



## **CONTACT INFORMATION**

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1520 West Adams St.  
Phoenix, AZ 85007  
602-771-1601  
<http://www.azgs.az.gov>  
[inquiries@azgs.az.gov](mailto:inquiries@azgs.az.gov)

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Arizona Department of Mines and Mineral Resources Mining Collection

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L. LAND (A) YUMA

**VERDESTONE GOLD, INC.**

P.O. Box 1210  
Lake Havasu City, AZ 86405-1210  
602-680-9369

August 31, 1993

Dan Maxwell  
Southwest Exploration  
Silver City, N.M.  
Fax 505 538 2576

Dear Dan;

In regards to a joint venture of the Verdestone project in Arizona my thoughts are as follows:

1. For supplying the working capital to develop the property Southwest would be operator and receive 50% of the net.
2. As operator, Southwest would receive a fee of X % of the direct operating expenses. This fee to be determined in advance of mining.

I look forward to discussing this concept with you soon and/or listening to ideas you might have.

Sincerely;



Mike Schroder

CYPRUS MIAMI MINING  
ANALYTICAL LABORATORY

Post Office Box 4444  
Claypool, Arizona 85532

D. G. SAMUELS

# ANALYTICAL CERTIFICATE

MIAMI, ARIZONA

PROJECT SMELTER  
TYPE Verde Stone Silica

DATE: 13-Jul-93

SAMPLE NAME 930625-12  
DATE SUBMITTED 06-93  
PERSON SUBMITTING Al Binegar

%	Cu	0.04
%	SiO2	81.1
%	Al2O3	6.9
%	CaO	0.4
%	Fe	2.6
%	S	<.1
opt	Au	0.524
opt	Ag	5.08
Total:		91.0

APPROVED: \_\_\_\_\_



U.G. SAMPLES

<b>Product</b>	Silica Ore	<b>Date:</b>	08/23/93
<b>Shipper</b>	Mr. Mike Schroder	<b>Quote Wkly. Avg:</b>	08/13/93
<b>Telephone</b>	(602) 680 9369	<b>Mine</b>	
<b>Address</b>	P.O. Box 1210	<b>Location</b>	
<b>City, State, ZC.</b>	Lake Havasu City, AZ. 86405	<b>Reserves Tons</b>	0
<b>Company</b>	Verdestone Gold, Inc.	<b>Size</b>	0.00 In.
<b>Sample No.</b>	930625-12	<b>Ratio</b>	

ASSAY		ANALYSIS		Total = 91.19 %		
Au (gms/mt) = 18.0	% Pb	Lim = 0.1 max	0.00	% Zn	Lim = 0.01 max	0.00
Au (oz/st) = 0.524	% Cu		0.040	% As	Lim = 0.05 max	
Ag (gms/mt) = 208.5	% SiO <sub>2</sub>	Lim = 79 min.	81.10	% Sb	Lim = 0.05 max	
Ag (oz/st) = 6.08	% Fe	Lim = 3 max	2.60	% Bi	Lim = 0.05 max	
	% Al <sub>2</sub> O <sub>3</sub>	Lim = 6 max	6.90	% Ni	Lim = 4.00 max	
	% CaO	Lim = 3 max	0.40	% F	Lim = 0.15 max	0.15

**PAYMENTS**

	Deduct	Pay for	\$ Avg	Deduct	Amt. (\$)
	TroyOz/DryTon	Diff.	Loc. Quot.	\$ / TroyOz	
<b>GOLD</b>	0.02	95.0 %	378.390	2.39	177.82
			H&H Quot.	\$ 0.35 / TO	
<b>SILVER</b>	1.00	95.0 %	4.635	1.69	20.68
	Percentage		Common Int.	\$ 0.15 / Lb	
<b>COPPER</b>	0.50 %	95.0 %	0.887		
			LRM	\$ 0.15 / Lb	
<b>LEAD</b>	0.50 %	95 %	0.340		

Sub.: \$198.50  
 Base: \$33.35  
 Pena.: \$0.00  
 Net: \$164.25

**DEDUCTIONS** Subtotal: \$198.50

<b>Base Charge \$ 15.00 / Dry net ton (2000#), if sum of Au, Ag, Cu is greater than \$ 15.00 else add 10.00 % of the excess over such payments of \$ 15.00</b>	
Base Charge Amount	\$15.00
Excess Amount	\$18.35
Base Total Amount	\$33.35
Cu Freight	\$0.00
<b>Silica [Available silica = SiO<sub>2</sub> - (1.3 X Fe)] = 77.7 %</b>	<b>PENALTY</b>
(Available below 75%, Charge \$1.00/%)	\$0.00
<b>Iron (Fe) If &gt;3.00 % Charge \$0.35/% excess</b>	\$0.00
<b>Limerock if &gt;3.00 % Charge \$0.50/% excess</b>	\$0.00
<b>Alumina</b>	
If >6.00 % Charge \$1/% excess	\$0.90
If >10% Charge \$10/D/Ton + \$1/% excess	\$0.00
<b>Fluorine</b>	
If >0.15 % Charge \$5 per 0.10% up to 0.20%	
If >0.20% Charge \$10 per 0.10%	
<b>Moisture if &gt; 6 % Charge \$ 0.25 / % excess</b>	\$0.00
6.00% H <sub>2</sub> O Content	
<b>Subtotal Deductions:</b>	<b>\$34.25</b>
<b>Total Net to Shipper per Dry Ton:</b>	<b>\$164.25</b>
<b>Total Amount for 80.00 M.D.T equivalent to 88.00 S.D.T. =</b>	<b>\$14,454</b>
M.D.T. = Metric Dry Ton & S.D.T. = Standard Dry Ton	

2 Mining & Processing Assoc.  
July 1982

HIGH-GRADE.....

ALASKA...

State has signed contract for study on the likelihood and timing for development of high-value metal deposits in the state. The three month study will examine chromium, cobalt, nickel, and platinum, and will determine the prices at which the metals would have to be sold to make mining economical.

ARIZONA...

Rea Petro Corp., listed on Vancouver Stock Exchange, has obtained Oakland mine claims in Yuma County.

CALIFORNIA...

California Silver Ltd. and Atlas Corp. have agreed to joint venture to develop the Zaca gold and silver property in Alpine County. Exploration reports have suggested that the property has the potential for a 60 million-st deposit to be mined open-pit.

COLORADO...

Todilto Exploration and Development Corp. has obtained approval from Rio Grande National Forest to explore for silver on Lammoth Mountain, east of Creede.

IDAHO...

Coeur d'Alene Mining District produced metals in 1981 worth \$236,218,000 compared to \$334,319,000 in 1980. 1981 production was composed of 15,243,000 oz of silver, 44,732 st of lead, 39,318 st of zinc, 3,178 oz of gold, and 3,988 st of copper.

NEVADA...

The Sixteen to One mine in Silver Peak owned by Sunshine Mining Co., came fully on line during the first quarter of this year and is expected to produce about 1 million oz of silver and 4,000 oz of gold during the balance of the year. According to Sunshine, production costs at the mine are approximately one-third below those at the Idaho operation.

ONTARIO...

Canada Development Corp. (CDC) has completed acquisition of Kidd Creek Mines, Ltd. and Canadian oil, gas, sulphur, and potash operations of Texasgulf Inc. Kidd Creek Mines, now wholly owned subsidiary of CDC, produces zinc, copper, silver, lead, tin and cadmium from Timmins, Ontario operation and potash through its 40% interest in the Allan mine in Saskatchewan.

WISCONSIN...

Exxon Minerals plans to build a wastewater treatment system for their proposed zinc and copper mine near Crandon. The plans involve recycling of all mining water into treatment ponds for purification, and will produce water whose purity surpasses federal drinking water standards. The water treatment system will cost up to \$23 million to install and \$2 million a year to operate and plans must be approved by government agencies before construction can start.

\* \* \* \* \*

The total amount of land used for mining coal and nonfuel minerals in the past 50 years amounted to only 0.25% of this country's total land mass, says a report issued by the Bureau of Mines. The report tabulates land use and reclamation data from 1930 through 1980. During the period, mining used 5.7 million acres and almost half of that amount has been reclaimed or reconditioned, the report says.



Page 3

EXHIBIT (A)

<u>CLAIM NAME</u>	<u>NUMBER</u>	<u>BLM SERIAL NUMBER</u>	<u>DOCKET</u>	<u>PAGE'S</u>
DIXIE M	1	A MC 105352	1168	91&92
DIXIE M	2	A MC 107929	1173	98&99
DIXIE M	3	A MC 107930	1173	100&101
DIXIE M	4	A MC 107931 <i>6/6/50</i>	1173	102&103
DIXIE M	5	A MC 144055	1250	278&279
DIXIE M	6	A MC 144066	1250	280&281
DIXIE M	7	A MC 144007	1250	282&283
DIXIE M	8	A MC 144008	1250	284&285
DIXIE M	9	A MC 144009	1250	286&287
DIXIE M	10	A MC 144010	1250	288&289
DIXIE M	11	A MC		
DIXIE M	12	A MC		
DIXIE M	13	A MC		
DIXIE M	14	A MC		
DIXIE M	15	A MC		
DIXIE M	16	A MC		
DIXIE M	17	A MC		
DIXIE M	18	A MC		
DIXIE M	19	A MC	1269	327&328
DIXIE M	20	A MC	1269	329&330
DIXIE M	21	A MC	1269	331&332
DIXIE M	22	A MC		

*Carl w clark  
Dixie m clark  
George w clark morgan  
anna morgan*

Claim Name	NO.	BLM SERIAL NO.	BOOK	PAGE'S
Phyllis	1		1204	994-995
Phyllis	2	AMC 126490	1204	996-997
Phyllis	3	AMC 126491	1204	998-999
Phyllis	4	AMC 126492	1205	01- 02
Phyllis	5	AMC 126493	1205	03- 04
Phyllis	6	AMC 126494	1205	05- 06
Phyllis	7	AMC 126495	1205	07- 08
Phyllis	8	AMC 126496	1205	09- 10
Phyllis	9	AMC 126497	1205	11- 12
Phyllis	10	AMC 126498	1205	13- 14
Phyllis	11	AMC 126499	1205	15- 16
Phyllis	12	AMC 126581	1205	17-18
Phyllis	13	AMC 126582	1205	19- 20
Phyllis	14	AMC 126583	1205	21-22
Phyllis	14	AMC 126584	1205	
Oakland	13	A MC 144003	1250	290&291
Oakland	14	A MC 144004	1250	292&293

CLAIM NAME	NO.	BLM SERIAL NO.	DOCKET	PAGE'S
C.C.RIDER	1	A MC 119790	1199	829&830
C.C.RIDER	2	A MC 119791	1199	827&828
C.C.RIDER	3	A MC 119792	1199	831&832
C.C.RIDER	4	A MC 119793	1199	833&834
C.C.RIDER	5	A MC 126500	1206	776&777
C.C.RIDER	6	A MC 126501	1206	778&779
C.C.RIDER	7	A MC 126502	1206	780&781
C.C.RIDER	8	A MC 126503	1206	782&783
C.C.RIDER	9	A MC 126504	1206	784&785
C.C.RIDER	10	A MC 126505	1213	289&290
C.C.RIDER	11	A MC 126506	1213	291&292
C.C.RIDER	12	A MC 126507	1206	786&787
C.C.RIDER	13	A MC 126508	1206	788&789
C.C.RIDER	14	A MC 126509	1206	790&791
C.C.RIDER	15	A MC 126510	1206	792&793
C.C.RIDER	16	A MC 126511	1206	794&795
C.C.RIDER	17	A MC 126512	1206	796&797
C.C.RIDER	18	A MC 126513	1206	798&799
C.C.RIDER	19	A MC 126514	1206	800&801
C.C.RIDER	20	A MC 126515	1206	802&803
C.C.RIDER	21	A MC 126516	1206	804&805
C.C.RIDER	28	A MC 134293	1235	761&762
C.C.RIDER	29	A MC 134294	1235	759&760
C.C.RIDER	30			
C.C.RIDER	31	A MC 134295	record info to be added	757&758

CLAIM NAME	NO.	BLM SERIAL NO.	BOOK	PAGE'S
Oakland	4	AMC 112543	1187	9 & 10
Oakland	5	AMC 112544	1187	11 & 12
Oakland	6	AMC 112545	1187	13 & 14
Oakland	7	AMC 111644	1173	116 & 117
Oakland	8	AMC 111645	1173	118 & 119
Oakland	9	AMC 111646	1173	120 & 121
Oakland	10	AMC 111647	1173	122 & 123
Oakland	11	AMC 111648	1173	124 & 125
Oakland	12	AMC 111649	1173	126 & 127
Verdstone	14	AMC 126488	1213	293&294
Verdstone	15	AMC 126489	1213	295&296
Verdstone	6	AMC 105356	1168	99 & 100
Verdstone	7	AMC 105357	1168	101 & 102
Verdstone	8	AMC 105358	1168	103 & 104
Verdstone	9	AMC 105359	1168	105 & 106
Verdstone	10	AMC 105360	1168	107 & 108
Verdstone	11	AMC 105361	1168	109 & 110
Verdstone	12	AMC 111642	1173	106 & 107
Verdstone	13	AMC 111643	1173	108 & 109
Bronco	2	AMC 105353	1168	93 & 94
Bronco	4	AMC 105354	1168	95 & 96
Bronco	5	AMC 105355	1168	97 & 98
Bronco	6	AMC 111641	1173	104 & 105
Bronco	7	AMC 134292	1235	755 & 756



# United States Department of the Interior

IN REPLY REFER TO

PDO 3800 (027)

BUREAU OF LAND MANAGEMENT

PHOENIX DISTRICT OFFICE  
2929 WEST CLARENDON AVENUE  
PHOENIX, ARIZONA 85017

March 25, 1982

*circulate*

Mr. Mike Greeley  
Department of Mineral Resources  
416 West Congress  
Tucson, AZ 85701

Dear Mike:

Your conversation with our Area Geologist, Richard Park, was most enjoyable and informative and he looks forward to meeting you.

In regard to the mining operation that you had an inquiry about, as mentioned in a Canadian newspaper, we have the following information. The Rea Petro (pronounced Ray) Corporation has leased several claims in Township 1 South, Range 14 West, Sections 3 and 10. These are surrounded by a wilderness study area, AZ-2-126A, the Little Horn Mountains West. They have contracted the F.M.S. Consulting, Inc. to prospect and assay the claims. A local driller is currently drilling cores for assay and delineating quartz veins that seem to be carrying some gold. A Carl W. Clark has the rest of the area claims but they all lie within the W. S. A. (Wilderness Study Area).

The Socorro Peak activity will soon be starting according to Jerry Siro, the caretaker, watchman of the claims. He is very familiar with the area and quite knowledgeable about the mineralization and past activity. The Socorro Peak geology is well covered in the Bureau of Geology and Mineral Technology Circular 20, titled, "Geology of the Socorro Peak area, Western Harquahala Mountains," by Robert J. Varga.

I have enclosed for your information Notices of Intent to Conduct Mining Operations we have received since the first of the year plus a list of plans of operations we have on file. Most of the mining is for gold, but the black sands in the placers have defeated most all of the operations; others are still trying. There are a few occurrences of sheelite, wolframite, powellite and wulfenite, also one or two barites; and, of course, we have mother lodes of osmium and palladium, and one of columbite lantalite and microlite. Out in the Bouse area, we have a flurry of samarskite. We only record those latter ones when we see the assay and production records, and none seem to be available. Now our geologist must explain to these claimants what it is they claim to be mining. He has fun.

We have been remiss in keeping your Phoenix Office current with the activity in our area, and we hope you can appraise them of the activity we enclose with this letter.

Feel free to call our area geologist, Richard Park, at 241-2947, for questions and, or information.

Sincerely,

A handwritten signature in cursive script, reading "M. Dean Durfee". The signature is written in dark ink and is positioned below the word "Sincerely,".

M. Dean Durfee, Area Manager  
Lower Gila Resource Area

Enclosures



1-558 Howe Street  
Vancouver, B.C. V6C 2C9  
Telephone: 684-7527

February 2, 1982

Mr. R.J. Gauthier-Warinner  
District Geologist  
Phoenix District Office  
BLM  
2929 W. Claredon Avenue  
Phoenix, AZ  
85017

Dear Sir:

Please find enclosed our 'Mining Plan of Operations' with regard to our proposed drilling project on the Verdstone claim.

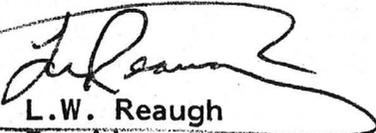
As you are aware, any work on Verdstone is covered under the "Grandfather" clauses under FLPMA rules as in 1940 28.5 tons were mined and shipped to ASARCO and such rock graded (by ASARCO) 0.46 oz./ton gold and 4.70 oz./ton silver, thus substantiating a major discovery.

The proposed work program is designed to continue the evaluation that has been carried out in the area since 1956 by R.L. Fancher and G. Morgan continuously. We plan on continuing to prove the mineral worth, both of the claims described and the related ground controlled in the area.

We request as rapid a decision on the merits of the request as possible as diamond drills are relatively hard to obtain and our contractor can commence drilling as soon as the BLM agrees to the work plan.

Thank you for your early attention to this matter.

Yours truly,



L.W. Reaugh  
President

LWR/ero  
encl.

**F. MARSHALL SMITH, P.ENG.**

**CONSULTING GEOLOGIST GEOCHEMIST**

6580 MAYFLOWER DRIVE  
RICHMOND, B.C.  
CANADA V7C 3X6

PH. (604) 271-6556

*International Inn, Salavall*









H. RECLAMATION MEASURES

Describe measures to be taken to prevent unnecessary and undue degradation. Describe plans for reclamation of disturbed areas and for erosion control including provisions for filling excavation, grading of soil bank, closing of access roads, reseeding, etc. Reference to the site map. (Use additional sheets if necessary)

All areas to be diamond drilled have extensive trenching, road construction and clearing. Any new clearing (sumps) will be returned to the original contours before the area is abandoned. Sumps will remain active for at least two years as drilling will take at least one and one half years to complete.

As vegetation is at a minimum, no seeding will be attempted.

I. PERIODS OF NONOPERATION

If extended periods of nonoperation are contemplated, the following measures will be taken to maintain and reclaim the land to avoid erosion:

NOT APPLICABLE

J. COMMENCEMENT OF OPERATIONS

Desired start-up date is: \_\_\_\_\_ as soon as possible \_\_\_\_\_. (A date not to precede plan approval)

K. OTHER RULES AND REGULATIONS

Note: Under 43 CFR 3833, All Mining Claims in Arizona must be filed with the Bureau of Land Management, Valley Bank Center, Phoenix, AZ 85073.

