JUL 0 3 1990

Chris Baldys
Box 355
Cassiar, B.C.
V0C 1E0

521140
Ax Property
104P-11/12

June 27, 1990

Esperanza Explorations Ltd.
15th Flr., 675 West Hastings St.
Vancouver, B.C.
V6B 1N2

Dear Sirs:

I would like to draw your attention to my property in the Cassiar district, which shows excellent economic potential to become a mineable lead-zinc-silver deposit. The AX prospect has been first documented by geologists from B.C. Ministry of Energy Mines and Petroleum Resources during the course of the 1987 regional mapping program.

JUL 0 3 1990

It is located in a very underexplored area of the Blue Dome map sheet (104P/12) where "polymetallic silver-bearing vein deposits hosted by the Lower Cambrian Atan carbonates constitute the most significant exploration targets" (J. Nelson, J.A. Bradford, 1987).

The 1989 soil geochemistry surveys detected a high content of lead and zinc in soils 0.5 km to the southeast and northeast from the main exposures of mineralized quartz-carbonate breccia. Grab samples taken from the mineralized zones in 1987 run as high as 55.6% Pb, 11.5% Cu, 1.6% Zn and 3.98 oz/t Ag. Similar geological setting to the Midway deposit makes the prospect a very promising exploration target.

The style of the mineralization might also suggest similarity to the Mt. Hundere deposit which is scheduled for production in 1991. The Mt. Hundere deposit is also hosted by the Cambrian rocks of the Cassiar Platform.

At this point the property is at the early stage of exploration. Favourable topographical conditions (generally gentle terrain from 1300 to 1600 m elevation, sufficient supply of water and well developed soils) as well as four-wheel drive access within 5 km distance to the main showing and alternative access by a float plane will enable a thorough exploration program at low cost.

My partner and I are positive that you will find the terms of optioning the property very acceptable to you.

Yours truly,

Chris Baldys

CANADA/BRITISH COLUMBIA MINERAL DEVELOPMENT AGREEMENT
REPORT APRIL 1990

MAJOR MAPPING PROJECTS NEARING COMPLETION

Two major MDA regional mapping programs are now nearing completion. Both Nick Massey and JoAnne Nelson completed the bulk of their fieldwork in 1988 and are now well advanced in writing up their results for publication. In the following two articles Nick provides an overview of his project in the Sicker group rocks on Vancouver Island while JoAnne offers a very refreshing and personal perspective on their work in the Cassiar Mountains.

LOOKING BACK AT THE CASSIARS: NOTES FOR A FINAL CHAPTER

February 1990. Folks in Cassiar are digging out of yet another of the season's snowstorms. Here in Victoria, as far from the Cassiar Mountains as you can get and still be in B.C., I rattle the keys of a word processor. I've arrived at the end of Chapter 6 of the final report for the Midway-Cassiar regional mapping project. One chapter to go - the last, the conclusions, the summary: what, in the end, did we accomplish?

How do you measure this thing? Well, maybe start with the obvious: prospects found.

JoAnne Nelson and a colleague discuss results of geological mapping in the Cassiar area.

We started our 1:50 000 mapping at the Midway deposit, a 1.2 million tonne silver-lead-zinc orebody that has partly replaced a limestone. The shapes of the ore zones are like a cluster of worm-tubes. This orebody was totally "blind". It has no surface exposure. Since looking at it, we discovered two more potential Midways in the course of our prospecting. Both have been staked. There were other finds, too. A vein with 330 grams per tonne silver in the Cassiar batholith. A nice-looking bed of rhodonite, the colorful pink semiprecious carving stone. A zone of strong carbonate alteration in basalt, possibly a clue to gold-quartz veins.

But why us? By this I mean why a group of graduate geologists, instead of just handing out so many prospector grants? This question recalls vividly to me the state of our knowledge on the way to the Cassiars in 1986, the discussions we had in the truck as we bounced up the Stewart-Cassiar highway. We had read everything written on the area, twice over in fact. But looking back now, how much that body of knowledge was to evolve based on what we found in the field. John Bradford, my senior assistant, produced a definitive study proving that the Midway deposit formed above a deeply hidden intrusive body. In my own work, I found strong evidence that the gold-quartz veins of the Erickson and Taurus mines were also controlled by a buried intrusion - definitely not a major deep crustal structure like the veins in Ontario.

