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Arizona Department of Mines and Mineral Resources Mining Collection

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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: GOLD HILL MINE

ALTERNATE NAMES:
   BIG HORN GROUP
   MORO GROUP
   MOREAU PROPERTY

LA PAZ COUNTY MILS NUMBER: 279

LOCATION: TOWNSHIP 9 N RANGE 15 W SECTION 3 QUARTER NW
LATITUDE: N 34DEG 09MIN 05SEC  LONGITUDE: W 113DEG 48MIN 29SEC
TOPO MAP NAME: SWANSEA - 15 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:
   COPPER  SULFIDE
   SILVER
   GOLD   LODE
   IRON

BIBLIOGRAPHY:
   AZBM BULL. 192, P. 173, 1978
   ADMMR GOLD HILL MINE FILE
   USGS BULL 451, P. 65
Scheelite was discovered and claims located near the north end of the Dome Rock Mountains, Plomosa mining district, Arizona in February 1942 by Len Hogue. The claims, in T 5 S, R 20 E approximately in section 27, are at elevations between 750 and 1,000 feet. They are 11 1/2 miles by fair graded road northwest of Quartzsite, Arizona, a town on US highway 60-70. Although the local relief is slight, the slopes are steep and the rocks are well exposed.

In January 1943 the Gold Hill Dredging Company bought 17 lode and placer claims from Mr. Hogue. Operations under the direction of J. M. Elmer have been confined to mining on one of the lode claims of the Jackpot group. Mr. Elmer has no immediate plans for attempting to work the placer claims though he intends to sample them. Workings in hard rock consist of a 50-foot shaft, a 30-foot shaft with a short drift and a short crosscut, two 10-foot shafts, and a few shallower pits. Two shipments totaling 22 1/2 tons averaging 1.17% WO₃ have been sent to the Metals Reserve stock pile at Parker, Ariz. This ore was concentrated by screening and only the fines were shipped. The oversize, amounting to 40% of the mine run, is stock piled on the property.

In March, Olaf P. Jenkins mapped the property and wrote a report for the company. In May, Ira Joralamon examined the property and is reported to have granted a $30,000 loan through Metals Reserve Corporation.

I spent July 23 and 24 on the property with Mr. Elmer.

**Geology**

Quartz-mica schist with interbedded gneiss is the prevailing rock in the region; marble and tactite beds are locally present. It is reported
that intrusive granitic rocks are exposed several miles distant, but none occur at the surface near the prospects. In the mine area, the generalized section of meta-sedimentary rocks consists of the following (thicknesses only approximate):

<table>
<thead>
<tr>
<th>Rock Type</th>
<th>Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>quartz-mica schist and gneiss</td>
<td>10-50 feet</td>
</tr>
<tr>
<td>marble</td>
<td>40 feet</td>
</tr>
<tr>
<td>quartz-mica schist</td>
<td>20 feet</td>
</tr>
<tr>
<td>tactite</td>
<td>30 feet</td>
</tr>
<tr>
<td>calcareous schist and marble</td>
<td>?</td>
</tr>
<tr>
<td>quartz-mica schist</td>
<td>?</td>
</tr>
</tbody>
</table>

The beds form a west-plunging anticline transverse to the range. The dips on the north limb in the mine area are about 30° to the north, and are similarly low elsewhere except for minor complexities.

The marble beds are very lenticular: the most extensive one, confined to the crest and north limb of the anticline, is about 50 feet thick on the north limb, and absent on the south limb. The deeper-lying tactite is restricted to the north limb.

Scheelite mineralization occurs in the tactite only in a small portion where it is cut by a zone of pegmatitic quartz veins. Most of the tactite is completely barren, and even in the mineralized area, none of it contains sufficiently large bodies of scheelite ore to be commercial. The zone of quartz veins trends N 70° E and is confined to the tactite on the nose and north limb of the fold. Although the quartz veins do not extend downward into the underlying calcareous schist and marble, the thin, scheelite-bearing lenses in this lower horizon are confined to the general zone of the veins that occur in the overlying tactite.

The only known tungsten mineralization of possible economic value is confined to the scheelite-bearing zone in the lower, calcareous schist. The three shafts show that numerous thin beds within the 30-foot thickness of calcareous schist have been mineralized, but the aggregate thickness of
these mineralized beds in any section appears to be only about 5 feet. The ore zone, which is confined to the intersection of the calcareous schist with the belt of quartz veins, is about 80 feet long and is shown by shafts to extend at least 150 feet down the dip of the beds.

