when you --and if possible Mr. Gohring--are there.

Will you or your Secretary please let me know if you will be there the end of this week--or, it would suit me better I think, the first of next.

You no doubt know that I submitted an application for a Preliminary loan as we talked--and that Mark F. Jones has an application pending for a Development loan on the New Moon property. The Government Engineer sampled the Moon mine and no doubt has turned in his report by this time. I have become interested with Mr. Jones in the Moon so that loan is of interest to me also.

Hoping to see you within a few days, I am

Sincerely,
Ralph R. Langley

Ralph R. Langley
Box 455
Kingman,
Arizona.

mp

Parker, Arizona, June 6, 1942

RFC MINE LOAN
Golden Gem Mine & Mill.

To: J. S. Coupal

From: Elgin B. Holt

Mr. Ralph R. Langley, of Kingman, Arizona, and who is operating the Golden Gem mine and mill, came to me on June 1st and stated he is planning on opening up some lead veins on the Gem ground and also may take a lease and option on the Jim Kane lead mine, two miles above the Gem.

Langley also wants to increase the capacity of his mill to from 50 to 100 tons daily and change the same from a bulk flotation to a selective flotation plant.

He also wants an RFC loan, partly for mine development and partly for revamping plant, so I suggested to him that he write to the Mining Division, RFC, Washington, D. C., asking just how to proceed in the matter, as it seemed to me his plant loan might be secured from the Defense Plant Corporation, while the Development loan would, of course, be made, if granted, through RFC.

If you have any other constructive suggestions in this matter, kindly write to Mr. Langley re- the same. Am herewith enclosing a copy of Langley letter to RFC about the said matter.

Elgin B. Holt

Elgin B. Holt.

C O P Y

Kingman Arizona.
June 2nd 1942.

Mining Division,
Reconstruction Finance Corporation,
Washington,D. C.

Attention Mr. Don Raitt.

Gentlemen;

At the suggestion of a representative of the Arizona Department of Mineral Resources,I am writing for information with respect to application for some financing from one of the Government agencies to aid in the production of lead and Zinc concentrates.

I own,subject to the usual lease with option to purchase,the Golden Gem Mining property located at Cerbat,in the Cerbat Mining District about 14 miles North of Kingman,Mohave County Arizona.

The property consists of six patented claims developed by a shaft to a depth of 650 feet with five levels of lateral development, mining and hoisting equipment and a bulk flotation plant or mill of about 50 tons daily capacity. It is primarily a Gold property with lead and zinc appearing at ~~abd~~ and below the third level.

Within two miles,all down hill,are two lead -zinc properties capable of producing large quantities of lead and zinc. The one farthest developed is the Jim Kane mine the vein system of which is an extension of the Tub vein of the old Golconda mine which is just over the mountain from it. The Kane mine is now developed by tunnels to a point wherein at least 50 tons of lead-zinc ore can be produced daily. A much larger capacity can be quickly developed. Mine is the only mill within practical distance of the Kane property,which is available to me on a lease with option to purchase.

I am now operating one shift daily on gold ore. If finances were available I would make some changes in my mill and equip the mill and also the Kane property for 24 hour production. The immediate output would be about 8 tons of premium lead and zinc concentrates. By development of the mine and expansion of the mill,that production could be quickly and extensively increased.

Approximately $15,000 would be needed for plant improvement and equipment to immediately get into lead-zinc production and perhaps $35,000 for sinking a shaft and otherwise greatly increasing production.

Will you please advise mewhat kind of application to make and to whom shall I make it.

Yours very truly,

RALPH R. LANGLEY

17 July 1940

Mr. A. C. Dundas,
Chloride,
Arizona.

Dear Mr. Dundas:

In the absence of Mr. J. S. Coupal, I am taking the liberty of acknowledging receipt of your letter of July 5.

I shall be glad to call this matter to Mr. Coupal's attention at the first opportunity.

In the meantime, I wish to advise that we have a very complete report on the Golden Gem Mine in our files.

Yours very truly,

Jas.R.Staples
Secretary to Mr. Coupal

jrf

Chloride, Arizona.

July 5th. 1940.

Department of Mineral Resources.

State of Arizona.

Capital Building. Phoenix, Arizona.

Attention Mr.J. S. Coupal. Director.

Dear Mr. Coupal;

In reply to yours of June 26th. You have on file a report on the Golden Gem Mine which is much more in detail and sent in to your special attention. We are doing very well with the Golden Gem and we operate steady and make regular shipments to the U.S.Smelter at Salt Lake City. We thank you for your interest in our operation and hope to see you on your next trip. There is work going on at the O'Brien,Flores and Idaho Mines which you know adjoin us on the South and West. We do not care to sell the property but we would like to contact a single party who would back the program we have laid out for a one-third interest with us. The mill and mine are working every day and mill records and smelter returns are available at the property. Our equipment is all paid for,we do not owe any money,we carry insurance with Lloyds and our books are audited.

Best Regards and hope to see you soon.

Yours very truly,

A.C.Dundas.

Box 133- Chloride Ariz.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine Golden Gem Mine & Mill Date April 14, 1983

District Mohave County Engineer Nyal J. Niemuth, Richard R. Beard

Subject: Field Visit

At the Golden Gem Mill we met Clarence Leonard who was acting as watchman for American International Minerals Corporation. He supplied us with the following information.

Recent activity at the property had been directed to restoring the Golden Gem Flotation Mill in Cerbat Canyon and to constructing a new building to house the assay laborabory and furnace room. Operations are currently suspended due to lack of funds.

At the mill a new crushing facility (see photo) has been installed which consists of a jaw crusher, screening unit and conveyor system.

A small building houses the electrical boxes and controls and will serve as the crushing operator's control station. Although incomplete, it appears the mill will be as described in L. A. Smith's report (9/12/62). One change planned is the addition of another ball mill to increase mill capacity. Two new wells have been sunk. Their yield is reported as 20 GPM each.

When adequate financing is received the mill will be completed so that it can handle between 50-75 tons per shift. Later, expansion of the mill to handle 300 TPD is anticipated.

Ore to supply the mill is expected to come from the Summit Mine. Apparently the ground there is bad and development of the mine will wait until the mill is complete.

Some confusion exists about the mill(s) located here. The mill just described is the Golden Gem (selective) flotation mill. It was apparently constructed between 1953-57. Other names for the mill include the Cerbat Mill, Cerbat Canyon Mill, and the Summit Mill. Prior to the completion of this mill a bulk flotation mill was operated in this same area, but it seems nothing remains of that mill. To the northeast, just below the Golden Gem Shaft is the remaining ruins(see photo and map) of the Golden Gem Stamp Mill.

R114

renamed the "Seventy Eight Mine".

Cerbat Cemetary

Not a thing, but some foundations here and there marks the former mining town of Cerbat, third county seat, in the Cerbat Range. At the junction of the Cerbat and Charcoal canyons is the Cerbat Cemetary, but it is hard to find because of the desert growth of brush, cacti and other vegetation.

After recent visit with Roger Taylor, manager of BLM office in Kingman, Malach with wife Doreen returned to the Cerbat Cemetary site on Thursday, May 19,1983 to mark the boundary lines of the cemetary for fencing in the existing graves.

It took Malach and his wife a few hours to search and locate all graves still noticeable by a rock mound. Only two graves have names incribed in concrete, Reese Jones, born in 1837, died in 1902,and Lucy Jones born in January 1890 and died in July 1892.

The thick vegetation required careful and watchful walking in expectation of usual surprise, a rattlesnake. None was noticed, but a garter type snake with green back, identified later as "racer".

Cemetary Markers

The Malachs marked four corners of the cemetary grounds for fencind in, by placing bright red stringers on the branches of the vegetation, and the job was completed.

Malach expects to have the fence constructed with the already volunteered help under the leadership of Gus Uhlenkott of Chloride.

Abandoned Mining Project

After the completion of work at the Cerbat Cemetary, the Malachs hiked into the Cerbat Canyon, where the town was located. A few years ago, Malach photographed quite extensive rock ruins of the Reese Jones house almost in the wash. Now Malach found only one corner of the rock wall still standing, where Reese Jones lived for years, raised his family, and now rests on the Cerbat Cemetary next to Lucy Jones who lived only 2½ years.

A little further from the Reese ruins was an impressive mining camp in operation a few years ago. At the time of its operation, when Malach visited that camp, a security guard with gun on his belt greeted Malach. Now, all is quiet and forgotten, modern two room building stands next another structure, and the television tower. The place is showing growth of native vegetation, but two signs still proclaim the owner's name of the mining claims, where work was in progress a few years ago. During the period of operation, roads were built to almost the summit of the Cerbat Range, leading to some 200 claims, where silver mining was under development.

Sums of money were spent, workers earned wages until all of it failed.

Mill Stands Idle

Half mile or so down the road from this abandoned mining camp, after passing the ruins of the Golden Gem mine, stands an idle mill. For the past few years, work was in progress on the reconditioning of this mill. It appeared during the last visit of Malach recently, that the mill was put into operational status, and assayer's building was constructed, and now the gate to the mill site is padlocked with no indication of any work.

GOLDEN GEM MINE MOHAVE COUNTY

Active Oct. 1962

Visited the Golden Gem mill of Cerbat Mining & Milling Co. Due to the death of Mr. Thompson, the property is idle. Learned from Floyd Brown at property that J. P. Champagn of 324 W. 16th St., Santa Monica, California, is president of the company. EGW WR 11-9-62

Interviewed Floyd Brown in Oatman, learned he (supt.) Mr. Barbee(chemist) and Nick Potter (master mechanic) are being retained at half pay by the Cerbat Mining & Milling Co. They expect to resume operations in the near future. EGW WR 1-11-63

Interviewed Floyd Brown in Kingman. He had just finished salvaging the underground equipment from the Golden Gem mine. He doesn't know if the Cerbat M & M will get going again or not. EGW WR 5-10-63

Visited the Golden Gem mine and mill. No activity. EGW WR 3-5-65

I drove to the selective flotation plant in Cerbat Canyon near the old Cerbat townsite. The mill building was secured with log chains and padlocks. One man said a Southern California man had paid $50,000 for the old plant said to be rated at 20 to 25 tons per day. Another man said that a settlement had been made on debts attached to the mill, and the price was $15,000. The following day Aldridge advised that 17 patented claims and the mill recently changed hands, but he offered no facts as to details nor names and addresses. He seemed not to know who had keys to the padlocks. The equipment outside the mill building was in well worn condition and probably all at least 30 years old, except for 2 trucks probably 20 years old. I discussed the Cerbat mill with Donald Aldridge, Supervisor of Mohave County and conveyed to him the Department's willingness to assist him or his representatives in analyzing the report to be received from Tuff Associates, a consulting firm out of Nevada which was given $5,000 by Mohave County to make a preliminary study on the custom mill project. Mr. Aldridge said nothing had been received from them. VBD WR 10/7,8/75

RRB WR 10/23/81: Bill Vanderwall reported that the Cerbat Mill (Golden Gem Mill) was being rebuilt.

