State Department of Geology and Mineral Industries

1069 State Office Building
Portland 1, Oregon

MEMORANDUM ON OREGON KING MINE

The Department has recently published Short Paper 23 on the Oregon King mine, Jefferson County, Oregon. This mine had a reported production of almost one-quarter million dollars in silver, gold, copper, and lead up until 1950 when a fire in the shaft and declining values in the upper levels forced abandonment.

At the present time, title to the property is held by the First National Bank as trustee for the J. G. Edwards estate. A group which calls itself Glacier Bay Mining Company has secured a six months' lease-option on the mine with plans to clean out the old shaft and investigate the lower levels for undeveloped ore shoots. A Mr. Culligan, one of the promoters of this venture, has visited the Department several times to discuss with Corcoran and Libbey various aspects of the mine, ore body, and concentrating mill. Also, Mr. Allen Page, geologist for the group, has discussed the geology of the mine and the surrounding area with Corcoran during two visits to the Department. It is understood that Page is associated with William Murray, an attorney here in Portland, who is also a member of the Glacier Bay group. We (the authors) understand that Murray is planning to obtain an O.M.E. loan to help finance some of the exploration costs.

At the time of his first visit to the Department, about two weeks ago, Mr. Culligan bought a copy of Short Paper 23; a few days later he returned and bought ten more copies. Last week, on his third visit to the Department, he requested permission to buy fifty more copies. The sale of these fifty copies has been held up in order to bring the matter before the Governing Board for final decision.

State Department of Geology and Mineral Industries

702 Woodlark Building
Portland 5, Oregon

OREGON KING MINE **Ashwood District** **Jefferson County**

Owner:

J. G. Edwards. Leased to Henry Andregg, Box 650, Vancouver, Washington; Mr. Roy Johnson, mine superintendent, Ray Young, assayer.

Location:

Three miles northeast of Ashwood in the N½ of sec. 29 (7), T. 9 S., R. 17 E.W.M.

Area:

Eighteen patented claims, 3 unpatented.

Miscellaneous:

The mine is located on the crest of a steep northwest sloping ridge near the break where the V-shaped canyon walls cut into the more gently rolling upland surface. The adit tunnel mouth is near the bed of the gulch lying east of the shaft.

History:

The mine is reported to have been first discovered in 1898 when operations were started by Edwards. It worked on and off until 1934 when it was leased to Alaska-Juneau, who operated it for one year until 1935. From that time it lay idle until in September 1940, eight cars of $23 ore were shipped from the dump. The present operation commenced in October 14, 1940. In 1940 Oregon King started operations September 1, shipped 1,062 tons of ore containing 329 ozs. gold; 20,313 ozs. silver; 6,169 lbs. copper; and 29,474 lbs. lead before end of the year. Nine men are working shipping about two cars a week.

The ore is trucked to Gateway, 26 miles distant, and thence by railroad to Tacoma.

Equipment:

Assay office, well equipped; compressor and hoist run by Cummings 85 h.p. deisel. Water pump, two jack hammers. Well equipped 50 ton flotation mill, mostly Denver equipment.

Development:

The mine is developed on 4 levels from the 25 to the 300. On the upper levels the vein is said to be drifted up for 100 feet each way from the 650 foot shaft; on the lower levels for 400 feet each way. A drainage crosscut to the gulch on the east intersects the 200 foot level a hundred feet or so from the shaft.

Geology:

The country rock is andesite, Clarno (Eocene) age. The main vein strikes N. 40 to 80° W. and dips 70° near the surface, but gradually steepens so that at the 200 and below it is vertical. The vein varies from 6 to 40 feet in width and consists of quartzose andesite breccia containing moderate to abundant amounts of the sulphides pyrite, chalcopyrite, a little galena, a trace of sphalerite, and cerargyrite. Values are in gold, silver, copper and lead. It is reported that 200 tons of ore from the 450 foot level ran $85 old price of gold. There are two different ore shoots said to be up to 350 feet in length.

Information: C. J. Young
Reported by John Eliot Allen, 4-16-41
Reprint U.S.B.M. Yearbook

OREGON KING MINE Ashwood District Jefferson County

Owner: J.G.Edwards. Leased to E. Reobling, Portland. Custer J. Young, mine superintendant, Ray Young, Assayer.

Location: 3 miles northeast of Ashwood, in the N½ of section 29, T. 9 S., R. 17 E.W.M.

Area: 18 patented claims, 3 unpatented.

Miscellaneous: The mine is located on the crest of a steep ridge, near the break where the ~~steep~~ v-shaped canyon walls ~~xxxxxxxxxxxxxxx~~ more gently rolling upland cut into the surface. The adit tunnel ~~xxxxxxxx~~ mouth is near the bed of the gulch lying east of the shaft.

History: The mine is reported to have been first discovered in 1898, when operations were started by Edwards. It worked on and off until 1934, when it was leased to Alaska-Juneau, who operated it for one year, until 1935. From that time it lay idle until in September, 1940, 8 cars of $23 ore were shipped from the dump. The present operation commenced on October 14, 1940, 9 men are working, shipping about 2 cars a week. The ore is trucked to Gateway, 26 miles distant, and thence by railroad to Tacoma.

Equipment: Assay office, well equipped; compressor and hoist run by Cummings 85 hp diesel. Water pump, two hammers.

Developement: The mine is developed on 4 levels, from the 25 to the 300. ~~xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx~~ On the upper levels the vain is ~~xxx~~ to be drifted upon for 100 feet each way from the 450 foot shaft; on the lower levels for 400 feet each way. A drainage crosscut to the gulch on the east intersects the 200 foot level a hundred feet or so from the shaft.

Geology: The country rock is andesite, Clarno (Eocene) in age. The main vein strikes N. 80 °W, and dips ~~from 70 to 90 ° to the south.~~ The vein varies from 6 to 40 feet in width, and consists of quartzose breccia containing moderate to abundant amounts of ~~xxxxxxx~~ the sulphides pyrite, chalcopyrite, a little galena, and a trace of sphalerite. Values are in gold, silver, copper, and lead. There are two different ore shoots, said to be up to 350 feet in length. ~~The vein dips~~ 70° near the surface, but gradually steepens so that at the 200 and below it is vertical. It is reported that 200 tons of ore from the 450 foot level ran ~~xxx~~ $85 old price of gold.

Informants: C.J. Young - Report by John Eliot Allen, 4/16/41.

(Fred J. Rosenberg has map)

Oregon King Mine (gold). Jefferson County.

Owner & op.: J. G. Edwards; leased to E. Rohlfing, 316 Security, Portland.

Custer J. Young, mine supt. Ray Young, assayer.

Location: (1.8 m. NE Ashwood + 1.1 m. N.) = N½ Sec. 29 or 30, T. 9S, R 17E.

Area: 18 claims, patented; 3 unpatented. On top of ridge.

Mine: Water from shaft & well. Topog. rugged. Ship all winter.

Equipment: Assay office: new furnace, scales, crusher, pulverizer (well equipped); air compressor & hoist by Cummings 85 hp. diesel. 2 hoists, water pump &

History: 1st disc. 1898. Edwards started operated. Worked off & on until 1934. Then leased to Alaska-Juneau, operated ~~a few months~~. Idle until Sept. 1940, then shipped 8 cars from dump, $23 per Ton. Started installing. Oct. 14 1940. Now operating about 2 cars per week. 12 men working. Truck to Gateway, 29 miles, thence To Tacoma. Plan new mill with flotation. ~~(for lease)~~ 50 Ton flotation - 6 cells,

Developements: 4 levels from 25' to 300'. Ore from 6 to 40' wide. 100' each way along vein. Crosscut opens at 200'.

Geol: One veins, dips 75°-80, ~~E~~ strikes N80°W.

Values in ore in sulfides.

Country rock all andesite, (Clarno).

Gold, silver, copper, lead. Minerals pyrite, chalcopyrite, a little galena, trace sphalerite.

400' each way on lower levels. 2 different ore shoots, E. is 350'; barren 75' barren, W. 300' ore.

Shaft from 200 ft to 300 ft
Oregon King Mining Co. Ashwood, Ore

Depth Feet	Date 1900		ozs Silver	ozs Gold	% Copper	% Lead
201	Aug 3	Samp across Vein on sides of Shaft	12.00	.10		
202	" 2		16.00	.10		
203						
204	" 4	" " " " " " "	23.30	.10		
205						
206	" 6					
207						
208						
209	" 7	" " " " " " "	8.00	tr.		
210						
211	" 8	" " " " " " "	17.00	.56		
212	" 9					
213						
214	" 10					
215						
216	" 11	" " " " " " "	8.40	.24		
217	" "	" " " " " " " Constr from	24.00	.60		
218	" 12	" " " " " "	24.40	.32		
219	" "	" " " " " " "	68.00	.56		
220	" "	Spec. Sugar Crystal Pyrite Hanging Wall	59.00	30.80		
221	" 13		8.00	1.80	tr.	
222						
223	" 14		58.80	.40	tr.	
224						
225	" 15		20.00	.32	tr.	
226						
227	" 16		8.00	.40	tr.	
228						
229						
230	" 18		27.70	.80	tr.	
231	" 19					
232						
233	" 20					
234						
235	" 21	Gen. Samp from Shaft	9.20	.36		
236						
237	" 22	Samp Across Vein in Shaft	33.20	.40		
238	" 23					
239						
240						
241	" 24					
242						
243						
244						
245						
246						
247						
248	" 28	" " " " "	16.00	.20		
249						
250	" 29	" " " " "	20.00	.30		
251						
252	" 30					
253	" 31	Shaft passed into Low grade Foot Wall				
254		in 272+ foot depth				
255						
256						
257						
258						
259						
260						
261						
262						
263						
264						

250	" 29	" " " " "	20	00		30				
251										
252	" 30									
253	" 31	Shaft passed into low grade Pyrite Vein								
254		to 373 ft feet depth								
255										
256										
257										
258										
259										
260										
261										
262										
263										
264										
265										
266	Sept 9									
267										
268										
269	" 10									
270	" 11									
271										
272										
273	" 13	See Drifts 3rd Level								
274		Special Samp of Pyrite carrying								
275	" 14	red substance from shaft 175 ft	30	00		ft.				
276	" 15									
277										
278	" 17									
279										
280	" 18									
281										
282	" 19									
283	" 20									
284										
285										
286										
287										
288										
289										
290										
291										
292										
293										
294										
295										
296	Nov 7	Gen. Samp of Shaft	20	40		ft.	2	00		
297										
298										
299	" 9	Samp Sulphide Ore	48	00		1	40			
300										

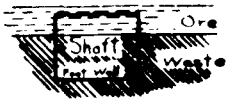
- Shaft from 100 ft Le[illegible] To [illegible] ft [illegible].
Orego[illegible] [illegible] [illegible] [illegible] [illegible] ashwood, Ore

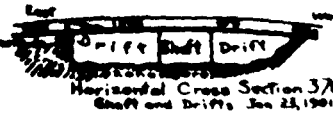
Depth	Date 1899		oz Silver	oz Gold	% Copper	% Lead
101						
102						
103						
104						
105		No data on distance { Nov. 20 Day, shaft	2.00	tr.		
106		" 21 Spec. " samp	1.00	tr.		
107		" " Gen. Samp. Day + Night	2.20			
108						
109						
110						
111						
112						
113						
114	Nov. 22	Night Gen. Samp Shaft	6.00	tr		
115		Day " "	6.00			
116						
117	" 23	Day " " " / Night " " "	2.40 / 1.30	tr / tr		
118	" 24	Day " " " / Night " " "	[illegible].72 / [illegible].00	tr / tr		
119	" 25	Sulphides from Shaft	9.60	tr	2.52	
120	" "	Night Gen Samp " / Day	3.60 / 2.00	tr		
121	" 26	Night " " "	1.60	tr		
122	" "	Day " " "	1.28	tr		
123	" 27	Day " " "	4.04	.15		
124	" "	Night " " "	3.80			
125	" 28	" "	3.60			
126	" "	Day "	[illegible].60			
127	" 29	[illegible] "	[illegible]			
128	" 30	[illegible] "	[illegible].33			
129	Dec. 1	Day / Night " " "	[illegible].00	[illegible]		
130	" 2	Day / Night " " "	[illegible]	[illegible]		
131	" 4	Spec. Sulphides	20.40	[illegible]		
132	" "	Day Gen. Samp.	14.00	.16		
133	" 8	Spec. of S.W. corner of shaft	[illegible].20	[illegible]		
134						
135		No Date { Dec. 20 Night Gen. Samp	6.80	.20		
136		" " Day " "	10.40	.20		
137						
138	" 20	Sulphides Night	18.00	[illegible]		
139	" 21	" "	20.00	[illegible]		
140	" "	Gen. Samp. Day	8.80	[illegible]		
141	" "	" " Night	9.20	[illegible]		
142	" 22	Sulphides	12.48	[illegible]		
143	" "	Gen. Samp.	4.80	[illegible]		
144	" "	" "	12.[illegible]	[illegible]		
145	" 23	" "	[illegible]	[illegible]		
146	" 24	Sulphides	[illegible]	[illegible]		
147	" 26	Gen. Samp. Night	12.[illegible]	[illegible]		
148	" 27	" " Day	[illegible]	[illegible]		
149	" 28	" " Day	[illegible]	[illegible]		
150						
151	" 29	" " Day	2.80	[illegible]		
152						
153	" 30	" "	2.[illegible]	tr	tr	
154	[illegible]	" "	6.02	[illegible]		
155		Sul. "	50.40	[illegible]		
156						
157	" 12	" "	10.[illegible]	[illegible]		
158	" 13	" Sulphides	28.[illegible]	[illegible]		
159	" 14	Gen. Samp.	4.[illegible]	[illegible]		
160	" 15	Special Sulphides	182.60	[illegible]		
161	" "	" " Hanging Wall	183.00	[illegible]		
162						
163	" 18	Gen. Samp	2.[illegible]	[illegible]		
164	" 19	Sulphides	[illegible]	[illegible]		
165						
166						

Spec. Sulphides [illegible] ft.		
Gold	Silver	Copper
[illegible]	14.40	[illegible]
[illegible]	13.00	[illegible]
[illegible]	17.[illegible]	[illegible]
	13.[illegible]	

157							
158							
159							
160							
161							
162							
163							
164							
165							
166							
167							
168							
169							
170							
171							
172							
173							
174							
175							
176							
177							
178							
179							
180	March	Spec. East Side 100 ft					
181	" 6	Gen. Samp of Shaft.					
182	" 7						
183	" 8						
184	" 9	No Assays on record					
185							
186	July 26	Gen. samp of Shaft, gone 100 ft					
187							
188	" 27	About 1 ft of Ore Stringer in S.W. gen. of					
189	" "	Gen. Samp					
190							
191	" 29	No Assay					
192							
193							
194	" 30	Special of Vein in Shaft					
195							
196							
197							
198	Aug 1						
199							
200	" 2	Shaft Vein					
	" "	S.W. Corner Shaft 200 ft					

Shaft Section from 300 ft. to 400 ft.
Oregon King Mining Co. Ashwood Ore

Depth Feet	Date 1900		oz Silver	oz Gold	% Copper	% Lead
300						
301	Nov. 11					
302	" 12					
303						
304						
305						
306	" 14					
307	" 15					
308	" 16					
309	" 17					
310	" 19	Special Samps from Shaft	136.00	.80	4.50	
			56.00	.08	3.60	4.50
311						
312	" 22					
313	" 23					
314	" 24	Random samp. of ore in Shaft	112.00	.76	2.00	
315	" 25	" " " " " "	80.00	.36	2.50	
316	" 26					
317						
318						
319						
320						
321	" 29					
322	" 30					
323						
324	Dec. 1	Random samp of Vein	16.00	.08		
325		Spec. of zinc silver ore	44.00	.80		
326	" 3	Matte from ore (not roasted)	104.00	.80	5.60	
327		Avg. of ore from which above formed	84.00	.58	3.80	
328						
329	" 5					
330						
331						
332						
333						
334						
335						
336	" 10					
337						
338						
339	" 12					
340	" 13					
341	" 14					
342						
343	" 15					
344	" 17					
345						
346		Spec. samp of ore	36.00	.16	4.70	
347	" 18					
348		Gen. Samp of ore in Foot of well	12.00	.04		
349		" " " Crushed matter 2 ft under Hang wall	15.20	.08	tr.	
350	" 19					
351						
352	" 20					
353						
354	Dec. 21	Cross Section of Shaft 342 ft Level				
355						
356		Gen. Samp.	17.60	tr.		
357	1901					
358	" 22	" "	10.40	tr.		
359	" 28					
360	" 29	" "	2.00	tr.		
361						
362						
363	Jan. 2					
364		" "	2.00	tr.		
365	" 3					

		Gen. Samp.	17	.60		tr.				
		" "	10	.40		tr.				
		" "	2	.00		tr.				
		" "	2	.00		tr.				
		" "	9	.20		tr.				
		" "	5	.60		tr.				
		" "	16	.00		.54				
		" "	4	.40		.10				
			6	.20		.10		Gen. Samp.		
		Horizontal Cross Section 370 ft. Shaft and Drifts Jan 23, 1901	4	.80		.10		"	"	
	Feb. 15	Spec. Samp. 80 Swats sulphides rich lens 580'	78	.00	4	.00				
	" 16	Special Pyrite massive	693	.60	2	.40				
		" " fine grain	85	.20	4	.80				
		" " sugar crystal 385' 10"	20	.80		.36				
		" " W Side " " " "	16	.00		.30				
	Feb. 6	Gen. Samp of ore lens Hangwall side	40	.80	9	.60				
	" 8	" " " " " " " "	61	.28	5	.92				
	" 11	" " " " " " " " "	32	.80		.64				
		" " " 27 in Hanging foot wall on East side of shaft	9	.60		tr.				
		" " " ore lens	38	.60	6	.40				
	" 13									
		Spec. from foot wall side of shaft	20	.00		.10				
		Random Samp. foot wall shaft	4	.80		tr.				
	" 19	" " Ore lens	24	.00		.15				
	" 20	Gen. Samp. slickenside to foot wall	24	.00		.10				
		No dist. data Gen. Samp. Shaft Feb. 25	16	.32		.16				

Shaft Section [illegible] to [illegible]

Oregon King Mining Co. Ashwood, Ore.