Reserves

The ore reserve, confined to the block prospected by the shafts, amounts to 6000 tons of indicated ore of about the same grade as that already mined. If this ore also be screened and shipped, the fines will probably amount to 3600 tons containing 3600 units of WO3.

Additional ore might be found to the west where the quartz vein zone cuts the same beds on the axis of the anticline. There are no workings in that area and the calcareous schist beds are not well exposed.

The reported placers in the wash to the east have not been adequately sampled to confirm assertions as to tungsten content. It seems unlikely that the deposit supplied sufficient scheelite to make a placer of consequence.
QUARTZSITE TUNGSTEN PROJECT
Gold Hill Dredging Co., Inc.
Yuma County, Ariz.

Section A-A'

quartz-mica schist
marble
tactite
calcareous schist
quartz vein belt
scheelite mineralization

After O.P. Jenkins

M.P.E.
Position about 3 miles south of the B. Williams River.

Site Moro Mine Group.

**Commodities:**
- **Major:** Cu
- **Minor:** Au, Ag
- **Trace:** Fe, Pb

**Ore Material:**
- Cu carbonate & silicate
- Leaf gold
- Specularite, Cu glance
- Fe oxide

**Deposits:**
- **Type:** Replacement
- **Form:** Irregular
- **Size:** S

**Quadrangle:** Prescott

**Depth:**
- **WK:** 50 ft
- **L/W/U:** 200 ft
- **O/A/U:** 500 ft

**Deposit Control:**
- The ore occurs above the gneiss in and above the...
CONGLOMERATE WHICH MARKS THE BASE OF THE TUFF AND THE SANDSTONE SEDIMENTS

NAME       GERE, W. HALL, R. K. CREASEY, S. C.
DATE       04/01/72 10/01/79
ED_COM     |
CONT_CODE  NA
GEOL_COM   MINERALIZATION ALONG LOW-ANGLE NORMAL FAULT BETWEEN MESOZOIC-CENOZOIC METAMORPHICS AND OVERLYING PALEozoICS AND MIDTERT VOLCANICS AND SEDIMENTS
GEN_COM    INFO.SRC : 1 PUB LIT; 2 UNPUB REPT
REF        BANCROFT, HOWLAND; 1911; ORE DEPOSITS IN NORTHERN YUMA COUNTY, ARIZONA: U.S.G.S. BULLETIN 451, P. 65 | KEITH, S.B., 1978, INDEX OF MINING PROPERTIES IN YUMA COUNTY, ARIZONA; ARIZONA BUREAU OF MINES BULLETIN 192, P. 173
CONT_NAME  NORTH AMERICA
STATE_NAME ARIZONA
WORK_TYPE  U
CP_ITEM    ORE
CP_ACC     EST
CP_AMT     2.30000
CP_U       TONS
CP_YEAR    1900-1955
CP_GRADE   3% CU
AP_SOURCE  (8) KEITH, S.B., 1978
UPD_DATE   79 10
UPDATER    HALL, R. K.; CREASEY, S. C.
COMMOD_TYP M
DATE_ISSUE 95/5/18
PROF_ID    100
PROF_LOC   100
PF_COMMOD  100
PF_EXPL    50
PFDESC_DEP 50
PFDESC_WRK 100
PROF_GEOl  42
PROF_REF   100
PPRD_RESV  20
PROF_ALL   73
HR_AGE_Mv  PREC ; PAL
HR_TYPE_Mv GRANITE GNEISS; LIMESTONE AND SHALE AR_AGE_Mv TERT
AR_TYPE_Mv VOLCANIC TUFF
TYPE       R|U|U
AFFIL      USGS |
DEP_CODE   10100
HUC        15030204
The image contains a map of Moreau, Arizona with various labeled points and annotations. The map includes a legend with different symbols and their meanings, such as detached structure, sink and dry, inferred anticline, adit, prospect pit, mine dump, road, drill hole, and topographic contours. The map also features geological layers categorized as Upper Plate Rocks, Upper Plate Conglomerate, Lower Plate Rocks, and posterosion to Cenozoic, volcanic, intrusive, and sheeted.
To the Owner or Operator of the Arizona Mining Property named below:

GOLD HILL MINE  GOLD COPPER
(Property) (ore)

We have an old listing of the above property which we would like to have brought up to date.

