

REPORT

no

THE PARADISE MINE

WINDERMERE LAKE AREA, B.C.

for

J.A.C. ROSS, P.Eng.

by

J.J. CROWHURST, B.A.Sc., P.Eng.

Vancouver, B.C.

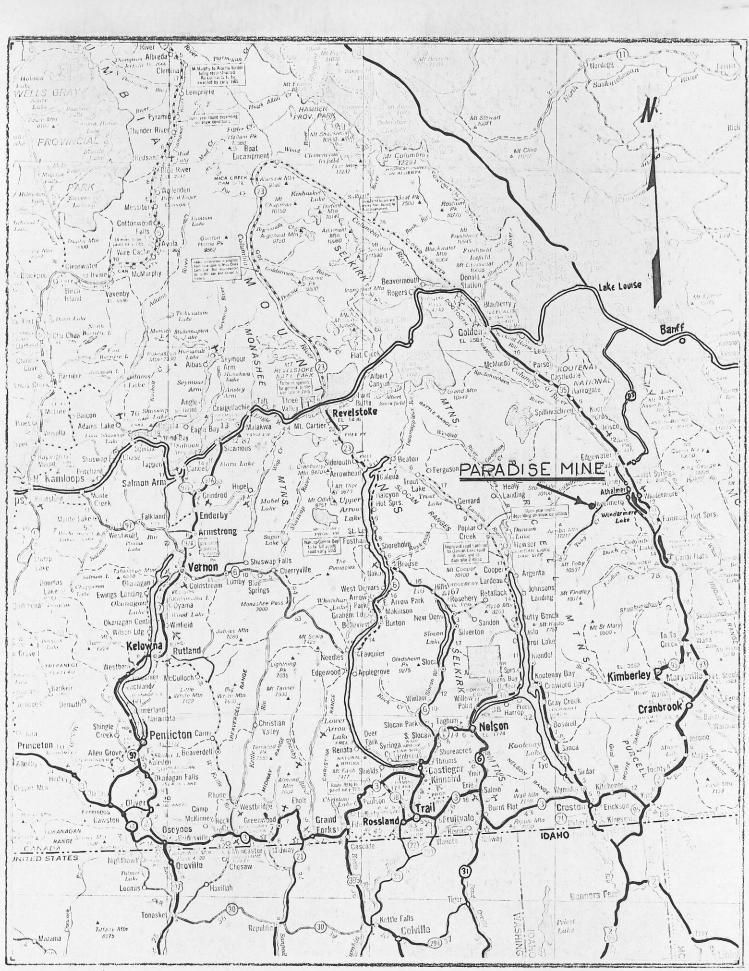
April 20th, 1970.

