COMINCO LTD.

EXPLORATION
NTS 92 H/15E

WESTERN DISTRICT
January 10, 1979

ASSESSMENT REPORT OF

PERCUSSION DRILLING ON THE GROVE PROPERTY

(Snowflake, Snowflake 2-6 and Tule 10 Claims)

ASPEN GROVE AREA, NICOLA M.D.

(Work performed February 14 - May 16, 1978)

LATITUDE: 49°58'N

LONGITUDE: 120°36'W

REPORT BY: M.J. OSATENKO

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ATTACHMENTS

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SUMMARY

The Grove property is located 22 km southeast of Merritt, B.C. and 5 km north of Aspen Grove, B.C. It was acquired by option from Snowflake Mining Ltd. in 1977 after it became apparent that many features characteristic of the Afton deposit area are present on the property.

Compilation of existing data and limited mapping in 1977 revealed two poorly tested IP targets adjacent to favourable structures and known copper showings. Percussion drilling in 1978 on these two targets (14 holes, 4200')[1] showed extensive zones of pyrite (areas of moderate to strong IP response) along a diorite - monzonite contact with Nicola basaltic rocks. Low grade copper mineralization was encountered in the southern target at the bottom of two holes (110' of 0.07% and 50' of 0.07%) in an area where Craigmont drilling showed increasing copper grades with depth (60' of 0.26% and 80' of 0.12% copper at the bottom of 320 and 250 foot holes respectively). This zone of interest is greater than 730 x up to 120 m. Logging of percussion chips indicates that the copper minerals are native copper and chalcopyrite with virtually no pyrite so the flanks of the IP anomalies are likely the areas of best potential.

It is recommended to do line cutting, mapping, ground magnetics, IP and soil geochemistry to better define and up-grade existing targets and locate new ones for percussion drilling.

INTRODUCTION

The Grove property (Snowflake group) was examined and recommended for option in June 1977 on the basis of its similarities to the area of the Afton deposit.

Work done in 1977, by M.J. Osatenko and B.G. Ames, included a two day visit to the property and a compilation of the available data from the property owners. Two targets, principally IP anomalies adjacent to copper showings and favourable structures, were defined and in late February 1978 14 percussion holes were drilled to test these two zones of interest.

1. All drill hole measurements are in feet.

LOCATION AND ACCESS

The property is located 22 km southeast of Merritt, B.C. and 5 km north of Aspen Grove, B.C. on the east side of Highway 5 (Plate 1). It takes about 20 minutes to drive from Merritt to the property. Access off Highway 5 is by two dirt roads, one just to the south of the pond on Lot 385 and the other (gate locked) just to the north. Permission can be obtained from the Douglas Lake Cattle Company for use of this road.

The working season is from the middle of April to the middle of October.

TOPOGRAPHY AND VEGETATION

The property covers rolling ranchlands with clumps of aspens and small areas of good fir and pine. Elevations range from 1040 to about 1160 m with good outcrop in areas above 1100 m. Water for drilling was obtained from Courtenay Lake but in the spring water might be available from the pond on Lot 385.

PROPERTY AND OWNERSHIP

The Grove property (Nicola Mining Division) is owned by Snowflake Mining Ltd.

Claim	Record Number	Number of Units	Date Recorded	Date Due	Owner
Snowflake	8	6	May 13, 1975	May 13, 1979	F. Gingell
Snowflake 2	93	4	April 14, 1976	April 14, 1980	F. Gingell
Snowflake 3	167	6	April 20, 1976	April 20, 1980	B. Yorke-Hardy
Snowflake 4	211	8	Feb. 11, 1977	Feb. 11, 1979	F. Gingell
Snowflake 5	212	2	Feb. 11 1977	Feb. 11, 1979	F. Gingell
Snowflake 6	321	6	Sept. 16, 1977	Sept. 16, 1980	*
Tule 10	322	4	Sept. 16, 1977	Sept. 16, 1980	*

* Staked by Cominco but part of the Grove agreement.

N.B.

The ownership of the base metal mineral rights of the old crown granted claim (Lot 385 see Plate 2), in the west-central part of the property, is in dispute with the Douglas Lake Ranch claiming ownership but unable to prove it. Cominco title searches confirm that the original crown grant of 1887 did have base metal rights but between 1887 and 1954 (when Douglas Lake acquired the property) it is believed (by H. Nesbitt, local prospector) the property changed hands at least four times so it is conceivable that somewhere along the line the base metal rights may have been separated from the original crown grant.

PREVIOUS WORK

The area of the Grove property has had a long history of work but prior to 1958 no work was filed with the government and, hence, none is available for review. In 1958 Granby acquired the property and did a ground magnetic survey (assessment report 250) but dropped the property. Between 1958 and 1968 Harry Nesbitt, a local prospector, staked the area and drilled 2 deep holes and 2 shallow holes (Personal Communication H. Nesbitt, no results available). In 1968 Ashland Oil optioned the property from Nesbitt and did IP, ground magnetics and mapping? (assessment report 1842). The IP data were encouraging but no further work was done.