NJN WR 11/19/82: Bob Allgood with Cimeta Engineering reported that American International Minerals Corporation is restoring the old Golden Gem flotation mill in Cerbat Canyon to use in conjunction with their Summit Mine operation.

GEM MINE & MILL
(GOLDEN GEM MINE & MILL)

MOHAVE COUNTY
CHLORIDE

FLOYD BROWN spoke of rehabilitating the Golden Gem Mine and Mill. He is in charge of shaft repair and the mine preparation.

TRAVIS P. LANE - Chloride Conf. 3-23-61

Learned that the Gem mine and mill are being rehabilitated by the Cerbat Mining Co. with 9 men employed. Floyd Brown is in charge of the mine.

TRAVIS P. LANE - Weekly Report March 25, 1961

MINING JOURNAL - 2-15-4~

A carload of ore has been shipped from the Flores mine in the Cerbat district 12 miles north of Kingman, Arizona. Floyd Brown, Kingman, is operating the property.

GOLDEN GEM

Wallapai

Reconstruction Finance Corporation
Preliminary Development Loan

September 23, 1942

Earl F. Hastings

Docket No. C-ND-48
Date Application Received September 18, 1942
Date of Field Examination Miscellaneous (Holt & Hastings)
Date of Report September 23, 1942

1. Name and address of applicant (correspondent):
Ralph R. Langley, Box 455, Kingman, Arizona.

2. Character of project and estimated cost thereof:
Unwater and repair shaft and lateral workings from the 330 to and including the 630 ft. level.

3. Location of property:
Cerbat Mining District north of Kingman, Mohave County, Arizona.

4. Applicant's interest in or ownership of property:
Applicant holds lease and option from owners.

5. Loan requested:
$5,000.00.

6. Loan recommended:
$5,000.00.

7. Comments:
(A) The property is well situated both in its relation to a known productive mineral zone and in physical accessibility.

(B) The mine has been producing in a steady though limited way for the past year or more, milling dumps and upper level stope filling; but the operator has been selecting ore of low base metal content as much as possible.

(C) It is doubtful that the transition zone to sulphides will be found between the back and bottom of the 330 level drift as anticipated by the applicant except in localized areas. From personal familiarity with the property and surrounding areas and from private reports which were made accessible to me, it is considered that the area between the 230 and 430 levels will be found relatively barren of either oxidized or sulphide ores. Some believe this condition due to horizontal zoning in the original deposition, and others that it is the result of changing water level. At any rate it is generally agreed that between the 430 and 530 levels primary sulphides are encountered which continue to the present shaft bottom. The sulphide ores of high zinc content were noted on the dumps by the writer several years prior to current operations.

7. Comments (Cont'd.):

(D) In view of limited zinc values in the upper levels the present work should be limited to unwatering and repairing the 430, 530 and 630 levels, leaving the repair of caved areas on the 330 and 200 levels until some future date when utilization of labor and materials can be better spared.

(E) The property can be said to have definite merit and since major mining and reduction equipment is already on the premises, production of any ores made accessible by expenditure of this loan can be made immediately.

(F) Added to this docket are:

1. Photostatic copy of geological and topographical map from private report.

2. Mine Owner's Report by former operators, Clapp and Dundas.

3. Summary of operations by E. B. Holt, Field Engineer, Department of Mineral Resources

ARIZONA DEPARTMENT OF MINERAL RESOURCES

Earl F. Hastings, Assistant Director
and Projects Engineer

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine GOLDEN GEM MINE — Date June 2, 1942

District Wallapai — Engineer Elgin B. Holt

Subject: Operating Mines

GOLDEN GEM MINE: Located at Cerbat, 12 miles north of Kingman, Mohave County. Lessee: Ralph R. Langley, Box 455, Kingman, Arizona. Langley is also General Manager and A. C. Dundas, Mine & Mill Supt.

Metals: Gold, silver and zinc-lead.

MILL, TYPE & CAPACITY: 50-ton bulk flotation mill, now running 8 hours daily and treating 15 tons of ore during that time. Mill and compressor powered by one 50-HP Diesel and one 50-HP gas engine.

PRODUCTION, 1941: Submitted by Langley:

				% in concentrates			
Ore tons	Conc. tons	Gold ozs.	Silver ozs.	Lead %	Zinc %	Copper %	Iron %
2066	103.34	561.73	1833.62	0.31	7.0	0.41	30.0
			First three months, 1942				
166	8.00	96.96	227.68	0.00	9.0	0.9	35.0

Langley states he is planning to open up some lead veins within Golden Gem group, and increase output of mill to 50 tons daily, working mill 24 hours, in which event he will employ about 24 men. He is also considering taking a lease and option on the Jim Kane lead mine located two miles east of Golden Gem. He states should he take the said Kane property over he would plan to increase capacity of mill to around 100 tons daily.

June 2, 1942

OPERATING MINES
Mohave County

To: J. S. Coupal

From: Elgin B. Holt

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Date 10-22-60

QUESTIONNAIRE

1. Name of Mine Gem Mine -

2. Owner's name and address A.C. Dundas -

3. Operator's name and address Chloride

4. Location of mine (State & County) 12 mile W of Kingman

5. District Cerbat P.O. Address Chloride

6. Distance to Highway at 3 mi N of Boulder Dam-Kingman Hwy
(Specify in miles whether the mine is north, east, south or west of this location).

7. Distance to Railroad at _____
(Specify in miles whether the mine is north, east, south or west of this location).

8. Transportation facilities:
Name of Railroad S.P -

Name of Truck Line _____

9. Do you ship by rail or truck _____

10. Kind of ore Silica - Lead Zinc

11. How developed 600' Shaft

12. Equipment 50 Ton Flotation Mill

13. How much being shipped: Monthly shipments of:

ORE: Tons _____; Value $_____

CONCENTRATES: Tons _____; Value $_____

BULLION: Value $_____

14. Number of men employed _____

15. Where do you buy mining machinery, equipment & supplies? (please check cities)
Los Angeles__; San Francisco__; Reno__; Salt Lake__; Denver__;

16. Plans for future operations and expansion _____

Signed A.C. Dundas —
(Please state title)

Submitted to:
MINING DEPARTMENT
LOS ANGELES COUNTY CHAMBER OF COMMERCE
LOS ANGELES, CALIFORNIA

TYPE NO. 1

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

PRODUCTION POSSIBILITY SURVEY.

Mine GOLDEN GEM

Date Sept. 24, 1942

District Cerbat Mining Dist., Mohave Co.

Engineer Elgin B. Holt

Subject:

PRODUCTION POSSIBILITY

LESSEE: Ralph R. Langley, Box 455, Kingman, Ariz.

METALS: Zinc, lead, silver and gold.

LOCATION, HISTORY & PRODUCTION:

The Golden Gem mine is located at Cerbat, in Mohave County, about 15 miles by road north of Kingman. It was discovered in 1871 and some ore was shipped at that time. Later, T. L. Ayers took the property over and shipped $200,000 worth of rich gold and silver ore. Still later, a New York company acquired the property, sank the shaft below the 400-foot level and did some drifting. This company closed the mine down in 1904 and it remained idle until 1906 when it was sold to the Golden Star Mining & Milling Company for $75,000. This company erected and operated a 40-ton mill, using plates and tables to recover the gold values only. Total production to 1909 amounted to $190,000. In 1939 this mine was reopened to the 340-foot level, where water used in milling is held by bailing, by A. C. Dundas and A. W. Clapp, who completed the installation of a 50-ton mill at property, treating mine fill from the upper levels. Mining and milling was carried on by Dundas & Clapp until the spring months of 1941, at which time the property was leased to Langley, who has been working it since that time.

WORKINGS:

The mine is developed by a two-compartment shaft, 651 feet deep, with five levels located at 130', 230', 330', 400' and 500' below the collar of the shaft. But no drifting was done on the 600-foot level, per Mr. Dundas.

VEINS:

The Gem vein strikes N. W. & S. E. and dips 78 deg. N. E. It varies from 6' to 14' in width and carries a pay-streak from 2' to 6' wide of ore running $10.00 gold per ton or more. From the main Gem shaft and within a distance of 500' S. W. therefrom are 11 parallel veins, from 16" to 6' in width. On one of these veins there is a shaft 125' deep showing 4.5' of $25.00 gold ore, per Mr. Dundas. On another of these veins, he states, there is an 80-foot shaft showing 16" of $17.00 gold ore. All of these veins can be prospected by cross-cutting from the main shaft.

MILL, TYPE & CAPACITY:

The 50-ton mill mentioned, using bulk flotation, has been operated by Langley 8 hours daily and treating about 15 tons of ore during that time. The mill & compressor are powered by one 50-HP Diesel engine.

PRODUCTION, 1941 - SUBMITTED BY LANGLEY:

Ore tons	Conc. tons	Gold ozs.	Silver ozs	% in concentrates: Lead %	Zinc %	Copper %	Iron %
2066	103.34	561.73	1833.62	0.31	7.0	0.41	30.0
FIRST THREE MONTHS OF 1942:							
166	8.0	96.96	227.68	0.00	9.0	0.90	35.0

COMPLEX SULPHIDE ORE BELOW THE 230-FOOT LEVEL:

While the Golden Gem mine has heretofore worked mainly for gold to the 230-foot level, per Langley, below that level the character of the ore has definitely changed to a complex sulphide ore carrying around 0.3 ounces gold per ton, 4.0 ounces silver, 2.0% lead and 15.0% zinc.

R. F. C. LOAN APPLIED FOR:

Around September 16, 1942, Langley made application for a Preliminary Development Loan to the R. F. C. in the sum of $5,000, to be used as follows:

Golden Gem

He proposes to unwater the Gem shaft to a point just below the 400-foot level, reconditioning said shaft to the said level, which will also be cleaned out and reconditioned for sampling. He also proposes to catch up certain caved areas on the 200-foot level. After this work has been done, he will automatically apply for a $20,000 mine development loan, from R. F. C., to be used in blocking out ore in the mine. Should results then prove satisfactory, he will then apply for a Class A loan with which to remodel and expand the present 50-ton bulk flotation mill to a 100-ton selective flotation plant, for the purpose of recovering the various metals in the ore. Under this arrangement, two products will be made: 1. A zinc concentrate, which will be shipped to Amarilla, and 2. A lead-silver-gold concentrate which will be shipped to either El Paso or to Salt Lake City for smelter treatment.