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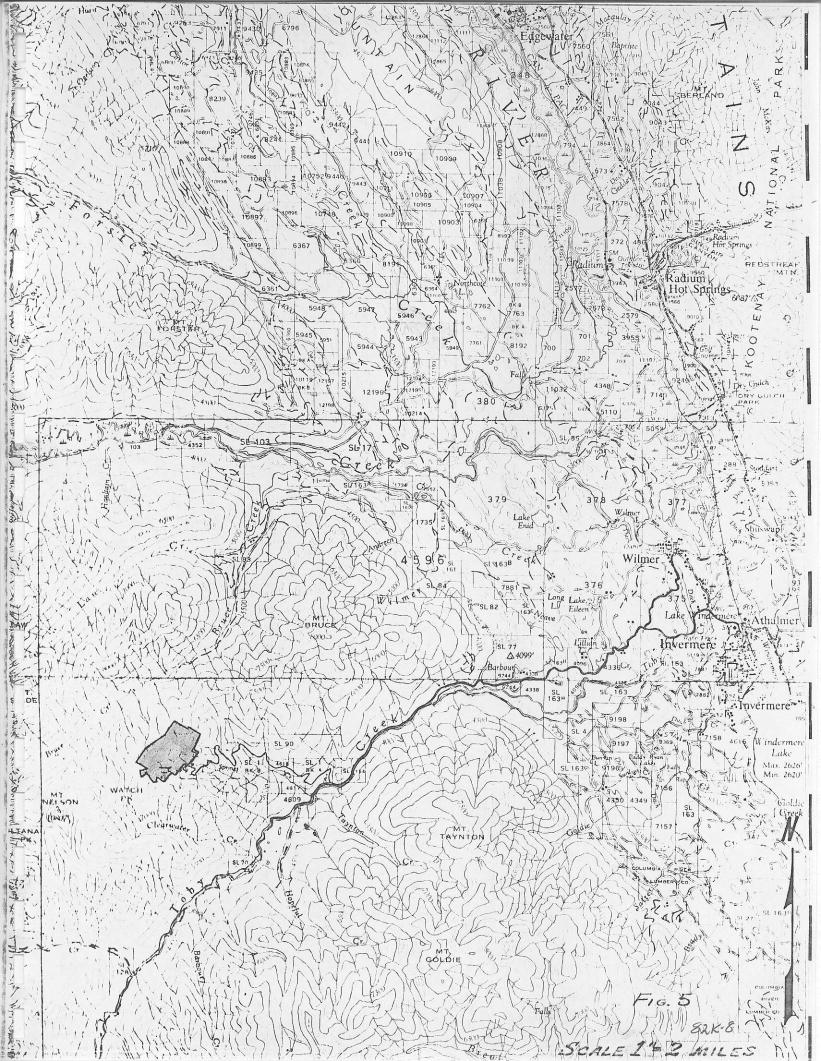
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Scale : 1"= 30 Miles



SUMMARY AND CONCLUSIONS

. 1 .

Since 1899 the Paradise Mine has produced an estimated total of 77,000 tons of ore assaying approximately 10 ounces of silver per ton, 11% lead and 5 to 6% zinc. The deposit is a replacement in limestone.

Some of the production by early operators was obtained from high-grade silver-lead rock at or close to the surface; later a larger amount came from the mining of material with a much lower silver content (4 to 5 ounces Ag/ton), higher zinc content (9% to 10% Zn) and lower lead content (4% to 5% Pb).

Oxidation extends downward into the fractured, mineralized rock and only in the lowest working, some 1300' down the plunge of the principal zone, have clean lead and zinc sulphides without oxidation products been encountered. Metallurgical difficulties in the two concentrators constructed were therefore formidable.

It would appear that modern exploration methods have thus far not been applied with any degree of thoroughness. Even the search for parallel zones, for example, has been limited to surface inspection of very limited outcrop areas. Geological mapping has been minimal.

Downward continuation of the main ore shoots undoubtedly occurs. Further discoveries, however, will, in all likelihood, contain metal values of the same average tenor as those in the ore mined to date. In addition, the possibility of finding near-surface, high-silver, parallel, enriched zones exists. It would appear that insufficient ore is presently indicated to justify any production plan but a careful appraisal, followed by well reasoned exploration, is warranted.

RECOMMENDATIONS

It is recommended that the sum of \$26,000 be provided to carry out a preliminary appraisal and to complete a geochemical survey over part of the property (Phase 1).

Should favourable results be encountered, a further sum of \$96,000 will be required to carry out an exploratory program consisting of tractor trenching, surface and underground diamond drilling, geological mapping, metallurgical investigations and an assessment of the possible economics connected with production plans, (phase 2).

It is suggested that Phase 1 could be carried out during the summer months, July 1st to October 31st, 1970, and that Phase 2 would be completed during the corresponding period in 1971.