Depth Feet	Date 1901		ozs Silver	ozs Gold	% Copper	% Lead
401						
402	Feb. 26	Random samp. of East side and footwall	10.40	.64		
403	" "	" " " ore lens	18.96	.32		
404						
405	" 27					
406						
407	" 28	Gen. Samp. of shaft	24.80	1.92		
408		Random " " foot wall	16.00	.10		
409	Mar 1	Ore lens in shaft West side / East "	26.00 / 48.72	.80 / 28.64		
410		Spec. foot wall	15.60	.32		
411						
412						
413	" 3	Gen. both sides of shaft	23.20	9.60	1.28	
414	" 4	Random of ore lens " East side / West "	39.92 / 26.88	36.08 / 3.72	1.60 / 2.26	
415		Special of copper ore	62.56	3.84	13.16	
416						
417		Random of foot wall	14.08	3.20	.20	
		Gen. both sides of shaft	33.46	.64		
418	" 6	West side ore lens (not large)	39.60	12.00		
		East " " " (2 ft. of this)	76.80	3.20		
419	" 8	Spec. of west side	18.20	.20		
420	" 26	Sump cut spec. samps	3.20	fr.		
		" " "	1.04	fr.		
421	Apr 4	" " Gen. "	26.00 / 9.60	1.68 / .48		
422		" " Spec. "	9.60	.10		
423						
424						
425						
426						
427						
428	" 10	Ore lens bottom of shaft	27.00	fr.		
429		East side ore lens	30.40	.10		
430		West " " "	52.80	24.00		
431	" 16	Special from hanging wall	1046.08	2.72		
432		" Bunget Lead	48.00	.10		5.00
433	" 17	Ore lens East side of Shaft	81.96	.48		
		" " West " " "	30.40	6.40		
435						
435	" 18					
436	" 19	Gen. samp. ore lens	34.80	.20		
437						
438						
439						
440						
441						
442						
443	" 25					
444	" 26					
445						
446	" 29					
447		Gen. samp. of Shaft	24.00	.20		
448		Foot wall ores shaft	10.40	.10		
449	May 1	West side ore lens 18 in. wide	28.40	1.60		
		East " " " 9 " "	172.80	2.80		
450						
452	May 2	Gen. Samp. ore lens both sides of Shaft	127.20	2.08		
453		" " " " East side	247.20	1.40		
		" " " " West "	84.80	.80		
454	" 6	Spec. " of solid ore	124.80	21.60		
455		Foot " from slickenside	13.60	.32		
456	" 7	Gen. " " Shaft	32.40	.32		
457		" " " of ore lens	108.00	.28		
458	" 6	" " " " " East side	67.60	.40		
		" " " " " West "	128.80	.80		
459						
460						
461						
462						
463	" 17	Gen. Samp. East Side of Shaft	33.40	.32		
464		" " West " " "	28.40	.16		
465	" 18	" " East " " Old bottom	33.20	.32		
		East wall ores	17.80	.48		
466						
467	" 21	Spec. from Hanging wall	102.80	.24		
		" " Foot "	103.20	.48		

463	" 6	Floor " from gin beneath		13	20		.32			
464	" 7	Gen. " " shaft		18	.00		.36			
465	" 6	" " " " " East side		20	.00		.40			
466		" " " " " West "		120	.00		.80			
467										
468										
469										
470	" 10									
471										
472										
473	" 17	Gen. Samp. East side of Shaft		31	40		.62			
474	" "	" " West " " "		39	40		.78			
475	" 18	" " East " " " Out bottom		17	20		.34			
476		East wall area		19	80		.38			
477										
478										
479	" 21	Slate. From Hanging wall		102	80		.45			
480	" "	" " Foot "		103	20		.47			
481	" 22									
482										
483	" 23	Gen. Samp. both sides of shaft		60	00		32		.00	
484	" "	" " Hanging wall ore lens		61	40		32		.60	
485										
486										
487		East side Gen. Samp		70	40		tr		tr.	
488		West " " "		70	80		tr.		tr.	
489	" 25									
490										
491	" 26									
492										
493										
494		Foot wall shaft		7	20		tr.			
495		West side ore lens		16	80		16			
496	June 7	No depth data East " " "		69	00		32			
497		Foot wall ores		28	00		08			
498		West side shaft.		16	00		.64			
499										
500										
501		Gen. samp. from hanging wall		16	80		52			
502										
503										
504	1905 Oct. 17	Foot wall side (2½ ft. wide)		22	80		15			
505										
506										
507										
508										
509										
510										
511										
512										
513		Records for shaft except as given are								
514		mislaid or lost. The Log Book covering all								
515		data during time operated, assays and								
516		measurements of Shaft, Drifts, tunnel, Cross								
517		cuts, winzes, and Discovery are								
518		Assessment work is mislaid or lost								
519		There is no shaft data between 500 ft								
520		and 600 ft See drifts of the								
		6th Level								

Shaft Data or Log to be put in Depths

The Company took Charge when the shaft was to feet Deep

Feet	Date	Remarks	Ozs Silver		Ozs Gold	%	%
1		No data except as showing in Smelter Returns of ore taken out and shipped. This notation applies to all blank spaces in this log. The					
2							
3							
4							
5	(Feb 11)	original log book is mislaid or	460	.00	.81		Gen. Sump Shaft
6		lost and this log is compiled					
7		from Daily Report Sheets many of which					
8		are lost and only one depth point					
9		can be given in the hundred foot log					
10	Dec 11 Aug 10	section. No data on distance at	23 .92		.40		
11	" 11	which these samples were taken.	13 .37		.65		
12	" 12		25 .96		.60		
13		No Data of Assay. No distance shown					
14	" 14		60 .96		1.20		
15	Dec 11 Aug 10	Gen Sump Shaft	80 .92		.60		
16							
17							
18							
19							
20	(Feb 11)		46 .52		.24		
21		Out of Crucibles No assays. No depth data					
22							
23							
24							
25	(Feb 11)		7 .98		.12		
26							
27							
28							
29							
30							
31							
32							
33							
34							
35	(Jan 11)	Gen Sump Hanging Stope	110 .68		.72		
36							
37							
38							
39							
40	(Jan 11)	Gen Sump Side of Shaft	109 .60		.80		
41							
42							
43							
44							
45	(Jan 11)	Gen Sump Side of Shaft	40 .56		1.20		
46							
47							
48							
49							
50							
51	Sept 1		29 .13		.75		
52	" 2		31 .60		.36		
53	" 3		26 .74		.15		
54	" 4		21 .81		.78		
55	5		20 .17		.46		
56	" 6		30 .00		1.00		
57	" 7		32 .03		1.26		
58	" 8		29 .17		1.50		
59	" 9		18 .23		.90		
60	" 10						
66	" 11	No Assay No Depth Data					
61							

3	Sept 1				29	.12		.75	
54	" 2				31	.60		.26	
53	" 3				26	.74		.15	
53	" 4				21	.8		.78	
69	5				20	.17		.46	
55	" 6				30	.00	1	.00	
56	" 7				32	.03	1	.26	
57	" 8				29	.17	1	.50	
58	" 9				18	.23		.90	
59	" 10								
66	" 11	No Assay	No Density Data						
61									
62									
63									
64									
65									
66									
67									
68									
69									
70									
71									
72									
73									
74									
75									
76									
77									
78									
79									
80									
81									
82									
83									
84									
85	" 12				17	.23		.25	
86	" 13				12	.16		.35	
87	"								
88									
89									
90									
91									
92	" 14				17	.01	Not Determined		No Distilled water
93					10	.94	"	"	
94	" 15								
95	16				26	.29		.25	
96	" 19				13	.31	1	.00	
97	" 20				24	.52	1	.00	
98	" 23				19	.58		.75	
99		Average Assay Top to Bottom =			48	.70		.37	
100									

1st [illegible] West Drift from Level

Ore: [illegible] Lining [illegible] Ashlw[illegible], Ore

Drift	Ft from Shaft	Date 1901		East Drift ozs Silver	East Drift ozs Gold	East Drift % Cop	East Drift % Lead	West Drift ozs Silver	West Drift ozs Gold	West Drift % Cop	West Drift % Lead	Both Drifts ozs Silver	Both Drifts ozs Gold	Both Drifts % Cop	Both Drifts % Lead
W	No data	June 14	Gen. Samp. West Drift					16 80	[illegible]						
E	data	" "	" " East "	48 00	.96										
W		" 15	" " West "					20 00	.80						
E		1903	" " East "	17 60	.52										
W		Aug. 15	" " West "					11 60	.76						
		" "	" " Hanger lens					21 00	.18						
		" "	Spec. Foot wall ore some Lead + Copper					49 40	.36						
		" "	" " " " " "					21 60	.16						
		" "	" " " Running Samp.					13 20	.24						
W		" 27	Samp. ore face (12 in.)					9 60	.24						
W		" "	" new ore face					47 [illegible]	.24						
W		Sept. 8	" " " lens Small amt of Copper and Lead					103 20	.24						
W		" "	Casing to above ore (4 in. of this)					60 00	.24						
W		" 15	Fings from ore broken					49 92	.25						
W		" "	Spec. Sulphide					18 00	.24						
W		" "	Gen. Samp. of ore (2½ ft of this)					20 40	.28						
W		" 17	" " " Vein					18 20	.24						
W		" "	Samp of Hanging Wall					21 20	.24						
W		" 23	Spec. Samples Hanging wall ore West side Samp.					114 [illegible]	.24						
W		Oct. 17	Ore face West Drift					51 [illegible]	.24						
E		" "	Talc near smooth plane or slickenside	2 00	tr			16 20	.24						
W		" "	Samp Vein 5 ft. wide face of drift.					10 [illegible]	.24						
W		1904 Jan. 7	Gen Samp of high grade ore of this Drift (No 2)					18 [illegible]	.27						
W		" "	Casing to above ore (12 in. wide)					20 [illegible]	.24						
±W		" "	Cross cut 12 ft. west from shaft.					2 [illegible]	.24						
W		Feb. 6	Samp 2nd Class of stope from Samp.					30 [illegible]	.24						
W		" "	" Ore west end of stope					24 [illegible]	.24						
W		" "	" " Center " "					228 [illegible]	.24						
W		" "	" " East " "					37 [illegible]	.24						
W		" "	" 2nd Class sorted from stope												
E		Mar. 8	Samp 12 racks from East stope	46 [illegible]	30										
W		" "	" 22 " " West stope (Caved shaft of shaft see sheet 4)					103 [illegible]	.28						
E		" 16	" 46 " East stope (Tested shaft)	57 [illegible]	34										
W		" "	" High grade area center of stope west side					98 [illegible]	.26						
W		" "	" Low " " " " " "					26 [illegible]	.26						

East and West Drifts 6th Level

Drift	Ft from Shaft	Date 1904		East Drift ozs Silver	East Drift ozs Gold	East Drift % Cop	East Drift % Lead	West Drift ozs Silver	West Drift ozs Gold	West Drift % Cop	West Drift % Lead	Both Drifts ozs Silver	Both Drifts ozs Gold	Both Drifts % Cop	Both Drifts % Lead
W		Jan. 18	Spec. of new white west side					277 [illegible]	[illegible]						
			Gen Samp " " " "					27 [illegible]							
			(Copper is present in above samples but not over 3%)												
W		Feb. 10	New strike west					19 [illegible]							
E		" "	Samp from drill cuttings East	38 [illegible]	34										
W		July 12	Gen. Samp ore face of Drift (6 Foot Vein)					20 [illegible]							
W		" 29	" " " " " " (2 " ")					28 [illegible]							
W		" "	Samp small streak ½ in. wide on hang wall					169 [illegible]							
W	71 ft	Aug. 18	Ore streak (6 in. wide)					28 [illegible]							
W	78	" "	Gen Samp. face of West Drift					18 [illegible]							
E		" 19	" " Qtz on Hanger (4 to 6 in. wide)	72 [illegible]	20										
E		" "	Samp new strike on Cross Cut	[illegible]	[illegible]										
W	72	" 17	Samp ore streak 6 in. wide					28 [illegible]							

East and West Drifts 6th Level

Both	From Shaft	Date 1904		East Drift oz Silver	East Drift oz Gold	East Drift % Cop	East Drift % Lead	West Drift oz Silver	West Drift oz Gold	West Drift % Cop	West Drift % Lead	Both Drifts oz Silver	Both Drifts oz Gold	Both Drifts % Cop	Both Drifts % Lead
W		Jan 12	Spec. of new shine west side					677							
			Gen Samp " " " "					27							
			(Copper is present in above samples but not over 3%)												
W		Feb 8	New strike west					19							
E		" "	Samp from drill cuttings East	38		24									
W		July 12	Gen Samp on face of Drift (4 ft of this)												
W		" 25	" " " " " (3 - - -)												
W		" "	Samp small streak ½ in wide on hang wall												
W	71 ft	Aug 18	Ore streak (6 in wide)												
W	78	" "	Gen Samp. face of west Drift												
E		" 19	" " Qtz on Hanger (4 to 6 in wide)												
W		" "	Samp new strike on Cross Cut												
W	72	" 17	Samp ore streak 6 in wide												

Ruby Tunnel and Winze

		Date 1899		oz Silver	oz Gold	% Cop	% Lead
		Dec 6	Ruby ozzessment				
		" "	" " No 2				
		" "	" " Gen Samp.				
		1900					
		Apr 28	Tunnel Samp.				
		May 10	Outer Casing Ruby strike				
		" "	" " " "				
			Vein at this date was 20 in wide but no distance or depth data is given.				
		" 26	Hand samp. of latest strike				
		1900 June 6	Samp. from Tunnel				
		" 16	Ruby Winze 4 ft				
		" "	" " 5 ft.				
		July 4	" " 12 ft deep				
		" 13	" "				
		" 29	" " 17-18 ft				
			Core only one ft. oxide mixed with Qtz. but mostly iron pyrite.)				

East and West Drifts 2nd Level 172 ft.

