

GEOCHEMICAL SURVEY

BEATRICE MINE

REVELSTOKE MINING DIVISION

BRITISH COLUMBIA

by

A. S. Ashton, P. Eng.

Delta,
British Columbia.

January 5, 1979.

7207

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Geochemical Silver)
Geochemical Lead)
)
	Back Pocket

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BEATRICE MINE
REVELSTOKE MINING DIVISION
BRITISH COLUMBIA

PART I

INTRODUCTION

During the period of July 20-27 inclusive, 1978, and September 7, 1978, Arch Mining and Milling Ltd. carried out a geochemical survey on five adjoining Crown Grants and leases. Lines were established at 120 metre intervals across the claims, eliminating slick and contaminated areas. Samples were taken along these lines at 30 metre intervals where soil could be obtained.

The samples were analyzed by Kamloops Research and Assay Laboratory Ltd. in Kamloops, B.C.

The purpose of the program was to attempt to extend and/or locate known showings on the claim group.

CONCLUSIONS

The area occurs within a favourable environment of a central mineralized belt between two former producers, the True Fissure and the Spider Mine of Sunshine Jardeau. Results, that is the initial results, indicate that a potential zone lies

south of the Beatrice mine and leading towards it. Preliminary indications show that values in lead, zinc and silver are above background. The area of potential strikes north-west and has a width in excess of 120 metres at its widest point.

RECOMMENDATIONS

It is recommended that further claims be staked around the group and further soil sampling be carried out to completely cover the zone of potential. At the same time, stripping and trenching should be carried out and, if results warrant, drilling should be carried out in the zone. The drilling can be carried out immediately after spring break-up.


COSTS

Stage I

	\$
Staking 18 units @ \$150 per unit	2,700.00
Geochemical Survey on expanded grid	5,000.00
<u>Preliminary Drilling</u> 500 metres @ \$70/metre	35,000.00
Engineering & Supervision	5,700.00
	<hr/> 50,000.00
Contingencies 10%	5,000.00
	<hr/>
Total:	\$55,000.00

<u>Stage II</u>	\$
Drilling 1500 metres @ \$70/metre	105,000.00
Engineering & Supervision	15,000.00
	<hr/>
	120,000.00
Contingencies 10%	12,000.00
	<hr/>
Total:	\$132,000.00
 Total of Stages I and II	 \$187,000.00
	<hr/> <hr/>

