A SUMMARY REPORT

ON THE

ECONOMIC GEOLOGY AND POTENTIAL

OF THE

GOLD BAR MINE

(YAVAPAI COUNTY, ARIZONA)

by
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GOLD TECH ENGINEERING CO.

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INTRODUCTION

The Gold Bar Mine, a consolidation of several old mines, has been the subject of many examinations, evaluations, and exploration efforts over a period of approximately 70 years. A result of these activities, together with a past production record of roughly 24,000 tons of ore, are numerous reports, maps, drill data, and opinions; however, no one company or individual has attempted to consolidate all available data, compile and analyze in a logical fashion, nor fully utilize and evaluate the data to determine the overall potential of the Gold Bar Mine. The Gold Bar Mine is worthy of such an effort and as such it is hoped that the information to follow brings all exploration and development data up-to-date and in a useable format for expediting development of the Gold Bar Property and its many mineral deposits.....it may be obvious after examining all the data that the Gold Bar Mine is ready for the ultimate test.....production.

It should be noted that in 1979 a Mr. L.S. Trenholme, Professional Engineer, did make a solid effort at discussing previous reports and exploration data; unfortunately however, he was not privy to following work that would be done in 1985 by the Callahan Mining Corp., and in 1989 by Roddy Resources Inc. Nevertheless, Trenholme is commended for his work which resulted in a very useable report in November of 1979. The report not only summarizes previous work but reflects upon his own interpretation of previous efforts by limited verification sampling, mapping, and general field observations.

Much of the general description and history is adequately discussed in previous reports that are attached as appendices to this report; consequently, these subjects are very briefly touched upon herein.

LOCATION-CLIMATE-ACCESS-FACILITIES

The Gold Bar Property is situated approximately 15 miles northeast of the community of Wickenburg, Arizona, and accessed via the well known "Constellation Road". The Property occupies portions of sections 27, 28, 33, and 34 of Township 8 North, and Range 3 West. At one time the unpatented claim holdings were of greater extent than at the present time.

The year-round working climate at the Gold Bar Mine is excellent, characterized by very mild winters, some hot days in June, July, and August, but with periodic heavy rainstorms during the hot months of July and August. The Property as a whole lies at an elevation of approximately 3400'.

Water is available from deep underground workings that are accessed by the deepest Gold Bar shaft, a nearby spring, "monsoon" rain runoff that can be captured, by potential drilling, and possibly from the Hassayampa River. Power is not available at the minesite, thus requiring onsite power generation.....considering Arizona's power rates this is not a negative factor.


GOLD BAR MINE
LOCATION MAP
Yavapai County, Arizona
1" = 16 miles
FIG. 1
PRESCOTT
Prescott
Prescott Valley
Chino Valley
Clarkdale
Cottonwood
Jerome
Sedona
Cornville
Camp Verde
McGuireville
Montezuma
Dewey
Humboldt
Mayer
Cordes Jct.
Cordes
Bagdad
Yava
Skull Valley
Kirkland
Kirkland Jct.
Wilhoit
Hillside
Date Creek
Peoples Valley
Yarnell
Stanton
Octave
Wagoner
Goodwin
Crown King
Bumble Bee
Black Canyon City
Rock Springs
New River
Cave Creek
Carefree
Wickenburg
Aguila
Morristown
Circle City
Wittmann
Lake Pleasant
Castle Hot Springs
Constellation
Tonopah
Surprise
El Mirage
Youngtown
Sun City
Sun City West
Beardsley
Peoria
Glendale
Litchfield Park
PHOENIX
Scottsdale
Paradise Valley
Fountain Hills
Tolleson
Perryville
Goodyear
Buckeye
Avondale
Cashion
Tempe
Mesa
Guadalupe
Laveen
Gilbert
Chandler
Apache Jct.
Higley
Boys Ranch
Queen Creek
Sun Lakes
Ocotillo
Chandler Heights
Florence Jct.
Rainbow Valley
Liberty
Palo Verde
Salome
Wickenburg
Flagstaff
Payson
Strawberry
Pine
Munds Park
Mormon Lake
Happy Jack
Lake Mary
Mountainaire
Ashurst Lake
Walnut Canyon Natl. Mon.
Tuzigoot Natl. Mon.
Montezuma Castle Natl. Mon.
Tonto Natl. Mon.
Horseshoe Lake
Canyon Lake
Apache Lake
Roosevelt Lake
Verde River
Salt River
Gila River
Agua Fria River
Hassayampa River
Big Sandy River
Santa Maria River
Bill Williams Mtn. 9,264
Howard Mtn. 7,702
Buck Mtn. 7,590
Blue Mtn. 5,550
Granite Mtn. 6,633
Sheridan Mtn.
Sierra Estrella
Superstition Mts.
Four Peaks
Pinnacle Peak
Black Butte
Vulture Mts.
Harquahala Mts.
Granite Mts.
Hieroglyphic Mts.
Bradshaw Mts.
Weaver Mts.
Juniper Mts.
Santa Maria Mts.
Date Creek Mts.
Prescott Natl. Forest
Tonto Natl. Forest
Kaibab Natl. Forest
Coconino Natl. Forest
Fort Rock
Cross Mtn.
Ash Fork
Pine Springs
Drake
Paulden
Perkinsville
Simmons
Camp Wood
Iron Springs
Granite Basin
Willow Rock
Harelson Crossing
Martin Mtn.
Groom Creek
Walker
Turkey Creek
Cleator
Bumble Bee
Horsethief Basin
Bradshaw
Thomas Butte
Castle Hot Springs
Seven Springs
Lake Pleasant
Aqueduct
Cave Creek Dam
Bartlett Dam
Granite Reef Dam
Stewart Mtn. Dam
Horseshoe Dam
Verde River
Tonto
Cypress Butte
Mount Ord
Four Peaks
Pinnacle Peak
Fountain Hills
Salt River Indian Res.
Fort McDowell
Indian Res.
Gila River
Firebird Lake
Estrella
Rainbow
Montezuma Peak
Sierra
Johnson
Avondale
Goodyear
Buckeye
Litchfield Park
Tolleson
Perryville
Savamp
Palo Verde
Laveen
Guadalupe
Tempe
Mesa
Gilbert
Chandler
Higley
Apache Jct.
Boys Ranch
Queen Creek
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Juniper Mts.
Santa Maria Mts.
Date Creek Mts.
Prescott Natl. Forest
Tonto Natl. Forest
Kaibab Natl. Forest
Coconino Natl. Forest