Work by Rio Tinto in 1971 consisted of mapping and ground magnetics (assessment report 3555) but again no drilling was undertaken. In 1972 Craigmont optioned the property from Nesbitt and drilled 19 percussion holes into parts of the IP anomalies located by Ashland Oil. Results were discouraging (numerous 100 foot intersections of 0.03% copper; best hole 60 feet at the bottom of hole BJP 7 which ran 0.26% copper) and the property eventually lapsed in 1975. It was then acquired by F. Gingell and B. Yorke-Hardy who have up-graded the property with copper-silver soil geochemical and VLF surveys (assessment reports 5875 and 6260).

GEOLOGY

The best geology map of the property is that of Preto (1974, sheet 4, map 15) with some useful information from the Rio Tinto mapping in 1971 (assessment report 3555). Plate 2 shows the main geological features of the northern parts of the Grove property.

The Nicola basaltic rocks (unit 1) comprise the oldest rocks in the area (Upper Triassic age) and consist of fine grained red and green basalt flows, augite porphyry flows and tuffs. Augite porphyries typically contain 15% medium grained augite phenocrysts in a fine grained green matrix. Pyrite is abundant (up to 8%) in these rocks, especially along the north and east sides of the diorite-monzonite complex. Rocks of unit 2 consist of fine grained diorite and are altered in part to chlorite, epidote, albite, calcite and secondary K-feldspar, principally near copper mineralization. Monzonites (unit 3) are fine to medium grained and porphyritic. Pyrite is abundant in both the diorite and monzonite, mainly along fractures but some as disseminations.

MINERALIZATION

Mineralization in old trenches consists of native copper, chalcocite, chalcopyrite, bornite and malachite (Plate 2). The lack of iron oxides and clay in these outcrops suggests that the native copper and chalcocite are not of supergene origin but primary and probably formed in a sulfide deficient environment, much like Afton.

Copper grades range from 0.06 to 1.6% with the best mineralization along the east side of Lot 385 (0.29% copper in boulders over 45 m at bottom of trench) and about 365 m south-southeast of the southeast corner of this lot (up to 1.6% copper over 3 m). In addition to the showings in

Plate 2 five others occur on the property (two to the north and three to the south). These have not been examined in detail but native copper, chalcocite and chalcopyrite are present.

GEOPHYSICS

The IP (n = 1, 100 foot separation) data are given in Plate 2 (data from Assessment Report 1842). Three areas of significant responses (greater than 3.0% frequency effect) are indicated. The first (2,000 x greater than 365 m) occurs over the main dioritic mass about 245 m east of Lot 385 while the second (1,700 x 365 m) is found 975 m east of the lot with the third one (600 x greater than 305 m) in the southern part of the property. The first anomaly has been extensively percussion drilled (34 holes) by Craigmont and Cominco with only minor encouragement, mainly along the flanks of the IP anomalies. The second area of IP response occurs along the east side of the diorite stock and is in an area of poor exposure, but the outcrops present are pyritic with minor chalcopyrite. The third anomaly has not been mapped but a few copper showings have been mapped by Preto (1974).

PERCUSSION DRILLING

Fourteen percussion holes were drilled (4200 feet) in February 1978 and are located in Plate 2.

Appendix "A" shows the results of a microscopic examination of chips from 79, 10 foot sections from all fourteen holes for rock type, amount of sulfides and alteration types. It is apparent that the drilling for the most part was in the diorite-monzonite complex or very close to it. The pyrite contents correlate well with the observed IP response, with the areas of best intersected copper mineralization (native copper and chalcopyrite in C78-7 and C78-13) occurring in an area of no pyrite, i.e. flank of IP response.

All chip samples examined have chlorite, epidote and carbonate which may be related to hydrothermal alteration in part but most is believed to have formed by regional metamorphism. In the table only those minerals which appear to be in above background concentrations are recorded. No patterns of epidote alteration are apparent. It is noteworthy that hydrocarbons are present in C78-10, the significance of which is not understood.

Appendix "B" shows the copper and zinc assays for 10 foot sections while Appendix "C" gives the tungsten, gold and silver values for composite samples from all holes. Only two showed minor copper mineralization (C78-7, 12-190' at 0.04% and 190-300' at 0.07% copper and C78-13, 40-250' at 0.04% and 250-300' at 0.07%). Previous drilling by Craigmont showed three holes with indications of increasing copper grades with depth (BJP7, 45-260' at 0.02% and 260-320' at 0.26%; BJP1, 170-250' at 0.12% and BJP4, 10-180' of 0.01% and 180-250' at 0.03%) in the same area as the low grade mineralization found by Cominco. These five holes define an area of interest that is greater than 730 x up to 120 m (Plate 2). Zinc was run as alkaline porphyries, like their calc-alkaline counterparts, often have pronounced halos of geochemical enrichment. The values for the most part are background (less than 150 ppm) with only one hole (C78-3) showing strongly anomalous zinc values (up to 510 ppm). This hole is in an area of poor exposure but underlain by favourable diorite-monzonite rocks and IP responses (poorly tested by drilling).