In terms of regional geology, the Cassiar Mountains are an open-faced sandwich created by the telescoping action of mountain-building forces. The bread is a stack of native North American strata. The filling on top is the Sylvester allochthon - allochthon meaning stranger - a pile of rocks that were initially laid down on the deep ocean floor. And yet our observations suggest that these two radically different rock packages were always related to each other. This gives insight into the development of the ancient North American continental margin. It reinforces and complements the work of others who are investigating ancient rifting environments and fossil submarine hotsprings that created the largest massive sulphide orebodies in the Yukon.

Finally (although this will not go into the summary chapter) my thoughts go to the many friends we made in the Cassiars, the exploration parties, the Cassiar mine staff, prospectors, helicopter pilots, academics, placer miners, students, and outfitters. Old Bill Storie, more than anyone else an emblem of mining in the area, 81 years old and "heading for that marble orchard" but still revving up his cat last summer to open up a new zone on his claims. A letter that I treasure from Henrik Thalenhorst of Strathcona Mines, in which he said, " We were im-

SICKER PROJECT INVESTIGATES ECONOMICALLY IMPORTANT STRATIGRAPHY

The Sicker project was undertaken in response to requests by the mining and exploration industry for detailed mapping of the Paleozoic Sicker Group on Vancouver Island. These rocks are host to economically important polymetallic massive sulphide deposits including the world-class H-W orebody and related deposits worked by Westmin Mines Limited at Myra Falls, and other developing prospects including the Lara property near Chemainus. Sicker rocks are also host to gold-bearing quartz-carbonate veins such as the Victoria and other showings on the Mineral Creek portion of the Debbie property near Port Alberni. Significant prospects are also associated with intrusions of the Jurassic Island Plutonic Suite.

The project covered three 1:50 000 NTS map sheets, approximately 3500 square kilometres. The three sheets are centred on the Cowichan uplift, one of several major geanticlinal uplifts that make up the structural fabric of Vancouver Island. The uplift is cored by the largest outcrop area of Paleozoic rocks on the island and is host to important past-producing mines and the current focus of several advanced exploration programs. The mapped area extends from Port Alberni in the northwest to Duncan in the southeast. Field studies were completed in 1986-88, with office-based interpretation proceeding in 1989-90.

The map area lies within the "suspect" terrane of Wrangellia, a distinct crustal block stretching from Vancouver Island to Alaska that only became attached to North America in the late Mesozoic. The geology of map area is characterized by three thick volcano-sedimentary cycles (Paleozoic Sicker Group, Upper Triassic Vancouver Group and Lower Jurassic Bonanza Group) stacked on top of each other and overlapped at the top by Upper Cretaceous Nanaimo Group sediments of the Georgia Basin. Mapping has resulted in an improved understanding of the stratigraphy of these sequences on southern Vancouver Island.

In particular, the Paleozoic rocks formerly ascribed to the Sicker Group have been subdivided into two contrasting assemblages that may be better treated as separate lithostratigraphic groups. A lower (?) Middle to Late Devonian) immature tholeiitic to calc-alkaline volcanic assemblage formed as an island arc floored by oceanic crust. The boundary between the lower oceanic basalt pillow lavas and upper island-arc volcanics is now recognized as a significant new exploration target in the Cowichan uplift. Exhalative hematite-magnetite chert and jasper units (e.g. the "900 Zone" of the Debbie property), and massive sulphide horizons (e.g. the Regina and Raft properties) occur along it. The main arc-volcanic centre now underlies the Saltspring Island - Chemainus area. The polymetallic massive sulphide deposits that are the main focus of exploration are associated with felsic volcanics close to this centre (e.g. the past producing mines of the Mount Sicker camp).

Nick Massey.