Oregon King Mining Co. Ashwood, Oregon

Drift	Feet Dist.	Date 1900		East Drift oz Silver	East Drift oz Gold	East Drift % Cop	East Drift % Lead	West Drift oz Silver	West Drift oz Gold	West Drift % Cop	West Drift % Lead	Both Drifts oz Silver	Both Drifts oz Gold	Both Drifts % Cop
E.	5-6	Mar 14	No Assay											
W	6-7	" "	" "											
E.	6-7	" 15	" "											
W	7-10	" "	" "											
E.	7-9	" 16	" "											
W	10-11	" "	" "											
E.	9-10	" 17	Gen. Samp both drifts									6 60		
W	11-14	" "	" " " " censentrates									22 00	12	
		" 18	" " " "									3 60	10	
			" " " " cone.									65 60	1 80	
E.	14-16	" 19	" " East Dft. conc.	15 60	12									
W	14-16	" "	" " West Dft. conc.	5 00	20									
		" "	" " of Both Dritts									2 60	1 80	
W	16-19	" 20	Gen. Samp West Drift					7 00	20			9 00		
E.	16-17	" "	" " Both " s											
		" "	Conc. " East "											
		" "	" " West "					2 00				28 00		
E.	17-19	" 21	" Gen " Both " s											
W	19-21	" "	Gen Samp. East "		60	10								
		" "	" " West "					12 00	20					
E.	19-21	" 22	" " Both " s									28 00		
W	21-24	" "	" " East "	26 00	10									
		" "	" " West "											
E.	21-25	" 23	" " Both "											
W	24-27	" "	" " East "	38 00	32									
		" "	" " West "					1 15						
E.	25-28	" 24	" " Both "									40 00		
W	27-31	" "	" " East "	32 00	10									
		" "	" " West "					1 00						
E.	28-32	" 25	" " Both "									11 00		
W	29-33	" "	" " East "	30 00	10									
		" "	" " West "					1 00						
E.	32-35	" 26	" " Both "									9 00		
W	33-36	" "												
E.	35-37	" 27												
W	36-38	" "	No Assays Recorded											
E.	37-39	" 28												
W	38-39	" "												

East and West Drifts 3rd Level 272 ft.

Drift	Feet Dist.	Date 1900		East Drift oz Silver	East Drift oz Gold	East Drift % Cop	East Drift % Lead	West Drift oz Silver	West Drift oz Gold	West Drift % Cop	West Drift % Lead	Both Drifts
			Started Sept. 26, 1900.									
W			Sump West Drift.									
E	0-4	Oct 2	Spec. Samp East Drift									
		" "	Gen " " "									
W	0-14	" "	" " West "									
E	0-22	" 3	" " East "									
			Gen " " "									
W	0-22	" "	" " West "									
E	0-30	" 4	" " East "									
			Gen " " "									
W	0-30	" "	" " West "									
E	0-38	" 5	" " East "									
			Gen " " "									
W	0-38	" "	" " West "									
E	0-46	" 6	" " East "									
			Gen " " "									
W	0-46	" "	" " West "									
E	0-54	" 7	" " East "									
			Gen " " "									
W	0-54	" "	" " West "									
E	0-62	" 8	" " East "									
			Gen " " "									
W	0-62	" "	" " West "									
E	0-70	" 9	" " East "									
			Gen " " "									
W	0-70	" "	" " West "									
E	0-78	" 10	" " East "									
			Gen " " "									
W	0-78	" "	" " West "									
E	0-86	" 11	" " East "									
			Gen " " "									
W	0-86	" "	" " West "									
E	0-94	" 12	" " East "									
			Gen " " "									
W	0-94	" "	" " West "									
E	0-102	" 13	" " East "									
			Gen " " "									
W	0-102	" "	" " West "									
E	0-110	" 14	" " East "									
			Gen " " "									
W	0-110	" "	" " West "									
E	0-118	" 15	" " East "									
			Gen " " "									
W	0-118	" "	" " West "									
E	0-126	" 16	" " East "									
			Gen " " "									
W	0-126	" "	" " West "									
E	0-134	" 17	" " East "									
			Gen " " "									
W	0-134	" "	" " West "									
E	0-142	" 18	" " East "									
			Gen " " "									
W	0-142	" "	" " West "									
E	0-150	" 19	" " East "									
			Gen " " "									
W	0-150	" "	" " West "									
E	0-158	" 20	" " East "									
			Gen " " "									
W	0-158	" "	" " West "									
E	0-166	" 21	" " East "									
			Gen " " "									
W	0-166	" "	" " West "									
E	0-174	" 22	" " East "									
			Gen " " "									
W	0-174	" "	" " West "									
E	0-182	" 23	" " East "									
			Gen " " "									
W	0-182	" "	" " West "									
E	0-190	" 24	" " East "									
			Gen " " "									
W	0-190	" "	" " West "									
E	0-198	" 25	" " East "									
			Gen " " "									
W	0-198	" "	" " West "									
E	0-206	" 26	" " East "									
			Gen " " "									
W	0-206	" "	" " West "									
E	0-214	" 27	" " East "									
			Gen " " "									
W	0-214	" "	" " West "									
E	0-222	" 28	" " East "									
			Gen " " "									
W	0-222	" "	" " West "									

Drift	Feet Dist.	Date 1900		Silver	Gold	Cop.	Lead	Silver	Gold	Cop.					
			Started Sept. 26, 1900.												
W			Sump West Drift.												
E	[illegible]	Oct 2	Spec. Samp. East Drift												
		" "	Gen. " " "												
W	[illegible]	" "	" " West "												
E	[illegible]	" 3	" " East "												
W	[illegible]	" "	" " West "												
E	[illegible]	" 4+5	" " East "												
W	[illegible]	" "	" " West "												
E		" 6	" " East "												
W		" "	" " West "												
E	- 21	" 8	" " East "												
W	- 26°	" "	" " West "												
		" 9	" " Both Drifts												
			West Lead ore vein has narrowed to 1 ft.												
			East " " " " " 1½ ft.												
E		" 20	No dist. date Gen. Samp. end of Drift.												
W		" "	" " " " " " "												
E	42-49	" 24	Gen. Samp. East Drift												
W	44-48	" "	" " West "												
W		Nov. 19 1901	No dist. date Gen. Samp. end West Drift												
E		Jan. 24	Face of East Drift												
E		" "	" " " "												
E	60°-62°	" 29													
E	62°-63°	" 31													
E	63°-65°	Feb. 1	(Cross cut East Drift stopped at 18 ft.)												
W		1904 Aug. 13	End of 3rd Level Cross Cut												

East and West Drifts 4th Level 370 ft.

				East Drift				West Drift				Both Drifts			
Drift	Feet Dist	Date 1901		ozs Silver	ozs Gold	% Cop.	% Lead	ozs Silver	ozs Gold	% Cop.	% Lead	ozs Silver	ozs Gold	% Cop.	% Lead
E	3	Jan. 21	Samp. East Drift	684 80	3 75										
W	3	"	" West "					56 00	16						
E			Spec. Samp. East Drift	800 00	3 20										
E	8	" 23													
W	8	" "	Spec. Samp. W. Drift ore lens					69 80	18						
W		" "	Casing west side on ore lens					79 00	1 40						
W		" 26	Gen. Samp. ore streak [illegible]					29 60	70						
E		" "	Samp. new strike East Drift	524 00	2 20										
W	30	1903 Aug. 15	Gen. Samp. ore (" " ") (crew here crossing)					91 60	30						
E	40	" 23	Samp. ore face (" " ") (40° levels)	68 90	180										
E	40	" 24	" " " (" " ")	138 [illegible]	[illegible]										

East & West Drifts 100 ft Level along the Vein

Oregon King Mining Co. Ashwood, Oregon

Drift	Ft from Shaft	Date 1899		East Drift Silver	East Drift Gold	East Drift % Cop	East Drift % Lead	West Drift Silver	West Drift Gold	West Drift % Cop	West Drift % Lead	Both Drifts Silver	Both Drifts Gold	Both Drifts % Cop	Both Drifts % Lead
W	6-7	Sept 28	Foot wall & Stope Mostly Brown Oxide					19 44	tr 50						
E			" " " "	23 09	2 91										
E	1-21	" 30	Foot wall side	31 60	50			18 52 / 19 44	tr 25						
W	7-8	"	Hang wall " " " Gen samp Both Drifts									1 00	3 64		
			" " " " Sept 28									27 2 / 26 76	50 / 20		
W	8-9	Oct 1	Foot wall matter					tr	tr						
E	2-4	" 1	Spec selected ore No 1 / No 2	40 00 / 23 09	1 21 / 50										
E	"	" "	Gen samp of the Face	25 02	50										
E	4-5	" 2	Special picked samp No 2 / Gen samp of the Face	19 54 / 11 00	75 / 1 75										
E	"	" "	Spec samp of Galena / Gen samp of Face of drift	40 75 / 20 00	10 / 5 00										
W	9-10	" "	" "					29 11	50						
W	10-11	" 3	Spec samp of Galena Lead not determined / Gen samp of both Drifts (taken Oct 2)					96 01	50			23 20	25		
W	"	" "	Average samp (" " ")					111 80	1 21						
E	"	" "	" " (" Oct 3)	19 44	50										
E	"	" 4	Spec samp to classify (" ") / Average samp of the drift.	50 68	50			38 00 / 121 69	1 50 / 1 00						
W	11-12	" "	Gen. / Spec samp E drift small plate	818 93	8 61										
E	7-9	" "	Gen samp.	41 33	40										
E	"	" "	Foot wall matter	6 00	tr										
E	8-10	" 5	Gen samp. Both Drifts (" Oct 4)									35 45	1 21		
E	"	" "	" " East "	43 00	25										
W	12-13	" "	" " West "					29 17	25						
			Spec of Galena from one of Drifts									51 04	10		36 00
		" 6	Gen samp Both Drifts (taken Oct 6)									53 00	25		
W	13-14	" "	Average samp					30 38	50						
E	10-11	" "	" "	64 62	1 00										
		" 7	Gen Samp Both Drifts (" " 6)									00 76	10		
E	11-13	" "	Walls Both sides / Samp of the Vein	2 43 / 64 62	tr / 1 00										
W	14-16	" "	" " " "		" "			24 00	50						
		" 8	No work, Sunday OFF												
W	16-17	" 9	Gen samp.					24 00	50						
E	12-14	" "	Walls Foot and Hanging	2 43	tr								2		
E	"	" "	Vein Samp.	99 65	1 00										
E	14-15	" 10	East Drift Vein	99 65	1 00										
E	"	" "	" " Walls	2 43	tr										
W	17-18	" "	Gen samp West Drift					24 30	50						
		" 11	No assay												
		" 12	Gen. samp (" Oct 9)									60 16	40		
E		" "	Ore pile from East Drift	802 95	1 21		1 00								
E	17-18		Gen samp East Drift (" " 10)	109 16	1 50										
E		" "	" " " " (" " 11)	76 56	1 00										
W	19-20	" "	" " West " (" " 10)					36 66	50						
W		" "	" " " " (" " 11)					14 58	25						
		" "	" " Both " (" " 10)									25 52	50		
		" 13	" " " " (" " 11)									19 44	50		
E	18-19	" "	Walls of East Drift	tr	tr										
E		" "	Vein " " "	60 76	3 00										
W	20-21	" "	" " West "					9 72	50						
W		" "	Average samp W Drift					13 37	tr						
		" "	Gen. Samp Both Drifts (" " 12)									19 44	75		
E		" 14	Vein East Drift.	96 18	1 21										
		" "	Gen Samp Both Drifts (" " 13)									14 58	25		
E	19-20	" "	East Drift, Left Wall	9 72	tr										
		" "	" Vein	38 89	75										
W	21-22	" "	West Drift Vein					7 29	tr						
		" "	Gen Samp.									19 44	10		
		" 15	No day shift												
		" 16	Gen. Samp (taken Oct 16)									13 37	tr		
E	20-21	" "	East Drift Vein	60 76	50										
W	22-23	" "	West " "					9 72	40						
		" 17	Gen Samp									13 37	tr		
E		" "	East Drift Vein	60 76	50										
W		" "	West " "					9 72	40						
		" "	Average Samp W Drift (" " 17)					3 64	tr						

E		" "	East Drift Vein	60	75	50									
W		" "	West " "						9	72	46				
		" 17	Gen Samp										15	37	Tr.
		"	East Drift Vein												
		"	West " "						9	72	46				
		" 18	Average Samp W Drift (" " 17)						3	64	Tr.				
W		" "	" " " " (" " 18)						6	08	Tr.				
E		" "	" " East " (" " 17)	10	94	Tr.									
E		" "	" " " " (" " 18)	12	16	Tr.									
		" "	Gen Samp Both Drifts										18	37	Tr.
		" 19	and Out 20th No Records												
		" 21	Gen Samp (" " 20)										6	08	Tr.
W		" 21	Average " W. Drift (" " 21)						2	43	Tr.				
E		" "	" " East " (" " ")	14	87	95									
		" "	Gen Samp (" " ")			20							1	80	20
		" 22	No Assays Change shifts												
E		" 23	Average East Drift	12	16	Tr.									
W		" "	" West "						3	64	Tr.				
		" 24	Gen Samp (" " 23)										8	67	00
+E		" "	Cross Cut East Drift (" " 24)	1	21	Tr.									
E		" "	Average " "	2	43	Tr.									
W		" "	" West "						4	86	Tr.				
		" 26	Gen. Samp (" " 25)										4	86	Tr.
E		" "	East Drift	1	21	Tr.									
+E		" "	Cross Cut East Drift	1	21	Tr.									
W		" "	West Drift						2	43	Tr.				
			Copper coming in with Pyrite in East Drift												
			Quite a sprinkling but these Sulphides												
			do not carry much gold or silver nor.												
		" 26	Gen Samp (Cross Cut)										2	43	Tr.
E		" "	East Drift (" " 26)	1	21	Tr.									
+E		" "	" " Cross Cut (" " ")	none		Tr.									
W		" "	West "						2	86	Tr.				
		" 27	Gen. Samp.										3	64	Tr.
E		" "	East Drift	1	21	Tr.									
W		" "	West Drift						2	43	Tr.				
+E		" "	East " Cross Cut	2	43	Tr.									
E		" 29	" "	1	21	Tr.									
W		" "	West "						1	21	Tr.				
		" 30	Gen. Samp. (" " 29)										2	43	
+E		" "	East Drift Cross Cut			Tr.									
E		" "	" "	2	00										
W		" "	West "						2	43					
		" 31	Gen Samp (" " 30)										2	00	Tr.
W		" "	West Drift (" " 31)						1	21	Tr.				
E		" "	East "	2	00	Tr.									
+E		" "	" " Cross Cut	none		none									
		Nov. 1	Gen. Samp (" " ")										2	00	Tr.
W		" "	West Drift (" " ")						1	21	Tr.				
E		" "	East " (" " ")	2	00	Tr.									
+E		" "	East " Cross Cut	none		none									
		" "	Adit Tunnel 77 ft all told This date												
		" "	Gen. Samp (Face Nov. ")										1	50	
E		" "	East Drift (" " "												
W		"	West " ("												
		" 3	Gen Samp										2	43	
W			no.												
E															
+E															

OREGON KING MINE

JEFFERSON COUNTY

Rearrange as on next

Total 1940 (25 cents) 1061.513 Tons; ave. assay value $22.74; ave. returns $14.17 $24,140.56 $15