Also, Langley states that such a plant as the one he proposes to build at the Gem mine, would also serve as a custom mill to treat zinc-lead ores from at least 10 other mines in this immediate vicinity.

WAGES - LABOR

Langley is now arranging a new wage scale, as follows:

Rates based on an 8-hour day for a 7-day week:

Miners	$7.12
Muckers and top men	6.85
Millmen	7.00

He further states that should cost of labor increase, then and in such event the price of zinc and lead should by all means be increased accordingly, for otherwise no profit could be made in this operation.

Golden Gem

TRANSPORTING LABOR FROM HOMES TO MINE:

Langley states that all of his employess live either in Kingman or in Chloride; both of these places being around 15 miles from the Gem property. He is planning to rig up a truck to be used to transport at least 10 men from their homes to the property. But in order to do so, he will have to arrange with the Kingman tire rationing board for new or recapped ~~krnck~~ tires for the truck mentioned.

POTENTIAL ORE:

The Gem mine, if developed in a large way, should produce around 100 tons of milling ore daily, carrying the zinc, lead, gold and silver values above quoted, over a long period of years. Also, it is believed such an operation will prove profitable, provided the cost of living, of labor, materials, and other items, can be held down, more or less, to the cost of such items during 1942.

Elgin B. Holt

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine: Golden Gem Mine — Date: Sept. 12, 1962

District: Cerbat Dist., Mohave Co. — Engineer: Lewis A. Smith

Subject: Mine and Mill Visit with "Red" Williams-9-6-62 (telephone Conference with Parker).

Owner: Cerbat M. & M. Co., Kingman.

Superintendents: Banner and Golden Gem: Floyd Brown, Kingman
Summit : Patrick Parker, 701 Parkview, Kingman.

Properties Being Operated: Summit, Golden Gem and Banner (Dump.)
The work at the Summit and Golden Gem is development.

Location: (Secs. 7, 18 T. 22 N., R. 17 W.)

Access: Highway 93 to Hoover Dam was followed for 10 miles. A county graded road, to the right, was followed for 1½ miles east, thence 1 mile north, and thence 1½ miles east. A rough 2-mile mountain road extends east, from the Golden Gem Mine, to the Banner. The Summit road continues north at the end of the mile stretch and extends N and NE for about 3 miles.

Minerals: Silver, Lead, Gold, and some Copper and Zinc.

Work: The Golden Gem Mine (U.S.G.S. Bull. 397, pp. 92-94 and U.S.G.S. Bull. 340) contains 4 veins (The Idaho-Columbus, Gem-Idaho, Gem, -Columbus) covering 6 claims. The main shaft, on the Gem vein, is 600 feet deep, and has 6 levels at 100 to 120 foot intervals. 2000 feet of drifts extend from the shaft. A second 200-foot (with main levels at 90 and 200 feet, respectively) shaft is also present. This shaft has sub-levels at 40 and 65 feet.

Geology: The veins lie in the Precambrian schist-granite-gneiss complex of the Cerbat Mountains. The hangingwall, of the Gem vein, consists of an iron-gray gneissoid schist. The vein trends N 40 degrees W and dips about 78 degrees NE. The rocks comprising the complex ore intruded by diabase, granite-porphyry, and monzonite porphyry dikes, and the intensely altered diabase is in close association with the vein. The vein averaged from 6-14 feet in width with 2-6 feet of this being ore which is reported to have assayed over $10.00 per ton. The vein gangue is mainly quartz and crushed country rock which are mainly in irregular bands. The ore minerals and metals are gold, silver, galena (5.6 percent lead in ore) sphalerite, pyrite and stibnite. Local lenses ran as much as 60 oz. in gold. The average grade (1909) was reported to be $20. per ton. Cross (oblique) faulting cuts diagonally across the vein and nearly along the schistosity.

The Golden Gem ~~Mine~~ Mill consists of a crusher, Secondary mill, an 8 5 x 8 ball mill (Marcy) with a screw classifier and a cone classifier, 3 sets of Denver Sub-A flotation cells (6 per battery). The 8-hour capacity is 50 tons. The mill is now running on dump sample lots from the Banner Mine. According to the metallurgist, there is a large tonnage of dump material in several dumps that assays 6 oz. of silver and 2-3 percent lead.

The oxidized lead minerals (anglesite and cerussite) are sulphidized prior to floating. Should the extraction be raised from the present 70-75 percent, the material may pay, especially since there is no mining cost. Some pockets of ore have been extracted from the Golden Gem development and tested in the mill. The primary ore specimens contain argentite, stibnite, galena and some pyrite, chalcopyrite and pyrrhotite. Small amounts of sphalerite have been found. At present, the Golden Gem reserves are not large.

References : (1) U.S. Bureau Mines R.I. 4101 (1947) pp. 39-40
(2) U.S.G.S. Bull. 340 (1908) p.67.
(3) " " 978 E (general Wallapai geology)
(4) " " 397 pp 91-94 (1909)

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine Gem

Date May 26, 1961

District Cerbat Dist., Mohave Co.

Engineer Travis P. Lane

Subject: Visit of May 19, 1961

Cerbat Mining & Milling Co. is the recently organized operating company. Vic Howard is manager, P.O. Box 1207, Kingman. Floyd Brown is superintendent. The principal shareholders are residents of Southern California. See file for description of the mine and the history of past operations. The operator preceding the present company was the Sevier Minerals Corp., 1956-58.

Present work consists of repairing the upper portion of the 650' shaft and cleaning out the 300' level preparatory to resuming stoping operations above this level; also, the 50 ton mill is being rehabilitated. A larger ball mill together with additional flot cells etc. have been purchased and will be installed after starting up the existing plant. It is anticipated that eventual capacity will be 200 TPD. 12 men are presently employed, including Howard and Brown.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine	Gem Mine	Date	July 12, 1957
District	Mineral Park	Engineer	B. J. Squire
Subject:	Activity report		

Sevier Minerals Corp., Wm. Howard, Manager, Kingman, Arizona has just completed a 50-ton flotation mill producing lead and zinc concentrates. The mill consists of a jaw crusher, secondary gyratory crusher, ball mill, jig in the classifier circuit and lead cells, zinc cells and a scavenger cell with two product filters.

Assayer is Wm. L. Kern. Mill has been running on dump material from the Gem Mine.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine Gem Mine and Mill Date March 25, 1957

District Mineral Park Engineer Mark Gemmill

Subject: Present Activity.

This operation is being carried on under the Sevier Minerals Corp, Kingman, Ariz. William Howard, Genl. Mgr. Kingman, Ariz.

When visited a few days ago, the mill recently built was just being started. It is a concentrating plant with the usual grinding equipment followed by jigs and flotation designed for seperation of various sulphide minerals. It is expected to have a capacity of 75 tons per day.

In addition to the Gem mine the company has acquired several adjoining mines, the Idaho, Vanderbilt, Flores and others, all of which are expected to supply ore to the mill, which is located on the Gem mine. These are all old mines which had some production in the early days, but have had little activity if any during the past 40 years. The best description of the mines now available is probably contained in Schraders report of the area.

When visited last fall Mr. Howard had a few men working in the upper levels of the Gem shaft. He stated that there was propects of considerable ore in this property. He had not unwatered the lower levels as he wanted to use the water in the mill as needed.

Investigation of:

Gem Mining and Milling Properties

16 May to 20 May 1975

The chief purpose of this investigation was to rapidly determine if the mining claims as included in the inventory were of sufficient merit and value as to justify purchase of the mill, and putting it into operation.

A visit was made to the Gem Mill on May 17 and a cursory inspection was made of the machinery and installations. Most of the equipment is in good to fair shape and present value of the mill and buildings as listed on the inventory attached is in excess of $65,000.00 (breakdown and sale value).

On the following morning of May 18 an inspection was made of the underground working at the Summit and Silver Monster claims. Samples were cut across the vein in several locations, and assay results are given below:

	oz. An	oz. Ag	Val./ton		oz. An	oz. Ag	Val./ton
Sample #1	0.12	0.48	$22.32	5	0.02	1.50	$ 9.40
2	0.02	1.98	11.32	6	0.12	0.68	23.12
3	0.02	0.58	5.72	7	0.	0.10	.40
4	0.04	2.36	16.24	Average	.0485	1.097	12.63

Unfortunately, a recent rock fall has blocked access to most of the development drift along the vein. However, enough development work is open for an estimate of 50,000 tons of ore available for stoping. Maps and sections exist, but were not made available for more than a quick look.

A complete study of the Summit and Silver Monster is recommended, but it will require a considerable amount of research time and field work.

The afternoon of May 18 was spent in doing an underground inspection of the OD Mine, Excelsior Mine and various surface outcrops in the Gold Basin district which is located about 45 miles to the Northwest of the Gem Mill. None of these properties are included in the inventory, however, should the mill be put into operation, all or most could be acquired on a lease or sale basis and would be a supplementary source of mill feed. Naturally, one half day is far from sufficient time for a comprehensive study of this (or any) mining property, but the impression was gained that these Gold Basin properties have real merit and that further evaluation work will be justified.

Many other small mines and prospects exist in the Cerbat Range. These

.... /2

are in various stages of development but few are in production due to lack of custom milling facilities in the area. The Duval mine and mill is an exception. This mine is a large copper-molybdeneum-gold-silver producing open pit operation but no outside custom milling is performed.

Assay results Gold Basin District

OD Mine Dump	Value/ton	$20.00 (D.D.)
OD Mine (3 samples, average)	"	64.77
MO Mine (1 sample)	"	404.60
Surface Cut below OD Mine (1 sample)	"	10.52
Excelsior Mine (3 samples)	"	32.66

The above assay results are tabulated in detail on a separate attachment to this report. The values per ton are for contained Gold and Silver only. Lead and Zinc assays were not run for reasons of speed and economy. Considerable increase in per ton value may be expected from a re-run of the Summit Mine samples with lead and zinc assay values added.

Economics

An accurate forecast of milling costs cannot be made for the Gem Mill because of the number of unknown factors involved.