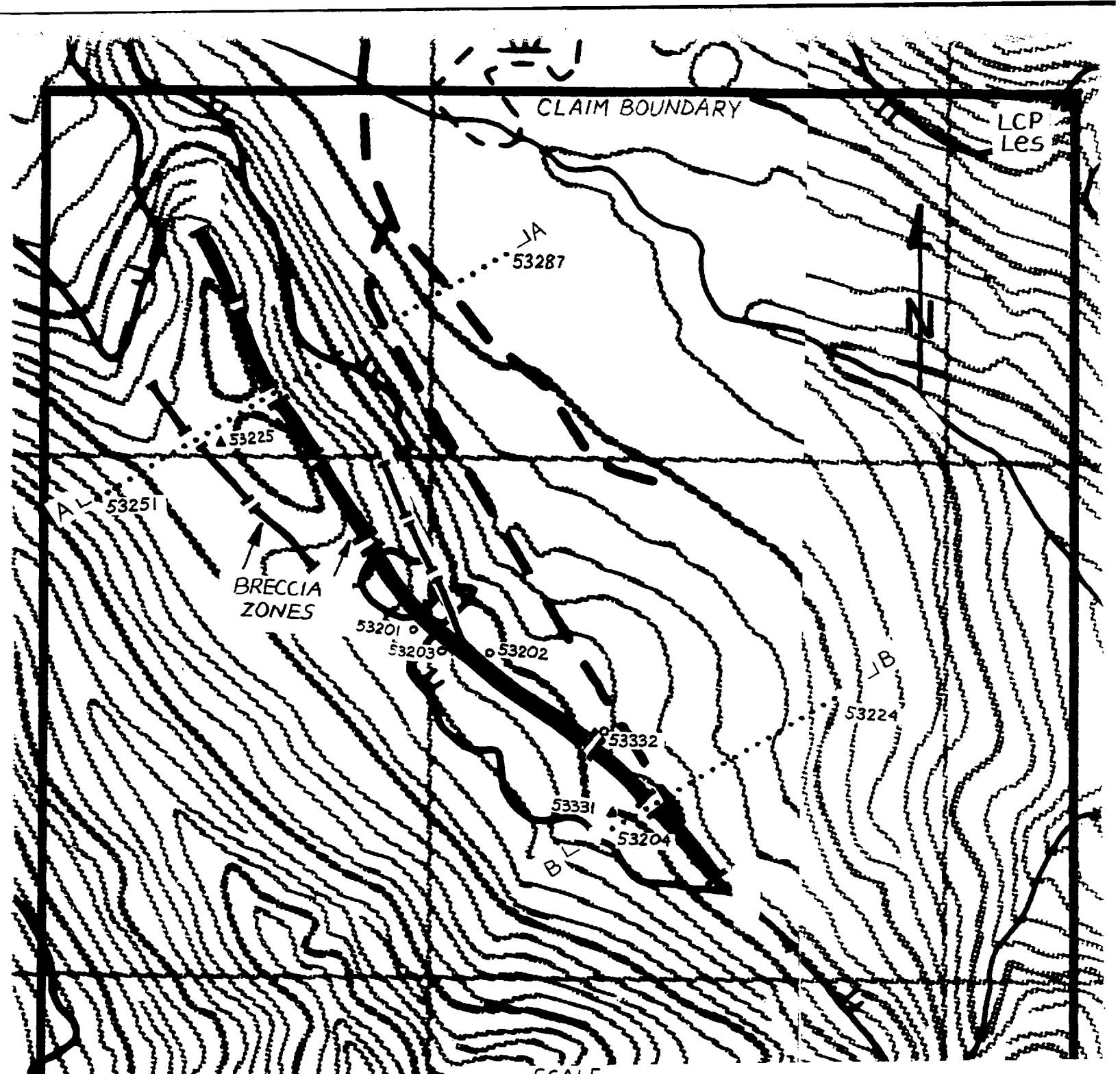
Overlying the volcanics is an upper (Early Mississippian to Early Permian) package of sediments belonging to the newly named Buttle Lake Group that represents basin infill and platform development on the older arc sequence. These sedimentary rocks host mineral occurrences of some potential interest including limestone, manganese, rhodonite, and minor iron-copper-(?gold) skarns.

The Paleozoic rocks are unconformably overlain by Mesozoic volcanic and sedimentary rocks of the Vancouver, Bonanza and Nanaimo Groups. The basaltic pillowed and massive flows and breccias of the Karmutsen Formation are up to three kilometres thick and probably represent an oceanic flood-basalt province associated with minor attenuation of the underlying Paleozoic crust. Numerous gabbroic and diabase sills and dykes intrude the lower sequences especially in the Chemainus River and Haslam Creek areas. The lavas are succeeded by shallow-water limestones, black argillites and limy argillites of the Quatsino and Parson Bay Formations. Little syngenetic mineralization has been found within these rocks, although the limestones and limy tuffs of the Quatsino and upper Karmutsen Formations are the host to the majority of the iron-copper-gold skarns, such as the former producing Blue Grouse mine, formed during the later Jurassic intrusive event. Some of the Triassic dykes are of "flower gabbro", an attractive porphyritic gabbro with large daisy-like clusters of feldspar crystals up to three centimetres across, which has potential for use as building stone.