Date rec'd	Type of ore	Dry weight (pounds)	Pb %	Zn %	Cu %	Fe %	S	SiO_2 %	As %	Au oz.	Ag oz.	Assay Value (dollars)	Payment (dollars)
1940										~~.24~~			
9-4	Dump ore	41,395	1.8	.5	.32	10.2		59.0	.31	.24	16.28	381.21	113.37
9-4	"	44,118	.4	.8	.23	6.6		66.8	.24	.10	8.92	~~143.78~~	62.78
9-20	"	69,540	1.8	1.2	.41	10.5		57.2	.40	.21	15.31	583.33	~~279.32~~
10-2	"	30,924	.90		.12				.32	.53	18.44	451.43	381.85
10-2	"	30,068	.60		.09		ONLY		.32	.39	79.49	988.13	~~235.85~~
10-16	"	122,818				10.6		59.2	.40	.27	14.77	1125.01	590.16
10-17	"	104,179	1.7	1.8	.32	9.7		55.8	.32	.25	14.98	928.46	474.00
10-21	"	109,004	1.7	1.3	.26	11.3		54.6		.26	14.34	964.31	491.19
10-29	"	69,172	.8		.15	7.2		69.2		.35	11.99	~~655.57~~	~~383.95~~
11-5	"	100,941	.9			7.5		67.8		.38	14.18	1080.57	680.69
11-7	"	87,346	1.8		.41	8.1		68.2		.69	19.90	1541.42	1139.83 1139
11-9	"	107,316	2.1	1.3	.52	10.7		57.0		.23	14.84	916.69	~~540.35~~
11-9	"	111,097	1.6	1.3	.38	10.0		60.2		.22	13.75	~~824.17~~	~~483.85~~
11-15	"	73,038	1.4		.41	9.8		62.0		.18	12.45	~~515.43~~	~~216.21~~
11-23	Mine ore	89,196	.8	.21	.21	8.1		69.6		.32	27.69	1282.48	877.97
11-23	"	84,172	.6		.12	8.7		68.6		.25	27.05	1098.20	715.15
11-23	"	64,833	.4		.09	8.9		69.2		.16	23.62	679.18	420.00
11-26	"	94,758	.8		.23	9.1		68.2		.33	27.86	1383.09	960.70
11-29	"	99,740	.9		.12	8.9		69.4		.31	19.48	1142.34	748.42
12-7	"	99,533	1.4		.78	9.7		69.6		.52	17.66	1408.86	963.45
12-10	"	103,491	1.8		.21	8.8		67.4		.40	14.32	1,145.15	729.64
12-16	"	87,464	3.4		.12	10.1		60.2		.55	46.51	~~2124.75~~ 2157.56	~~1685.36~~ 1763.17
12-10	"	104,022	.4		.15	7.5		72.4		.15	9.20	549.80	143.28
12-11	"	94,472	.6		.15	7.9		69.6		.29	13.77	861.69	492.62
~~12-16~~	~~"~~	~~87,464~~	~~3.4~~		~~.12~~	~~10.1~~		~~60.2~~		~~.55~~	~~46.51~~	~~2157.56~~	765.36
12-20	"	100,389	1.9		.14	9.6		66.8		.27	21.68	1,162.18	

						11.5	71.0	.18	.49	21.80	1751.87	1,240.2
6-3		120,717	1.1	1.0		10.5	65.0	.36	.20	25.74	1426.51	959.75
6-13		122,905	.8	1.3		13.3	58.0	.47	.12	26.00	1306.71	828.82
6-14		106,094	1.3			8.7	67.8	.06	.81	170.78	7,445.09	6709.53
6-19		107,741				10.7	62.4	.18	1.09	109.95	5,842.31	5,088.01
6-30		102,724	2.2			10.4	61.6	.29	1.07	55.60	3,664.60	3,075.36
7-7		114,947	1.2			9.2	62.6	.18	.90	104.71	5,683.38	4,958.09
7-21		108,379	.8			8.5	65.1	.08	.61	61.63	3,292.66	2,705.17
8-15		97,480	1.5	1.8		10.4	61.2	.59	.17	27.20	1,153.50	768.79
8-19		103,345	.4			8.0	72.8	.09	.37	30.90	1,679.68	1,227.01
8-25		115,563	.5			7.9	72.8	.18	.32	26.88	1,630.01	1,121.69
9-22		107,499	1.2			7.7	73.8	.09	.61	36.95	2,375.86	1,928.91
9-29		110,487	1.2			7.6	73.4	.33	.65	32.50	2,346.63	1,879.70
10-7		108,914	2.0	1.2		11.6	56.8	.80	.42	80.38	3,664.30	3,047.97
10-17		116,698	1.3	1.3		11.0	59.4	.55	.31	70.85	3,348.94	2,717.98
11-3		121,297	1.0	1.2		10.2	60.0	.20	.38	48.05	2,688.15	2,124.18
11-28		111,610	.6	.9		8.2	64.8	.34	.11	21.79	1,011.04	573.21
12-13		109,343	.7	1.1		8.9	65.2	.31	.15	25.83	1,208.01	781.18
12-17		113,283	.9	1.3		3.4	60.0	.23	.29	70.49	3,201.43	2,609.92
12-30		106,973	1.1	1.2		10.5	60.6	.37	.33	70.49	3,090.67	2,510.05
12-30		106,009	1.1	1.1		11.3	59.6	.42	.30	59.39	2,618.31	2,099.34
	44 cows											
Total	1941	2921.425	Tons; ave.		value	$32.56; ave. returns		$27.40			$95,140.00	$80,058.45

1,923.72
1,144.29
1,188.08
1,185.16
1,120.36
1,124.28
1,189.41
1,188.16
1,155.57
1,125.27
1,195.18
1,135.06
1,152.81
1,131.04
1,238.33
1,139.19
1,115.86
1,135.68
2,109.57
1,246.38
1,298.25
1,287.56
1,296.75
1,298.82
1,298.53
1,298.01
6,508.36
3,995.09
2,976.17
1,122.79
1,198.07
1,198.91
1,198.07
2,157.21
2,780.18
2,609.92
2,510.05
2,099.34

$80,058.45 *

Payments 1941

	Date rec'd	Type of ore	Dry weight	Pb	Zn	As	Fe	SiO_2	Cu	Au	Ag	Assay Value	Payment
~~1940~~	~~12-20~~	~~Mine~~	~~100,389~~	~~1.9~~			~~9.6~~	~~66.8~~	~~.14~~	~~.27~~	~~21.68~~	~~1,162.18~~	~~765.36~~
1941	1-7	Mine ore	116,946	2.1		.32	8.7	62.8	.08	.40	33.50	2,058.49	1528.62
	1-14	"	113,968	1.3			6.6	74.4	.17	1.07	52.76	3,957.00	3,294.18
	2-5		113,557	1.8		.32	8.5	69.2	.17	.365	29.19	1,771.01	1,262.29
	2-24		105,030	2.3	.6		9.1	66.8	.76	.37	41.89	2,094.29	1,601.98
	2-24		103,829	1.7	.4		7.6	70.0	.25	.53	38.84	2,193.73	1,716.94
	3-3		126,863	1.4	1.2	.32	11.6	62.2	.56	.35	26.35	1,827.18	1263.58
	1-31		110,073	2.0		.48	9.0	67.6	.40	.36	31.75	1,802.75	1,319.99
	3-11		111,973	1.1		.32	6.5	75.2	.11	.20	15.00	909.95	467.04
	3-13		111,788	1.0		.32	6.9	73.8	.11	.28	19.58	1,231.02	770.37
	3-17		115,273	1.6			9.7	63.0	.15	.27	22.15	1,351.81	895.44
	3-19		114,927	1.3			8.9	66.0	.12	.23	25.37	1,398.68	942.58
	3-21		112,784	1.2			8.8	65.2	.20	.28	25.04	1,449.46	997.55
	3-29		112,419	.8			7.7	72.4	.09	.31	19.59	1,292.43	852.95
	3-31		111,493	.7			8.0	72.6	.15	.24	15.34	989.96	551.84
	4-4		111,941	.8			9.7	69.2	.73	.37	14.16	1,179.90	736.14
	4-21		96,161	1.1	1.4		10.8	64.0	.35	.24	11.37	719.55	347.31
	4-28		117,492	1.7	1.4		10.0	64.4	.49	.26	12.10	946.44	495.42
	5-5	↓	117,966	1.9	1.1		10.5	63.8	1.26	.28	18.65	1,288.43	831.94
	5-6	Dumpore	108,310	1.5	.7		9.2	62.4	.20	.17	12.92	749.14	316.83
	5-14	Mine ore	113,750	1.5	.4		9.1	68.6	.32	.18	21.05	1,128.72	686.50
	5-19		112,449	1.4	.4		8.7	68.0	.41	.195	22.20	1,186.45	748.02
	5-23		109,097	1.8			6.4	72.0	.15	.35	24.86	1,517.90	1039.60

1942

1942

Date	Type	Wt dry	Pb	Zn	As	Fe	SiO_2	Cu	Au	Ag	Assay Value	Payment
Bal:												
1-8	Mine ore	104,973	.6	1.3		10.1	60.6	.51	.28	55.43	2,419.65	1,923.72
1-26		107,974	1.1	.9		10.2	62.4	.38	.21	43.07	1,920.81	1,444.29
2-2		64,737	1.0	1.2		10.1	61.6	.41	.195	46.00	1,200.17	889.08
3-3		98,040	1.1	1.1		9.5	62.6	.39	.20	39.80	1,620.61	1185.16
3-19		99,473		1.0		10.9	60.8	.36	.21	39.06	1,635.23	1201.36
3-23		100,886	.7	1.1		13.7	56.0	.22	.17	42.30	1704.40	1246.28
4-6		114,351	.7	1.4		11.9	59.4	.25	.145	37.75	1711.57	1196.41
4-13		107,404	.4	1.8		12.8	56.6	.28	.14	31.37	1369.91	889.16
5-1		122,267	.2	2.0		12.6	56.4	.37	.12	28.20	1390.25	898.65
5-9		123,889	.6	3.0		17.3	48.0	.64	.12	35.46	1710.43	1153.57
6-1		123,883	1.0	2.6		16.1	49.4	.61	.13	37.60	1819.12	1252.27
6-6		97,482	.8	2.2		13.7	54.8	.62	.145	35.84	1397.22	955.18
6-13		106,577	.6	1.8		14.8	51.8	.64	.16	44.60	1865.98	1360.81
6-19		111,162	.9	2.3		15.4	51.4	.58	.18	46.48	2,051.47	1524.93
6-26		115,644	1.7	3.0		15.2	51.0	.77	.13	26.83	1,279.48	820.10
7-15		111,910	1.3	1.7		13.8	54.6	.51	.18	40.00	1,821.95	1315.55
7-20		108,813	.9	2.0		13.5	55.0	.51	.15	39.40	1698.29	1203.33
8-15	Mine conc.	82,791	3.3	2.3	.53	33.5	9.8	1.49	.38	84.02	2,870.57	2,381.19
9-25	Dump. "	74,691	3.7	4.2	S			1.45	.45	71.24	2349.69	1,913.86
11-10	Dd M. "	95,868	2.4	3.6	40.3	34.1		1.25	.41	71.00	~~2948.27~~ ~~2640.68~~	~~2,133.05~~ ~~1,133.68~~
11-29	Dump ore	100,926	1.9	3.4	38.3	33.0	.6 56	1.25	.48	60.10	2515.58	2159.57
12-5	" "	88,112	2.2	3.6	32.2	32.6	.8 "	1.20	.54	62.3	2357.00	2035.38
11-12	Mine ore	110,321	1.0	.30		7.2	70.8		.41	18.09	1385.55	946.25
12-18	Dump "	51,987	—	.9		8.9	65.0		.18	9.03	296.48	73.75
	24 oz											

Totals 1942: 1212.080 Tons; ave. value $35.82; ave. returns $25.81 ~~$43,030.09~~ ~~$31,103.53~~ 43,357.48 32,226.90

Date	Type	Dry Wt	Pb	Zn	As	Fe	SiO_2	Cu	Au	Ag	Gross Value	Payment
3												
1-4	M+D. conc.	79,131	3.2	3.8				1.24	.78	51.02	2,353.63	1,906.63
1-15	Mine conc.	90,561	2.4	3.3				1.33	.36	48.40	2,015.94	1547.54
1-25	Dump conc.	94,167	2.1	2.5				1.55	.50	53.71	2,492.90	1947.92
Total	1943, 3 concs,	131.929 Tons; ave. value $51.74 ave returns $40.95									$6,862.47	$5402.09
4												
1-10	Dump	90,684	1.2	.7		8.7	62.2	.98	.20	12.72	664.23	405.77
1-17	"	54,988	.6	.4		8.5	64.4	.32	.13	13.80	362.31	196.50
2-8	Mine ore	97,895	.3	1.4		10.5	59.6	.	.10	25.30	986.29	705.79
2-11	Dump	93,263	.5	1.0		5.9	62.6		.10	10.49	460.52	134.64
2-28	Mine	83,916	.5	1.6		10.6	61.4		.09	24.24	802.38	556.12
4-7.	"	70,061	—	.4		9.9	65.4		.65	28.85	1,402.46	1047.22
4-17	Dump ore	96,543				9.4	63.2		.13	11.33	552.07	277.20
5-1	"	88,769		.1		8.1	62.6		.14	11.43	524.70	272.75
5-11	"	91,574		.4		8.3	62.4		.14	11.43	540.82	281.95
11-26	"	103,054				9.7	61.6		.21	12.58	765.21	462.14
12-15	"	92,696	.9	.7		8.5	63.6		.15	11.08	551.71	272.26
5-27	"	56,315	.9	.6		8.2	69.8		.10	10.54	286.18	114.63
7-5	"	94,914	.9	.4		10.1	60.2		.15	14.66	684.86	416.54
8-9	Concts	94,413	3.6	3.4	.31	34.2	9.0	1.45	.53	46.56	2309.03	1788.90
8-16	Mine ore	104,076		1.4		12.4	58.0		.11	30.34	1241.49	860.12
9-18	Mine ore	103,782		1.5		10.10	64.0		.22	27.47	1319.48	899.08
10-4	"	103,050	.5	2.0	.47	9.3	63.8		.20	20.93	1051.07	716.55
11-8	Concts.	85,490	3.0	3.0			10.4	.97	.294	52.72	1911.92	1466.64
12-22	Mine ore.	91,459					69.1		.15	20.34	841.85	583.02
Totals	1944:	848.471 Tons; ave. value ore $20.34; ave. payment $13.53									$17,258.58	$11,457.82

↑ 19 concs

1945

	Type	Wt dry	Pb	Zn	As	Fe	SiO_2	Cu	Au	Ag	Assay value	Payment
3-23	Mine ore	51,159				7.2	68.7		.22	49.59	1030.06	763.03
4-14	"	96,690	.70			8.6	63.7		.38	90.87	3,531.68	2,931.92
4-9	"	92,102		tr		8.5	64.2		.30	60.41	2,306.17	1,778.71
6-19	Concts	47,502					17.1		.27	40.21	845.74	593.38
		4 cars										
Total	1945:	143.726 Tons; ave. value $53.67 ; ave. payment $42.21									$7,713.65	$6,067.04

Summary

1940	25 cars	1061.513	Tons; ave value $22.74	ave. payment $14.17	$24,140.56	15,044.23
1941	44 "	2921.425	" " " 32.56	" " 27.40	95,140.00	80,058.45
1942	24 "	1212.080	" " " 35.82	" " 25.81	43,032.09	31,103.53
1943	3 "	131.929	" " " ~~40.45~~ 37.74	" " 40.95	6,862.47	5,402.09
1944	19 "	848.471	" " " 20.34	" " 13.53	17,258.58	11,457.82
1945	4 "	143.726	" " " 53.67	" " 42.21	7,713.65	6,067.04
Total	119 cars	6319.146	Tons { ave. value $30.72 ; ave. payment $23.60)		$194,147.35	$149,133.16

9 cars
110

(also included in totals)

2	8-15	Mine	82,791	11.385						2,870.57	2,381.19	
	9-25	Dump	74,691	37.346						2,349.69	1,913.86	3
	11-10	Mine & dump	95,868	47.934						2,640.68	1,133.68	1
			253.350									
			126.675 loads									
3	1-4	" "	79,131	39.565						2,353.63	1,906.63	
	1-15	Mine	90,561	15.881						2,015.94	1,547.54	
	1-25	Dump	94,167	47.083						2,492.90	1,947.92	
			263.857									
			131.9285									
										~~2,309.03~~	+	
	8-9	Conc.	94,413	47.207						2,309.03	1,788.90	
	11-8	"	85,490	42.145						1,911.92	1,466.64	
			179.903									
			89.9515									
5	6-19	"	47,502	23.751						845.74	593.38	
			23.751									
Total:		9 cars,	372.307 tons; ave. assay value $53.15 ~~tons~~; ave payment $39.43.							$19,790.10	$14,679.74	

Conc,

*	Tons	*	Value	*	Payments	*
827.91	372,307	2,870.57	19,790.10	2,381.19	14,679.74	
746.91	2)744.614	2,349.69		1,913.86		
958.68		2,640.68		1,133.68		
791.31		2,353.63		1,906.63		
905.61		2,015.94		1,547.54		
941.67		2,492.90		1,947.92		
944.13		2,309.03		1,788.90		
854.90		1,911.92		1,466.64		
475.02		845.74		593.38		

OREGON KING MINE

GEOLOGY, ORE GUIDES AND ECONOMICS

by

Victor V. Livingston B.S.G.E.