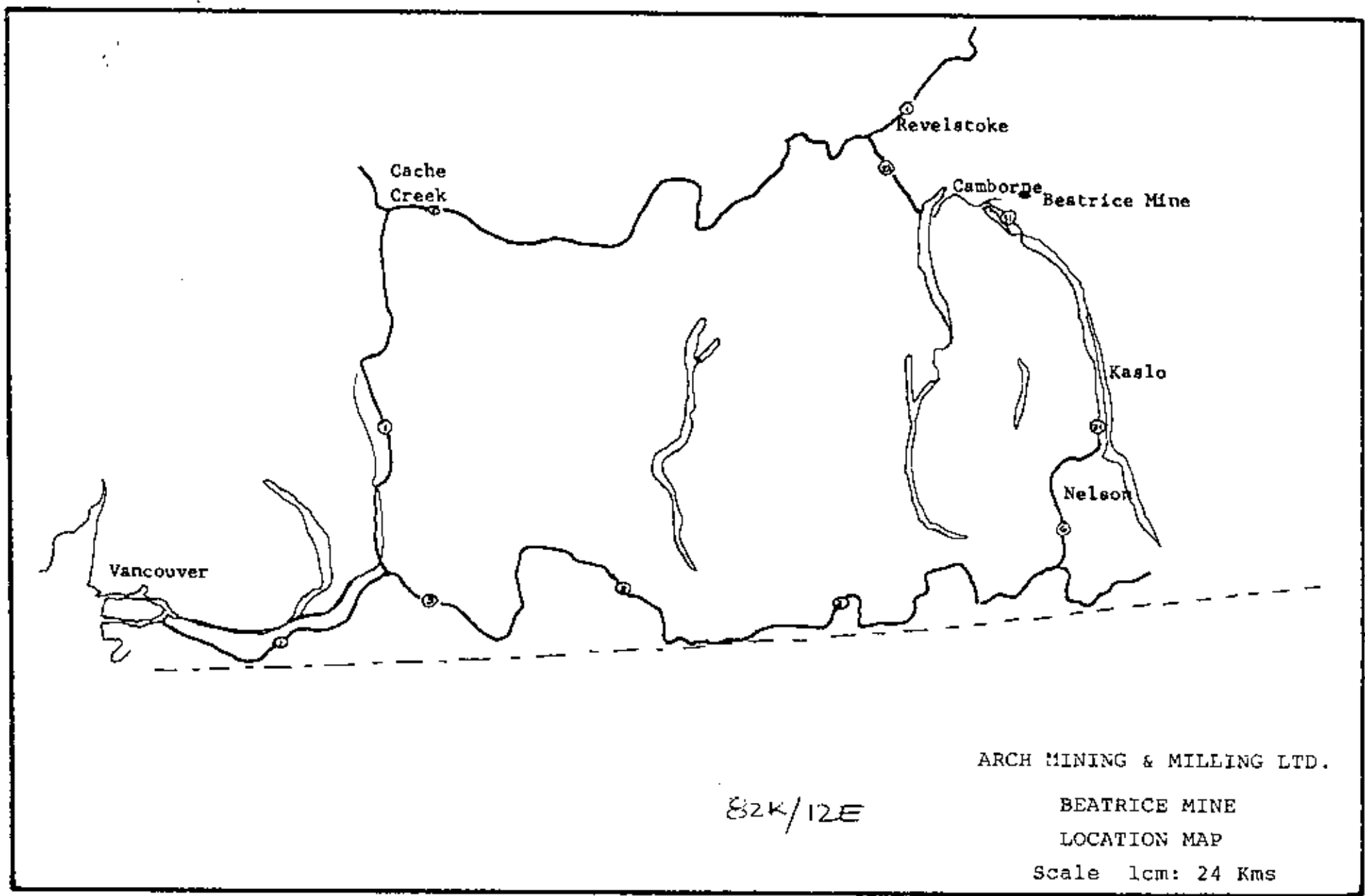
Respectfully submitted,



A. S. Ashton, P. Eng.

Delta,
British Columbia.

January 5, 1978.



Vancouver

Cache
Creek

Revelstoke

Camborne
Beatrice Mine

Kaslo

Nelson

ARCH MINING & MILLING LTD.

82K/12E

BEATRICE MINE

LOCATION MAP

Scale 1cm: 24 Kms

LOCATION & ACCESS

The claim group is situated at the head waters of the south-east fork of Mohawk Creek in the Lardeau District of the Revelstoke Mining Division. The camp is reached by an eleven kilometre access from Camborne and is at an elevation of 2,103 metres.

Camborne lies some 768 kilometres ENE of Vancouver and can be reached by road from Revelstoke, on the Trans Canada highway, south to the Galena Bay Ferry and south to Beaton and Camborne. The property can also be reached by road from Nelson north through Kaslo and Trout Lake to Beaton and Camborne.

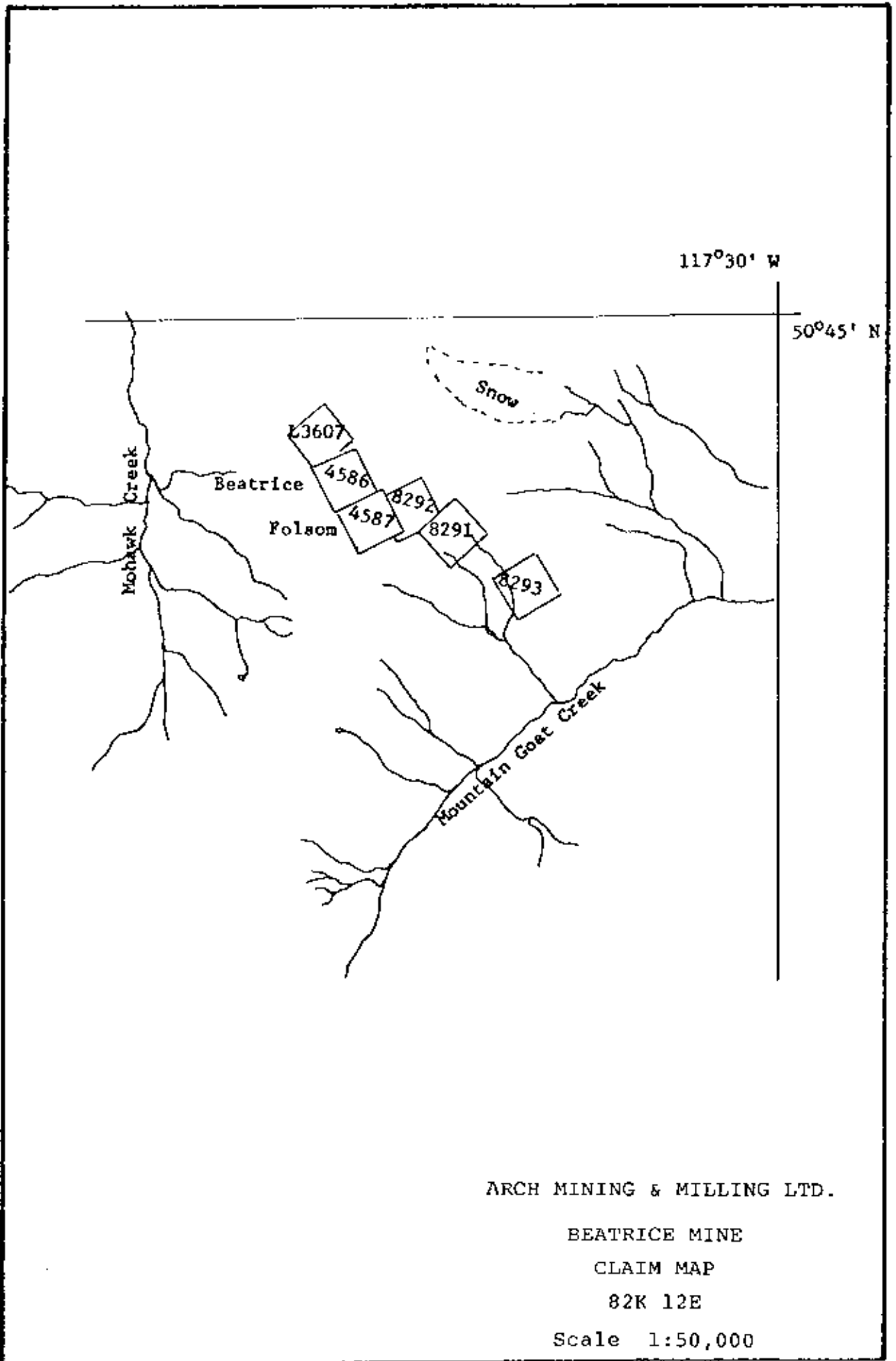
Access is good, although a four-wheel drive is preferable for the last eleven kilometres to the camp.