PROPERTY DESCRIPTION

The Gold Bar Mine includes 15 patented lode claims, together with 18 unpatented lode claims that are held by location. The Property is a consolidation of several old mines; namely, the Gold Bar, O'Brien, Blue Moon, Red Wonder, and White Blaze. Included among old workings are a number of shafts, adits, a decline connecting surface with the No.1 shaft of the main Gold Bar workings, and scattered prospect pits throughout the Property. Most past production has come from the No.1 shaft and connecting decline, and from the O'Brien mine

HISTORY AND PRODUCTION

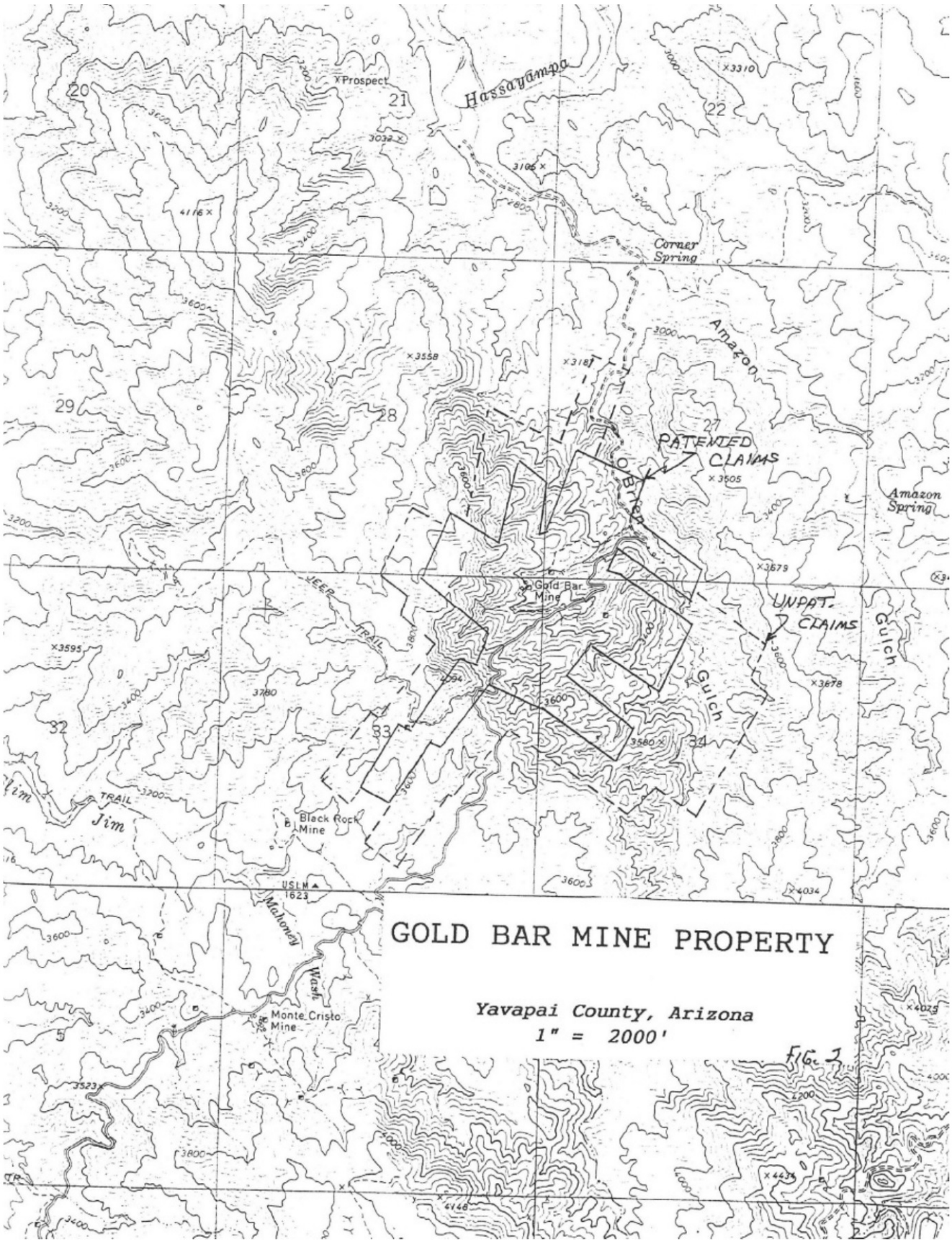
Previous reports by Trenholme, 1979, Holbrooke, 1963, Shanklin, 1927, and others are referred to and attached hereto as Appendices. It is recommended that these many reports be consulted for a thorough description of the history of the Gold Bar Property.

