

Bohemia District

Assays of vein material from various mines



FIELD OFFICES:
2033 FIRST STREET
BAKER
239 SOUTHEAST "H" STREET
GRANTS PASS

STATE OF OREGON
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
1069 STATE OFFICE BUILDING
PORTLAND 1

Date December 21, 1962

Field Laboratory Number _____

Name Harold Barton

General Laboratory Number _____

Address Route 4, Box 319

Spectrographic Laboratory Number S-2723

City Eugene, Oregon

QUALITATIVE SPECTROGRAPHIC ANALYSIS
(Quantities estimated to nearest power of ten)

#S-3

1. Elements present in concentrations over 10%

Silicon

2. Elements present in concentrations 10% to 1%

Aluminum, iron

3. Elements present in concentrations 1% to 0.1%

Magnesium, copper, zinc

4. Elements present in concentrations 0.1% to .01%

Sodium, manganese, titanium, lead, arsenic, antimony

5. Elements present in concentrations .01% to .001%

Molybdenum, silver, nickel, barium

6. Elements present in concentrations below .001%

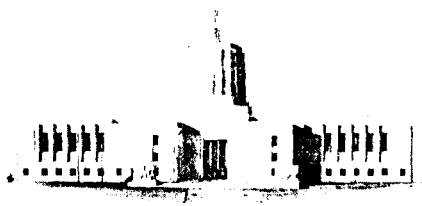
Chromium

Radioactivity Nil

(Paid - \$5.60)

Mercury Present

Thomas C. Matthews
Thomas C. Matthews, Spectroscopist



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PORTLAND 1

Date December 21, 1962

Field Laboratory Number _____ Name Harold Barton
General Laboratory Number _____ Address Route 4, Box 319
Spectrographic Laboratory Number S-2724 City Eugene, Oregon

QUALITATIVE SPECTROGRAPHIC ANALYSIS
(Quantities estimated to nearest power of ten)

#S-5

1. Elements present in concentrations over 10%
Silicon
2. Elements present in concentrations 10% to 1%
Aluminum, iron
3. Elements present in concentrations 1% to 0.1%
Copper, zinc
4. Elements present in concentrations 0.1% to .01%
Magnesium, sodium, potassium, manganese,
titanium, lead, arsenic, antimony
5. Elements present in concentrations .01% to .001%
Calcium, molybdenum, silver, nickel, barium
6. Elements present in concentrations below .001%
Chromium, strontium

Radioactivity Nil

(Paid - \$5.60)

Mercury Present

Thomas C. Matthews
Thomas C. Matthews, Spectroscopist



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Date December 21, 1962

Field Laboratory Number _____

Name Harold Barton

General Laboratory Number _____

Address Route 4, Box 319

Spectrographic Laboratory Number S-2725

City Eugene, Oregon

QUALITATIVE SPECTROGRAPHIC ANALYSIS
(Quantities estimated to nearest power of ten)

#S-6

1. Elements present in concentrations over 10%
Silicon, magnesium, calcium
2. Elements present in concentrations 10% to 1%
Aluminum, iron, zinc
3. Elements present in concentrations 1% to 0.1%
Manganese, lead
4. Elements present in concentrations 0.1% to .01%
Sodium, titanium, copper
5. Elements present in concentrations .01% to .001%
Silver, barium, strontium
6. Elements present in concentrations below .001%
Chromium, nickel

Radioactivity Nil

(Paid - \$5.60)

Mercury Trace


Thomas C. Matthews, Spectroscopist



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Date December 21, 1962

Field Laboratory Number _____ Name Harold Barton
General Laboratory Number _____ Address Route 4, Box 319
Spectrographic Laboratory Number S-2720 City Eugene, Oregon

QUALITATIVE SPECTROGRAPHIC ANALYSIS
(Quantities estimated to nearest power of ten)

#C-3

1. Elements present in concentrations over 10%
Silicon
2. Elements present in concentrations 10% to 1%
Aluminum, iron
3. Elements present in concentrations 1% to 0.1%
Magnesium, titanium, lead, copper, antimony
4. Elements present in concentrations 0.1% to .01%
Sodium, potassium, zinc, arsenic
5. Elements present in concentrations .01% to .001%
Manganese, molybdenum, nickel, boron, silver, barium
6. Elements present in concentrations below .001%
Chromium

Radioactivity Nil

(Paid - \$5.60)

Mercury Present


Thomas C. Matthews, Spectroscopist



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Date December 21, 1962

Field Laboratory Number _____

Name Harold Barton

General Laboratory Number _____

Address Route 4, Box 319

Spectrographic Laboratory Number S-2721

City Eugene, Oregon

QUALITATIVE SPECTROGRAPHIC ANALYSIS
(Quantities estimated to nearest power of ten)

#C-5

1. Elements present in concentrations over 10%

Silicon

2. Elements present in concentrations 10% to 1%

Aluminum, iron

3. Elements present in concentrations 1% to 0.1%

Titanium, arsenic

4. Elements present in concentrations 0.1% to .01%

Magnesium, sodium, potassium, lead, copper,
zinc, boron

5. Elements present in concentrations .01% to .001%

Manganese, molybdenum, nickel, barium

6. Elements present in concentrations below .001%

Silver, Chromium, strontium

Radioactivity Nil

(Paid - \$5.60)

Mercury Present


Thomas C. Matthews, Spectroscopist



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Date December 21, 1962

Field Laboratory Number _____ Name Harold Barton
 General Laboratory Number _____ Address Route 4, Box 319
 Spectrographic Laboratory Number S-2722 City Eugene, Oregon

QUALITATIVE SPECTROGRAPHIC ANALYSIS
 (Quantities estimated to nearest power of ten)

#C-7

1. Elements present in concentrations over 10%
 Silicon
2. Elements present in concentrations 10% to 1%
 Aluminum, iron, calcium, sodium
3. Elements present in concentrations 1% to 0.1%
 Potassium, zinc
4. Elements present in concentrations 0.1% to .01%
 Manganese, titanium, lead, copper, arsenic
5. Elements present in concentrations .01% to .001%
 Magnesium, nickel, strontium, barium
6. Elements present in concentrations below .001%
 Silver, chromium

Radioactivity Nil
 Mercury Trace

(Paid - \$5.60)

Thomas C. Matthews
 Thomas C. Matthews, Spectroscopist



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HRE.

STATE OF OREGON
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
1069 STATE OFFICE BUILDING
PORTLAND 1

Date April 5, 1963

Field Laboratory Number _____

Name Harold Barton

General Laboratory Number _____

Address Route 4, Box 319

Spectrographic Laboratory Number S-2798

City Eugene, Oregon

QUALITATIVE SPECTROGRAPHIC ANALYSIS
(Quantities estimated to nearest power of ten)

#C-15

1. Elements present in concentrations over 10%

Silicon

2. Elements present in concentrations 10% to 1%

Iron

3. Elements present in concentrations 1% to 0.1%

Aluminum, arsenic

4. Elements present in concentrations 0.1% to .01%

Sodium, potassium, manganese, lead, copper,
zinc, antimony

5. Elements present in concentrations .01% to .001%

Magnesium, titanium, zirconium

6. Elements present in concentrations below .001%

Barium

Radioactivity Nil

(Paid - \$5.60)

Mercury Minor amount.

Thomas C. Matthews
Thomas C. Matthews, Spectroscopist

M 1000

EUGENE L. HOAGLAND ASSAYER
7018 S.E. Seventeenth Ave.
Portland 2, Oregon

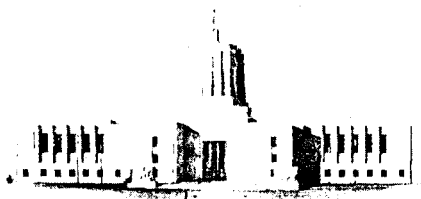
April 9, 1963

Samples from Harold E. Barton

Received April 5, 1963

<u>Lab.No.</u>	<u>Sample Marked</u>	<u>Results of Analysis</u>					
		<u>Ounces per Ton</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
		<u>Gold</u>	<u>Silver</u>	<u>Copper</u>	<u>Lead</u>	<u>Zinc</u>	<u>Silica</u>
		<u>(Au)</u>	<u>(Ag)</u>	<u>(Cu)</u>	<u>(Pb)</u>	<u>(Zn)</u>	<u>(SiO₂)</u>
4710	C-10	0.02	Trace	---	---	---	---
4711	C-12	0.015	Trace	---	---	---	---
4712	C-14	Trace	Nil	---	---	---	---
4713	C-13 Comp.	----	----	0.10	0.20	0.52	72.96

EA 116



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M 1000

STATE OF OREGON
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
1069 STATE OFFICE BUILDING
PORTLAND 1

Date April 5, 1963

Field Laboratory Number _____ Name Harold Barton
General Laboratory Number _____ Address Route 4, Box 319
Spectrographic Laboratory Number S-2797 City Eugene, Oregon

QUALITATIVE SPECTROGRAPHIC ANALYSIS
(Quantities estimated to nearest power of ten)

#C-13

1. Elements present in concentrations over 10%
Silicon
2. Elements present in concentrations 10% to 1%
Aluminum, iron, calcium, sodium, potassium
3. Elements present in concentrations 1% to 0.1%
Magnesium, titanium, lead(low), zinc
4. Elements present in concentrations 0.1% to .01%
Manganese, zirconium, copper
5. Elements present in concentrations .01% to .001%
Chromium, barium, strontium, nickel
6. Elements present in concentrations below .001%
Molybdenum

Radioactivity Nil

(Paid - \$5.60)

Mercury Nil

Thomas C. Matthews, Spectroscopist

EUGENE L. HOAGLAND ASSAYER
 7018 S.E. Seventeenth Ave.
 Portland 2, Oregon

January 23, 1963

Samples from Harold E. Barton

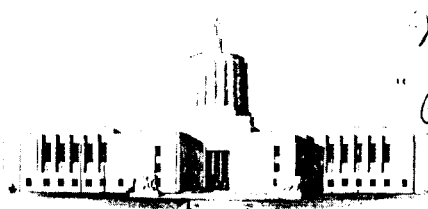
Received January 18, 1963

<u>Lab.No.</u>	<u>Sample Marked</u>	<u>Results of Analysis</u>					
		<u>Ounces per Ton</u>		<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
		<u>Gold</u>	<u>Silver</u>	<u>Copper</u>	<u>Lead</u>	<u>Zinc</u>	<u>Silica</u>
		<u>(Au)</u>	<u>(Ag)</u>	<u>(Cu)</u>	<u>(Pb)</u>	<u>(Zn)</u>	<u>(SiO₂)</u>
4652	263-M	0.04	9.20	0.20	0.15	0.83	-----
4653	264-M	Trace	Trace	---	---	---	---
4654	265-M	0.08	0.38	---	---	---	---
4655	265-M ⊕	0.04	0.60	---	---	---	---
4656	267-M	0.03	0.35	---	---	---	---
4657	268-M	0.12	2.70	0.60	2.70	1.40	-----
4658	C-11 Comp.	-----	-----	---	---	---	81.40

E 1246

GOVERNING BOARD

FRANK C. MCCOLLOCH, CHAIRMAN, PORTLAND
HAROLD BANTA, BAKER
FAYETTE I. BRISTOL, ROGUE RIVER



*N. of Myrtle near in temp.
"CS-4 (12-62)" Gilbertson rd. Cat trail*

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STATE OF OREGON
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
1069 STATE OFFICE BUILDING
PORTLAND 1

CS-4

February 1, 1963

Mr. Harold Barton
Route 4, Box 319
Eugene, Oregon

Dear Harold:

I've gotten the thin section back and have looked at it. I would call the rock a granodiorite and possibly add the word porphyry. The rock is considerably altered or bleached, probably hydrothermally. The presence of some hematite in fractures and the complete alteration of the amphiboles to chlorite and the abundance of sericite also points to hydrothermal alteration.

An estimation of the mineral percentages is as follows:

Potassium feldspar	20%
Sodic plagioclase	55
Quartz	15
Altered hornblende	6 (chlorite)
Opaque, calcite and other secondary minerals	4
	<u>100%</u>

Sincerely,

H. G. Schlicker
Geologist

HGS:lk

EUGENE L. HOAGLAND ASSAYER
 7018 S.E. Seventeenth Ave.
 Portland 2, Oregon

December 6, 1962

Samples from Harold E. Barton

Received December 2, 1962

Lab.No.	Sample Marked	Sample Wt.	Results of Analysis				
			Ounces per Ton		%	%	%
			Gold (Au)	Silver (Ag)	Copper (Cu)	Lead (Pb)	Zinc (Zn)
4585	C-1	1 1/4 Lbs.	0.015	Trace	---	---	---
4586	C-2	2.60 "	0.10	0.40	---	---	---
4587	C-3	2.70 "	0.32	2.30	---	---	---
4588	C-4	5.25 "	0.02	0.20	---	---	---
4589	C-5	5.50 "	0.03	0.10	---	---	---
4590	C- 6 7	8.00 "	0.02	Trace	---	---	---
4591	C-8	2.10 "	0.01	0.80	0.60	0.76	1.66
4592	C-9	2.80 "	Trace	Trace	---	---	---
4593	S-1	4.75 "	0.02	Trace	---	---	---
4594	S-2	2.30 "	Trace	Trace	---	---	---
4595	S-3	8.00 "	Trace	Trace	---	---	---
4596	S-4	11.00 "	0.04	3.80	1.80	---	---
4597	S-5	8.50 "	Trace	0.80	---	---	---
4598	S-6	2.20 "	Trace	Trace	---	---	---

E L H

EUGENE L.HOAGLAND ASSAYER
7018 S.E.Seventeenth Ave.
Portland 2, Oregon

December 28,1962

Samples from Harold E.Barton

Received December 21,1962

<u>Lab.No.</u>	<u>Sample Marked</u>	<u>Results of Analysis</u>	
		<u>Ounces per Ton</u>	
		<u>Gold</u>	<u>Silver</u>
		<u>(Au)</u>	<u>(Ag)</u>
4631	M-1	Trace	0.80
4632	M-2	0.01	0.70
4633	M-3	0.02	0.40
4634	H-1	Trace	0.10

EAH

SPECIMEN - Notes and Assay Descriptions

The Specimen claim was located on the vein known as War Eagle No. 1. In addition it is cut, probably throughout its width by the strongest crossvein known in the Bohemia District, the Johnson vein and by the War Eagle No. 2 vein which apparently links the Champion and Musick mineralized areas. The intersection of the Johnson and War Eagle No. 2 veins occurs within the northwest portion of the Specimen claim. The workings in the vicinity of the intersection have caved and were largely covered by the road work done in 1957 or just before. It would also appear that mineralization of the War Eagle No. 1 vein on the Specimen claim would be favorably influenced by other crossveins inasmuch as those of the Good Hope claim to the north and of the Musick Extension claim to the south generally trend in this direction.