Please fill out the enclosed Mine Owner's Report form with as complete detail as possible and attach copies of reports, maps, assay returns, shipment returns or other data which you have not sent us before and which might interest a prospective buyer in looking at the property.

FRANK P. KNIGHT,
Director.

Enc: Mine Owner's Report
July 22, 1941

GOLD—some copper—Six full mining claims; Yuma Co.; Formation of sedimentary capping; gold extremely fine—800; several thousand feet of tunnels, drifts, stopes, winzes and one shaft on property; various dumps of high-grade ore; several small dumps of 5000 tons of available ore; sample from old workings assayed (high-grade discarded): Au. 0.173 oz. ($6.05); Cu. 0.75%; flotation tests show 80% recovery and some 91%; Water can be developed; with competent operators should develop into large operation; apply to owner for terms.

OR & ER
Date: July 22, 1941

Location: 22 miles NE of Bouse, Arizona in the Buckskin Mountains.

 Mine: Gold Hill Mine

Mining District & County: Yuma Co., Ariz.

Former Name: Moro Mine

Owner: C. L. Enos

Operator

President, Owning Co.

Gen. Mgr.

Mine Supt.

Mill Supt.

Men Employed

Operations: Present

Principal Minerals: Gold - some copper

(0.173 oz., $6.05, .75%)

Production Rate

Mill: Type & Cap.

Power: Amt. & Type

Operations: Planned - It is contemplated to erect a 50-ton unit that is capable of being enlarged quickly and cheaply.

Number Claims, Title, etc.: Six full mining claims.

Description: Topography & Geography - The formation structure is a sedimentary capping. The ore is a secondary enrichment with the gold values appearing more in the fracture planes than a thorough impregnation. The gold that has impregnated is of the flour type and very minute, while the gold in the planes is fairly large. The ore consists of sedimentary sandstone, shale, calcite, malachite, azurite, gold and a trace of silver iron native copper, very little sulphide ore present. The iron oxide colors it the usual red. The gold is extremely thin. However, to compensate its weight, its fineness or purity is rather high, probably 800 fine.

Mine Workings: Amt. & Condition - There have been several thousand feet of tunnels, drifts, stopes, winzes and one shaft work done on the property over an intermittent period. Many carloads of ore have been taken out, hand sorted and shipped to the smelter by various prospectors, owners, high-graders, etc. of which there is no available written record.
The property of the Reyco Development Corporation is known as the Big Horn Group - six full mining claims have been designated at the Moro Group. Originally this was part of the Swansea Mining Co. property.

LOCATION: The Moro Mine is located about 22 miles NE of Bouse, Yuma County, Arizona, in the Buckskin Mountains. The main workings are about 1 mile SE of Carignon Peak, "Red Mountain" and about 2 miles from No. 7 shaft of the famous Swansea Mine.

The elevation is about 1,500 ft. above sea level, and the climate arid, with little rainfall.

WATER: Water must be developed and pumped to the property. At present there is none. The Bill Williams River is within 4 miles of the property and is the source of the Swansea Mine supply and its history is that of a constant supply, even during the drought of recent years. However, as in the case of most Arizona Rivers, it will be necessary to sink a sump 30 ft. to 40 ft. deep on the river bank and install a force pump and a 4 mile 2½ inch pipeline. The pumping head is not over 500 ft. to the mill site from the pump site.

From an operating standpoint, the cost of maintaining the pump a considerable distance from the mill on a small operation, might be too costly as it will need the daily inspection and care of one man.

The cheapest installation of this sump, pump and line, considering used material, will be at least $3,500 to $4,000.

A "probable" supply is closer at hand, in the "dry wash" one-half mile east of the present camp. This seems to be a draining "wash" between the Buckskin Mountains and the Harcuvar Mountains opening direct into the Bill Williams River, this being only a few hundred feet higher in elevation than the river, the drilling of a well at this point should be considered.

First, the cost of the well, pump and shorter pipe line would be much cheaper to install and more satisfactory to operate. The daily inspection, etc. could be done by the mill mechanic in addition to his other duties.

