Report on

ANCHOR-TAKLA MINES LTD. (N.P.L.)

MANSON CREEK AREA

OMINECA MINING DIVISION

BRITISH COLUMBIA

673169

by J.J. Crowhurst, P.Eng. Feb. 26/69

February 26th, 1969.

Mr. H.E. Jacques,
President,
Anchor Mines Ltd. (N.P.L.),
1111 - 409 Granville St.,
Vancouver, 2, B.C.

Dear Mr. Jacques:

I submit herewith for your consideration a report concerning your company's gold-silver-lead-zinc-antimony property situated in the Manson Creek area, Omineca Mining Division, in north-central British Columbia, together with my recommendations and cost estimates concerning future exploration.

Yours truly,

BACON & CROWHURST LTD.

J.J. Crowhurst

J.J. Crowhurst, P.Eng.

JJC/ic

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1968 DIAMOND DRILL PROGRAM

INTRODUCTION

During the fall of 1968 a program of diamond drilling was carried out at the Takla Silver Mine, totalling 6,268 feet, 1881' underground and 4387' on the surface.

The program was primarily designed to investigate the No. 1 Zone which, on surface, assayed 0.13 oz. Au and 23.4 oz. Ag across 7.0' for a strike length of 255'. The relationship between the vein on surface and the mineral occurrences in the underground workings was not certain and had to be determined before intelligent planning could be carried out.

Systematic drilling on 50' sections was done from the adit, for 200 feet along strike, and showed that the principal mineral zone dipped steeply to the east while the host rocks, feldspar porphyry dyke and the associated fault zone dipped about 60° to the west.

GEOLOGY

The principal rocks are limestone, argillaceous limestone, graphitic schists, phyllites and argillites intruded by continuous, though narrow, feldspar porphyry dykes.

Minerals present in the No. 1 orebody are sphalerite, pyrite, galena, arsenopyrite, stibnite and jamesonite, all associated with quartz and carbonate stringers. Andorite, freibergite and native silver and gold have been recognized by earlier workers.

The No. 1 Zone vein varies from a few inches up to about ten feet in true width. Host rocks in the vicinity of the mine workings are massive, light to medium grey, impure, massive limestone, with minor amounts of argillaceous material. The portal area is underlain by graphitic argillaceous schist. A northwesterly-plunging anticline of these schists appears to underlie the mineral area and most probably causes some major changes in depth to the principal veins. To generalize, one may say that veins that have good widths in limestone tend to pinch out in the less competent fissile schists. On the other hand, veins passing through massive host rocks, that may measure only a few inches in width, often are appreciably wider immediately upon entering a less massive host rock.

The graphitic schist anticline outcrops at surface on Section 49900N but is only encountered at depth for the next 400' to the north. The axis of the anticline plunges at about 45° to the north for 300' and then begins to rise again on Section 50300N.

The major fault that is associated with the principal feldspar porphyry dyke has been observed in the No. 1 crosscut east in the underground workings and in numerous diamond drill holes. The fault appears to dip steeply to the west, conformable with the formations. It is undoubtedly a normal fault, displacing the No. 1 mineral vein about 60' vertically.

DRILLING RESULTS

Drilling has undoubtedly proved the continuity of the No. 1 mineral zone in depth. As in many cases of drilling for silver-bearing veins, core recovery was a problem. Consequently, it is felt that many of the mineral intersections gave unreliable assay results. In almost all holes drill water was lost with associated loss of fine mineral. This is especially true of underground down holes which entered the expected location of the vein in the fault area.

Following are drill hole intersections of current holes and pertinent Bralorne holes. (Holes which were drilled into the fault area and others are shown on the accompanying sections.)

