

RAWHIDE NO 1 RAWHIDE NO 2 RAWHIDE NO 3 RAWHIDE NO 4 RAWHIDE NO 5 RAWHIDE NO 6

FRONTIER JENNET DONNA

GENE MARTHA MAY ROGER

ANNA BALDY

RAWHIDE MINERAL COUNTY NEVADA

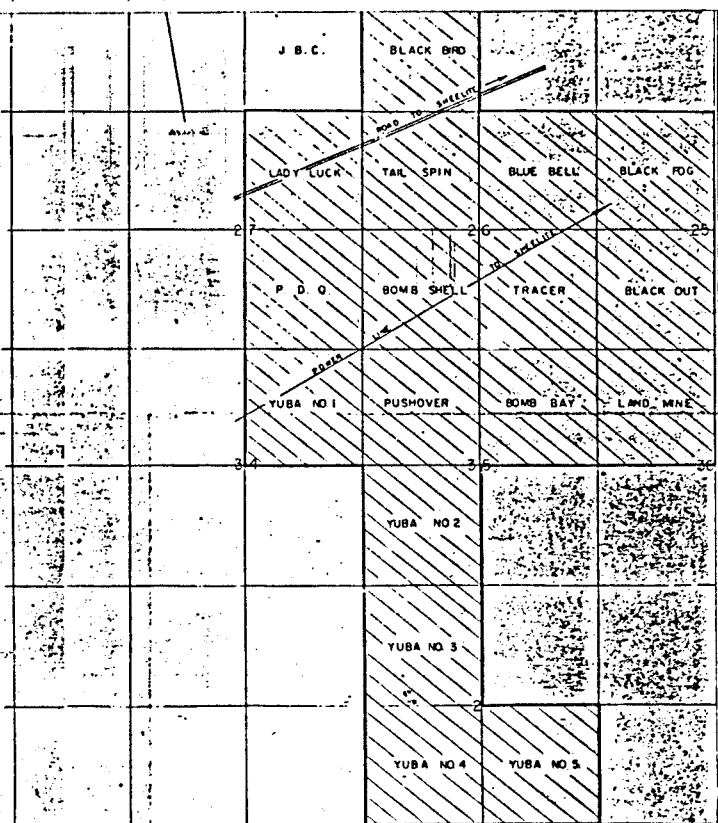
PATENTED AND UNPATENTED MINING CLAIMS

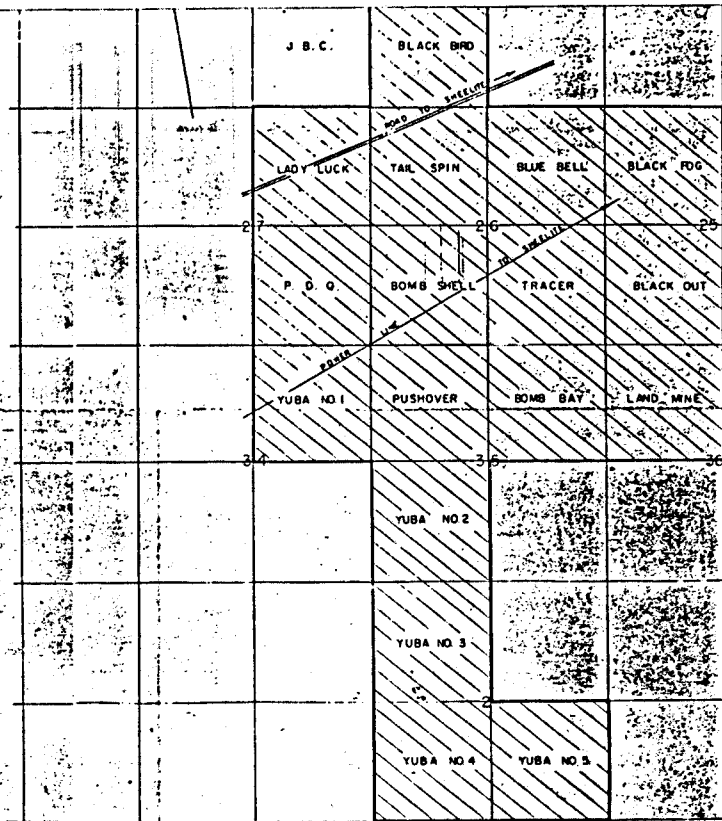
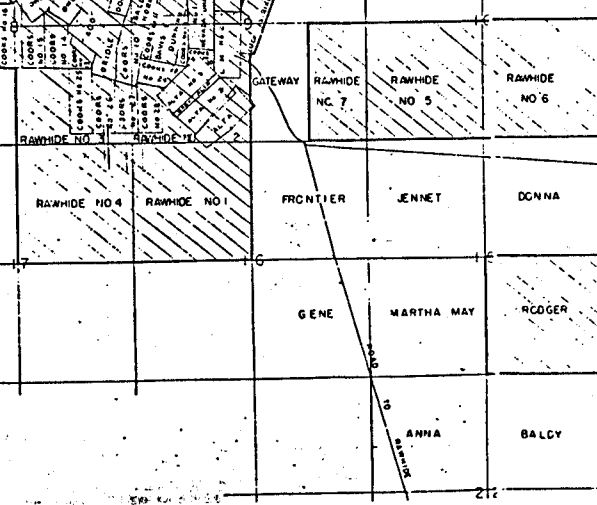
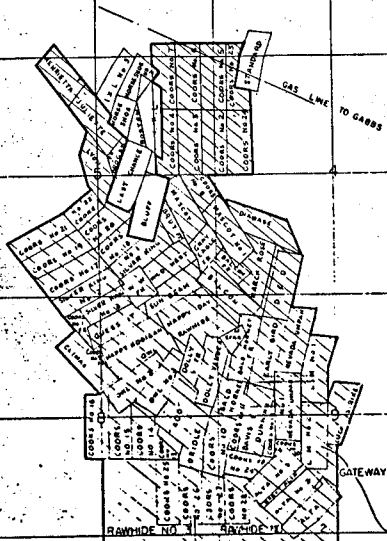
GRASSET LAKE PROPERTY UNDER OPTION

SHOWN THUS: 

SCALE 4"=1 MILE

FROM MAP BY JACK C. BISHOP - MARCH 1964





RAWHIDE MINERAL COUNTY NEVADA

PATENTED AND UNPATENTED MINING CLAIMS

GRASSET LAKE PROPERTY UNDER OPTION

SHOWN THUS: 

SCALE 4"=1 MILE

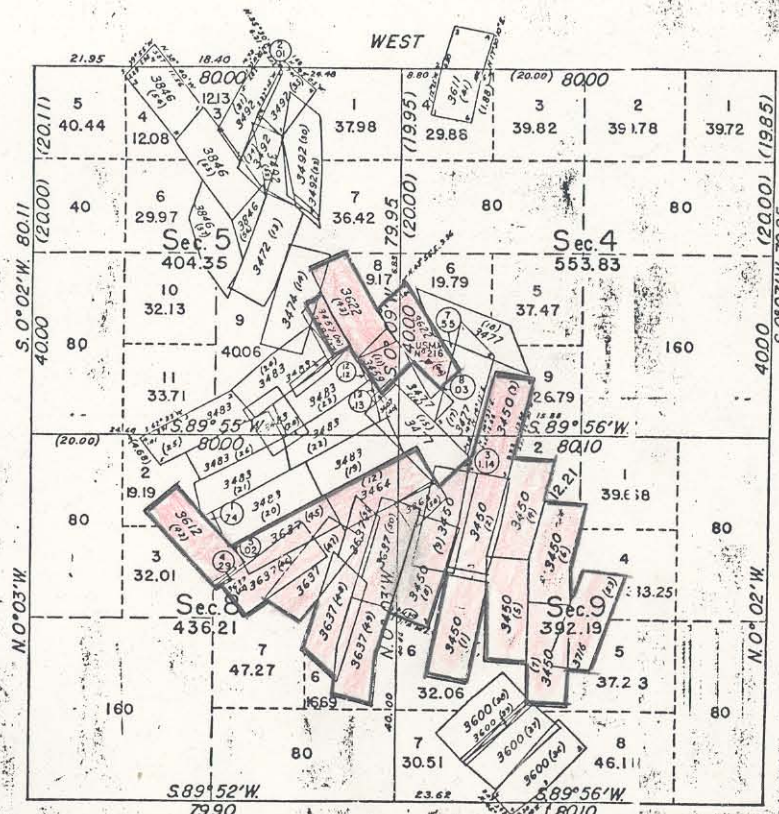
FROM MAP BY JACK C. BISHOP - MARCH 1964

ENLARGED DIAGRAM OF SECTIONS 4, 5, 8 & 9.