Tungsten, gold and silver values are essentially background i.e. less than 2 ppm, less than 10 ppb and less than 0.4 ppm respectively (Appendix "C").

CONCLUSIONS

1. Percussion drilling encountered low grade copper mineralization in two holes (110' of 0.07% and 50' of 0.07% in diorite and monzonite) in an area where Craigmont drilling showed increasing copper grades with depth (60' of 0.26% and 80' of 0.12% copper at the bottom of two holes). The area is greater than 730 x up to 120 m.

2. Mineralization encountered in the drilling is native copper and chalcopyrite with no associated pyrite (as at Afton) so the flanks of the IP responses are likely the areas of best potential.

3. Drilling confirms that the large, strong IP anomalies are due to pyrite. In view of the now recognized potential for copper mineralization along the flanks of the IP anomalies the ground to the north and south of the area showing increasing copper grade with depth (area 1, Plate 2), the area on the east side of the diorite-monzonite stock (area 2) and also the area on the east side of the easterly most IP response (area 3) offer good targets for Afton type deposits.

RECOMMENDATIONS

1. To do 21 line km of new grid, mapping, ground magnetics, IP and copper soil geochemistry to better define and up-grade existing targets and locate new ones for percussion drilling.

2. To diamond drill the area showing higher copper values at depth just east of the eastern boundary of Lot 385.

REFERENCES

1. Preto, V., 1974, Geology of Aspen Grove Area, B.C., Map 15 sheet 4, Ministry of Mines and Petroleum Resources.

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APPENDIX "A"

ROCK TYPES, SULFIDES AND ALTERATION ASSEMBLAGES OF SELECTED PERCUSSION HOLE SAMPLES

Percussion Hole	(footage)	Rock Types	Sulfides	Alteration (or metamorphic assemblage)
C78-1	120-130	MD	½% py	---
	160-170	MD	3-4% py	---
	200-210	MD	3-4% py	---
	240-250	MD	2% py	---
	280-290	MD	2% py	---
C78-2	90-100	MD, B	tr py	hematite
	130-140	MD, B	N.V. py	---
	170-180	MD, B	N.V. py	---
	210-220	MD	N.V. py	---
	250-260	MD	N.V. py	---
	290-300	B, MD	N.V. py	---
C78-3	38-50	MD	3% py	epidote
	80-90	MD	2% py	epidote
	120-130	MD	1-2% py	epidote
	160-170	MD	2% py	epidote
	210-220	MD	tr py	epidote
	260-270	MD	1% py	epidote
	290-300	MD	2% py	epidote
C78-4	50-60	MD, B	tr py	---
	90-100	MD	½% py	---
	130-140	MD	N.V. py	---
	170-180	MD, B	N.V. py	---
	210-220	B, MD	½% py	---
	250-260	MD	½% py	---
C78-5	30-40	MD	½% py	---
	70-80	B	tr py	---
	110-120	MD, B	N.V. py	---
	150-160	B, MD	½% py	epidote
	190-200	B, MD	N.V. py	epidote
	230-240	B, MD	N.V. py	epidote

Percussion Hole	(footage)	Rock Types	Sulfides	Alteration (or metamorphic assemblage)
C78-6	80-90	MD	½% py	hematite
	130-140	MD	½% py	---
	180-190	MD	1% py	---
	220-230	MD	½% py	---
	260-270	MD	2% py	---
C78-7	40-50	MD	N.V. py	---
	70-80	MD	N.V. py	---
	110-120	MD	N.V. py	epidote
	180-190	MD	N.V. py, Native copper	epidote
	220-230	MD	N.V. py, Native copper	epidote
	250-260	MD	N.V. py, tr cpy	epidote
	290-300	MD	N.V. py, tr cpy, bn	epidote
C78-8	90-100	B	N.V. py	hematite
	140-150	B	N.V. py	hematite
	190-200	B	N.V. py	hematite
	240-250	B	N.V. py	hematite
	280-290	B	N.V. py	hematite
C78-9	40-50	MD, B	½% py	---
	80-90	MD	½% py	---
	120-130	MD, B	½% py	---
	120-180	B, MD	tr py	---
	220-230	B, MD	N.V. py	---
	270-280	B	tr py	epidote
C78-10	90-100	MD	8% py	hydrocarbons
	130-140	MD	25% py	hydrocarbons
	180-190	MD	2% py	---
	220-230	MD	½% py	hydrocarbons
	250-260	MD	2% py	---
	290-300	MD	2% py	---
C78-11	40-50	B, MD	N.V. py	epidote
	80-90	B	tr py	epidote
	120-120	B	2% py	epidote
	170-180	B	N.V. py	epidote
	220-230	B	tr py	epidote
	270-280	MD?	tr py	epidote

Percussion Hole	(footage)	Rock Types	Sulfides	Alteration (or metamorphic assemblage)[1]
C78-12	60-70	B	N.V. py	hematite
	110-120	B	½% py	---
	120-180	B	N.V. py	hematite
	240-250	B	N.V. py	epidote
C78-13	80-60	B?, MD?	tr py	---
	100-110	B, MD?	N.V. py	---
	150-160	MD	N.V. py	---
	200-210	MD?	N.V. py	---
	250-260	MD	tr py, tr cpy	---
	280-290	MD?	cpy, tr py	---
C78-14	130-140	MD?	tr py	---
	190-200	MD	tr py	---
	240-250	MD	N.V. py	---
	290-300	B	N.V. py	epidote

N.B.