Drill Hole	Section	Angle	Oz. Au	Oz. Ag	Width	% Recovery
68-UG-19	49900N	+43°	0.10	21.0	1.7'	100%
68-UG-21	"	-45°	0.11	14.8	7.0'	60%
68-UG-16	49950N	+40°	0.06	6.0	2.2'	100%
68-UG-12	50000N	+45°	0.03	4.1	1.1'	70%
"	"		0.03	6.7	3.0'	Rubble
68-UG-10	50050N	+42°	0.01	4.7	5.0'	100%
68-UG-4	50100N	0°	0.01	7.3	1.0'	90%
68-UG-5	"	-30°	-	3.8	7.0'	Gouge
"	"		0.04	28.6	3.5'	90%
68-S-9	"	-60°	-	23.4	4.0'	80%
"	"		-	4.2	14.0'	50%
68-S-3	50150N	-35°	0.03	7.1	11.0'	70%
"	"		0.02	2.5	3.0'	100%
68-S-4	50200N	-35°	0.07	5.8	3.6'	30%
68-S-5	"	-60°	0.02	4.4	6.5'	5%
68-S-11A	50000N	-68°	0.01	3.2	5.0'	90%
"	"		0.02	2.1	5.0'	80%
68-S-9	50100N	-60°	0.004	4.23	14.0'	50%

Drill Hole	Section	Angle	Oz. Au	Oz. Ag	Width	% Recovery
Bralorne 33	50100	-75°	0.38	13.8	1.0'	80%
"	50100		0.12	16.6	5.0'	80%
"	"		0.15	8.0	1.0'	100%
"	"		0.07	8.9	2.0'	100%
"	"		0.06	26.3	3.0'	50%
"	"		0.10	10.1	2.0'	75%
"	"		0.10	26.7	2.0'	25%
Bralorne 2	"	-38°	0.12	21.3	1.5'	15%
"	"		0.28	251.9	2.5'	65%
"	"		0.03	39.3	0.5'	100%
Bralorne 3	50200	-38°	0.06	2.8	1.0'	50%

The following surface holes were drilled this year:

Drill Hole 68-81 was drilled due west at -45° for 380'. The object was to check for a southward extension of the No. 1 vein. The hole passed 80' south of the main portal. Two feldspar porphyry dykes were intersected, as was the No. 1 vein structure at 70'. The principal rock here is the unfavourable graphite schist.

Drill Hole 68-82 paralleled 68-81 300 feet to the south of the latter. Results were similar to 68-81 and confirmed the belief that possibilities of finding commercial ore in a host rock of graphite schist are poor. Minor pyrite at 97' was interpreted as being the structure.

Drill Hole 68-83 was drilled on the No. 3 zone for 554'. Dip of the mineralized zone was uncertain and this hole indicated that it is very steeply to the southwest. No mineralization was intersected in the hole as it passed beneath the zone of interest. The rocks intersected were limestone, argillaceous limestone, and tuffs with minor feldspar porphyry dykes.

The accompanying surface geology plan shows that north of the area of recent exploration are four old Dralorne diamond drill holes as follows:

Drill Hole	Vein Intersected
D.H. 5	Ten feet of "indicated ore" - 2.7' recovered - no assay.
6	17' of "indicated ore" - 5.5' recovered - no assay.
6	3' of 6.2 oz. Ag - 2.0' recovered.
7	No core 289'-299' - probable location of vein.
9	1.5' of 8.7 oz. Ag, 0.19 Au, 2.1% Pb - 100% recovery.

This drilling, though inconclusive, appears to indicate that the No. 1 vein zone continues for at least 500' north of the northernmost of the principal surface showings. On the basis of surface and underground evidence to date, strike length of 1200' is indicated.

Sampling Chip samples were taken from the No. 1 vein in the underground workings as follows:

Width	Oz. Ag	Oz. Au	Location
1.5'	197.0	0.13	Back, at face of Drift N.
1.5'	48.8	0.10	" 10' south of face.
2.2'	14.9	0.07	20
2.0'	15.5	0.05	30
1.5'	30.2	0.06	40
2.0'	15.8	0.19	Both walls, vein in XC East.
1.73' Avg.	48.6 (uncut)	0.10	
1.75' Avg.	27.5 (cut)	0.10	

This grade is believed to be more realistic than the grade obtained from drill holes.

A 300 pound bulk sample of mineralized vein material was taken from underground and surface exposures for metallurgical testing.