LIST OF PATENTED MINERAL CLAIMS
REGENT MINING DISTRICT

(1)	Survey No.	Claim	Lode
(1)	3450	Davis & Dunning	
(2)	"	Early Bird	
(3)	"	D. & D.	
(4)	"	Nevada Umpah	
(5)	"	Nevada Umpah No. 1	
(6)	"	L. M. No. 1	
(7)	"	L. M. No. 2	
(8)	"	Bald Hornet	
(9)	"	Bald Hornet Fraction	
(10)	"	Gruff Fraction	
(11)	"	Grey Eagle Fraction	
(12)	"	Rawhide	
(13)	"	Last Chance	
(14)	"	Bluff	
(15)	"	Balloon	
(16)	"	Balloon Fraction	
(17)	"	March Rose	
(18)	"	Diabase	
(19)	"	Happy Day	
(20)	"	Happy Hooligan	
(21)	"	Gussie It	
(22)	"	Sunbeam	
(23)	"	Wild West	
(24)	"	Silver King No. 1	
(25)	"	Silver King No. 2	
(26)	"	Silver King No. 3	
(27)	"	Silver King Annex	
(28)	"	Wild West Fraction	
(29)	"	Silver Slice Fraction	
(30)	"	I. X. L.	
(31)	"	I. X. L. No. 3	
(32)	"	Boston	
(33)	"	Shag Land	
(34)	"	Horse Shoe	
(35)	"	Horse Shoe No. 2	
(36)	"	Alfa No. 2	
(37)	"	Alfa No. 3	
(38)	"	Baby Alfa	
(39)	"	Eureka	
(40)	"	Standard	
(41)	"	Climax	
(42)	"	Mascol	
(43)	"	Mascol No. 1	
(44)	"	Owl No. 1	
(45)	"	Owl No. 2	
(46)	"	Owl No. 3	
(47)	"	400"	
(48)	"	Oriole	
(49)	"	Dolly Varden	
(50)	"	Dolly Varden Fraction	
(51)	"	Kid Fraction	
(52)	"	Lucky Strike	
(53)	"	Henrietta	
(54)	"	Julietta	
(55)	"	Bragon Fraction	
(56)	"	Lyon	
(57)	"	Morning Star	

The numbers (1) to (56) in brackets have reference only to the tabulations on this plat.

UNITED STATES DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE

DENVER, COLORADO, JUNE 22, 1944.

THIS PLAT OF SECTIONS 4, 5, 8 AND 9, TOWNSHIP NO. 13 NORTH, RANGE NO. 32 EAST, OF THE MOUNT DIABLO MERIDIAN, NEVADA, IS STRICTLY CONFORMABLE TO THE FIELD NOTES OF THE SURVEY THEREOF WHICH HAVE BEEN EXAMINED AND APPROVED.

C. A. Horton Jr.
SUPERVISOR OF SURVEYS

WASHINGTON, D. C., JUNE 30, 1944.

THE SURVEY REPRESENTED BY THIS PLAT HAVING BEEN CORRECTLY EXECUTED IN ACCORDANCE WITH THE REQUIREMENTS OF LAW AND THE REGULATIONS OF THIS OFFICE, IS HEREBY ACCEPTED.

J. O. W. and W. J. W.
ASSISTANT COMMISSIONER

DUNNING- DENTON PROJECT

Possible new sites

1976

This report is a supplement to my ~~report~~, previous report titled as follows:

MINING APPRAISAL REPORT
 RAWHIDE, YOST-DENTON PROJECT
 Mineral County, Nevada

The present report, which ~~deals with~~ ~~the same~~ deals with the same geographical area, I am calling the DUNNING-DENTON PROJECT.

No ~~further~~ new information that could be ~~regarding~~ used to develop

ore reserves has been shown me, ~~xxxxxxxxxxxxxxxxxxxx~~

~~xxxxxxxxxxxxxxxxxxxx~~ therefore, I believe that the first

the conclusion to ~~conclusion~~ paragraph of the YOST-DENTON PROJECT REPORT is still

valid, " A firm appraisal value of the Rawhide Yost-Denton

Project cannot be made at this time because of the lack of pertinent data. Much more work needs to be done on this

prospect before ore reserves can be calculated."

The accompanying map of the DUNNING-DENTON and ~~RAWHIDE~~ RAWHIDE

has been slightly modified

CLAIMS by adding location and development workings that

are shown on the Mineral Land Survey Patent Plats.

The fact that all of these ~~claims~~ *claims*, which were patented, had *to have* ~~xxxxxxxxxxxxxxxxxxxx~~

~~xxxxxxxx~~ mineral showings, in order to obtain the patent

indicates that there is sufficient mineralization showing throughout the area to cause prospectors and miners to dig discovery holes and make exploration workings.

The following tabulation ~~of~~ is a summary, ~~of work from~~ the two DUNNING-DENTON areas as shown on the Map of the Dunning-Denton-Rawhide Claims.

~~XXXX~~ TABULATION

The ~~next~~ majority of the workings shown on the map extend along a southeast-northwest trending zone roughly passing through (from southeast to northwest) Crazy Hill, Murry Hill, Balloon Hill and Grutt Hill, as well as ^{a northeasterly trend} on the ^{just} DUNNING-DENTON area ~~to the~~ south of Hooligan Hill.

The plantiers were knowledgeable when searching for gold and silver. If new ore bodies are found most of them will probably be along or adjacent to the two trends just mentioned. ~~If there are lower grade ore bodies~~ ^{on} the remainder of the property to find them will ~~surely~~ ^{likely} take careful and painstaking prospecting and exploration.

During the years of active mining at Rawhide, 1906-1943, mining was ~~from narrow veins and~~ by underground methods.

Production was from narrow veins and occasional rich pockets of gold-silver ore. Today the price of the precious metals, ~~today's~~ gold and silver, is so much higher than it was during ^{those} ~~the~~ years of active mining that there is ^{now} the possibility of renewed ~~x~~production, provided sufficient ore reserves can be developed. It is hoped to find outcropping or near surface zones of low grade gold and silver values that can be mined ~~xxx~~ by open pit methods and are amenable to ^{cyanide} ~~heap~~ leaching recovery of the ~~gold and~~ precious metals.

3a

Today, in isolated cases ore with as low a grade as 0.04 ^{gold} ounces of ~~silver~~ per ton and 1 ounce of silver per ton is occasionally being mined by open ~~pitting and xxx~~ ^{pit} mining

the gold and silver is recovered by means of the heap leach

^{where} cyanide process ~~in~~ which the material to be leached is not

⁴ ~~finely ground~~ (an ore that will heap leach) Under favorable conditions/run of mine if ever, and there is seldom/crushed to ore is heap leached as mined, ~~xxx xxx xxx xxx xxx~~ less than $\frac{1}{4}$ inch ~~xxx~~ maximum diameter ~~for heap leaching~~.

Open pit mining followed by heap leaching, for the recovery of gold and silver, is used wherever possible since this is ^{an} ~~a~~ economically cheaper process than either open pit or underground mining followed by the recovery of gold and

silver ~~by xxx~~ using the conventional counter current cyanide milling process, with ^{its necessary and} ~~an~~ expensive milling plant, ^{and costly} ~~plus the cost of~~ energy intensive ^{fine} grinding. ^{a flotation} Taggart

defines fine grinding as producing a finished product of well under a millimeter in maximum size, ~~less than 1 millimeter in size~~ ^{less than $\frac{1}{64}$ in of an inch}

(3a)

If ore reserves are developed metallurgical testing must be done in order to determine the most economical way to recover the precious metals. The choice will be between heap leaching, a conventional counter current cyanidation process or possibly a flotation plant. The first alternative is probably the one that will be indicated.

4
a heap leaching or milling operation
or heap leach too

~~There are two~~ In order to have ~~an operating~~ mill ~~two~~

two things are necessary, ore reserves from which to feed the

~~mill and~~ ^{supply for processing the ore.} ~~water to complete the processing.~~ In Nevada ~~sufficient~~
~~is so it is~~
water is often a great problem and ~~undoubtedly is so at~~

Rawhide. During the period of production at Rawhide ~~water~~ water
pumped to the mills at Rawhide,
was ~~brought in~~ ~~by~~ from wells near the Alkali Flat,

~~through~~ ^{*two*} ~~about~~ six miles pipe lines.