GENERAL GEOLOGY

The geology of the Gold Bar Mine has been described to varying degree by several engineers and geologists who have examined the Property; consequently, the reports in the accompanying appendices are referred to for gaining an understanding of the varied geologic interpretations of the Gold Bar Property.

The overall general geology seems adequately reported yet detailed geologic mapping is lacking. Berkey, 1927, describes the Gold Bar geology as "simple and presents nothing of an unusual nature".....nothing could be farther from the truth. He further describes the geology as granite, extensively fissured with some faulting though not of large displacements. This geologic description is over simplified and lacking in detail. Other geologic descriptions by Shanklin, 1927, Hyde, 1929, Steinmesch, 1934, Gilmore 1955, and Holbrooke, 1963, are more thorough and accurate; nevertheless, the precise genesis of the geology, associated mineralization, and ore controls, are yet to be unraveled. In the simplest of terms the general geology of the Gold Bar Mine consists of a Pre-Cambrian granite host, containing lenses and blocks of schist. This host has been faulted and sheared, including a strong north 70 degrees east fracture system, and a crosscutting shear system of south 30 degrees east. Trenholme, 1979, indicated that G.L. Holbrooke 1963, provided the best geologic description of the Gold Bar Property.....therefore, reference to the Holbrooke report is recommended.

There remains alot of room, however, for interpretation of a detailed geologic analysis as is evidenced by the Patton report, 1987, which suggests a modified view of the geology and associated gold mineralization controls. It is clear that gold mineralization, structural controls, and detailed geologic genesis is not thoroughly understood. It is likely that this condition will continue until a detailed and conserted effort is undertaken to unravel the mysteries that prevail. Such an effort will include a detailed geologic mapping program that emphasizes structural geology, alteration, mineral associations, and


Hassayampa
Prospect
Corner Spring
Amazon
PATENTED CLAIMS
O'Brien
Amazon Spring
Gold Bar Mine
UNPAT. CLAIMS
Gulch
JEEP TRAIL
Jim TRAIL
Black Rock Mine
USLM 1623
Mahoney Wash
Monte Cristo Mine
GOLD BAR MINE PROPERTY
Yavapai County, Arizona
1" = 2000'
FIG. 1

rock geochemistry. Patton, 1987, alluded to this problem by stating "The controls of gold mineralization are not well understood. In my opinion, the breccia zones are not pipes, but are localized along one or more low-angle detachment (?) faults. The fact that all breccias do not appear to carry gold suggests that high-angle structures which cut the breccia zones may have acted as feeders for gold-bearing solutions. An additional factor which will be important in any proposed drilling program is post-mineral movement along low-angle faults". So, it is easy to determine that the geology of the Gold Bar Mine is neither simple nor understood; yet, it is essential that future work include a detailed geologic study that will indeed determine the genesis of Gold Bar mineralization.....this will help insure that future development can be completed with the least amount of dollars spent.

ECONOMIC GEOLOGY AND POTENTIAL

As previously stated, detailed geologic controls for gold mineralization are yet unknown; nevertheless, it is a fact, through previous mining and past exploration activities, that gold potential at the Gold Bar Mine is confined to shear/breccia phenomena. North 70 degree east mineralized fissures have yielded production at the Black Bear and Gold Bar; other shear zones showing promise include the Red Wonder, the No.2 Breccia zone, and the stockwork/breccia zone located adjacent and north of the White Blaze workings. Gold mineralization at the Gold Bar Mine may indeed be associated with high-angle and low-angle faulting as suggested by Patton, but considerable work must be carried out to determine if this is fact or speculation. What is known is that gold mineralization is found at and immediately adjacent to structural loci (intersections). Therefore, a thorough study of the structural geology will only enhance the understanding of Gold Bar mineralization. Another known fact is the direct association of gold with silica and pyrite; therefore, an understanding of the chemistry and mineral associations also becomes of importance.

The oxide zones at the Gold Bar Mine are characterized by limonite-goethite after pyrite, together with intense silicification along shear planes; however, not all brecciation and shearing within the Gold Bar geologic complex contain gold. This suggests that other controlling factors and associations are yet to be determined.