NO. 3 ZONE

A study of previous results shows the following:

	Grade	Oz.Au	Oz.Ag	% Zn
1.	Area of min. on N Section - 60'x180' = 10,800 sq.ft.	0.11	1.14	1.29
2.	" " " " S " - 30'x 50' = 1,500 sq.ft.	0.07	3.00	-
3.	" " " " surface - 65'x350' = 22,700 sq.ft.	0.05	2.10	1.70
	Weighted average of grade	0.07	1.84	1.52

1. Assays on north section based on following:

D.D.H.	Length of Intersection	Oz.Au	Oz.Ag	% Zn
Bralorne 27	45'	0.08	1.34	-
" 30	175'	0.11	0.38	1.32
" 28	170'	0.08	1.13	1.00
" 21	50'	0.11	1.10	-
" 31	9'	0.01	-	17.05
" 29	190'	0.15	1.37	1.35
	Weighted average	0.11	1.14	1.29

2. Assays on south section based on following:

D.D.H.	Length of Intersection	Oz.Au	Oz.Ag	% Zn
Bralorne 22	30'	0.09	3.57	-
" 23	20'	0.11	4.68	-
" 24	25'	0.01	0.90	-
	Weighted average	0.07	3.00	

3. Assays on surface based on following:

Trench	Width of Cut	Oz.Au	Oz.Ag	% Zn
J-6	31.0	Tr.	1.4	4.5
J-3	25.0	Tr.	4.2	0.3
J-5	80.0	0.09	1.7	1.0
	Weighted average	0.05	2.1	1.7

Tonnage Calculation

	Length	Width		Area	Length (horiz.)	Volume	Tons
North Section -	180'	x 60'	=	10,800	x 200'	= 2,376,000	237,600
South Section -	50'	x 30'	=	1,500	x 130'	= 195,000	19,500
							257,000

SUMMARY

Total content of block (before mining dilution)

257,000 tons @ 0.07 oz. Au, 1.84 oz. Ag and 1.5% Zn.

It was noted that most of the mineral zone drilled to date is oxidized with the fresh sulphide zone about 150' below surface. The mineral zone appeared to be sufficiently well drilled to determine the probable average grade of the block; this is not commercial material at the present time, unless other nearby deposits of similar nature and of more substantial size are discovered.

D.H. S-8 was drilled in 1968, and appears to effectively close off the zone in depth. Eralorne Hole #31, also on the north section, passes directly down dip from the main ore zone and encountered a very short section containing some values.

NO. 4B ZONE

A study of the previous results showed the following:

Grade

		Length	Width	Area	Oz. Au	Oz. Ag	% Zn
1.	Surface Pits M-6 to M-12	550'	11.0'	6050 sq.'	0.10	0.84	6.55
2.	Section	140'	9.25'	1294 sq.'	0.07	0.64	7.30
		Weighted average			0.095	0.81	0.60

1. Assays on surface based on old sampling on pits M-6 to M-21 and Pit M-14

2. Assays on section based on following:

D.D.H.	Width	Oz. Au	Oz. Ag	% Zn
5	6'	0.14	0.60	9.25
5	7'	0.10	0.55	12.25
5	20'	0.06	0.70	6.50
6	13'	-	0.62	3.22
7	7'	0.01	0.65	11.00
8	11'	No assays		
1	5'	" "		
2	5'	" "		
Averages	9.25'	0.07	0.64	7.30

Tonnage

	Length	Width
Surface	550'	11.00
Section	140'	9.25
Average Width		10.6'

Volume - 550'(length) x 140'(depth) x 10.6'(width) = 817,000 cu. ft.

Tons - $\frac{817,000}{10}$ = 81,700 tons.

SUMMARY

Total content of block (before mining dilution)

81,700 tons @ 0.095 oz. Au, 0.81 oz. Ag, and 6.60% Zn.

This is a typical erratic limestone replacement zone with randomly-oriented narrow sulphide bands within limonite zones.

The drilling through the widest portion of the mineralized zone indicates that only one of the numerous mineral lenses persists in depth.

Narrow steeply-dipping veins dictate that underground mining would have to be used.