However, similar sized milling operations are able to achieve total milling costs of from six to eight dollars per ton of ore processed. These approximate costs include amortization and all related overhead for a separately operated small custom mill.

Sufficient quantity of ores may be acquired through purchase from other operators or by operating the Summit and Silver Monster property, to keep the Gem Mill operating at 100 tons per day. An estimated example of operating cost and profit figures is given below.

Summit Ore @ 100 t.p.d.

Recoverable Value per ton in Au, Ag, Pb, Zn	Mining Milling	Value/ton profit
$26.00	$15.00	$11.00

$1100.00 per day profit at 25 day working month = $27,500.00 profit/month = $330,000.00 per yr.

Naturally, every possible effort must be made to increase the value of the mill feed by acquisition of higher grade ore through purchase or exploration. Per ton operating costs may be cut by efficient operation and expanding capacity, but the true source of increased profitability is in increased recoverable values per ton of ore.

... /3

Conclusions

1. There is a sufficient quantity of medium to high grade ore available in the properties of the Cerbat Range Area to enable the Gem Mill to operate at 100 tons per day and to generate a reasonable profit.

2. The asking price for the Gem Properties is well below actual present value, and with an additional 30% invested in rehabilitation, and with proper management, a good business venture may be obtained.

Recommendations

1. That the Gem Properties be purchased and that rehabilitation be started immediately.

2. That a geological and engineering study be initiated on all the mines and prospects included in the inventory.

3. That immediately upon purchase, a trustworthy watchman or other personnel be installed at the mill to prevent theft of mill and mine equipment.

Respectfully submitted

GEODE, INC.

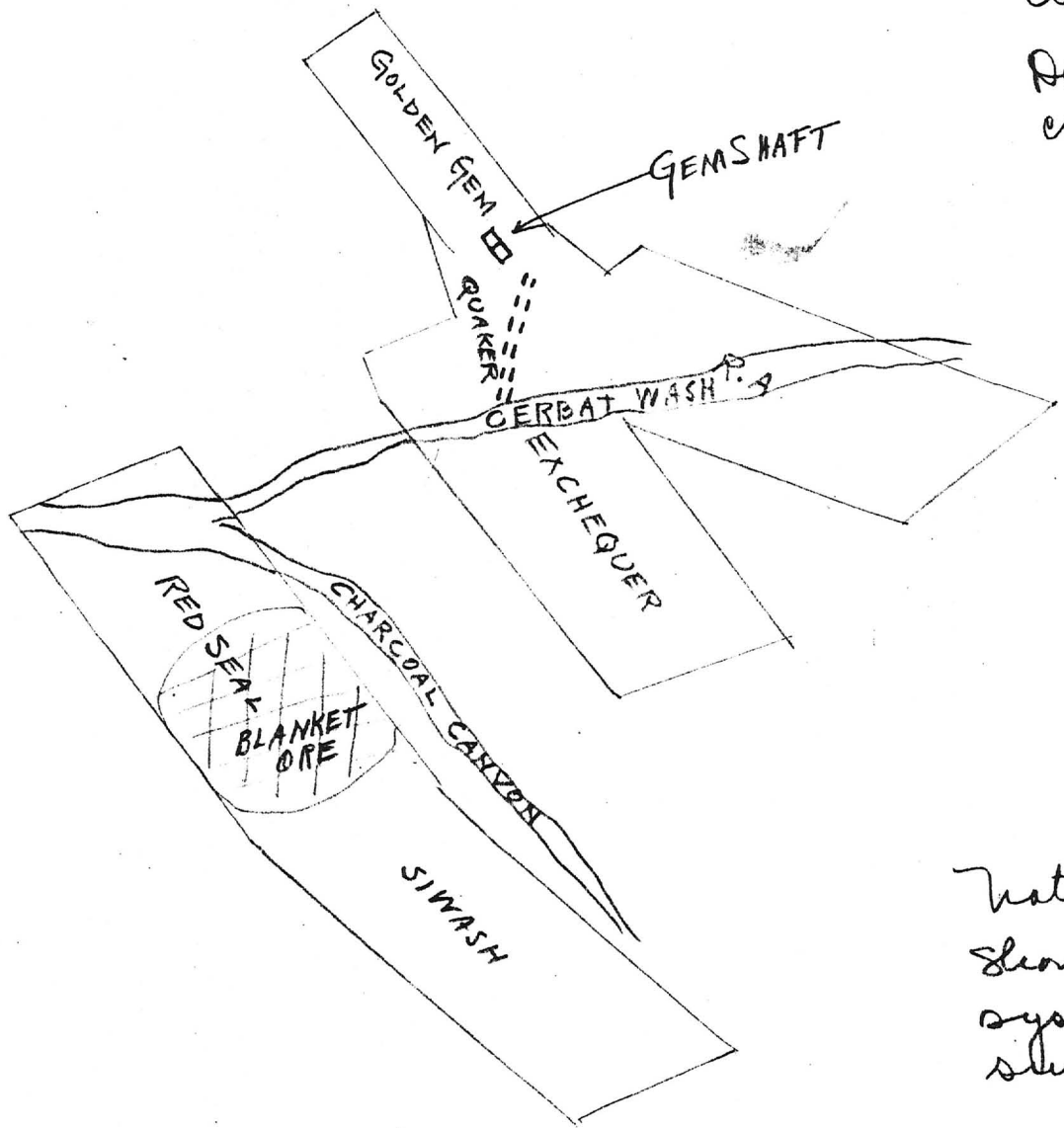
R. W. Copeland
Geological Engineer
Alberta Reg. #26920

RWC/eg

MAP No2

Golden Gem Property — Showing (4) groups, and position in regard to Cerbat Wash + Charcoal Canyon

Dotted line - Proposed cross-cut.

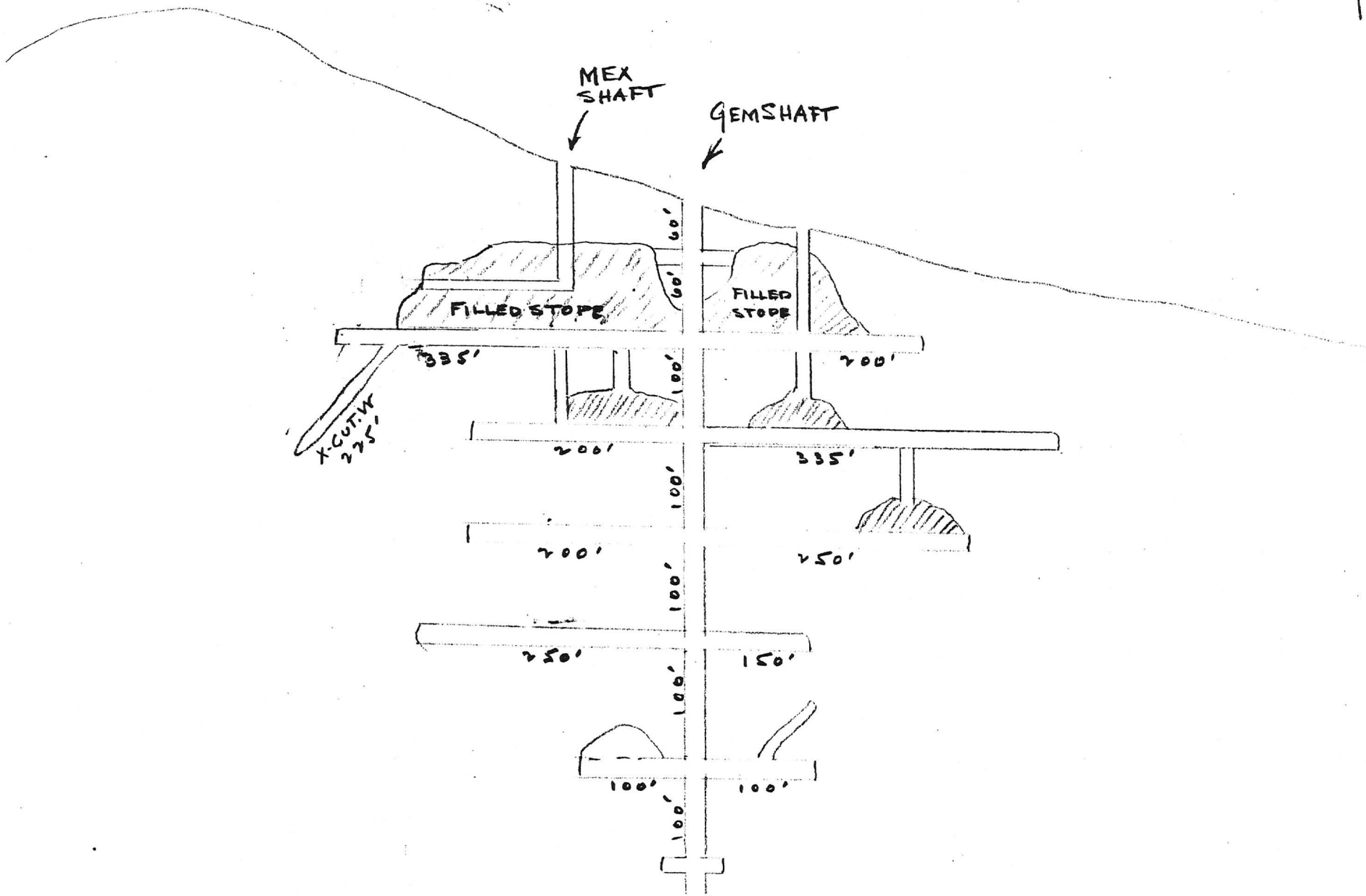


Note. Impossible to show complete mine system with out survey

MAP NO. 1

Golden Gem Mine.
Cross Section
From Castle Maps.

N



GOLDEN GEM MINE

Cerbat Mining District — Mohave County, Arizona

The Gem mine surface was mapped while the writer was alone in the Kingman area. It was intended to see the underground workings when the water was taken below the 1st level but these plans did not materialize. An assay section taken from existing maps has been prepared. About 150 assays from the Gem mine are at hand but only a few of these record position and width of vein at points of sampling. These samples have been plotted but the others have been omitted.

OWNERSHIP

The Gem mine is owned by St. Louis people and is under option to Mr. Dundas, superintendent of the mill at the Arizona-Magma mine at Chloride. At this writing Dundas' partner has given up his interest in theproperty and Dundas is attempting to get the property on favorable lease and option on a produced tonnage basis.