The ~~the~~ same water problem exists today.
Today ~~water would have to be pumped, or trucked to a mill~~

~~site or mill sites, and~~

HP
~~Today,~~ If sufficient ore reserves are developed, it appears
^{water supply}
that there are two alternatives; available. All the ore

DUNNING-DENTON
produced from both areas of the ~~Dunning-Denton~~ claims

could be trucked to water and processed at the well sites as

shown on the attached Regent Mining District Map. The

other alternative is to truck or pump water to the old

National Mill site, as shown on the Regent Mining District ~~map~~,
~~on some other~~ ^{available} ~~map~~ and construct a ~~new mill~~ ^{there} for either standard cyanidation
~~or heap leaching at~~
~~or heap leaching at this point.~~ Ore from both the DUNTON-DENTON

DUNNING-DENTON PROJECT

Tabulation of work

Tabulation of shafts, drill holes & Misc. workings shown on the 1976 Dunning-Denton & Rawhide claim map

At 20 # 35/2 AS C #AD. 90/2

5

the chosen recovering site center

areas would be trucked to this ~~new mill~~. The decision which ~~method~~ ~~xxxx~~

~~xxxx~~ ^{plant} site as to which ~~mill~~ site to develop would depend

solely upon ~~the economic factor~~ which site would be ^{the} most economical place

to have a conventional cyanide mill or a heap leach cyanide ~~the separate xxxxxxxx mill xxxxxx~~

~~xxxxxxx~~ gold and silver recovery ^{plant} ~~site~~ site. ~~on a flat area~~

^{at} recovery plant

Once either ~~xxxxxxx~~ ^{mill} ~~site~~ is in operation, ~~at either~~

~~site~~, it will be a ^{relatively simple} ~~simple~~ matter to bring in ore from

mine ~~site~~ ^{located on} any place on ~~the property xxxxxx~~ ^{on} either portions of the

property. This would certainly be much more economical and

profitable than having a separate recovery plant ^{at} ~~for~~ each

~~xxxxxxx~~ ^{site} ~~area~~ where ^{individual} ~~xxxxxxx~~ ^{an ore body} ~~was developed.~~ ^{might be developed.}

~~I feel that most of the ore bodies that may be found will be along or adjacent to mineral belts - northeast - northwest - and previously mentioned the south east and west areas~~

✓ ✓
DAVIS & DUNNING

✓ EARLY BIRD ✓

✓ D & D none ✓

✓ NEVADA UMPAH ✓ Dump \$0.90

✓ NEVADA UMPAH NO. 1 ✓

6 placer drill # and feet \$?-45', \$1.20-7', \$5.42-61', \$1.53-91'
\$1.22-47', \$4.7-97', \$0.64-17' \$2.35-105' \$2.41 @ 120'

✓ L.M. NO. 1 ✓

✓ L.M. No. 2 ✓

✓ BALD HORNET ✓ Sample feet @ \$- \$10.48 @ 18', \$3.65 @ 35', \$2.33 @ 105'
\$2.41 @ 120', \$2.66 @ 200

✓ BALD HORNET FRACTION ✓ Sample feet @ \$

✓ LUCKY STRIKE ✓

✓ MORNING STAR FRACTION ✓
($\frac{1}{2}$ interest)

✓ RAWHIDE ✓

✓ OWL No. 1 ✓

✓ OWL No. 2 ✓

✓ OWL No. 3 ✓

"400"

ORIOLE

DOLLY VARDEN

DOLLY VARDEN FRACTION

KID FRACTION

GRUTT FRACTION

CLIMAX

GREY EAGLE FRACTION
($\frac{1}{2}$ interest)

MASCOT

MASCOT No. 1

J. McLAREN FORBES
Consulting Geologist

2275 MUELLER DRIVE
RENO, NEVADA 89502

TELEPHONE: AREA CODE 702 - 322-1131

MINING APPRAISAL REPORT
RAWHIDE, YOST-DENTON PROJECT
Mineral County, Nevada

J. McLaren Forbes 10-1-76
Registered Geologist
California #2336
Professional Engineer
and Land Surveyor
New Mexico #991

The Rawhide project, consisting of both placer and lode deposits, for which this appraisal is made is located in the Rawhide Mining District in Mineral County, Nevada, about 50 miles southeast of Fallon. The claims, about 25 of them, are shown on the Getty Oil Company, Lode and Placer Claim Map, Rawhide Project, and are all lode claims. They are located in Twonship 12 North, Range 32 East in Sections 4, 5, 8, and 9.

This report is based on very scanty data, as well as two visits to the property, on August 30 and September 17, 1974, to familiarize myself with the terrain and surface geology.

The Rawhide data that I have had to work with consists of only three maps, a report, and a letter, which are as follows:

- (1) GRASSET LAKE MINES LIMITED
Rawhide-Mineral County-Nevada
Surface Geology and Compilation of Previous sampling
1"=100' There is no date on the map
- (2) Rawhide Gold Mines
1"=50' J.K. Yost
with a tabulation
CRAZY HILL
Values & Tonnage
Rawhide, Nevada
Sept. 11, 1973
All values at Au-\$100/oz Ag-\$2.70/oz
- (3) Getty Oil Company
U.S. Metals General
Salt Lake City, Utah
LODE AND PLACER CLAIM MAP
RAWHIDE PROJECT
Mineral County, Nevada
date 1/12/74 by R.W. Gloyn
1"=2000'

Probably Interim Report, Yuba Mining
? Division's? Investigation of the Gold-Silver
Properties of Rawhide, Mineral County, Nevada
April 2, 1960 by
J.B. Canada

There is an unsigned report, with no date, that was

reportedly written by a J.B. Canada for the Yuba Dredging Co.

There is also a letter, dated July 23, 1974, by a Mr. James A.

Bates of Watts, Griffis and McQuat Limited, Consulting Geologists
and Engineers, Suite 911 - 150 Bay Street, Toronto 1, Canada.

The unpublished report of F.C. Schrader on the CARSON SINK AREA,
Nevada, U.S. Geological Survey, 1947, was also available.

The maps do show the location of samples, their value in
dollars, and length sampled. The Grasset Lake map probably gives
the dollar value in \$35.00 gold per ounce and the silver may
have been calculated anywhere from \$0.90 to \$1.29 per ounce. The
Rawhide Gold Mines map gives values calculated at \$100.00 per
ounce for gold and \$2.80 per ounce for silver. I am assuming
that the dollar values given in J.B. Canada's report are calculated
in the same way as those on the Grasset Lake map.

The maps, reports, and letter do not contain sufficient de-
tailed information with which to calculate ore reserves. As a
matter of fact, Bates says, in his letter of July 23, 1974, "It
must be borne in mind that at the present time there are no proven
ore reserves at Rawhide." Canada, in his report says, "There is
a possibility of developing 15 million, and perhaps 20-25 million
tons of ore that preliminary estimates indicate could be profit-
ably treated in a 3000 ton per day open-pit operation." He
stresses the fact that there are no measurably reserves, and gives
his potential tonnages as follows:

POTENTIAL ORE TONNAGES

Insufficient drilling and detailed sampling have been accomplished, at this early stage in the investigation, to determine, except in a general way, the ore potential of the area, and certainly the work to date has not resulted in outlining any measurable reserves.

However, the sampling and drilling done in the several areas tested at Rawhide have indicated a substantial tonnage potential of low-grade, gold-silver mineralization to a depth of, at least, 200 feet in several areas. Geologically, at this writing, the tonnage potential might be estimated as follows:

A. Hooligan Hill Area

Possible Grade

200'Wx750'Lx160'D÷15=1,600,000 tons

\$2.50 - \$3.00/T.

1,000,000
Note: Can be up-graded by screening

+ 3.50

B. North Murray-South Balloon Hills

Murray Hill
500'Wx1100'Lx200'D÷15=7,400,000 tons

1,500,000
\$3.00 + or -

C. North Balloon Hill

Balloon Hill
+ or - 1,000,000 tons

2,500,000
" "

D. West Grutt Hill

+ or - 1,000,000 tons

" "

E. Silver Hill Area

1,000,000
+ or - 2,000,000 tons

± 3.50
?

F. Crazy Hill, Etcetera + or - 1,000,000 tons ?

Estimated total - 14-15 million tons \$3.00 + or -

1,000,000 *6,000,000* *no grade*
Canada, whose report is quite comprehensive, makes no attempt

to evaluate the placer possibilities. The reason for this must be that he felt that his information regarding the placer values was so nebulous that he did not even wish to consider potential possibilities.

Yost's tabulation of tonnage and values for Crazy Hill are also given as potential figures.