The operator should be familiar with the State Mining Codes administered by the Arizona Mine Inspector, regulations administered by the Arizona Department of Environmental Quality regarding hazardous and toxic substances, and regulations administered by USDI Mine Safety and Health Administration.

L. ENCLOSURES

1. Exhibit A - Map of general area showing mining claims.
2. Exhibit B - Operations site map.

SUBMITTED BY:

Signature: \_\_\_\_\_



Date: \_\_\_\_\_

February 2, 1982



*Handwritten notes:*  
Vancouver by MS  
10

## REA GOLD CORPORATION

March 28 1985

### NEWS RELEASE

NEW ZONE DISCOVERED ON B.V.O. PROPERTY, ARIZONA  
REA GOLD LISTED ON NASDAQ MARCH 28 1985

Larry W. Reaugh, President of Rea Gold Corporation, is pleased to announce that a mineralized shallow dipping quartz breccia zone has been discovered at surface, approximately 850 feet southwest of the known mineralization on the Verdstone deposit. The zone strikes north, northeast and dips  $-20^{\circ}$  east, southeast.

Three reverse circulation drill holes tested 125' of the strike, two of which intersected the following mineralized sections.

<u>Hole No.</u>	<u>Footage</u>	<u>True Width</u>	<u>Au/oz/ton</u>	<u>Ag/oz/ton</u>
85 - 21	35' - 60'	25'	.038	.294
85 - 27	40' - 60'	20'	.050	.343

The strike length of the new zone has been traced for 450 feet to where it disappears under the alluvial. Potential for new reserves on the discovery is unlimited at this time.

--- 2

GOLD & SILVER EXPLORATION & MINING DEVELOPMENT  
P.O. Box 12137, Nelson Square, 501 - 808 Nelson Street  
Vancouver, British Columbia V6Z 2H2, Canada (604) 684-7527  
Ticker Symbol: REO Telex: 04-352848VCR

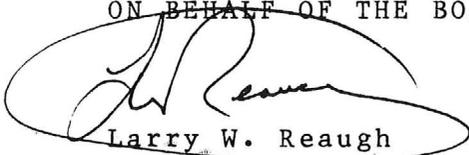
Additional assays from the step-out drilling on the main Verdstone vein are:

<u>Hole No.</u>	<u>Footage</u>	<u>True Width</u>	<u>Au/oz/ton</u>	<u>Ag/oz/ton</u>
85 - 5	55' - 60'	5'	.045	.880
85 - 12	145' - 160'	15'	.042	.370
85 - 13	165' - 215'	50'	.041	.580
85 - 24	85' - 90'	5'	.040	.850

The B.V.O. project is a Joint-Venture with Lincoln Resources Inc.

REA GOLD HAS BEEN ACCEPTED FOR TRADING ON NASDAQ AS OF MARCH 28 1985. TICKER SYMBOL REOGF.

ON BEHALF OF THE BOARD

  
Larry W. Reaugh  
President

The Toronto Stock Exchange and the Vancouver Stock Exchange have neither approved nor disapproved the information contained herein.



1-558 Howe Street  
Vancouver, B.C. V6C 2C9  
Telephone: 684-7527

January 12, 1982

News Release

Larry Reaugh, President is pleased to announce that Rea Petro has obtained gold and silver epithermal vein deposits in Yuma County, Arizona. The claims cover an old showing that has not had any exploration since 1940 when 28 tons of broken ore was shipped to Asarco, Hayden Arizona Smelter. Payment by Asarco was based on the grades of .46 oz. gold/ton and 4.70 oz. silver/ton.

Rea Petro sent three prominent engineers, F. Marshall Smith P.Eng., Victor Ryback-Hardy P. Eng, both from Vancouver, Canada, and Norman Grant P. Eng. from California to evaluate this property in November-December, 1981. From the preliminary and evaluation studies conducted by Ryback-Hardy and Smith, the property shows a potential of proving up substantial reserves of gold and silver. The recent assays taken from this property are -

.265 Au	1.56 Ag
.545 Au	5.20 Ag
.618 Au	2.30 Ag
.366 Au	1.00 Ag
.255 Au	4.22 Ag

The average of these values (0.41 oz. gold/ton and 2.9 oz. silver/ton) represents expected run of mill ore. These numbers substantiate the past mill returns on test shipments.

Rea Petro has commenced extensive engineering and feasibility studies on the property to substantiate the tonnage of mineral reserves estimated by previous engineers and geologists. Results will be announced as they are received.

  
Larry W. Reaugh  
President

LWR/ero

## OATMAN OR SAN FRANCISCO DISTRICT

### SITUATION AND ACCESSIBILITY

The Oatman district, which includes the Vivian, Gold Road and Boundary Cone localities, covers an area of about 10 miles long by 7 miles wide on the western slopes of the southern portion of the Black Mountains, in western Mohave County. It is also called the San Francisco district, which is sometimes regarded as including also the Union Pass district, described on pages 101-108.

Oatman, the principal settlement, is 29 miles, via U. S. Highway 66, from Kingman, on the Santa Fe Railway. Numerous secondary roads lead from this highway to the individual properties.

### HISTORY AND PRODUCTION<sup>107</sup>

During the early sixties, soldiers from Camp Mohave, at the Colorado River, carried on prospecting in this region. In 1863 or 1864, John Moss is reported to have taken \$240,000 worth of gold from a pocket in the Moss vein. The Hardy, Leland, and Gold Dust veins were found soon afterwards, but the prominent

<sup>105</sup> Oral communication from E. Ross Householder.

<sup>106</sup> Work cited, p. 215.

<sup>107</sup> Largely abstracted from the following sources: Ransome, F. L., *Geology of the Oatman gold district, Arizona*: U. S. Geol. Survey Bull. 743, 1923.

Lausen, Carl, *Geology and ore deposits of the Oatman and Katherine districts, Arizona*: Univ. of Ariz., Ariz. Bureau of Mines Bull. 131, 1931.

Schrader, F. C., *Mineral deposits of the Cerbat Range, Black Mountains, and Grand Wash Cliffs, Mohave County, Arizona*: U. S. Geol. Survey Bull. 397, 1909.

Tenney, J. B., unpublished notes.

## STRUCTURE SECTIONS OATMAN DISTRICT

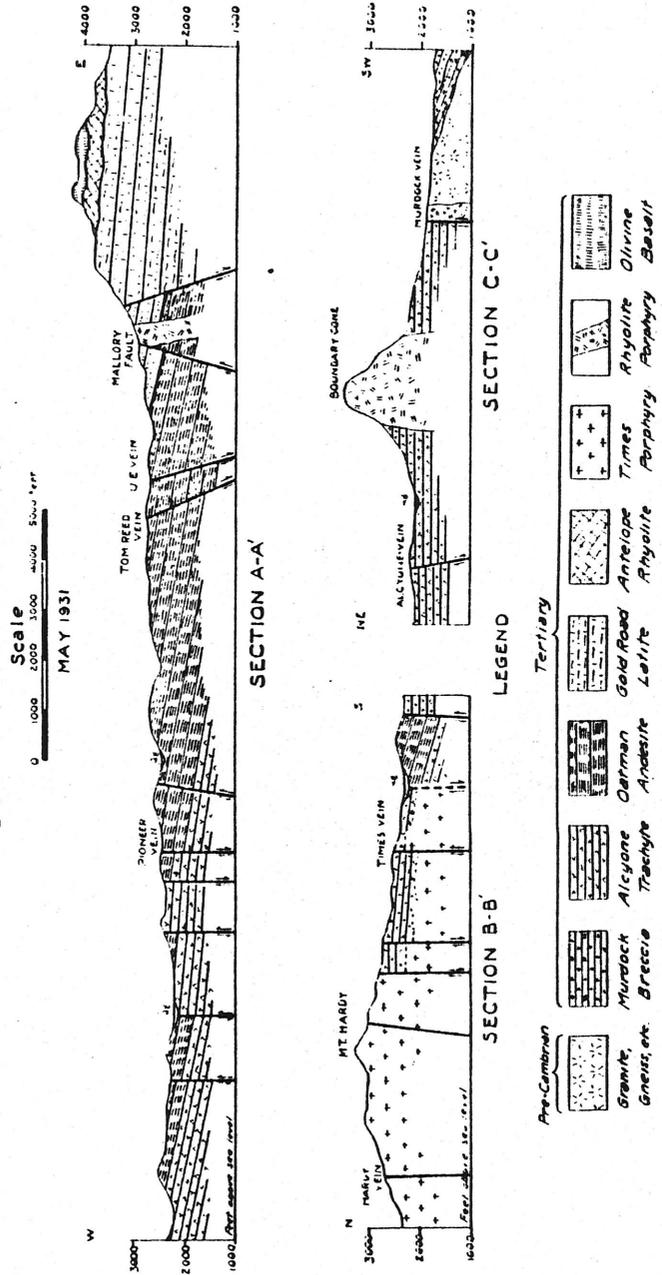


Figure 4.—Structure sections of the Oatman district, along lines indicated in Plate I, by Carl Lausen.

**PRODUCTION, OATMAN DISTRICT.**  
(Figures compiled by J. B. Tenney)

Year	Tom Reed		United Eastern		Gold Road		Total Production				REMARKS Includes also production from the following:	
	Tons Ore and Tails	Total Value Dollars	Tons ore	Total Value Dollars	Tons ore	Value Dollars	Tons ore	Value Gold Dollars	Oz. Silver	Total Value Dollars		
1897 to 1907					Approx. 100,000	\$2,250,000						
1908							100,000		Approx. 40,000	\$ 2,522,000	Leland.	
1909	Approx. 40,000	\$ 1,037,911			Approx. 70,000	739,400			6,522	269,711	Also Sheep Trail* and Victor.	
1910							18,106	300,036	7,118	303,737	Also Sheep Trail* and Victor.	
1911	43,924	835,048†					89,284	1,103,221	26,254	1,117,398	Also Sheep Trail* and Victor.	
1912	55,663	1,154,559†			Approx. 120,000	676,600	110,899	1,458,639	33,834	1,476,571	Gold Crown and Ruth.	
1913	48,110	1,141,907†			109,070	665,783	174,319	1,794,847	41,456	1,820,342		
1914	46,995	1,002,407†			103,629	676,515	159,984			1,818,522		
1915	29,916	661,871†	Discovered		107,846	843,991	160,469			1,846,398	Gold Crown, Ruth, London.	
1916	46,170	486,678†	Developed		96,272	651,761	132,579			1,499,033	Frisco*, Banner, Ruth.	
1917	81,884	620,179†	84,543	\$1,827,670	Developed		95,245	692,681	23,812	908,349	Gold Dust, Orphan*.	
1918	88,525	794,383†	92,339	2,072,359	Developed		167,258	2,310,270	57,353	2,357,529		
1919	89,557	679,986†	97,325	1,970,509	Shut Down		182,824	2,772,991	70,432	2,843,423	Gold Ore, New Philadelphia, Orphan,* Pioneer.	
1920	93,970	705,657†	102,926	2,233,819			184,490	2,556,197	71,883	2,636,650	Arabian,* Gold Trails, Pioneer.	
1921	69,832	377,992†	97,413	1,910,054			197,629	2,630,731	92,806	2,931,890	Green Quartz, Thumb Butte.	
1922	43,072	463,118	117,667	1,643,909	Mine Reopened		179,013			2,388,050		
1923	42,814	538,366	104,800	2,085,075	31,109	Approx. 150,000	169,240			2,138,546	United American, Telluride, Oatman United.	
1924	14,586	181,936	Closed June	Approx. 1,000,000	Closed	October	186,686	2,796,830	68,551	2,853,042	Oatman United, Gold Dust, Orphan*.	
1925	35,448	494,829	Dump Ore Treated	Approx. 60,000			96,783	1,017,196	39,097	1,043,391	Telluride, United American, Gold Dust.	
1926	21,261	283,595	Leased	Approx. 50,000	Leased		33,826	502,019	11,721	510,153	Lexington, Apex, Pioneer.	
1927	17,259	161,461					29,721	395,971	9,964	402,188	Oatman United, Gold Dust, Sheep Trail*.	
1928	7,672	118,275					15,028	147,899	4,708	180,268		
1929	Approx. 4,000	113,230					11,817	147,389	4,152	149,818	Western Apex, United American.	
1930	Approx. 20,000	Approx. 500,000					4,430	118,516	4,068	120,684	Sunnyside, Vivian, Arabian,* Keystone.	
1931	43,436	Approx. 700,000					28,048	580,768	18,274	587,803	United American, Pioneer, Telluride, Vivian.	
TOTAL	Approx. 984,090	Approx. \$13,053,400	Approx. 697,036	Approx. \$14,853,395	Approx. 737,926	Approx. \$6,654,050	45,414	706,767	21,771	713,106	Pioneer, United American, Big Jim, Sunnyside.	

†Tom Reed production in fiscal year April to April.

\*Union Pass District.

outcrops of the Tom Reed and Gold Road veins remained untested for many years. The town of Silver City grew up at a watering place on Silver Creek, about one mile south of the Moss lode, and a small mill was established at Hardyville, on the Colorado River. Some ore was treated in arrastres and in this mill, but the results were disappointing.<sup>108</sup> After the 1866 outbreak of the Hualpai Indians, the district was practically abandoned for several years.

A revival in activity took place in 1900 when rich ore was found in the Gold Road vein. In 1901, the Gold Road Company sank the Tom Reed and Ben Harrison shafts to a depth of 100 feet. The Leonora mill, at Hardyville, operated during part of 1901 and 1902 on ore from the Moss and Hardy veins. During 1903 and 1904, the Mohave Gold Mining Company did considerable work on the Leland property. The Blue Ridge Gold Mines Company produced ore from the Tom Reed vein during part of 1904-1905. In 1906, the Tom Reed Gold Mines Company purchased the mine, developed high-grade ore, and, in 1908, started production which continued through 1931. The Gold Road mine produced intermittently until 1916. The town of Oatman was started about 1912.

During 1915 and 1916, a \$6,000,000 ore body was developed in the United Eastern mine. The fact that this ore shoot did not outcrop prompted scores of wildcat promotions, but these efforts proved to be largely futile.

In 1916, the Big Jim Mining Company found an important ore body on their Big Jim claim, immediately northeast of the Grey Eagle and the Black Eagle claims of the Tom Reed Company. Further work indicated that the Tom Reed or Grey Eagle vein is the upper, downfaulted portion of the Big Jim vein. The displacement, principally along the Mallery fault, amounts to about 400 feet. In 1917, the United Eastern Company purchased the Big Jim ground, but two years later the Tom Reed Company brought suit to establish its apex claim to the Big Jim vein. The courts, however, decided against the Tom Reed Company on the grounds that the amount of horizontal displacement could not be proven.

In 1924, the United Eastern ore body became exhausted, and the mine was closed. Considerable diamond-drill prospecting was done, but with unsatisfactory results.

During the past several years, except for an interval from early 1932 to early 1934, the Tom Reed 250-ton cyanide mill has run partly as a customs plant.

During 1933, and early 1934, the principal operations in the district were carried on by lessees in the Big Jim mine, the ore from which was treated in the Telluride mill. Early in 1934, development was being carried on at several properties, principally the

<sup>108</sup> Raymond, R. W., *Statistics of mines and mining in the states and territories west of the Rocky Mountains, 1871*, p. 265.

Tom Reed and Rainbow mines.

As shown in the accompanying table, the Oatman district to the end of 1931 produced more than \$34,500,000 worth of gold. The 1932 production amounted to \$71,410.

#### TOPOGRAPHY AND GEOLOGY<sup>109</sup>

The southern portion of the Black Mountains consists of a very ruggedly dissected, gently eastward-dipping block of Tertiary volcanic rocks which rest upon a basement of pre-Cambrian gneiss and granite.

The Oatman district is in a belt of rugged foothills at the western base of the mountains, mainly between altitudes of 2,000 and 3,200 feet. Eastward, the range rises with deeply dissected, step-like cliffs to a maximum elevation of about 5,000 feet above sea level or 4,500 feet above the Colorado River.

Gulches which are dry except during rainy seasons carry the run off from this side of the mountains westward to the Colorado River. A few small perennial springs issue from tuffaceous beds, particularly in Silver Creek.

The principal formations, as mapped by Ransome and by Lausen, consist of a few patches of gneiss and granite on the west, overlain by a thick series of trachytes, andesite, latite, tuffs, rhyolite, and basalt. Intrusive into parts of this series are monzonitic, granitic, and rhyolitic porphyrys. The relations of these rocks are shown by Lausen's map (Plate I) and sections (Figure 4). The most important ore-bearing formation is the Oatman andesite which Schrader<sup>110</sup> termed the "green chloritic andesite."

These formations are cut by numerous faults of prevailingly northwestward strike and steep northeastward dip.

#### DISTRIBUTION OF VEINS

Ransome states that the veins of the Oatman district occur within fissures along which faulting has taken place, as a rule before, during, and after the period of vein formation. In general, no sharp distinction between faults and veins can be made, although some fissures, such as the Mallery fault, are younger than the veins. As indicated on Plate I, the veins occur rather widely distributed, and the most productive ones are in the northeastern half of the district.

#### FORM OF VEINS

Some of the veins have tabular forms but the larger ones are essentially stringer lodes of complex structure. Compound veins, which consist of two or more veins separated by country rock with stringer veinlets, are common (see Plate II). Many of the veins are lenticular in all dimensions; a strong vein may pinch out within a few tens of feet, and an insignificant stringer may

<sup>109</sup> Largely abstracted from Ransome, F. L., work cited, pp. 8-32; Lausen, Carl, work cited, pp. 18-55.

<sup>110</sup> Schrader, F. C., work cited, pp. 34-37.

thicken to considerable width within a distance of 30 feet. It is stated that few of the veins attain maximum widths of more than 50 feet. Some of the outcrops, as that of the Gold Road vein, are very conspicuous, but others, like that of the United Eastern, are scarcely noticeable.

Only very small, commercially unimportant placers have been formed.

#### MINERALOGY

The gangue of the Oatman vein consists mainly of quartz and calcite, either of which may predominate. According to Ransome, the vein material that consists entirely of quartz or calcite is generally of very low grade or barren. Microscopic adularia is common constituent of the gold-bearing quartz. Fluorite occurs in some of the veins, but is very rare in the larger ore bodies. Gypsum and kaolin are locally abundant in the oxidized zone.

The metallic minerals consist of free gold and rare pyrite and chalcopyrite. This gold is characteristically fine grained and generally can be seen only in rich ore.

#### STAGES OF MINERAL DEPOSITION

Ransome<sup>111</sup> says: "The individual veins and stringers appear banded in cross section, showing that the vein minerals were deposited in successive layers from the walls to the middle of the fissure.