LOCATION

The Gem is located in the SE 1/4 of Section 7, T 22N, R 17 W in the Cerbat Mining District.

The group comprises patented claims; Red Seal, R. A., Quaker, Exchequer, and the Golden Gem. The Gem and Quaker claims are rather small fractions.

DEVELOPMENT

Total development aggregates about 3,000 feet including shafts, drifts, and raises. This amount of development work has yielded about 21,000 tons of ore, most of which is in the upper levels. Data on the lower levels is somewhat sparse and not well recorded. The shaft goes down to 640 feet. The best ore was found in the upper levels and a barren zone is reported from the 350 level to the 500.

Lateral development on the first four main levels runs from 400 to 600 feet and 220' of lateral development is seen on the 520 level.

PRODUCTION AND RESERVES

Production of the Gem probably aggregates about 20,000 tons of ore of 1/2 to 1 oz gold ore. Production is estimated at 200,000 dollars.

E.A. Blanton in 1909 gave produced ore at 9,832 tons and estimated reserves at 32,012 tons of .48 oz gold ore. Present data does not indicate reserves of this proportion.

Heavy sulfides are reported at the 500 station and for 75' laterally. Zinc and lead can be found on the dump. The long section shows a block on the 320 level about 90' in drift length and averaging 3'+ wide and a grade of about .7 oz gold. The sampling is of unknown origin. A small streak of sulfide ore on the first level runs very high in gold but is too narrow to stope. The long section indicates several small blocks of ore in addition but nothing appears to have possibilities of large size. The 520 level shows a very small stope and but little ore as far as samples are available, and the sump is barren. Two samples cut by the writer on the surface above the old stopes aggregate 7' across the vein and both ran .39 oz gold. A sample cut on the surface 250 feet SE of the main shaft was very low grade.

There undoubtedly is an area of fair gold values near the main shaft but sampling data indicates the bodies to be rather small. The vein can be followed for about 1,000 feet on the surface.

A number of small veins appear to weak to produce much tonnage although values are reported in them.

The Idaho vein on the adjoining property crosses into the Gem claimon the north and to the SSE heads toward the Exchequer claim. South of the main gulch crossing the property, the writer was unable to pick up the veins. The gulch may represent a fault zone or the rather weak fractures may fray out. Exposures are rather poor to the SE in many areas.

The O'Brien group lies to the south on a distinct vein. Some ore is reported here but as described is small. The owner of the group, Mrs. O'Brien, is said to be impossible to deal with.

GEOLOGY

The Gem group covers several veins and veinlets in the pre-Cambrian complex. The complex comprises gneissic and schistose rocks and granitic intrusives. The pre-Cambrian structures strike NE and dip about 48 degrees tot he north. Pegmatite dikes follow the planes of schistosity.

A dike, probably of pre-ore age, occupies a fracture running more or less parallel with the veins. A little mineralization can be seen on one side or theother of this dike. The main Gem vein can be followed for about 1,000 feet on the Gem claim. To the north this vein is striking toward intersection with the dike fracture and the Idaho vein. The fractures will probably join near the end-line of the Gem claim but the intersection or junction cannot be seen.

Drag on the pre-Cambrian schistosity indicates movement to the right. Reopening on the Gem vein seems small except for some shearing of probably post-mineral age. The movement to the right would give reopening in the area of commercial ore on the Gem vein, due to a change in strike.

A rock that shows typical diabasic texture and color is rather common in the Gem area. This is distinct from the dike previously described, and occurs in irregular bodies. It forms the walls of mineralized fractures in places and is believed to be older than the ore. The writer has seen this rock in a schistose condition in the Gerbat range and it may be ~~EM~~ a part of theold complex.

The Red Seal claim lies SW of the Gem claim across the main gulches. The hillside is developed on a sheeting striking NW and dipping about 30 degrees easterly. One main fracture is filled with quartz which in places shows lead and zinc and which locally carries gold values. This flat vein has been mined in a small way and some float from it has been milled. As exposed, this vein is from .5 to 1.3 feet thick and could produce a small tonnageonly of ore.

SUMMARY

The Gem mine's possibilities are somewhat doubtful due to lack of first hand underground data. Available information indicates that expectible tonnage would be limited but that some ore of good gold values could be mined. It appears that the ore reservoir is of the order of 50,000 tons of which about half has been mined.

The mine makes but little water which stands well up in the first level. The main gulches might yield considerable water if a cut-off wall was placed on bedrock in the gravels. These gulches drain considerable country.

Examined February, 1938

Robert M. Hernon

Robert M. Hernon

June 18, 1938

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA

MINE OWNER'S REPORT

Date May 5th. 1940

1. Mine Golden Gem
2. Location Twelve Mile North of Kingman, Arizona. T22N. R17W. G and SR. Med.
3. Mining District & County Wallapai District. Mohave, County.
4. Former name Same.
5. Owner Golden Star Min. and Mill Co.
6. Address (Owner)
7. Operator A.W.Clapp A.C. Dundas
8. Address (Operator) Kingman, Ariz. Chloride, Ariz.
9. President, Owning Co.
9A. President, Operating Co.
10. Gen. Mgr.
14. Principal Minerals Gold and Silver.
11. Mine Supt.
15. Production Rate Approx. 300 Tons, Month.
12. Mill Supt.
16. Mill: Type & Cap. Gravity concentration and Flotation.
13. Men Employed Six. Including the operators.
17. Power: Amt. & Type
Mill 50 H.P. Hot-Head
Mine 35 H.P. Gas Hoist.
Compressor 110 Rix portable.
18. Operations: Present Unwatering and repairing Shaft to 300'level. Milling fill left in stopes above the 120'level. Stoping ore above the 80'level

19. Operations: Planned Clean out 225' cross-cut at North 120'level which cuts 5' vein of mill ore. Clean up 200' level to make known ore bodies available. Clean up 300'level to make known ore bodies available. Cross cut from 300 or 400'levels South-West thru highly mineralized area which shows croppings of a number of paralleling veins which carry values and have sufficient developement to warrant cross-cutting. The proposed developement will open sufficient ore and water for a 100 ton modern mill.

20. Number Claims, Title, etc. Six patented claims in good order. Two groups. See Map.

21. Description: Topography & Geography Golden Gem shaft and vein located on the North hill side about 150' above Cerbat Wash and Charcoal Canyon. Elevation approximately 4500'. Easily accessiable

SEE MAP No.1

22. Mine Workings: Amt. & Condition The Golden Gem Mine is developed by incline(78°) shaft to 640' of depth on the vein. The working shaft is 4' by 8' and in excellent condition to the 300' level. This date the water standing in the shaft 280' below the collar. There is some 2600' of lateral developement with raises between levels above the 200'levels, and two openings to the workings. The lateral developement does not extend more than 350' North or South of the shaft. Head-frame, Hoist, Bins Etc. in good order. Mine working every day.

(over)

23. Geology & Mineralization The country rock is [illegible]-Cambrian, Granite, Gneiss and Schist. Hanging wall Gnessoid-schist. Structure trends North, North East and is intruded by Schist, Diabase and Monzonite Porphyry dikes.
The vein strikes North 40°W and dips 78°N.E. The vein is 6 to 15' wide and usually carries 2½ to 6½' of pay ore of $10 value or better. Gangue chiefly quartz.

No.1

24. Ore: Positive & Probable, Ore Dumps, Tailings With the developement as shown by map it is conservativly estimated that 35000 tons of ore of $10 value are available. There are 2000' of lateral developement still available on the Golden Gem vein as shown by surface croppings. On the surface, Ore dump, 8000 Tons. Value $6. 300 ton dump. Value $8. Blanket deposite ore, 2000 tons, Value $8.
For a distance of 600' South and West and below the Golden Gem vein numerous vein

24A. Dimensions and Value of Ore body SEE MAP No.2

croppings show on the surface with dikes of granite schist and porphry all run parallel with the Golden Gem vein. All these veins show values and several have prospect shafts of 20' to 80' of depth. On one vein which cuts to the adjoining property shows 4' of $25 ore at 140' and a mill is now being installed.

25. Mine, Mill Equipment & Flow-Sheet The mine is equipt with 35 H.P. hoist and 110 Rix portable compressor. Have Jackhammers, Stopers, Air and Water lines, Ore buckets, Tram-cars underground and on the surface ore bins etc., in good order.
The mill is equipt with 50H.P. Hot-head engine and air starting equipment. 150' tramway to crusher bin. 9" by 15" Universal Crusher, Grizzley and 50 ton mill bin, Ball Mill, Jig, Classifier and Flotation Machines. Operating every day.

26. Road Conditions, Route

High gear road from Kingman, Ariz., to the property.

27. Water Supply The mine makes about 10000 gallons of water per day. Have been operating the mill steady since Nov.1st.1939 and not using any water recovery system and have lowered the water in the mine from 130' to 280'. More water can probably be developed as this property crosses the mouth of Cerbat Wash and Charcoal Canyon. Domestic water for camp from spring.

28. Brief History
From F.C.Schrader. U.S.G.S.Bullitan #397.
The mine was opened in 1871 and shipped some ore. Lay idle till acquired by T.L.Ayres who shipped $200,000 in 5.0 Oz. Gold ore. Later sold to Golden Gem Min.Co. who sunk and drifted. Sold to Golden Star Min. Co. for $75,000.
Mine has always produced good ore but did not pay because only about 65% of the fines were recoverable with stamps and amalgamation treatment, $20 Gold price.

29. Special Problems, Reports Filed There are no special metallurgical problems. The present operators would like to develope more water, install a larger plant or for the time operate the one on the property on a 24 hour basis. Install Electric power and develope the propert
The present operators have a seven year lease on this property. Our contract is .50¢ per ton for the ore milled, $100 per month minimum pay to apply on the purc

30. Remarks
price of the mine. All of our equipment is paid for except a small amount on the compressor which is taken care of at $50 per month. We have marketing contracts with both the U.S. and A.S.and R. Smelters and to date have milled about 1000 to of ore mostly from the fill left in the stopes above the 120' level which has netted us about $10,000. Smelter returns and mill data available at property.