B	basalt
MD	monzonite, diorite
cpy	chalcopyrite
bn	bornite
N.V. py	no visible pyrite

1. All samples examined contain chlorite, epidote and carbonate. Minerals noted are above background concentrations.

APPENDIX "B"

GROVE PROPERTY CU AND ZN ASSAYS FOR 10 FOOT PERCUSSION SAMPLES *

Percussion Hole	(footage)	Cu (ppm)**	Zn (ppm)
C78-1	104-120	108	90
	120-130	95	90
	130-140	99	114
	140-150	94	98
	150-160	85	105
	160-170	134	153
	170-180	164	180
	180-190	88	92
	190-200	90	80
	200-210	97	93
	210-220	96	93
	220-230	92	89
	230-240	78	85
	240-250	93	90
	250-260	100	95
	260-270	104	96
	270-280	92	97
	280-290	86	94
	290-300	79	90
C78-2	68-80	69	48
	80-90	15	60
	90-100	31	42
	100-110	13	43
	110-120	30	54
	120-130	20	60
	130-140	74	64
	140-150	42	66
	150-160	30	75
	160-170	8	202
	170-180	9	276
	180-190	22	209
	190-200	115	93
	200-210	176	131
	210-220	110	106
	220-230	44	76
	230-240	35	87
	240-250	58	140
	250-260	45	82
	260-270	46	60
	270-280	82	74
	280-290	106	77
	290-300	56	59

* Analytical Methods (Cominco Laboratory)

Cu, Zn and Ag determined by atomic absorption after an aqua regia digestion. W by pyrosulfate fusion then finshed with a Zn dithiol colorimetric procedure. Au determined by first roasting then aqua regia digestion followed by concentration into DIBK (aliquot 336) and then atomic absorption. Coefficients of variation 10-15 percent.

** 1000 ppm = 0.1%

Percussion Hole	(footage)	Cu (ppm)	Zn (ppm)
C78-3	38-50	118	109
	50-60	114	113
	60-70	122	339
	70-80	124	97
	80-90	108	91
	90-100	114	94
	100-110	102	112
	110-120	104	97
	120-130	122	87
	130-140	100	75
	140-150	109	77
	150-160	120	88
	160-170	105	95
	170-180	121	101
	180-190	103	305
	190-200	56	510
	200-210	48	247
	210-220	80	276
	220-230	98	207
	230-240	110	144
	240-250	104	160
	250-260	94	110
	260-270	93	140
	270-280	90	214
	280-290	91	257
	290-300	102	380
C78-4	36-50	48	65
	50-60	62	89
	60-70	96	81
	70-80	77	166
	80-90	36	130
	90-100	64	83
	100-110	49	69
	110-120	120	65
	120-130	91	61
	130-140	133	50
	140-150	69	55
	150-160	82	52
	160-170	74	59
	170-180	94	58
	180-190	53	67
	190-200	228	56
	200-210	246	56
	210-220	112	49
	220-230	68	56
	230-240	154	178
	240-250	50	119
	250-260	72	182
	260-270	88	48
	270-280	76	53
	280-290	73	46
	290-300	68	79

Percussion Hole	(footage)	Cu (ppm)	Zn (ppm)
C78-5	16-30	76	54
	30-40	127	58
	40-50	113	57
	50-60	104	60
	60-70	83	86
	70-80	160	115
	80-90	142	101
	90-100	88	76
	100-110	90	75
	110-120	99	93
	120-130	76	84
	130-140	112	84
	140-150	112	86
	150-160	138	84
	160-170	146	80
	170-180	116	88
	180-190	94	70
	190-200	98	72
	200-210	135	67
	210-220	93	63
	220-230	115	56
	230-240	112	59
	240-250	133	80
	250-260	127	70
	260-270	160	63
	270-280	229	61
	280-290	150	63
	290-300	87	65
C78-6	65-80	66	92
	80-90	94	143
	90-100	116	142
	100-110	100	135
	110-120	88	119
	120-130	86	115
	130-140	92	118
	140-150	74	103
	150-160	79	108
	160-170	80	90
	170-180	90	91
	180-190	70	90
	190-200	90	85
	200-210	80	93
	210-220	71	83
	220-230	69	79
	230-240	84	93
	240-250	59	86
	250-260	45	75
	260-270	71	90
	270-280	71	88
	280-290	46	70
	290-300	61	79