Second, the Bill Williams is a certain source of water, while the supply of the well is unknown - yet, its cost will be about one-half the river installation and $5 per day cheaper to operate. If a test well can be drilled for a nominal sum, that can be utilized should water be encountered in sufficient quantities. I recommend that this be done, and a core sample log be taken for geological study. The driller should be prepared to drill a maximum of 700 feet.

ORE: The formation structure is a sedimentary capping. The ore is a secondary enrichment with the gold values appearing more in the fracture planes than a thorough impregnation. The gold that has impregnated is of the flour type and very minute, while the gold in the planes is fairly large. The ore consists of sedimentary sandstone, shale, calcite, malachite, azurite, gold and a trace of silver iron and native copper, very little sulphide ore present. The iron oxide colors it the usual red. The gold is extremely thin. However, to compensate its weight, its fineness or purity is rather high, probably 800 fine.
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However, there are various dumps left as evidence of high-grade ore having been taken from the mine and it is with these dumps, and broken ore that we have predicted this report.

The largest dump consisting of ore that has been "cobbed" and left as too low grade to ship to the smelter by former operations has about 7,500 tons running from 4 inch down to "fines." This dump adjoins a tunnel on the south side of Moro No. 1 and in the portal of these workings, broken and ready to mill, are 2,500 tons of the same type ore. Within one-half mile from various "high grade" pockets opened up by small operators, are several small dumps which contain another 5,000 tons of available ore.

The larger dump was centered by a trench, also the perimeter, and a large sample taken. In conjunction, a large sample of the broken ore within the portal of the old workings was combined.

This combination assayed:  

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Au</td>
<td>0.173 oz. ($6.05)</td>
</tr>
<tr>
<td>Cu</td>
<td>7.5%</td>
</tr>
</tbody>
</table>

Inasmuch as this sample was carefully taken and all known pieces of "high-grade discarded at the time of "rolling," we can be sure to predicate all our calculations on ore that we know will be no lower than this sample assayed.

The dumps and broken ore within the portals of the several tunnels can be milled for less than $1 per ton.

Preliminary flotation tests show that at least an 80% recovery can be made, some of the tests ran as high as 91%. This may be done in actual practice, as is often the case, the larger mill does better work than is done with the one cell test flotation machine.

However, we will assume that the recovery will be 80% and that we have available 15,000 tons of ore that run $6 in gold; as an additional safety factor, forget the 75% of copper per ton. We have 15,000 x $6 x 80% equal......$72,000 

Assume a cost of $1 per ton ...... 15,000 

Net operating profit......$57,000

There is no doubt a large tonnage of higher grade ore in the mine itself can be milled in the plant erected for the dump ore, thus assuring a longer life and more profitable venture than just the loose and dump ore now available.

It is contemplated to erect a 50-ton unit that is capable of being enlarged quickly and cheaply. The Berkeley Mill now being purchased has a crushing unit and flotation cells with a 150 ton capacity. The Marcy Ball Mill and Classifier may hold the capacity down to between 50 and 75 tons daily; until an actual grinding test is made in this mill, the actual tonnage can only be estimated, but we are positive that 70 tons will be the absolute minimum. Our costs of $1 per ton have been calculated on that, so we are certain of this cost figure.

With competent operators, this venture should be profitable and develop into a large operation, as the district is highly mineralized and the Moro Claims appear to offer good returns for its development.

J. Paul Jones  
Consulting Engineer.
Geology & Mineralization -

Ore: Positive & Probable, Oro Dumps, Tailings - However, there are various dumps left as evidence of high grade ore having been taken from the mine and it is with these dumps, and broken ore that we have predicted this report. The largest dump consisting of ore that has been "cobbled" and left as too low grade to ship to the smelter by former operations has about 7,500 tons running from 4 inch down to "fines". This dump adjoins a tunnel on the south side of More No. 1 and in the portal of these workings broken and ready to mill are 2,500 tons of the same type ore. Within one-half mile from various "high grade" pockets opened up by small operators, are several small dumps which contain another 5,000 tons of available ore. The larger dump was centered by a trench, also the perimeter and a large sample taken. In conjunction, a large sample of the broken ore within the portal of the old workings was combined. This combination assayed: Au. 0.173 oz. ($6.05); Cu. 0.75%. Inasmuch as this sample was carefully taken and all known pieces of "high grade" discarded at the time of "rolling" we can be sure to predicate all our calculations on ore that we know will be no lower than this sample assayed.