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ESTIMATED COST - PROPOSED EXPLORATION PROGRAM

PHASE 1

(1)	Geochemical survey		
	 (a) Establish picket lines - 10 line miles @ \$75/mi. (b) Take estimated 150 samples (c) Take estimated 150 samples 	\$750 250	
	(c) Assaying - zinc & silver determinations @ \$1.70/ sample	250	\$1,250
(2)	Rehabilitation of 7800 level portal to permit re-entry		5,000
(3)	Pump out #1 & #2 winze, compressor & pump rental & labour		4,000
(4)	Geological mapping & reappraisal of ore reserves		4,500
(5)	Sampling, assaying & preliminary metallurgical work		5,000
(6)	Camp costs, administration, etc.		4,000
	Plus contingencies		2,250
			\$26,000
PHAS	E 2		
(1)	Tractor trenching re geochemical results		\$5,000
(2)	Surface diamond drilling re tractor trenching results 10 holes x 200' = 2000' @ \$10/ft.		20,000
(3)	Underground or surface diamond drilling		
	(a) Possible extension of main orebody down dip 2000' @ \$8/ft.	\$16,000	
	(b) Exploration 7700 level orebody & other possible areas - 1500' @ \$8/ft.	12,000	28,000
(4)	Sampling, assaying & metallurgical work		10,000
(5)	Geological & other engineering - 4 mos. @ \$2000/month		8,000
(6)	Camp costs & administration		12,000
(7)	Preliminary feasibility study		5,000
	Plus contengencies @ 10%		\$88,000 <u>8,000</u>
			\$96,000

Respectfully submitted,

BACON & CROWHURST LTD.

J.J. Crowhurst, B.A.Sc., P.Eng.

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LOCATION AND ACCESS

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The Paradise Mine is about thirty miles east of the north end of Kootenay Lake, at an elevation of 7800 feet. Cranbrook, the nearest large town in the region, is 85 miles to the southeast and Calgary is about 100 miles to the northeast.

The town of Windermere is on Route 95-93, about half way between Golden and Cranbrook. Access to the Paradise Mine is from a point on the highway six miles north of Windermere, thence for about twenty-five miles by gravel road through Athalmer and thence westward up Toby Creek. The gravel road passes by the Paradise millsite at Jackpine Flats, twelve miles from Lake Windermere station. The mine is 7½ miles from the mill.

To the north of the Paradise Mine, a logging road passes up the south side of Horsethief Creek and thence up the south side of Bruce Creek (an approximate distance of 15 miles from Wilmer) to a point about two miles from the Paradise workings.

PROPERTY AND OWNERSHIP

The old property of eight Crown granted claims was bought by Sheep Creek Gold Mines Limited in 1942. More recently Mr. J.A.C. Ross acquired these claims and his holdings now include twelve Crown granted claims and two surface land lots which cover the old millsite and tailings pond on Jackpine Flats. (See List of Holdings - page 12)

HISTORY

In 1899 Mr. R.R. Bruce, acting for Osler & Hammond interests of Toronto, Ontario, located three mineral claims on an impressive oxidized showing which outcropped on a treeless, grassy hillside. Exploration work was begun immediately. The 7800 level was started in 1903; about 5000 feet of development work was completed and 2,000 tons of ore removed when work stopped in 1906 because metal prices had declined substantially. The grade of ore shipped was 51 oz. Ag per ton and 59% Pb.

Ten years later Mr. R.R. Bruce purchased the mine and re-opened it. During the following ten years 12,190 tons of ore were produced averaging 34 oz. of silver per ton and 36.5% lead.

In 1926 the Victoria Syndicate of London, England, purchased the property from Mr. R.R. Bruce. Under the direction of Mr. Peter Frice, Manager, development was carried out in the 7819 and 7900 sub-levels, and the 7800 level was extended to intersect the downward continuation of the principal ore zone. A 50-75 ton per day mill, situated at the mine, began production in 1928; it was closed late the same year after 7600 tons of ore were treated. Metallurgical difficulties and a shortage of water for the concentrator constituted serious problems.

In 1942 Sheep Creek Gold Mines Limited purchased the property. Underground diamond drilling was carried out in 1943 and 1944 and a 50-ton per day mill was built at Jackpine Flats in 1948. Mining and milling operations continued from mid 1949 to late 1952 when production curtailment in the Trail smelter and low metal prices forced a suspension of operations. In this period 53,292 tons of semi-oxidized ore were mined which averaged 4.89 oz. of silver per ton, 4.81% lead and 9.48% zinc.