<u>Assay No.</u> - <u>Date</u> - <u>Certificate</u>	<u>Oz</u>	<u>Oz</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>/ton</u>
	<u>Gold</u>	<u>Silver</u>	<u>Copper</u>	<u>Lead</u>	<u>Zinc</u>	<u>Value</u>
1 - 11.13.57 -	0.02	2.90	(some)	\$4.32 plus

(3 channel cuts across 12", 15", 15" at face of Discovery drift on Specimen; an oxidized quartz zone with some sulfides remaining, particularly pyrite, chalcopyrite.)

5 - 11.13.57 -	0.16	0.90				6.72
----------------	------	------	--	--	--	------

(channel cut across 28" hangingwall quartz band, heavy in specularite; at crosscut tunnel and winze on War Eagle No. 2 vein in overlap area of Specimen and Bertha claims. Sample taken 20 feet from road, on left of tunnel, 18" above floor. Vein dips northerly about 70°.)

9-33 - 9.8.59 - ELH, 9.16.59 -	nil	0.40				0.50
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(A channel across 4" to 6" of quartz, Johnson Cross vein cut below Specimen tunnels in new cat pioneer road)

S957-1 - 6.29.61 by L.H. -

Face of Discovery drift; channel across 15" quartz, cut 18" from floor (thoroughly leached in back of tunnel); shows chalcopyrite, chalcocite(?), in vuggy quartz

S957-2 - 6.29.61 by L.H. -

Channel cut across 25" quartz band, 15 feet West of crosscut at Discovery drift; a well-defined hangingwall with gouge; specularite prominent in quartz on dump.

S957-3 - 6.29.61 by L.H. -

Face of drift on cut and drift West of Discovery on Specimen; strikes N65W, dips 85° SW; channel across 13" quartz, some chalcopyrite in hard footwall quartz. All quartz on HW is crystalline, vuggy, thoroughly oxidized.

SPECIMEN - Notes and Assay Descriptions - Page 2

<u>Assay No.</u>	<u>Date</u>	<u>Certificate</u>	<u>Gold</u>	<u>Silver</u>	<u>Copper</u>	<u>Lead</u>	<u>Zinc</u>	<u>Value</u>
			Oz	Oz	%	%	%	/ton
S-1	11-24-62	ELH, 12.6.62	0.02	Tr				\$0.70

(Two small cross-veinlets in cut to westerly drift on Specimen; five feet from intersection with Specimen (War Eagle No. 1 Vein); 2" width on left and 4" on right. Though largely oxidized, a little pyrite remained in the crystalline quartz in the right band; sampled 3 ft. below outcrop, heavy iron stain.)

S-2	11-24-62	ELH, 12.6.62	Tr	Tr				none
-----	----------	--------------	----	----	--	--	--	------

(cut two small cross-veinlets in HW 10 feet to left in drift above; composed of 2 to 3½ inches of drusy quartz from a 6½ inch minor fracture with pyritized horse between oxidized drusy and vuggy quartz veinlets; 30" above floor of drift.)

S-3	11-24-62	ELH, 12.6.62	Tr	Tr	(some)			-- pl
-----	----------	--------------	----	----	--------	--	--	-------

(Face of drift, above working, shows fracture zone approximately 5 feet in width; Sample S-3 was a composite of two channels cut in the face of the drift, one 13" wide at center of face, the other 15" wide, one foot below, in silicified fault breccia; with iron and manganese staining, largely oxidized, specularite prominent; vuggy quartz with a little chalcopryrite remaining in one pocket.

A Spectrographic test, 12,21.62 indicated high silica content, 0.1% to 1% zinc, 0.1 to 0.01% of lead, arsenic and antimony, and .001% to .01% silver.)

S-4	11-24-62	ELH, 12.6.62	0.04	3.80	1.80			\$17.31
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(Face of discovery drift; channel cut across 15 inches 1½' above floor and 15 inches 2½' above floor; vein of silicified fault breccia; has other parallel seams and intersecting seams from HW, considerable oxidation, some pyrite remains.)

S-5	11-24-62	ELH, 12.6.62	Tr	0.80	(some)			\$ 1.00 pl
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(Channel cut 20" sugary, vuggy quartz, back of Disc. drift, 10 ft. westerly of crosscut to drift; contains chalcopryrite, galens (?), pyrite; largely oxidized area.

A Spectrographic test, 12,21.62 indicated a high silica content, 0.1% to 1% of copper and zinc, and .01% to 0.1% of lead, arsenic and antimony, and .001% to .01% of silver.)

SPECIMEN - Notes and Assay Descriptions - Page 3

<u>Assay No.</u>	<u>Date</u>	<u>Certificate</u>	<u>Oz</u> <u>Gold</u>	<u>Oz</u> <u>Silver</u>	<u>%</u> <u>Copper</u>	<u>%</u> <u>Lead</u>	<u>%</u> <u>Zinc</u>	<u>/ton</u> <u>Value</u>
C-1	- 11.21.62	- ELH, 12.6.62	0.015	Tr.	(some)			\$0.52 (plus)
(Chipped pieces of Johnson vein type (vuggy quartz, with specularite in dioritic intrusive) from dump of cut on War Eagle No. 2 (Calif.) vein in apparent intersection zone of Johnson vein. Contains a little chalcopyrite.)								
C-2	- 11.21.62	- ELH, 12.6.62	0.10	0.40				\$4.00
(Chipped sample from many pieces of California vein-type quartz, vicinity of C-1; vein breccia made up of fragments of tuff, silicified; contains specularite, schorlite.)								
C-3	- 11.21.62	- ELH, 12.6.62	0.32	2.30				\$14.07 (plus)
(Chipped sample from large pieces of porous quartz, fully oxidized, oxides of lead, from small cut on HW portion of California vein, 20 feet easterly from cut, tunnel and winze common to Bertha and Specimen claims. A Spectrographic analysis, 12.21.62, indicated high silica, 0.1% to 1% of lead, copper and antimony, .01% to 0.1% zinc and arsenic, and .001% to .01% silver.)								
C-4	- 11.21.62	- ELH, 12.6.62	0.02	0.20				0.95
(Channel cut across 15", hangingwall of vein, 57 feet S75E from footwall of vein in cutof winze tunnel; vein is in tuff, contains specularite, mostly dense quartz, fully oxidized, a few porous seams. Clayey and silicified bands to footwall to total vein width of about six feet.) (Vein crosses below road to east.)								

WAR EAGLE - Notes and Assay Descriptions - (See also Specimen Descrip.)

The War Eagle claim is traversed, apparently for its entire length, by two intersecting veins of unusual continuity, the War Eagle No. 1 vein appearing to be linked through the Snowbird claim to the production zone of the intersecting Vesuvius and Jasper veins. The War Eagle No. 2 vein appears to link with the California-Musick-Yukon complex. Both of these veins contain the usual commercial metals for the District. In addition, mixed sulphides occur in another westerly trending vein at the south edge of the War Eagle and in the "Galena Spur" cross vein shown in a surface cut in the zone of intersecting of the main War Eagle veins.

<u>Assay No.</u>	<u>- Date</u>	<u>- Certificate</u>	<u>Oz Gold</u>	<u>Oz Silver</u>	<u>% Copper</u>	<u>% Lead</u>	<u>% Zinc</u>	<u>/ton Value</u>
2	- 11.13.57	-	0.02	0.40		0.60	0.72	\$4.12
(Channel cut across 30" hangingwall zone, 33 feet westerly on main drift in War Eagle tunnel. Vein shows southerly dip here; at least 2 feet added sulfide zone on footwall.)								
3	- 11.13.57	-	0.24	2.20	1.20	0.35	0.66	\$19.59
(Channel cut across 10" sulfide band on right rib, nearly vertical; 11 feet westerly in drift in War Eagle tunnel.)								
4	- 11.13.57	-	0.12	1.70	Tr	16.78	13.20	\$70.51
(Channel cut across 10" sulfide band on right side of cut over War Eagle intersection zone, 10 feet from road. Dips easterly about 60° and strikes north.)								
C-5	- 11.21.62	- ELH, 12.6.62	0.03	0.10				\$ 1.17

(War Eagle No. 2 vein in bank of new Gilbertson road, 180' westerly from the cut-tunnel-winze common to Berthe and Specimen claims. Channel cut across 26" iron-stained and silicified breccia with some pyrite on footwall: local strike S75E, dip 82° SW; extensive bleaching and iron stain in north wall of tuff; an additional 10" of vein material on HW not sampled.)

S-6	- 11.24.62	- ELH, 12-6-62	Tr	Tr	(Some)			None
-----	------------	----------------	----	----	----------	--	--	------

(A small quartz vein near end of Gilbertson tunnel, approx 476' along crosscut, strikes N40W, dips 62° Sw. Sample S-6 was cut across 6" of silicified breccia, containing vugs of quartz, moderate oxidation, some secondary calcite, pyrite, galena; cut taken head high on left of crosscut tunnel.

A Spectrographic test showed high silicon, magnesium and calcium, 1% to 10% zinc, 0.1% to 1% lead, .01% to 0.1% copper and .001% to .01% silver.)

(plus)

WAR EAGLE - Notes and Assay Descriptions - Page 2

<u>Assay No.</u>	<u>- Date</u>	<u>- Certificate</u>	<u>Oz Gold</u>	<u>Oz Silver</u>	<u>% Copper</u>	<u>% Lead</u>	<u>% Zinc</u>	<u>/ton Value</u>
C-7	- 11.24.62	- ELH, 12-6-62	0.02	Tr.	(Some)	\$0.70 (plus)
<p>(Channel cut across 4 feet, back of tunnel at start of drift to east in main Gilbertson (War Eagle) tunnel; some secondary pyrite and spar; copper stain; chlorite; galena and chalcopyrite. A spectrographic test, 12.2162, indicated high silica, 0.1% to 1% zinc, .01% to 0.1% lead, copper and arsenic, and less than .001% silver.)</p>								
C-8	- 11.24.62	- ELH, 12-6-62	0.01	0.80	0.60	0.76	1.66	\$10.49
<p>(Channel cut across 9½ inches, back of drift, 12 feet east of sample C-7 in quartz band; contains mixed sulfides, copper stain. Composed of a massive band of quartz, little leaching had occurred at this point.)</p>								
C-9	- 11.24.62	- ELH, 12-6-62	Tr	Tr				none (plus)
<p>(Channel cut 12" and 6" in back, 3' and 6' beyond C-8 and in altered breccia in hangingwall zone; contains pyrite and spar; a very little sphalerite and galena in contained rock fragments in waste-resembling breccia.) (The quartz band sampled in C-8 continues about 20 feet easterly with mixed sulfides, then enters left wall.)</p>								
- - - - -								
SM-1	- 10.16.57	-	Tr	Tr				none
<p>(Cut on west end of War Eagle claim, common to Snowbird claim in zone of heavy alteration. A channel cut was made across 14 inches of altered and pyritized andesitic tuff(?) at the east end, bottom of cut, showing a little silicification and a small veinlet of crystalline quartz.)</p>								
SM-2	- 10.16.57	-	Tr	Tr				none
<p>(Same as SM-1 but cut across 14" at southern side, east end, at bottom; pyritized andesite with veinlet of vuggy, leached quartz.)</p>								

HOME RUN - Sample Descriptions and Field Notes

Sample No.	Date	Certificate	oz Gold	oz Silver	% Copper	% Lead	% Zinc	\$/ton Value
SHR 5	10-22-57	ELH, 11-22-57	0.01	0.40	Tr	0.41	0.92	\$3.80

(channel cut across 30" massive quartz outcrop 30 feet easterly from sample SHR6 on strike of vein ((area of cut shown on east end of Home Run Extension on survey plat)); a little galena present; heavy, black, iron and manganese staining; 25° magnetic variation noted on backsight along strike.)

SHR 6	10-22-57	ELH, 11-22-57	0.02	1.10	0.25	0.82	0.42	\$6.26
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(channel cut across 15" quartz, west end of new cat cut on old surface cut near west end line of Home Run. A little chalcopyrite, galena, and sphalerite; some cerusite and malachite. Sample cut about 18" below surface outcrop of vein and sulfides were probably largely leached.) ("HR-1", 6-29-61, N78W, dip 68° SW x15"))

((An exposure of the same vein was examined 12.8.62 approximately 250 feet westerly from the above samples and showed on the west side of a small cut a 16" quartz vein striking N80 W, dip 81° SW, containing specularite. Largely oxidized vein material.))

((A 3" band of vuggy, oxidized vein material of crystalline quartz is exposed in the crosscut tunnel about 125' easterly from the vicinity of SHR6 above; CS taken 6-29-61; this tunnel does not appear to have exposed the full width of the mineralized zone))

((The recent cat trail to the small tunnel shown at the center of the claim exposes a 2-foot silicified vein zone with veinlets of crystalline quartz and some chalcopyrite. This appears to be an extension of the vein disclosed at the west end of the claim. It strikes N70W, dips steeply to the N.)) ((6-29-61))

((The vein is again exposed in the creek bed just east of the Discovery cut and contains vuggy quartz with mixed sulphides.))

HOME RUN EXTENSION - Sample Descriptions

<u>Sample No.</u> - <u>Date</u> - <u>Certificate</u> -	<u>Oz</u> <u>Gold</u>	<u>Oz</u> <u>Silver</u>	<u>%</u> <u>Copper</u>	<u>%</u> <u>Lead</u>	<u>%</u> <u>Zinc</u>	<u>/ton</u> <u>Value</u>
C-10 - 12-8-62 - ELH, 4.9.63	0.02	tr				\$0.70

(Channel cut across 24" on HW of 7-foot brecciated vein, altered and silicified: left side of tunnel, back, approaching start of drift to left in Discovery improvement; contains pyrite, limonite, hematite, though mostly oxidized.)

C-12 - 12.8.62 - ELH, 4.9.63	0.015	Tr				0.52
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(Channel cut across 26" to right of sample C-10 above; breccia and altered wall rock; limonite especially prominent; nodules of vuggy crystalline quartz.)

C-14 - 12.8-62 - ELH, 4.9.63	Tr	Nil				none
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(Channel cut across 30" to right of sample C-12 above; vein breccia and altered wall rock; some crystalline quartz veinlets but light silicification outside of veinlets--appears horsey and at the right side of the tunnel more silicification has occurred in this zone of the vein. Very wet!)