(A) DISCUSSION OF POTENTIAL BY PREVIOUS EXAMINERS

1. H.L. BERKEY, 1927:

According to Berkey the Gold Bar deposit has been partially stoped to the 307 Level, leaving "many thousand tons of a good grade of ore yet to be drawn from the mine". A vertical winze from the 307 Level was sunk 252 feet in sulphide ore, and based on mill tests of this ore the grade is much higher than the oxide ore above. Berkey indicated that no stoping was done below the 307 Level due to the sulphide content of the ore. Berkey discussed sampling done down the 252 winze and laterals, with many samples taken outside the orebody. With gold at $20/oz the value of the individual samples ranged from a low of $.40 to a high of $63.60/ton. Berkey estimated a minimum of 39,276 tons of sulphide ore grading 0.75 oz/ton Au. He further states that oxide ore just above the 307 Level totals approximately 6,545 tons at also 0.75 oz/ton Au. Below the 307 Level to the 700 Level 116,363 tons of probable ore are indicated. Over 200 feet of "heavy mineralization" was noted in a crosscut at the 500 Level.

2. V.G. HILLS:

A mill test run on 63.756 tons of ore from the 407 Level was completed by crosscutting through the orebody and bulk sampling the deposit at this level. The excavation measured 4'x6'x40', providing the ore for the test. The results were impressive, yielding an average of 1.3 oz/ton Au and 3.2 oz/ton Ag.....the ore at this Level remains in place.

3. W.R. SHANKLIN, 1927:

Shanklin conducted a thorough investigation of the Gold Bar Property, resulting in many useable underground maps, together with considerable sample data. Shanklins' work resulted in a good report which is attached in the Appendices of this report.....his work is summarized as follows:

a) The character of ore from oxides to sulphides resulted in the eventual shutdown of the mill.

b) Sampling by Shanklion produced 138 samples averaging .58 oz/ton Au; this included many samples outside the ore zone. According to Shanklin there are 92,000 tons of $12/ton ore between the 445 Level and Glory Hole.....At todays gold price this equates to approximately 0.60 oz/ton Au. This calculation does not include the "large amount of low grade ores that are found under the footwall of the vein or the possible ore that can be developed. Shanklins' sampling of the Glory Hole averaged 0.12 which included many samples outside the ore zone. If only the ore zone samples are considered the sample average is about 0.20 oz/ton Au. At surface the width of the ore zone is 60'.

c) Two large sulphide ore samples were cut from walls and faces and sent to the maagma Smelter at Superior, Arizona, and the other to the AS&R Smelter at Hayden, Arizona. The results are tabulated below:

1) Magma Copper Co.---2.72 oz/ton Au, 6.30 oz/ton Ag, 40.6% Fe, 12.2% SiO2

2) AS & R Smelter------5.00 oz/ton Au, 13.36 oz/ton Ag, 42.4% Fe, 11.0% SiO2

4. FOOTE AND COMPANY (George Hyde), 1929:

a) stated geology "offers nothing complex"
b) expects stronger and richer orebodies with depth
c) believes copper will be important based on exposures on the 445 Level, No.2 shaft, and on the 700 Level. Assays yielded 6.15% Cu, and 0.34 oz/ton Au
d) ore is oxidized from surface to the 385 Incline Level
e) the orebody has been crosscut in only two places.....at surface and at the 407 Level. At surface the width is 60' and 45' at the 407 Level

f) Hyde indicates 69,600 tons of proven ore, and a large expectancy of probable ore between surface and the 445 Level. Hyde expects this ore to average 0.60 oz/ton Au.

5. J.H. STEINMESCH, 1934:

Steinmesch completed one of the first thorough appraisals of the Gold Bar Mine, similar to that conducted by Shanklin in 1927. Steinmeschs' work resulted in the following:

a) extensive sampling of the Glory Hole at surface, indicating an average tenor of 0.23 oz/ton Au;
b) stated that dumps contain "good mill ore";
c) reported on 4500 tons of ore broken in the footwall of the Glory Hole workings, averaging .27 oz/ton Au (excluded some hi-grade samples); the 4500 tons was represented by a 5 ton bulk sample in which every tenth shovel was thrown onto a sheet making a 900 lb sample which was in turn broken into two samples. The weighted average was .272 oz/ton Au. Another sample series was completed under the direction of two different engineers, resulting in an average of 0.23 oz/ton Au;

d) sampling was conducted at the Blue Moon, Crown drifts, and Red Wonder Zone with encouraging results; for example, a 100 lb sample from the Blue Moon yielded .18 oz/ton Au and 0.7% Cu.....a Red Wonder channel sample yielded .22 oz/ton Au and 2.61% Cu;

e) Channel sampling in the Glory Hole was quite encouraging with the following results reported:

Sample No.	Description	oz. Au	oz. Ag
S 12	4' moil in roof	0.17	0.10
S 13	7' moil	0.21	
S 14	Fines from Glory H	0.47	
S29A	bulk sample	0.30	
S29B	bulk sample	0.25	
S30A	bulk sample	0.10	
S30B	bulk sample	0.36	
S32	footwall	0.12	

f) Steinmesch provided excerpts of mill head assays for milling operations occurring between the period July, 1907 through October 17, 1907; together with many other samples taken in 1908;

g) Glory Hole sampling by various engineers was compared and the following results offered:

1. 21 samples by Shanklin averaged 0.12 oz/ton Au which included samples outside the ore zone;

2. Also in the Glory Hole area Steinmeschs' sampling averaged 0.236 oz/ton Au;

3. According to Steinmesch Stone and Major hi-graded ore from an area in the Glory Hole in which Shanklins' sampling showed little value;

h) Steinmesch believes that the Blue Moon and pegmatite outcrops to the west of the Glory Hole are "surface expressions of mineralized shoots on a single large fracture zone. They are about in line with the main orebody".