By 1953 No. 2 winze, at the innermost end of the main haulage or 7800 level, had been completed to 150' below the level. This winze was sunk on the principal ore zone which changed in nature from semi-oxidized material to relatively clean sulphide material. By reference to the longitudinal section accompanying this report, it can be seen that this ore zone is located about 2000', measured horizontally, from the surface. About 100 feet of lateral development was completed from the bottom of this winze, mostly in material of ore grade.

The 7700 level, about 80' below the 7800 level, had been advanced during this period 330' from the portal and an 80 foot length of mineralization had been disclosed. No mining was carried out.

The property was inactive until 1955 when 694 tons were mined and shipped for treatment to the neighbouring Sheep Creek owned, Mineral King concentrator. During 1955-1960 nothing was done, largely because of metal prices and market conditions. In 1960 rehabilitation was carried out and 1100 tons of ore grading 5.5 oz. Ag, 4.8% Pb and 8.2% Zn were mined from above the 7800 level, again for shipment to the Mineral King operation. Some exploration work was carried out on the 7700 level with inconclusive results.

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Four years later, in 1964, there was still another attempt to develop the property and, during the summer, several surface open cuts were made along the outcrops of known mineralized areas; 931 tons of ore, grade not reported, were trucked by Sheep Creek Gold Mines Limited to the company concentrator at the Mineral King Mine. This is the last recorded activity at the property.

Total production of the mine to 1952 is estimated to be 76,876 tons averaging 10.3 oz. silver per ton, 11.5% lead and 5.7% zinc. Of this total, Sheep Creek Gold Mines Limited extracted 53,292 tons, using square-set, cut & fill methods; this material averaged 4.89 ozs. silver per ton, 4.81% lead and 9.48% zinc.

GEOLOGY AND MINERALIZATION

The area in which the Paradise Mine is located is underlain by steeply dipping sedimentary rocks of the Mount Nelson formation of the Lower Cambrian Purcell series. These rocks are mainly argillaceous and calcareous sedimentary rocks that are tightly folded and fractured. Within the predominant shales, slates, quartzites and argillites are occasional bands of limestone. One such limestone band is the host rock for the mineralization at the Paradise Mine.

The nearest known granitic intrusive is ten miles northwest of the mine. It is about ten miles in diameter and is acid to intermediate in composition.

The ore is a relatively massive replacement in grey, siliceous, magnesian limestone. It occurs near the upper contact of

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the limestone with overlying slate. It is found in fracture zones on the lower levels and may be further localized by folding. Structural controls are imperfectly understood; the B.C. Department of Mines Annual Report for 1927 states that the ore on the 7819 level lay in a transverse fold of the limestone which dipped at 20° and raked to the northwest at minus 15° to 20° .

The principal zone (or series of orebodies) strikes northwest and rakes at 15° to 20° to the northwest; a second, partly explored zone rakes at about 15° to the northeast.

Drifting has been carried out on the limestone-slate contact zone for about 2000 feet on the main haulage level (7800). On this level the principal orebody is irregular with most of the ore occurring in a pod 70 feet long by 30 feet in maximum width. This ore is 2000' from the portal whereas the secondary, smaller zone was encountered about 175 feet from the portal. Between these two ore zones a narrow zone of pyritic mineralization is followed for some 600 to 700 feet. The remainder of the level follows the unmineralized contact.

With the exception of the mineralization intersected at the bottom of the No. 2 winze, all ore at the Paradise Mine is oxidized and consists typically of "sand carbonate" in which there is a small proportion of lead and zinc sulphides in grains or nodules. Much pyrite is present in the ore zones. The ore is irregular and so soft that blasting was seldom required. The ground is much shattered and there are many clay slips in the ore; the overlying slate is schistose and requires heavy timbering.

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DEVELOPMENT (See Fig. 2)

The Paradise Mine has been developed by two main levels (7800 and 8000) and four sub-levels (7819, 7900, 7919 and 8100). Work on a lower level, the 7700, is comprised of an adit 330 feet long, as well as about 100 feet of drifting from the bottom of the No. 2 winze.