Volcanics of the Bonanza Group unconformably overlie the older rocks. A lower submarine sequence of tuffaceous argillites and sandstones interbedded with lapilli and crystal tuffs is succeeded by a thicker subaerial heterolithic volcanic package. The volcanics are underexplored but show potential for epigenetic gold deposits and perhaps for massive sulphides in the lower sections. The whole sequence developed in an arc on the continental margin of Wrangellia. Although the volcanics are exposed only in the area south of Cowichan Lake, the coeval granodiorites of the Island Plutonic Suite occur throughout the map area. These intrusions are closely associated with copper-molybdenum veins and stockworks and iron-copper-gold skarns.

Conglomerate, sandstone and argillite of the Upper Cretaceous Nanaimo Group overlie older rocks throughout the area, but are thickest in the Alberni valley and Duncan areas. Important coal deposits are found within these strata in the Nanaimo and Comox areas but the coal measures are missing in the map area.

Apart from mapping the distribution of different rock-types, the project has led to a better understanding of the long and complex structural history of southern Vancouver Island. Late Devonian deformation of the Sicker Group volcanics took place in the southwestern part of the map area but the major event occurred after the Buttle Lake sediments were deposited. This produced a series of west-northwest to northwest-trending asymmetric folds with abundant parasitic minor folds.



Rock Geochemistry Results

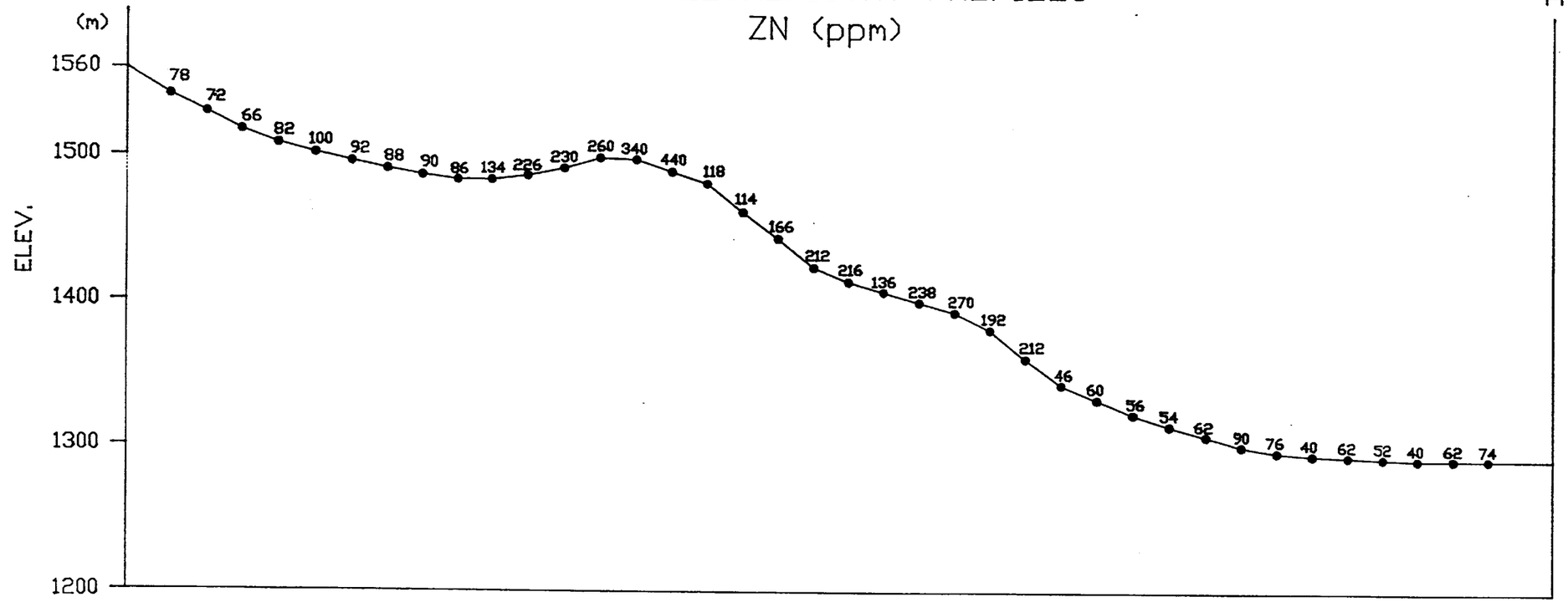
Sample No	Cu ppm	Pb ppm	Zn ppm	Ag ppm
53201	8322	20791	191	263.6
53202	858	10164	1046	12.3
53203	382	14984	842	9.0
53225	320	267	1348	.2
53331	53	41	753	.5
53332	1243	49	243	26.7