Percussion Hole	(footage)	Cu (ppm)	Zn (ppm)
C78-7	12-30	113	96
	30-40	168	97
	40-50	188	113
	50-60	387	91
	60-70	334	99
	70-80	400	105
	80-90	420	108
	90-100	430	81
	100-110	486	80
	110-120	465	95
	120-130	290	101
	130-140	440	102
	140-150	440	84
	150-160	339	75
	160-170	315	89
	170-180	340	103
	180-190	560	90
	190-200	865	84
	200-210	630	90
	210-220	505	90
	220-230	530	94
	230-240	670	97
	240-250	690	86
	250-260	1000	84
	260-270	855	84
	270-280	790	74
	280-290	580	70
	290-300	600	71
C78-8	59-70	40	71
	70-80	11	82
	80-90	338	83
	90-100	94	79
	100-110	50	75
	110-120	34	61
	120-130	55	71
	130-140	40	63
	140-150	54	74
	150-160	116	66
	160-170	74	66
	170-180	75	75
	180-190	35	73
	190-200	46	67
	200-210	52	70
	210-220	104	70
	220-230	280	63
	230-240	103	57
	240-250	100	65
	250-260	53	80
	260-270	80	63
	270-280	108	64
	280-290	71	72
	290-300	78	66

Percussion Hole	(footage)	Cu (ppm)	Zn (ppm)
C78-9	15-30	100	106
	30-40	273	100
	40-50	173	114
	50-60	212	107
	60-70	158	87
	70-80	144	67
	80-90	148	76
	90-100	114	88
	100-110	194	153
	110-120	384	232
	120-130	290	154
	130-140	205	94
	140-150	255	85
	150-160	184	80
	160-170	102	70
	170-180	90	72
	180-190	210	88
	190-200	215	78
	200-210	305	90
	210-220	225	82
	220-230	162	97
	230-240	125	102
	240-250	155	80
	250-260	196	70
	260-270	230	66
	270-280	302	59
	280-290	270	62
	290-300	220	70
C78-10	62-80	97	106
	80-90	88	139
	90-100	58	106
	100-110	30	75
	110-120	37	66
	120-130	36	50
	130-140	44	54
	140-150	55	90
	150-160	102	90
	160-170	97	95
	170-180	113	83
	180-190	65	73
	190-200	82	82
	200-210	36	110
	210-220	63	78
	220-230	40	61
	230-240	21	54
	240-250	29	48
	250-260	32	40
	260-270	31	46
	270-280	22	51
	280-290	46	52
	290-300	70	52

Percussion Hole	(footage)	Cu (ppm)	Zn (ppm)
C78-11	18-30	125	89
	30-40	98	72
	40-50	62	66
	50-60	97	122
	60-70	88	310
	70-80	79	106
	80-90	52	78
	90-100	108	73
	100-110	128	62
	110-120	66	58
	120-130	170	76
	130-140	158	68
	140-150	200	72
	150-160	177	84
	160-170	150	100
	170-180	149	64
	180-190	202	61
	190-200	85	57
	200-210	177	67
	210-220	141	60
	220-230	137	67
	230-240	97	56
	240-250	100	56
	250-260	139	70
	260-270	100	65
	270-280	150	72
	280-290	121	62
	290-300	74	64
C78-12	7-20	137	66
	20-30	74	85
	30-40	90	80
	40-50	110	86
	50-60	93	94
	60-70	75	90
	70-80	92	87
	80-90	95	68
	90-100	89	83
	100-110	86	75
	110-120	94	73
	120-130	206	72
	130-140	250	72
	140-150	210	69
	150-160	570	72
	160-170	278	78
	170-180	108	80
	180-190	130	74
	190-200	77	154
	200-210	75	110
	210-220	87	88
	220-230	86	80
	230-240	88	80
	240-250	76	74
	250-260	112	80
	260-270	160	81
	270-280	104	86
	280-290	232	84
	290-300	84	89

Percussion Hole	(footage)	Cu (ppm)	Zn (ppm)
C78-13	40-50	570	76
	50-60	600	87
	60-70	338	80
	70-80	322	82
	80-90	213	76
	90-100	400	75
	100-110	520	83
	110-120	217	51
	120-130	366	76
	130-140	322	60
	140-150	270	98
	150-160	307	85
	160-170	220	118
	170-180	330	98
	180-190	376	81
	190-200	418	92
	200-210	324	67
	210-220	275	60
	220-230	292	62
	230-240	480	138
	240-250	410	96
	250-260	700	70
	260-270	343	102
	270-280	850	105
	280-290	810	98
	290-300	367	94
C78-14	105-120	116	132
	120-130	190	168
	130-140	242	136
	140-150	58	125
	150-160	97	95
	160-170	100	90
	170-180	115	75
	180-190	82	96
	190-200	36	80
	200-210	56	74
	210-220	118	78
	220-230	73	77
	230-240	39	67
	240-250	20	62
	250-260	65	72
	260-270	77	80
	270-280	62	83
	280-290	58	88
	290-300	50	81

APPENDIX "C"