"In a broad way in the Oatman veins the deposition of fine-grained white quartz, which has, in part at least, replaced andesite and contains little or no gold, has been followed by the deposition of the gold-bearing quartz accompanied by some calcite and adularia, followed in turn by barren calcite. This general sequence, however, is certainly far from being the complete record."

Lausen,<sup>112</sup> after further detailed work in the district, has recognized five stages of vein filling, each of which has its distinctive type of quartz. He summarizes their characteristics in the following table:

<sup>111</sup> Work cited, pp. 33-34.

<sup>112</sup> Work cited, pp. 63-72.

SUMMARY OF THE CHARACTERISTIC FEATURES OF THE VARIOUS STAGES OF QUARTZ DEPOSITION.

Stage	Texture	Color	Range of oz. gold per ton.	Ratio of gold to silver.	Relative Distribution in the veins.
1st	Coarse to fine grained.	Colorless, white amethystine.	Up to 0.06	1 to 6	Abundant.
2nd	Fine grained. Often shows casts of calcite.	White, rarely yellow	Up to 0.08	1 to 6	Abundant.
3rd	Fine grained Banded	Various colors.	0.06 to 0.40	2 to 3	Relatively scarce.
4th	Fine grained. Often shows casts of platy calcite.	Pale green to yellow.	0.20 to 1.00	1 to 2	Abundant only in ore shoots.
5th	Fine to medium grained. Usually banded.	Pale to deep honey-yellow.	1.00 up	4 to 1	Abundant only in ore shoots.

Detailed descriptions and photographs of these five stages of quartz are given in Lausen's report. Only the commercially important third, fourth, and fifth stages will be considered here.



Plate II.—View showing structure of the Gold Road vein, Oatman district.  
Photograph by Carl Lausen.

*Third stage:* Lausen says: "This variety of quartz is extremely fine grained, often chalcedonic, and consists of alternate layers of slightly different color. (See Plate.III). Usually, it is a creamy white with thin bands of pale brown. Sometimes the broader bands are a delicate lavender between layers of white and yellow . . . Very thin layers or partings of calcite may be seen in some specimens . . . This type of quartz has a rather limited distribution. In the Gold Road and Gold Ore veins, much of the vein filling is of this type. Smaller amounts may be seen at various other mines, notably at the Pioneer.

"Values of this type of quartz range from 0.06 to 0.40 ounces in gold and 0.18 to 0.24 ounces of silver per ton. The average ratio of gold to silver is 2 to 3.

"Calcite again followed the deposition of quartz and is usually

flesh-colored. It occurs as thin plates, sometimes as much as 6 inches across."

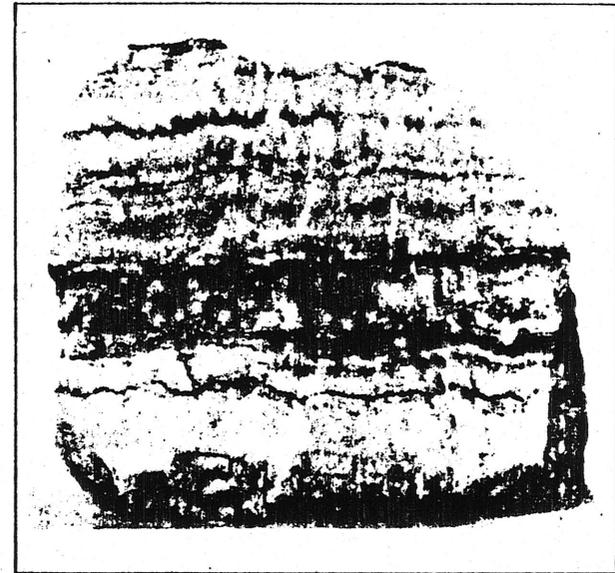


Plate III.—Banded quartz of the third stage of deposition, Oatman district.  
Photograph by Carl Lausen.

*Fourth stage:* Lausen describes this quartz, which contains pseudomorphs of platy calcite (see Plate IV), as follows: "The

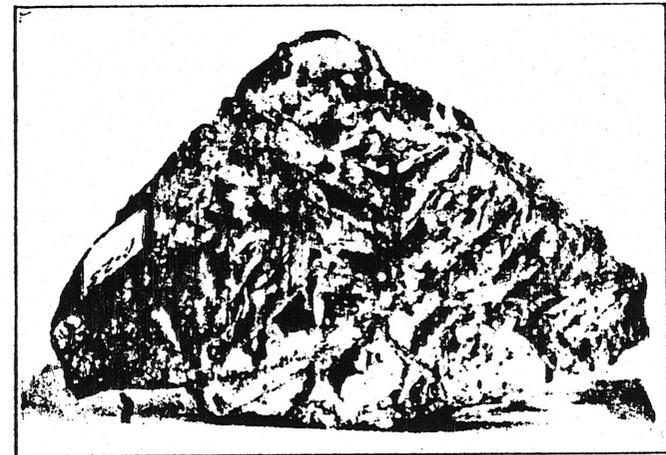


Plate IV.—Quartz of the fourth stage of deposition, Oatman district.  
Photograph by Carl Lausen.

color is invariably yellow or greenish, but the oily luster is absent except in such specimens as have a banded structure. The banded structure is best seen where the earlier stages of mineral

filling have been shattered and this later quartz introduced into the fractures.

"A microscopic examination of this quartz shows . . . occasional grains and crystals of adularia.

"In the Oatman district, this type of quartz occurs at practically all the mines that have produced gold . . . Assays of such quartz range from 0.20 to 1.00 ounces in gold and 0.24 to 2.34 ounces in silver per ton. The ratio of gold to silver is approximately 1 to 2.

"The calcite formed upon this pseudomorphic quartz occurs as very thin lamellae which form a somewhat compact mass of curved plates. The calcite has a pearly luster and is the most distinctive variety of this mineral in all the stages of mineral deposition in these veins. A broad band of the calcite, several inches wide, may be traversed by thin layers of the yellow quartz which show a rhythmic alteration of quartz and calcite."

"Fifth stage: The vein filling of this stage of mineralization was deposited in open fissures upon the earlier stages of vein filling or upon rock fragments. Banding is well developed and crenulation in the bands is very pronounced.

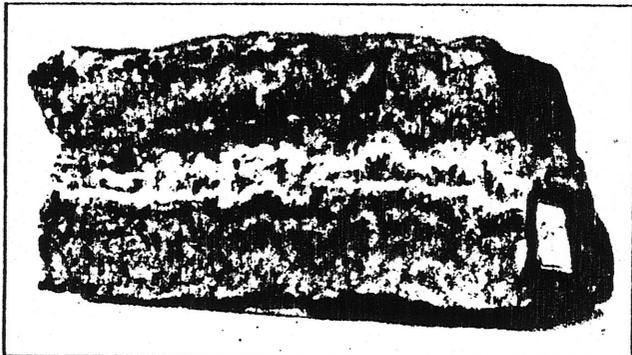


Plate V.—Quartz (dark) and adularia (white band) of the fifth stage of deposition, Oatman district.

Photograph by Carl Lausen.

"The quartz of this last stage of mineralization is yellow and, often, olive-green in color. It invariably shows an oily luster . . . The size of the quartz grains varies from fine to coarse, and, usually, the darker-colored bands are somewhat coarser in texture . . . Layers of quartz are often separated by bands of snow-white adularia that vary in width from a small fraction of an inch up to 2 inches. Occasionally, the quartz and adularia are separated by a thin parting of calcite.

"Gold is often concentrated in certain bands as clusters of small grains. Adjoining bands of quartz may contain only isolated grains . . . Usually the coarse crystals of adularia contain very little gold.

"Assays of this stage of deposition always show commercial values and range from one ounce of gold per ton up . . . The average ratio of gold to silver is 4 to 1.

"The calcite that followed the deposition of the fifth-stage quartz is transparent, colorless, and usually well crystallized."

#### WALL-ROCK ALTERATION

In general, the wall rocks of the veins show alteration to quartz, chlorite, and pyrite. Ransome mentions also sericite as a wall-rock alteration product in the Oatman andesite.

#### ORE SHOOTS

The ore shoots of the Oatman district are characteristically lenticular in plan and irregular in longitudinal section. Many of them are narrow but some are wide, as, for example, the Unit Eastern ore body which had a maximum width of 48 feet. The most productive ore shoots of the district were in the Unit Eastern, Tom Reed, and Gold Road mines. Their distribution and approximate size in these mines, as indicated by areas of stoping, are shown on Figure 5. Ransome states that good ore has been found in some ten or twelve veins, and some are credited with outputs amounting to a few thousand dollars, but these ore bodies have been small.

As recounted in the descriptions of the individual mines, the gold and silver content of the ores decreased rather sharply with depth. Very little ore has been found in the district below a depth of 1,000 feet. The average value of the ore mined from 1908 to 1928 was \$12.37 per ton.

Although the largest known ore bodies occur in the Oatman andesite, productive ones have been found in various other formations. Vein-intersections appear to have been generally barren. The ore shoots were evidently localized within certain relatively permeable channels which resulted from faulting, but an understanding of the various structural features involved will be possible only after much further detailed geologic work.

#### ORIGIN OF THE ORES

The veins of the Oatman district are of the epithermal bonanza type characteristic of Tertiary volcanic activity. The ores were deposited by ascending thermal solutions at depths of not more than about 3,000 feet below what was then the surface. The interpretation of the rather limited vertical range of deposition is that of rapid decrease in the temperature and pressure of the solutions near the surface.

Ransome found no evidence of downward enrichment of the gold. In fact, the general abundance of calcite in these veins would tend to prevent any important supergene enrichment of the gold except where there existed channels that were inert to acid solutions. Furthermore, the amount of pyrite available to form acid is very small in comparison to the amount of calcite in the veins.



## REA GOLD CORPORATION

March 28 1985

### NEWS RELEASE

#### NEW ZONE DISCOVERED ON B.V.O. PROPERTY, ARIZONA REA GOLD LISTED ON NASDAQ MARCH 28 1985

Larry W. Reaugh, President of Rea Gold Corporation, is pleased to announce that a mineralized shallow dipping quartz breccia zone has been discovered at surface, approximately 850 feet southwest of the known mineralization on the Verdstone deposit. The zone strikes north, northeast and dips  $-20^{\circ}$  east, southeast.

Three reverse circulation drill holes tested 125' of the strike, two of which intersected the following mineralized sections.

<u>Hole No.</u>	<u>Footage</u>	<u>True Width</u>	<u>Au/oz/ton</u>	<u>Ag/oz/ton</u>
85 - 21	35' - 60'	25'	.038	.294
85 - 27	40' - 60'	20'	.050	.343

The strike length of the new zone has been traced for 450 feet to where it disappears under the alluvial. Potential for new reserves on the discovery is unlimited at this time.

--- 2

GOLD & SILVER EXPLORATION & MINING DEVELOPMENT  
P.O. Box 12137, Nelson Square, 501 - 808 Nelson Street  
Vancouver, British Columbia V6Z 2H2, Canada (604) 684-7527  
Ticker Symbol: REO Telex: 04-352848VCR

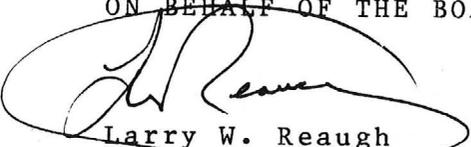
Additional assays from the step-out drilling on the main Verdstone vein are:

<u>Hole No.</u>	<u>Footage</u>	<u>True Width</u>	<u>Au/oz/ton</u>	<u>Ag/oz/ton</u>
85 - 5	55' - 60'	5'	.045	.880
85 - 12	145' - 160'	15'	.042	.370
85 - 13	165' - 215'	50'	.041	.580
85 - 24	85' - 90'	5'	.040	.850

The B.V.O. project is a Joint-Venture with Lincoln Resources Inc.

REA GOLD HAS BEEN ACCEPTED FOR TRADING ON NASDAQ AS OF MARCH 28 1985. TICKER SYMBOL REOGF.

ON BEHALF OF THE BOARD



Larry W. Reaugh  
President

The Toronto Stock Exchange and the Vancouver Stock Exchange have neither approved nor disapproved the information contained herein.

Claim Name	NO.	BLM SERIAL NO.	BOOK	PAGE'S
Phyllis	1		1204	994-995
Phyllis	2	AMC 126490	1204	996-997
Phyllis	3	AMC 126491	1204	998-999
Phyllis	4	AMC 126492	1205	01-02
Phyllis	5	AMC 126493	1205	03-04
Phyllis	6	AMC 126494	1205	05-06
Phyllis	7	AMC 126495	1205	07-08
Phyllis	8	AMC 126496	1205	09-10
Phyllis	9	AMC 126497	1205	11-12
Phyllis	10	AMC 126498	1205	13-14
Phyllis	11	AMC 126499	1205	15-16
Phyllis	12	AMC 126581	1205	17-18
Phyllis	13	AMC 126582	1205	19-20
Phyllis	14	AMC 126583	1205	21-22
Phyllis	14	AMC 126584	1205	
Oakland	13	A MC 144003	1250	290&291
Oakland	14	A MC 144004	1250	292&293

CLAIM NAME	NO.	BLM SERIAL NO.	DOCKET	PAGE'S
C.C.RIDER	1	A MC 119790	1199	829&830
C.C.RIDER	2	A MC 119791	1199	827&828
C.C. RIDER	3	A MC 119792	1199	831&832
C.C.RIDER	4	A MC 119793	1199	833&834
C.C.RIDER	5	A MC 126500	1206	776&777
C.C.RIDER	6	A MC 126501	1206	778&779
C.C.RIDER	7	A MC 126502	1206	780&781
C.C.RIDER	8	A MC 126503	1206	782&783
C.C.RIDER	9	A MC 126504	1206	784&785
C.C.RIDER	10	A MC 126505	1213	289&290
C.C.RIDER	11	A MC 126506	1213	291&292
C.C.RIDER	12	A MC 126507	1206	786&787
C.C.RIDER	13	A MC 126508	1206	788&789
C.C.RIDER	14	A MC 126509	1206	790&791
C.C.RIDER	15	A MC 126510	1206	792&793
C.C.RIDER	16	A MC 126511	1206	794&795
C.C.RIDER	17	A MC 126512	1206	796&797
C.C.RIDER	18	A MC 126513	1206	798&799
C.C.RIDER	19	A MC 126514	1206	800&801
C.C.RIDER	20	A MC 126515	1206	802&803
C.C.RIDER	21	A MC 126516	1206	804&805
C.C.RIDER	28	A MC 134293	1235	761&762
C.C.RIDER	29	A MC 134294	1235	759&760
C.C.RIDER	30			
C.C.RIDER	31	A MC 134295	1235	757&758

CLAIM NAME	NO.	BLM SERIAL NO.	BOOK	PAGE'S
Oakland	4	AMC 112543	1187	9 & 10
Oakland	5	AMC 112544	1187	11 & 12
Oakland	6	AMC 112545	1187	13 & 14
Oakland	7	AMC 111644	1173	116 & 117
Oakland	8	AMC 111645	1173	118 & 119
Oakland	9	AMC 111646	1173	120 & 121
Oakland	10	AMC 111647	1173	122 & 123
Oakland	11	AMC 111648	1173	124 & 125
Oakland	12	AMC 111649	1173	126 & 127
Verdstone	14	AMC 126488	1213	293&294
Verdstone	15	AMC 126489	1213	295&296
Verdstone	6	AMC 105356	1168	99 & 100
Verdstone	7	AMC 105357	1168	101 & 102
Verdstone	8	AMC 105358	1168	103 & 104
Verdstone	9	AMC 105359	1168	105 & 106
Verdstone	10	AMC 105360	1168	107 & 108
Verdstone	11	AMC 105361	1168	109 & 110
Verdstone	12	AMC 111642	1173	106 & 107
Verdstone	13	AMC 111643	1173	108 & 109
Bronco	2	AMC 105353	1168	93 & 94
Bronco	4	AMC 105354	1168	95 & 96
Bronco	5	AMC 105355	1168	97 & 98
Bronco	6	AMC 111641	1173	104 & 105
Bronco	7	AMC 134292	1235	755 & 756



**HOMESTAKE**  
MINING COMPANY

155 GLENDALE, SUITE 18, SPARKS, NEVADA 89431

EXPLORATION DIVISION  
MAILING ADDRESS

(702) 331-6980

February 23, 1988

Anna and George Morgan  
1210 North 35th Street  
Phoenix, Arizona 85008

Dear Anna and George:

Here, at long last, is a copy of the B.V.O. report. (257 Pages)  
The report should be self-explanatory but if you have any questions, please call.

As mentioned last time we met, the project has moved into our "Prospect Development" status and we hope to resume drilling shortly.

I look forward to visiting with you again soon.

Kindest Regards,

*Michael D. Johnson*  
Michael D. Johnson  
Senior Exploration Geologist

MDJ/nlm  
E/01

Enclosure

B.V.O. AGREEMENT EXECUTED  
JULY 8, 1987

THIS REPORT WRITTEN JANUARY 1988  
257 Pages

Oakland C  
Mine R/F  
sub-set

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*NOTE: BLOCKED-OUT MATERIAL IS  
IRREL. ANT and REDUNDANT. 2/27/71.*

## SUMMARY AND RECOMMENDATIONS

The name BVO is an acronym for Bronco, Verdstone and Oakland. These are the three principal targets within the property area. Work to date by Homestake at BVO has included surface and underground mapping, geochem sampling, of the entire area and 6,376.5 feet of reverse circulation drilling within the three principal target areas.

The property is located in the Little Horn Mountains, approximately 90 miles west-southwest of Phoenix, Arizona. Geology within the property consists of a Tertiary granitic basement overlain by Miocene volcanics and sedimentary rocks, with Quaternary basalt flows capping the highlands. Gold mineralization is associated with:

- 1) a low angle "detachment fault"
- 2) silicified stockworks

Mineralization consists of micron to coarse sized gold and silver particles encapsulated by silica. Preliminary metallurgical testing indicates a potential recovery of >85 percent using conventional methods (grinding, flotation and cyanidation of the tails).

Current geologic mineral inventory for two target areas, Verdstone and Bronco, based on all drilling in the property to date is:

<u>Cutoff opt Au</u>	<u>Tons Ore</u>	<u>Grade</u>	
		<u>Au</u>	<u>Ag</u>
.01	1,672,000	.061	.77
.03	810,000	.108	1.20
.04	672,000	.131	1.39
.06	405,000	.174	1.50
.10	321,000	.211	1.89

Potential exists for additional tonnage in extensions of the existing mineral inventory and within untested geochemical and hypothetical targets within the property.

It is recommended that the project be advanced to the Target Evaluation stage and that an aggressive drilling program be undertaken to take the property to the next decision point.