OREGON KING MINE

GEOLOGY, ORE GUIDES AND ECONOMICS

INTRODUCTION

The Oregon King Mine is in section 25, T. 9S, R. 16E, and sections 30 and 31, T. 9S, R. 17E, Jefferson County, Oregon, located approximately three miles northeast of the town of Ashwood.

The Oregon King Mine group consists of 18 claims, comprising 283 acres. Existing on the property is a 50 ton per day crushing and flotation mill, and assorted miscellaneous mining equipment.

Discovery was made in 1898, on an outcrop, at the present location of the shaft collar. Work continued intermittently from the initial discovery up to the present time, by the owner and a succession of lessees. The present operators, Silver Production Inc., acquired the property in the spring of 1974.

Total production from the Oregon King Mine is approximately 250,000 ozs. of silver, 2,500 ozs. of gold, 60,000 lbs. of copper and 120,000 lbs. of lead; at current metal prices this computes to a value of $1,647,000.00 in recovered metals.

The Oregon King Mine is one of a group of isolated silver-gold deposits of Oregon. Other ore deposits of this type include the Howard and Spanish Gulch districts of Oregon and Homestakes Bulldog mine in Colorado. Structural and geochemical settings are distinctive, but the deposits exhibit some general similarities; the presence of a fractured, permeable zone prior to ore deposition; permeation and deposition of silica replacing andesitic country rock with the introduction of silver, gold, lead, copper and zinc, with high silver to gold ratios.

The importance of structural factors controlling ore deposition at all of the deposits named above, is exemplified in the Oregon King Mine.

GENERAL GEOLOGY

Regional Setting:

The Ashwood District, of which the Oregon King Mine is a part, is near the western edge of the Blue Mountains of Oregon, and underlain by Tertiary rocks of the Clarno, John Day and Columbia River basalt formations.

Rock Types:

The rocks of the Ashwood District range in age from Eocene to Miocene

and consist predominantly of andesitic volcanics with rhyolite dikes and plugs intruding the andesites, usually along fractures and areas of structural weakness.

The Oregon King ore bodies lie entirely within the Clarno andesites with a mineral composition of 15-20% plagioclase, 5-10% quartz, 20% calcite and 60% groundmass. Magnetite, pyroxene, chlorite and pyrite has been recognized as accessory minerals.

Structure:

There is clear evidence of a controlling structure that served as a feeder fissure for the ore solutions. The Oregon King fissure zone is that structure, striking N60W-N75W and dipping 60-80 degrees southwest.

Subordinate faults intersect the Oregon King fissure zone from N3W-N45E. It has been determined by examination that some of the subordinate faults are mineralized. Field evidence suggest that the faults with strikes 5-10 degrees west and east of north were premineral and mineralized, while the second set with easterly strike components closer to 45 degrees east are postmineral and unmineralized.

The off-setting of the pipe-like orebodies within the major fissure

zone suggest post-mineral movement resulting in the abrupt termination of ore-shoots against unmineralized country rock.

An abrupt change in stream drainage northwest of the Oregon King shaft has been interpreted as a major fault intersecting the Oregon King fissure zone at Pit #78. (See alteration and metallization map). At Pit #78 the Oregon King fissure zone assumes an increased northerly component and disappears under an existing wheat field.

ORE-BODY GEOLOGY

Nature of the Ore-bodies:

The fissure zone containing the Oregon King ore-bodies trends northwest to southeast and the mine workings are elongated in this direction with the large majority southeast of the shaft collar. (See longitudinal section).

Ore bodies are of pipe-like form, from 4-20 feet or more in diameter and 100-200 feet in length with a plunge of 45-90 degrees.

The material in the ore shoots consists of brecciated andesite with massive sulfides filling the spaces between the breccia. The nature of these ore shoots are tectonic and are believed to have been formed in the manner suggested by figures 2 & 3.

Nature of Ore-bodies Continued:

Dilation in the thickness of the breccia zones encountered can be ascribed to openings caused and filled by movement along a reverse fault plane. (See figure 5)

Mineralization and Alteration:

The principal minerals in order of decreasing abundance are quartz, pyrite, galena, sphalerite, chalcopyrite, argentite and gold.

Pyrite and quartz are ubiquitous, occurring in quartz-pyrite veinlets, quartz veins and as discrete pyrite cubes distributed throughout the andesite host rock.

Galena, sphalerite and chalcopyrite occur in the central part of the Oregon King fissure zone usually in massive form as open space fillings.

Argentite and gold are much less common with identification made difficult by their intimate association with the more common sulfides listed above.

Petrographic work done on the ore minerals has indicated that a large portion of the gold and silver is in solid solution with pyrite and galena respectively.

Mineralization and Alteration Continued:

Three phases of alteration have been recognized; argillic, calcification, and silicification.

Argillic alteration ranges from slight development of clay mineral in plagioclase to virtually complete replacement of plagioclase in the fissure zone.

Calcification is seen as the outer fringes of the altered zone and is associated with minor bleaching and iron staining.

Silicification is widespread, however, it is most intense in and immediately adjacent to the fissure zone, obliterating earlier phases.

The "Alteration and Metallization" map attached to this report indicates the extent of the calcification and silification observed in the area. It is to be noted that the degree of alteration in creases as the fissure zone is approached with silicification intense in and peripheral to the Oregon King fissure zone.

The intensity of silicification decreases in an easterly direction from the shaft collar, and increases in the westerly direction.

Mineralization and Alteration Continued:

Also, to be noted is the bulge in the zone of silicification northwest of the Oregon King Mine and that exploration pits to the northwest are not adequate to properly appraise this area.

Ore Controls:

The most important ore control, of the Oregon King deposit, is the localization of ore bodies along the strike of the major fissure zone and the intersection of this zone with pre-mineral cross faulting.

Brecciation of the andesite country rock, in the major fissure zone is intense and has been observed in the excess of 20 feet in width. In the areas of cross faulting, large bodies of brecciated rock exist which has been intensely mineralized and has been the location of pipe-like ore shoots previously mined.

Subsurface lateral workings have intersected some of these fault intersections and assay work done show a marked increase in base metal sulfides with a corresponding increase in contained silver and gold. Notable examples of the material to be expected in these areas are to be seen on the attached longitudinal section.

If an extraplolation is followed from a known fault intersection at

Pit #78, to the west 600 level of the mine workings, the suggestion is strong that the ore shoot uncovered at the surface is the same ore shoot exposed on the 600 level. Further, Pit #61 is believed to be an easterly fault intersection, although less intensely mineralized.

Ore Zoning:

Zoning patterns are manifested by mineralogical changes along both vertical and horizontal traverses of the mineralized area. The zones are defined by differences in mineral species, differences in metallic elements and the more subtle differences in the ratios between metallic elements, notably lead, copper and zinc.

All of the ore recovered from the Oregon King Mine has been in the major fissure zone immediately adjacent to the shaft area. Exploration levels have been driven, for the most part, east of the shaft above the 300 level, and east and west of the shaft below this level.

Much of the following assay information has been taken from "Short Paper 23", published by the State of Oregon, Department of Geology and Mineral Industries, with the exception of recent assay work done on the 200 level.

Examination of the assay values of copper, lead and zinc, silver and

Ore Zoning Continued:

gold taken on the 600 level, indicate an increase in lead and zinc the farther west from the shaft you progress. Copper on this level exhibits a marked increase in a westerly direction with silver and gold constant.

The recent assay work on the 200 level exhibit exactly the same increase in base metals, notably copper, as you proceed west from the most easterly face, (See figure 4).

Assay values in the shaft, as for as can be determined from the "Synthetic Log", exhibit a marked increase in base metals with depth.

These facts appear to fit Emmons ore zoning of a vein system, with the Oregon King Mine in the location relative to the main ore body indicated in figure 1.

ECONOMICS

Ore reserves are computed with a cut-off grade of $35.00 ore, or at 8 oz. silver equivalent with silver at $4.50 per oz. average.

The U. S. Bureau of Mines ore reserve designations of measured,

Economics Continued:

probable and possible are adopted for this calculation.

Measured ore	57,000 tons
Probable ore	80,000 tons

Possible ore is not computable, however attention is called to the possibility of large reserves indicated west and at depth.

Total value of the ore per ton on the 600 level, with industry achieved recovery rates, is $225.00.

Mine life is considered to be 10 years, with measured and probable ore milled at 50 tons per day.

The operator in a venture of this kind should expect a minimal return of 20%. Start-up expenses and contingencies will be in the $500,000.00 range. Amortization will require a dividend rate of 28%, which amounts to a yearly dividend of $140,000.00 for the ten year life of the mine. The 28% annual dividend rate provides for the return of 20% plus an average of 8% to be reinvested at 4% compound interest in order to redeem the original investment of $500,000.00 in ten years.

Operating and marketing costs are estimated as follows:

Economics Continued:

ESTIMATES PER TON OF ORE:	
Mining	$ 6.00
Milling (10-1 ratio of concentration)	5.00
Freight & Handling	4.00
Smelter Charges	6.50
General & Administrative	5.00
TOTAL	$26.50

Utilizing the above figures with an annual production of 16,000 tons for ten years and 60% of profit for tax and royalties, the average gross value of ore mined should be:

$$\frac{140{,}000 + (0.6 \times 140{,}000)}{(16{,}000 \times 0.8)} + 26.50 = \$33.07$$

CONCLUSION

The mineralization of the Oregon King fissure zone has been known and worked intermittently since 1898, but it required changed economic conditions to make it a viable ore body. By far the most important change has been the dramatic increase in the price of silver and gold; increases in the price of lead, zinc and copper, although

Conclusion Continued:

not as large, contribute to the attractiveness of the venture.

Past operators and leasees have failed to recognize several important and pertinent facts concerning the exploration and operation of the Oregon King ore bodies and milling facilities.

A. Ore bodies in the fissure zone are structural controlled and have been formed by three separate tectonic events.
   1. Premineral strike-slip movement along the strike of the fissure zone (figure 1).
   2. Premineral reverse faulting with the formation of collapse breccia (figures 3b and c), and horizontal open spaces (figure 5).
   3. Premineral cross-faulting creating breccia zones exemplified by the structure in Pit #78 (figure 2).

Movement along the structural zones continued after completion of the final stage of ore deposition and has resulted in off-set ore bodies and abrupt terminations.

B. Surface exploration had not been done prior to commencement of development work underground, resulting in the failure to recognize the location of the discovery in relation to the main zone of mineralization existing west and down

Conclusion Continued:

dip (figure 1).

C. The sparse use (600 tons total of concentrate) of the milling facilities present at the mine site resulting in money gifts to the railroad and smelter.

The increase in base metals, evidenced by assay reports on the 400, 500 and 600 levels, indicate the need for expanded milling facilities to provide for the separation of the ore into three types of concentrates; namely, lead-silver, zinc, and copper.

Due to the nature of the ore bodies core drilling is not recommended for exploration work. High risk dollars must be spent in driving drifts to substantiate the existance of more ore bodies to the west.

Victor V. Livingston

January 1975

ADDENDUM I

Evaluation of the existing mine dump at the Oregon King property was undertaken at the request of Mr. Felix Seidel, operator-owner of Silver Productions, Inc.

Surface grab samples were taken and assayed to determine the expediency of further work. Assay results were positive and trenching and sampling were completed in the manner depicted on the attached figure. Below is the author's appraisal:

	GRADE				
	AG	AU	TONS	TON X GRADE (AG)	TONS X GRADE (AU)
1.	0.60	.005	180	90	.9
2.	0.40				
3.	3.10	.02	1266	3924.6	25.32
4.	1.04	.005	1180	1227.2	5.9
5.	2.30	.02	1273	2927.9	25.46
6.	9.00	.20	2140	19260.0	428.0
7.	0.36	.005	840	302.4	4.2
8.	2.72	.005	130	353.6	0.65
9.	1.92	.005	176	337.9	0.88
10.	0.20	.005	130	26.0	0.65
11.	5.14	.02	880	4523.2	17.6

Addendem Continued:

	GRADE AG	AU	TONS	TON X GRADE (AG)	TON X GRADE (AU)
12.	6.18	.02	2133	13181.9	42.66
13.	10.62	.02	1533	16280.5	30.66
14.	6.18	.02	820	5067.6	16.4
15.	1.40	.005	2133	2986.2	10.67
16.	5.68	.005	1493	8480.2	7.47
17.	1.16	.04	780	904.8	31.2
18.	1.20	.005	1373	1647.6	6.87
19.	0.48	.005	550	264.0	2.75
20.	2.00	.005	750	1500.0	3.75
			19,760.0 Tons	83284.9	661.99

Average Ag = 4.2 ozs.

Average Au = .03 ozs.

Average value per ton (of contained precious metals only) = $24.30

	AG	AU	TONS	TON X GRADE (AG)	TON X GRADE (AU)
6.	9.00	0.20	2140	19260.0	428.0
11.	5.14	0.02	880	4523.2	17.6
12.	6.8	0.02	2133	13181.9	42.66
13.	10.62	0.02	1533	16280.5	30.66
14.	6.18	0.02	820	5067.6	16.4

Addendum Continued:

	AG	AU	TONS	TON X GRADE (AG)	TON X GRADE (AU)
16.	5.68	.005	1493	8480.2	7.47
			8261	58,313.3	542.79

Average Ag = 7.06 ozs.

Average Au = .07 ozs.

Average value per ton (of contained precious metals only) = $45.37

CONCLUSION

Approximately 8,200 tons of the dump material will return at 80% recovery $36.29 per ton. 8,200 Tons represents 165 days at a milling capacity of 50 tons per day. In view of the fact that this return is well above the computed cutoff grade of mined ore, milling of the selected portion of the dump (in red) will constitute a viable operation. Estimated return on this section is $299,791.00.

ADDENDUM II

Evaluation of the surface mineable ore reserves at the Oregon King Mine property was undertaken at the request of Mr. Felix, Seidel, operator-owner of Silver Productions, Inc.

From surface to the 200 ft. level we have approximately 35,000 tons of $33.07 per ton average contained precious metals. All can be surface mined or mined through the 200 ft. level adit without the need for any below level haulage at an estimated mining cost of approximately $4.00 per ton.

Libbey, F. W., and R. E. Corcoran. THE OREGON KING MINE, JEFFERSON COUNTY, OREGON: Oregon, Dept. Geology and Mineral Industries, Short Paper 23, 49 p., 6 figs., 4 tables, 8 pls., 1962, 1 ref.

The great majority of metallic ore deposits in Oregon are found in the northeastern and southwestern parts of the State, where they occur in pre-Tertiary rocks and associated granitic intrusives or as placers in adjacent stream valleys. An important exception is the silver-gold lode in central Oregon known as the Oregon King mine. Here the oldest rocks are early Tertiary volcanics locally intruded by rhyolitic to andesitic masses; the geology and mineralogy of this mine have some similarities to the silver deposits of the Tonopah, Nevada, district.

The ore zone at the Oregon King mine is associated with a fault that trends N. 75° W., and dips about 75° SW. The andesitic rocks along the fault have been brecciated, silicified, and impregnated with quartz and pyrite together with smaller quantities of chalcopyrite, galena, and sphalerite. Minor amounts of cerargyrite and native silver have been reported in the upper levels.

Since the discovery of the deposit by sheepherders in 1898, mining activity has been confined mostly to three separate periods, 1899 to 1904, 1934 to 1935, and 1940 to 1950. Until mining was halted by a shaft fire in 1950, records of the U. S. Bureau of Mines show that during the period from 1935 to and including 1950 the Oregon King had a total production of 232,402 ounces of silver, 2,419 ounces of gold, 59,076 pounds of copper, and 110,071 pounds of lead, with 37,351 pounds of zinc reported but not recovered.