The values encountered to date indicate that, at present metal prices, nothing of economic value has so far been indicated in this zone.

ANTIMONY CONTENT

A study of the assay values returned for the No. 1 vein during previous work at Takla Silver shows the following:

	Length Influence	Sb %	Oz./ton Ag	Ratio Sb/Ag
Zone 1 - Bralorne D.D. Holes (10 samples)	200'	4.8	15.5	1:3.2
" 1 - Underground samples (14 ")	40'	3.6	14.7	1:4.1
" 1 - Surface samples (38 ")	250'	3.4	19.5	1:5.7
" 2 - " " (7 ")	80'	14.9	29.0	1:1.9
Totals	570'	5.5	19.2	1:3.5

Although it is realized that the recovery of antimony as a marketable product may present metallurgical problems, and that sales contracts would have to be negotiated, it is felt that the No. 1 vein system contains a sufficiently large amount to warrant further investigation. The recovery of even 60¢/ton of ore could apparently result in a net smelter return of perhaps $15/ton of ore, which, if realized, would represent an attractive addition to the gold and silver values.

CONCLUSIONS

Evaluation of the property's potential as a possible gold, silver and antimony producer, coupled with the 1968 diamond drilling results shows that further exploration is warranted.

This should be primarily directed toward the No. 1 zone, in order to measure accurately the metal values in the vein system, to determine continuity, to evaluate possible mining methods and to obtain a bulk sample for metallurgical test work.

The proximity of the No. 2 Zone to the No. 1 Zone indicates that some exploration of this vein be carried out in conjunction with the No. 1 vein program. This vein has been exposed on surface for 300' and six samples taken from three trenches average 0.10 oz. Au, 5.8 oz. Ag, 1.8% Zn and 4.1% Pb across 3.5'. The vein parallels the No. 1 vein about 250' west and the south trace of it may have been encountered in the west crosscut of the principal 4300' level. Surface drilling is warranted.

Drifting and raising on the principal structure in the 4300' level will effectively determine whether the property can support a mining operation. About one thousand feet of lateral work is required to expose the vein as are nine properly-placed 50' raises.

Sufficient work has been completed on certain parts of the No. 3 and No. 4B zones to indicate their probable size and grade. Extensive overburden in the No. 3 and No. 4 zone areas, generally however, effectively hides any possible parallel or adjacent similar mineral

deposits. Not too much exploration other than cursory surface prospecting has been carried out so far to rule out their existence.

The fact that widespread mineralization has been discovered, even though of apparently modest size and grade, warrants further exploration work.

RECOMMENDATIONS

Further exploration at the Takla Silver property is recommended as follows:

STAGE 1

(1) No. 1 Vein

(a) Extend the 4300 level about 670' along the No. 1 vein, as shown on the plan accompanying this report.

(b) Complete six short raises, each 50' long, inclined upwards at about 30° following the vein, also as shown.

(c) As drifting and raising progresses, obtain careful muck samples and chip face samples to determine metal content. Finally, channel sample the complete vein at five foot intervals. Assay these samples for lead, zinc, antimony, gold and silver.

(d) Initiate metallurgical test work with the Department of Energy, Mines and Resources in Ottawa on bulk samples obtained in 1968 from the surface and the limited underground exposures on No. 1 vein.

(2) No. 3 & 4 Zone Area

Continue exploration in the No. 3 and No. 4 zone areas by completing surface prospecting and geological mapping, together with

perhaps reconnaissance geochemistry on lines spaced at approximately 800' intervals. The exact location of these lines would be dictated by overburden, geology, topography, stream flow, etc.

STAGE 2

(a) Based on results obtained during Stage 1 regarding No. 1 vein exploration, either continue drifting on the vein northwards, or drive a lower crosscut to intersect the vein about 150' below the 4300' level, followed by lateral drifting on the vein.

(b) Explore the No. 2 vein system by either flat holes spaced at 50' intervals from the extension of the 4300 level northwards, or by inclined surface diamond drilling, designed to attain the same objective.