CLAIMS

As presently constituted, the property consists of two optioned Crown Grants and four Mineral Leases.

Crown Grant	Beatrice Folsom	Lot 4586 Lot 4587	<u>Formerly</u>
Mineral Leases	3607	11306	Donald O
	8291	11307	Maymie Mack
	8292	11308	Mina R
	8293	11309	Iron Mask

The claims are contiguous with the exception of Mineral Lease 8293 - 11309, which lies approximately a claim length south-east of the Main group.



ARCH MINING & MILLING LTD.

BEATRICE MINE

CLAIM MAP

82K 12E

Scale 1:50,000

The claims are shown on Department of Mines and Petroleum Resources Claim Map 82K/12E. They are in good standing at the present time.

HISTORY

The Beatrice and Folsom claims were staked in 1897 and Crown Granted about 1902. They were originally part of the Beatrice Group. During 1898 approximately 200 tons of ore, argentiferous galena, grey copper and sphalerite, were hand mined. Arrangements were made to raw hide this to Camborne. The mineralized outcrop was reported as 9 feet in width as indicated in the Minister of Mines' report of 1898.

The Minister of Mines' Report for 1900 reports that in the upper adit there is a continuous body of 'ore', galena and grey copper over an average width of 18 inches. Some 70 tons of this ore was shipped to Trail but much is scattered along the trail to Camborne.

Between 1901 and 1907 the property was operated by Beatrice Mines Limited and it is reported that 225 tons of ore had been shipped since the commencement of operations. During the period it was found that the fine grained intimately associated galena and sphalerite made a poor concentrate by cobbing, as the smelters extracted a heavy penalty for the zinc content.

From 1907 to 1910 there appear to have been no operations. In 1914, Newton Emmons, examining mining properties in the Lardeau for the Provincial Government stated "There are two veins on the Beatrice - one from 2 to 5 feet wide carrying fine grained sulphide ore consisting of an intimate mixture of galena, zinc blende, pyrite and grey copper assaying gold 0.25 oz/ton, silver 120.72 oz/ton, lead 17.42% and zinc varying from 10% to 23%."

During 1916 some further work was carried out on the property and in 1918 New Era Mines did some additional work. The complexity of the ore with its high zinc content made marketing difficult at that time and consequently discouraged further work.

In 1954 a private company, Beatrice Mines Ltd., rehabilitated the mine and during the next few years rebuilt the road but did little else.

In 1964 the property was optioned by Dakota Silver Mines Ltd. (N.P.L.). During this and the following year, limited work was carried out but the property seems to have been abandoned rapidly because of equipment left at the face and on the property.

Since 1964, the property has been dormant.