The mine is now flooded up to the second or adit level, which is about 150 feet vertically and 173 feet on the incline below the collar of the shaft. Old assay reports of samples taken when the exploration work was done in the 1899-1904 period indicate that ore of good quality may still exist at the lower depths. The mineral potential of this deposit cannot be properly evaluated until the lower workings have been dewatered and the shaft cleaned out, but the recent rise in the market price of silver from $0.905 to about $1.20 per ounce (September 1962) causes any possible new source to assume more importance.

4/46

Oregon King Mine | | Gold | |
NAME | OLD NAMES | PRINCIPAL ORE | MINOR MINERALS

9S T | 17E R | 30-31 S

PUBLISHED REFERENCES

Jefferson ..... COUNTY

Ashwood ..... AREA

3000 ..... ELEVATION

MISCELLANEOUS RECORDS

..... ROAD OR HIGHWAY

..... DISTANCE TO SHIPPING POINT

PRESENT LEGAL OWNER (S) J. G. Edwards ..... Address Portland, Oregon .....

.....

.....

.....

OPERATOR .....

Name of claims	Area	Pat.	Unpat.
18		✓	

Name of claims	Area	Pat.	Unpat.

EQUIPMENT ON PROPERTY

MI-21

HISTORY

The Oregon King Mine was discovered in 1896, by Tom Brown a sheep herder. In 1898 one J.G. Edwards bought the prospect when the shaft was down to the 60 foot level. The shaft was sank on the vein in a very rich cloride ore extending to the 150 foot level, where the sulphide ore appeared.

Mr Edwards continued the shaft to the 718 foot level, taking him a period of years, running drifts at each 100 foot level. A few cars of ore was hauled by horse team to Shaniko, taking three days for the round trip. Just enough ore was shipped to pay the expenses.

Mr Edwards intended to sink the shaft to the 1000 foot level, but the engine (a German make) blew up and nothing more was done untill about 1927, then the Bradleys took an option . It was a 50-50 propisition with Mr Edwards. They did some 400 feet of drift work on the 400 foot level, where they shipped 90 tons of ore. They ran a drift or cr ascut to the South on the 500 foot level, cutting some very rich ore on the adjourning Roy property. They the could not purchase that property. They closed down, removing all machinery and buildings they had put there.

The property laid idle untill October 1930, when Rohlfing and Young obtained a lease and option . The purchase price was $150,000. 15% royalty to apply on purchase price with 25% of the net smelter returns to be set aside for the purchase of a mill. There was no machinery of any kind on the property so 2 wheel barrows and 6 no. 2 shovel and 2 drift picks were purchases. Ore was shipped from the dump . Enough ore was shipped from the dump by Nov. 1 , to buy compredsors, jack hammers, and air hoist . The air hoist was driven by a 100 horse Cummins deisel engine (second hand), which soon gave trouble and was disposed of , replaced by a Cat.75.

Ore was being mined from the 25, 50, and 100foot level.

In the Summer of 1941 a 50 ton mill was bought along with a generating plant. The mill was finished in July 1942 and turned out its first car of concentrates on the 28th of that Month. The ore milled was from the dump and the 200 level,it was low grade , running from $4. to$18. in gold and silver, carrying some 5%lead and 6to7% copper which at that time the smelter did not pay for. The smelter paid only for the gold and silver whichn at that time the silver was 70¢ an ounce and gold was$32. an ounce. The concentrates were averaging $90.00 per ton with the mill head a 9 to 18 dollars, the tails as low as 76¢. Three cars of concentrates were shipped by the 8th of August. It was then that Young left and Kohlfing tried to continue with a new suptertendent. About $200,000. had been taken from the mine in 22months. Some mining had been done on the 300ft. level as the water stood at the 350 ft. only 17 cars of high grade ore had been shipped from the 300ft. When the mine opened the water stood at the 200ft butair pumps were installed and the water was pumped down to the 300 ft. level. One car of high grade ore was shipped from the 350, then later the water was shipped to the 400 where I found the drifts and stoops contained high grade orewhich had never been removed. This ore was of a heavy black sulphide assaying $200. in gold and silver, carrying both lead and copper.

From the surface ,for the first 150 ft. is in a clorido ore, then changing into a heavy sulphide, This fissure vein varies in width from 6 to 32ft. with quite a bit of conglomerate above the 200.

The vein on the 300 is 12 feet wide carrying $7.50 in gold and silver, 7% copper and 5%lead.

Mr Kholfing took over the management of the mineon August 8,1942, puting Milo M.Shier in as mine supt. They ran the mine until Oct. 10, 1942 then he leased it to George Fenton and Charles Silbau, they operated

untill March I943, shipping 2 cars of ore, which didn't pay the expense of smelting. They turned back the lease to Mr Rholfing, he then operated the mine during the summer of I943, spending some $24,000. not being able to make the mine pay . He sold his intrest to Mr Henry Andregg. Then Andregg got me to come bakk and run the mine for him, this was in the spring of 45. Due to shortage of man power and experenced men the mine was operated with a skelton crew only notting $I000. per month for the I2 months operated by Young. Then Andreg took over the management and operated off and on until the fire in I95I, which distroyed the shaft and hoist house. After going some $80,000. in the red he decided to turn back the option to the original owners.

In the fall of I950 an electric line was built to the property, with 3 phase electricity still available.

LOCATION

The Oregon King Mine is located three miles North West of the village of Ashwood, in the North East part of the county of Jefferson in Oregon. The mine is twenty nine miles from the town of Madras, over a graveled county road, which is passable the year around, connecting with the S.P.R.R.

G. Ashwood District.

The Ashwood Mining District is situated in Jefferson County, twenty miles south of Shaniko, the nearest railway point. Gold&silver ore of shipping grade was found in the year 1897 on the ground of what is now the Oregon King Mining Company and much prospecting work was carried on in the ensueing years, until the Oregon King Mine closed down in 1904, when mining work in the district ceased entirely. Two groups of claims, the Oregon King and the Roy Mining Company, or Pendleton Group, are patented the rest of the claims in the camp have been allowed to lapse with the exception of three on which the annual assessment work is still kept up. These are the Duck claim, belonging to James Wood, the Lone Star belonging to Lee Wood and the Buckhorn Claim, Gus Swanson, owner.

The town of Ashwood lies at an elevation of 2800 feet; the populati on is estimated at about twenty, two stores and a post office and a number of deserted buildings being all that remain of an active mining community.

The mineralized area comprises about two miles square in a light colored andesite and is marked by numerous dumps of white, air slacked rhyolite and andesite. This area is bounded on the north and north west by a prominent escarpment, comprising a later flow of darker, more basic andesite which also outcrops in some low hills to the east and along Trout Creek to the west. Higher hills capped with rhyolitic tuff cover the andesite to the south. Mineralization in the district appears to have been caused by fissuring in the andesite, the fissures being filled with brecia, and quartz and usually containing pyrite, with small amounts of galena and stibnite. So far as could be observed unless ore showed considerable quantity of sulphides the values in silver and gold were negligable. A thorough sampling of the whole district was not attempted, for two reasons. In the first place the general appearance of prospect dumps did not warrent it and secondly close questioning of the old time miners of the camp elicited the information that but two properties, the Oregon King and the Pendleton, conatined ore of commercial grade. Much of the prospecting work had been carried on in haphazard manner, shafts being sunk often to considerable depths, with no surface showing to justify the undertaking. Nearly all of these old workings are now badly caved in and inaccessable for examination but the dumps tell the story. Several outlieing prospects were visited and sampled but none were seen that were of any economic importance. A list of the mines and prospects visited with brief descriptions follow.

Pendleton Group, Roy Mining Company. Principal owners as follows;
W. J. Furnish, Pendleton, Oregon,
E.P. Marshall, " "
John Knight, Umatilla, "
H. C. Maens, Vale, "
E. D. Gonser, Richdale, Alberta, Canada.

Property said to consist of seven patented claims, adjoining the Oregon King on the East and South east. Three shafts have been sunk on this property but all are in such bad condition as to be very unsafe. They are probably from 75 to #50 feet deep, the timbering being for the most part rotted and broken away. Good ore it was stated, had been taken from one of these shafts, and some was said to still remain in a short drift at the bottom but this could not be verified. The one shaft examined disclosed only barren quartz and brecíated andesite.

Red Jacket. Principal owners;
G. W. Perkins, Yamhill, Oregon.
N. H. Perkins, " "
E.P.Morcum, Woodburn, "
D. H. Luck, Eugene, "
V. W. Pearce, Madras, "
Property said to consist of a group of five patented claims. It is situated four miles east of Ashwood on the road to the John Day River. Principal workings consist of a cross cut tunnel several hundred feet in length but disclosing nothing of interest and a shaft 310 feet deep,now full of water. There are also several open cuts and shallow shafts along the outcrop of the vein and these as well as the dump from the main shaft show pyrite and small specks of stibnite,(sulphide of antimony.) Although the amount of work done at this property would lead one to suppose that the vein must contain promising values no ore of commercial grade was seen and it was stated that none had been shipped. Mr. James Wood is authority for the statement that three feet of quartz containing a considerable percentage of antimony is to be found on one of the lower levels.

White Butte, abandoned.

Great Eastern, "

Ashwood, abandoned. Has a shaft, which from size of the dump must be 150 feet deep, and an adit driven nearly through the prominent butte east of the town, both caved and inaccessable. Said to have never produced anything.

Bighorn, abandoned.

Printer Boy, "

Lone Star, owned by Lee Wood. Slight values in gold.

The Duck, James Wood owner. Shaft 200 feet deep, caved andaabandoned
Tunnel on vein 100 feet long,

J. G. Edwards Res, Baldwin Shop, Land Co. 241 Failing Bldg.
J. G. Edwards & Co. Inland Ltr.

Oregon King Mine

Principle owners; J. G. Edwards and J. B. Cartwright of Portland and P. N. Quayley of Wyoming.

The property consists of 17 patented claims situated two miles north of the town of Ashwood.

The mine was the original discovery in the district, high grade silver ore being found in a quartz vein outcropping just east of the main shaft. Work commenced in 1897 and selected ore was shipped by wagon to the Dalles. Litigation between rival claimants caused a suspension of operations in 1901 and little if any work has been done since that time.
The vein strikes N 60 degrees West and dips to the south, the dip varying from 50 to 80 degrees. The vein filling is quartz with brecciated andesite, the walls being marked with a heavy talc gouge. At or near the surface silver occured as chloride, (cerargerite,) and some of this can still be seen in a small open cut just east of the blacksmith shop. It was reported that free gold could be seen in this surface quartz as well but none was observed at the time of examination.
At a shallow depth, not more than fifty feet below surface, no more chloride was found, the minerals present being pyrite, galena, stibnite and chalcopyrite, the gold and silver being associated with these sulphides. It was found on panning some of the best ore that about one third by weight could be saved as concentrates. By far the larger portion of this concentrate was pyrite, the other minerals being present in the order named above.

Mine Workings, The principle opening of the mine is an incline shaft which follows down on the dip of the vein. The only map available shows this shaft to be 470 feet deep with five short drifts, ranging from 120 to as little as 10 feet in length. Men who have worked in the mine however state that the shaft is actually down 640 feet with the drifts somewhat more extended than shown on the map.
A cross cut tunnel driven from Long Hollow cuts the vein 430 feet from the portal and 173 feet below the collar of the shaft. Water stands in the shaft nearly up to this level and the lower workings could not therefore be examined. The cross cut is in andesite for its entire length and cuts through several small fissures but none of any commercial importance. Where first encountered in the cross cut the Oregon King vein is 17 feet wide, plus. That is the further wall could not be seen and at no other point was the full width of the vein disclosed. Samples were taken every 15 feet along the 173 foot level and averaged 0.138 ounces gold and 5.73 ounces silver per ton, or an average value of $8.50 per ton with silver at $1 per ounce.

Oregon King Mine Cont.

A second cross cut, 600 feet to the east, up Long Hollow and at approximately the same elevation as #1, cuts the vein at a depth of 70 feet. The mineralization is not so strong here as in the main workings and sampling gave nearly negative results. The vein here is 22 feet wide with a winze 8 feet deep on the foot wall side. A sample from the winze showed $1 in gold and silver, the rest of the vein width being nearly barren.

The shaft is in such dangerous condition from caving ground and broken ladders that an inspection of the first level, 100 feet below the shaft collar, was not attempted but it was stated by some of the former miners that the vein at this level was leached and carried but small values.

It is impossible to attempt to make a detailed report of the mine in its present condition and it is unsatisfactory to try to draw conclusions from a partial examination but one is at a loss to understand why more drifting and cross cutting in the vein was not carried on. There is certainly every indication that the ore body extends a reasonable distance to the east of the present workings and drifting to the east with systematic cross cutting in the vein would be the easiest and quickest means of opening up more ore. Granted that a sufficient tonnage were blocked out to warrent the cost of erecting a reduction plant there should be no great difficulty in working out a metallurgical scheme for treating the ore. From what little could be seen the mine appears worthy of further development.

Examination made by Richards and party - Summer of 1921

DENVER EQUIPMENT COMPANY
Ore Testing Division
Denver, Colorado

July 9, 1941

Oregon King Mines, Inc.
316 Security Building
Portland, Oregon

Re: Ore Test 1220 R

Gentlemen:

We are pleased to submit the following report of ore tests conducted upon your sample of gold and silver ore.

SAMPLE IDENTIFICATION

One case of ore weighing a total of 110 pounds was received on May 8, 1941, from Oregon King Mines, Inc., Ashwood, Oregon.

OBJECT OF TEST

The object of this test work was to determine the most economical method for recovery of the gold and silver values.

PREPARATION OF SAMPLE

The entire sample, exclusive of the small sack of specimen ore, was crushed to minus 3/8 inch, mixed and split on the Jones Sampler. One half was stored and the remaining half crushed to minus 6 meshand split on the Jones Sampler. One half was stored and the remaining half crushed to minus 10 mesh. The head sample and test charges were riffled out of the minus 10 mesh portion. The small sack of specimen ore was saved for mineralogical studies.

DESCRIPTION OF ORE

The ore as represented by the sample submitted is a smized sulfide ore carrying gold and siver values. The sulfide content of the ore is principally pyrite with small amounts of galena which occur in a siliceous gangue. A panned concentrate tests for lead salts, iron, copper, zinc, and manganese and contained some free gold.

When the curshed ore was pulped with an equal weight of De
which had a pH of 7.8, the resulting pulp water had a
tested for a trace of soluble salts.

The following tabulation is a partial analysis of the head sample.

Gold, ounces per ton	0.15
Silver, ounces per ton	9.45
Lead, percent	trace
Copper, percent	0.88
Zinc, percent	0.40
Iron, percent	6.75
Sulphur, percent	6.09
Arsenic, percent	None
Antimony, percent	0.20

DESCRIPTION AND RESULT OF TESTS

Five separate tests were conducted upon the sample after drushing to minus 10 mesh. The results are given in detail on the following date sheets.

A summaryof each is given below.

TEST NO. I - DENVER UNIT CELL FLOTATION, BULK FLOTATION AND TABLE CONCENTRATION

10.0 percent of the gold and 19.4 percent of the silver was recovered in a unti cell concentrate which assayed 1.12 ounces gold per ton, 120.90 ounces silver per ton and represented 1.8 percent by weight of the head sample.

Rougher flotation recovered 82.8 percent of the gold and 66.3 percent of the silver in a concentrate assaying 1.31 ounces gold per ton, 58.20 ounces silver per ton and representing 12.8 percent by weight of the head sample.

An additional 1.0 percent of the gold and 3.1 percent of the silver was recovered by table concentration in a product assaying 0.16 ounces gold per ton, 28.84 ounces silver, per ton and representing 1.2 per cent by weight of the head sample.

An overall recovery of 93.8 percent of the gold and 88.8 percdant of the silver was obtained.

TEST NO. 2 - DENVER MINERAL JIG AND TABLE CONCENTRATION

30.6 percent of the total gold and 16.9 percent of the total silver was recovered by the Denver Mineral Jig in a concentrate assaying 1.896 ounces gold per ton, 55.54 ounces silver per ton, and representing 3.0 percent by weight of the head sample.

Amalgamation of the Denver Mineral Jig conc
cent of the contained gold as bullion.

Table concentration recovered 47.4 percent of the gold and 33.2 percent of the silver in a product assaying 1.66 ounces gold per ton, 61.94 ounces silver per ton and representing 5.3 percent by weight of the head sample.