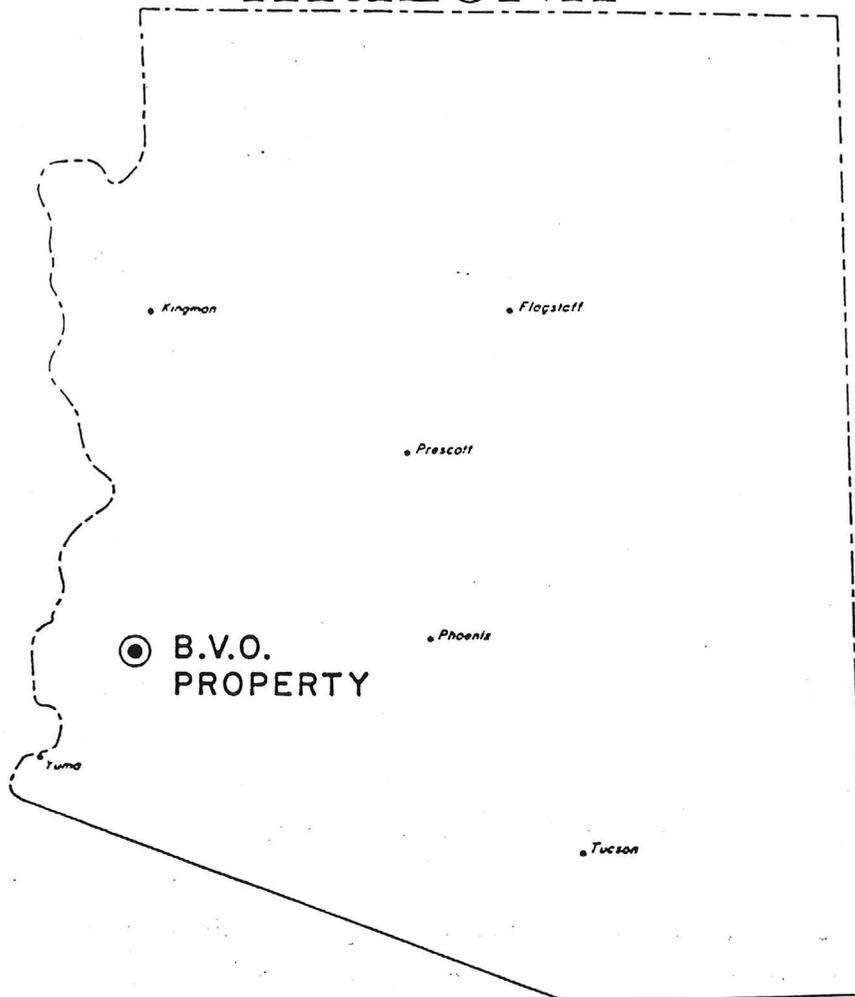
## FIGURES

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## APPENDICES

- Appendix 1 Claim List, Claim Map and Assessment Affidavits
- Appendix 2 Leases
- Appendix 3 Petrology (plus sample location map)
- Appendix 4 Metallurgy
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# ARIZONA



## Location Map

HOMESTAKE MINING COMPANY

**B.V.O. PROPERTY**  
YUMA AND LA PAZ  
COUNTIES, ARIZONA

DATA: M. Johnson  
DRAFTED BY: RDS - bw

DATE: Dec., 1987  
REVISIONS:

HOMESTAKE



Fig. 1

## INTRODUCTION

### Location and Access

The property is located <sup>IN</sup> on the borders of La Paz and Yuma County, Arizona, (Sections ~~3 and 10~~ <sup>2, 3, 10, 11, 14 & 15</sup> Township 1 South, Range 14 West). The property lies approximately 90 miles west of Phoenix and 30 miles east of Quartzite (Fig. 1).

Access from Phoenix is via Interstate 10 to the Hovatter Road turnoff and then south on graded ~~roads and~~ roads approximately ~~22~~ <sup>15</sup> miles to the property. ~~The final 2 miles of roads are in Yuma County and are in poor condition. Cost of improving this stretch of road would be considerable.~~

Fuel and food are available at the <sup>VICKSBURG ROAD</sup> interstate turnoff. However, the nearest overnight accommodation is at Salome approximately ~~one~~ <sup>35 MILES</sup> ~~hours drive~~ north of the property.

A major electric transmission line and gas pipeline are located approximately 10 miles north of the property. The nearest railroad (Atcheson-Topeka and Santa Fe) is located at Salome.

### History

The area is dotted by numerous shallow prospect pits and shafts. The only major mine on the <sup>BVO</sup> property is the Oakland Mine.

Production figures are missing for this mine, but it is believed that a minor amount of hand cobbled gold and silver ore was shipped to the Sheep Tank's Mine for processing.

Manganese oxides are associated with the gold and silver mineralization and minor amounts have been produced from various localities within the property. This manganese production usually occurred during periods when the price was government supported.

The Sheep Tank's Mine is the largest mine in the district, and is located approximately 4 miles northwest from BVO. The mine was discovered in 1920 and subsequently produced 21,000 ounces of gold



[REDACTED]

## GEOLOGY

### Regional Geology

BVO is located in the desert subregion of the Basin and Range physiographic province in southwestern Arizona. The province is west-northwest of the Mesozoic porphyry copper belt and southwest of the Colorado Plateau. The province extends northwest into eastern California, and west into the Salton Sea.

The Basin and Range subprovince shares geologic features of the Arizona porphyry belt, the Colorado plateau and the Basin and Range province of Nevada. The geology, within this province comprises of Precambrian crystalline complexes overlain by Paleozoic to Mesozoic strata characteristic of the Colorado Plateau. Scattered throughout the area are acidic to intermediate Mesozoic to early Cenozoic plutons and remnants of late Tertiary volcanic sequences. Rocks of the province are disrupted by regional thrust faults, detachment faults and high angle normal Basin and Range faults.

### Local Geology

Oldest rocks at BVO are biotite-rich granites believed to be of Miocene age. These rocks underlie the property and generally outcrop intermittently in drainages.

Lying unconformably over the granites are a series of igneous rocks of acid (rhyolites) to intermediate (trachites) composition. These rocks vary in texture from porphyritic to tuffaceous. Within the igneous extrusive suite "moat" or lake bed deposit of sedimentary rocks

are found which include sandstone and limestones. These sedimentary rocks have a limited strike length and are usually narrow. Age of these igneous and sedimentary rocks is believed to be Miocene.

Unconformably above the Miocene volcanic suite are Quaternary basaltic flows and agglomerates. Quaternary sand silt and gravel are found coating valley floors. Calcrete and caliche cement talus covered slopes generally (Fig. 2).

Faulting is common, and there appears to be at least two ages:

- 1) The oldest set are flat lying, detachment type, with dips of 10 to 20 degrees generally, but locally steepening to 30 and 40 degrees. These faults appear to control and contain about half the mineralization found on the property. The faults wrap around the topography, but are discontinuous due to offsets by steeper faults. The faults contain local zones of intense brecciation, with quartz and calcite cement.
- 2) The youngest faults are steeply dipping Basin and Range type. These faults strike in two general directions; to the northeast and to the northwest. It is unknown which is the dominant set. Although these faults offset the detachment faults, they generally do not appear to be mineral conduits.

#### Mineralization and Alteration

Precious metal mineralization within the BVO property is associated with:

- 1) breccia zones in flat lying faults
- 2) quartz stockwork zones

Mineralization within the flat fault is generally of infill and vein type consisting dominantly of silica, with minor calcite, manganese and iron oxides. The silica is generally massive and cements the breccia fragments, but locally is chalcedonic and banded. At the Verdstone target, the quartz has a distinctive green color, hence the name. Similar colored quartz is seen in flat faults at the Oakland Target and outside the property at Soldiers Tank. Calcite is a common accessory

mineral to the quartz and appears as late stage infill of vugs within the quartz and in hairline to massive veins adjacent to the quartz. Manganese oxide, goethite and hematite are also associated with the quartz-calcite mineralization, and generally coat fractures and breccia fragments.

Above the Verdstone fault is a halo of intense argillic alteration. Generally this alteration is white to light gray in color but is distinctively strongly iron-stained above the contact with the detachment. The argillic alteration grades into propylitic alteration with distance above the fault. Weak to moderate propylitic alteration also occurs below the fault (Figs. 6, 7, 8).

The mineralized quartz stockwork zone has been found only at the Bronco target area, and consist of a wide area of moderate to intense pervasive silicification with local quartz and minor calcite stockwork zones. It currently appears that the stockwork zones are related to several steep shear zones which can be traced for up to 400 feet vertically to the granite contact. These stockwork and associated shear zones trend northeast (Figs. 9, 10). However, an alternate interpretation, based on drill hole assay geometry, suggests that the stockwork zone could be flat lying (Fig. 11). Tonnage and grade calculations reflect both these hypotheses.

### Geochemistry

During detailed mapping, 18 samples were collected for multi-element analyses. The samples were preferentially collected from the various mineralization and/or alteration types found at BVO. The samples were assayed for gold, silver, mercury, zinc, arsenic, copper, lead, manganese and barite. Assay results are tabulated in Table 1. Gold assay results correlate well with silver (0.89), copper (0.71), and manganese (0.43). It should be noted, however, that arsenic has a negative correlation with the gold!

Eleven of the multi-element geochem samples were submitted for petrographic analysis. Results of that work are contained in Appendix 3.

It appears that BVO is a typical epithermal gold system. Results of polished section examination of both head samples and heavy liquid concentrate indicates that native gold is present as: liberated particles (with an average 30 to 40 micron diameter; as composites with vein quartz and associated with goethite; and as smaller grains encapsulated with vein quartz. Silver occurs with native gold and with jarosite and cerargyrite(?) (See Appendix 4).

TABLE 1

	<u>Au</u>	<u>Ag</u>	<u>Hg</u>	<u>Zn</u>	<u>As</u>	<u>Cu</u>	<u>Pb</u>	<u>Mn</u>	<u>Ba</u>
Au	1.00								
Ag	0.89	1.00							
Hg	0.10	0.06	1.00						
Zn	0.38	0.13	0.32	1.00					
As	-0.33	-0.12	0.44	0.12	1.00				
Cu	0.71	0.63	0.28	0.51	-0.14	1.00			
Pb	0.33	0.31	0.52	0.74	0.39	0.55	1.00		
Mn	0.43	0.23	0.23	0.59	-0.18	0.41	0.35	1.00	
Ba	-0.07	0.01	0.06	0.20	0.27	0.19	-0.22	-0.21	1.00
n	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
x	1.88	5.17	271.11	78.72	48.28	34.67	34.83	67.67	47.72
sd	3.06	11.57	273.13	75.67	41.32	47.87	26.68	21.18	25.69

DRILLING

To date a total of 17,949.5 feet of core and reverse circulation drilling in 99 holes has been completed at BVO. Rea Gold drilled 11,213 feet in 72 holes located mostly in the Verdstone and adjacent Morgan zones. Homestake has been responsible for the remaining footage.

Homestake's drilling was designed to extend known zones of mineralization located at the Verdstone, Oakland and Morgan Target zones; and to explore the untested Bronco zone (Fig. 2A).

Drilling at the Verdstone has increased geologic reserves from 267,250 tons at 0.15 opt gold, <sup>1.42</sup>opt silver to a current 762,500 tons at 0.099 opt gold, and 1.32 opt silver. <sub>1.95</sub>

Gold mineralization at the Verdstone appears to be contained within a lenticular, lens shaped zone approximately 250 feet wide and 1,000 feet long. Within this zone there is a high grade finger approximately 500 feet long and 50 feet wide and runs >0.2 opt gold. Currently there is no evidence to suggest that high angle fault conduits control the mineralization and it appears that the mineralization is located in a dilation zone within the flat detachment fault. If the mineralization is controlled by the dilations, other similar zones may exist along strike of the fault. One area high of potential is between the eastern edge of the Verdstone and HMC drill hole 87-26 located approximately 800 feet to the east. Hole 87-26, encountered ten feet of Verdstone type mineralization, which ran 0.031 opt Au.

In the previously untested Bronco zone, Homestake drilling has intercepted interesting low grade gold mineralization. This zone currently contains a geologic potential of up to 1,300,000 tons at 0.03 opt gold and remains open in several directions (Figs. 9, 10, 11).

Gold mineralization found in the Morgan zone is contained in a brecciated green quartz vein similar to the Verdstone mineralization. Unfortunately, the mineralization appears restricted to a narrow, lenticular body striking north 20 east. This zone appears to "pinch out" to the east, but may be open to the west (Fig. 12).

<sup>4.5</sup>  
~~\_\_\_\_\_~~  
~~\_\_\_\_\_~~  
samples collected during the \_\_\_\_\_  
~~\_\_\_\_\_~~  
circulation drill holes in the target area \_\_\_\_\_  
intercepts (Figs. 13, 14). Consequently, it appears that \_\_\_\_\_  
mineralization is associated with a small dilation zone. \_\_\_\_\_  
\_\_\_\_\_ and grade potential within the target is low.

## ASSAY RESULTS AND TONNAGE POTENTIAL

### Assay Results

Drill cuttings were available for 10 Rea Gold reverse circulation drill holes. Consequently, to check Rea Golds assaying, samples were split out from these cuttings and submitted to Hunter Mining Laboratories. The duplicate results generally correlate very well with original assays, and are tabulated in Table 2.

In addition, Homestake drill holes 87-13 and 87-15 were located to twin existing Rea Gold core and reverse circulation holes (V-31 and 85-2). Again Homestake assay results correlate very well with original data. These results are tabulated on Table 3.

Homestake sample collection and assaying followed standard procedures.

### Tonnage and Grade

Tonnage and grade calculations were made based on rectangular blocks of "ore". Block size was controlled by halving distance between drill holes, and/or extending 50 to 100 feet in the dip direction of mineralization. Rea Golds drilling density is quite intense and often three to five vertical or angle holes share the same block. Where this occurs, averages of the intercept thickness and weighted averages of the grade were used (Fig. 5).

In blocks where no drilling occurred but surrounded on three or four sides by drilled blocks, average intercept thickness and weighted average grades were derived from the drilled blocks and used for the none drilled block.

Ore cutoff grades were strictly observed. Forty-five degree pit walls were used throughout. Geologic tonnage and grades are summarized in Table 4.

TABLE 2

ORIGINAL Vs. DUPLICATE ASSAY RESULTS

<u>Drill Hole</u>	<u>From</u>	<u>To</u>	<u>Original Assays</u>		<u>Duplicate Assays</u>	
			<u>Skyline</u> <u>Au opt</u>	<u>Rea Gold</u> <u>Chemex</u> <u>Au opt</u>	<u>HMC</u> <u>Hunter</u> <u>Au opt</u>	
VRC-85-1	5	10	0.005		0.001	
	10	15	0.165		0.218	
	15	20	0.100		0.078	
	20	25	0.020		0.018	
	25	30	0.005		0.008	Corr = 0.96
VRC-85-2	20	25	0.005		0.001	
	25	30	0.020		0.019	
	30	35	0.310	0.250	0.180	
	35	40	0.455	0.444	0.404	
	40	45	0.145		0.141	
	45	50	0.005		0.008	Corr = 0.95
VRD-85-4	35	40	0.005		0.001	
	40	45	0.270		0.272	
	45	50	1.790	1.790	1.620	
	50	55	0.150		0.161	
	55	60	0.250	0.266	0.256	
	60	65	0.085	0.088	0.076	
	65	70	0.010		0.013	Corr = 1.00
VRC-85-5	50	55	0.005		0.001	
	55	60	0.045	0.050	0.064	
	60	65	0.015		0.020	
	65	70	0.005		0.003	Corr = 1.00
VRC-85-6	65	70	0.005		0.001	
	70	75	0.165		0.098	
	75	80	0.450		0.525	
	80	85	0.100		0.088	
	85	90	0.190	0.190	0.378	
	90	95	0.065	0.060	0.077	
	95	100	0.010		0.010	Corr = 0.92
VRC85-9	70	75	0.005		0.007	
	75	80	0.375	0.416	0.424	
	80	85	0.020		0.471	
	85	90	0.240		0.267	
	90	95	0.055	0.064	0.116	
	95	100	0.435	0.452	0.026	Corr = 0.30

Table 2 Continued

Drill Hole	From	To	Original Assays		Duplicate Assays	
			Rea Skyline Gold Au opt	Chemex Au opt	HMC Hunter Au opt	
VRC-85-10	75	80	0.005		0.001	
	80	85	0.380	0.283	0.419	
	85	90	0.030		0.073	
	90	95	0.025		0.037	
	95	100	0.015		0.021	
	100	105	0.035	0.034	0.039	
	105	110	0.010		0.009	Corr = 1.00
VRC-85-13	160	165	0.005		0.002	
	165	170	0.070	0.072	0.076	
	170	175	0.060	0.062	0.070	
	175	180	0.035		0.045	
	180	185	0.045		0.045	
	185	190	0.045		0.057	
	190	195	0.030	0.036	0.038	
	195	200	0.025		0.027	
	200	205	0.025		0.038	
	205	210	0.035		0.032	
	210	215	0.035	0.037	0.003	
	215	220	0.005		0.004	Corr = 0.94
VRC-85-19	150	155	0.015		0.011	
	155	160	0.015		0.014	
	160	165	0.010		0.006	
	165	170	0.005		0.003	
	170	175	0.005		0.003	
	175	180	0.010		0.005	
	180	185	0.010		0.005	
	185	190	0.005		0.008	
	190	195	0.015		0.008	
	195	200	0.010		0.011	
	200	205	0.010		0.008	
	205	210	0.020		0.008	
	210	215	0.025		0.020	
	215	220	0.025		0.026	
220	225	0.025		0.025		
225	230	0.010		0.013	Corr = 0.92	
VRC-85-24	75	80	0.005		0.001	
	80	85	0.015		0.013	
	85	90	0.040		0.018	
	90	95	0.015		0.047	
	95	100	0.010		0.011	Corr = 0.93

TABLE 3

DUPLICATE DRILL HOLE ASSAY RESULTS

<u>V31 vs 87-13</u>					<u>85-2 vs 87-15</u>			
<u>From</u>	<u>To</u>	<u>* V-1</u>	<u>87-13</u>	<u>(V-31rc)</u>	<u>From</u>	<u>To</u>	<u>85-2</u>	<u>87-15</u>
		<u>Au opt</u>	<u>Au opt</u>	<u>Au opt</u>			<u>Au opt</u>	<u>Au opt</u>
175	180	0.001	0.001	0.001	30	35	0.228	0.31
180	185	0.173	0.309	0.140	35	40	0.422	0.455
185	190	0.062	0.039	0.042	40	45	0.069	0.145
190	195	0.051	0.031	0.045				
195	200	0.029	0.024	0.015				
200	205	0.055	0.028	0.085				
205	210	0.060	0.023	0.064		n	3	3
210	215	0.023	0.021	0.074		x	0.240	0.030
215	220	0.172	0.040	0.017		sd	0.177	0.155
220	225	0.157	0.032	0.007				
225	230		0.018	0.004				
230	235		0.011	0.005				
235	240		0.012	0.005				
240	245		0.007	0.008				
245	250		0.003	0.010				
	n	9	12	12				
	x	0.087	0.049	0.042				
	sd	0.062	0.082	0.042				

Correlation Coefficient

	<u>85-2</u>	<u>87-15</u>
<u>85-2</u>	1.00	
<u>87-15</u>	1.00	1.00

Correlation Coefficient

	<u>V-31</u>	<u>87-13</u>	<u>V-31rc</u>
<u>V-31</u>	1.00		
<u>87-13</u>	0.56	1.00	
<u>V-31rc</u>	0.06	0.74	1.00

\*Grades transformed to 5 foot intercepts

TABLE 4

GEOLOGIC PROBABLE TONNAGE AND GRADE

B.V.C.