I) As noted by Steinmesch no geologic map of the Property had been made.

6. EXAMINATION BY HILLS AND WILLIS:

Considerable sampling was completed with apparent encouraging results; unfortunately, no sample map was noted. Sample results are compatible with previous work. Hills and Willis suggest that 110,000 tons of ore are situated between the 445 and 200 Levels.

7. GILMORE, 1955:

a) concluded that the Gold Bar Mine is located on a large orebody;
b) believes that the largest undeveloped ore deposit will be found on the Black Bear claim----that the Black Bear outcrop is very similar to the Glory Hole exposure;
c) Gilmores' sampling indicates that ore grade in the Glory Hole workings is compatible with the Steinmesch result.....Gilmores' sampling of the Glory Hole is summarized as follows:

SAMPLE DESCRIPTION	OZ. AU	OZ. AG
Glory Hole N. Side	0.20	1.87
Glory Hole from floor	0.36	2.04
Glory Hole entrance	0.25	2.01
Glory Hole average every 10'	0.28	
Glory Hole average every 5'	0.21	
Glory Hole north wall average	0.24	

Encouraging sampling at the Blue Moon, Red Wonder, and Black Bear zones was reported as shown below:

SAMPLE DESCRIPTION	OZ. AU	OZ. AG	% CU
Blue Moon outcrop in gulch	0.20	1.40	12.0
Blue Moon in back of tunnel	0.16	1.28	.68
Red Wonder cut	0.35	0.85	4.0
Red Wonder dump	1.04		11.03
Red Wonder dump	0.09		.52
Black Bear tunnel at entrance	0.34		
Black Bear tunnel near back	0.14		

8. HOLBROOKE, 1963:

a) gold mineralization is associated with silicified and mineralized porphyry
b) reported on two drillholes that were drilled horizontally across the orebody from opposite sides of the 407 Level drift, defining a width of 44.8 feet, and averaging an equivalent 0.71 oz/ton Au..... this obviously included the small amount of silver contained in the ore.
c) in addition to the drilling some 60 feet of channel sampling was completed. The results, combined with previous sampling, indicates 17,000 tons of ore grading 0.60 oz/ton Au.....this tonnage is situated between the 445 Level and what is referred to as the "old stope".
d) the no. 1 porphyry pipe (deposit) will yield 225 tons per vertical foot of oxide ore grading 0.60 oz/ton Au;
e) Holbrooke suggests that pipes no.2 and 3 may contain similar gold-bearing mineralization yielding as much as 2,000,000 tons to a depth equal to the elevation of the bottom of the No.2 Shaft.

9. McCARTHY, 1963:

a) McCarthy describes the orebody as an intersecting mass of stringers, veinlets, and lenses;
b) Based on previous sampling and drilling McCarthy believes that 25,000 tons of ore can be developed between the 385 and 478 Levels, averaging approximately 1.19 oz/ton Au. He also suggests the possibility of developing 15,000 tons of ore between the 385 Level and the bottom of the Incline Stope.
c) considers the prospect of finding additional ore in the lower levels excellent

10. TRENHOLME, 1979:

a) Trenholme examined the Property and analyzed previous reports and other data; He did prepare some new maps that are very useful for current evaluation and future development;
b) Previous sampling and results were discussed.....see attached report for discussion;
c) Trenholme estimated a minimum of 4900 tons of ore in place between the 385 and 455 Levels, grading 0.55 oz/ton Au, and 1.30 oz/ton Ag.
e) Estimated a minimum of 40,000 tons of ore between the 445 and 700 Levels;
d) Proposed various recommendations and briefly discussed exploration targets

and the data to justify further work.....see attached Trenholme report

11. CALLAHAN MINING CORPORATION, 1985:

Mr. Lawrence Kennedy, geologist for Callahan, conducted an examination, including considerable sampling and underground mapping. Kennedy produced the most complete geologic mapping of many underground exposures to date. His work is summarized as follows:

a) produced geologic maps, with some sample data, for the 385 Level, the 407 Level, the 445 Level, the 478 Level, the 503 Level, and the 600 Level;
b) sampling in the Glory Hole at surface provided the following results:

1.	outer wall (low-grade) -- 4 samples--	.036 oz/ton Au
2.	main core -- 2 samples--	.346 oz/ton Au
3.	south wall -- 4 samples--	.082 oz/ton Au
4.	footwall zone -- 4 samples--	.368 oz/ton Au
5.	lower outer silicified zone (low-grade)--	.023 oz/ton Au
6,	nw wall -- 8 samples---	.111 oz/ton Au