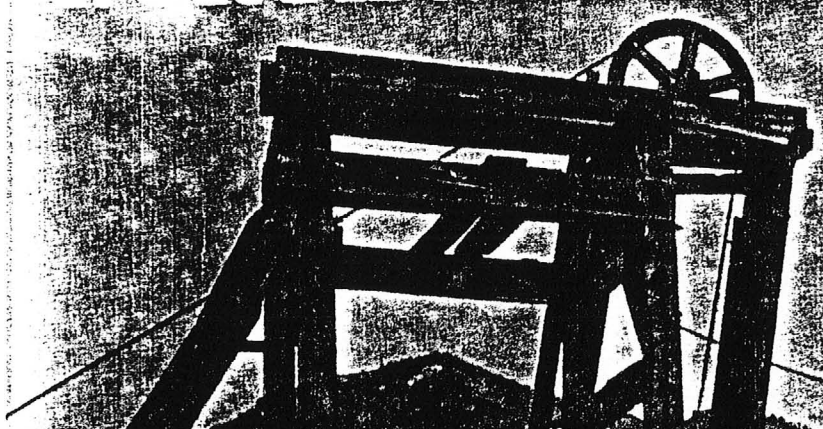
31. If property for sale: Price, terms and address to negotiate.
The property is not for sale or lease but the operators would like to intrest some additional capital to speed up the programe.
The property has been examined by a number of reliable mining engineers includin Mr. J.S.Coupal who had this report on file and is personally acquainted with the operators.

32. Signature..... A. W. Clapp Administrator

33. Use additional sheets if necessary.

Property has several houses and assay building. Some assays equipment - Furnace & Balances

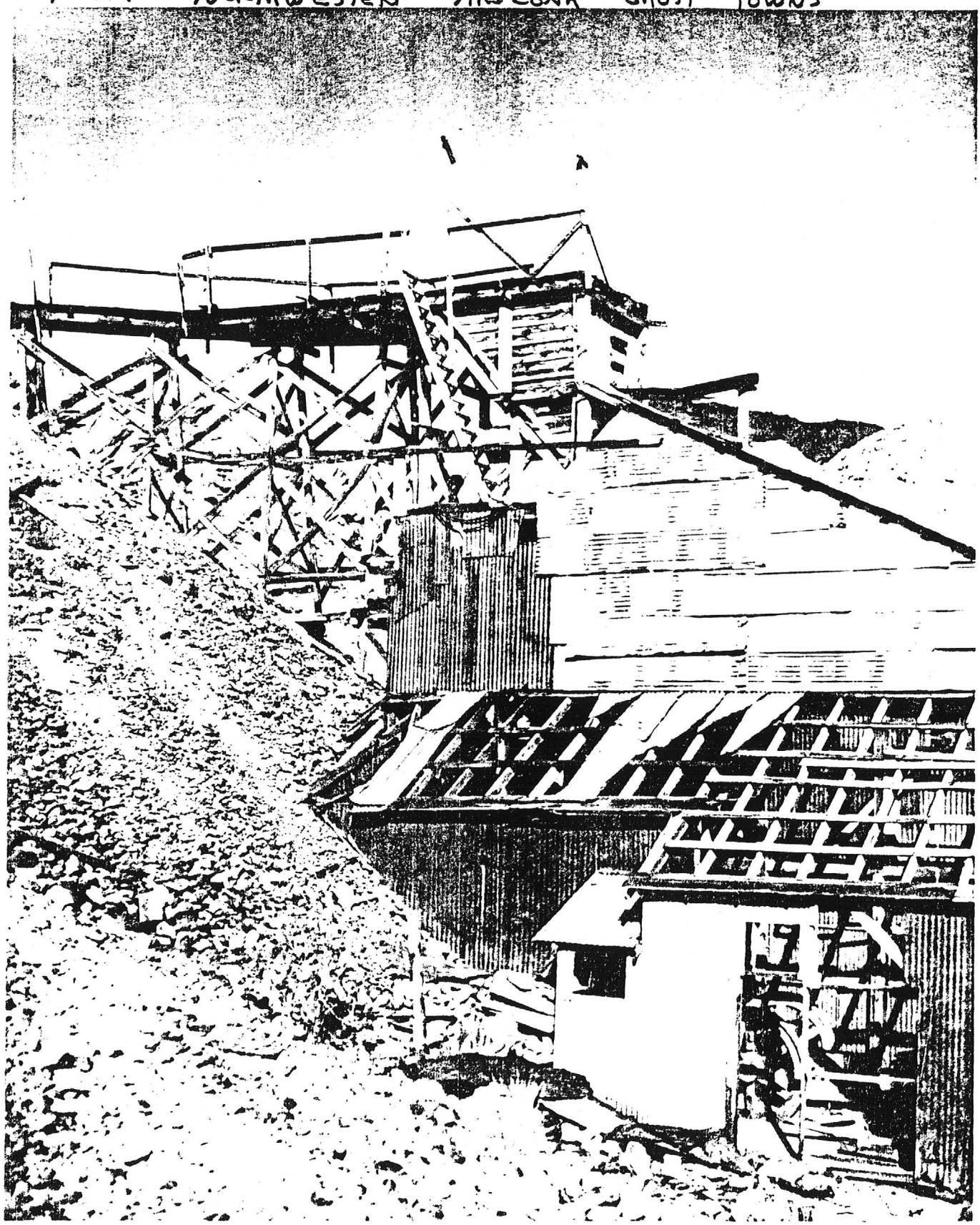
NORTHWESTERN ARIZONA GHOST TOWNS



by
Stanley W. Paher

With etchings and illustrations by Roy E. Purcell

FROM NORTHWESTERN ARIZONA GHOST TOWNS



The Golden Gem mill, 1970.

OLD STAMP MILL

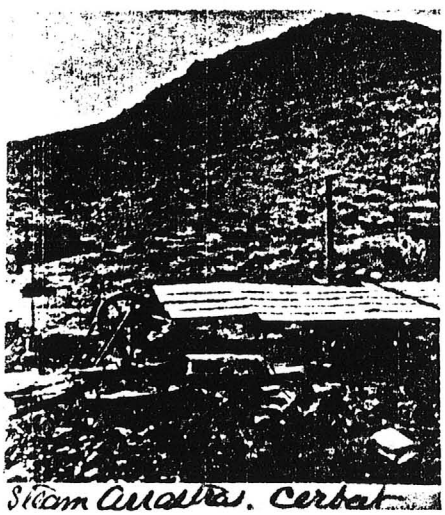
FROM GHOST TOWNS OF AZ.

Cerbat

COUNTY: *Mohave*
LOCATION: *about 10 mi. northwest of Kingman east of U.S. 93*
MAP: *page 175*
P.O. est. as Cerbat, Dec. 23, 1872; changed to Campbell, June 25, 1890; changed to Cerbat, Oct. 24, 1902; discont. June 15, 1912.

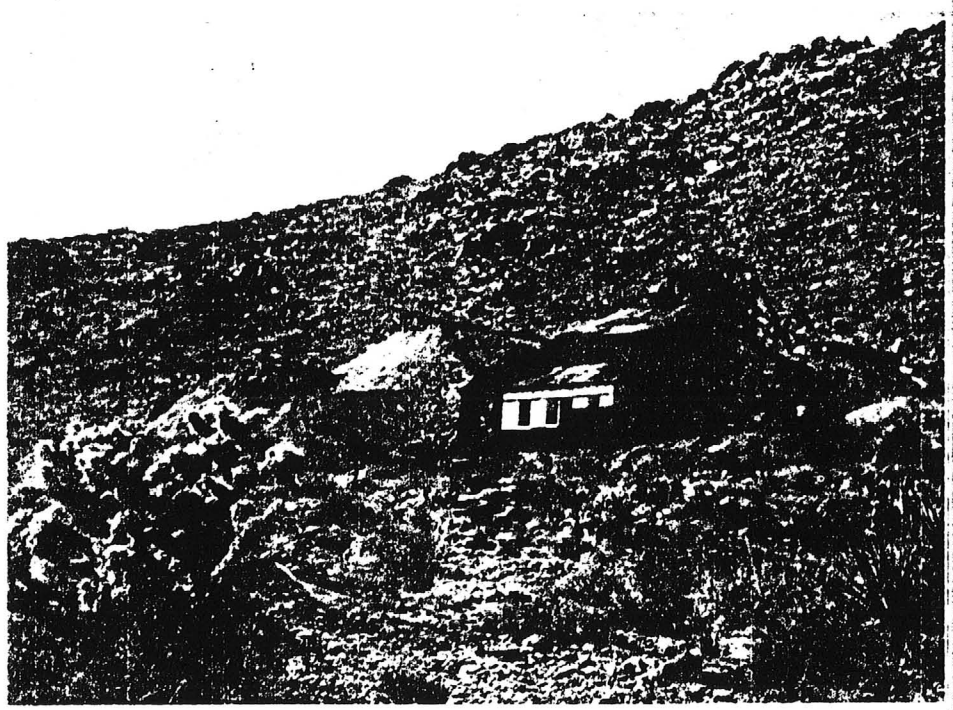
Mining in the Cerbat range began in the late 1860's. As miners gradually accumulated in the area, Cerbat mining camp began to take shape. Nestled in a remote canyon running west from the mountain range, Cerbat must have seemed isolated in the early days. The town was reached by a three hundred-mile steamboat trip up the Colorado River from Yuma to Hardyville and thence by stage over a wagon road for thirty-eight miles. Nevertheless, the community grew encouragingly enough so that by 1872 there was talk of building a six thousand-dollar road to bring Cerbat occupants closer to Fort Rock, Camp Hualapai, Williamson Valley, Prescott, and civilization.

erbat, *circa* 1890.—*Courtesy Mohave Pioneers 'istorical Society*



Cerbat, *circa* 1890. Arrastra used o crush ore—*Courtesy Mohave Pioneers Historical Society*

↓ OLD STAMP MILL AT GOLDEN GEM



Cerbat. Between 1871 and 1907 the Golden Gem Mine produced $400,000 worth of gold, silver, lead and zinc. Other important mines that contributed to the support of Cerbat were the Idaho, Flores, Esmeralda, Night Hawk, and Big Bethel.

NAME: GOLDEN GEM ✓7 COUNTY: MOHAVE

T 22N R 17 W SEC. 7 DISTRICT: [redacted] CERBAT
At Center S. central WALLAPAI

Mineralization: Au Ag, Cu, Zn, Pb (Sb)

Geology: fissure vn.

Type Operation: 435' 4 Levels' 1200' de. ch

Production: *200.000 ?

References:
USGS 397P 92-94 - Clipping files
Mohave Co Min Inv No 13 Hamm USBM RI4101

Mohave County Card File

In the Cerbat Mts. at the entrance to the Cerbat Canyon, the old mill by the Golden Gem Mine is still being reconditioned for the planned operation. During the March visit, Malach found welders completing the delivery system of ore from the bin to the crusher and mill. No other activity was noticed there.