GEOLOGY

The Beatrice property lies in the central belt of the Lardeau District. The Lardeau District extends from the main line of the C.P.R., east of Revelstoke, southeast to the north end of Kootenay Lake. The belt is some twenty miles wide and seventy miles long. The regional structure of the district is a tightly folded major syncline striking north west. It is marked by the Badshot formation which is traceable on both flanks of the syncline. The syncline is flanked by granitic intrusions.

The sedimentary rocks of the central block are Precambrian age and consist of a series of metamorphosed sediments, schists, phyllites, slates, quartzites and limestones. Folding is isoclinal and intense with much associated shearing and minor faulting.

Mineralized belts or zones have been found along the strike of synclinal axis and associated with both limbs of the syncline. Ore zones are generally vein types cutting the formation at either low angles or right angles to the structures. Generally the veins are variable in strike and depth and consist of lead-zinc-silver zones or pyrite-gold quartz veins.

Replacement deposits of lead-zinc and low silver are generally found associated with limestone formations on the flanks of the syncline.

GEOCHEMICAL SURVEY

Lines were established on the claims at 120 metre intervals. Along these lines samples were taken at 30 metre intervals. Areas not sampled as indicated on the enclosed maps indicate areas of slide material or as on the Beatrice claim possibly contaminated zones. The samples were taken at depths as near as possible below the humus level.

The samples were analyzed by Kamloops Research and Assay Laboratory Ltd. of Kamloops, B.C. Samples were dried and screened with sample taken from the -80 mesh fraction. This was treated by hot acid extraction and the solution "read" by use of an Atomic Absorption unit.

Results are given in parts per million. The samples were read for zinc, lead and silver. One extremely high anomalous zone was indicated on the Mamie Mack, Mina R, Folsom and extending on to the Beatrice claim.

Zinc

Zinc is a highly mobile element which tends to produce high, wide anomalous conditions. In the present survey, the zinc values were not as high as had been expected from the amount of sphalerite which is indicated in the Beatrice workings. A relatively low zone is indicated in the valley bottom extending

to the Beatrice workings and is open to the south-east. Within this zone occur the other anomalous zones.

Lead-Silver

These two elements appear to be closely related, probably indicating the presence of argentiferous galena. Neither element is particularly subject to rapid breakdown or wide dispersion from its source. The lead indicates a strong, rather narrow zone on the Mamie Mack area and wider zones on the Mina R and the Folsom. These two zones are contained within the rather wider and more continuous zones of the silver anomaly.

Both the silver and lead anomalies are quite strong with well above the normal values usually found in silver-lead zones.

Respectfully submitted,


A. S. Ashton, P. Eng.

Delta,
British Columbia.

January 5, 1979.

REFERENCES

1. McDougall, B.W.W. P.Eng. - Examination Report on Beatrice Mine - 1954.
2. Sanders, K.G. P.Eng. - Examination Report on Beatrice Mine - 1964.
3. Gunning, H.C. Lardeau Map Area GSC. Mim 161 1929.

4. Minister of Mines Reports

<u>Year</u>	<u>Page</u>	<u>Year</u>	<u>Page</u>
1898	1063	1899	674
1900	813	1901	1022
1902	121	1903	107
1905	156	1906	136
1907	214	1914	266
1916	194	1917	449
1918	190	1919	140
1920	128-143	1921	128

Brief mention is also made in reports of
1954 - 58 inclusive
and 1964 - 65

Personnel:

A. S. Ashton, Delta, B.C.
M. Graham, Kaslo, B.C.

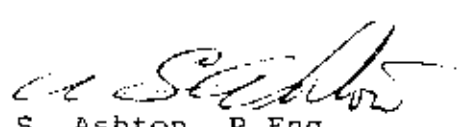
Period: July 20-27 and September 7, 1978.

Lines: 6830 metres cross lines
 1300 metres base line

Samples: 242

Work Costs:

Picketing lines & collecting samples @ \$150.00/ KM	\$ 1,020.00
Analyses of 242 samples @ \$1.50/sample	363.00
Report, maps, etc.	<u>1,000.00</u>
	<u>\$ 2,363.00</u>


A. S. Ashton, P.Eng.

Kamloops Research
&
Assay Laboratory
LTD.



B.C. CERTIFIED ASSAYERS

WEST TRANS CANADA HIGHWAY - ~~53X376~~ - KAMLOOPS, B.C. ~~K5X3X7~~
2095 PHONE 372-2784 TELEX 048-8320 VIS 1A7

GEOCHEMICAL LAB REPORT

Arch Mining,
Box 784,
Kaslo, B. C.

7207

DATE August 9, 1978.

ANALYST D.A.B.