The vein in the vicinity of these three samples has facing seams of quartz and heavy pyritization and alteration in both walls. It occurs in a tuff.

A composite sample made of equal parts of the above, labeled C-15, was given a Spectrographic test, 4.5.63, and indicated a high content of silica, 0.1% to 1% arsenic; .01% to 0.1% lead, copper, zinc and antimony.

8-60 - 7.9.58 - ELH, 8.4.58	0.01	Tr.				0.35
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A sample cut across a 20" channel at the face of the 7 ft. drift to the left at the Discovery tunnel was composed of a limonite-manganese gouge band

MYSTERY - Shaft near claim center

(Notes 12-13-62:hb)

Sample No.	Date	Certificate	Gold oz	Silver oz	Copper %	Lead %	Zinc %	Value \$/ton
M-1	12-13-62	ELH, 12-28-62	Tr	0.80				\$1.00

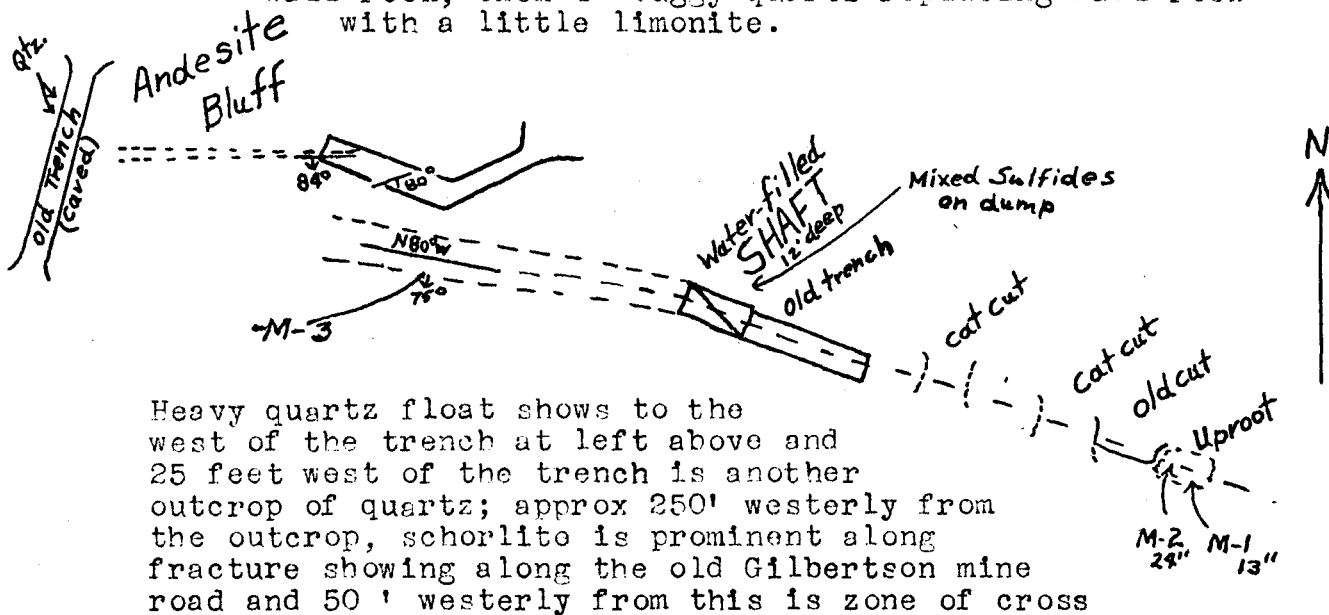
(channel cut of 12" quartz in easterly end of exposures near shaft at center of Mystery claim (see sketch below); specularite and manganese oxide prominent, some iron stain; thoroughly oxidized and leached.)

M-2	12-13-62	ELH, 12-28-62	0.01	0.70				\$1.22
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(channel cut 24", 3 feet westerly from M-1, brecciated vein material, greenish color, porous, quartz and specularite prominent; a little chalcopyrite on footwall, otherwise thoroughly oxidized and leached.)

M-3	12-13-62	ELH, 12-28-62	0.02	0.40				\$1.20
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(channel cut 12" of hangingwall of 4-foot vein at westerly end of shaft area (see sketch below); strike N80W, dip 75° SW. 4" on HW contained vuggy, leached, pitted quartz replacing vein breccia, some limonite; below this is 8" of silicified and altered wall rock, 1" to 2" of comb quartz in stringer, 12" wall rock, then 4" vuggy quartz replacing wall rock with a little limonite.)



Heavy quartz float shows to the west of the trench at left above and 25 feet west of the trench is another outcrop of quartz; approx 250' westerly from the outcrop, schorlite is prominent along fracture showing along the old Gilbertson mine road and 50' westerly from this is zone of cross

fractures resembling those seen at places in the Johnson vein; strike N40E to N45E and dips steeply SE over a width of 10 feet in side of road.

MYSTERY - Sample Descriptions and Field Notes (Also see sketch)

Sample No.	Date	Certificate	oz Gold	oz Silver	% Copper	% Lead	% Zinc	/ton Value
L-136	12-3-58	ELH, 12.15.58	Tr	Tr	()		some

(18-inch quartz band at easterly end of 1958 exposure in long cut. A little mixed sulfides left, mostly leached.)

8-96	9-11-58	-ELH, 9.20.58	Tr	0.50	0.20	2.55	1.04	\$9.61
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(Grab of sulfide band in vein exposed by old wagon road and cat cut: about 100' westerly from tunnel (mystery) near intersection of Gilbertson group and Alpharetta Wagon Road--on road to Gilbertson group..)

8-99	9-8-58	- ELH, 9.20.58	0.01	0.40	0.46	0.41	0.62	\$5.99
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(15" quartz vein, back, 15 feet from face of tunnel starting on N. sideline of Musick Extension (suicide tunnel); a little chalcopryite, galena and sphalerite.) (On Babe Ruth claim)

M-4	12-8-62	- ELH, 4.	.63					
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(Sampled as "CS2", cut across heaviest sulphide band, 4" wide left, face, 8-foot drift from recent cat cut on Babe Ruth, approximately 130 feet east of center end of Mystery claim: a five- or six-foot vein is exposed but is largely oxidized and leached. This was visited 10.28.60 by HB, MS, LH.) (Resembles Musick ores: galena, sphalerite, low chalcopryite, vuggy, x'ln quartz, limonite, carbonates (?).)
(Strike of footwall N65W, dip 84° SW.)

JIGGS and MODOC - Field Notes and Sample Descriptions

Jiggs No. 1 Sample by LH:

(6.28.61 - Approximately 10 inches of quartz was cut on the west end of the Discovery cut. Here the vein had irregular walls in what appeared to be rhyolite though andesite outcropped above and below this horizon. The quartz band was completely oxidized and contained limonite and manganese oxide staining, and represented a zone of joining of small reticulating veinlets of quartz in a wide limonite-stained altered zone. The vein outcrops in bare rock at a point approx. 50 feet S65W from the apex at the Discovery cut; at the easterly end of the Discovery cut the local strike is N74E and dip 88° S for a 3" quartz band with MnO₂)

((Intersecting minor fractures are indicated by the cut and tunnel east of the Discovery cut and by the cut and tunnel shown on the Lower Musick Road, both within the boundaries of the Jiggs claim. A stronger northwesterly trending and intersecting vein is shown in the overlap area of the north sideline of the Jiggs claim and the west end of the Modoc. This vein may be the same encountered on the Wild Hog tunnel under the northwest corner of the Jiggs and reported as developing from slips and seams being followed, to vein matter 3 feet wide at the face of the tunnel (Elmer's report, P. 23)).

<u>Sample No.</u>	<u>Date</u>	<u>Certificate</u>	<u>Gold</u>	<u>Silver</u>	<u>Copper</u>	<u>Lead</u>	<u>Zinc</u>	<u>Value</u>
			oz	oz	%	%	%	/ton
SJ4	10.22.57	ELH, 11.22.57	0.03	0.50				\$1.67

(20" width, northerly side of vein, at west side of 2nd cat cut (from west) in Jiggs-Modoc overlap zone; quartz and altered rock.)

SJ7	10.22.57	ELH, 11.22.57	0.02	0.30				1.07
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(15" left side of vein, first cat cut on Jiggs, just west of center of cut; mostly crystalline quartz.)

SM3	10.16.57	ELH: IDENTIFICATION	- Tourmaline (var. <u>Schorlite</u>)					
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(picked sample of light-colored, porphyritic float with dark radiating crystals found from Musick road area to Discovery area on War Eagle. Possibly contact-metamorphic tourmaline.)

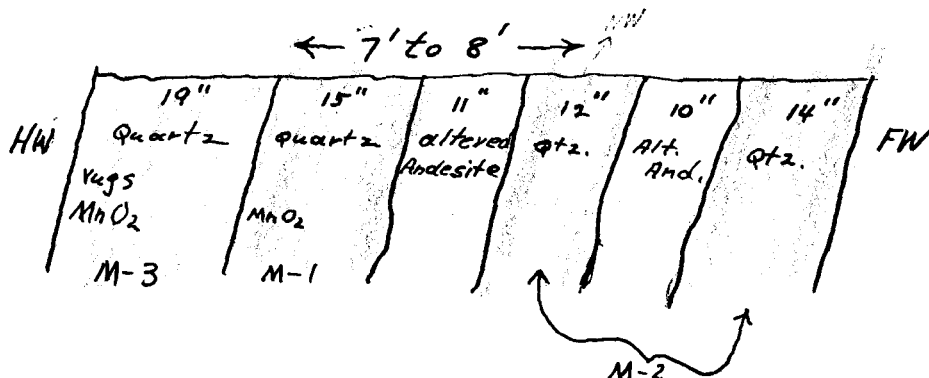
8-50	7.17.58	ELH, 8-4-58	0.02	Tr.				0.70
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(12" crystalline quartz and silicified wall rock, Jiggs Discovery cut at face, 1 foot above floor.)

<u>Sample No.</u>	<u>- Date</u>	<u>- Certificate</u>	<u>oz</u>	<u>oz</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>/ton</u>
			<u>Gold</u>	<u>Silver</u>	<u>Copper</u>	<u>Lead</u>	<u>Zinc</u>	<u>Value</u>
M-1 (LH)	- 6.28.61							
M-2 (LH)	- 6.28-61							
M-3 (LH)	- 6.28-61							
M-4 (LH)	- 6.28-61							

M-1 through M-3

(The above samples/were taken in the first cat cut west of the twin shafts at the west end of the Modoc ((same cat cut as sample SJ4)). All of the vein material is completely oxidized; vugs and manganese oxide occur in the hangingwall quartz. See sketch below.)



(M-4 was a cut of 12 inches of quartz approximately N40°W of the above in the northwesterly-trending vein exposed in the first cat cut.)

M-6 (LH) - 6.28-61

(A small cut S24W 100' then N88W 75' from the Discovery monument of the Modoc reveals a vein striking toward the twin shafts above. The vein contains vuggy, crystalline quartz, specularite and probably cerusite. Sample M-6 represented a 21" channel cut, 3 feet below surface at the face of the cut. Strike approximately N40W, dip to SW.)

MODOC:

M-5 (LH) - 6.28-61

(The Modoc Discovery exposes a 15-foot vein and alteration zone indicating block fracturing or displacement. A 26" quartz vein on the hangingwall locally strikes N60W and stands vertical on the HW side and strikes N65W and dips 68° SW on the footwall side. Andesite is exposed to the south of the vein. The footwall of the 15-foot zone exposed strikes N60W and dips 69° SW and is composed of silicified wall rock of andesite (or rhyolite). Oxides of iron are prominent throughout.)

MORNING GLORY - Sample Descriptions and Field Notes
 (See also sketch, Discovery cut)

<u>Sample No.</u> - <u>Date</u> - <u>Certificate</u>	<u>oz</u> <u>Gold</u>	<u>oz</u> <u>Silver</u>	<u>%</u> <u>Copper</u>	<u>%</u> <u>Lead</u>	<u>%</u> <u>Zinc</u>	<u>/ton</u> <u>Value</u>
8-48 - 7.23.58 - ELH, 6.27.58	0.01	Tr				\$0.35

(42-inch quartz vein, 4 ft. W. of survey stake No. 7
 in Discovery cut at roadside. Vein strikes easterly
 and westerly--above road to east, below road to west)

7-LH - 6.23.61 -

(5-foot vein; manganese oxide on footwall probably not
 in sample)

610-6-MS - 11-11-54 - Exh.2 #02742	1.27	0.80	Nil			45.45
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(0.5-foot; strike N70W, dip 60°SW; vugs, quartz,
 silicified, altered andesite. Quartz vein with
 iron and manganese stain) (Locality 33)

MG-5-LH - 9-27-61 -

(Found 3 new cuts on (a) Morning Glory vein and 1 new
 cut on schorlite, between county road and Knott trail.
 C.S. taken area MG-5 which was cut across 12 inches,
 W end of cut, 4 feet below surface; strike N76W, dip
 77° S (LH); heavy iron staining in brittle, sugary quartz)

(MG -6, cut across 5 inches quartz, iron-stained, some
 manganese oxide (?); strike N76W, dip 68° S)

MAIN - Sample Descriptions and Field Notes

<u>Sample No.</u>	<u>- Date</u>	<u>- Certificate</u>	<u>oz</u>	<u>oz</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>/ton</u>
			<u>Gold</u>	<u>Silver</u>	<u>Copper</u>	<u>Lead</u>	<u>Zinc</u>	<u>Value</u>
8-51	- 7.23.58	- ELH, 8.4.58	0.025	Nil				\$0.87

(22-inch vein, mostly quartz, face, westerly side of Discovery cut at bottom; strike N80W, dip 70° more or less SW; outcrops along ridge top)

(9.27.61: same vicinity, 6-feet below surface, Main #1 cut by LH; some vuggy crystalline quartz, some massive crystalline quartz, limonite and Hematite (?); some manganese oxide; Main #2 was from another band in the footwall, cut across 12 inches of silicified porphyritic material with quartz veinlets, 5 feet below surface, striking N74W, dip 69° SW (LH), contained some MnO₂. All material completely oxidized with horse of waste between the quartz bands.)