The maps and report at hand give only the dollar value of

the samples listed, they do not give the assay in ounces per ton of both gold and silver. The price of gold and silver today is different than it was when these maps were made. Ore deposits of The Western States on Page 636 states that in the Rawhide district, "the ratio of gold to silver is 1:14." It is also quite probable that the gold to silver ratio varies throughout the district, depending upon changes in mineralization away from the previously worked higher grade veins, stages of oxidation, and secondary enrichment. This makes it impossible to calculate equivalent present day dollar values, for the dollar values given on the maps and in Canada's report. This one factor alone negates the possibility of calculating acceptable ore reserves from this date.

Marston, Winfrey, and Henstead in their book, ENGINEERING VALUATION AND DEPRECIATION, have the following to say concerning the valuation of mines, at pages 365 and 366:

Valuation of Mining Properties in Various Stages of Development. Occasionally, an appraiser is called upon to indicate what might be the value of the mineral rights of a property in one of its several stages of development. What importance he attaches to the prospective earnings which may be derived from these lands depends much on the stage of development of the property as a mine.

The first stage is illustrated by the situation when a landowner merely supposes that valuable deposits are present. The land may be in the vicinity of valuable deposits, or the owner may be just optimistic. In such cases, the mineral rights are without value until the existence of a profitable deposit is proved.

The next stage of development can be described by the situation when some prospecting has been done. Then there is some geological or other reason to

suspect that there might be valuable deposits present. Probably these deposits are valuable, but to the appraiser this value will be a minimum because there are so many uncertainties to be estimated--transportation, probable investment required to obtain the mineral, mining costs, and the unknown quantity and quality of the deposit.

The third stage is illustrated by the situation when some mineral has been found, but the amount, position, quantity, and quality of the deposit are still unknown. The same factors mentioned in the preceding paragraph are undetermined; hence the value of the deposit is nominal. However, there may be justification for a decision by the owner to go ahead and obtain many of the answers to the above uncertainties.

The fourth stage of development is reached when a fair amount of exploratory work has been done. Test holes have been drilled and samples taken. Maps have been prepared, and it is now possible to make some kind of estimate of the quality and quantity of the mineral deposit. Since an enterprise has not yet been organized, the evidences of value mentioned in Sec. 18.2 pertaining to the present investment, the stock and bond value, and the market value are not applicable. The primary evidence of value necessarily is based on the estimated earnings of the prospective enterprise. The appraiser should then proceed to estimate the cost of developing the deposit, the probable income, and the accompanying production costs which could be expected over a specific number of years. From these estimates he may obtain the earning value of the venture which he may use as the warranted investment. This process of determining the earning value of an undeveloped mining reserve is illustrated in detail in Sec. 18.6.

The development of the mineral potential of the Rawhide prospect, for a large low-grade deposit of gold and silver ore, can be considered to be in the third stage of development, as outlined in the above quotation. Further exploratory work must be done before the property can be considered to have more than entered

the fourth stage of development. Although some test holes have been drilled and some samples taken, the detailed assay grades and values, resulting from this limited test work are not available, and even if they were, there would not be sufficient data with which to establish ore reserves.

The Rawhide prospect can be considered to be in "the third stage" of development, since some mineral has been found but the amount, position, quantity, and quality of the deposit is still unknown. The same factors mentioned in the preceding paragraph are undetermined (see quote) hence the value of the deposit is nominal.

In order to reach the fourth stage of development, so that it is "possible to make some kind of estimate of the quality and quantity of the mineral deposit," a great deal more work must be done. Watts, Griffis, and McQuat in their letter of July 23, 1974, consider that to accomplish this, necessary exploration would take an expenditure of approximately \$500,000.

Open pit mining at Rawhide will have a certain amount of environmental impact. The fact that Rawhide is of historical interest, as a ghost mining camp, may well increase the costs of environmental renewal.

CONCLUSION

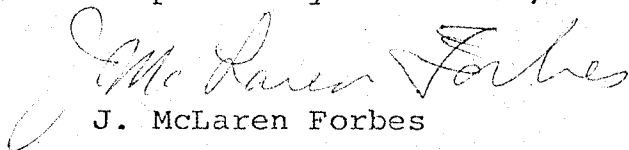
A firm appraisal value of the Rawhide Yost-Denton Project cannot be made at this time because of the lack of pertinent data. Much more work needs to be done on this prospect before ore reserves

can be calculated.

Conceivably, a seller and a buyer could come to an agreement as to their idea of the present value of the property. This compromise value would not be based upon a formal appraisal, but would represent the seller's pre-conceived idea of the mining value of the property and the buyer's idea regarding the mining value of the property, coupled with his philosophy of the risk he is willing to take in a mining venture.

At this time, since no ore reserves can be established on which to fix the value of the prospect, the price of the property should be regarded to be the same as that of the nearby grazing land.

Respectfully submitted,

A handwritten signature in cursive script, reading "J. McLaren Forbes". The signature is written in dark ink and is positioned above the printed name.

J. McLaren Forbes

PROFESSIONAL RECORD

- 1934-36 Various jobs as a mucker, assayer, geologist, surveyor, flotation and cyanide plant operator and other mill work.
- 1936-40 Philippine Islands, as follows:
- 36-38 Mining Geologist and Mine Superintendent, Opisso & Co.
- 38-39 Geologist and Mill Superintendent, Paracale Gumaus Mine.
- 39-40 Geologist for International Engineering Co., reconnaissance in Northern Luzon, and mine geologist at North Camarines.
- 1941-45 Chief Geologist and Chief Engineer, New Idria Quicksilver Mining Co. Developed detailed isometric block diagrams showing observed and projected geology of the mineralized area.
- 1945-46 Geologist, U.S. Forest Service Flood Control Project. Examined dam and road location, made watershed erosion surveys.
- 1946-46 Geologist, Exploration Department, Potash Co. of America.
- 1946-49 Geologist for the United States Smelting, Refining and Mining Co. at Vanadium, New Mexico. Detailed mapping in their vein and limestone lead-zinc mines. Kept up geology maps, sections, ore reserves; laid out diamond drilling and exploration.
- 1949-51 Chief Geologist at Frontino Gold Mines, Ltd., Colombia, South America. Started first detailed mine geology at this vein gold mine.
- 1952-58 Chief Geologist, Consolidated Coppermines Corp., Kimberly, Nevada. Experience in the geology, exploration and drilling of porphyry copper ore bodies, their reserve calculations, open pit design and mining. Examined more than 200 mining properties in the western U.S.A.
- Fall of 1958 Examination of Cerro de Pasco properties in Peru for Consolidated Coppermines.
- 1958-1965 Consulting Mining Geologist, long term jobs, as follows:
- 59-61 Consulting Geologist for Cerro Corporation, McCune Pit Project, Cerro de Pasco, Peru. Assembled basic data for their decision to design and develop an open pit at this major producer of lead, zinc, silver, and copper.
- 62-63 Consulting Geologist for Placer Developments, Pamex Mining Co., Philippines, (now Marcopper Mining Corp.). In charge of development and exploration of this porphyry copper. Staff and labor force, 200 to 300. Eight diamond drills, underground and surface, up to eight development headings.
- Six months for Placer Development, Ltd., on their American Exploration Company, Plumas County, California, copper prospects.
- 64-65 Three-quarters of my time for Kern County Land Co., working on a western states silver project.
- 65 to Present: Consulted for various clients, including the following:
Straus Exploration Co. (formerly Guggenheim Exploration Co.). Work in Chile, Brazil, and the western United States.

Kerr-McGee Corp.

Examined, evaluated and reported on silver-lead-zinc prospect in northern Peru.

Standard Oil of Indiana.

One of the team selected by Chapman Wood and Griswold to examine Cerro Corporation's Peruvian Properties, at the time of the proposed merger of Cerro Corp. with Standard of Indiana. I evaluated the ore reserves of Cerro de Pasco's mines in Peru.

Involved in the geological studies and mining of Cerro Corporation's Big Mike mine in Nevada.

Consultant for Bethlehem Steel Corporation; supervised development at a porphyry copper property in Sonora, Mexico.

Have had some placer evaluation experience.

November 1-4, 1975

Attended the short course, Inplace Leaching and Solution Mining presented by the Mackay School of Mines, University of Nevada-Reno.

EDUCATION

1928-34	University of Arizona, B.S., 1933. Majored in geology, with courses in mining and ore dressing. Graduate work 1933-34.
1940-41	University of California at Los Angeles, graduate work.
1956	U.S.G.S. two-week Geochemical Exploration course at Denver.
1962	Computer Short Course and Symposium, University of Arizona.