Weighted average of Glory Hole (ore zone only) is 0.16 0z/ton Au across 60 feet

12. RODDY RESOURCES INC., 1989:

The most recent exploration activity of significance that has advanced the Gold Bar Mine to **potential** production status is that completed by Roddy Resources Inc. in 1989. Their work consisted of reverse circulation drilling, combined with limited surface sampling. Roddys' work, although defining reserves within the Gold Bar No.1 Breccia Zone, has proven the need for more detailed and systematic work to fully define the potential of the entire Gold Bar Property.....Roddys' work is summarized below:

a) Three RC drillholes were completed near the Glory Hole, intersecting gold-bearing mineralization within the No.1 Breccia Zone. Hole 89-RC-GB10 cut a 5' zone assaying 0.68 oz/ton Au at 80' below the collar. Continuing for an additional 35' is ore grading 0.184 oz/ton Au. Hole 89-RC-GB11 intersected only the hi-grade 5' zone which assays .85 oz/ton Au.....for whatever reason this hole was not extended further into the zone.....probably the hole encountered difficulty forcing its termination. Approximately 30' nw of GB-10 hole 89-RC-GB12 was drilled to test the outer silicified shell that surrounds the main ore zone. Beneath the ore zone 22' of silicified and altered granite, containing limonite coatings along shears, averages 0.04 oz/ton Au. Along strike to the southwest a distance of 390', 585', and 690' respectively three additional holes were drilled to test the downward plunge of the oxide ore zone as it extends downward from the Glory Hole at approximately -32 degrees.....the results of these three holes are tabulated below:

DRILLHOLE	TOTAL DEPTH	ASSAY oz/ton Au	INTERVAL
89-RC-G88	445 feet	0.187	60 feet

89-RC-G813	460 feet	0.25	55 feet
89-RC-G86	705 feet	0.16	120 feet

(It should be noted that the top 30' in Hole 89-RC-G88 averaged .226 oz/ton Au)

b) Other drillholes completed were somewhat scattered and irratically positioned. Drilling on the No.2 and 3 breccia zones was limited but did show the presence of anomalous and low-grade gold mineralization.....see attached report

c) Roddy noted three holes previously drilled by the Sunshine Mining Company to test mineralization in the No.2 breccia zone.....their results are:

1. Hole RDH-1: 35 feet @ 0.069 oz/ton Au
2. Hole RDH-2: 45 feet @ 0.070 oz/ton Au
3. Hole RDH-3: 35 feet @ 0.103 oz/ton Au

c) Drilling at the No.3 breccia zone was negative, although a 47' zone was encountered in one hole, averaging 0.042 oz/ton Au.....much more work will be required to determine if this breccia zone has significant potential. Hole No. 89-RC-GB24 intersected the O'Brien vein at 137', showing 7' wide interval assaying 0.166 oz/ton Au.

d) The Red Wonder shear zone was tested by five holes from two locations, resulting in one 5' interval assaying 0.250 oz/ton Au, and another 8' section assaying 0.264 oz/ton Au. Drilling did not confirm surface exposures; however, copper values were not considered which may have resulted in partially misleading and incomplete data.

e) South of Breccia Zone No.3 lies the O'Brien mine and numerous old workings. In this area the O'Brien vein was drill tested from three sites totalling six holes.....the results are shown in the attached Roddy Resources Inc. report. Additionally, Roddy conducted sampling of the O'Brien surface exposures, indicating limited potential for surface mining.

f) Unfortunately, no drilling was completed at the White Blaze breccia zone.

13. GOLDTECH ENGINEERING CO., 1992-1994:

The writer, aside from examining the geology of the Gold Bar Property and specific ore targets, conducted channel and panel sampling at various locations. Emphasis was placed on sampling the Glory Hole (No.1 Breccia Zone), the surface outcrop on the No.2 Breccia Zone, the surface exposures at the O'Brien workings, the broad gold/copper mineralized shear zone at the Red Wonder pit, and the stockwork/breccia zone that is exposed north of the White Blaze shaft. Additionally, the geology of the Gold Bar Property was examined and evaluated in terms of comparing previous geologic observations. Sampling results are shown on the accompanying maps and summarized a follows:

1. 75 chip channel and panel samples were taken from the Glory Hole workings, exposing a minimum width of 50 feet. The overall average for the Glory Hole sampling program is 0.21 oz/ton Au, and 1.37 oz/ton Ag.....comparing favorably with prior sampling data obtained by other examiners.

2. Surface sampling at the No.2 Breccia zone was confined to northwest side and around the southwest nose, consisting of 50 random panel style samples. The arithmetic average of these 50 samples is 0.068 oz/ton Au and insignificant Ag values.....the results differ from that obtained by Roddy Resources Inc.