Not far from that place, another experimentary work is going on at the site of an old mine, with plans which may encompass two other mines. Malach will follow the progress of this operation, which promises to be rather interesting.

The Tyro mine mill is under work with the trouble of the ore movement from crusher to mill, but otherwise, the mill expects to resume its operation.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA

OWNERS MINE REPORT

Date August 8, 1937

1. Mine Golden ~~Gun~~ Gem.
2. Mining District & County Wallapai
3. Former name
4. Location Cerbat, 10 miles north of Kingman, Arizona.
5. Owner A. C. Dundas - A. W. Clapp
6. Address (Owner) 112 E. Beech St., Kingman
7. Operator
8. Address (Operator)
9. President
10. Gen. Mgr.
11. Mine Supt.
12. Mill Supt.
13. Principal Metals Gold - silver
14. Men Employed ~~Gravity, amalgamation~~
15. Production Rate
16. Mill: Type & Cap. Gravity, amalgamation, flotation. 50 tons/day
17. Power: Amt. & Type Gas & oil engines - 100 HP
18. Operations: Present Mill under construction. Ready to operate in approx. 30 days.
19. Operations Planned Operation on known developed ore.
20. Number Claims, Title, etc. Six claims - patented and in good order.
21. Description: Topography & Geography Located on large vein (6' to 15' wide) and developed to 640' deep. Granite hanging wall and schist foot wall. Quartz vein fill.
22. Mine Workings: Amt. & Condition Development on all levels, except 600'; about 2500' of lateral development - all on vein and ore.

(over)

23. Geology & Mineralization F[illegible]ure vein - quartz - H.W. Grani[illegible] - F.W.Schist; six veins besides the Gun vein with large mongonite dike in center of vein system. Country rock - granite - schist - porphyry.

24. Ore: Positive & Probable, Ore Dumps, Tailings

Positive:	6,000 tons	0.5 au.
Ore Dumps	8,000 "	.18 au.
Tailings:	1,000 "	.16 au.
Probable ore:	Unlimited	
Mine:	35,000 tons blocked	.30 au.

24-A Vein Width, Length, Value, etc.

25. Mine, Mill Equipment & Flow Sheet Complete

26. Road Conditions, Route 3 miles from Boulder Dam Hi-way. Good road.

27. Water Supply Mine makes 22,500 gals/day. More easily developed.

28. Brief History Mine opened 1907. Produced $300,000 in high grade (5 oz. au.) ore. Stamp and amalgamation used later but not successful as only 65% of values were recovered.

29. Special Problems, Reports Filed None.

30. Remarks

31. If property for sale: Price, terms and address to negotiate. Property not for sale. Might be interested in small amount of cash capital to be used in better equipment.

32. Signed A. C. Dundas, Box 133, Chloride, Arizona

33. Use additional sheets if necessary.

MG-41

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA

OWNERS MINE REPORT

Date May 5, 1940

1. Mine Golden Gem.

2. Mining District & County Wallapai District, Mohave County.

3. Former name Same.

4. Location Twelve Miles North of Kingman, Arizona. T22N. R17W. G and SR. Med.

5. Owner Golden Star Min. and Mill Co.

6. Address (Owner)

7. Operator A. W. Clapp, A. C. Dundas

8. Address (Operator) Kingman, Arizona Chloride, Arizona

9. President

10. Gen. Mgr.

11. Mine Supt.

12. Mill Supt.

13. Principal Metals Gold and Silver.

14. Men Employed Six. Including the operators

15. Production Rate Approximately 300 tons, Month.

16. Mill: Type & Cap. Gravity concentration and Flotation.

17. Power: Amt. & Type Mill 50 H. P. Hot-Head.
Mine 35 H. P. Gas Hoist. and Compressor 110 Rix portable.

18. Operations: Present Unwatering and repairing shaft to 300' level. Milling fill left in stopes above the 120' level. Stoping ore above the 80' level.

19. Operations Planned Clean out 225' crosscut at North 120' level which cuts 5' vein of mill ore. Clean up 200' level to make known ore bodies available. Clean up 300' level to make known ore bodies available. Cross cut from 300 or 400' levels South-West through highly mineralized area which shows croppings of a number of paralleling veins which carry values and have sufficient developement to warrant cross-cutting. The proposed developement will open sufficient ore and water for a 100 ton modern mill.

20. Number Claims, Title, etc. Six patented claims in good order. Two groups. See map.

21. Description: Topography & Geography Golden Gem shaft and vein located on the North hill side about 150' above Cerbat Wash and Charcoal Canyon. Elevation approximately 4500'. Easily accessible.

(See Map No. 1)

22. Mine Workings: Amt. & Condition The Golden Gem Mine is developed by incline (78°) shaft to 640' of depth on the vein. The working shaft is 4' by 8' and in excellent condition to the 300' level. This date the water standing in the shaft 280' below the collar. There is some 2600' of lateral developement with raises between levels above the 200' levels, and two openings to the workings. The lateral developement does not extend more than 350' North or South of the shaft. Head-frame, Hoist, Bins, etc. in good order. Mine working every day.

(over)

23. Geology & Mineralization The country rock is Pre-Cambrian, Granite, Gneiss and Schist. Hanging wall Gneissoid-schist. Structure trends North, Northeast and is intruded by Schist, Diabase and Monzonite Porphyry dikes. The vein strikes North 40°W and dips 78°N. The vein is 6 to 15' wide and usually carries 2½ to 6½' of pay ore of $10 value or better. Gangue chiefly quartz.

24. Ore: Positive & Probable, Ore Dumps, Tailings With the developement as shown by map No. 1 it is conservatively estimated that 3500 tons of ore of $10 value are available. There are 2000 of lateral developement still available on the Golden Gem vein as shown by surface croppi On the surface, Ore dump, 8000 tons. Value $6. 300 ton dump. Value $8. Blanket deposite ore, 2000 tons, value $8. For a distance of 600' South and West and below the Golden Gem

24-A Vein Width, Length, Value, etc. vein numerous vein croppings show on the surface with dikes of granite schist and porphyry all run parallel with the Golden Gem vein. All these veins show values and several have prospect shafts of 20' to 8 of depth. On one vein which cuts to the adjoining property shows 4' of $25 ore at 140' and a mill is now being installed. (See Map No. 2)

25. Mine, Mill Equipment & Flow Sheet The mine is equipped with 35 H.P. hoist and 110 Rix portable compressor. Have Jackhammers, Stopers, Air and water lines, Ore buckets, Tram-cars, underground and on the surface, ore bins, etc. in good order. The mill is equipped with 50 H.P. Hot-Head engine and air starting equipment 150' tramway to crusher bin. 9" by 15" Universal Crusher, Grizzley and 50 ton mill bin. Ball Mill, Jig, Classifier and Flotation Machines. Operating every day.

26. Road Conditions, Route High gear road from Kingman, Arizona to the property.

27. Water Supply The mine makes about 10,000 gallons of water per day. Have been operating the mill steady since Nov. 1, 1939 and not using any water recovery system and have lowered the water inthe mine from 130' to 280'. More water can probably be developed as this property crosses the mouth of Cerbat Wash and Charcoal Canyon. Domestic water for camp from spring.

28. Brief History From F. C. Schrader. U. S. G. S. Bulletin #397. The mine was opened in 1871 and shipped some ore. Lay idle till acquired by T. L. Ayres who shipped $200,000 in 5.0 oz Gold ore. Later sold to Golden Gem Min. Co. who sunk and drifted. Sold to Golden Star Min. Co. for $75,000. Mine has always produced good ore but did not pay because only about 65% of the values were recoverable with stamps and amalgamation treatment, $20 gold price.

29. Special Problems, Reports Filed There are no special metallurgical problems. The present operators would like to develop more water, install a larger plant or for the time operate the one on the property ona a 24 hour basis. Install Electric power and develop the property. The present operators have a seven year lease on this property. Our contract is 50¢ per ton for the ore milled, $100 per month minimum pay to apply on the purchase

30. Remarks price of the mine. All of our equipment is paid for except a small amount on the compressor which is taken care of a $50 per month. We have marketing contracts with both the U. S. and A. S. and R/ Smelters and to date have milled about 1000 tons of ore mostly from the fill left in the stopes above the 120' level which has netted us about $10,000. Smelter returns and mill data available at property.

31. If property for sale: Price, terms and address to negotiate. The property is not for sale or lease but the operators would like to interest some additional capital to speed up the program. The property has been examined by a number of reliable mining engineers including Mr. J. S. Coupal who had this report on file and is personally acquainted with the operators.

32. Signed A. W. Clapp, A.C. Dundas

33. Use additional sheets if necessary.

GOLDEN GEM MINE MOHAVE COUNTY

Visited the Golden Gem mill of Cerbat Mining Co. The mill was started up on July 17, and is being operated one shift per day at about 2 tph rate. A total of 12 men is employed. Ted Wyatt is the mill supt., Floyd Brown is mine supt., and Sam Barbee is assayer, Box 464, Kingman, Arizona. TPL WR 7-22-61

Visited the Golden Gem mine and mill. The Golden Gem mine is developing on the 300 and 500 ft. levels. The Company is also opening the nearby Flores mine and is rehabilitating the main adit of the Summit preparatory to mining. This property is a recent acquisition. Twenty men are employed at the mines and mill. TPL WR 11-25-61

Learned at Kingman that Golden Gem is operating its mill at one shift per day. TPL WR 12-22-61

Sam Barbee, metallurgist and assayer for Cerbat Mining Company, discussed the operation of the mill at the Golden Gem mine. Also he reported that 27 men are employed in total at the mill and the several mines under control of the Company, (the Golden Gem, Flores, Summitt and the recently acquired Banner (Tigress) operated many years ago by U.S. Smelting). TPL Kingman Conference 1-18-62

Visited the Golden Gem mill of Cerbat Mining & Milling Co. The mill is operating one shift per day (20-25 tpd) on ore from the Golden Gem mine and the Tigress claim. (Banner Group) Flores and Summit mines were idle. 26 men are employed. TPL WR 5-19-62

Visited the Golden Gem mine and mill. 31 men employed with mill feed presently coming from the Golden Gem and the Tigress mines. TPL WR 6-23-62

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
MINE OWNER'S REPORT

Date May 5th. 1940

1. Mine Golden Gem
2. Location Twelve Mile North of Kingman, Arizona. T22N. R17W. G and SR. Med.
3. Mining District & County Wallapai District. Mohave, County.
4. Former name Same.
5. Owner Golden Star Min. and Mill Co.
6. Address (Owner)
7. Operator A.W.Clapp A.C. Dundas
8. Address (Operator) Kingman, Ariz. Chloride, Ariz.
9. President, Owning Co.
9A. President, Operating Co.
10. Gen. Mgr.
14. Principal Minerals Gold and Silver.
11. Mine Supt.
15. Production Rate Approx. 300 Tons, Month.
12. Mill Supt.
16. Mill: Type & Cap. Gravity concentration and Flotation.
13. Men Employed Six. Including the operators.
17. Power: Amt. & Type
Mill 50 H.P. Hot-Head
Mine 35 H.P. Gas Hoist.
Compressor 110 Rix portable.
18. Operations: Present Unwatering and repairing Shaft to 300'level. Milling fill left in stopes above the 120'level. Stoping ore above the 80'level

19. Operations: Planned Clean out 225' cross-cut at North 120'level which cuts 5' vein of mill ore. Clean up 200' level to make known ore bodies available. Clean up 300'level to make known ore bodies available. Cross cut from 300 or 400'levels South-West thru highly mineralized area which shows croppings of a number of parallleling veins which carry values and have sufficient developement to warrant cross-cutting. The proposed developement will open sufficient ore and water for a 100 ton modern mill.