Have a working knowledge of Spanish.

REGISTRATION

Professional Engineer and Land Surveyor, New Mexico.
Registered Geologist, California.

PROFESSIONAL SOCIETIES

American Institute of Mining and Metallurgical Engineers.
Society of Economic Geologists.
Geological Society of America.
Geological Society of Nevada.
Nevada Exploration Geologists

PUBLICATIONS

The Isometrograph as Developed and Used at The New Idria Quick-silver Mine, Calif. Jnl. Mines & Geology, July 1943.
Practical Diamond Drilling for the Geologist and Engineer, Transactions A.I.M.E., Vol. 163.

DUNNING-DENTON

*Incorporated
Regent District
Map & reduction
of Dunning-Denton Map*

~~MINING APPRAISAL REPORT~~
RAWHIDE, ~~YOST-DENTON~~ PROJECT
Mineral County, Nevada

I

SCOPE OF REPORT

The scope of this report is to provide information with respect to (a) data generally available in connection with past drilling or mining efforts ^{on} ~~of~~ twenty-five (25) mining claims located in the Rawhide Mining District, Mineral County, (b) to consolidate some of the available information in connection with each of those twenty-five (25) claims, and (c) to set forth my views generally with respect to what must be undertaken in order to either (i) put the claims into production or (ii) determine whether it would be economically feasible to attempt to put the claims into production.

Others Omitted

The twenty-five (25) mining claims are as follows:

- | | |
|---------------------------|---------------------------|
| ✓ Davis & Dunning | ✓ Owl No. 1 |
| ✓ Early Bird | ✓ Owl No. 2 |
| ✓ D & D | ✓ Owl No. 3 |
| ✓ Nevada Umpah | ✓ "400" |
| ✓ Nevada Umpah No. 1 | ✓ Oreole |
| ✓ L.M. No. 1 | ✓ Dolly Varden |
| ✓ L.M. No. 2 | ✓ Dolly Varden Fraction |
| ✓ Bald Hornet | ✓ Kid Fraction |
| ✓ Bald Hornet Fraction | ✓ Grutt Fraction |
| ✓ Lucky Strike | ✓ Climax |
| ✓ Morning Star Fraction | ✓ Grey Eagle Fraction |
| ($\frac{1}{2}$ interest) | ($\frac{1}{2}$ interest) |
| ✓ Rawhide | ✓ Mascot |
| | ✓ Mascot No. 1 |

The undersigned has made no study with respect to the ownership of those claims; ^{however} The following is simply a compilation of data and the expression of viewpoints with respect to the claims, both individually and collectively, as set forth below.

The claims are located in Township 12 North, Range 32 East, in Sections 4, 5, 8 and 9.

The report is based on fairly scanty data, as well as visits to the property itself.

The Rawhide data available to work with consists of three (3) maps, a report, and a letter, which are as follows:

I have prepared a map, Dunning-Denton and Rawhide Claims - showing the Mineral Survey maps (M.S.'s), note of patent, and other data.

- (1) GRASSET LAKE MINES LIMITED
Rawhide-Mineral County-Nevada
Surface geology and compilation of previous sampling
1"=100' There is no date on the map.
- (2) Rawhide Gold Mines
1"=50' J. K. Yost
with a tabulation
CRAZY HILL
Values & tonnage
Rawhide, Nevada
September 11, 1973
All values at Au-\$100/oz. Ag-\$2,70/oz.
- (3) Getty Oil Company
U.S. Metals General
Salt Lake City, Utah
LODE AND PLACER CLAIM MAP
RAWHIDE PROJECT
Mineral County, Nevada
date 1/12/74 by R.W. Gloyn
1"=2,000'

There is an unsigned report, with no date, that was reportedly written by a J. B. Canada for the Yuba Dredging Co. There is also a letter dated July 23, 1974, by a Mr. James A. Bates of Watts, Griffin and McQuat Limited, Consulting Geologists and Engineers, Suite 911, 150 Bay Street, Toronto 1, Canada. The unpublished report of F.C. Schrader on the CARSON SINK AREA, Nevada, U.S. Geological Survey, 1947, was also available, as well as my

MINING APPRAISAL REPORT RAWHIDE, YOST DENTON PROJECT, Mineral County, Nevada
of 10-1-76 which I have utilized.

The maps do show the location of samples, their value in dollars, and length sampled. The Grasset Lake map probably gives the dollar value in \$35.00 gold per ounce and the silver may have been calculated anywhere from \$0.90 to \$1.29 per ounce. The Rawhide Gold Mines map gives values calculated at \$100.00 per ounce for gold and \$2.80 per ounce for silver. I am assuming that the dollar values given in J.B. Canada's report are calculated in the same way as those on the Grasset Lake map.

The maps, reports, and letter do not contain sufficient detailed information with which to calculate ore reserves. As a matter of fact, Bates says in his letter of July 23, 1974, "It must be borne in mind that at the present time there are no proven ore reserves at Rawhide." Canada, in his report, says, "There is a possibility of developing 15 million, and perhaps 20-25 million tons of ore that preliminary estimates indicate could be profitably treated in a 3,000 ton per day open-pit operation." He stresses the fact that there are no measurable reserves, and gives his potential tonnages as follows:

entire area.

POTENTIAL ORE TONNAGES - ENTIRE RAWHIDE AREA.

"Insufficient drilling and detailed sampling have been accomplished, at this early stage in the investigation, to determine, except in a general way, the ore potential of the area, and certainly the work to date has not resulted in outlining any measurable reserves.

However, the sampling and drilling done in the several areas tested at Rawhide have indicated a substantial tonnage potential of low-grade, gold-silver mineralization to a depth of at least 200 feet in several areas. Geologically, at this writing, the tonnage potential might be estimated as follows:

*Note: The following table covers the entire Rawhide area, of Canada's report which includes the two contiguous Dunning-Denton groups of claims.

A. Hooligan Hill Area Possible Grade

200'Wx750'Lx160'D-15=1,600,000 ton \$2.50-\$3.00/T.

Note: Can be upgraded by screening.

B. North Murray-South Balloon Hills

500'Wx1100'Lx200'D-15=7,400,000 tons \$3.00±

C. North Balloon Hill

± 1,000,000 tons \$3.00±

D. West Grutt Hill

± 1,000,000 tons \$3.00±

E. Silver Hill Area

± 2,000,000 tons ?

F. Crazy Hill, Etc.

± 1,000,000 tons ?

Estimated total: 14-15,000,000 tons \$3.00±

Canada, whose report is quite comprehensive, makes no attempt to evaluate the placer possibilities. The reason for this must be that he felt that his information regarding the placer values was so nebulous that he did not even wish to consider potential possibilities.

Assume:

All or Crazy Hill

1/3

no entries 1982

#/Ton

II

SUMMARY OF WORK DONE

The following tabulation is a summary of work done on ^{the} two (2) areas ~~of~~ ^{Dunning-Denton} the contiguous claims ^{as shown} on the map of the Dunning-Denton and Rawhide claims prepared by me.

DUNNING-DENTON PROJECT

Tabulation of drill holes, shafts & misc. workings
Shown on the 1976 Dunning-Denton & Rawhide Claim Map

Claim	Number Of Wagon Wheel Drill Holes	Diamond Drill Hole \$/ in Ft.	Placer Drill Hole \$/ in Ft.	Sampled Area \$/ ton Ft.	Dump Damp Sample \$/ ton	Number Of Shafts Shafts	Number Of Misc. Drill Holes	Other Misc. Workings
Davis Dunning						3		Discovery Cut
Early Bird	13 14		? 45	6.43 60 2.18 100 1.90 135 3.15 50 2.31 30 1.08 100 0.83 150	15.84 3.37 1.85 1.36 4.36 7.65 11.77	4		
D&D						2		Discovery Cut
Nevada Umpah					0.90	2		Discovery Cut
Nevada Umpah No. 1			1.28 ? ? 45 5.42 61 1.53 91 1.22 47 0.47 97 0.64 17			1		
L.M. No. 1						1	5	