	Cutoff opt Au	Tons Ore	Grade		Waste Tons	Strip Ratio Waste:Ore 45 Pit Walls
			Au	Ag		
Verdstone (all drill indicated mineralization)						
Pit A	.01	762,500	.099	1.32	12,240,000	16:1
	.03	400,000	.156	1.79	11,740,000	29:1
	.04	355,000	.173	1.98	11,660,000	33:1
	.06	221,300	.244	2.40	8,958,000	40:1
	.10	185,700	.276	2.80	8,667,000	46:1

Verdstone (Shallow, near surface, drill indicated, mineralization only)

Pit B	.01	199,000	.113	0.95	11,500,000	6:1
	.03	96,000	.176	1.60	870,000	9:1
	.04	86,700	.196	1.70	846,000	10:1
	.06	65,000	.221	1.80	790,000	12:1
	.10	39,900	.276	2.52	591,000	15:1

Plus:

Underground Potential ( ) = 10 ft. thickness)

) = .04 opt Au Cutoff

50% Dilution:

.04	130,000	.175	2.20	--	--
.06	70,000	.255	2.60	--	--
.10	62,000	.271	2.87	--	--

Verdstone: Possible Extensions to Drill Indicated Mineralization

Current possible mineralized extensions would double the existing tonnage with a potentially similar grade

Table 4 Continued

	Cutoff opt Au	Tons Ore	Grade		Waste Tons	Strip Ratio Waste:Ore 45 Pit Walls
			Au	Ag		
Bronco Case 1 Mineralization is flat lying and close to the surface						
	.01	909,500	.029	0.31	990,000	1.1:1
	.03	410,500	.062	0.62	630,000	1.5:1
	.04	317,000	.083	0.72	555,000	1.8:1
	.06	184,000	.089	0.42	310,000	1.7:1
	.10	136,000	.123	0.64	245,500	1.8:1
Bronco Case 2 Mineralization is associated with steeply dipping (-70°) structures and extends to the granite basement @ +400'						
Probable	.01	1,330,000	.029	0.24	14,600,000	11:1
	.03	336,500	.061	0.41	15,600,000	46:1
Probable & Possible	.01	3,740,000	.030	0.24	22,900,000	6:1
	.03	1,400,000	.054	0.43	25,193,400	18:1

TOTAL VERDSTONE PIT A AND BRONCO CASE 1

Cutoff opt Au	Tons Ore	Grade	
		Au	Ag
.01	1,672,000	.061	.77
.03	810,500	.108	1.20
.04	672,000	.131	1.39
.06	405,300	.174	1.50
.10	321,700	.211	1.89

TOTAL VERDSTONE PIT B AND BRONCO CASE 1  
(excluding underground potential)

.01	1,108,500	.044	.27
.03	506,500	.084	.80
.04	403,700	.107	.93
.06	249,000	.123	.78
.10	175,900	.158	1.04

## METALLURGY

Six samples were submitted to Dawson Metallurgical Laboratories for initial metallurgical testing. The results are summarized below and contained in Appendix 4.

TABLE 5  
METALLURGY - SUMMARY OF RESULTS

<u>Sample No</u>	<u>Gold</u>				<u>Target Location</u>
	<u>Original</u>	<u>Calc. Head</u>	<u>Residue</u>	<u>Rec. %</u>	
8432	0.228	0.212	0.031	85.4	Verdstone
8227	0.42	0.899	0.125	85.8	Verdstone
8229	0.056	0.172	0.022	87.3	Verdstone
8578	0.104	0.091	0.008	91.3	Bronco
8583	0.06	0.054	0.005	90.7	Bronco
8589	0.02	0.029	0.007	76.1	Bronco
	<u>Silver</u>				
8432	3.24	2.47	1.72		
8227	2.59	2.43	1.61		
8229	5.34	5.01	4.49		
8578	0.36	0.81	0.46		
8583	0.43	0.37	0.27		
8589	0.25	0.18	0.11		

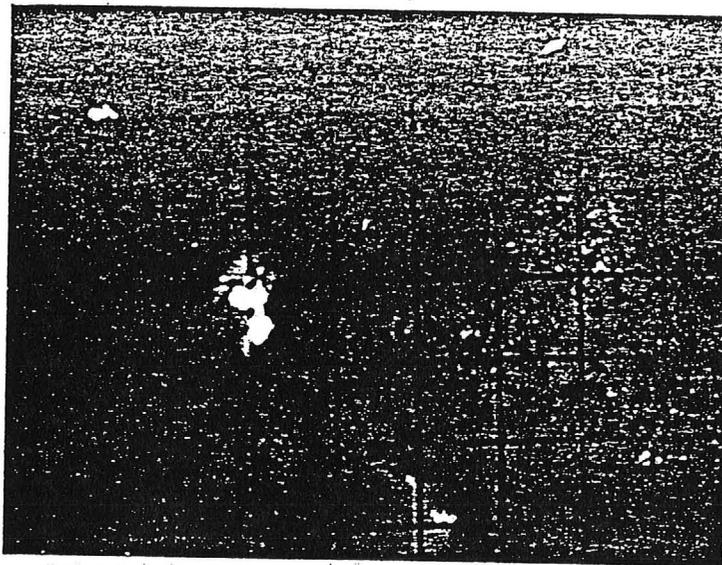
Recoveries were by conventional methods, namely grinding, gravity recoveries followed by cyanidation of the tails. Heap leach recoveries were in the 30 to 50 percent range.

Due to the large discrepancies between original and calculated assay results for Verdstone samples, all samples were screen-stack fire assayed. A tabulation of these results is contained in the metallurgy appendix. This data shows that the Verdstone samples contain an increase in gold in the greater than -120 mesh size fraction. This, plus the greater number of samples assayed for the metallurgical tests is a possible reason for the discrepancies.

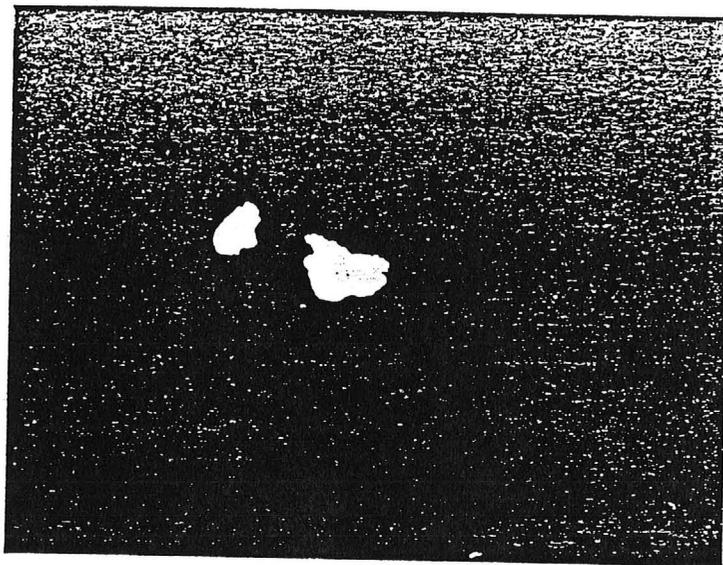
MDJ/nlm  
C/04

REFERENCES

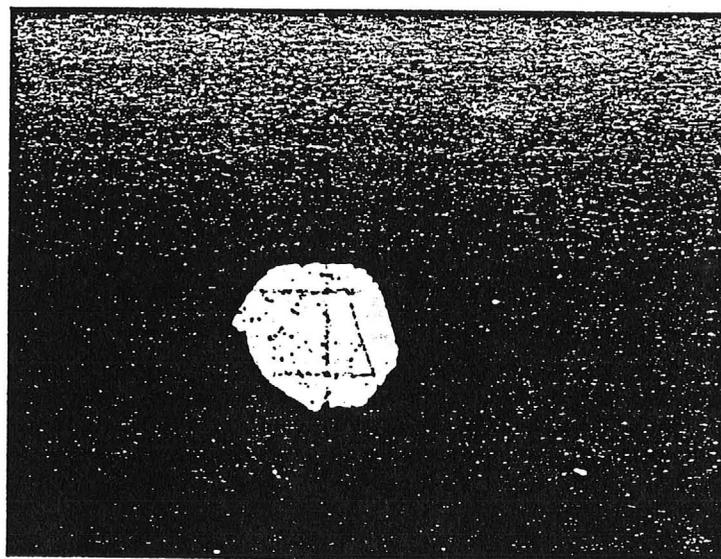
Cousins, N., 1984, Gold, Silver, and Manganese Mineralization in the Sheep Tanks Mine Area, Yuma County, Arizona. Arizona Geology Society Digest Volume 15.



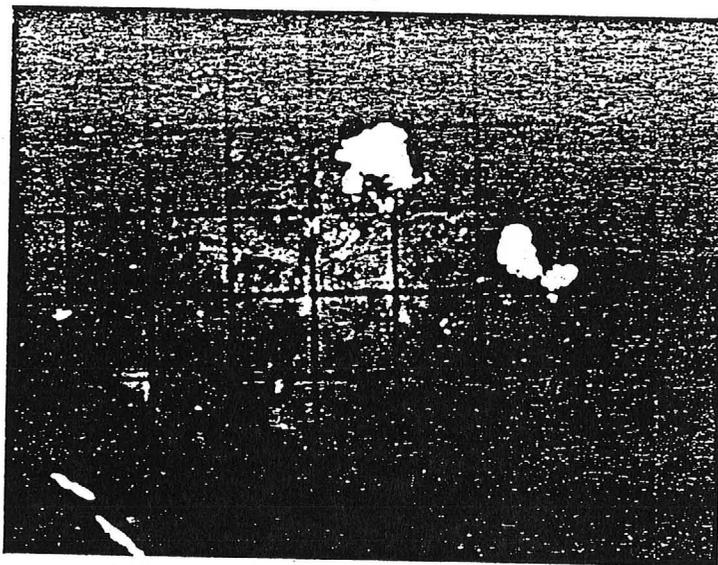
P.S. 8227AC (Heavies). Polished section photomicrograph of small native gold grain associated with goethite-gangue composite. Plain light, X200. Each square of grid is 32 microns on an edge.



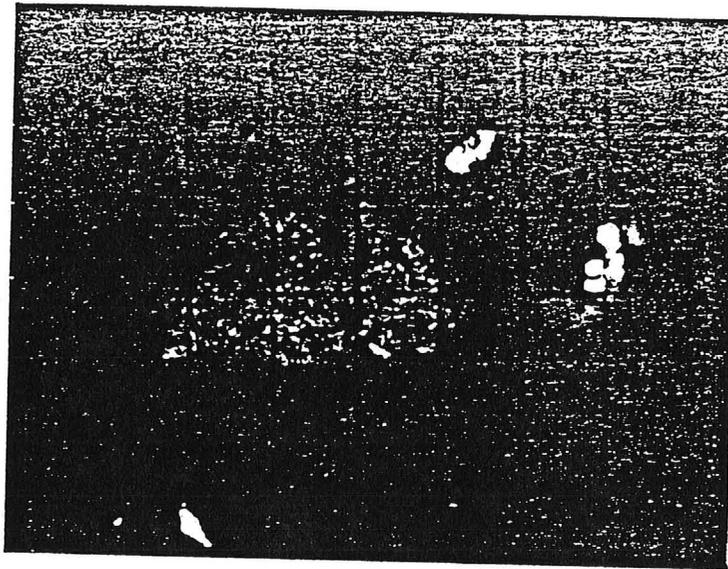
P.S. 8227A<sup>c</sup> (Heavies). Polished section photomicrograph of liberated native gold particles in grain mount polished section. Plain light, X200. Each square of grid is 32 microns on an edge.



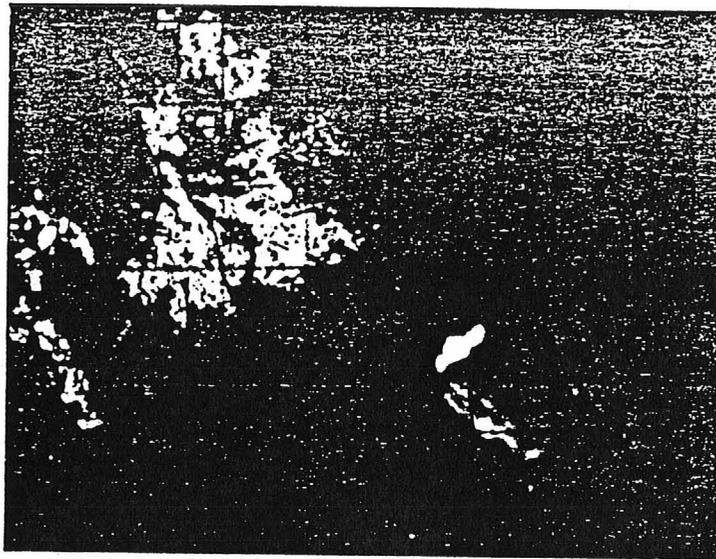
P.S. S227A0 (Heavies). Polished section photomicrograph of liberated native gold particles. Plain light, X200. Each square of grid is 32 microns on an edge.



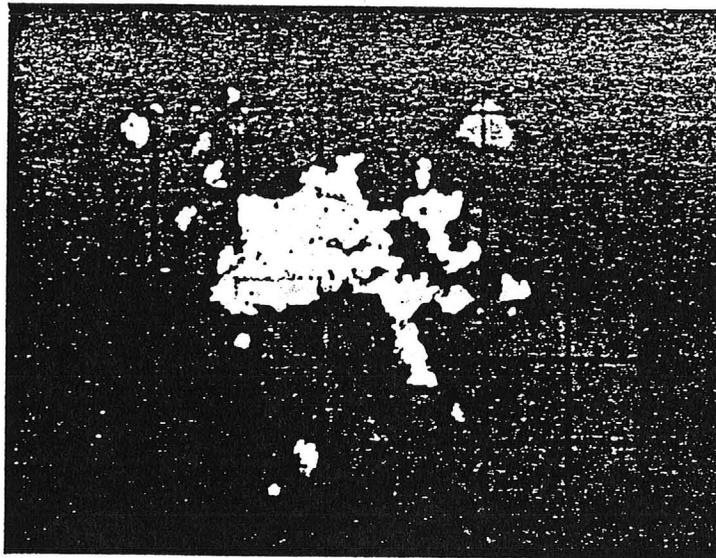
P.S. 8227A2 (Heavies). Polished section photomicrograph of native gold and goethite in composite grain with quartz gangue. Plain light, X200. Each square of grid is 32 microns on an edge.



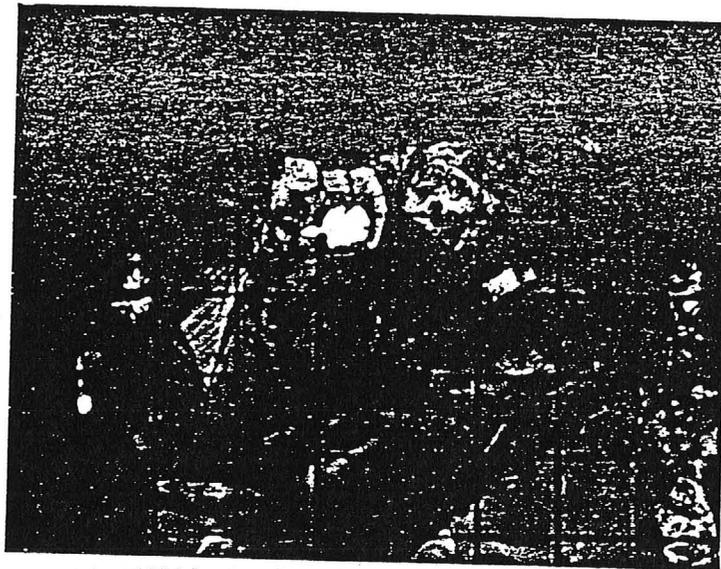
P.S. 8227A<sup>C</sup> (Heavies). Polished section photomicrograph of native gold in composite grain with goethite and associated with goethite-gangue fragment. Plain light, X200. Each square of grid is 32 microns on an edge.



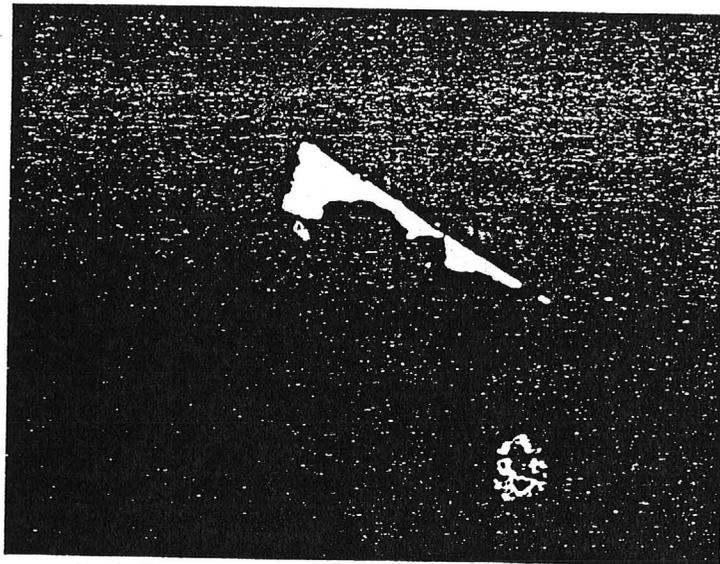
P.S. 8227A? (Heavies). Polished section photomicrograph of native gold particle associated with goethite-quartz composite. Plain light, X200. Each square of grid is 32 microns on an edge.



P.S. 8227A<sup>c</sup> (Heavies). Polished section photomicrograph of native gold (Au) forming composite with quartz and associated with goethite fragment. Plain light, X200. Each square of grid is 32 microns on an edge.