TEST NO. 3 - SELECTIVE FLOTATION AND TABLE CONCENTRATION

Rougher concentrate No. 1 recovered 87.0 percent of the gold, 65.1 percent of the silver and 71.4 percent of the copper. This product assayed 3.15 ounces gold per ton, 128.25 ounces silver per ton, and 9.24 percent copper and represented 5.5 percent by weight of the head sample.

4.7 percent of the gold, 13.1 percent of the silver and 5.6 percent of the copper was recovered in rougher concentrate No. 2 which assayed 0.17 ounces gold per ton, 25.83 ounces silver per ton and 0.27 percent copper and represented 5.5 percent by weight of thehead sample.

Table concentration recovered 3.9 percent of the gold and 4.1 percent of the silver in a concentrate assaying 0.43 ounces gold per ton, 24.37 ounces silver per ton and representing 1.8 percent by weight of the head sample.

An attempt was made in this test to depress the pyritic portion of the ore and float a gold, silver and copper concentrate carrying most of the values. Only a partial depression of pyrite was obtained.

TEST NO. 4 - BULK FLOTATION, REFLOTATION OF BULK CONCENTRATE AND TABLE CONCENTRATION

Bulk flotation recovered 92.2 percent of the gold and 82.7 percent of the silver in a concentrate assaying 1.095 ounces gold per ton, 61.40 ounces silver per ton and representing 13.4 percent by weight of the head sample.

Reflotation of the ground bulk concentrate produced a refloat concentrate which contained 58.3 percent of the gold, 54.6 percent of the silver and 47.7 percent of the copper. This product assayed 1.52 ounces gold per ton, 89.10 ounces silver per ton and 5.44 percent copper and represented 6.1 percent by weight of the original ore.

Table concentration recovered an additional 2.5 percent of the goldand 1.9 percent of the silver.

Selective flotation on a bulk concentrate was attempted on this test as a follow-up on test No. 3. Only partial inhibition of pyrite was obtained.

TEST NO. 5 - BULK FLOTATION WITH ONE CLEANING OF BULK CONCENTRATE BY REFLOTATION

This test was conducted with a simple reagent combination and with cleaning of the bulk concentrate to indicate probable shipping grade of concentrate.

The cleaned concentrate contained 79.6 percent of the total gold and 74.6 percent of the total silver and assayed 1.46 ounces gold per ton, and 77.94 ounces silver per ton and 5.1 perdent copper.

The flotation cleaner middling contained 6.5 percent of the total gold and 6.7 percent of the total silver. This product would be automatically returned to the feed for retreatment when Denver "Sub-A" machines are used in regular operation and the contained values would be partially recovered at the grade of cleaned concentrate shown.

Table concentration of the flotation tailing produced a concentrate which would also be classed as a middling product to be returned to the flotation feed. This product contained 4.2 percent of the total gold and 1.8 percent of the total silver.

#1220-R

DISCUSSION AND RECOMMENDATIONS

The flowsheet recommended for the treatment of the ore as represented by the sample submitted includes ball mill grinding in closed circuit with the Denver Mineral Jig and classifier with subsequent flotation of the classifier overflow. Flotation tailings would be tabled and concentrate combined with flotation concentrate.

Soda Ash., Pentasol Xanthate and Cresylic Acid are the recommended reagents. Soda Ash would be added to the ball mill. Pentasol Xanthate and Cresylic Acid would be added to the flotation circuit as required.

From the results obtained in test No. 3 and Test No. 4 selective flotation does not appear advisable as a finished pyritic tailing could not be produced having a low enough gold and silver content to be discarded as waste.

The ore is classed as a medium to medium hard ore to grind when compared to our standard grind test ores. Grinding finer than 65 mesh is not indicated.

The flowsheet as shown on print A2134 is recommended for treating your ore.

pulp must be weakly alkaline

Repectfully submitted,

DENVER EQUIPMENT COMPANY

(Signed) Henry J. Gisler

Henry J. Gisler, Metallurgist
Ore Testing Division

Ph 8-9

(Signed) Clarence Thom

Clarence Thom, Director
Ore Testing Division

OREGON KING MINE

Principal owners: J. G. Edwards, President, 221 Failing Bldg. Portland, Oregon; J. B. Cartwright, Portland, Oregon and P. N. Quayley of Wyoming.

The property consists of 17 patented claims situated two miles north of the town of Ashwood.

The mine was the original discovery in the district, high grade silver ore being found in a quartz vein outcropping just east of the main shaft. Work commenced in 1897 and selected ore was shipped by wagon to The Dalles. Litigation between rival claimants caused a suspension of operations in 1901 and little if any work has been done since that time.

The vein strikes N. 60 degrees West and dips to the south, the dip varying from 50 to 80 degrees. The vein filling is quartz with brecciated andesite, the walls bing marked with a heavy talc gouge. At or near the surface silver occurred as chloride, (cerargerite), and some of this can still be seen in a small open cut just east of the blacksmith shop. It was reported that free gold could be seen in this surface quartz as well but none was observed at the time of examination.

At a shallow depth, not more than fifty feet below surface, no more chloride was found, the minerals present being pyrite, galena, stibnite and chalcopyrite, the gold and silver being associated with these sulphides. It was found on panning some of the best ore that about one third by weight could be saved as concentrates. By far the larger portion of this concentrate was pyrite, the other minerals being present in the order named above.

Mine workings: The principal opening of the mine is an incline shaft which follows down on the dip of the vein. The only map available shows this shaft to be 470 feet deep with five short drifts, ranging from 120 to as little as 10 feet in length. Men who have worked in the mine however state that the shaft is actually down 640 feet with the drifts somewhat more extended than shown on the map.

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Samples were taken every 15 feet along the 173 foot level and averaged 0.138 ounces gold and 5.7 ounces silver per ton, or an average value of $8.50 per ton with silver at $1 per ounce.

A second crosscut, 600 feet to the east, up Long Hollow and at approximately the same elevation as #1, cuts the vein at a depth of 70 feet. The mineralization is not so strong here as in the main workings and sampling gave nearly negative results. The vein here is 22 feet wide with a winze 8 feet deep on the foot wall side. A sample from the winze showed $1 in gold and silver, the rest of the vein width being nearly barren.

The shaft is in such dangerous condition from caving ground and broken ladders that an inspection of the first level, 100 feet below the shaft collar, was not attempted but it was stated by some of the former miners that the vein at this level was leached and carried but small values.

It is impossible to attempt to make a detailed report of the mine in its present condition and it is unsatisfactory to try to draw conclusions from a partial examination but one is at a loss to understand why more drifting and cross cutting in the vein was not carried on. There is certainly every indication that the ore body extends a reasonable distance to the east of the present workings and drifting to the east with systematic cross cutting in the vein would be the easiest and quickest means of opening up more ore. Granted that a sufficient tonnage were blocked out to warrent the cost of erecting a reduction plant there should be no great difficulty in working out a metallurgical scheme for treating the ore. From what little could be seen the mine appears worthy of further development.

Examination made by Richards and party--Summer of 1921

THE FOLLOWING IS A TRUE COPY OF THE ORIGINAL REPORT ON THE PROPERTY NOW HELD UNDER BONDED LEASE BY THE OREGON KING MINES, INC. PORTLAND, OREGON

"REPORT ON THE OREGON KING MINING COMPANY"

The Oregon King Mining Company was organized in the year 1899 by P. J. Quealy, J. G. Edwards, C. M. Cartwright, and others, under the Laws of Wyoming.

The property is situated on Upper Trout Creek about 1-1/2 miles North East of the village of Ashwood, County of Jefferson, and State of Oregon, and consists of seventeen full and fractional claims. These claims were all patented and adjoin each other in one area of approximately 170 acres in Sec. 25, Twp 9S, R16E, and Sec. 30 Twp 9S, R17E and Sec. 31, twp 9S, R17E.

The country around Ashwood is open but rugged, and is readily reached by paved highways and connections therewith. The Dalles-California highway may be reached at a point 16 miles distant, and the Oregon Trunk Railway, at points within 24 to 28 miles, at Midway, Pexton and Madras. Ashwood has a Star Route service and has mail every day except Sundays. Trucks and automobiles can go to the operations at all times when country roads can be used. The mine is directly served by a Star Route and county road by means of a short turn off from the latter.

Machinery weighing over 13 tons has been unloaded from a truck directly into position to go on its foundation, and all supplies are readily unloaded at points where needed for any service.

The climate is good and the location unusually cheerful.

There are several veins on both sides of the King vein and nearly parallel to it.

The vein upon which development has been carried on up to the present time, lies in an Andesite formation, which is the oldest in the locality.

This andesite is exposed in the Ashwood area. It at one time was covered by a sheet of Basalt, remnants of which can be found on the higher portions of the Andesite area. The general outline of the Trout Creek or Ashwood mining district is a long bowl, the lower portion of which consists of Andesite and the sides are high ridges of Rhyolite, Tuffs, Scoria, and in places, Conglomerates, formed by molten streams, Obsidian and other forms of once molten material. This bowl has been drained by Trout Creek, which cuts its way through the Rhyolite, forming the Trout Creek gorge or canyon. The eroded materials were carried away by its waters to the Lower Trout Creek and into the Deschutes River.

So far as known to the writer, the deepest erosion into the Andesite is shown at the site of the Oregon King Mining Company's operation. Here there is a depth of 180 feet as shown by the difference of level between the camp and the collar of the shaft.

The vein at this point and East of it has formed a hard barrier which resisted the erosion that cut away the Andesite, creating a steep

side to the North of the vein and incidentally the vein exposed itself, and the final discovery that the vein carried gold and silver. A small shipment of ore taken from a cross cut and shaft gave good returns from the smelter and it was then decided to sink a shaft at this point on the vein and follow downward.

(1) It is proper at this place to say that at no other point on the outcrop of the vein have values so good been found up to now.
(2) The vein is very strong and is now to be found at points far away and to the East.
(3) It is also to be noted that the vein has not been deeply eroded at any point. There is no float rock of any age, (old float), to be found except on the vein itself or near by it.
(4) This would not be possible if extensive erosion had taken place on this large vein.
(5) The ore gains in laterial extent as depth is attained in the shaft and laterals are developed on the ore.
(6) High grade ore at greater depth is shown by fragments of such ore, showing in the Drags in the crushed zone, which is a constant feature in the shaft from the surface down to the seventh level.
(7) Copper, Lead and Zinc have come in with the Gold and Silver as depth was attained.
(8) The vein is a Fissure in Andesite and not a contact nor a gash vein.
(9) It is reasonable to assume that the ore found at this point is not an isolated pipe for similar ore is found in the Roy shaft about 1,000 feet East of the King shaft; also in the Ruby Tunnel winze 500 feet East of the King shaft. It has the characters of the large vein ore deposits and is a Crest or Apex of larger bodies which lie at depth and along the strike of the vein.

DEVELOPMENT OF THE VEIN

The vein has a North West and South East strike and varies in dip from 60 to 80 degrees.

For the purpose of developing it was decided to follow the vein with a shaft four feet by six feet in the clear. The first operation to 60 feet depth was conducted by means of a skidway and manilla rope whip. From that point down a power hoist and skip has been in use.

From the surface to below the hundred foot level, the values are in an oxidized crushed zone and space filling, gold and silver being in Quartz and highly altered vein matter. Drifts were turned off at the 100 foot level and run out to where the values got low and sinking was resumed. See map and assays.

A carload of ore was shipped from the development in shaft to 100 feet and drifts. Values too low for shipment were placed on the dump. Ore below $100.00 perton was not shipped. (See smelter returns, October 1899). Shipment appended).

At 100 feet values suddenly dropped and remained so for 23 feet in the shaft. At this point the first Sulphide ore was struck and water began to appear in bailable amounts. The Sulphide ore increased in width and filled the shaft and the water forced a suspension

in the sinking pending arrival of a pump. The Sulphide ore carried Silver and Gold, Copper and Lead with some Zinc came in. Some metallic Copper and Silver was found on the Sulphides due to secondary enrichment. Also it was noted that pieces of the crushed matter in the vein showed evidence of having been carried up from below as they were inclusions and different from surrounding matter and clearly of older deposition. This gave proof of two periods of ore deposition and added incentive to sink deeper.

At this stage it was decided to finish the tunnel, some 600 feet long, to cut the vein at a point 173 feet down the shaft. This was the lowest point available to reach by tunnel. It cut down the head on pumping, helped in ventilation and made the same more accessible. A drift was driven from the tunnel and along the vein to the shaft.

The portal of this tunnel had been located and the tunnel driven in far enough to prevent broken material from doing damage to buildings in the camp which was to be built nearby.

With resumption of sinking, the shaft was made deeper and drifts sent out on each side of the shaft. At 273 feet the third level was established and drifts sent out. The vein had taken a steep dip in this last hundred feet, being 78 degrees. (For values in this section of the shaft and above see assay sheets. Also smelter returns for May and June, 1901).

Below the third level the vein gradually took a lesser dip and the shaft ran into a smooth wall-like surface. This smooth surface lay at too steep an angle for the shaft to conform to, so at the point 90 feet below the third level it was decided to drill into the wall. The miners reported having drilled into ore. The shots opened up a body of solid ore behind the wall which proved to be a slicken-side along with an extensive movement had taken place and formed the heavy talc and clay body found on the second level on the Hanging Wall side. The ore is a lens of solid Sulphide of shipping grade and carries silver, gold, and some copper. Its greatest thickness at any point observed is two feet. It is more than 200 feet long on the dip and has a width of more than 50 feet where stoped on between the fourth and fifth levels. Some portions are high grade and some is medium, but all is of shipping grade. Some of this ore still remains.

This lens of ore in place behind the slickenside is of the same type of ore as the drags noted above in the shaft; and since its discovery has definitely shown two periods of ore deposition which were designated as the Primary and Secondary ore, or Hanging Wall and Foot-wase Systems. The slickenside is not known at present on the surface but doubtless is behind the talc on the second level where, because of the lessened pressure, the talc was able to push aside the enclosing broken or crushed material and does not come to the surface itself nor exert enough pressure to make a smooth and hard wall on either side of itself.

Below the fourth level the slickenside lies within the shaft and is accompanied by the ore lens which varies in its thickness and values, but retains its banded structure and massive or solid ore type.

Drifts were went East and West on the fifth level 473 feet. (See assay sheets, also the smelter returns appended for February 1904.) A

long interval due to litigation in the Federal Court and Court of Appeals caused a suspension of operation from 1901 to 1903.

The shaft was sunk to the sixth level with the two ore systems continuing. The rich ore thins out as the sixth level is reached.

On the Hanging Wall side a small lens of Galena, Chalcopyrite and Pyrite was cut. This ore was laid aside because it was not rich enough to ship as gold-silver ore. It has long since been carried away by people who came to the shaft during the long suspension. (1904-1929), Some of this lens should be found in the floor on the South side and West side of the shaft. It was on the Hanging Wall which was later cut out for a station and track put in.

In the West drift on the sixth level ore may be followed in the Hanging Wall side roof of the drift to the face of the drift 96 feet distant where there is a good showing of ore.

Some nodules of high grade silver ore was found at the face of the drift. Samples taken by the writer and Mr. J. G. Edwards on March 10, 1930, from the face of West drift gave the following results:

	Ozs. Gold	Ozs. Silver	% Copper	% Zinc	% Lead
1. Special, Portion of high grade stringer	0.38	105.62	Present		
2. All of the ore on hanger side of the drift. (30 inches of this.)	0.08	15.72	2.86	7.05	Present

This ore body in the West drift on the sixth level has the greatest lateral extent of any yet found. The special sample No. 1 above is of an ore identical in type with the rich lens followed down in the shaft from the fourth level. It tends to show that this ore extends downward on the West side of the shaft.

The East drift on the sixth level shows no ore at its face though some nodules of good ore were found to be scattered around in a soft white Quarts near the shaft. The vein is very strong at the sixth level as shown by cutting out for the sump on the foot wall side. A stringer of good looking ore was cut by the first round from the drift.

Shipments of ore taken from the shaft from the fifth to the sixth level and ore stoped between the fifth and fourth levels are appended. (See smelter returns for August and October, 1904. Appended.)

In September, 1904, furthe litigation was threatened and the property was closed down and so remained.