FILE NO. G-236

KRAL No.	IDENTIFICATION	ppm Pb	ppm Zn	ppm Ag	KRAL No.	IDENTIFICATION	ppm Pb	ppm Zn	ppm Ag
1	BA 13	85	93	1.2	31	BE 8	41	32	1.7
	" 14	30	146	1.4		" 9	29	51	1.1
	" 15	23	16	.3		" 10	9	8	.6
	BB 0	48	64	.6		" 11	33	31	2.1
	" 1	37	51	.7		" 12	41	31	.6
	" 2	30	54	.4		" 13	45	28	.5
	" 9	33	112	.7		" 14	32	30	.3
	" 10	32	58	1.1		DR 1	54	134	1.3
	" 11	40	69	.6		" 2	50	120	.3
	" 12	30	35	.6		" 3	57	154	.5
γ	" 13	220	464	1.7		" 4	37	83	.5
	" 14	40	62	1.1		" 5	44	63	.3
	" 15	28	47	.5		" 6	42	23	.8
	BC 0	29	48	.3		" 7	58	152	.6
	" 1	16	20	.4		" 8	44	60	.5
	" 9	18	11	1.5		" 9	35	36	1.2
	" 10	51	53	.8		" 10	43	46	1.2
	" 11	25	26	.3		" 11	46	61	.7
	" 12	33	42	.5		" 12	52	53	.9
	" 13	47	58	.8		" 13	105	95	.6
	" 14	45	30	.7		" 14	62	54	1.1
	BD 9	38	233	1.1		" 15	43	51	.6
	" 10	26	42	.2		FA 0	34	52	.4
κ	" 11	49	334	1.4		" 1	45	99	.3
	" 12	35	30	.4		" 2	31	94	.1
	" 13	30	16	.9		" 3	27	20	.8
	" 14	30	23	.3		" 4	28	82	.1
	BE 5	36	57	1.1		" 5	58	127	.6
	" 6	36	37	1.4	x	" 6	63	318	1.2
30	BE 7	39	35	1.1	60	FA 7	150	185	2.3

Kamloops Research & Assay Laboratory Ltd.

GEOCHEMICAL LAB REPORT

 FILE NO. G-236

 PAGE 2.

KRAL No.	IDENTIFICATION	ppm Pb	ppm Zn	ppm Ag	KRAL No.	IDENTIFICATION	ppm Pb	ppm Zn	ppm Ag
61	FA 8	27	31	2.3	95	FC 10	36	28	.4
	" 9	31	48	.1		" 12	34	41	.7
	" 10	32	25	.9		" 13	14	9	1.4
	" 11	42	50	.1		" 14	36	35	.5
	" 12	78	132	.7		" 15	64	60	.5
	" 13	40	56	.8		FD 0	53	157	1.8
	" 14	85	225	1.1		" 1	90	113	2.1
	" 15	49	53	.4		" 2	106	176	2.2
	FB 0	63	110	.4	X	" 3	231	143	2.4
	" 1	28	40	.2		" 4	58	95	.7
	" 2	56	71	.3		" 5	59	86	.6
X	" 3	184	162	1.5		" 6	27	18	.3
	" 4	50	82	1.3		" 7	43	48	.8
	" 5	128	96	6.7		" 8	37	42	.5
	" 6	79	67	.9		" 9	30	42	.5
	" 7	56	119	.3		" 10	31	26	.3
	" 8	18	18	2.2		" 11	27	23	.6
	" 9	35	57	.7		" 12	42	68	.4
	" 10	29	54	.7		" 14	37	39	.5
	" 11	27	72	.4		" 15	23	17	.7
	" 12	19	15	.6	X	FE 0	116	236	1.2
	" 13	43	44	.8		" 1	144	66	1.6
	" 14	45	30	.4		" 2	62	54	.6
	" 15	60	56	.5		" 3	64	28	.9
	FC 0	85	106	1.1		" 4	51	151	1.7
X	" 1	146	187	4.5		" 5	27	46	.5
	" 2	236	88	2.1		" 6	29	29	.5
	" 3	131	146	.9		" 7	31	28	.4
X	" 4	132	188	1.6		" 8	48	61	.9
	" 5	44	29	1.6		" 9	48	85	.3
	" 6	59	155	2.0		" 11	48	65	.8
	" 7	37	60	.6		" 12	29	28	.6
X	" 8	120	353	1.6		" 13	46	51	.7
94	FC 9	28	68	.5	128	FE 15	81	84	.8

Kamloops Research & Assay Laboratory Ltd.