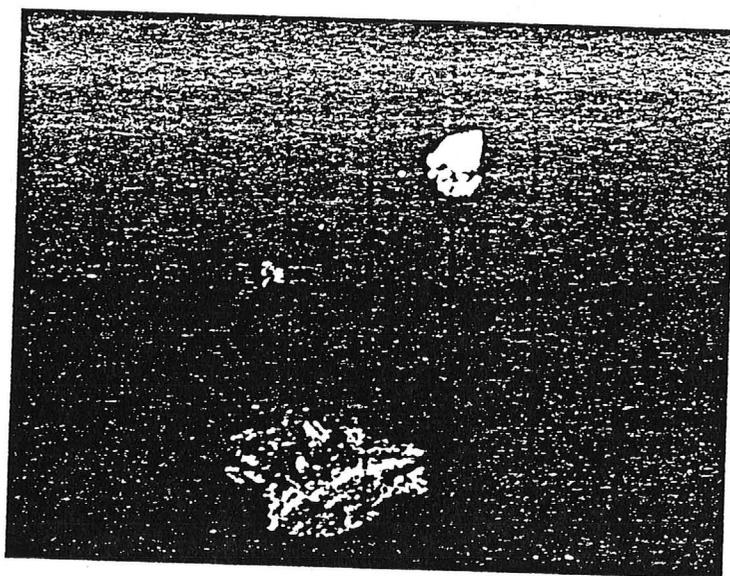
P.S. 8227A (Heavies). Polished section photomicrograph of native gold in particles locked in both goethite and quartz. Plain light, X200. Each square of grid is 32 microns on an edge.



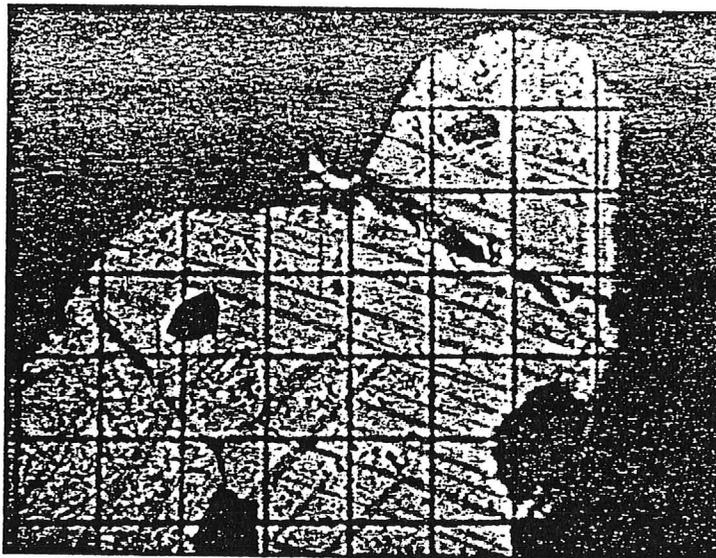
P.S. 8227AQ (Heavies). Polished section photomicrograph of chalcopyrite with quartz gangue and accompanying fragment of goethite. Plain light, X200. Each square of grid is 32 microns on an edge.



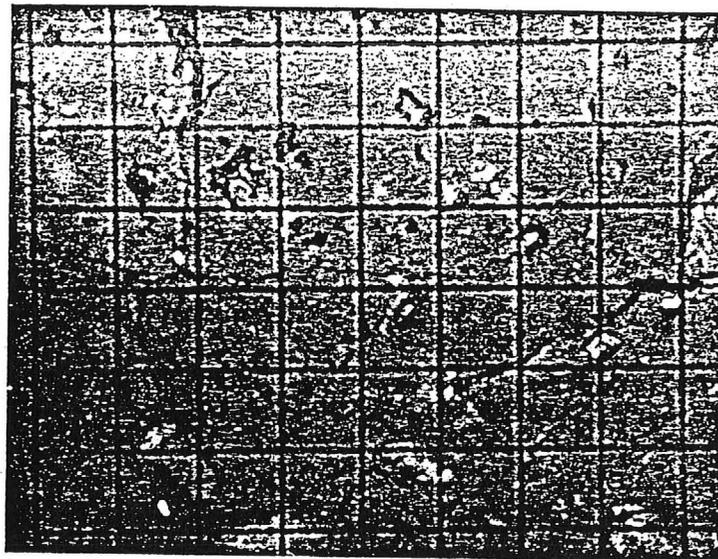
P.S. 8227A<sup>o</sup> (Heavies). Polished section photomicrograph showing fine to extremely fine grained native gold forming composite with and in part encapsulated by quartz gangue. Plain light, X200. Each square of grid is 32 microns on an edge.



P.S. 8227AQ (Heavies). Polished section photomicrograph showing liberated particles of native gold (Au) and goethite (goe). Plain light, X200. Each square of grid is 32 microns on an edge.



P.S. 8227A0 (Heavies). Polished section photomicrograph of hematite (hm) matrix enclosing lath-shaped grains of magnetite (mt). Plain light, X200. Each square of grid is 32 microns on an edge.



P.S. 8227A0 (Heavies). Polished section photomicrograph of native gold (Au) locked in quartz gangue. Plain light, X200. Each square of grid is 32 microns on an edge.

P.S. 8229AQ (Feed), BV087-11 - 340-345'. Trace of remnant pyrite in strongly oxidized (goethite) altered host and quartz vein material.

Pyrite - -1% - Pale yellow, either isotropic or with very weak anomalous anisotropism, hard and is well polished. Rare and small cubic crystal remnants enclosed by silicate gangue. Most of original pyrite in host and vein assemblage is oxidized to goethite. The remnant grains have margins corroded by oxidation.

Goethite - 1% - Light to medium gray and with bluish tint where better polished, anisotropic but with polarization colors masked by strong reddish brown internal reflections, highly variable hardness and ranges from powdery and unpolished to moderately well polished. Present both as oxidation pseudomorphs after cubic pyrite in altered host and in vein filling material. Also some as apparent open space fillings.

Hematite - -1% - Light gray with blue tint, moderately anisotropic and with polarization in shades of gray, hard and is well polished. Occurs in very small amount as equant grains in altered host assemblage, and contains small lamellar to irregularly shaped magnetite inclusions.

Magnetite - -1% - Light grayish brown, isotropic, hard and is well polished. Observed only as small equant lamellae and irregularly shaped inclusions in hematite from the altered host accessory assemblage.

Rutile - -1% - Light to medium gray and at times with violet tint, anisotropic but with polarization effects masked by strong white to pale yellowish brown internal reflections, hard and is well polished. Present as liberated grains and in altered host fragments as an alteration product of original titanian phases of host.

Trash iron - -1% - White metallic, isotropic, moderate hardness and is well polished. Occurs rather abundantly as small curved "shavings" added to sample during preparation.

Non-metallic gangue - 98%

P.S. 8432AQ (Heavies) - BV087-15 - 30-35'. Native gold and native silver in strongly oxidized goethite-rich assemblage with psilomelane, jarosite, and malachite. May also contain minor cerargyrite.

Native gold - -1% - Medium to dark golden yellow color - indicating variable silver content, isotropic but does not show complete extinction because of polishing scratches, low hardness and is moderately well polished. Observed as two particles - one forming a composite with goethite and having a length of 40 microns and the other as a liberated wire-like particle 78 microns in length. Grains develop a light tarnish rather quickly.

Native silver - -1% - White with slight creamy tint, isotropic but does not go to complete extinction, low hardness and with moderate polish. Observed as single elongate particle - not seen in contact with other opaques so paragenesis is unknown. Grain has length of 80 microns.

Goethite - 36% - Light to medium gray with bluish tint where better polished, anisotropic but with polarization effects largely masked by strong reddish brown internal reflections, highly variable hardness - from powdery and unpolished to locally moderate hardness and good polish. Most of grains are finely banded. Occurs alone and in composites with siliceous gangue. Formed both as oxidation pseudomorphs after sulfide grains and as apparent open space fillings.

Psilomelane - 1% - Light bluish gray, anisotropic and shows divergent fibrous texture with polarization in shades of gray and bluish gray, moderate hardness and is well polished. Occurs both as liberated particles and as crudely microbotryoidal aggregates with quartz gangue.

Jarosite - 3% - Medium to dark gray in polished surface and with strong yellowish internal reflections, very low hardness and is largely unpolished. Occurs with goethite in powdery or pulverulent aggregates. Locally shows better polished areas with yellow internal reflections - that

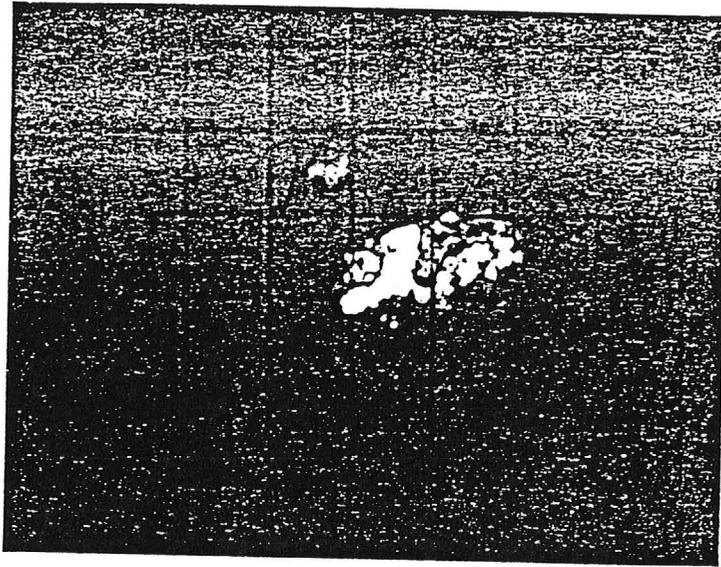
P.S. 8432AQ (Heavies) - BV087-15 - 30-35'.

may indicate presence of cerargyrite.

Malachite - -1% - Medium gray with strong green internal reflections, soft and with moderate development of polish. Occurs in small amount in aggregates filling fractures that cut siliceous gangue and is associated with goethite.

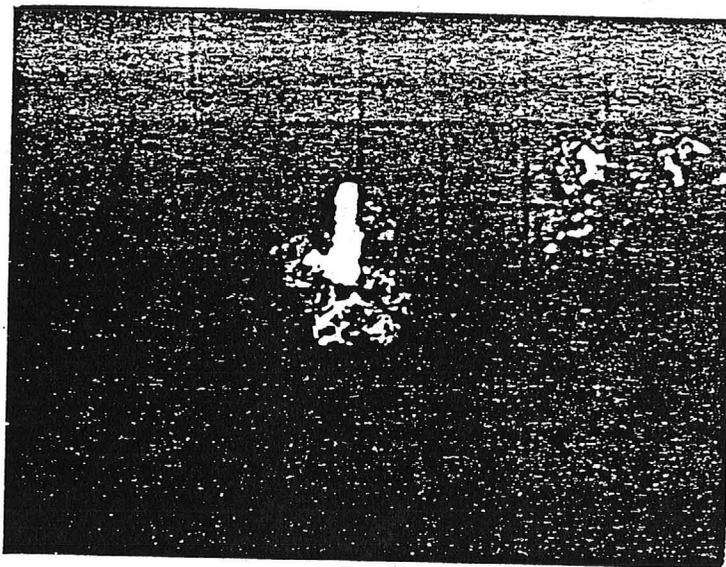
Trash iron - -1% - White metallic, isotropic, moderate hardness and is well polished. Small curved "shavings" were added during sample preparation.

Non-metallic gangue - 59%

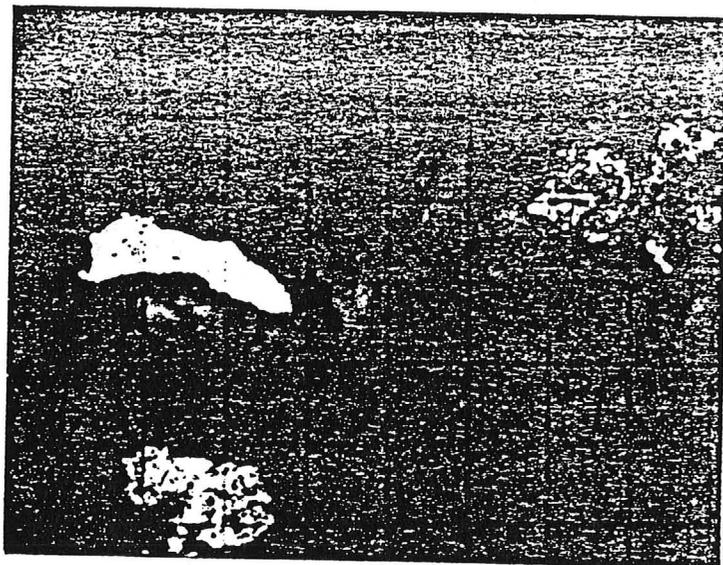


P.S. 8432A (Heavies). Polished section photomicrograph of native gold (Au) with minor bordering goethite. Plain light, X200.  
Each square of grid is 32 microns on an edge.

*SLM Rev. 2-29-88*



8432A2 (Heavies). Polished section photomicrograph of native gold (Au) associated with and bordered by goethite (goe). Plain light, X200. Each square of grid is 32 microns on an edge.



P.S. 8432A0 (Heavies). Polished section photomicrograph of native silver (Ag) associated with goethite (goe). Plain light, X200. Each square of grid is 32 microns on an edge.

P.S. 8578AQ (Heavies) - BVO87-18. Native gold in composite grains with vein quartz and goethite and associated with minor remnant pyrite in strongly goethite oxidized ore.

Native gold - -1% - Golden yellow color, isotropic but does not show complete extinction, low hardness and is rather well polished. Present as three small grains (23 to 36 microns) forming composites with vein quartz in which exposed at fragment margins and as particle enclosed goethite oxidation pseudomorphs after original cubic pyrite crystal in vein quartz. Color suggests relatively low silver content.

Pyrite - -1% - Pale yellow, either isotropic or with weak anomalous anisotropism and very faint polarization colors of blue to purplish, hard and is well polished. Occurs as liberated particles with oxidative corrosion at grain margins, as liberated particles that are partially rimmed by goethite oxidation products, and as rare and small remnants that are locked in vein quartz and associated with goethite oxidation pseudomorphs.

Goethite - 43% - Light to medium gray and with blue to violet tint in better polished surfaces, anisotropic but with polarization colors masked by strong reddish brown internal reflections, highly variable hardness and with variable poor to good polish. Present variously as oxidation pseudomorphs after pyrite and as cavity fillings - both in liberated particles and as composites with siliceous gangue. In one instance encloses native gold. Is often thinly and complexly banded.

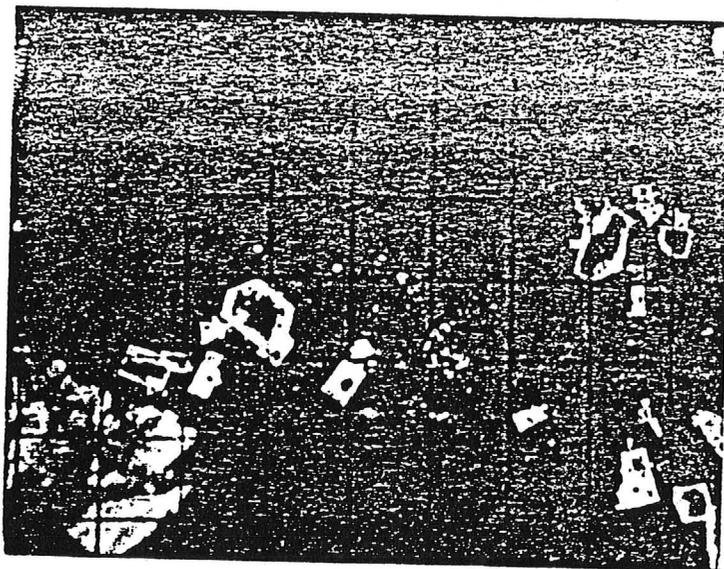
Rutile - -1% - Medium gray with slight violet tint, anisotropic but with polarization effects masked by strong yellowish brown internal reflections, hard and is well polished. Present both as liberated grains and as inclusions in siliceous fragments - and is derived from the altered host assemblage.

Trash iron - -1% - White metallic, isotropic, moderate hardness and is well polished. Occurs as small curved "shavings" contributed during sample preparation.

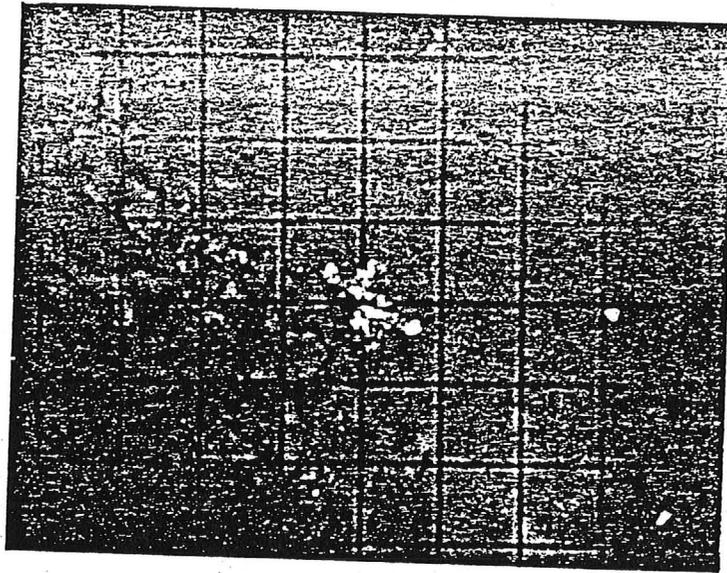
P.S. 8578AQ (Heavies) - BV087-18.

Non-metallic gangue - 55% -

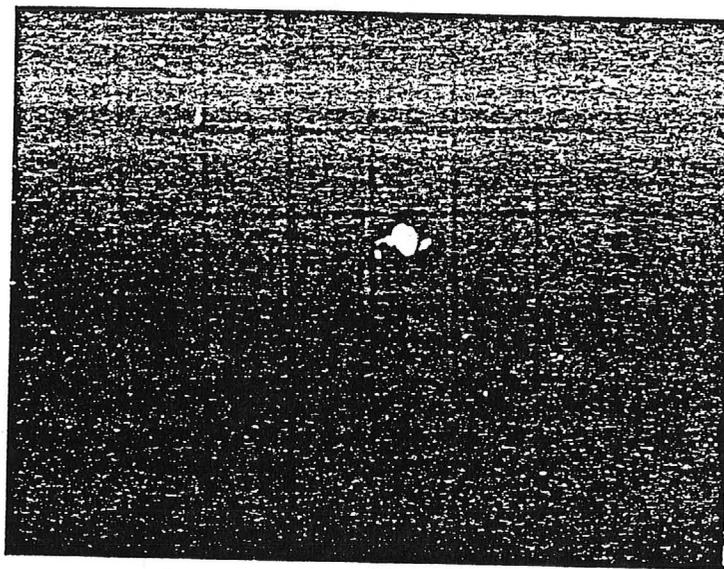
\*Note: There is a non-metallic phase with deep yellow internal reflections and low hardness that may be either cerargyrite-AgCl or jarosite- $\text{KFe}_3(\text{SO}_4)_4(\text{OH})_6$ .