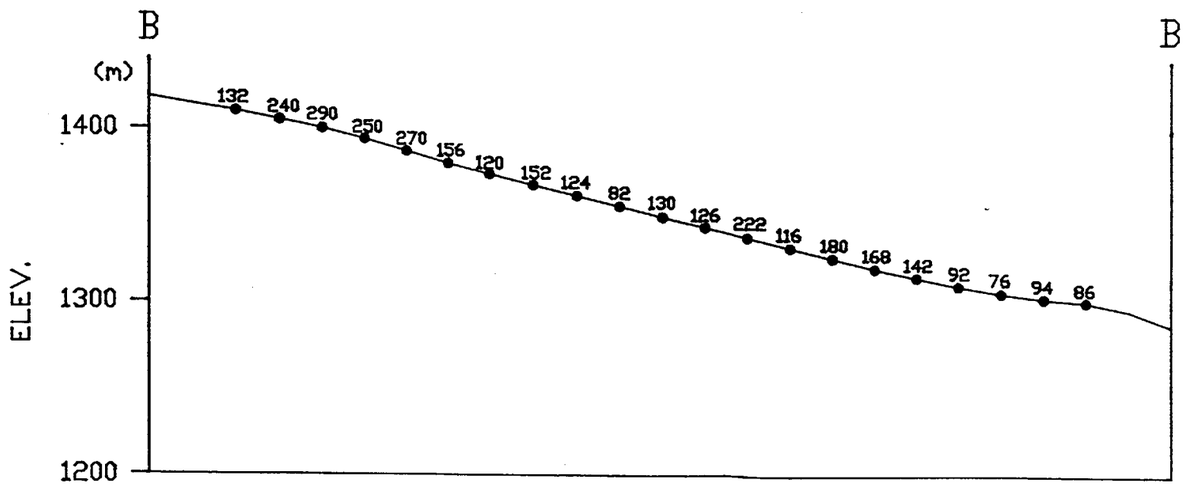
AX PROPERTY

Sample location map

Figure 2 | Drawn by: C

SOIL GEOCHEMISTRY PROFILES
ZN (ppm)