GROVE PROPERTY W, AU AND AG ASSAYS FOR COMPOSITE SAMPLES

Percussion Hole	(footage)	W (ppm)	Au (ppb)	Ag (ppm)
C78-1	104-200	5	< 10	< 0.4
C78-1	200-300	4	< 10	< 0.4
C78-2	68-140	< 2	< 10	< 0.4
C78-2	140-220	< 2	< 10	< 0.4
C78-2	220-300	< 2	< 10	< 0.4
C78-3	38-130	< 2	< 10	< 0.4
C78-3	130-220	< 2	< 10	< 0.4
C78-3	220-300	< 2	< 10	< 0.4
C78-4	36-130	< 2	< 10	< 0.4
C78-4	130-220	< 2	< 10	< 0.4
C78-4	220-300	< 2	< 10	< 0.4
C78-5	16-110	< 2	< 10	< 0.4
C78-5	110-200	< 2	< 10	< 0.4
C78-5	200-300	< 2	< 10	< 0.4
C78-6	65-150	< 2	< 10	< 0.4
C78-6	150-230	< 2	< 10	< 0.4
C78-6	230-300	< 2	< 10	< 0.4
C78-7	12-100	< 2	< 10	< 0.4
C78-7	100-200	< 2	< 10	< 0.4
C78-7	200-300	< 2	< 10	< 0.4
C78-8	59-140	< 2	< 10	< 0.4
C78-8	140-220	< 2	< 10	< 0.4
C78-8	220-300	< 2	< 10	< 0.4
C78-9	15-110	< 2	70	< 0.4
C78-9	110-210	< 2	< 10	< 0.4
C78-9	210-300	< 2	< 10	< 0.4
C78-10	62-150	< 2	< 10	< 0.4
C78-10	150-230	< 2	< 10	< 0.4
C78-10	230-300	< 2	< 10	< 0.4
C78-11	18-110	< 2	< 10	< 0.4
C78-11	110-200	< 2	< 10	< 0.4
C78-11	200-300	< 2	< 10	< 0.4
C78-12	7-100	< 2	< 10	< 0.4
C78-12	100-200	< 2	< 10	< 0.4
C78-12	200-300	< 2	70	< 0.4
C78-13	40-130	3	< 10	< 0.4
C78-13	130-220	3	16	< 0.4
C78-13	220-300	< 2	44	< 0.4
C78-14	105-200	< 2	< 10	< 0.4
C78-14	200-300	< 2	< 10	< 0.4

Analytical Methods (Cominco Laboratory)

Cu, Zn and Ag determined by atomic absorption after an aqua regia digestion, W by pyrosulfate fusion then finished with a Zn dithiol colorimetric procedure. Au determined by first roasting then aqua regia digestion followed by concentration into DIBK (aliquot 336) and then atomic absorption. Coefficients of variation 10-15 percent.

APPENDIX "D"

STATEMENT OF EXPENDITURES FOR PERCUSSION DRILLING ON THE SNOWFLAKE MINERAL CLAIMS

GEOLOGY

Salaries

M.J. Osatenko	Feb. 14 - Feb. 22/78 (9 days @ $161/day)	$ 1,449.
	Reporting and drafting (6 days @ $161/day)	966.
F.J. Ferguson	Feb. 14 - May 16/78 (19 days @ $115/day)	2,185.
A.L. MacGregor	Feb. 21 - May 16/78 (12 days @ $100/day)	1,200.

DOMICILE

40 man days at $35/day	1,400.

TRANSPORTATION

(2 trucks for ½ month)	1,413.

COMMUNICATIONS

(telephone calls)	220.

DRILLING

Al Millar 3900' @ $3.60/foot	14,040.
Mobilization and demobilization	210.
Site preparation	1,426.
Reclamation (seeding, Douglas Lake Cattle Company)	315.
Sample bags	300.

ASSAYS

360 samples of Cu, Zn at $4.20/sample	1,512.
40 samples for W, Au, Ag at $7.50/sample	300.
TOTAL	$26,936.

Signed: M. Osatenko

M.J. Osatenko
Project Geologist

APPENDIX "E"

IN THE MATTER OF THE

B.C. MINERAL ACT

AND

IN THE MATTER OF A PERCUSSION DRILL PROGRAM

CARRIED OUT ON THE SNOWFLAKE MINERAL CLAIMS

Located in the Nicola Mining Division

of the Province of British Columbia

More Particularly N.T.S. 92 H/15E

A F F I D A V I T

I, MYRON J. OSATENKO OF THE CITY OF VANCOUVER IN THE PROVINCE OF BRITISH COLUMBIA, MAKE OATH AND SAY:

1. THAT I AM EMPLOYED AS A PROJECT GEOLOGIST BY COMINCO LTD. AND AS SUCH HAVE A PERSONAL KNOWLEDGE OF THE FACTS TO WHICH I HEREINAFTER DEPOSE;

2. THAT ANNEXED HERETO AND MARKED AS "APPENDIX D" TO THIS MY REPORT IS A TRUE COPY OF EXPENDITURES OF A PERCUSSION DRILL PROGRAM CARRIED OUT ON THE SNOWFLAKE MINERAL CLAIMS;

3. THAT THE SAID EXPENDITURES WERE INCURRED BETWEEN THE FOURTEENTH DAY OF FEBRUARY 1978 AND THE SIXTEENTH DAY OF MAY 1978 FOR THE PURPOSE OF MINERAL EXPLORATION ON THE ABOVE NOTED CLAIMS.