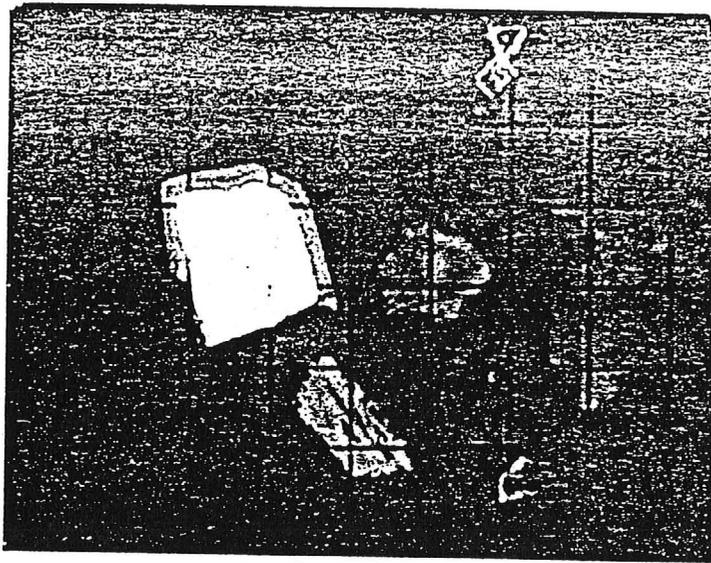
P.S. 8578A0 (Heavies). Polished section photomicrograph showing two small remnant pyrite grains (py) in quartz gangue with goethite (goe) oxidation pseudomorphs. Plain light, X200. Each square of grid is 32 microns on an edge.



P.S. 8578AQ (Heavies). Polished section photomicrograph showing small grain of remnant pyrite (py) associated with goethite (goe) in siliceous gangue. Plain light, X200. Each square of grid is 32 microns on an edge.



P.S. 8578A $\Omega$  (Heavies). Polished section photomicrograph of native gold (Au) locked by or encapsulated by quartz gangue. Plain light, X200. Each square of grid is 32 microns on an edge.



P.S. 8578A0 (Heavies). Polished section photomicrograph of pyrite remnant partially rimmed by goethite and associated with separate fragments of goethite and siliceous gangue. Plain light, X200. Each square of grid is 32 microns on an edge.

P.S. 8583AQ (Feed) - BV087-18 - 55-60'. Very minor remnant pyrite with goethite products in strongly oxidized ore sample.

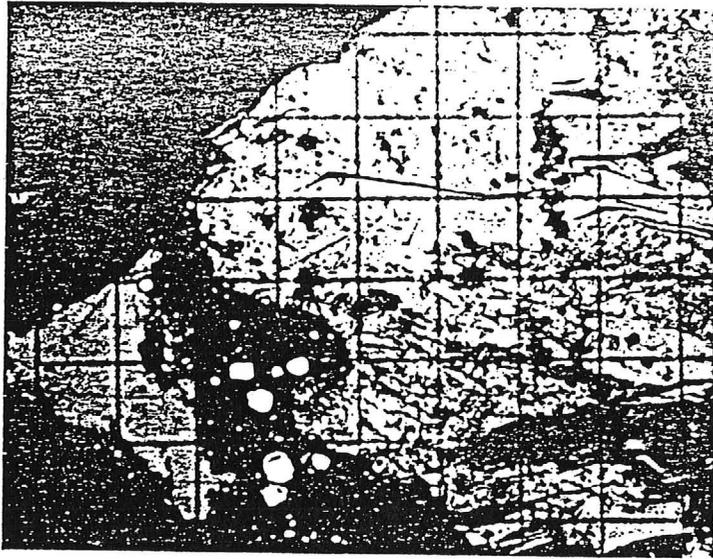
Pyrite - -1% - Pale yellow color, either isotropic or with weak anomalous anisotropism, hard and is well polished. Occurs in trace amount as very small remnant cubic crystals in vein quartz, and as scarce remnants enclosed by goethite oxidation pseudomorphs. Was originally the dominant sulfide mineral.

Goethite - 1+% - Light to medium gray with bluish tint, anisotropic but with polarization effects masked by strong reddish brown internal reflections, highly variable hardness and perfection of polish. Present both as liberated particles and as composites with or enclosed by silicate gangue. Rarely contains remnants of pyrite from derived as oxidation pseudomorphs.

Rutile + Zircon - -1% - Light to medium gray, anisotropic but with polarization colors completely masked by strong colorless to pale yellow internal reflections, hard and is well polished. Present as liberated fragments and as inclusions in siliceous gangue, and is part of the minor accessory suite of host.

Trash iron - -1% - White metallic, isotropic, moderate hardness and is well polished. Present as curved "shavings" that were added during sample preparation.

Non-metallic gangue - 98% - Includes calcite as well as silicate minerals.



P.S. 8589AC. Polished section photomicrograph of relatively coarse orpiment (orp) with small associated pyrite (py) grains. Plain light, X100. Each square of grid is 65 microns on an edge.

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November 28, 1987

Richard S. Kunter  
Homestake Mining Company  
1725 Cole Blvd.  
Golden, Colorado 80401

Re: EVO Proj., AZ  
Leach Residues

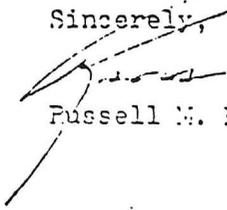
Dear Richard:

Enclosed are results of polished section examination of leach residues for head samples from the EVO Project described in my previous report. Each of the samples was examined both in sections prepared from the leach residues as received and in heavy mineral concentrates prepared therefrom. As usual, photomicrographs are included to illustrate some of the pertinent mineralogic and tectural features.

Native gold is present in the leach residues as particles in the one to four micron size range that are locked in quartz gangue. In some cases the locked gold is accompanied by goethite oxidation pseudomorphs after pyrite. Silver in the leach residues is present both as the chloride mineral cerargyrite and as a component of galena remnants present in all three samples. Because polished section optics of cerargyrite are not completely diagnostic I have placed a question mark after the identification and suggested that some argentian jarosite may also be a carrier for silver values.

Please let me know if there are questions regarding the data.

Sincerely,

  
Russell M. Honea

m181

P.S. 8227AQ (P1452-5, Leach Residue). Locked micron-sized native gold particles in vein quartz and associated with minor remnant pyrite-galena-sphalerite-chalcopyrite and dominant goethite oxidation products.

Native gold - -1% - Golden yellow color, isotropic but does not show complete extinction, low hardness and is moderately well polished. Observed in leach residue only as micron-sized grains encapsulated or locked in quartz gangue. Will be further searched for in heavy liquid separate.

Pyrite - -1% - Pale yellow color, either isotropic or with very weak anomalous anisotropism, hard and is well polished. Scarce and small remnants present in goethite oxidation pseudomorphs, and single grain present with galena that appears to replace the earlier iron sulfide. Was originally the dominant sulfide mineral.

Galena - -1% - White, isotropic and with rather poorly developed triangular cleavage pits, soft and is moderately well polished, bordered by cleavage surfaces. Observed only as small fragment forming composite with pyrite and as rare liberated grains. Shows some oxidative corrosion at grain margins.

Sphalerite - -1% - Medium gray, isotropic and with pale yellowish internal reflections, moderate hardness and is well polished. Observed in single small composite grain with pyrite and galena, and appears to corrode and to have been deposited later than pyrite.

Chalcopyrite - -1% - Bright yellow color with faint greenish tint in polished surface, weakly anisotropic and with polarization colors of blue to green, moderate hardness and is well polished. Observed as rare and small liberated fragments with some oxidative corrosion at grain margins.

Magnetite - -1% - Light grayish brown, isotropic, hard and is well polished. Scarce equant grains that show some rimming and replacement by hematite. Derived from the minor accessory suite of host rock.

Hematite - -1% - Light gray with bluish tint, moderately anisotropic and with polarization in shades of gray, hard and is well polished. Present

P.S. 8227AQ (P1452-5, Leach Residue).

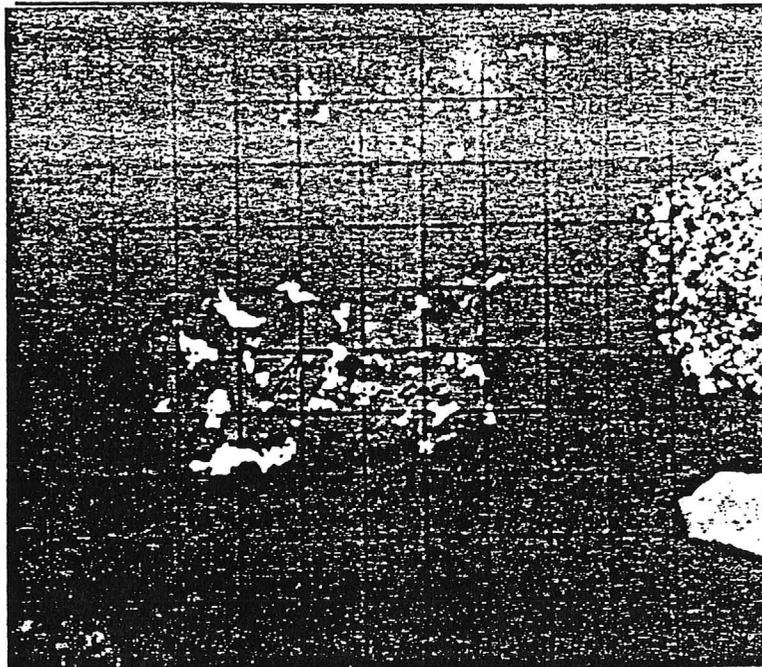
with magnetite as described above -  
and is part of the accessory suite of  
host rock.

Rutile - -1% - Light to medium gray with slightly violet tint,  
anisotropic but with polarization colors  
masked by strong white internal  
reflections, hard and is well polished.  
Small anhedral aggregates enclosed by  
siliceous host fragments and formed by  
alteration of original titanian  
accessories.

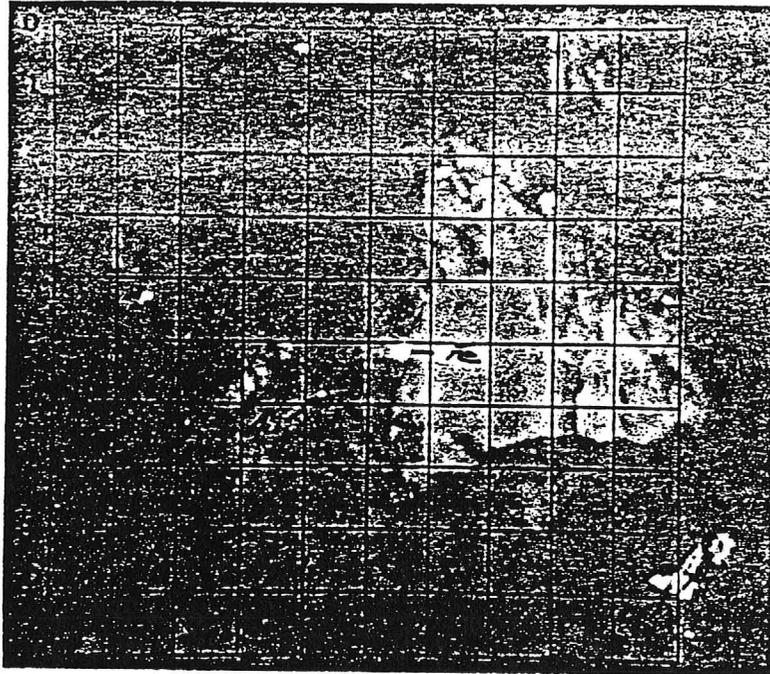
Goethite - 1% - Light to medium gray and at times with bluish tint,  
anisotropic but with polarization colors  
masked by strong reddish brown internal  
reflections, highly variable hardness  
and perfection of polish. Widely  
scattered as oxidation pseudomorphs  
after pyrite originally present both as  
a vein mineral and in the altered host.

Trash iron - -1% - White metallic, isotropic, moderate hardness and  
is well polished. Occurs as curved  
"shavings" added during sample  
preparation. Is in part bordered by  
oxidation products.

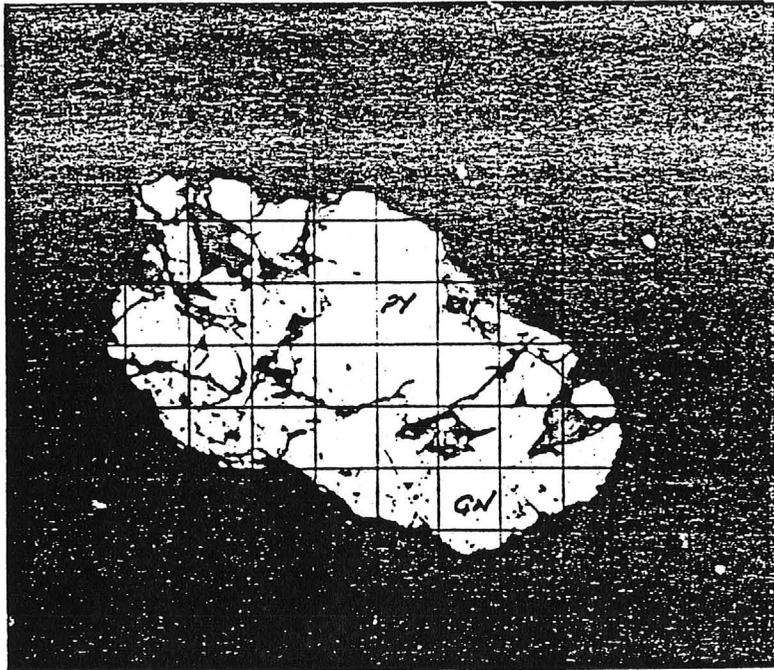
Non-metallic gangue - 98% .



P.S. 8227A7 (P1452-5, Leach Residue Heavies). Polished section photomicrograph of native gold (Au) with goethite oxidation pseudomorphs and locked in quartz gangue. Plain light, X250. Each square of grid is 32 microns on an edge.



P.S. 8227A6 (P1452-5, Leach Residue). Polished section photomicrograph of micron-sized native gold particle (Au) locked in vein quartz and near larger silicate grain that is bordered by trash iron fragment. Plain light, X650. Each square of grid is 13 microns on an edge.



P.S. 8227A<sup>2</sup> (P1452-5, Leach Residue). Polished section photomicrograph of composite grain in which pyrite (py) is bordered by galena (gn). Plain light, X650. Each square of grid is 13 microns on an edge.

Oakland Mine  
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MI-186

P.S. 8229AQ (P1452-6, Leach Residue). Minor cerargyrite(?) with remnants of galena and pyrite in rather strongly goethite stained sample.

Galena - -1% - White, isotropic and with well developed cleavage, low hardness and is well polished. Occurs as liberated cleavage fragments scattered through section, and fragments at times show oxidative corrosion at grain margins. Not seen in contact with other sulfides. Shows positive microchemical test for silver.

Pyrite - -1% - Pale yellow color, isotropic, hard and is well polished. Scarce remnants present as liberated fragments with oxidized margins, rarely present as irregularly shaped inclusions in goethite oxidation pseudomorphs. Was originally the dominant sulfide component of vein and host alteration assemblage.

Cerargyrite(?) - -1% - Medium gray in polished surface and with very strong pale yellow internal reflections, low hardness and is well polished. Present as liberated aggregates and as composites with vein quartz. Properties are not sufficiently distinctive in polished surface to allow positive identification from optics - and the material described here could include some jarosite. Yields positive microchemical test for silver.

Goethite - 1% - Light gray with bluish tint, anisotropic but with polarization colors largely masked by reddish brown internal reflections, highly variable hardness and perfection of polish. Present as liberated grains and as composites with siliceous gangue. Deposited both as open space fillings and as oxidation pseudomorphs after pyrite. Former material has more irregular outlines and shows complex concentric banding.

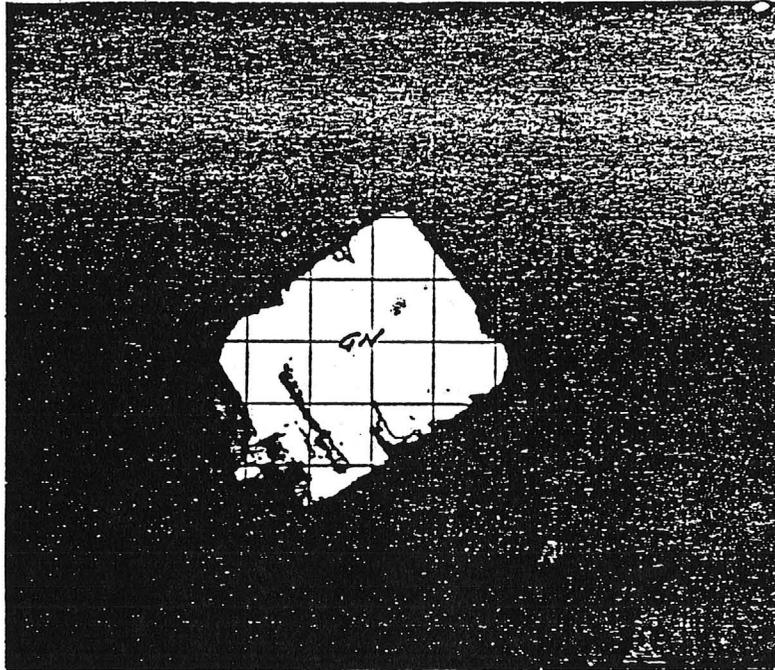
Rutile - -1% - Light gray and at times with violet tint, anisotropic but with polarization colors masked by strong white to pale yellowish brown internal reflections, hard and is well polished. Observed only as small inclusions in altered host fragments - and is formed from titanian accessories of the host suite.