Dimensions and Value of Ore Body -

Mine, Mill Equipment & Flow-Sheet - Preliminary flotation tests show that at least an 80% recovery can be made, some of the tests ran as high as 91%. This may be done in actual practice, as is often the case, the larger mill does better work than is done with the one cell test flotation machine.

Road Conditions, Route - 22 miles NE of Bouse, Yuma County, Arizona, in the Buckskin Mountains. The main workings are about 1 mile SE of Corrigan Peak, "Red Mountain" and about 2 miles from No. 7 shaft of the famous Swansea Mine.

Water Supply - Water must be developed and pumped to the property. At present there is none. The Bill Williams River is within 4 miles of the property and is the source of the Swansea Mine supply and its history is that of a constant supply, even during the drought of recent years. However, as in the case of most Arizona Rivers, it will be necessary to sink a sump 30 ft. to 40 ft. deep on the river bank and install a force pump and a mile 2½ inch pipeline. The pumping head is not over 500 ft. to the mill site from the pump site.

Brief History

Special Problems, Reports Filed

Remarks - With competent operators, this venture should be profitable and develop into a large operation, as the district is highly mineralized.

The property for sale: Price, terms and address to negotiate - Apply to owner for terms.

SIGNED - Copied from report of J. Paul Jones, Consulting Engineer.
LOVSTROM, HORSNAIL AND ASSOCIATES
Geochemistry Applied to Mineral Resource Discovery

Kenneth A. Lovstrom
President, Geochemist

1770 E. Ganymede Dr.
Tucson, AZ 85737
Phone (602) 797-4111
FAX (602) 797-2571

ECHO BAY EXPLORATION INC.

H. GASSAWAY BROWN
District Geologist

5401 Longley Lane, Suite 5
Reno, Nevada 89511
U.S.A.
Telephone: (775) 829-1000
Ext.: 226
Fax: (775) 829-1666
email: gbrown@echobay.com
Nyal I hope this gets through.

From the Prospector

NORTH AMERICA

Nevada Pacific Gold (NPG-VSE) reported that exploration is now underway at its Moreau gold project in Arizona. Previously, 134 samples were taken from surface and old underground workings, returning surface values of up to 20.37 g/t gold and 0.652 20.0% copper. The 33 underground samples averaged 2.81 g/t gold and included a section of continuous chip/channel samples averaging 3.75 g/t gold over 15 m. (Apr 1/99)

It looks like the end is near for Royal Oak Mines (RYO-TSE,AMEX). The company’s largest creditor, Trilon Financial, who has lent the insolvent company about $185 million, will give up and make the move to put the company into receivership and sell its Kemess gold mine in BC, reported the Globe and Mail. In a recent court filing, Trilon said it has no confidence that Royal Oak can restructure without its consent, which the lender says it is not prepared to give. (Apr 1/99)

Dear Mr. Coggin

I would like to invite you to the Tucson SME/ UofA SME Annual Mine Picnic. I don’t think RSVP is required, but you might want to check with the Tucson SME chapter to make sure.

Date: Saturday, April 17, 1999
Time: 11:00 AM
Cost: $5 for students, $15 for non-students
Location: San Xavier Mine
Events: Horseshoes, Mine tours, ect.

I hope you can make it out and maybe you can treat us with a mining poem. You can also forward this to ADMMR if you think they would be interested.
7 August 1941

Mr. C. L. Enos,
Bouse,
Arizona.

My dear Mr. Enos:

I am enclosing herewith for your records a copy of mine owners report which you have filed with the Department of Mineral Resources covering the GOLD HILL MINE in Yuma County.

I shall be glad to submit a copy of this report to anyone making inquiry for a property such as yours.

Yours very truly,

Charles F. Willis
Chairman, Board of Governors

GFW-jrf
dcl.
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<tbody>
<tr>
<td>Au</td>
<td>0.173 oz. ($)6.05</td>
</tr>
<tr>
<td>Cu</td>
<td>75%</td>
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Assume a cost of $1 per ton • • • 15,000

Net operating profit • • • $57,000

There is no doubt a large tonnage of higher grade ore in the mine itself can be milled in the plant erected for the dump ore, thus assuring a longer life and more profitable venture than just the loose and dump ore now available.

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