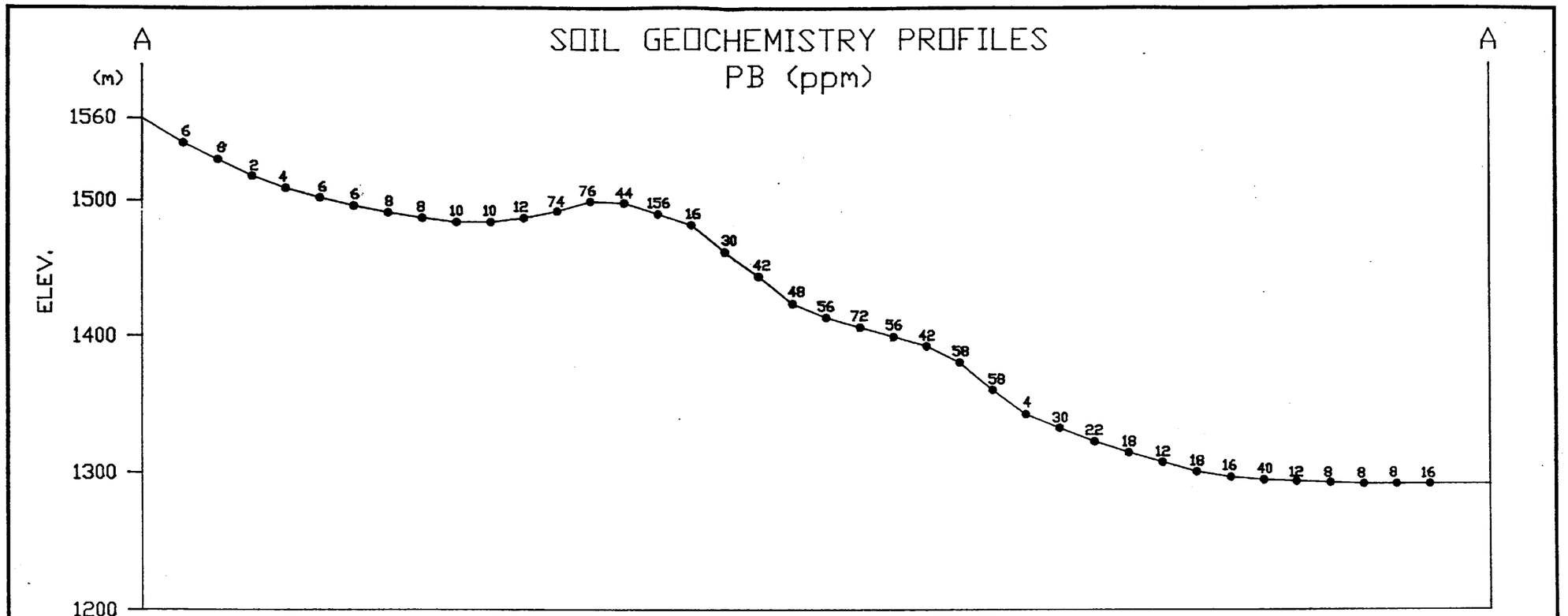


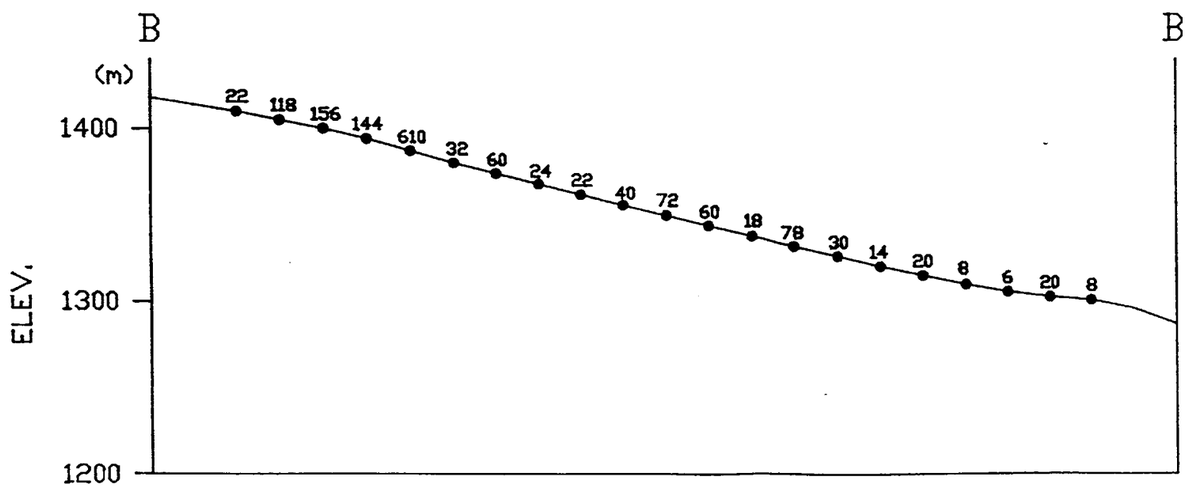


SCALE
0 50 100m

AX PROPERTY	
ZN GEOCHEMISTRY	
FIGURE 3	DRAWN BY: C.B

SOIL GEOCHEMISTRY PROFILES
PB (ppm)





SCALE
0 50 100m

AX PROPERTY	
PB GEOCHEMISTRY	
FIGURE 4	DRAWN BY: C.B

PROPERTY/LOCATION: AX-PROPERTY EXAMINATION CODE : 8906-043

Project No. :312 Sheet: 1 of 2 Date rec'd: JUN13
Material :59 SOILS & Geol. : J. D. Date compl: JUN27
Remarks :1 SILT

Values in PPM, except where noted.