Trash iron - -1% - White metallic, isotropic, moderate hardness and is well polished. Present as small

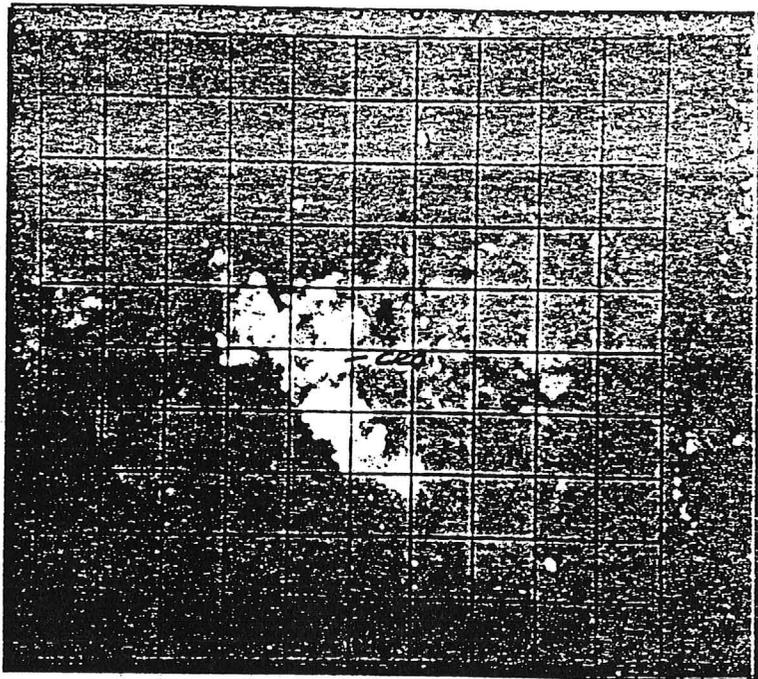
P.S. 8229AQ (P1452-6, Leach Residue).

"shavings" added during sample preparation. Often shows corrosion and oxidation at grain margins.

Non-metallic gangue - 98%.



P.S. 8229A (P1452-6. Leach Residue). Polished section photomicrograph of galena cleavage fragment with some oxidation at grain margins. Plain light, X650. Each square of grid is 13 microns on an edge.



P.S. 8229A (P1452-6, Leach Residue). Polished section photomicrograph of cerargyrite(?) (crg) aggregate adjacent to quartz gangue fragment. Most of cerargyrite grain is below polished surface. Plain light, X350. Each square of grid is 13 microns on an edge.

P.S. 8432AQ (P1452-1, Leach Residue). Cerargyrite(?) with remnant galena-pyrite-sphalerite-chalcopyrite in sample with moderately strong goethite oxidation.

Galena - -1% - White to light gray, isotropic and shows well developed triangular cleavage pits, low hardness and is well polished. Observed only as liberated cleavage fragments, and at times shows oxidative corrosion at some grain margins. Yields positive microchemical test for silver.

Pyrite - -1% - Pale yellow color, either isotropic or with weak anomalous anisotropism, hard and is well polished. Occurs mostly as liberated particles having oxidative corrosion at grain margins. Also rarely as composite grains with siliceous gangue. In one fragment present as irregularly shaped grains bordered by sphalerite.

Sphalerite - -1% - Medium gray, isotropic and shows yellowish brown internal reflections, moderate hardness and is well polished. Observed in single particle as composite with and apparently replacing anhedral pyrite. Grain margins show some oxidative corrosion.

Chalcopyrite - -1% - Bright yellow color and with faint greenish tint in polished surface, anisotropic and with polarization colors of green to blue, moderate hardness and is well polished. Observed as single liberated fragment with oxidative corrosion on one edge of grain. Not seen in contact with other opaques.

Cerargyrite(?) - -1% - Medium gray and with very strong development of pale yellow internal reflections, low hardness and is well polished. Present both as liberated particles and in composites with quartz gangue. Could possibly be in part a jarosite mineral on the basis of polished section optics.

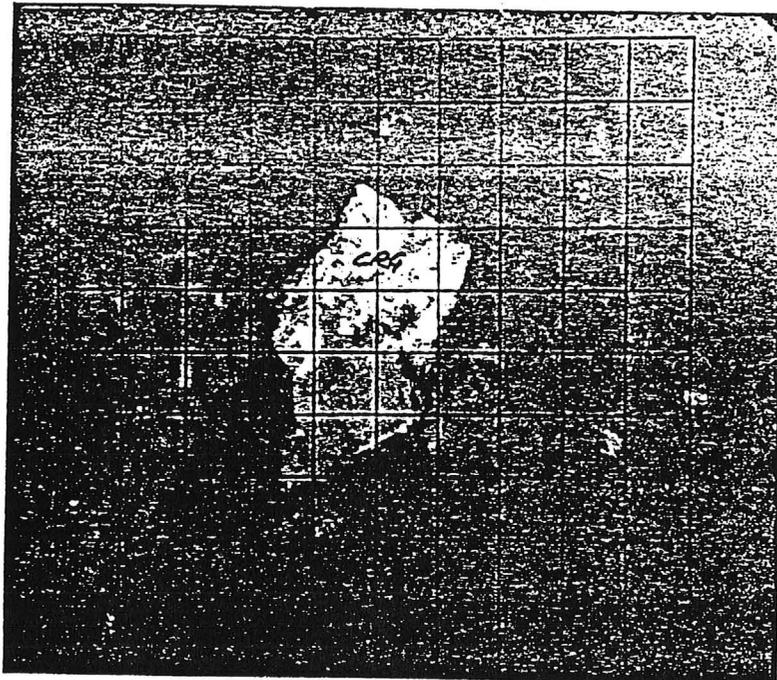
Goethite - 1% - Light to medium gray with bluish tint, anisotropic but with polarization colors largely masked by reddish brown internal reflections, highly variable hardness and perfection of polish. Occurs alone and with quartz as oxidation pseudomorphs after pyrite.

P.S. 8432AQ (P1452-1, Leach Residue).

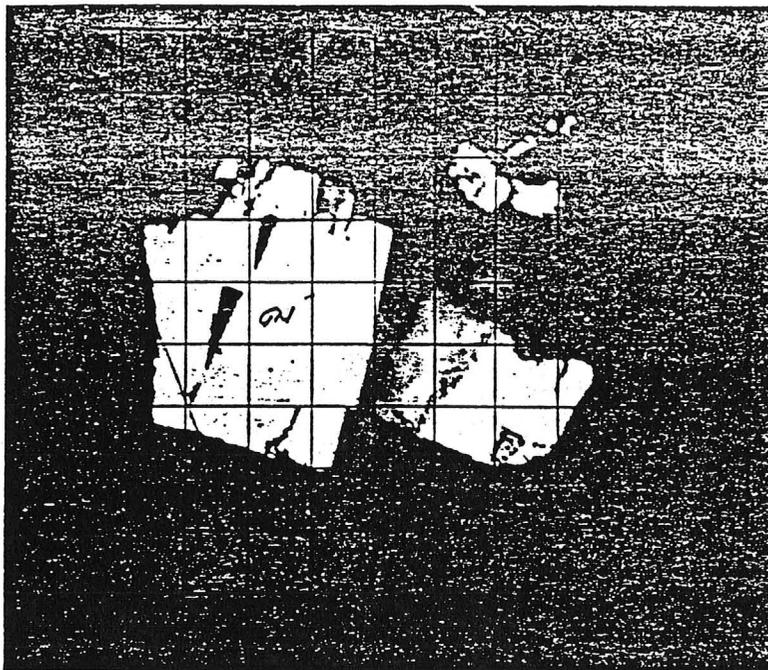
Rutile - -1% - Light gray with violet tint, anisotropic but with polarization colors masked by almost colorless internal reflections, hard and is well polished. Occurs as small and irregularly shaped aggregates enclosed by siliceous gangue, and is an alteration product of original titanian accessories of host assemblage.

Trash iron - -1% - White metallic, isotropic, moderate hardness and is well polished. Present as small curved "shavings" added during sample preparation. Shows some oxidation at grain margins.

Non-metallic gangue - 98%.



P.S. 8432A<sup>c</sup> (P1452-1, Leach Residue). Polished section photomicrograph of cerussite (crr) with quartz gangue in fragment from leach residue. Plain light, X650. Each square of grid is 13 microns on an edge.



P.S. 8432A (P1452-1, Leach Residue). Polished section photomicrograph of galena fragments showing well developed triangular cleavage pits. Plain light, X650. Each square of grid is 13 microns on an edge.

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December 8, 1987

Richard S. Kunter  
Homestake Mining Company  
1726 Cole Blvd.  
Golden, Colorado 80401

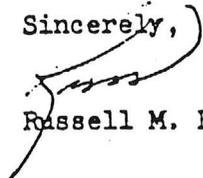
Re: EVO Project, AZ

Dear Richard:

Enclosed is a polished section description for one of the EVO Project samples that was inadvertently left out of my report dated November 24, 1987. Photomicrographs for the sample were included in the previous report.

Sorry for the mix up.

Sincerely,

  
Russell M. Honea

Encl.

P.S. 8589AQ (Head). Minor remnant pyrite in rather strongly oxidized (goethite-bearing) sample. Contains single orpiment particle as probable contaminant.

Orpiment - -1% - Light to medium gray, strongly birefractant, strongly anisotropic but with polarization colors largely masked by strong pale yellow internal reflections, low hardness and is well polished, well developed cleavage. Occurs as single larger grain in which associated with minor pyrite. In view of all available data for the sample set I believe this to be contamination added inadvertently during polished section preparation.

Pyrite - -1% - Pale yellow color, either isotropic or with very weak anomalous anisotropism, hard and is well polished. Present in trace amount both as small remnant grains locked in siliceous gangue and associated with orpiment particle. Was originally the dominant sulfide - but is very largely oxidized to goethite.

Goethite - 1+% - Light to medium gray with bluish tint, anisotropic but with polarization colors largely masked by reddish brown internal reflections, highly variable hardness and perfection of polish. Occurs as oxidation pseudomorphs after pyrite both in liberated particles and as composites with siliceous gangue.

Rutile - -1% - Light gray with violet tint, anisotropic but with polarization colors masked by strong white internal reflections, hard and is well polished. Present as very fine grained aggregates enclosed by siliceous gangue and is formed by alteration of titanian accessories from the host assemblage.

Trash iron - -1% - White metallic, isotropic, moderate hardness and is well polished. Present as small curved "shavings" added during sample preparation.

Non-metallic gangue - 98%

## Appendix 4

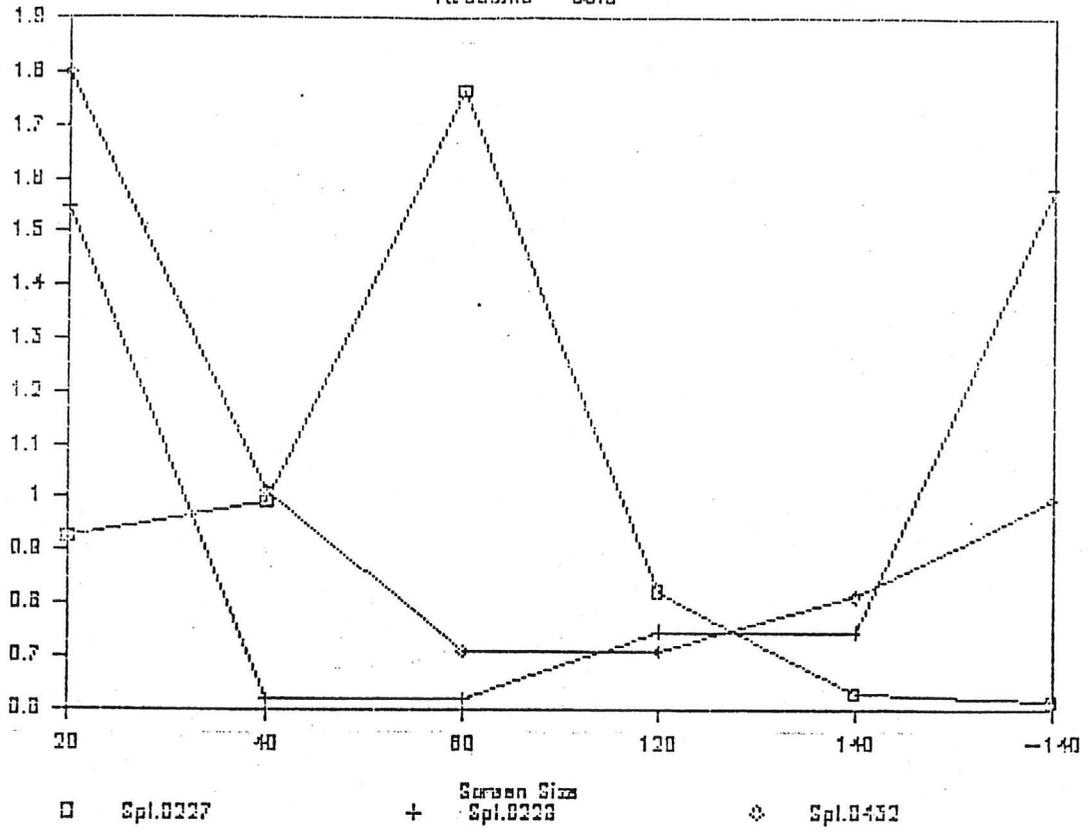
## B. V. O. Stack Screen Fire Assays

Spl No	Orig Wt gms	Screen	Spl Wt gms	Au gms	Tot. Au gms	Ag gms	Tot. Ag gms	Ratio Au:Wt	Ratio Ag:Wt
8227 Verdstone	2905	20	218.03	0.857	6.406	2.09	15.623	0.0294	0.0717
		40	282.54	0.918	8.893	2.02	19.568	0.0315	0.0693
		80	253.22	1.637	14.212	1.87	16.235	0.0561	0.0641
		120	114.55	0.762	2.933	1.85	7.305	0.0261	0.0638
		140	206.70	0.592	4.125	1.62	11.491	0.0200	0.0555
		-140	202.14	0.569	3.943	1.68	11.643	0.0195	0.0576
	2905		1277.19		40.572		81.855	0.0304	0.0637
8229 Verdstone	1468	20	248.13	0.118	1.004	4.23	35.985	0.0040	0.1450
		40	256.24	0.047	0.413	3.57	32.242	0.0016	0.1253
		80	187.17	0.047	0.302	4.14	25.357	0.0015	0.1419
		120	64.90	0.057	0.127	4.14	9.212	0.0020	0.1419
		140	43.19	0.057	0.084	2.71	4.013	0.0020	0.0929
		-140	105.07	0.121	0.440	2.89	10.510	0.0041	0.0991
	1468		905.70		2.370		118.531	0.0026	0.1245
8432 Verdstone	4352	20	214.07	0.206	1.512	2.1	15.413	0.0071	0.0720
		40	213.87	0.116	0.851	1.8	13.199	0.0040	0.0617
		80	238.96	0.081	0.664	1.61	13.191	0.0028	0.0552
		120	202.02	0.081	0.561	1.76	12.190	0.0028	0.0603
		140	242.92	0.093	0.775	1.89	15.741	0.0032	0.0648
		-140	144.68	0.114	0.565	2.12	10.515	0.0039	0.0727
			1256.52		4.927		80.250	0.0039	0.0645
8578 Bronco		20	187.62	0.090	0.579	0.81	5.210	0.0031	0.0278
		40	163.53	0.060	0.336	0.89	4.990	0.0021	0.0305
		80	329.11	0.045	0.508	0.65	7.334	0.0015	0.0223
		120	79.96	0.040	0.110	0.5	1.645	0.0014	0.0206
		140	42.13	0.058	0.098	0.73	1.054	0.0023	0.0250
		-140	175.24	0.086	0.517	0.88	5.287	0.0029	0.0302
			977.59		2.148		25.521	0.0022	0.0261
8583 Bronco	3184	20	175.47	0.075	0.451	0.47	2.828	0.0026	0.0161
		40	175.22	0.036	0.216	0.38	2.283	0.0012	0.0130
		80	171.85	0.031	0.183	0.39	2.298	0.0011	0.0134
		120	112.54	0.036	0.139	0.27	1.042	0.0012	0.0093
		140	71.8	0.039	0.095	0.33	0.912	0.0013	0.0113
		-140	258.37	0.053	0.469	0.35	3.100	0.0018	0.0120
			965.25		1.555		12.353	0.0015	0.0125
8589 Bronco	2968	20	215.27	0.034	0.251	0.12	0.886	0.0012	0.0041
		40	194.49	0.008	0.053	0.06	0.400	0.0003	0.0021
		80	289.25	0.005	0.050	0.13	1.289	0.0002	0.0045
		120	50.55	0.006	0.010	0.11	0.191	0.0002	0.0038
		140	112.88	0.007	0.027	0.08	0.310	0.0002	0.0027
		-140	230.74	0.007	0.055	0.19	1.503	0.0002	0.0065
			1093.19		0.447		4.578	0.0004	0.0039

Spl.No	Wt %	Au %	Ag %	Wt%/Au%	Wt%/Ag%
8227	17.071	15.79	19.09	0.92	1.12
	22.122	21.92	23.91	0.99	1.08
	19.826	35.03	19.83	1.77	1.00
	8.970	7.38	8.93	0.82	1.00
	16.184	10.17	14.03	0.63	0.87
	15.827	9.72	14.22	0.61	0.90
	100.000	100.00	100.00		
8229	27.40	42.36	30.36	1.55	1.11
	28.29	17.42	27.20	0.62	0.96
	20.67	12.73	22.41	0.62	1.08
	7.17	5.35	7.77	0.75	1.08
	4.77	3.56	3.29	0.75	0.71
	11.71	18.57	8.67	1.59	0.76
	100.00	100.00	100.00		
8432	17.04	30.69	19.21	1.80	1.13
	17.02	17.26	16.45	1.01	0.97
	19.02	13.47	16.44	0.71	0.86
	16.08	11.39	15.19	0.71	0.94
	19.33	15.72	19.62	0.81	1.01
	11.51	11.48	13.10	1.00	1.14
	100.00	100.00	100.00		
8578	19.19	26.96	20.42	1.40	1.06
	16.73	15.66	19.55	0.94	1.17
	33.67	23.64	28.74	0.70	0.85
	8.18	5.11	6.45	0.62	0.79
	4.31	4.57	4.13	1.06	0.96
	17.93	24.06	20.72	1.34	1.16
	100.00	100.00	100.00		
8583	18.18	29.03	22.87	1.60	1.26
	18.15	13.91	18.47	0.77	1.02
	17.80	11.75	18.59	0.66	1.04
	11.66	8.94	8.43	0.77	0.72
	7.44	6.18	6.57	0.83	0.88
	26.77	30.20	25.08	1.13	0.94
	100.00	100.00	100.00		
8583	19.69	56.17	19.34	2.85	0.98
	17.79	11.94	8.74	0.67	0.49
	26.46	11.10	28.16	0.42	1.06
	4.62	2.33	4.16	0.50	0.90
	10.33	6.06	6.76	0.59	0.65
	21.11	12.40	32.83	0.59	1.56
	100.00	100.00	100.00		

# B.V.O. Stock Fire Analyses

Verdatsone - Gold



# B.V.O. Stock Fire Analyses

Gravel - Gold