SNOWBIRD - Sample Descriptions and Field Notes

<u>Sample No.</u>	<u>Date</u>	<u>Certificate</u>	<u>oz</u> <u>Gold</u>	<u>oz</u> <u>Silver</u>	<u>%</u> <u>Copper</u>	<u>%</u> <u>Lead</u>	<u>%</u> <u>Zinc</u>	<u>/ton</u> <u>Value</u>
8	11.13.57	ELH, Nov., 1957	0.015	Tr				\$0.52

(24-inch quartz vein exposed in cut on West side of old Musick Road on SNOWBIRD. Strike is N55W, stands nearly vertical.)

9	11.13.57	ELH, Nov., 1957	0.03	Nil				1.05
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(across 21-inch quartz band; face of SNOWBIRD cut on road to Bohemia Saddle. Shows some leaching; nearly vertical dip.)

8-44	6.16.58	ELH, 6.27.58	Tr	Nil				---
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(18-inch quartz band. Hangingwall, Discovery cut, SNOWBIRD. Vuggy, crystalline quartz with limonite staining)

8-45	6.16.58	ELH, 6.27.58	0.012	Nil				0.42
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(9½ inches, hangingwall side of footwall vein in Discovery cut, Snowbird. Mostly altered wall rock, heavy in limonite. A little banded and spotty silicification. From face, 2 feet above floor. A 4-foot horse between this and 8-44, altered.)

8-46	6.16.58							
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(14½ inches, footwall side of footwall band, Discovery cut, face, left of No. 8-45. Vuggy quartz and silicified andesite. Footwall considerably altered for 12 inches, then little alteration. 2 feet above floor.)

Note - 6-23.61 - (HB & LH)

(fissure zone about 8 feet wide, with footwall band of gossan-type quartz. Complete oxidization. Band of replacement quartz on hangingwall. At Discovery cut: strike of vein N36W, dip 80° SW to vertical.)

Note - 11-2-60 - (HB & BW)

(from vein in cut on upper Musick road, Snowbird, S50E approx. 125' to fractured area in cat cut; S50W to takeoff of cat cut, paced, 135 feet, then along cat cut 100 feet due east and N70E 85 feet to fractured area striking S60E, dip 80° N.)

SAMPLE DESCRIPTIONS - MUSICK 600 Level

Nos. 263-M to 268M, M245
(600-West)

- No. 263-M (S-1-8-8-62) Taken 6' E of Sta. 632, center, back. Channel cut 3' very fine, hard, ferruginous type quartz with mixed sulfides. Approximately 12" of clay-iron-breccia gouge on hanging wall not sampled. Tested for gold, silver, copper, lead and zinc. See geol. sketch.
- No. 264-M (S-2-8-8-62) Channel cut 7", 6' E of Sta. 632 and 9", 19' E of Sta. 632 in hanging wall oxidized zone. Material: soft, yellow, silicified vein breccia with iron-clay characteristics. Tested for gold and silver.
- No. 265-M (S-3-8-8-62) Channel cut 13" of back, hanging wall, at right side last crosscut to left and 16" of same on left side of crosscut (two cuts 5' apart along drift). Material: yellowish, silicified, hanging wall iron-clay band with quartz inclusions similar to footwall vein material; all oxidized except in the quartz inclusions. Tested for gold and silver.
- No. 266-M (S-4-8-8-62) Channel cut 28" to footwall of first channel of sample 265-M. Material: mostly oxidized, possibly a little sulfides; mixed characteristics of hanging wall and quartz bands. Tested for gold and silver.
- No. 267-M (S-5-8-8-62) Channel cut 36" to footwall side of 266-M. Material: heavily silicified wall rock; possibly a little mixed sulfides. Tested for gold and silver.
- No. 268-M (S-6-8-8-62) Channel cut 26", same location, the mixed sulfide band; considerable leaching but good sulfide values remain. The band has fair continuity and looks like a zone to be stoped. Tested for gold, silver, copper, lead and zinc.

M245 (7-31-62) Channel cut 32" principal mineralized zone of vein; contains a little mixed sulfides, malachite

At Sta. 632, breast of drift:

Brecciated and sheared zone is quite wide; mostly altered into hanging wall with considerable development of clay minerals. It is likely that early closing of the vein by silicification, and the alteration, limited solution access. Hanging wall rock is soft, yellowish; some MnO₂ stain throughout; sparse silicification in veinlets.

Black limonitic stain in drainage comes from a damp facing band about 10' in FW from sample and from minor water course at end of crosscut toward surface; stain not in main drift.

:hb

BUTTE - Field Notes

(See also West Musick data)

Butte Sample No. 1 by LH:

(Taken from E-W striking vein showing in a cut just east of the apex of the Musick-California veins. The cut exposes vuggy quartz with heavy honeycomb structure; completely oxidized. A cleavage on the footwall dips 62° south but the true footwall may be steeper. Two cuts 50 feet below reveal a wide zone of reticulating veinlets of crystalline quartz in altered rhyolite.)

(An apparently unrelated silicified sheer zone was examined near the northwest corner (4) of the Butte. It had an approximate strike of N75W and dip of 85°SW, contained some replacement quartz, manganese oxide and limonite; silicification extended into both walls.)

Apex - Musick vein - 12.8.62:

(The crossing on Bohemia saddle reveals silicified vein breccia; crystalline quartz, evidence of leaching of mixed sulfides--the general characteristics of the Musick-California vein zone; outcrops approx. S75E to the east and has southerly dip.)

MUSICK 200-West

1962 Samples on Yukon Vein
by H. Barton for
Emerald Empire Mining Co.

Gold \$35
Silver \$1.20

<u>Location</u>	<u>No.</u>	<u>Width</u>	<u>Gold: oz/T</u>	<u>Silver: oz/T</u>	<u>Value/T</u>
West Breast	195M	20" & 22"	0.10	0.30	\$3.86
4' E of Sta*	M240	22"	0.815	0.52	29.16
9' E of Sta.	194M	23"	1.52	0.85	54.22
14' " "	M241	40"	0.26	1.35	10.72
19' " "	M242	36"	0.135	0.65	5.50
27' " "	M243	42"	0.045	0.45	2.11
40 " "	196M	15"	0.18	1.70	8.34
W. end of "intersect- ion" stope: 1st tripple set timbers	M244	30"	0.08	0.52	3.42

*Station in hanging wall, center of crosscut at intersection with Yukon

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The vein was thoroughly oxidized throughout this zone, occurs in rhyolite; silicification is heavy throughout the Yukon vein but appears to weaken in the Hazel vein as it approaches the intersection zone near sample M244; the crosscut from the Hazel to the Yukon vein near the 200-level portal follows a minor silicified vein which links the two major veins. Cellular structure in the quartz of the Yukon vein indicates heavy leaching of mixed sulfide ore similar to that intersected in 1962, 630 ft. below on the 1000-level.

A belt sample of 50 tons of "ore" (mostly from areas of M241 to M243 above), No. 303, assayed: 0.105 au and 0.42 ag for a value of \$4.18. This leached material was used in a trial run for oxidized ore at the Champion mill, blended with other oxidized ores, in September, 196. It was picked up from the drift level and loaded directly on the truck with the first tractor-loader used underground in Bohemia district.

R

Harold Barton

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YUKON - Sample Descriptions and Field Notes
 (See also West Musick data)

<u>Sample No.</u>	<u>- Date</u>	<u>- Certificate</u>	<u>-</u>	<u>oz</u> <u>Gold</u>	<u>oz</u> <u>Silver</u>	<u>%</u> <u>Copper</u>	<u>%</u> <u>Lead</u>	<u>%</u> <u>Zinc</u>	<u>/ton</u> <u>Value</u>
59-3	- 5.20.59	- ELH, 6.4.59		0.02	0.40				\$1.20

(Grab, ferruginous quartz, brecciated material, lower daved tunnel dump, Yukon)

59-4	- 5.20.59	- ELH, 6.4.59		0.01	0.20				\$0.60
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(Grab, altered rock with quartz seams, dump of upper caved tunnel, Yukon, approximately N80 E, 250 feet from sample 59-3)

Character Sample (CS) - 6-20-61

(Yukon vein, westernmost exposure east of Dark Canyon as cut 6-19-61 with TD 24 by Ben Guggesberg. Strike S75 to 85E, Dip 78° SW. CS taken of 2-foot footwall vein (Sample Ukon 1 by LH) of heavily silicified material showing some brecciation, pyrite, a little chalcopyrite. This band was separated from a 10 inch silicified vein with some brecciated material on the hangingwall by 5 feet of altered, pitted, country rock (rhyolite) which shows silicification in places.

Character Sample (CS) -

(Ukon vein, in trench #5 (from Musick No. 2 level), approximately 140 feet east of the east end line of the Yukon claim; Strike N75E to N80E, Dip 70° SE; a 6-foot vein of quartz in rhyolite. Yukon No. 3 sample (by LH, 6-2-61 represented approximately 3-feet on the footwall) and Yukon No. 4 approximately 3 feet on the hangingwall, showing more iron stain than No. 3.)

HALIFAX - Field Notes and Sample Descriptions

SAMPLE No. - Date - Certificate Gold Silver Copper Lead Zinc Value

No. 1 by LH - 6-20-61 -

No. 2 by LH - 6-20-61 -

(Samples No. 1 and No. 2 were taken at and near the face of the Discovery tunnel which exposes a vein 3½ to 4 feet in width. Sample No. 1, at the face was largely oxidized material ((water was streaming from the face when the sample was taken)): a character sample was taken showing sulfides probably not included in the channel of oxidized material. Sample No. 2 was similarly mostly oxidized material but mixed sulfides were present in silica-protected portions of the vein; a character sample was also taken here. CS No. 1 showed pyrite, galena(?), sphalerite(?), limonite and specularite. Quartz of the vein is crystalline and vuggy.)

No. 3 by LH - 6-20-61 -

(a number of cuts and a caved tunnel were examined toward the northerly part of the claim. Sample No. 3 was taken at the outcrop of a 14" quartz band in an altered zone; almost completely oxidized, porous, quartz with a little remaining chalcopryrite, bornite, cerustie.)

No. 4 by LH - 9-27-61 -

(14" vein at floor of cat cut of Discovery tunnel; contains chalcopryrite, chalcocite, sphalerite; CS taken)

No. 5 by LH - 9-27-61 -

(In face of tunnel, largely leached; some pyrite on hard HW seam and in nodules in vein center)

No. 6 by LH - 9-27-61 -

(Approx 52 feet from face of tunnel)

HIAWATHA L-115 - 11.4.68 - ELH 11.14.58 - Au, 0.08; Ag, 0.32 \$3.20

CALIFORNIA

Gr1s HS 20 - -ELH, 7.3.57 - 0.01 1.00 0.30 1.38 2.39 11.86

(Lower C.G. tunnel; cut 7 inches representative sample of mixed sulfide band, in niche at left of tunnel about 35 ft. ahead of crosscut to parallel veinlet)

HS 21 - -ELH, 7.3.57 - 0.17 1.30 (some) 7.50

(Cut 6 inch quartz and sulfide band on left side of tunnel five feet ahead of HS20 and parallel to it; contains galena, sphalerite, chalcopryrite)

SAMPLE No.	Date	Certificate	oz. Gold	oz Silver	% Copper	% Lead	% Zinc	/ton Value
H-1	12-12-62	ELH, 12.28.62	Tr	0.80	(some)	\$1.00 plus

((Channel cut 10" quartz and silicified vein breccia (rhyolite) on easterly tangent of vein in right wall at portal of Discovery tunnel; 3 feet above floor and 5 feet below outcrop; sparse sulfides remain; limonite prominent; some hematite.

Brecciated zone at portal is approximately 4 feet wide; facing structures prominent over 10 feet to 12 feet in width; wide iron staining in bank above the road and in these facing structures.))

UTILIZATION OF SULFIDE ORES FROM THE

BOHEMIA MINING DISTRICT

by

Harold E.L. Barton, Geologist

April, 1963

HISTORICAL SKETCH

While gold and silver values have accounted for most receipts for metals from the Bohemia District in past years, and while they will continue to be significant, increasingly the sulphide minerals of copper, lead and zinc are looming in economic importance. This is true first because the ore content in these base metals increases markedly below the zone of oxidation. In many ore shoots the combined value of the sulphide minerals will exceed the values in gold and silver.

It has been true historically because the free gold yielded itself only partially by amalgamation and much of the free gold has been shipped in concentrate products which resulted in higher freight costs and a lower realized price for the gold. Because of the continuing exhaustion of the oxidized ores of the District and the low amenability of the free gold to amalgamation, it appears likely that amalgamation will account for little, if any, of the gold recovery in future operations. Accordingly, the manner of marketing the sulphides must be decided with these factors considered: freight costs, which are based on dollar value of the ore when shipped by rail; differentials in the prices paid for gold and silver by smelters receiving the separate copper, lead or zinc products of selective separation; and the increased hazard of losses in handling of sulphide concentrates containing substantial values in precious metals.

Possibly the major consideration in marketing the ores stems from the fact that most of the gold in the sulphide zone appears to be mechanically locked with the individual sulphide minerals and would not be freed by the most economical methods of grinding for separation. Particularly if the concentrate products are to be shipped to the domestic market, a unitized District operation should give careful consideration to the production of separate concentrates for each of the metals sought. A gold-lead jig concentrate appears clearly indicated for the ores of at least some of the mines. Separate lead, copper, zinc, and iron (pyrite) concentrates would appear desirable, if not an economic necessity.

LOOKING AHEAD

A number of relatively recent applications may be considered:

1. Self-sintering of concentrates has been utilized at the milling site of isolated operations where transportation costs were high. This resulted in the elimination of water content and reduced the weight of the mineral content of the concentrates. A by-product, such as sulfuric acid might be produced.
2. But assuming the availability of low-cost power at a low-elevation milling site, further reduction to metallic products might be accomplished by such methods as: smelting, roasting, or electrowinning of the various products. By-products might well be made of sulfuric acid and, possibly, iron.

The Oregon Department of Planning and Development (S. H. Mallicoat, Director, 560 State Office Building, Portland 1, Oregon) has recently issued Research Report, Number 46, December, 1962, entitled "Electrowinning Copper and Zinc (or Brass) From the Mines of Oregon".

A metallurgical plant in the Culp Creek vicinity would provide output at railhead, could draw on the substantial reserves of the Bohemia District, and if desired, attract ores from other deposits of the Oregon Cascades and Southwestern Oregon.

No similar marketing has been undertaken in Oregon and smelter facilities are distant and costly. The Bohemia District would be a major source of raw material for advanced and diversified metallurgical processes and a plant located nearby would be central to western Oregon and to the entire Pacific Coast market. The railhead would be approximately 160 miles from Portland which has modern port facilities for ocean-going vessels.