The property was opened up for further development by Mr. J. G. Edwards of Portland in the fall of 1929. The surface plant was renewed. New machinery was installed consisting of a Diesel engine of 125 H.P., electric generator, air compressor, electric hoist, switch board and controller, lighting plant, air driven and electric driven pumps, air drill and tools for the mechanics, oil tanks for storage of 10,000 gallons, a water supply for various uses and a change room and showers for the men. Laboratory for assays and analysis had been provided for use as soon as drifting and other exploration got under way. The shaft was cleaned and

new timber placed down to the water. The tunnel was cleaned out.

Dewatering the shaft began on December 11, 1929.

A sump was cut on the foot wall side of the East drift on the sixth level.

On April 9, 1930, sinking the shaft to the seventh level was begun. From that level it was intended to develop by means of long drifts along the vein and cross cuts to test the ground on each side for parallel ore bodies that might not appear in the drifts.

The vein is strong at the sixth level and Calcite now comes in mixed with the Quartz and as stringers interlaced with the other vein filling. There is now a crushed seam that follows down in the West side of the shaft. This shows drags of good ore all of the way down to the bottom. In the main portion of the shaft there are stringers of Pyrite interlaced with the vein filling. At times the shaft is all in the foot wall system and away from the slickenside which it followed so long and was itself included from the fourth level down as noted before.

At the bottom of a 20 inch vein of Quartz had come in next to the slickenside. The vein is still strong and carries Pyrite.

A cross cut into the hanging wall here did not show any ore but it may not be far enough to be conclusive as can readly be shown by conditions as developed in the West side dirft on the sixth level. There the ore is no longer just behind the slickenside but is well back from it and shows all of the characters as drags in the crushed zone, as inclusions in the space fillings and secondary deposits. The entire drift on the sixth level is on the hanging wall side and the slickenside is well back in what has become a foot wall side to the drift.

Engine trouble had now come to be frequent and a source of annoyance, delay and impossible expense. It had been guaranteed to meet the requirements in mining and where a continuous service must be available. We were promised and had made all arrangements to install a new engine. This was refused and Mr. Edwards could not go on under the conditions. The engine wrecked itself in a short time after Mr. Edwards decided it was not suited to our needs.

The shaft was making 25 gallons per minute of water when operations ceased on June 20, 1930. The water has not risen to its former level in the shaft and ran out through the tunnel. At this time it is not visible from the tunnel and may be 100 ore more feet down in the shaft. (on October 4, 1933).

SUMMARY

To summarize the Oregon King from conditions as shown by the surface and developments in the shaft and drifts.

1. The valuable portion in the vein on the surface was confined to a short strip which was disclosed by open cut prospecting along the stroke and a shallow shaft to serve as a discovery at the point where the cut was deepest. The large dimension was downward.

2. The vein had long been known to hersmen and range workers but no good values were definitely known and located before 1899. Because of its limited erosion no float was to be found in the gulches and Trout Creek. This would not be possible if much erosion had taken place on so large a vein. There was nothing to attract an experienced propspector except the vein itself.

3. The ore gains in lateral extent as depth is attained in the shaft.

4. The vein at the surface is crushed material and space filling which depth discloses to have been due to a movement on a fissure. Coincident with this movement, ore deposits in the figsure which were not frozen to the hanging wall were stripped away and occur as fragments with wall rocks and vein matter deposited therewith and constitute the secondary ore period, which is so plainly disclosed in the upper shaft and follows all of the way down along the foot wall to the bottom.

5. Except for this one spot and one where the Roy shaft is sunk, 1,000 feet East of theKing shaft, no good values are known to exist on the surface. The primary ore system does not come to the surface except as fragments. These will not occur if the ore below is frozen to the stationary wall at all points below, as is the case in part with the lens of ore in the King shaft. It is frozen to the stationary or hanging wall and would never have been known had not some smaller lens not been free and stripped away and carried upward as fragments to be oxidised and enrich the surface. ore.

6. So far as now known, the only primart ore in place coming nearest to the surface is in the winze in the Ruby tunnel. It is on the same horizon as the King tunnel. It carries gold and silver and some copper. It is not known how far up the primary ore cut by the Oregon King shaft at the fourth level (373 feet) reaches. It is on type with the ores found in some of the large vein mines and in deposits of large size. It is massive and also banded and carries gold, silver, Chalcopyrite and Pyrite with some Quartz lead and zinc and manganese and Calcite. Incidentals--Argentite, Ruby Silver, gold as powder and flakes have been noted. Considerable of this ore remains in the ground yet and can be inspected if the water permits doing so.

7. The o re cut in the end of the West drift of the sixth level can be traced from the shaft a distance of 96 feet. The pyrite there shows more copper. There is also gold and silver values with zinc and lead. The pyrite at this point shows more copper than the similar prite further up in the vein.

There is enough pyrite material in this veing matter which can become a carrier of copper and other metal with gold and silver at greater depth, to make a large producer, beside the probability of rich lenses of ore like that already found.

It does not seem probable that an ore body of the type known to be there can be isolated and in no way related to a larger deposit bothfarther out and farther down.

If it were clearly shown that extensive erosion had taken place on this vein, that much of what was once a part of it had been destroyed by erosion, the incentive to go deeper would not be of strong. Greater depth is the only way to demonstrate that there is not a much larger deposit of ore somewhere along this vein. The vein is a very strong fissure and will continue on downward. The filling is good live stuff, quartz, calcite and pyrite, such as is usually found associated with good ore bodies.

ORES SHIPPED FROM THE SHAFT, LEVELS AND STOPED FROM THE OREGON KING MINING COMPANY'S SILVER KING CLAIM DURING ITS OPERATIONS FROM AUGUST, 1899 TO OCTOBER, 1904.

****

Moro	October,	1899	14-1/2 dry tons	Net Returns	$1764.00	
Shaniko	* May	1901	45	ditto	2325.39	
"	* June	1901	20-1/2	"	725.71	
"	* Feb.	1904	Car 16 #6096	"	741.23	
"	x Aug. 27		Car 52	"	5978.83	Shaft and
	x "	"	#6434 1.93		431.92	Levels
"	x -	"	Car 10.92 #64152	"	1368.71	
"	X Oct.	"	Car (2.408 #6342 (	"	1675.83	
			" (15.196			$13,005.62

All of these seven cars of ore were shipped to the Tacoma Smelting Co., Tacoma, Washington. Smelter Settlement Sheets for the first three cars are now missing. Settlement sheets for the last four dars are available for inspection and photostatic copies of them for full details.

* These shipments are all from ore taken in development work in the shaft from top to bottom and the levels.

X These shipments are in part from the shaft and levels below the fifth level. The most of the last two cars came from the stopes, on the East and West side of the shaft between the fifth and the fourth levels.

(Signed(W. S. Thomas

Formerly Supt. for Oregon King Mining Co.
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Portland, Oregon. October 11, 1933.

Mr. J. G. Edwards,
Portland, Oregon

REPORT ON THE OREGON KING MINE

by
Kenneth E. Royer
based on field trip made August 1, 1946

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Location

The Oregon King Mine is located twenty-eight miles northeast of Madras near the town of Ashwood in the north central part of the state of Oregon. The region is low, rolling desert cut by three streams paralleling each other. These streams have cut down about three to five hundred feet, exposing, to some depth, the Clarno formation.[1]

The best railroad connection is with the Union Pacific at Madras, twenty-eight miles away. This is four miles farther than it is to the railroad at Shaniko but the road is better. The nearest hard-surfaced road is about the same distance away. Four dirt roads lead to the mine. Of the two principal ones, the one from Madras is 28 miles long and the one from Willowdale is 24 miles long. The roads are single lane most of the way and have several grades that run more than eight per cent.[2] Both roads are subject to washouts by flash floods and would probably become impassable in wet weather.

During the summers, the weather is hot and dry in the daytime but cools off in the evenings. According to local inhabitants, the winters are quite cold, with an average snowfall of about one to one and a half feet.

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[1] Hodge, Edwin T., Geological Map of North Central Oregon, 1932.

[2] Urquhart, L. C., Civil Engineering Handbook.

The population in the area is practically nil. There are perhaps ten families near there, with about five of them two miles away at Ashwood. Any labor would have to be brought in and houses built for them. There are now three houses at the mine site. It would be difficult to equip the houses at the site with modern conveniences. The nearest present recreation, schools, churches and medical care is apparently at Madras or at Willowdale.

Geology

The mine is located in the Clarno formation which is the oldest one in that region. This formation occupies a large area in the north central part of the state. The geological map of the area indicates that the formation is of the Eocene age, determined largely by fossil leaves. The Clarno formation is on an average 1,000 feet thick made up of green, creamy white, yellow, maroon, and many other colored softer beds of tuff, ash, and agglomerate. In addition to these explosive products, volcanoes flooded the nearby area with lava flows. During the spreading out and piling up of the formation by volcanic agencies, erosion was active so that valleys and other features indicate unconformities between the beds.[3]

There is a large thrust fault about two miles northeast of the mine. The throw on this fault must have been 300 to 400 feet. This large fault caused a number of minor faults paralleling the major fault. As the result of this, the whole area is in a shear-zone and this makes veins and faults hard to trace. This shear-zone was very easily attacked by weathering and, as a result, the oxide zone is quite deep in the mine. It was claimed by an earlier report of this region that part of the silver was found as cerargyrite, a chloride of silver.[4]

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[3]Hodge, Edwin T., Geological Map of North Central Oregon, 1932.
[4]Richards and party, Examination made in 1921.

The theory is that the ore minerals must have come up from underneath the Clarno and perculated up through the shear-zone. This theory seems to be backed up by the fact that approximately 500 feet higher (at the Ax Handle Mine) mercury is found. The minerals are found right in the country rock with very little gangue material brought in with the ore minerals. Many of the rocks in the area show the presence of manganese fumes. As one goes deeper in the Oregon King, he finds a greater amount of copper. The upper levels have larger amounts of zinc.

Maps

There is no up-to-date record of the underground workings. There have been no systematic samplings made recently and there was no assay map at the mine at the time of this inspection. It is probable that such a map was made when Alaska Juneau was operating the mine some time ago. The only claim map of the area found by the writer is one published by Melsker in 1935.[5] Most of the claims are in the two sections, 30 and 31, with the exception of two claims at the Ax Handle mercury mine approximately three miles southeast.

The main opening of the mine is an inclined shaft which follows down the dip of the Oregon King vein at about a 60-degree angle. The shaft is reported to be between 600 and 700 feet deep with five levels. Drifts take off from these levels and range from 10 feet to an adit 600 feet long. This 600-foot adit was driven from Long Hollow and intersects the shaft 173 feet below the collar.

Since the ore does not occur in well-defined veins and there has been no diamond drill work done, the drifts have been run in every direction until a pocket of ore was found and mined out. The drift then continued

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[5] Melsker's Atlas of Jefferson County Oregon, 1935; pg. 43.

on until another pocket was found. This left the whole upper area gophered without any back gobbing or timbering. The hoisting building is on top of this type of working so that any caving or slipping will affect the hoist house.

The Long Hollow adit connecting with the shaft helps to circulate air and to eliminate powder gases quickly. This crosscut exposed several small fissures or enriched areas but not until the large vein that they call the Oregon King was hit did any of them have any size.

Equipment

The mine equipment is housed in a large sheet metal hoisting building. There is a Buda hoist with a ⅝-inch cable, a caterpillar, a horizontal single-stage air compressor (Chicago Pumatic), a large out-of-date diesel with a generator, and a bulldozer. The head frame is made of wood with a skip dump built in so the ore could be dumped into trucks.

The mill is built for a 50-ton capacity. The wooden building is placed on a hillside and appears to be in good shape. Ore is trucked from the hoist approximately ⅛ mile to the mill coarse ore bin. Below the coarse ore bin is a 9" x 15" jaw crusher. From this primary crusher, the ore is elevated by means of a bucket conveyor to the ball mill bin which holds about 120 tons. From the bottom of this bin, a Denver Ore Feeder feeds the ore to the ball mill. Here water and the return from the classifier are added. The ball mill is a Denver 6' x 6' with a 50-horsepower motor driven by 12 "V" belts. The discharge from the ball mill goes through a mineral jig which reduces the load on the classifier and float cells when there is a sudden increase of ore mineral from the from the ball mill. The pulp goes to a Dorr rake classifier and the overflow from that goes to the conditioner and then to the float cells.

The tailings from the float cells go to a Wilfley table which works as a scavenger cell to pick up any oxide that gets past the float cells. The overflow from the cells goes to a thickener and then to an Oliver filter. Only a bulk float is made of the ore and this is sent to the Tacoma, Washington, smelter.

The water that is now used is from the shaft but, since they plan to work the lower levels, water will have to be pumped from the creek two miles away.

The ore now is principally pyrite, chalcopyrite, sphalerite, galena, stibnite, pyrargyrite, and gold.

Recommendations

Mill

The mill seems to be the best designed of all the buildings at the mine site. From its design, it should give a high recovery of the ore mineral if reasonable care is taken in operating the mill. The 50-horsepower motor for the ball mill operates at 220-440 volts. This is about half the horsepower that is recommended by Taggart in his Handbook of Mineral Dressing (1945). If a power line is run to the mill or a new power generating set is installed, a new motor should be used as it will give a better grind and a larger capacity as well as reduce the load on the classifier.

The coarse ore bin will have to be rebuilt as it has broken out at the sides. When this is rebuilt, it should be moved up the hill about ten to twenty feet to eliminate the crowded condition in the primary crushing room and the bucket conveyor should be replaced by a belt conveyor.

An adit could be driven from the top of the mill to the shaft and an underground skip pocket could be made. This way, the ore could be taken by mine car from the pocket to the mill, thereby saving a great deal of handling and half a mile of hauling by truck.

Mine Equipment

Most of the equipment in the hoisting building is quite old but much of it is still serviceable. The large diesel that is used to drive the generator should be replaced. It is rated as 100 horsepower and uses 500 gallons of diesel oil in three days, according to the operator. With the cost of diesel oil and the distance the oil has to be trucked, a new 200-horsepower diesel would pay for itself in three years, figuring $4000 for a new engine. A new 200 horsepower diesel could operate a larger generator set and as a result could provide for the use of more electrical equipment.

The air compressor seems to deliver all the air that is required for the mine and it and the caterpillar motor which runs it both seem to be in good condition.

The Buda hoist is new and very good for its field but this mine is not in its field. The hoist is equipped with a half inch cable and it is able to hoist 1800 pounds at a time. If the speed of the hoist is around 100 feet per minute and it is hoisting from the 600-foot level, it would take about six minutes to hoist. It usually takes about the same time for caging. Therefore it would take 12 to 15 minutes for 1800 pounds of ore or about 35 tons per ten-hour shift. The hoisting time could be cut down some by improving the shaft so greater hoisting speed could be obtained. Now, the hoisting capacity is a limiting factor in the mine production.

Mine Workings

It is almost impossible to know where to begin on the mine improvements. First, a good map of the mine workings as they are at the present time should be obtained. Secondly, an accurate sampling of the mine workings should be taken. The use of a diamond drill would help locate the size of the ore body and would save a lot of drifting. After taking these steps, a best method of mining should be determined and the mining started. Special attention should be paid to back filling, especially in the upper levels, to prevent the occurence of air blasts. For example, negligence of this practice at the Sunshine Mine near Kellogg, Idaho has resulted in cave ins and loss of life there.

It appears to the writer that there are good possibilities of making a profit once the mine and mill are again in operation.

It should be understood that the above report and recommendations were made solely on the basis of one day's inspection of the area immediately surrounding the Oregon King Mine. Remarks made are based on observations at that time and on the personal knowledge of the writer except when specific sources are quoted. It was impossible to go below the 173-foot level at the time so the data concerning the ground below that was based on information gained from other persons. No assays or scientific measurements were taken as this would have taken a great deal more time than was spent in the area.

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BIBLIOGRAPHY

Examination made by Richards and party, summer of 1921.

Hodge, Edwin T., Geological Map of North Central Oregon, 1932.

Melsker, Atlas of Jefferson County, Oregon, 1935.

Taggart, Arthur F., Handbook of Mineral Dressing; Wiley, New York, 1945.

Urquhart, L. C., Civil Engineering Handbook; McGraw-Hill, New York, 1940.