20. Number Claims, Title, etc. Six patented claims in good order. Two groups. See Map.

21. Description: Topography & Geography Golden Gem shaft and vein located on the North hill side about 150' above Cerbat Wash and Charcoal Canyon. Elevation approximately 4500'. Easily accessiable

SEE MAP No.1

22. Mine Workings: Amt. & Condition The Golden Gem Mine is developed by incline(78°) shaft to 640' of depth on the vein. The working shaft is 4' by 8' and in excellent condition to the 300' level. This date the water standing in the shaft 280' below the collar. There is some 2600' of lateral developement with raises between levels above the 200'levels, and two openings to the workings. The lateral developement does not extend more than 350' North or South of the shaft. Head-frame, Hoist, Bins Etc. in good order. Mine working every day.

(over)

23. Geology & Mineralization The country rock is Pre-Cambrian, Granite, Gneiss and Schist. Hanging wall Gnessoid-schist. Structure trends North, North East and is intruded by Schist, Diabase and Monzonite Porphyry dikes.
The vein strikes North 40°W and dips 78°N.E. The vein is 6 to 15' wide and usually carries 2½ to 6½' of pay ore of $10 value or better. Gangue chiefly quartz.

24. Ore: Positive & Probable, Ore Dumps, Tailings With the developement as shown by map No.1 it is conservativly estimated that 35000 tons of ore of $10 value are available. There are 2000' of lateral developement still available on the Golden Gem vein as shown by surface croppings. On the surface, Ore dump, 8000 Tons. Value $6. 300 ton dump. Value $8. Blanket deposite ore, 2000 tons, Value $8.
For a distance of 600' South and West and below the Golden Gem vein numerous vein

24A. Dimensions and Value of Ore body SEE MAP No.2
croppings show on the surface with dikes of granite schist and porphry all run parallel with the Golden Gem vein. All these veins show values and several have prospect shafts of 20' to 80' of depth. On one vein which cuts to the adjoining property shows 4' of $25 ore at 140' and a mill is now being installed.

25. Mine, Mill Equipment & Flow-Sheet The mine is equipt with 35 H.P. hoist and 110 Rix portable compressor. Have Jackhammers, Stopers, Air and Water lines, Ore buckets, Tram-cars underground and on the surface ore bins etc., in good order.
The mill is equipt with 50H.P. Hot-head engine and air starting equipment. 150' tramway to crusher bin. 9" by 15" Universal Crusher, Grizzley and 50 ton mill bin, Ball Mill, Jig, Classifier and Flotation Machines. Operating every day.

26. Road Conditions, Route
High gear road from Kingman, Ariz., to the property.

27. Water Supply The mine makes about 10000 gallons of water per day. Have been operating the mill steady since Nov. 1st. 1939 and not using any water recovery system and have lowered the water in the mine from 130' to 280'. More water can probably be developed as this property crosses the mouth of Cerbat Wash and Charcoal Canyon. Domestic water for camp from spring.

28. Brief History
From F.C.Schrader. U.S.G.S. Bullitan #397.
The mine was opened in 1871 and shipped some ore. Lay idle till acquired by T.L.Ayres who shipped $200,000 in 5.0 Oz. Gold ore. Later sold to Golden Gem Min.Co. who sunk and drifted. Sold to Golden Star Min. Co. for $75,000.
Mine has always produced good ore but did not pay because only about 65% of the values were recoverable with stamps and amalgamation treatment, $20 Gold price.

29. Special Problems, Reports Filed
There are no special metallurgical problems. The present operators would like to develope more water, install a larger plant or for the time operate the one on the property on a 24 hour basis. Install Electric power and develope the property
The present operators have a seven year lease on this property. Our contract is .50¢ per ton for the ore milled, $100 per month minimum pay to apply on the purch

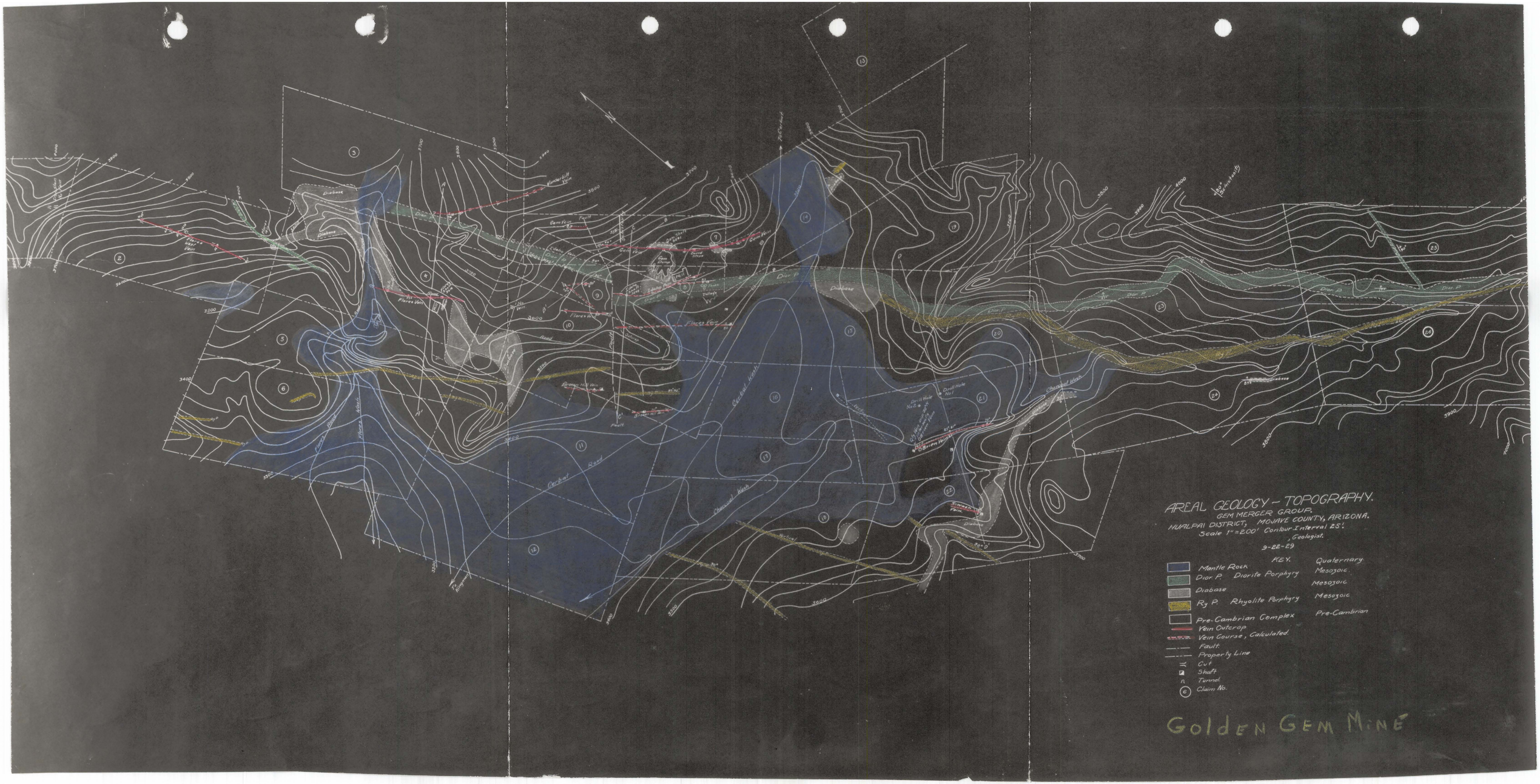
30. Remarks
price of the mine. All of our equipment is paid for except a small amount on the compressor which is taken care of at $50 per month. We have marketing contracts with both the U.S. and A.S.and R. Smelters and to date have milled about 1000 ton of ore mostly from the fill left in the stopes above the 120' level which has netted us about $10,000. Smelter returns and mill data available at property.

31. If property for sale: Price, terms and address to negotiate.
The property is not for sale or lease but the operators would like to intrest some additional capital to speed up the programe.
The property has been examined by a number of reliable mining engineers including Mr. J.S.Coupal who had this report on file and is personally acquainted with the operators.

32. Signature..... A. W. Clapp Address

33. Use additional sheets if necessary.

Property has several houses and assay building.
Some assays & equipment - Furnace & Balances


AREAL GEOLOGY – TOPOGRAPHY.
GEM MERGER GROUP.
HUALPAI DISTRICT, MOHAVE COUNTY, ARIZONA.
Scale 1" = 200' Contour Interval 25'.
, Geologist.
9-22-29
KEY.
Mantle Rock — Quaternary
Dior. P. Diorite Porphyry — Mesozoic
Diabase — Mesozoic
Ry. P. Rhyolite Porphyry — Mesozoic
Pre-Cambrian Complex — Pre-Cambrian
Vein Outcrop
Vein Course, Calculated
Fault
Property Line
Cut
Shaft
Tunnel
Claim No.
Golden Gem Mine
Diabase
Dior. P.
Ry. P.
Flores Vein
Gem Vein
Kimberlite Vein
Fault
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Drill Hole No. 2
Drill Hole No. 3
Drill Hole No. 4
Drill Hole No. 5
Drill Hole No. 6
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