- - - - -

Research report Number 46 says of the electrowinning process: "After the ore has been ground, concentrated and roasted, copper and zinc may be efficiently brought into solution by leaching the ore with a 15% solution of ammonia in water at room temperature and pressure. Such a leach results in...ammonia complexes of copper and zinc which...are now soluble in the leach liquor... The above solution is next made the electrolyte...where these metals are electroreduced. It is...possible to a) electrowin both copper and zinc separately..., or b) electrowin copper and zinc together as the constituents of brass in a loose flaky deposit...The current efficiency is approximately 90%.

LIST OF PROPERTIES TAKEN FROM BULLETIN 893

Champion and Evening Star, Page 51, owner Fred Bartells, Cottage Grove, Oregon. 900 feet cross cut and 200 feet of drifting on vein has been done and a production of \$50,000 since the issuance of Bull. 893.

Helena, Page 54, Mines Service Incorporation, 69 West Broadway, Eugene, Oregon. There are only eight claims in the group now instead of eleven as heretofore. This property was operated by Dale Wyatt in 1934 and produced \$84,000, and in 1937 by W. J. Reaves produced \$84,000. Number of these operators didn't do any development work to speak of. Only stoped ore that was already developed.

Musick, Page 57, owners L. M. Capps, Blackfoot, Idaho. Operated by Mineral Exploration Company from October, 1935 to October, 1937 and produced \$130,000. No information as to what was done at that time in the way of development work. The Mines Service Inc. has some kind of an option on this property.

Noonday, Page 60, owned by A. W. Helliwell and E. C. Lockwood of Cottage Grove. This property was operated by the Grouse Mountain Mining Company in 1934 and produced \$50,000. Very little development work was done.

Vesuvius, Page 62, owner is the Vesuvius Mining Company, Miss Frances Lucille Hart, President, 410 St. Claire, San Jose, California. No change since 1931. Under option to Mines Service Inc.

Combination, Page 63, owner David von Neeva, Cottage Grove, Oregon. No change since 1931. This property under option to Mines Service Inc.

Cosmos, Page 64, owners Miller Brothers, Disston, Oregon. A 25 ton mill has been installed and the property has produced approximately \$10,000 since 1931.

Gripple Creek, Page 65, no information, but Miller Brothers should be able to tell you who the owner is.

Crystal, Page 66, owned by the Elephant Mountain Mining and Milling Company, 69 West Broadway, Eugene. 70 feet of drifting on the vein is all the work that has been done since 1931. Under option to the Mines Service Inc.

El Capitan, Page 67, owned by Bill Patton, Culp Creek, Oregon. No information.

Glenwood, Page 67, owner Fred Williams, Cottage Grove. No change since 1931.

No information on Four Monte and the Gem Properties on Page 67.

Gold Cross and Gray Eagle, Pages 67 and 68 and North Fairview, Page

HL
1935 - Helena Mining Co
Produced \$95,000

LIST OF PROPERTIES TAKEN FROM BULLETIN 893

71, owner George McQueen, Cottage Grove. No change since 1931. These properties under option to Mines Service Inc.

Grizzley and Syndicate, Pages 68 and 77, owner Ed Jenks, Cottage Grove, Oregon. No change since 1931.

Ingham, Page 69, owner E. H. Ingham of Portland. No change since 1931.

Leroy, Page 69, owner Elephant Mountain Mining and Milling, 69 West Broadway, Eugene, Oregon. No change since 1931.

Mayflower, no information.

Ophir, Page 72, owner Fred Williams, Cottage Grove, Oregon. No change since 1931. Under option to Mines Service Inc.

Oregon-Colorado, Page 72, owner Vesuvius Mines Company. No change since 1931. Under option to Mines Service Inc.

Orofino, Page 73, changed names and no information.

Peek-a-bee, Page 73, owner W. E. Edwards, Eugene, c/o Mines Service Inc. No change. Under option to Mines Service Inc.

Rattlesnake, Page 74. Must mean the Rattler, owned by Fred Williams of Cottage Grove. No change since 1931. Under option to Mines Service Inc.

Reed and Fletcher, Page 74, owned by William J. James, Route 2, Eugene No change since 1931.

Riverside, page 74, owner Vesuvius Mining Company. No change since 1931. Under option to the Mines Service Inc.

Shotgun, Page 75, owner F. S. Day, Disston, Oregon. No information.

Stonewall, Page 76, owned by Miller Brothers, Disston, Oregon. No change since 1931 and under option to Mines Service Inc.

Sunset, Page 76, owners E. E. and Dale Wyatt of Gold Hill. No information.

Sweepstakes and Utopian, Page 78, Ray Nelson, Cottage Grove, Oregon. No information on these properties. Mr. Nelson has sent seven samples to the Assay Laboratory from a Philco Claim. The highest run \$4.90.

The War Eagle, Page 79, Owner, O. G. Gilbertson of Cottage Grove, Ore. No change since 1931 under option to Mines Service Inc.

Yellow Jacket, Page 80, owned by Carl Owen of Cottage Grove, Ore. No information.

LIST OF PROPERTIES TAKEN FROM BULLETIN 893

Albany, Page 103, owner A. M. Hammer, Route 1, Turner, Oregon.

Bob and Betty, Page 105, owner W. S. Risley, Albany, Oregon. No change since 1931.

Galena, Page 106, owner Weyerhaeuser Timber Co. This property has about 700 ft. of tunnel. Patented timber land. Nothing done since 1931.

Tillicum and Cumtillie, Page 106. Old names of this property are Free Gold and Golden Fleece. Owner Frank Bevier, Foster, Oregon. Two full claims and 300 ft. of drifting along the vein open down about 100 ft. below the other workings. A home made two stamp mill powered by water wheel has been installed on the mill site on Day Gulch about a 1/4 of a mile west of the property. This property has been worked in a small way since 1931.

Hastings, Page 106, owner Gaylord Ingham of Albany, Oregon.

Lawler, Page 107, owner G. G. Howard, 107 Old Broad St., London, England. No change in property since 1931. Mr. Bert Bavier of Albany, Oregon can give you some information on this property. In an early day he found a five pound nugget on this property.

Mammoth Reef, Page 108, owner Percy Calkins, Foster, Oregon. No information.

Mule, Page 109, also known as the Highland Chief owned by Rex Keefover Foster, Oregon. No information.

Monroe, Page 109 has been relocated as the Mayflower. Owned by Glenn Peck of Foster, Oregon. No information.

Paymaster, Page 109, owner Dave Maelley, Foster, Oregon. No information.

Riverside, Page 110, owner George Oakey, Foster, Oregon. My Oakey has installed a small mill and has worked the property in a small way since 1931.

Savage, Page 110, owner, W. S. Risley of Albany, Oregon. Mr. Risley has erected a small mill on the property and worked it in a small way since 1931.

Silvery-Signal, Page 110, owned by Eugene Wheeler, Foster, Oregon. Mr. Wheeler has erected a mill on the property and working it in a small way.

Snowstorm, Page 111, is owned by Charlie Graves of Gates, Oregon. No information.

Mother and Wakefield Lodes in Sec. 15, T. 11 S., R. 4 E. is not listed in this Bulletin, and ^{is} owned by the Wakefield Realty Co. of Portland.

There are a total of seven mills in the Quartzville District. Jake Clemens, Clarence McAlister and Aho Brothers all of Foster have mills besides the ones already mentioned.

THE BOHEMIA DISTRICT

The Bohemia district is located in township 23, ranges 1 and 2 east, partly in Lane County and partly in Douglas. It occupies a portion of the westerly spur of the Cascade Mountains known as the Calapooia Mountains, the highest point of which is reached in Bohemia peak with an altitude of 6530 feet. At least four other peaks, however, Fairview, Elephant, Grouse, and Grizzly peaks, are in the immediate neighborhood of Bohemia peak, and have altitudes above 6000 feet. These altitudes are considerably greater than are to be found elsewhere in the Calapooias, so that the district is a prominent topographical feature of this section.

The nearest point on the Southern Pacific railroad is Cottage Grove which is 35 miles from the center of the district. A good wagon road covers the whole distance, 28 miles of which is a practically level stretch in the Row River valley. At the mouth of Sharps Creek the road forks, one branch making the ascent upon the southern slope of Hardscrabble Ridge, the other entering by way of Champion Basin. The latter branch was completed just during the past year. For two years the Oregon and Southeastern railroad has been under construction from Cottage Grove into the district. This railway is now completed for about 30 miles of this distance. It is expected that its ultimate terminus will be at the "Warehouse" on Frank Brass Creek, though it is said to be the plan of the Oregon Securities Company to extend the track to the mill in Champion Basin belonging to this company -- electric traction being the proposed method of conducting traffic upon the severe grades existing between the points in question.

The veins of this district strike north 15° to 90° west, the average being about 60° west. The dip is in general from 60° to 85° southwest. The principal gangue material is quartz; the vein minerals associated with the gold are pyrite, sphalerite, galena, chalcopyrite, iron oxides, cerussite, millerite, and others. The oxidized zone is exceedingly variable in depth, the extremes being between a few feet, and perhaps 500 feet.

A considerable gold production has been accredited to the district in the past, but for two or three years every energy has been directed toward development, so that production during this period has been practically nil. The building of the railroad has stimulated activity to a remarkable degree, however, so that the condition of the camp is far better than ever before, and unless indications are seriously at fault a satisfactory output of metal will follow very soon.

It is stated that over 3000 claims have been located in the Bohemia district.

Anaconda -- Owned by the Anaconda Gold Mining Company, of Bohemia, R. McMurphy, of Eugene, manager. Located upon Fairview Mountain. Developed by 50 feet of open cuts and 400 feet of tunnel work. The ore is free milling.

Baltimore -- Edward Jenks of Bohemia, owner. This is a Fairview Mountain property opened by 300 feet of tunnels. The ore is base.

Belcher -- Mr. Day, of Eugene, owns this property, which is to be found upon Johnson Meadows. It has 200 feet of work.

Benefit -- G. G. Warner of Eugene, is owner. It is located in Champion Basin. Opened by a tunnel 60 feet long.

Boston -- Owned by the Bohemia Gold Mining Company, George W. Lloyd, of Cottage Grove, manager. Opened by 60 feet of tunnel, and situated near Hardscrabble road.

Calapooia - The Calapooia-Bohemia Gold Mining Co., R. McMurphy of Eugene, manager. The property is upon Windy Creek. Development consists of 100 feet of open cuts and 600 feet of tunnels.

Cripple Creek-- Cochran and Gilbert are the owners of this property. It is situated upon Jackass Ridge and is opened by 200 feet of tunnels.

Crystal Consolidated -- Owned by the Bohemia Gold Mining Co., George W. Lloyd, Cottage Grove, manager. Located upon Fairview Mountain. Development consists of two tunnels each having a length of 200 feet. A saw mill was put in early in the year and a five-stamp mill is almost completed. A wagon road has been constructed which connects with the new road in Champion Basin.

Elephant Group -- A. J. Howard, Cottage Grove, owner. Located upon Elephant Mountain, and opened by 100 feet of work.

Elkhorn -- Andrew Brund and D. P. Burton are the owners. It has 800 feet of work.

Evening Star -- Whipple Brothers, owners. Located upon Grouse Mountain. Two hundred feet of workings.

Glenwood -- Owned by F. Hinds, Cottage Grove. Hardscrabble road. 300 feet of development.

Gold Cross -- Bohemia Gold Mining Co., George W. Lloyd, manager. The location of this property is upon Noonday Ridge. A large ore shoot is developed by 800 feet of tunnels.

Gold King -- This mine is the property of A. W. Zinikie. It is located on Horse Heaven Creek, and is developed by 300 feet of workings.

Gold Star -- Peterson and Klucky own this claim, which is to be found upon Fairview Mountain. Five hundred feet of development work has been done.

Golden Rule -- The Golden Rule Gold Mining Company, is the owning corporation, of which William Wechter, of Salem is the manager. The claim is located at the foot of Hardscrabble road. It is opened by 100 feet of open cuts and by tunnels 60-70 feet in aggregate length.

Golden Slipper Group -- Dr. J. P. Oglesby of Cottage Grove, is manager for the Golden Slipper Mining Company. The holdings of the company are upon Horse Heaven Creek. 300 feet of work has been done in two tunnels.

Grizzly -- Owned by the Grizzly Gold Mining Company, Dan Byrne of Cottage Grove, manager. The location of the property is upon Grizzly Mountain. A good body of base ore is exposed by the tunnels and a shaft aggregating 800 feet of workings.

Grouse Mountain -- Owned by the Grouse Mountain Mining Company, 400 feet of development work has been done.

Helms Brothers -- The location of this property is at Ridge Hotel. 500 feet of development has been done.

Henry Clay -- Messrs. Whale and Gilbert, of Salem, are the owners of this claim. Location, Monta Rica Ridge. The ledge is opened by 1200 feet of work.

Iawatha -- Property of the Iawatha Gold Mining Company Alfred Johnson et al. Location is upon Fairview Mountain. The ore is exposed by two tunnels and an upraise is said to be good. It is partly free and partly base. The development work amounts to 360 feet.

Iowa -- Property of the Iowa Gold Mining Company. Location, Horse Heaven Creek. 150 feet of development work.

Judson Rock -- W. H. Blair, of Cottage Grove, is manager for the Judson Rock Mining Company. The property is located upon Fairview Mountain. Development to the extent of 400 feet is reported.

Knott -- D. Ladd of Bohemia, owns this Grouse Mountain property. An 80-foot shaft has been sunk.

LeRoy -- Owned by the LeRoy Mining Co., LeRoy Brothers, of Cottage Grove, principal owners. The property is located upon the Fairview slope of Champion Basin. The ore is practically all base. Eight hundred feet of tunnel has been driven. The mining equipment includes a small Leyner compressor and drill.

Mayflower -- The owning corporation of this group is the Mayflower Mining Co., of which W. P. Ely, of Kelso, Washington is manager. The property is situated upon Horse Heaven Creek. A wide ledge carrying values in gold, silver, copper, and lead is exposed by tunnels aggregating 1000 feet in length.

Montana -- Reed and Fletcher are the owners of this group. Location, Grizzly Mountain; developments, 1500 feet.

Nemo-- Owned by Gill Meadows and Charles Rutan. Located upon Grizzly Mountain. Two tunnels have been driven, the combined length of which is 500 feet.

Noonday -- Noonday Mining Company, Herbert Leigh, Eugene, agent. Located on Noonday Ridge. One of the older properties of the district which has been developed by 4300 feet of tunnel, 500 feet of upraises, and by open cuts. A 20-stamp mill is upon the property, but operations are at a standstill presumably until transportation facilities are improved.