Claim	Number Of Wagon Wheel Drill Holes	Diamond Drill Hole \$/ ton Ft.	Placer Drill Hole \$/ ton Ft.	Sample Area \$/ ton Ft.	Damp Sample \$/ ton	Number Of Shorts	Number Of Misc. Drill Holes	Other Misc. Workings
L.M. No. 2						4		
Bald Hornet	2	10.48 18		3.65 350	0.30?	2		
Fraction	3	2.53 105		2.41 120	0.94			
				2.66 200	4.54			
Bald Hornet			? 47	1.56 240	4.00			
			1.03 17					
			1.57?42					
Lucky Strike						1	6	
Morning Star			? 22		11.10	1		
Fraction			0.51 51					
(½ interest)			? 20					
Rawhide	12	4.07 2.31			5.98	2		
	5				3.13			
					5.93			
Owl No. 1	7	no core 7.01 120		0.93 170	0.87	5		
	8	sludge			1.21			
	10	10.02 ?			1.09			
		sludge			2.47			
		0.91 core no core ?			1.03			
		10.02			0.81			
		sludge			2.07			
Owl No. 2						1		
Owl No. 3						3		Trench
"400"								Discovery Cut
Oreole						1		Trench
Dolly Varden						1		Incline
Dolly Varden Fraction						1		

Claim	Number Of					Number Of		
	Wagon Wheel Drill Holes	Diamond Drill Hole \$/T-Ft.	Placer Drill Hole \$/T-Ft.	Sampled Area \$/T-Ft.	Damp Sample \$/T	Number Of Shorts	Misc. Drill Holes	Other Misc. Workings
Kid Fraction						1		1 Trench
Grutt Fraction						2		
Climax						1		Discovery Cut
Grey Eagle Fraction ($\frac{1}{2}$ interest)					6.16	1		Fireplace Tunnel
Mascot					4.70			Lower & Upper Grutt Tunnels
Mascot No. 1						1		1 adit. 3 small workings

The majority of the workings shown on the map extend along a southeast northwest trending zone roughly passing through Crazy Hill, Murray Hill, Balloon Hill and Grutt Hill, and also a northeasterly trend of workings ~~in the DUNNING-DENTON area just south of Hooligan Hill~~ *along the slope of Hooligan Hill extending to Balloon Hill.*

The old timers were knowledgeable when searching for gold and silver. If new ore bodies are found, most of them will probably be along or adjacent to these two trends. If there happen to be low grade ore bodies on the remainder of the property, it will take careful and painstaking prospecting and exploration to find them. *The patented claims surrounding the aforementioned trending zones were undoubtedly taken to patent because someone felt they had future economic potential in excess of the cost of obtaining the patent.*

III WORK NEEDED TO BE DONE

During the years of active mining at Rawhide, 1906-1943, mining was by underground methods. Production was from narrow veins and occasional rich pockets of gold-silver ore. Today the price of the precious metals is so much higher than it was during those active years that there is now the possibility of renewed

production, provided that sufficient ore reserves can be developed. It is hoped there exist outcropping or near surface zones of low grade gold and silver mineralization that can be mined by open pit methods and that are amenable to cyanide heap leach recovery of the precious metals.

If reserves are developed, metallurgical testing must be done in order to determine the most economical method to recover the gold and silver. The choice will be heap leaching, or a conventional counter current cyanidation process, or possibly a flotation mill. The first alternative is probably the one that will be indicated as best.

Today, in isolated cases, ore with as low as 0.04 ounces of gold per ton and 1 ounce of silver per ton may occasionally be mined by open pit mining and the gold and silver recovered by means of the heap leach cyanide process, where the material to be leached is not finely ground. Taggart defines fine grinding as producing a finished product of well under a millimeter in maximum size (less than 1/64th of an inch).

Under favorable conditions, ~~the~~ run of mine ore is heap leached as mined, without crushing. When crushing is necessary, it is usually in the 1" size and seldom as small as 1/4" in maximum diameter for heap leaching. Open pit mining followed by heap leaching for the recovery of gold and silver is used whenever possible since this is an economically cheaper process than other open pit or underground mining followed by the conventional counter current cyanide milling process, or flotation, where it is necessary to have an expensive milling plant and costly energy intensive fine grinding.

In order to have a heap leaching or milling operation, two things are necessary: (1) ore reserves from which to feed the leach pads or mill, and (2) water supply for processing the ore. In Nevada, water is often a great problem; and so it is at Rawhide. During the period of mining and production at Rawhide, water was pumped to the mills at Rawhide from wells near Alkali Flat through two six-mile pipe lines, as shown on the attached Regent Mining District map. The same water problem exists today.

If sufficient ore reserves are developed to warrant heap leaching or other milling, it appears that there are two water supply alternatives available. All the ore produced from both areas of the DUNNING-DENTON claims could be trucked to water wells near the Alkali Flat and processed at the well sites. The other alternative is to truck or pump water from the wells at Alkali Flat to the old National Mill site, shown on the Regent Mining District map, or to another site, and process the ore there.

Ore from both of the DUNNING-DENTON areas would be trucked to the chosen plant site for processing, to recover the gold and silver. The decision as to which plant site to develop would depend solely upon which site would be the most economical place to construct either a heap leach cyanide, or conventional cyanide, or flotation plant for processing the ores.

Once a recovery plant is in operation, it will be a relatively simply matter to bring in ore from any mine located on either portion of the property. This would certainly be a much more economical operation than having a separate recovery plant for each site where an individual ore body might be developed.

IV

CONSIDERATIONS REGARDING APPRAISALS

The maps and reports at hand only give the dollar value of the samples listed, they do not give the assay in ounces per ton of both gold and silver. The price of gold and silver today is different than it was when these maps were made. ~~It is 2/50~~ ^{values and} ~~probable~~ that the gold to silver ratios ^{values and} ~~varies~~ throughout the district, depending upon changes in mineralization away from the previously worked higher grade veins, ~~zones~~ ^{of oxidation} and secondary enrichment. This makes it ~~improbable~~ ^{impossible} to calculate equivalent present day dollar values, ~~using~~ ^{using} the dollar values given on the maps and in Canada's report. This one factor alone negates the possibility of calculating acceptable ore reserves from ~~this~~ ^{his} data.

~~Even~~ If the basic data ^{used by Canada and others,} ~~this~~ ^{maps with sample widths} and gold and silver assay mine workings and geology and reports, can be obtained it will all have to be correlated and evaluated to determine if and where ^{more be done and how monies} further work ^{will have to be spent in order to} determine if there are, in fact, potentially developable ^{ore} reserves on the properties.

If this data is not available an extensive and expensive exploration campaign will have to be implemented if it is determined advisable to attempt to develop ore reserves on the property.

Marston, Winfrey and Henstead in their book, ENGINEERING VALUATION AND DEPRECIATION, have the following to say concerning the valuation of mines, at pages 365 and 366:

"Valuation of Mining Properties in Various Stages of Development. Occasionally, an appraiser is called upon to indicate what might be the value of the mineral rights of a property in one of its several stages of development. What importance he attaches to the prospective earnings which may be derived from these lands depends much on the stage of development of the property as a mine.

"The first stage is illustrated by the situation when a landowner merely supposes that valuable deposits are present. The land may be in the vicinity of valuable deposits, or the owner may be just optimistic. In such cases, the mineral rights are without value until the existence of a profitable deposit is proved.

(B)

(A)

value of
whole is
greater than
sum of parts

① untested
② mill
③ secured
④ reduced
new
loss

(C)

"The next stage of development can be described by the situation when some prospecting has been done. Then there is some geological or other reason to suspect that there might be valuable deposits present. Probably these deposits are valuable, but to the appraiser this value will be a minimum because there are so many uncertainties to be estimated--transportation, probably investment required to obtain the mineral, mining costs, and the unknown quantity and quality of the deposit.

"The third state is illustrated by the situation when some mineral has been found, but the amount, position, quantity, and quality of the deposit are still unknown. The same factors mentioned in the preceding paragraph are undetermined; hence the value of the deposit is nominal. However, there may be justification for a decision by the owner to go ahead and obtain many of the answers to the above uncertainties.

"The fourth state of development is reached when a fair amount of exploratory work has been done. Test holes have been drilled and samples taken. Maps have been prepared, and it is now possible to make some kind of estimate of the quality and quantity of the mineral deposit. Since an enterprise has not yet been organized, the evidences of value mentioned in Sec. 18.2 pertaining to the present investment, the stock and bond value, and the market value are not applicable. The primary evidence of value necessarily is based on the estimated earnings of the prospective enterprise. The appraiser should then proceed to estimate the cost of developing the deposit, the probably income, and the accompanying production costs which could be expected over a specific number of years. From these estimates he may obtain the earning value of the venture which he may use as the warranted investment. This process of determining the earning value of an undeveloped mining reserve is illustrated in detail in Sec. 18.6."