M. Osatenko

MYRON J. OSATENKO

APPENDIX "F"

COMINCO LTD.

EXPLORATION WESTERN DISTRICT

STATEMENT OF QUALIFICATIONS

I, MYRON J. OSATENKO, OF THE CITY OF VANCOUVER, BRITISH COLUMBIA, HEREBY CERTIFY:

1. THAT I AM A GEOLOGIST, RESIDING AT 6437 - 116th STREET DELTA, BRITISH COLUMBIA WITH A BUSINESS ADDRESS AT 700-409 GRANVILLE STREET, VANCOUVER, BRITISH COLUMBIA.

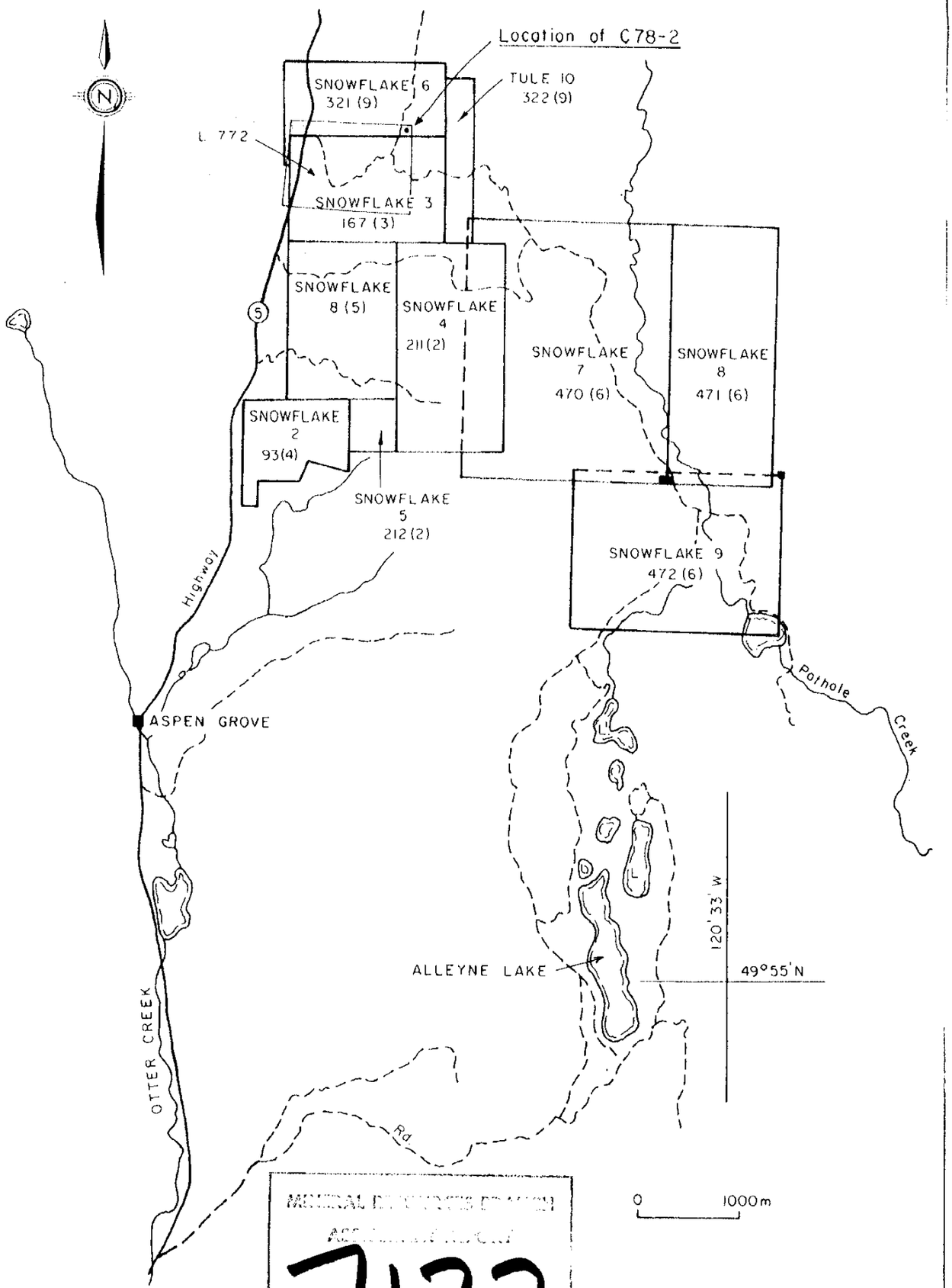
2. THAT I GRADUATED WITH B.Sc. AND M.Sc. DEGREES IN GEOLOGY FROM THE UNIVERSITY OF BRITISH COLUMBIA IN 1965 AND 1967 RESPECTIVELY.

3. THAT I HAVE PRACTISED GEOLOGY WITH COMINCO LTD. FROM 1967 TO PRESENT.

DATED THIS 10th day of January 1979 at Vancouver, British Columbia.

SIGNED M. Osatenko

Myron J. Osatenko, M. Sc.