North Fairview -- North Fairview Mining Company. Herbert Leigh, Eugene, manager. The location of this property is upon Fairview Mountain. It is opened by 800 feet of tunnel and many open cuts. Oxidized quartz with occasional shoots of pyrite and galena are the vein materials.

Oliver Twist Group -- O. G. Gilbertson, et al., owners. The group is located upon Jackass Ridge, and is opened by 200 feet of work.

Oregon-Colorado -- Owned by the Oregon-Colorado Mining, Milling, and Development Company, F. J. Hard, Portland, manager. Location, junction of city and Annie Creeks. The ore body, which comprises a ledge seven to eight feet wide containing a pay streak two to five feet wide, is exposed by 1500 feet of tunnels and upraises. The ore is base, and a concentrating plant will be installed as soon as conditions will warrant this step. A wagon road has been built to connect with the Hardscrabble road.

Oregon Securities Co. -- G. B. Hengen, Corn Exchange Bank Building, New York, secretary; C. C. Matthews, superintendent. Incorporated under the laws of New Jersey, this company has affected the consolidation of the Helena Consolidated Mining and Milling Company, the Musick Mining and Milling Company, the Calapooia Mining and Tunnel Company, the Broadway Group, and other properties. The same interests are concerned in the construction of the Oregon and Southeastern railroad from Cottage Grove to Bohemia district.

The activities of the management have been directed largely during the past year toward a betterment of above-ground conditions at their properties with the apparent purpose of centralizing milling operations. A mill with 30 stamps has been constructed in the Champion Basin near the site of the old Champion mill; an electric power plant has been installed upon Frank Brass Creek seven miles below with a capacity of 500-horse power; poles and wires have been strung; seven miles of good mountain road has been constructed from the "Warehouse" into Champion Basin and a long wire tram, compressor pipe line, etc., have been installed. In addition to these improvements much work has been done upon the long crosscuts being driven to the Musick and Helena mines through which ore will be brought by electric traction to the upper terminus of the tram for delivery to the mill. Milling will include amalgamation and concentration.

The Helena No. 1 is developed by some 7000 feet of work. Its ledge is to be tapped by the new working tunnel at a total depth, it is said, of 1800 feet from the surface. Details of development in the Helena No. 2 are not at hand. The Champion is

an old mine, and 3000 feet of development is said to be the amount done in it. The Musick is the pioneer producer of the district; develop is said to aggregate 7000 feet. The Broadway group is a comparatively undeveloped property with perhaps 900 feet of workings.

Peek-a-Boo -- Billy Edwards and others own this property. It is located upon Jackass Ridge. 200 feet of workings are reported.

Rambler -- The Rambler Consolidated Mining Company, is the corporation owning this mine. It is developed by a shaft 50 feet deep and a tunnel 250 feet in length. J. H. Scott, Crawfordsville, Ind., is one of the principal owners.

Rattler -- Ben Pearson, of Cottage Grove, is the owner of this Jackass Ridge property. It is developed by 100 feet of workings.

Riverside -- The Riverside Mining and Milling Company is the owning corporation, in which F. J. Hard, of Portland, is manager. The mine is located upon Noonday Ridge, and includes a 4500-foot extension of the Gold Cross ledge. Development amounts to 700 feet. The ore is both free and base.

Scorpion Group -- This group is located upon Horse Heaven Creek, and is the property of Jack Morgan and others. Development consists of 110 feet of tunnel workings.

Sears Group -- Property of James W. Sears, of Bohemia. The group is located upon Grouse Mountain. 600 feet of development work has been done upon it.

Shane Group -- Details of development upon this property

are not available. It is owned by W. H. Shane. Location, Monta Rica Ridge.

Sunrise Group -- Owned by C. A. Loveless, Fargo, N. D. Located upon Adams Mountain. Development amounts to 1200 feet of workings.

Sweepstake Group -- S. J. Brund, of Bohemia, owns this group. It is located upon Elephant Mountain. Opened by 1000 feet of tunnel work.

Syndicate -- Ed Jenks and associates have opened up this property upon Noonday Ridge by 250 feet of work.

Three Monte -- Al. Churchill owns this claim. It is a Fairview Mountain location, developed by 250 feet of work.

United States Consolidated -- C. J. Barhite, of Eugene, is largely interested in the mine. It is opened by 350 feet of tunnel work and numerous surface cuts.

Utopina Group -- Alex. Pugh and associates are developing a group by this name upon Elephant Mountain. 300 feet of tunnel work has been done.

Vesuvius -- Owned by the Vesuvius Gold Mining Co., F. J. Hard, of Portland, manager. This is one of the most extensively developed properties to be found upon Fairview Mountain -- 2300 feet of tunnels and upraises having been made within a continuous body of oxidized ore. Within the last few months the Stocks and Harlowe property adjacent to the Vesuvius has been acquired by the management of the latter. A five-stamp mill was included in this transaction, and this has been renovated and put to work upon the ore taken out of

the Vesuvius during development.

Wall Street-- S. G. Davidson, of Portland, is owner of this claim. It is located upon Grouse Mountain. 500 feet of development work discloses a body of good base ore.

White Iron -- 200 feet of work has been done upon this property of J. B. King which is located upon Elephant Mountain.

Winchester Group -- J. I. Jones of Cottage Grove has developed this group by 400 feet of work. It is to be found at Johnson Meadows.

KITTEN COMPARTMENT #1205

SURVEYED MINING CLAIMS

(Con't)

<u>Grid Location</u>	<u>Claim Name</u>	<u>Survey No.</u>	<u>Status</u>	<u>Owner</u>
D3 - 4	Warrener #1	941	Active	Darrel Rousseau
5	Rainbow	875	Active	Jim Edgar
6	Warrener #2	941	Active	Darrel Rousseau
7	Orphan Boy	875	Active	Jim Edgar
D4 - 1	Maud 6	692	Inactive	
2	Oro	692	PATENTED	Guy Leabo/H. Peterson
3	Lucky Elsie	914	Inactive	
4	Rainbow Strike	914	Inactive	
5	Dirigo	888	Active	Steve Woodard
6	Highland	610	Inactive	
7	Golden Curry	888	Inactive	
8	Columbia	610	Inactive	
9	Jumper	610	Inactive	
10	Snowslide	610	Inactive	
11	Sunrise Fraction	610	Inactive	
12	Sunrise	610	Active	
13	Vindicator	610	Inactive	
14	Snowbird	957	Active	Musick Mining Co-op Inc.

KITTEN COMPARTMENT #1205

PATENTED MINING CLAIMS

(Con't)

<u>Grid Location</u>	<u>Claim Name</u>	<u>Survey No.</u>	<u>Owner</u>
C4 -29	Storey	815	Vesuvius Mining Co.
30	Nightingale	486	Bohemia Lumber Inc.
31	California	629	Musick Mining Co-op Inc.
32	Defiance	629	Musick Mining Co-op Inc.
33	Idaho	629	Musick Mining Co-op Inc.
34	June	629	Musick Mining Co-op Inc.
35	Nomadic	589A	Guy Leabo
36	Jonathan	589A	Guy Leabo
37	White Ghost	629	Musick Mining Co-op Inc.
38	Los Angeles	629	Musick Mining Co-op Inc.
D4 -15	Leroy	692	Guy Leabo/H. Peterson
16	War Eagle	692	Guy Leabo/H. Peterson
17	Long Tom	692	Guy Leabo/H. Peterson
18	Laura	692	Guy Leabo/H. Peterson
19	Main	888	Kenneth Carlile
20	Faber	888	Kenneth Carlile
21	Albany	888	Kenneth Carlile
22	Laura Extension	692	Guy Leabo/H. Peterson
23	Late Aquisition	405	Star Lumber Co.
24	White Bear	913	Guy Leabo/H. Peterson
25	Benefit	635	Ivan Hoyer/Gus Janish

KITTEN COMPARTMENT #1205

PATENTED MINING CLAIMS

(Con't)

<u>Grid Location</u>	<u>Claim Name</u>	<u>Survey No.</u>	<u>Owner</u>
D4 -26	Lost Province	635	Ivan Hoyer/Gus Janish
27	Verdun	875	R.M. Cate
28	Oversight	875	R.M. Cate
29	Sedan	875	R.M. Cate
30	ORO	692	Guy Leabo/H. Peterson

ACTIVE UNPATENTED SURVEYED CLAIMS

NOONDAY: Paradise (625)

Red Bell (894)

McAdoo (894)

Victor (894)

Norway (894)

Pirate (894)

Harrison (894)

Harrison Ext. (894)

Plymouth Rock (894)

El Cobre (894)

KITTEN: Warrener No. 1 (941)

Warrener No. 2 (941)

(See Sharps Compartment for Other Kitten Claims)

Total Drifts

'63

Claim Name	Drifts, etc in feet		
Paradise	100	Warrent #1	60
Mt Baker	50	Verdeem	50
Monarch	200	Oversight	250
El Monte	500	Sedare	50
El Dorado	70	Fallen Leaf	100
Badger	100	White Bear	100
San Marino	20	Helena	2000
" Pedro	40	Amer. Boy	50
" Bernardino	100	Professa	100
" Fernando	200	Bobbitt	40
Francisco	100	Gladys	40
Capta Barbara	200	Champion	12,000
Sacramento	120	Hawaacha	50
Ceriusm	100	C. Gills	100
" Ext.	200	Musick	5000
Scandinium	40	Orn-Colo.	2000
Popgun	100	Riverside	2000
Elephant 2	60 (+)	Musick Ext.	300
Elephant	30	Stonewall	200
Grubstake	100	Big Rock	40
El Calado	100		<u>28,630</u>
Mt Lion	1500		
Orphan Boy	40		
Baltimore	40		
Cleveland	150		

(-KW's estimates)

3/8/8

TRACE ELEMENTS IN VEINS OF THE BOHEMIA
MINING DISTRICT, OREGON

by

Laurence Stewart Ista

A dissertation submitted in partial fulfillment
of the requirements for the degree of

Doctor of Philosophy

University of Washington

1983

Approved by _____
(Chairperson of Supervisory Committee)

Program Authorized
to Offer Degree _____

Date _____

University of Washington

Abstract

TRACE ELEMENTS IN VEINS OF THE BOHEMIA
MINING DISTRICT, OREGON

By Laurence Stewart Ista

Chairperson of the Supervisory Committee: Professor Eric S. Cheney
Department of Geological
Sciences

Over 200 samples of quartz, rock, and sulfides were collected from the epithermal veins of the Bohemia mining district, Oregon for analysis by neutron activation and electron microprobe. Three major types of vein quartz exist at Bohemia. Type I is 5% of the total and has under 150 ppm Al and a few amorphous opaque inclusions. Type II is 85% of the total and has over 600 ppm Al, a few amorphous opaque inclusions, and Al micro-impurity zones. Type III is 10% of the total and has over 600 ppm Al, a few amorphous opaque inclusions, Al and K micro-impurity zones, and microscopic inclusions of rutile, kaolinite, and sericite. The rutile carries considerable Th, Sc, Hf, V, REE, and other oxide-forming elements. The rutile and silicate inclusions are relict from volcanic rock. All quartz contains fluid inclusions which contain Na and much less than stoichiometric Cl.

Types I and II intergrew on a micron scale. The intergrowth of Types I and II mixes with Type III on a grain-size scale. Type I quartz is interpreted as slow-growth, open-space quartz. Type II

quartz is interpreted as fast-growth, open-space quartz. Type III quartz is interpreted as replacement quartz.

The Al in Type I quartz is a lattice substituent and its concentration is controlled by temperature. For Type I quartz, lattice Al is an accurate geothermometer, at least in the range of 250 to 325 °C. Ti and Fe enter the quartz lattice at higher temperatures, as in plutonic quartz. Radiation-induced red-orange cathodoluminescence indicates low Al content in vein quartz. Inherent, weak blue, cathodoluminescence indicates a non-aluminum lattice impurity, probably Ti. As and Sb are lattice substituents in vein quartz from Bohemia and other districts in the Cascades.

Three parameters have positive correlations with higher grades of gold ore: 1) gold content in quartz, 2) presence of low-Al quartz (Type I), 3) kaolinite/sericite in microscopic inclusions in Type III quartz greater than 2/3. The location of ore at Bohemia is largely controlled by faults and their relationship to the stock. Impurities in quartz do not form zones either in individual veins or over the district, except as indirectly affected by structural control of intensity of alteration and mineralization. Fluids were probably dilute carbonate or bicarbonate solutions with very small amounts of gold. Large volumes of solution were circulated through the veins by convection, driven by plutonic heat. High-grade ore deposits require that the veins be open for long periods, although not necessarily continuously.

Even at this early stage of development, exploration methods

based on Type I quartz and kaolinite/sericite in quartz appear to be competitive with and complementary to existing exploration methods using rock alteration or soil analysis for metals. Exploration based on trace gold in quartz and on vein K-feldspar needs to be tested on larger samples.

BOHEMIA COUNTRY

The Bohemia Mining District is located thirty-five miles southeast of Cottage Grove. It covers an area of about six by eight miles.

In the early spring of 1863, George Ramsey and James Johnson, fleeing from Roseburg after killing an Indian, made their way into the Calapooya Mountains.

One day while Johnson was dressing a deer, his eye caught the glitter of gold quartz. He unearthed it and after dressing the deer returned to camp. Both men left camp, followed the Coast Fork River, and came to civilization.

The part of the country became known as "Bohemia Johnson's Mines", and later just "Bohemia Mines". In 1864 and 1865 many people came to prospect.

In 1866 the miners established a "Code of Laws" which set up boundaries and established several rules which all miners were to follow. Included in these laws was an article which set the size of the claims at 100 by 25 yards; limited the number of claims to one per person and two to the "original" locator; set the size of "town lots" at 50 by 75 feet and provided that a house be built on, or a fence placed around a "town lot" if it were to be held.

"Bohemia City" was the first settlement to be established. It was located on the Musick Mine site. In 1868, John Alexander and Bird Farrier built a number of cabins and several buildings at Bohemia City, and in 1868 a road was built in the area.

Gold can easily be identified. It is very soft and can be cut or flattened quite easily with a knife. If gold is rubbed over a plate, it will leave a golden streak. "Fools gold", Pyrite, leaves a greenish-black streak and gives off sulfur fumes when heated. Gold is also quite heavy.

A sluice box was designed to remove gold particles from the water. The weight of the particles causes them to drop to the bottom, and they are caught.