The development of the mineral potential of the Rawhide prospect, for a large low-grade deposit of gold and silver ore, can be considered to be in the third stage of development, as outlined in the above quotation. Further exploratory work must be done before the property can be considered to have more than entered the fourth stage of development. Although some test holes have been drilled and some samples taken, the detailed assay grades and values, resulting from this limited test work are not available, and even if they were, there would not be sufficient data with which to establish ore reserves.

The Rawhide prospect can be considered to be in "the third stage" of development, since some mineral has been found but the amount, position, quantity, and quality of the deposit is still unknown. The same factors mentioned in the preceding paragraph are undetermined (see quote); hence, the value of the deposit is nominal.

In order to reach the fourth stage of development, so that it is "possible to make some kind of estimate of the quality and quantity of the mineral deposit," a great deal more work must be done. Watts, Griffin and McQuat in their letter of July 23, 1974, consider that to accomplish this, necessary exploration would take an expenditure of approximately \$500,000.

Open pit mining at Rawhide will have a certain amount of environmental impact. The fact that Rawhide is of historical interest, as a ghost mining camp, may well increase the costs of environmental renewal.

V

CONCLUSION

A firm appraisal value of the ~~Rawhide Yost-Denton~~ *DUNNING-DENTON* Project cannot be made at this time because of the lack of pertinent data. Much more work needs to be done on this project before ore reserves can be calculated.

Conceivably, a seller and a buyer could come to an agreement as to their idea of the present value of the property. This compromise value would not be based upon a formal appraisal, but would represent the seller's preconceived idea of the mining value of the property and the buyer's idea regarding the mining value of the property, coupled with his philosophy of the risk he is willing to take in a mining venture.

At this time, since no ore reserves can be established on which to fix the value of the prospect, the price of the property should be regarded to be the same as that of the nearby grazing land.

Respectfully submitted,

J. McLaren Forbes

For bargaining purposes, although it would not be a valid appraisal, one might be able to make a survey of reported prices, asked for and obtained, for patented claims in similar proximity to previously mined areas in Mineral county. Such a valuation could give an emotionally based dollar value from which to begin the bargaining process.

ESTIMATE of POTENTIAL ORE TONNAGES on the two DUNNING DENTON contiguous groups.

* Note: The following estimates are extrapolations from the aforementioned table covering the Hawkhide area of Canada's report, giving Canada's possible grades

CANADA		Possible Grade	DUNNING DENTON CONTIGUOUS Groups
A.	Hootegan Hill Area 1,600,000 tons	\$2.50-3.00/ton	$\frac{1}{4}$ th - 400,000 tons OWL #1 MS 3637
B.	North Murry - South Balloon Hills 7,400,000 tons	\$3.00 \pm /ton	$\frac{1}{3}$ rd ± 2,400,000 tons Porters BALD HORNET FRACTION + EARLY BIRD MS 3750
C.	North Balloon Hill ± 1,000,000 tons	\$3.00 \pm /ton	$\frac{1}{3}$ rd ± 300,000 tons MASCOT No. 1 MS 3622
D.	West Gravel Hill ± 1,000,000 tons	\$3.00 \pm /ton	± 1,000,000 tons MASCOT No. 1 MS 3622
E.	Silver Hill Area ± 2,000,000 tons	\$? /ton	? ?
F.	Crazy Hill, Etc. 1,000,000 tons	\$? /ton 3¢	LM No. 1 LM No. 2 MS 3716 ± 1,000,000

Canada maps and report
These ~~maps~~ do not give assay values in ounces per ton

of gold and silver, but only a dollar value that is the

sum of the gold and silver values for each sample interval.

gold plus silver
Canada's maximum combined/dollar value is \$3.00 per ton. One Deposit
of The Western States on page 636 states that in the Rawhide dis-
trict, "the ratio of gold to silver, is 1:14."
Using a possible gold and silver ratio of 1 part gold.

to 14 parts ~~xxx~~ of silver, by weight, (paragraph 3, page 8

of this report) the gold and silver values, based on Canada's

\$3.00 combined value per ton, calculate to be 0.056 ounces

per ton in gold and 0.80 ounces per ton in silver. At

\$35.00 per ounce gold and \$1.29 per ounce silver, the dollar

value is @ \$1.96 per ton gold and \$1.03 per ton silver,

or a total of \$2.99. When using ^{per ton} ~~at~~ today's/metal prices, ^{precious}

\$400.00 per ounce for gold and \$8.00 per ounce of silver,

Canada's \$3.00 value becomes ~~\$22.40 per ton~~ ^{\$28.80 per ton for the combined} for gold and silver value

~~\$22.40 per ton for the gold~~ and ~~\$6.40 per ton for silver~~, with a combined value of ~~\$28.80 per ton~~.
per ton.

Assuming a recovery of 80% of the gold and 60 % of the silver,

^{\$17.92}
the recoverable value becomes ~~\$17.92~~ per ton for

gold and ^{3.84} ~~\$6.40~~ per ton for silver, with a combined grade value

of \$21.76 per ton. ^{per ton} \$21.76 is very close to the marginal

grade of ore that can ^{profitably} be mined, at this time, unless conditions

are exceedingly favorable.

M E M O R A N D U M

October 6, 1976

To: Walther, Key and Maupin, Attorneys at Law
Reno, Nevada

From: Ward Carithers, Consulting Mining Geologist
Reno, Nevada

Subject: Denton Lease of Grutt, Dunning et al. claim group
Rawhide district, Mineral County, Nevada

In accordance with a request from Mr. J. McLaren Forbes, I have reviewed my office file on the Rawhide district and herewith submit a summary of what I believe to be the exploration possibilities in this district, and how they may pertain to the subject claim group. This information is based chiefly on notes and other data acquired during an examination of the Rawhide district in 1963 when I was District Geologist for AMAX, Inc., a major mining company. Since then, my knowledge has been updated from time to time by brief visits to the area and by conversations with other geologists who have worked there.

The rocks of the Rawhide district consist of a series of Tertiary volcanics (flows and tuffs) which have been locally brecciated, silicified, argillized and laced by thin quartz veinlets. These veinlets commonly contain small amounts of gold and silver, and from place to place within the district they may range in intensity from a few per cubic yard to many per cubic yard. So, as the mineralization appears related to the intensity of the veining, the gold-silver content of the rock may also range from very minor amounts to as much as several tenths of an ounce of gold and several ounces of silver per ton.

Production of gold and silver from Rawhide during the period 1906 (when first discovered) through 1940 (the last year of recorded production) amounts to about \$1.5 million from a total of 71,000 tons of ore. This averages about \$21 per ton with gold at \$20 per oz and silver about 60¢ per oz, but most of this

production was reportedly from a few small pockets of rich ore which were hand-sorted and shipped directly to a smelter. As this was the type of ore wanted--and needed--by the early operators, essentially all of the district's underground exploration and development work was directed toward the finding of more of the rich shoots. Unfortunately, the ratio of success to the amount of digging done and money spent was very low, and further work toward finding these small high-grade pockets at Rawhide is no longer considered to be economically feasible. Instead, particularly since World War II, attention has been focussed on bulk sampling in order to learn whether or not the mineralization is disseminated through a sufficient area to encourage looking for a large-tonnage, low-grade gold-silver deposit which might be amenable to large-scale, open pit operations.

Some work has also been done toward evaluating the placer occurrences of gold in gullies tributary to the Rawhide area. Indeed, some gold has been produced, mostly by small-scale dry washing of ground close to the deposits, but efforts toward developing sizeable amounts of placer ground have not been successful. Persons knowledgeable in placers do not believe this type of mining has possibilities, but most feel that some of the ground might be worked in conjunction with a large hard-rock operation.

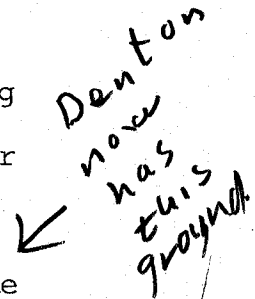
During my 1963 examination of Rawhide, a study was made of data developed during the 1950s, chiefly by Yuba Consolidated Goldfields Corporation under the direction of Jack Bishop, a consulting engineer now living in Mina, Nevada. His work involved a modest amount of bulk sampling of old dumps and surface cuts and the drilling of a few short diamond-drill and wagon-drill holes. Most of the analytical results are shown on the map of the "Dunning-Denton" claims compiled by J. McL. Forbes, the original data apparently having been passed along via the map Forbes referred to as the Grasset Lake Mines Ltd. Map. Unfortunately,

the values given are in dollars per ton based on \$35 per oz gold and about 90¢ per oz silver. An estimate of each value at today's prices can be made by multiplying the value by about 3.5, but as considerable silver is known to occur with the gold, the resulting figure is not an accurate one.