(c) Follow-up work on the No. 3 and No. 4 zone areas, governed by the results of the reconnaissance geochemistry, is recommended. This should consist of either an extension of the geochemical grid together with accompanying sampling, or closer spaced geochemistry around any anomalous areas discovered by Stage 1 work.

ESTIMATED COST

The estimated cost of the above recommended program is as follows:

STAGE 1

Direct Costs

(a)	600' of drifting on No. 1 vein 4300 level @ $60/ft.		$36,000
	Lay truck portal inwards - 500' plus 200' on dump		3,000
(b)	Six raises each 50' long - total of 300' @ $45/ft.		13,500
(c)	Sampling & assaying Drifting - 120 chip samples, 120 muck samples & 120 channel samples @ $10/sample	$3,600	
	Raising - 60 chip samples, 60 muck samples & 60 channel samples @ $10/sample	1,800	
	Freight on samples to Vancouver	100	5,500
(d)	Geochemistry - No. 3 & 4 zone area		2,000
(e)	Metallurgical investigations		1,000

Indirect Costs		Per Month	
(1)	Supervision	1,100	
(2)	Geology & engineering	1,000	
(3)	Camp expense	2,500	
(4)	Cookhouse & bunkhouse	2,500	
(5)	Expediting	800	
(6)	Travel expense	2,600	
(7)	Telephone & miscellaneous	500	
	Total	11,000 x 3 mos.	33,000

Move in & Move out

Renovate buildings & moving expense		4,000

Head Office Expense

(1)	Engineering & consulting fees	4,000	
(2)	Insurance, legal, licences & office expense	2,000	
(3)	Administration - 3 mos. @ $1200/mo. - say	4,000	10,000

Capital Expense

Portable crusher & splitter	1,000	
4 mine cars @ $500 each	2,000	
Second hand 1½ ton battery or air locomotive with accessories	5,000	8,000
Total		$116,000
Contingencies @ 8% - say		9,000
Total - Stage 1		$125,000

STAGE 2

Direct Costs

(a)	415' of drifting on No. 1 vein system @ $60/ft. or equivalent - if crosscut at lower elevation		25,000
(b)	3 raises each 50' long - total of 150 ft. @ $45/ft.		8,000
(c)	Sampling & assaying Drifting 100 chip samples, 100 muck samples & 100 channel samples @ $10/sample	3,000	
	Raising 30 chip samples, 30 muck samples & 30 channel samples @ $10/sample	900	
	Freight on samples to Vancouver	100	4,000
(d)	Geochemistry & follow-up work on No. 3 & No. 4 zones and/or new discoveries		12,000
(e)	Diamond drilling No. 2 vein - 4 holes each 350' long from 4300 drift (or equivalent on surface) - total 1,400' @ $7.00/ft. - say		10,000
(f)	Metallurgical test work		5,000

Indirect Costs

As in Stage 1 - $11,000 x 3 mos.	33,000

Move out	2,000
Head Office Expense	
As in Stage 1	10,000
Preliminary Feasibility Studies	5,000
Total	114,000
Plus contingencies @ 10% - say	11,000
Total Stage 2	$125,000

Respectfully submitted,

BACON & CROWHURST LTD.

J.J. Crowhurst

J.J. Crowhurst, P.Eng.

CERTIFICATE OF QUALIFICATIONS

I, John James Crowhurst, do hereby certify that:

1. I am a practising mining engineer with Bacon & Crowhurst Ltd., Ste. 102, 1111 West Georgia St., Vancouver, 5, 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 26 years.

4. I am a member of the Association of Professional Engineers of British Columbia, Registration No. 2120.

5. On November 7th, 8th and 9th, 1968, I visited the property of Anchor-Takla Mines Ltd.

6. I was employed by Highland Bell Mines Ltd. as General Manager during the period 1960-1967.

7. I, nor any member of my firm, have directly or indirectly received or expect to receive any interest direct or indirect in the property of the company or any affiliate, nor do I nor any member of my firm beneficially own directly or indirectly any securities of the company or any affiliate.

J.J. Crowhurst

J.J. Crowhurst, P.Eng.

Feb. 26, 1969.