While some used a sluice box, others began mining. Oxygen was a problem in these mines. A machine was developed to solve the problem. This contraption had a drum at one end and a fan at the other. A cable was attached to one end and the other end was thrown over the limb of a tree and a kettle attached and filled with rocks. The container was then cranked up to the branch. When the crank was released, the weight of the rocks brought it back to the ground; this operated the fan and kept fresh air in the tunnel.

In 1905, "high-grade" was hit in the Champion Mine. The initial assay set the value at \$30,000 a ton. Canvas was spread on the floor, and the walls were "brushed" down on it. Many believed that several of the sacks were stolen by greedy miners, but it was never proven. A number of the miners did make more than wages by sifting ore into their tobacco pouches.

The ore was found while the miners were following a vein. A "horse"—an intrusion of plain country rock—came into it and they followed it. For some reason they made a crosscut through the other side. There they found the gold.

Another mine, the Musick Mine, gave over \$4,000 in the nine-day run in the first season. While new developments were being done the next year, \$11,000 was recovered from the dumps.

A letter written to the owner of the Oregon-Colorado Mine from his foreman stated how well the mine was doing, and that it was over three feet wide. The letter also said that

"A miner are always a better man when he are busted than when he got his pockets full of money."

Apparently, owners preferred hiring men who spent their money freely, because those who saved could settle down and could not be hired again.

The men had to work at the mines all year around. The supplies were packed in during the summer months, or freighted in by teamsters.

The first year supplies were freighted into Bohemia during the winter was probably 1934. Freight was hauled by truck to the snowline, where it was transferred to a sled, and the tractor hauled it the rest of the way.

Much of the mining was done in the winter. Men packed dynamite for blasting in their boot tops to keep it from freezing. In the spring there was danger of flooding when the snow melted.

There were only four men who died in and around the mines. On September 27, 1909, two men were killed. Charles Rattan was blown up at the Golden Pheasant Mine, and another man was crushed by a rock in the Musick Mine.

Weaver and Donner were the other two known victims. They died in a snowstorm.

Soon after July 4, 1919, a man disappeared somewhere on Noonday Ridge. No trace of him has ever been found.

Mr. Lee Whetmore learned that one should never wound a bear without being positive he can kill it. Mr. Whetmore was walking along Brice Creek in 1911 when a bear appeared. He shot twice and wounded the bear. He waited for the bear to come closer before firing again. The bear came closer and he fired. But nothing happened. He had to stand and fight a wounded and enraged bear by hand. They wrestled. Whetmore's two small dogs began nipping at the bear and eventually drove it away. Whetmore dragged himself to a cabin and the doctor was phoned. The doctor took a gasoline speeder from Cottage Grove to help the injured man. After four months in the Thompson Hotel and cared for by Dr. Job, he was able to feed himself. He almost fully recovered and lived to be an old man. The searchers later found the bear dead less than 200 yards from where the fight took place.

Jack Klopfenstein was considered one of the best "sour doughers" in the hills. His cooking was the talk of the mines.

Snow can reach enormous depths in the winter, and most travel was by skis. One man caught at the mines made a pair of snowshoes out of what appears to be wire screen. He threw them away after coming out of the snow, and they were found there.

Bohemia Smithy, a miner, could go a year without taking a drink, but he was helpless when the Old Blue Demon got after him. He started to Bohemia with a jug one time, but didn't arrive on time, so search parties went looking for him. They heard him singing so they knew he was close by. They found him hanging in a tree where he had fallen off a cliff with the jug dangling in his hand.

Things have changed since those days. The mines are in bad condition, and the roads are still somewhat dangerous. From the top, Mount Shasta can be seen on a clear day.

The mine dumps are good places to look for rocks. Silver, copper, bornite, quartz and pyrite are known to be in the area.

Arsenic is one of the more unusual minerals in Bohemia. The water running over this rock becomes poisoned.

SCHEDULE OF EVENTS

THURSDAY SCHEDULE

10:00 A.M.

Bohemia Art Guild Show opens at the Presbyterian Church. Admission is free.

11:00 A.M.

Kids Day at the Davis Amusement Company carnival at the core area.

NOON

Gate opens to the annual Bohemia Mining Days core area.

Jaycee Beer Garden opens at 8th Street and Gibbs Avenue.

Dr. Snapp House opens to public until 5 p.m. at S. River Road.

1:00 P.M.

Cottage Grove Historical Museum opens at 'H' Street and Birch Avenue.

6:30 P.M.

Free stage show in the core area. Concert by Musicians Local Number 689; a 31-piece summer concert band.

8:00 P.M.

Cottage Grove Firemen's annual awards night banquet at The Village Green.

FRIDAY SCHEDULE

6:00 A.M.

VFW breakfast opens in core area.

10:00 A.M.

Art guild show opens.
Dr. Snapp house opens.

NOON

Jaycee Beer Garden opens.
Bohemia City opens.

1:00 P.M.

Historical museum opens.
Business and Professional Women's Kid's Parade begins on 5th Street in front of the First Baptist Church.

5:00 P.M.

American Legion Auxiliary dinner from 5 to 8 p.m. at the American Legion Hall, River Road and Main Street.

7:00 P.M.

Free stage show in core area. All-country music show.

8:00 P.M.

First performance of Cottage Grove Riding Club Amateur Rodeo at rodeo grounds on Highway 99 S.

9:00 P.M.

Teen street dance.

SATURDAY SCHEDULE

6:00 A.M.

VFW breakfast opens at core area.

9:00 A.M.

First Bohemia Gold Fast-draw competition at Currin Field near the high school.

10:00 A.M.

Art guild show opens
Dr. Snapp house opens.
Bohemia City opens.

NOON

Jaycee Beer Gardens opens.
Water ball contest between Jaycees and fire department on Main Street, between 7th and 8th Streets.

1:00 P.M.

Grand Miners parade. Line-up on S. River Road beginning at 11 a.m.
Historical museum opens.

3:00 P.M.

Black Powder shoot and demonstration. At the Roner Ranch west of Cottage Grove out Main Street.

7:30 P.M.

Free stage show in core area. Dramatic presentation.
Far West Fiddlers Jamboree. Cottage Grove High School auditorium.

8:00 P.M.

Final performance of Riding Club rodeo.

SUNDAY SCHEDULE

6:00 A.M.

Prospectors breakfast at the Bohemia Saddle park in the Mining District.

8:30 A.M.

Prospectors bus trek to Bohemia Mining Country leaves core area.

9:00 A.M.

Fast-draw competition continues.
Black powder shoot (competitive classes) at Roner Ranch.
Hound water races and treeing contest at C.G. gravel plant site on Row River Rd.
3rd Annual Fly-In at Cottage Grove Airport

11:00 A.M.

Bohemia City opens.
Kids Day at Davis Amusement Company carnival in core area.

NOON

Jaycee Beer Gardens opens.

1:00 P.M.

Historical museum opens.
Dr. Snapp House opens.

5:00 P.M.

Bohemia Mining Days closes

Points Of Interest Along The Route To The Bohemia District

KNOX DONATION LAND CLAIM—On Row River Road, just east of town, is the site of the old Knox donation land claim. The Knox house was located where a gas station now is and Knox owned about 3,000 acres of land around here. He was one of the area's first settlers.

ALCOHOL SPRINGS—Alcohol Springs is located on the old road, on the west side of the creek. Freight wagons on their way to the mines stopped here for the teamsters to quench their morning after thirst and cool their fevered brows after a big night in Cottage Grove.

CERRO GORDO—Stewart and a Frenchman stopped here in the very early days and the frenchman said that the hill looked like Cerro Gordo and so named it.

CHIMNEY ROCK—On the north shore of the dam above Rat Creek, Chimney Rock was respected by the Indians who sometimes called it "Chief."

ROCKY POINT—At this rocky ridge just above the upper end of Dorena Lake at Rocky Point was fought a battle between the Calapooyas and Klamath Indians. The Klamaths had raided the Calapooya camp and carried off the women. Pursued, they were caught and brought to battle here and the women rescued. Arrow and spear heads are still found here.

RED BRIDGE—Built in 1879, the first covered bridge was painted red. It was the turn off place for traffic up Sharp's Creek to the diggings. Near here was situated a two-story saloon and "red light" house for the convenience of miners coming down either creek.

PAINTED POST RANCH—The Hawley Ranch, known as Painted Post Ranch, was at the end of the wagon road as it was first constructed and was the starting point of a packhorse trail to the mines. It was a famous stopping place for man and beast at the end of a long trip from Cottage Grove.

STAPLES BRIDGE—Here lived the hermit, Staples, in a little homestead. He was a bridge carpenter and did beautiful axe and adz work on huge timbers. Some of his work is visible on the old bridge timbers. He was killed in a fall from a rock.

BOHEMIA SHARP'S RANCH—Old Bohemia Sharp, another hermit, lived here all alone, clad in his long-handled underwear. A man of good education, living in the hills through choice, he had a horse, some hay in a field, good fishing and hunting. Originally from St. Louis, he lived in Bohemia all his mature life. He had a mining claim called "Sharp's Bird Nest."

ARRASTRA—At Walker Creek was the largest arrastra of Spanish gold mill ever built in the United States. Driven by water power, it was a primitive form of ore grinder depending upon rocks dragged around by a merry-go-round affair for crushing ore.

DEAN'S CABIN—Dean's Cabin was a way station on the road to the mines up both creeks. Here was a large placer mine, worked by whites and then Chinamen.

SAYLOR [OR SAILORS] GULCH—This was the site of the first discovery of gold in the Bohemia district. Here in 1858 Adams, Oglesby, Shields, and Buoy discovered placer gold in the side gulch and made a "handsome little stake." It has been mined continuously ever since.

MINERAL—Here was the overnight stopping place for freight and passengers before devoting the next day to the long climb ahead. A large barn for teams and a two-story hotel for travelers were here, as were an assay office and a post office first called Benson and then Mineral.

HARDSCRABBLE GRADE—Hardscrabble Grade, 1898, is a six-mile hill road, first built by donation labor of the miners of the camp, aided by \$6,000 from the Musick Mining Company and \$700 from Lane County.

GLENWOOD CAMP—Glenwood camp is the turnoff for Shane's Saddle and Monte Rico Mines. Here was an old arrastra and now a large hydraulic placer mine.

VESUVIUS MINE—Covering the entire southwest slope of Fairview peak, this large patented mine yields gold, silver, copper, and lead and has more than a mile of tunnels. First worked by Grabers and Zinnikers, German-Swiss, and then by F. J. Hard, a Colorado mining man, it is the site of the first ski runs in Oregon—the skis were homemade by the Swiss. It has been reopened and is being operated by the camp historian, Ray Nelson.

BOHEMIA SADDLE—Elevation of the saddle is approximately one mile. The high Cascades are in view to the far east and the Coast range to the far west. The saddle is the dividing line between the Willamette watershed and the Umpqua watershed. Lane County Parks and Recreation Department maintains a campground out along a side road.

MUSICK MINE—Discovered by James Musick in 1891, this is one of the three largest producers of gold in Bohemia. It ran from 1891 to 1906, again in 1912, and again in 1935-36. It is now a ghost camp with the old post office, store, stage house, hotel, and the ruins of the 10 stamp mill, with tunnel sheds, etc. Snow gets 25-feet deep here in winter. It is now being reopened by a long tunnel from the west side of the ridge.

OLD ELECTRIC TRAMWAY—Here on this level road ran a narrow gauge electric railroad from Musick to Champion Mines. Ore was hauled from the Musick to the consolidated mills at Champion.

KNOTT TRAIL—The old Knott trail in 1870 followed the ridge top coming down off Fairview peak, crossing here and going on east to the Knott, Annie, Noonday, and Helena Mines. The road continuing along the ridge top is the new road to these mines and to the Johnson Meadow country.

CHAMPION MINE—The Champion Mine is a famous producer of both low- and high-grade gold ores and is the most highly developed mine in the district. It has had a 10 stamp, and 30 stamp, and now a 150 stamp ton flotation mill. The boarding house is the original, built in the early 1900's. Formerly the camp had a post office, named first Orseco,

then Champion. The mine had the first electric power in the district. It produced ores running to \$3,000 a ton. Owned by the Oregon Securities Company, West Coast Mines Co., and the Bartels family at various times. It has the longest production record of any mine in camp.

GOLDEN CURRY MINE—This name is a corruption of Gould and Curry, the first name of the mine, which was named after the famous mine at Virginia City, Nevada, and was one of the first locations in camp. An original packhorse trail can be seen on the creek just below the road.

TRIXIE MINE—The Trixie Mine was a good prospect on the old Champion Trail. Free gold ores show on the trail above. It is a good example of the early-day efforts of the first prospectors. Located by Materson, it was later owned by Andy Nelson, pioneer electrician.

DOWNINGS POINT—A man named Downing, hiking out from the Noonday mine, was caught in a snow storm, got off the trail, finally lay down under a log on this point and froze. He was not found until the snows melted months later.

BOHEMIA SMITH FALLS—Bohemia Smith fell over here. Smith, local prospector and mine owner, loved his liquor straight. He drank straight alcohol, washed down by a drink from the nearest spring. One night he left Lundpark for Champion, but failed to arrive. Searchers at this point heard singing. Looking over the edge, they found Smithy sitting astraddle a small tree growing from the cliff side, still holding the jug of "alky" and completely unharmed.

WEAVER CREEK—The companion of Downing, a miner named Weaver, who had parted company with

Downing in the storm, was found much later, frozen where he sat with his back against a stump. He also had wandered off the old trail above.

POWER DAM—Here, directly under the bridge, was located the dam for the first electric power plant in the district. A flume led to Lundpark on the north side of the canyon.

TRESTLE CREEK—Somewhere up this creek lies the Lost Trestle Creek Mine. A man out hunting with a companion found good ore and did not want to share it. He kept still and came back later and made many trips, but never found it again.