GEOCHEMICAL LAB REPORT

FILE NO. G-236

PAGE 3

KRAL No.	IDENTIFICATION	ppm Pb	ppm Zn	ppm Ag	KRAL No.	IDENTIFICATION	ppm Pb	ppm Zn	ppm Ag
129	X MMA 0	1053	127	12.0	163	MMC 11	17	10	.7
	" 1	133	155	2.5		MRC 1	35	47	.4
	" 2	85	76	2.8		MRD 1	125	115	3.6
	" 3	43	66	3.3	X	" 2	391	179	3.0
	" 4	43	88	.6	X	" 3	788	134	4.1
	" 5	86	90	1.0		" 4	75	170	.3
	" 6	12	16	.1		" 5	28	52	.2
	" 7	41	91	.7		" 6	9	9	.4
	" 8	35	71	.8		" 7	33	67	.6
	" 9	53	93	.6		" 8	54	108	.6
	" 10	36	86	.1		" 9	41	70	.3
X	MMB 0	160	200	3.1		" 10	33	51	.2
	" 1	79	167	1.4		" 11	48	71	.7
X	" 2	323	117	3.3	X	MRE 1	164	272	1.8
	" 3	99	59	1.3	X	" 2	354	280	3.1
	" 4	59	42	.6	X	" 3	768	131	6.6
	" 5	31	59	.3	X	" 4	198	220	2.6
	" 6	48	114	.6		" 5	87	119	.7
	" 7	51	193	2.1		" 6	71	130	.6
	" 8	43	74	.6		" 7	71	132	.5
	" 9	45	89	.7		" 8	57	66	.7
	" 10	28	50	.4		" 9	55	88	1.0
	" 11	45	78	.7		" 10	43	97	.3
X	MMC 0	647	117	9.0		" 11	49	92	.4
	" 1	131	128	1.7		Y 1	11	5	2.6
X	" 2	442	197	6.0	X	Y 2	127	178	5.5
	" 3	45	91	1.1		Y 3	61	108	4.6
	" 4	55	95	.6	190 X	Y 4	79	304	2.8
	" 5	44	78	.5					
	" 6	47	68	.6					
	" 7	42	95	.5					
	" 8	43	86	.8					
	" 9	27	26	.9					
162	MMC 10	36	72	.2					

Method: -80 Mesh
Hot Acid Extraction
Atomic Absorption

Kamloops Research
&
Assay Laboratory
LTD.



B.C. CERTIFIED ASSAYERS

2095 WEST TRANS CANADA HIGHWAY - KAMLOOPS, B.C. V1S 1A7
PHONE 372-2784 . TELEX 048-8320

GEOCHEMICAL LAB REPORT

DATE September 15, 1978.

ANALYST D.A.B.

FILE NO. G-249

Arch Mining,
Box 784,
Kaslo, B. C.

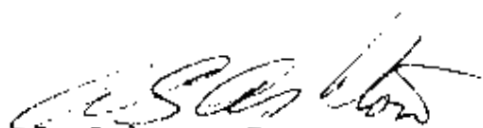
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	W 1	1.4	183	123		Z 14	.7	32	63
	W 2	5.8	514	288		Z 15	.2	36	79
	W 3	4.3	1223	18		ZA 0	16.0	1123	184
	W 4	1.1	28	44		ZA 1	1.0	96	79
	W 5	1.6	41	46		ZA 2	.8	61	45
	W 11	1.5	61	122		ZA 3	1.0	32	35
	W 12	.9	210	124		ZA 4	.8	22	31
	W 13	1.0	44	77		ZA 5	.6	41	32
	W 14	.7	31	70		ZA 6	.9	38	56
	XEO	2.6	96	133		ZB 0	2.5	178	183
	Y 1	5.3	67	25		ZB 1	4.0	689	248
	Y 2	1.5	58	33		ZB 2	8.5	82	38
	Y 3	1.8	85	101		ZB 3	1.0	72	73
	Y 4	1.1	77	123		ZB 4	.6	32	55
	Y 5	.9	67	61		ZB 5	1.4	102	174
	Y 11	10.3	495	206		ZB 6	.6	29	63
	Y 12	2.4	427	179		ZC 1	1.1	101	142
	Y 13	.8	110	87		ZC 2	3.0	143	116
	Y 14	4.8	403	14		ZC 3	1.8	57	69
	Y 15	.6	61	61		ZC 4	1.3	69	148
	Z 0	5.2	182	189	52	ZC 5	.8	91	93
	Z 1	2.9	149	180					
	Z 2	6.5	132	28					
	Z 3	4.8	175	128					
	Z 4	.9	63	101					
	Z 5	.8	29	45					
	Z 6	.8	61	51					
	Z 11	1.5	140	128					
30	Z 12	1.8	133	142					