The 7800 level (main haulage) is 2400 feet long and the 8000 level, which is 240 feet vertically above the 7800 level, is 900' long with reportedly about one third of its length in ore grade material. The principal ore shoot has been developed down the plunge for about 1200 feet.

Several raises have been driven between these various levels, some following ore shoots and some, in waste, giving access to stoping areas.

By 1942, at the time of the Sheep Creek acquisition, the 8000 level was caved severely at a point only a few feet from the portal. The 7800 level, with a small amount of rehabilitation, was accessible throughout its whole length. Some of the raises between levels were open for travel but the sub-levels and the old stoping areas were either largely caved or in such a dangerous state as to render examination virtually impossible.

It is understood that, in 1964, Sheep Creek partially destroyed the 7800 portal to prevent entry into the workings by casual visitors. Access is therefore impossible at present, but could probably be restored by a minor amount of work. It is also probable that, if the 7800 portal were to be cleaned out and retimbered, the remainder of the level would be in relatively good shape.

The 7700 level is understood to be accessible for examination by entry through the portal. The section driven from the winzes in the inner part of the mine is probably flooded.

METALLURGICAL RESULTS SHEEP CREEK OPERATION

								Concentrates						
		М	illhead	S					Lead			Zinc		
ŝ.	Dry Tons	Oz.Ag			Reco	press of the state of the state of the state of the state	2/2 monte-service	Oz.Ag		and the second	Oz.Ag			
Period	Milled	/ton	% Pb	% Zm	Ag	Pb	Zn	/ton	% Pb	<u>% Zn</u>	<u>/ton</u>	% Pb	<u>% Zn</u>	
May 1950-														
May 1951	22,556	5.54	5.55	10.65	65.34	71.74	74,33	28.79	49.20	8.18	10.76	5.62	44.06	
June 1951-	10 597	A OF	4.64	9.07	60.93	66.48	72.13	27.53	43.18	6.25	9.95	3.23	44.55	
May 1952	19,527	4.85	4.04	7.01	00.33	00,40	16460	41022	43.10	0000	2.73	2042	44833	
June 1952-														
Dec. 1952	11,209	4.29	4.25	8.72	72.30	76.18	87.58	30.80	44.04	7.25	9.16	3.35	48.40	
Totals &														
Averages	53,292	4.89	4.81	9.48	66.19	71.47	78.01	29.04	43.81	7.23	9.96	4.07	45.67	
	and and the same of spec			2 B 150		5 m 8 1 5		100 m 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1 0 Min 11				

LIST OF HOLDINGS - J.A.C. Ross - Paradise Mine Property -

Paradise Mine Property -Golden Mining Division

Crown Granted Mineral Claims

Lot No.	Name
4341	Parridice
4342	Comstock
4343	Royal Stag
4344	Shamrock
3698	Carbonate Fractional
4345	Ptarmigan
11265	Oversight
11261	Blue Grouse
11262	Last Chance
11263	Silver Cache
11264	Bohunk
11266	Oversight Fraction

Land Lots

Block A of sub-lot 1 of lot 4596, Kootenay District, Plan X-32.

Surface rights of Royal Stag M.C. lot #4343

CERTIFICATE OF QUALIFICATIONS

1, John James Crowhurst, DO HEREBY CERTIFY THAT

- I am a practising mining engineer with Bacon & Crowhurst Ltd., Ste. 1720 - 1055 W. Hastings St., Vancouver, 1, B.C.
- (2) I am a graduate of the University of British Columbia and have been granted the degree of Bachelor of Applied Science.
- (3) I have been practising my profession as a mining engineer for 29 years.
- (4) I am a member of the Association of Professional Engineers of British Columbia, Registration No. 2120.
- (5) During the years 1948-1951 I was employed by Sheep Creek Gold Mines as Resident Manager at the Paradise Mine unit, Invermere, B.C.
- (6) I nor any member of my firm have directly or indirectly received or expect to receive any interest direct or indirect in the Paradise Mine property in the Golden Mining Division owned by Mr. J.A.C. Ross as referred to in this report.

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J.J. Crowhurst, P.Eng.

April 20th, 1970.

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