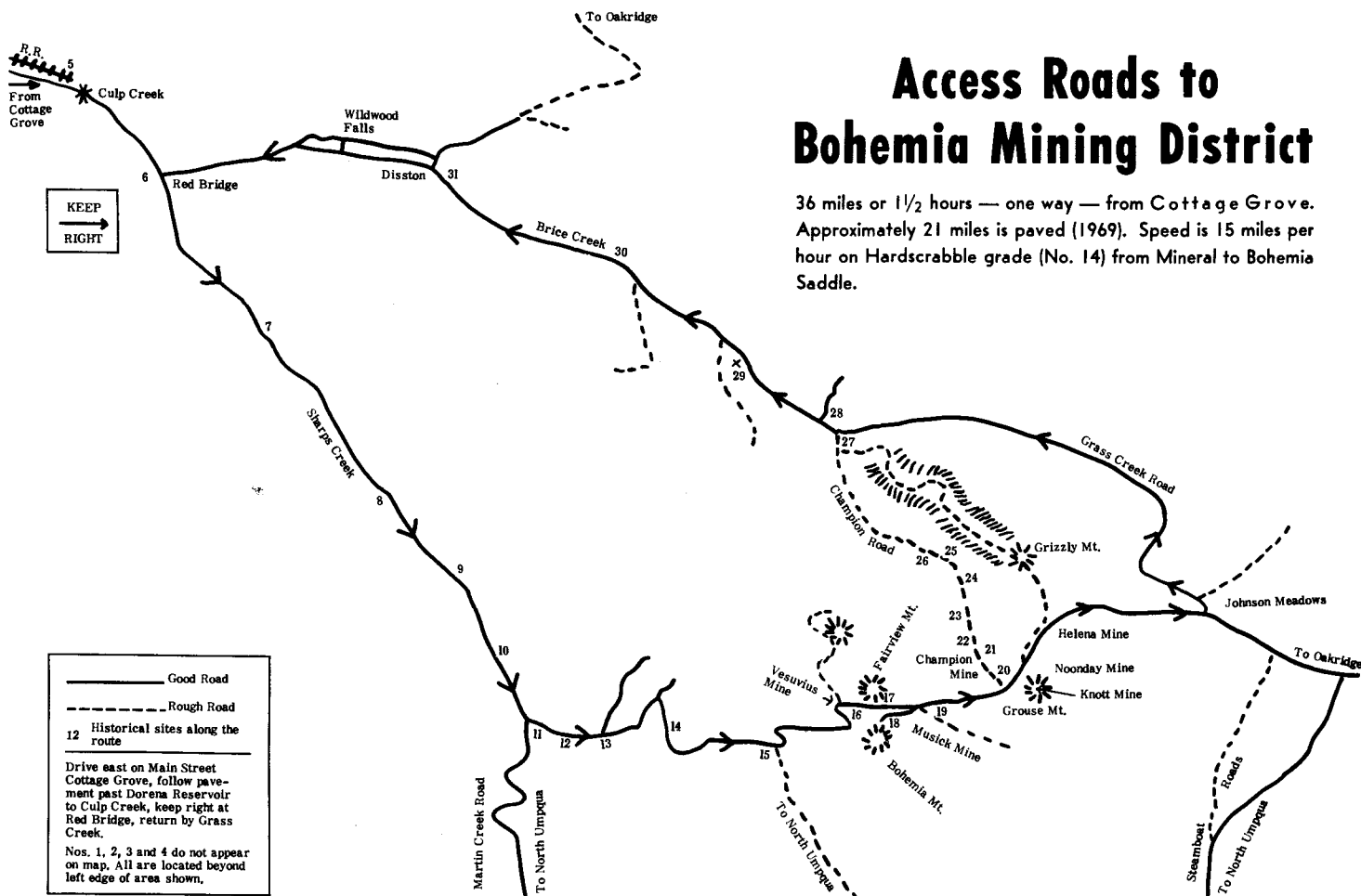
LUNDPARK—Lundpark, formerly the "Warehouse," was named for Harry Parker and Alex Lundberg. Parker ran the hotel there and Lundberg was the mail and freight man. Buildings consisted of a large two-story log hotel and saloon, a two-story log store and post house, a warehouse for freight, and a large barn. They had their own water system and electric lights from the power plant.

GLEASON CABIN—Gleason Cabin was the site of a large scale, early day placer working. Many tons of rock were washed here by sluice box and Long Tom.

DISSTON—Disston is the town and post office at the end of the railroad which was built by Oregon Securities Company to carry freight for the mines. The town was named for Disston saws used in the local sawmill.

Access Roads to Bohemia Mining District

36 miles or 1 1/2 hours — one way — from Cottage Grove. Approximately 21 miles is paved (1969). Speed is 15 miles per hour on Hardscrabble grade (No. 14) from Mineral to Bohemia Saddle.



The Indians' Dilemma

By Beverly Ward

The Calapooya Indians inhabited the Cottage Grove area, and it was a land of plenty. Wild game abounded in the hills, and salmon and eels migrated up the clear running streams, and the swales were covered with Camas.

The Indians dug the camas bulbs, and this was no job for a novice, for some are poison. They gathered the wild berries and dried things for winter. They burned the lowlands to kill the weeds and the brush like the seed growers do. This provided grass for the wild game, and the Indians picked the parched tar weed seeds and ground them up in stone mortars for food.

When the settlers came, the grass was almost as tall as their horses, and they thought this was paradise, and it was a paradise lost to the Indians.

Indian villages stood along the streams, and one was near the Taylor Lane Cemetery. Some Umpqua Indians visited the village, and they got two wives and took them back to the Umpqua. The women didn't like it there, so they ran away and came home. The Umpqua men came after the women, and one night there was a great rumpus in the village. The White family lived nearby, and the loud noises frightened the children, but Mr. White said, "Don't worry, that's Indian business, and they won't bother us."

The Lily White bridge on the Black Butte Road was named for the White's daughter.

Most of the settlers got along well with the Indians, until gold was discovered in the Rogue River country, and hundreds of men rushed into that area. The miners worked the streams, and they drove the Indians away from their fishing grounds. They squatted by the Indian fires, and they took Indian women. Some were lonely men and wanted a home, and some debauched the women.

The Indians tried to drive out the intruders, and the military moved in. My folks had a claim near Eugene, and my grandfather and my great uncles and other raw, untrained men joined the army, and the whole country was in a turmoil.

Indian agents made treaties with the Calapooyas and other Indians in the upper inland valleys, and the Indians were gathered up and held in different places. Then they were moved to the Grande Ronde reservation and the big coast reservation, that reached from Siltcoos Lake north to the Salmon River, and it stretched inland to the top of the Coast Range.

Chief Halo Tish, his family, and a few other Indians stayed in Cottage Grove. Halo Tish had three wives and several children who died. The Indians took hot steam baths, then they jumped into the cold water. Many died from measles and other simple diseases. More can be found in the Cottage Grove history, "Golden Was The Past."

Chief Halo Tish, Jack, and a little, short Indian named Cat Fish lived together, and one night the hay they stored in their house caught fire in the night. Cat Fish tried to pull Halo Tish up through a hole in the roof, but he fell back into the fire and burned to death. Jack was badly burned, and Dr. Oglesby amputated his legs, then the Indians covered him with blankets which smothered him to death.

Old Mary was well liked, and some reports say she was Halo Tish's niece. She, her son Enoch, her husband Sam, Poke, Sally, and a few other Indians lived where the golf course is today. When one died, they moved across the river. They gathered old boards and gunny sacks, and built shanties where the local fair is held today. They liked this place the best because the ground had a hollow sound, and they thought the Great Spirit spoke to them from the earth.

Mr. Finnerty said he spent most of his time in the Indian village where he played with the Indian children. One time when he came, old Mary was taking a steam bath. Her head was sticking out of a small enclosure and she got mad and chased him home.

The Indian children went to school; Enoch was an artist. He and Sam sold wood. When they fell the trees, Enoch drew pictures on the stumps—eagles were his specialty. He inscribed his name, Enoch Spores.

Viola Cruson said she tried to draw a star. Old Mary looked it over, then she got a piece of charcoal and drew a perfect star. Mrs. Cruson still remembered a few Indian words, and she sang an old Indian song. I have discovered since that the Coos and the Siletz Indians sang the same song.

Old Mary worked for the Finnertys, the McFarlands, and other early settlers. They gave her vegetables from their gardens, and she never took more than she could use. She gathered the wild strawberries, but the housewives weren't anxious to buy her berries when they discovered she bit the stems off with her teeth. This country would look different today if we had practiced some of her ways.

Sam said the Indians had gold. He took a bunch of men back in the mountains, and if they hadn't given up so quick the gold strike would have been made much sooner.

The little band died off, and the Indians buried their dead. Their belongings were put with them so they would have something in the hereafter. A short time ago, a man found some beads near the Cottage Grove Dam. His mother was part Indian, and she said they were burial beads. She told him to put them back where he found them. Burial grounds were sacred to the Indians.

Indians in the upper end of the valley hung their dead in trees. An old timer who was raised on Fall Creek said the Indians used a grove of trees on his father's place. The dead were wrapped in hides, and they were stretched out on poles in the top of the trees. Some of the poles were broken, the hides laid in round rolls on the ground, and the dead leaves and dirt were filled with arrowheads and other artifacts.

Sally must have come from the north and Enoch tried to carry out her wishes. When she died, he hung her old valise in the top of a tree. When the tree was cut down several years later, a few beads, one or two dresses, and a few rocks were in the old valise.

Sam got drunk and drowned in the Row River in 1903. Old Mary died about the same time and the McFarlands buried her in their family plot on Mt. David. The children planted a cedar tree, and Laura McFarland put a headstone on her grave, but vandals have been there and the stones are broken and everything is torn up now.

Enoch was lonely so he went to the reservation and got married. The reports said he got drunk and killed his wife and was put in jail. He then took his shoelaces and hung himself.

Today there is one Calapooya in Cottage Grove. More are scattered around in different places. The Indians are holding meetings and are getting their tribes together. My son, Jerry Running Foxe lives in Cottage Grove. He is chief of the Coquilles. Their blood isn't true any more, but it's like Bill Brainard, the vice chairman of the Coos tribe says, "I may look like a white man, but I was born an Indian, and I'll be an Indian until the day I die."

In 1960, the government paid some of the Indians for the land that was taken from them in the old treaties. Their land

[Continued on next page]

Knott Stamp Mill

by Janetta Overholser

A model of the Knott Stamp Mill was built in 1935 by Andy Nelson and is located at the Cottage Grove Museum. When Donna Allen turns on the small working model of a Stamp Mill and explains how it works, visitors make an immediate transition to the Bohemia Mining District and the lure of gold.

The old Knott Trail was built by Levi Knott to take the first gold quartz stamp mill into the Bohemia Mining District. The trail was barely wide enough for a narrow wagon. It started about Culp Creek, near the mouth of Sharp's Creek, and followed the divide between Sharps' and Frank Brice or Brass Creeks. Passing over the shoulder of Adams Mountain, it followed along the Utopian Saddle, over Catch Cotch (now Cat Mountain), Elephant Mountain, around the side of Fairview Mountain, and down to the Champion Saddle.

Various accounts say the trail was built by 30-300 white men and/or Chinese, entirely by hand. Though Knott's main purpose in building the trail was to take the five-stamp mill to his claim on Grouse Mountain, it facilitated travel in and out of the area. Parts of the trail are still visible and can be traveled today.

The Joshua Hendy Stamp Mill, the first in Western Oregon, was built in San Francisco, California, in 1871, and was shipped to Portland on the ocean vessel "Idaho" in March of 1871. It arrived in Eugene City on a river steamboat in March, and was hauled to the Row River Country by wagon. As soon as the snow was out of the mountains in June, the stamp mill was pulled on sleds and carts by 16 oxen over the narrow switchbacked trail.

The mill, driven by a steam engine, was set up on Grouse Mountain and was running on \$40 per ton gold ore in August of 1871. Three hundred and fifty tons of ore were crushed that year, yielding \$4,700, and a short run of 75 tons of next year yielded \$1,060. It operated about four years.

In 1877, snow crushed the mill building, and in 1890 it was sold to the Annie Mining Company. According to mint returns, the first summer's run netted \$10,000. The Annie Mining Company operated the mill until the mine was sold to the Noonday Mining Company in 1896.

In 1898, the mill was bought by Stacks, Harlow and Brush and moved to their claims on the West Slope of Fairview Mountain, where it ran on their ore and Vesuvius Mine ore from 1898 to 1902. Then it was sold to the Vesuvius Mining Company, and shut down since the Vesuvius had a new ten-stamp mill. In the early 1920's, the mill building was destroyed by fire.

On October 12, 1951, another stamp mill was moved to the site, and a year later the Knott Stamp Mill machinery was buried with dirt so vandals would not find it and pack it off.

On July 27, 1974, Bud and Steve Stewart, present Vesuvius Mine owners, and the Cottage Grove Prospectors Club, removed the Knott Stamp Mill machinery from the dirt and brush, and gave it to the local Museum. While in the mining district, they also removed the other stamp mill so it would not be taken by the thieves that occasionally invade the area. Mine owners have lost a lot of equipment, and many historical items have been taken or destroyed.

In fact, one of the local deputies notified by some visitors that some people were tearing down a cabin, drove to the Mining District, and discovered the Prospectors Club removing the Stamp Mill.

The Knott Stamp Mill equipment is now at the Cottage Grove Museum on Birch and "H" Streets. The boiler front has the following information on it:

Pacific Iron Works

1871

San Francisco

As the model in the Museum demonstrates, the stamps, moving up and down, crushed the gold-bearing ore. Water rushing through washed out that which was fine enough onto a screen then went onto a copper plate which had quicksilver on it. The quicksilver caught all "free" gold (that which has no rock stuck to it), and absorbed it.

The quicksilver was squeezed by hand to remove the gold, then reused. This was called amalgam which was boiled to 300° then condensed in cold water. Gold in a brick bullion was left, formed in a mold. The fog or vapor from the boiling amalgam came back to be quicksilver, as steam comes back to water.

Remains from the stamping went through and down a "shaker", which collected anything heavier than rock or mud, and was called "black sand". It contained iron, pyrite, antimony, zinc, and copper. The concentrates which were left were melted, and ground glass or borax put with it which stayed on top and collected the impurities.

The concentrates were heated in a pottery dish, called a crucible. It was broken when the concentrates cooled, and a metal was located under the ground glass in a round ball.

The largest stamp mill in the district was the Champion-Musick Mill, which had 30 stamps and was run by a water-driven electric generating plant located on Frank Bryce Creek, seven miles below the mines. It handles ore from both mines.

The history of the Bohemia Mining District might have been different without the stamp mills, which crushed the gold-bearing ore, and the men who had the determination and foresight to building miles of trail by hand so the stamp mills could be taken to the ore. But there were stamp mills, and there were men, and now we have the heritage, the legacy, of the Bohemia Mining District.

Wheel Bearings
Mufflers
Shocks
Tune-Up



Wheel Alignment
High Speed Balancing
Front End Rebuild
Brakes



Les's Wheel & Brake Service

911 N. 9th
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Les Bachmann
Mike Bachmann

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McCoy's Pharmacy
Service Directory