Method: -80 Mesh
Hot Acid Extraction
Atomic Absorption

CERTIFICATE OF QUALIFICATIONS

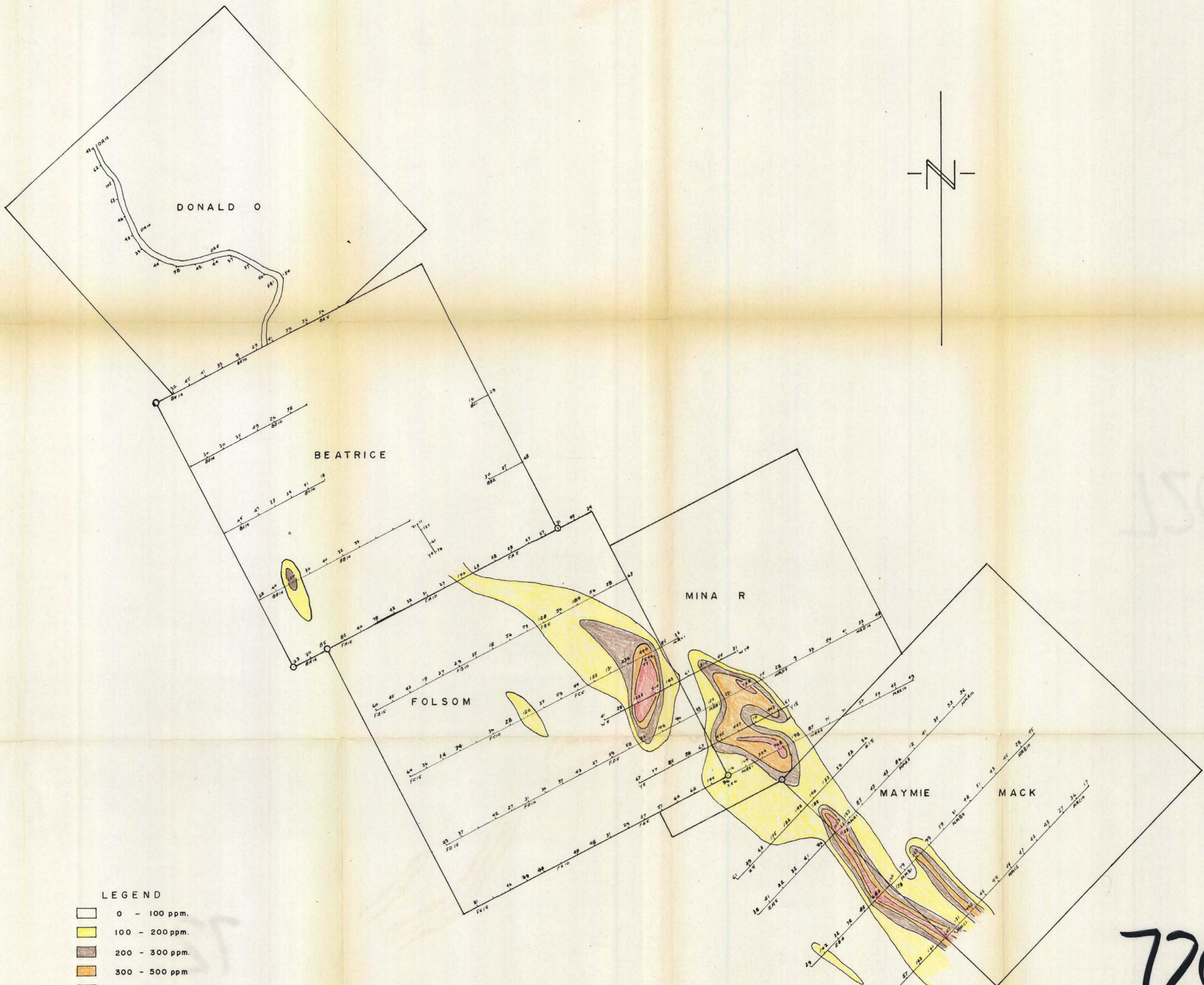
I, Arthur Sydney Ashton, do hereby certify that:

1. I am a practising geological engineer with a residence at 5441 - 7B Avenue, Delta, British Columbia.
2. I am a graduate of the University of Toronto and have been granted the degree of Bachelor of Applied Science.
3. I have been practising my profession as a geological engineer for thirty years.
4. I am a member of the Association of Professional Engineers of British Columbia and a member of the Association of Professional Engineers of Ontario.
5. The report is based on several visits to the property during 1977 and 1978.
6. I have no interest in Arch Mining & Milling Ltd., nor the mining property.


A. S. Ashton, P. Eng.

Delta,
British Columbia.

January 5, 1979.