3. Sampling at the O'Brien shaft and tunnel area yielded results very close to that of Roddy Resources------see attached maps

4. A 25' wide copper/gold-bearing shear zone is exposed at surface in an old pit on the Red Wonder Zone. The entire 25' averages, where exposed, 0.18 0z/ton Au, and 1.9% Cu; however, a 10' wide section from the east wall assayed 0.35 oz/ton Au, and 5.7% Cu. Previous sampling by others has shown results ranging from 0.012 to 1.04 oz/ton Au, and .52% to 17% Cu.

5. One of the more impressive exposures at the Gold Bar Mine includes a broad zone of stockwork/breccia, containing strong limonite/goethite oxidation along shear planes. Gold is confined to the oxide mineralization that is associated with individual shears, as indicated by 10 samples taken at random from various outcrops. This zone lies adjacent to and north of the White Blaze shaft, and includes an area of approximately 200' in diameter. The individual outcrops appear to be surface expressions of a single large mineralized zone hidden by detrital and soil cover. Samples yielded assays ranging from .028 to 0.17 oz/ton Au, indicating a large area of gold-bearing mineralization at surface. Certainly, much additional work will be necessary to define the limit and extent of the mineralization, and to fully determine the potential that this zone may hold for future surface mining. Early indications are quite positive for defining a zone that might produce approximately 200,000 tons within the first 100' of mining depth, and averaging according to surface sampling roughly .07 oz/ton Au. Such a zone could yield 14,000 ounces of gold within the first 100', totalling $5.3 million.

CONCLUSIONS

It is obvious from previous mining, examinations, evaluations, and exploration efforts. that the Gold Bar Property contains considerable potential in gold, silver, and copper, much of which is yet undeveloped. The most noteable locations for developing potential gold ore are found within the No.1 Breccia Zone, the No.2 Breccia Zone, the Red Wonder Zone, the White Blaze stockwork/breccia zone, and limited surface potential at the O'Brien and Blue Moon workings. Examining these individually results in the following conclusions:

1. NO.1 BRECCIA ZONE

As noted on the cross sections, Figures 12 and 13, the first 320' of downward plunge will yield approximately 72,000 tons of ore averaging 0.20 oz/ton Au.....or 14,400 ounces having a gross value of $5.4 million. The stripping ratio for this block is excellent at about 1:1. The next 220' will also yield oxide ores totalling approximately 64,400 tons of ore. This ore will have a slightly higher ore tenor, approximating 0.25 oz/ton Au.....or 16,100 ounces with a gross value of $6.1 million. The stripping ratio will increase to roughly 3:1, but still remains very economic for surface mining. The lower block amenable to surface extraction includes a 220' section of ore averaging 0.30 oz/ton Au, and totalling approximately 44,400 tons. This block of ore will provide 13,320 ounces of gold, or roughly $5 million. It is possible that this block may average higher than 0.30, depending on the validity of some of the earlier reports of hi-grade gold ore situated in and around the 385 and 407 Levels. The stripping ratio will obviously increase but still remains economic at 5:1.

Ore reserves that are amenable to only underground methods are difficult to define given the many different evaluations of previous engineers. It is known, however, that the sulphide ores within the deeper workings will average at least 0.55 oz/ton Au, with estimates ranging from 11,000 to over 92,000 tons. It is also considered likely that additional underground exploration south of the main fault zone will prove 40,000 to 50,000 tons of ore between the 445 and 700 Levels.

2. THE NO.2 BRECCIA ZONE

This zone contains no proven or probable ore reserves, but does show significant gold values at surface from an exposure of approximately 100' x 220', and from limited drilling, suggests a potential geologic resource that would be amenable to surface extraction provided gold values were economic. More drilling and detailed surface sampling will be required to define this resource and determine its viability of being added as a mineable target. The data to date suggests the possibility of defining a target that may yield a minimum of 157,000 tons per 100' of downplunge depth.

3. THE RED WONDER ZONE

The Red Wonder shear zone is a siliceous, copper/gold-bearing shear zone that is hosted by rhyolite porphyry, trending S55E, and is located 2100' south of the Glory Hole workings. It is 25' wide and hosts azurite, malachite, chrysacolla, and numerous iron oxides. Sampling by Gilmore, 1955, showed values ranging from .09 to 1.04 oz/ton Au, and .52% to 11.03% Cu. GoldTech sampling defined commercial values across 25', assaying 0.18 oz/ton Au, and 1.9% Cu.....a higher grade section was noted along the northeast wall, giving a result of .35 Au, and 5.7% Cu, across 10'. This exposure of copper/gold mineralization represents an excellent target for devloping surface mineable reserves for smelter flux.....ultimately underground extraction would have to be considered.

Drilling by Roddy Resources tested only the gold-bearing hangingwall and seemingly was not positioned to adequately test across the entire zone; additonally, copper values were not reported which may lead to a premature assessment of the total extent of both copper and gold mineralization present.

A geologic resource at the Red Wonder mine is based on very limited sampling of surface exposures, minor reverse circulation drilling, and extent of the surface exposures along strike. It is apparent that the width of mineralization will extend across at least 20' and is readily exposed along strike for 500'. A surface mineable depth of 100' will yield 70,000 tons of inferred ore, having an estimated tenor of 0.18 oz/ton Au, and 2.0 % Cu, or approximately $8 million. The Red Wonder is a strong and prominent geologic target that deserves serious attention.