Cominco

92 H/15E

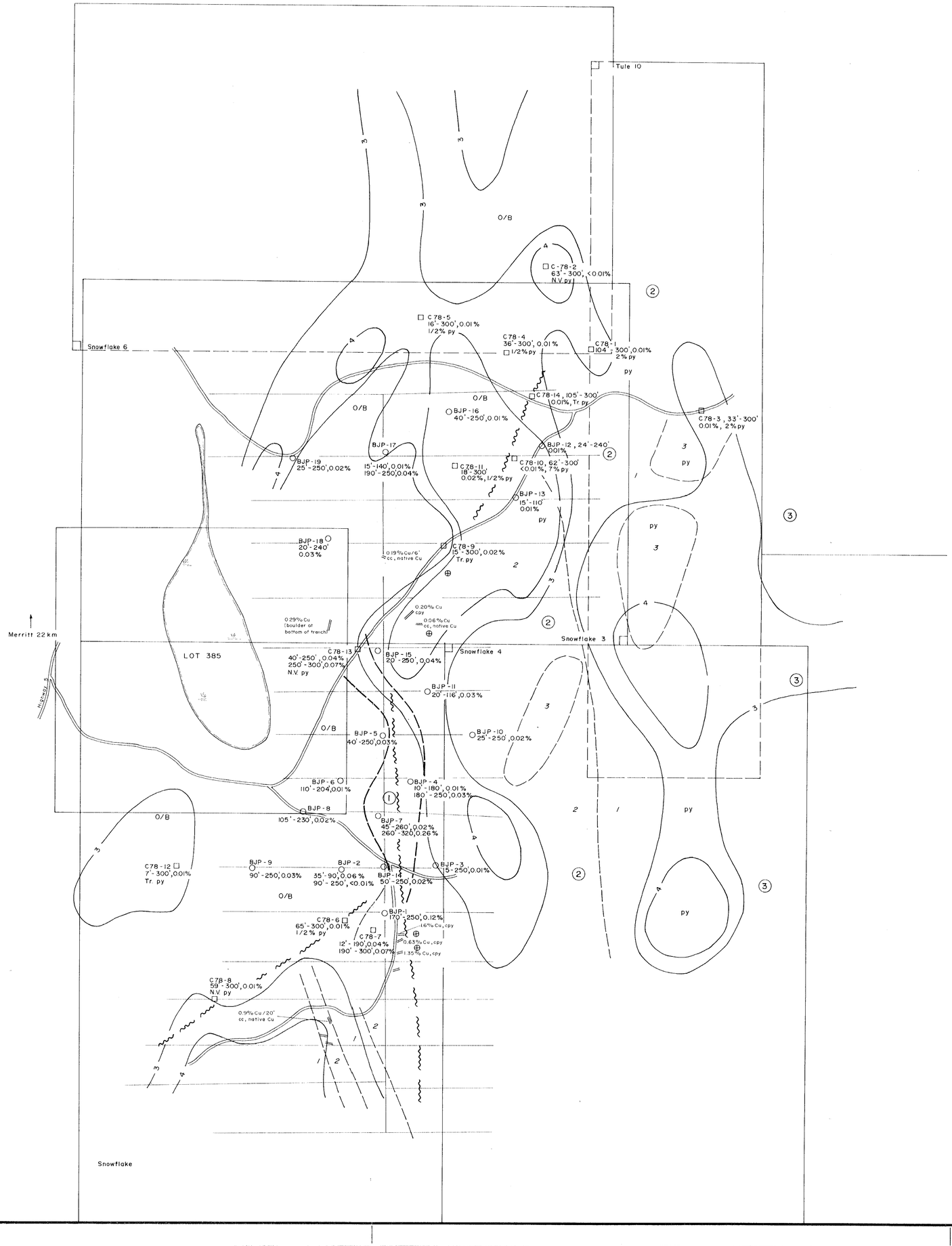
Drawn by:	Traced by: P. Muf
Revised by: Date	Revised by: Date

SNOWFLAKE

Claim Location Map

GROVE OPTION

Scale: 1:50,000 | Date: AUGUST, 1978 | Plate: 1



LEGEND

- 3 — Monzonite.
- 2 — Diorite.
- 1 — Nicola red and green basaltic rocks.
- Geological contact, assumed.
- 3 — I.P. anomaly, 3% frequency effect.
- 1.6% py — Trench, copper assay.
- ○ Craigmont percussion hole, footage, copper assay.
- □ Cominco percussion hole, footage, copper assay.
- ⊕ Old drill hole, no data.
- N.V. py — No visible pyrite.
- cc — Chalcocite.
- cpy — Chalcopyrite.
- Area of increasing Cu grade with depth.

TARGETS

- (1) Area 1.
- (2) Area 2.
- (3) Area 3.

0 1600 feet

0 500 metres

7122 m. Ontario

GROVE PROPERTY		92H/15E
Drawn by: MJO	Traced by:	COMPILATION
Revised by Date	Revised by Date	GEOLOGY, PERCUSSION DRILLING & I.P.
		Scale: 1" = 400' Date: April 1978 Plate: 2