LEGEND

- 0 - 100 ppm.
- 100 - 200 ppm.
- 200 - 300 ppm.
- 300 - 500 ppm.
- 500 + ppm.

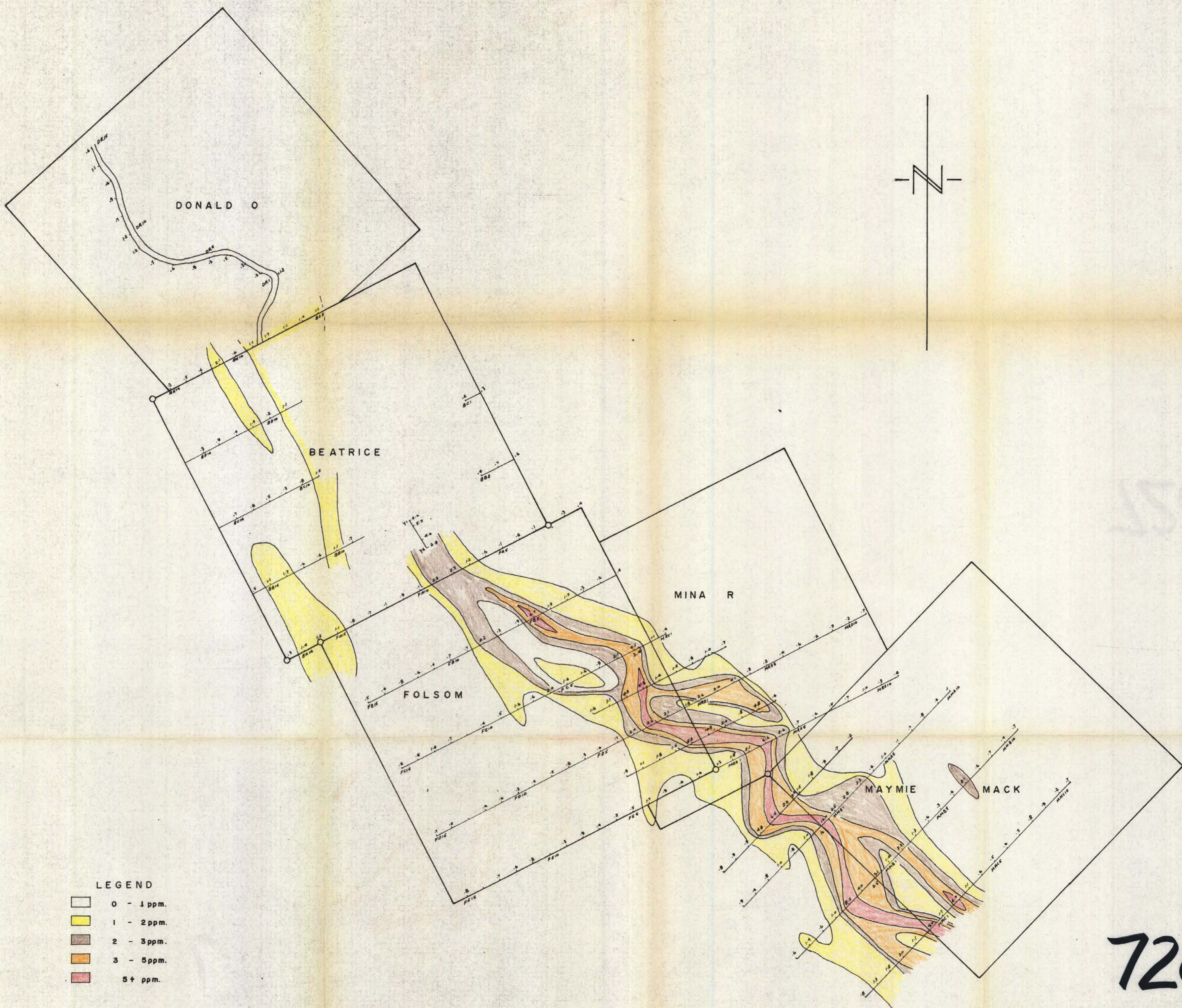
7207

ARCH MINING & MILLING LTD.
GEOCHEMICAL SURVEY
LEAD PPM

Scale 1 : 3000

To Accompany Report by A.S. ANTON P. ENG.

Jan 1979



LEGEND

White	0 - 1 ppm.
Yellow	1 - 2 ppm.
Light Brown	2 - 3 ppm.
Orange	3 - 5 ppm.
Red	5+ ppm.

7207

ARCH MINING & MILLING LTD.
 GEOCHEMICAL SURVEY
 SILVER PPM
 Scale 1 : 3000

To Accompany Report by A.S. Denton P.E. *AS Denton*
 Jan 1979