4. BLUE MOON AND O'BRIEN MINES

Surface mineable ore at the O'Brien workings is limited, and underground potential is unknown. A small zone near the O'Brien shaft and adjacent adit indicates from sampling and drilling a potential 5300 tons grading 0.12 oz/ton Au. This probable reserve is contained in a zone 10' wide x 150' long, and approximately 50' of mineable depth. The approximately $240,000 of ore value could be easily extracted and added to mill feed derived from a potential mining program at the Glory Hole (No.1 Breccia) zone.

The Blue Moon does not appear to contain commercially mineable surface ore, but indications of underground potential are discussed in some of the attached reports. The Blue Moon structure is of significance in that it trends directly toward the White Blaze stockwork/breccia zone; therefore, its potential and geologic significance is of considerable importance. As noted previously Steinmesch, 1934, reported a smelter shipment from the Blue Moon adit that yielded 1.13 oz/ton Au, and 2.32% Cu.....this type of potential for the Blue Moon may be worthy of investigation.

5. THE WHITE BLAZE STOCKWORK/BRECCIA ZONE

This mineralized zone represents to be an attractive additional target, yet undeveloped, for potentially adding significant ore reserves through a systematic program of trenching, sampling, and drilling. The surface extent of the deposit, together with the nature of the oxide, free milling gold mineralization, indicates the presence of a sizeable oxide gold-bearing deposit that would be amenable to surface extraction, and to either leaching or simple gravitational processing. This zone may very well turn out to be the largest single gold deposit present within the Gold Bar geologic complex; of course, an exploration program will be required to define the potential and turn an observation into fact.

It appears that the White Blaze and Blue Moon shear zones intersect, creating a loci effect and hence possibly creating a favorable structural phenomena for gold deposition. This target should be aggressively evaluated by detailed surface mapping, comprehensive outcrop sampling, trenching/sampling, and reverse circulation drilling.

6. CONCLUDING STATEMENT

The Gold Bar Mine and its many mineralized zones offers a rarely found opportunity for developing into a sizeable successful gold mining venture. The Gold Bar geologic complex is highly mineralized and structurally favorable for hosting potential commercial mineable deposits of gold and gold/copper ores. An added attraction to the Gold Bar Property is the presence of measured and probable ore, together with inferred or geologic resource potential. Not many inactive or dormant mines can offer these assets to such an advanced degree.

Gold Bar mineralization is at least in part structurally controlled and oxidized to a vertical depth of as much as 200' or more. Reserves amenable to surface extraction may exceed 2 million tons, provided that gold values are sufficient to cover all expenses and yield a reasonable profit. Although actual measured ore reserves do not now exceed 200,000 tons, the potential for putting inferred and probable reserves into a measured category is very high with a modest investment. Sulphide ores that are amenable only to underground mining methods are present, but will require a considerable investment to develop and extract. These deeper ores, although of higher grade, are not a primary target for immediate mining potential; nevertheless, the deeper sulphide ores do represent sound future mining potential, particularly with increased gold values. Current underground probable and inferred reserves within the lower levels of Gold Bar Mine (No.1 Breccia Zone) range from 75,000 to 100,000 ounces of gold, with secondary values in silver and copper. It has been suggested in one or more previous reports that the copper values in the sulphide zone may actually supercede that of gold.....only time and future development will determine this possibility.

The Gold Bar has the potential to produce predominantly oxide gold ores from surface mining methods at a modest level of from 250 to 750 tons/day. It will be essential, however, to increase a reserve base through mining and continuing exploration and devlopment in order to extend minelife to an exceptable range. Surface mineable oxide ores will average approximately 0.25 oz/ton Au; whereas, deeper sulphide ores amenable only to underground methods should average a minimum of 0.55 oz/ton Au, plus silver and copper. An investigation into shipping direct copper/gold and sulphide ores to a smelter may be warranted to avoid adding or modifying an existing "oxide" processing circuit which would be contemplated for exploiting the strictly surface mineable oxide mineralization. A potential underground mining program at the Gold Bar would likely range between 100 and 300 tons/day, depending to some extent upon ores devloped and mined from other than those within the No.1 Breccia Zone.

The many reports and maps appended to this report should be examined and evaluated to determine ones own interpretation of existing data. The various efforts made by engineers and geologists since 1927, together with mining and development prior to 1927, collectively point to a high level of production potential for the Gold Bar Mine. This potential exists in known reserves, potential reserves, commercially viable suraface mineable oxide ore, and the opportunity to utilize simple gravity processing technique, if other methods are deemed undesireable, inefficient, or just to costly.

The No.1 Breccia Zone contains an oxide reserve base of approximately $15.46 million, extending from the Glory Hole at surface downplunge a distance of 700' to the 445 Level. This reserve is adequate to justify a mining/processing program of about 500 tons/day, with potential expansion as reserves throughout the Property are more precisely defined and developed for commercial exploitation. The Gold Bar Mine does indeed possess the potential necessary for developing into a viable and successful mining venture.

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