These data are, of course, not sufficient for a conclusion that an ore deposit actually exists at Rawhide but, coupled with the field relationships as well as additional data, they show that:

- (1) Widespread, low-grade gold-silver mineralization does exist in the district; and
- (2) Some of the better-grade mineralization appears to occur along certain structural zones which may offer potential targets for further exploration. These are:
 - (a) A zone trending northeastward from the Truett shaft on the Happy Hooligan claim, possibly to Balloon Hill. The present Denton Lease does not include this ground.
 - (b) Another zone probably extends northward across Grutt Hill, mostly within the Denton Lease.
 - (c) Possibly two zones extend easterly across Murray Hill, one in the vicinity of the Murray Hill shaft and the other near the Bald Hornet shaft; most, but not all of the ground is within the Denton Lease.

Denton
now
has
this
ground



None of these zones is positively delineated, however, and as indicated above, there is no assurance at present that they contain mineralization of an economic grade. That will have to be shown (or disproven) by further sampling and testing with drill holes; then, if preliminary results are encouraging, feasibility studies will be in order.

The first stage of this work--exploration by further sampling and drill-hole testing--appears warranted on the basis of the favorable gold-silver analyses now available. Before doing this, however, it is believed important to have a better property position in the district than is now held. It is my understanding that the Denton Lease includes only the 25 claims commonly known as the "Grutt property". As indicated above, this ground appears to contain most of the Murray Hill and Grutt Hill areas, but not the Hooligan Hill-Balloon Hill zone, which is in the central part of the district and the locus of most of the past work and production. This ground and also the fringes of the other possible zones are held by Nevada Rawhide Mines Company and are commonly known as the Scheeline claims. Also, the Denton Lease does not hold more than 50 percent of the Morning Star and Grey Eagle Fraction claims which are likewise on the fringes of the Murray Hill and Grutt Hill zones, respectively. Some control over these adjacent properties is certainly desirable before beginning extensive work, for in the event ore is found, it will likely extend into this neighboring ground, and dealing for the properties will be easier now, before exploration, than after.

Assuming that a satisfactory property agreement is arranged, a preliminary exploration phase can be initiated roughly as follows:

- (1) A survey will be required to accurately show all mine workings, dumps and physical features of the district, and a compilation of existing data should be made on a set of maps at a scale of 1" = 50'. This will require about a month's time for two men and cost an estimated \$6,000.
- (2) A detailed geological map of the district coupled with bulldozer work and additional sampling and assaying will be necessary to delineate any zonal distribution of gold-silver values. This will require the services of a geologist and helper for about two months and will cost an estimated \$30,000.

(3) A drill pattern can then be laid out over the main areas of interest to test the mineralization to a depth of about 250 to 300 feet. It is difficult to predict how much drilling will be required until after the geology mapping is completed, but one can guess about 3,000 feet of dry rotary and/or hammer drilling at a direct cost of \$7.50 per foot. Indirect costs for supervision, geology and assaying will amount to about \$3.00 per foot. This job, then will require about two months to complete at an estimated cost of \$31,500.

If this preliminary program costing an estimated \$67,000 is successful in indicating that a potential ore deposit exists, considerable further delineation drilling coupled with bulk sampling, preliminary metallurgical testing and mine-mill studies will be required to conclude its economic feasibility, and this will probably cost several hundred thousand dollars. But on the other hand, if the preliminary program is not successful, further interest in the Rawhide prospects will likely not be warranted under present economic conditions.

WARD CARITHERS
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1750 ALEXANDER HAMILTON DRIVE
RENO, NEVADA 89502

TELEPHONE
702/322-6406

PROFESSIONAL RESUME

August 6, 1974

Education

Washington State University, Pullman, Washington
B. S. Mining Geology, 1937
Honorary, Sigma Gamma Epsilon, 1936

Various short courses attended from time to time include:
Geochemical exploration, USGS field courses
Geophysical exploration, Symposium, Univ. of California
Airphoto interpretation, USGS, Denver, Colorado
Mining and Ecology, Symposium, Univ. of Arizona

Experience

- 1937-42 Howe Sound Company, Holden, Wash.: miner, sampler and stope engineer at a 2,500 tpd underground Cu-Au-Zn mine.
- 1942-46 Washington State Division of Mines and Geology, Olympia, Wash.: field and staff geologist, making examinations and reports on districts and commodities related chiefly to the war effort.
- 1946-49 Howe Sound Company, Holden, Wash.: mine geologist, mine mapping and ore grade control.
- 1949-52 Calera Mining Company, Cobalt, Idaho: chief geologist, responsible for ore development, planning and grade control at a new 1,000 tpd Co-Cu-Au underground mine.
- 1952-53 New Jersey Zinc Co. and Cyprus Mines Corp., Prescott, Arizona area: field geologist exploring for sulfide-type deposits in Precambrian rocks.
- 1953-54 Partner, Carithers and Moores, operator of a small silver mine near Crown King, Arizona.
- 1954-55 Atomic Energy Commission, Grand Junction, Colo.: district geologist, in charge of uranium geologic work by 10 to 12 geologists in the Four Corners area.
- 1955-56 Gulf Minerals Company (subsidiary of Gulf Oil Corp.), Salt Lake City, Utah: district geologist in charge of mineral exploration in the northwestern U. S.

Experience--continued

1956-67 American Metal Climax, Inc., Denver, Colo.: senior exploration geologist, work in geologic reconnaissance and project management in the U. S., Puerto Rico and Canada; district geologist for Nevada-California 1962-67.

1967- Consulting Mining Geologist, chiefly in minerals exploration and development. The following are among the firms who have used my services:

Climax Molybdenum Company
Mines Park, Golden, Colo. 80401

Quintana Minerals Corporation
1215 Royal Trust Tower, Vancouver 1, B. C.

Cerro Corporation
300 Park Avenue, New York, N. Y. 10020

Congdon and Carey, Ltd.
1010 Denver Center Bldg., Denver, Colo. 80203

Idaho Mining Corporation
P. O. Box 2183, Grand Junction, Colo. 81501

Accomplishments

Publications in mining geology:

Directory of Washington mining operations: Wash. Div. Mines and Geology Inf. Circ. 3 and 5, 1942, 1945.

Geology and ore deposits of the Sultan Basin, Washington:
Wash. Div. Mines and Geology Bull. 65, 1945.

Pumice and pumicite deposits of Washington: Wash. Div. Mines and Geology Rpt. Inv. 15, 1946.

Diamond drilling with reverse water flow: Eng. and Mining Jour., May 1952.

Uranium in shoreline sandstones of terrestrial and marine origin: in
Contributions to the geology of uranium and thorium, U. S. Geol.
Survey Prof. Paper 300, 1956.

Structural geology of the Candelaria silver deposits, Mineral County,
Nevada: in preparation.

Accomplishments--continued

Associated with the discovery of the following new mineral deposits:

- *Pumice deposits, State of Washington 1945.
- *Copper Queen copper-zinc deposit, Bagdad, Arizona 1953.
- *Ilmenite deposits, Lakehurst, New Jersey 1957.
- Hector borate deposit, San Bernardino County, California 1958.
- Big Ben molybdenite deposit, Montana 1959-60.
- *Rio Vivi porphyry copper deposit, Puerto Rico 1961.
- *Big Mike copper deposit, Nevada 1968.
- Adelaide molybdenite deposit, Nevada 1970.

*Has operated or is planned for operation.

Professional Affiliations

Registered Professional Mining Engineer, State of Washington.
Registered Professional Geological Engineer, State of Nevada.
Registered Geologist, State of California.
American Institute of Mining Engineers
Society of Economic Geologists
Geological Society of Nevada
Nevada Mining Association

References

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Box 2183
Grand Junction, CO 81501

W. P. Johnston, Consulting Mining Geologist
140 Washington Street
Reno, NV 89503

Thomas G. Moore, Consultant
AMAX Exploration Inc.
4704 Harlan Street
Denver, CO 80-12

Arthur Baker III, Dean
Mackay School of Mines
University of Nevada
Reno, NV 89507

Victor L. Stevens, Mining Consultant
821 Kearns Building
Salt Lake City, UT 84101

Personal Data

Birthdate: 19 November 1913
Birthplace: Auburn, Washington
Height: 5'7"
Weight: 155 lbs.
Health: Good
Marital Status: Married. Esther Selma Haga
Coeur d'Alene, ID, 1940
Four children, all grown, college education, married.
Second Language: Spanish, weak.


Ward Carithers