T.	SAMPLE No.	Cu	Zn	Pb	Ag
2	53204	36	132	22	0.4
3	53205	44	240	118	0.3
4	53206	42	290	156	0.3
5	53207	40	250	144	0.3
6	53208	62	270	610	0.3
7	53209	28	156	32	0.2
8	53210	34	120	60	0.2
9	53211	26	152	24	0.2
0	53212	26	124	22	0.2
1	53213	28	82	40	0.1
2	53214	32	130	72	0.1
3	53215	32	126	60	0.2
4	53216	28	222	18	0.3
5	53217	36	116	78	0.2
6	53218	20	180	30	0.2
7	53219	44	168	14	0.3
8	53220	26	142	20	0.2
9	53221	28	92	8	0.1
	53222	32	76	6	0.1
	53223	34	94	20	0.2
	53224	54	86	8	0.3
	53251	20	78	6	0.6
	53252	20	72	6	0.4
	53253	18	66	2	0.3
	53254	18	82	4	0.5
	53255	20	100	6	0.2
	53256	16	92	6	0.1
	53257	16	88	8	0.2
	CHECK NL-6	50	146	62	1.2
	53258	14	90	8	0.1
	53259	24	86	10	0.1
	53260	28	134	10	0.3
	53261	20	226	12	0.2
	53262	40	230	74	0.1
	53263	34	260	76	0.1
	53264	24	340	44	0.1
	53265	80	440	156	0.1
	53266	28	118	16	0.1
	53267	42	114	30	0.1
	53268	42	166	42	0.1
	53269	40	212	48	0.1
	53270	74	216	56	0.2
	53271	36	136	72	0.1
	53272	48	238	56	0.1
	53273	50	270	42	0.1
	53274	56	192	58	0.1
	53275	42	212	58	0.1
	53276	38	46	4	0.1

	SAMPLE No.	Cu	Zn	Pb	Ag
	53277	60	164	30	0.2
1	53278	56	150	22	0.1
72	53279	54	132	18	0.1
73	53280	62	72	12	0.2
74	53281	90	104	18	0.2
75	53282	76	162	16	0.1
76	53283	40	>200	40	0.1
77	53284	62	122	12	0.1
78	53285	52	98	8	0.2
79	53286	40	92	8	0.2
80	53287	62	92	8	0.1
81	53327	74	430	16	1.1

Ax Property (JD)

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-17.

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE. HG ANALYSIS BY FLAMELESS AA.

DATE RECEIVED: JUN 13 1989 DATE REPORT MAILED: June 19/89 SIGNED BY. C. Leong ..D TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

NORANDA EXPLORATION CO. LTD. PROJECT 8906-043 312 File # 89-1478

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB	HG PPB
53321	12	9322	20791	191	265.6	5	1	13	.29	11	19	ND	1	31	13	1010	2	1	.01	.010	2	2	.01	12	.01	7	.02	.01	.01	2	5	2100
53322	131	858	10164	1046	12.3	4	1	52	4.42	353	13	ND	1	237	6	137	2	17	.41	1.276	5	32	.01	623	.01	2	.27	.01	.01	1	3	4300
53323	21	382	14584	842	9.0	7	1	25	3.05	69	8	ND	1	820	3	36	2	20	.65	.795	14	12	.01	295	.01	11	.53	.06	.06	1	3	2800
53325	15	320	267	1348	.2	12	4	66	.55	36	5	ND	1	14	15	15	2	2	2.33	.055	2	3	.01	13	.01	2	.02	.01	.01	1	1	2900
53326	4	9	156	47	.1	11	2	181	.45	4	5	ND	1	93	1	2	2	8	2.31	.008	6	12	.43	1515	.01	2	.08	.01	.05	1	1	40
53328	2	23	27	66	.1	13	2	126	.44	2	5	ND	3	218	2	2	2	3	3.79	.012	3	7	.16	459	.01	9	.05	.01	.01	1	1	100
53329	1	83	90	21	.2	16	18	441	18.90	3	5	ND	1	145	1	7	2	1	6.02	.026	2	24	.23	7	.01	2	.24	.01	.02	1	9	280
53330	1	13	16	71	.1	104	26	431	8.45	12	5	ND	1	58	1	6	2	122	2.21	.169	8	149	3.62	29	.01	2	4.08	.01	.02	1	2	20
53331	5	53	41	753	.5	19	3	103	1.27	6	5	ND	1	85	5	3	2	12	1.89	.050	2	15	.51	51	.01	9	.10	.01	.02	1	3	110
53332	3	1243	49	243	26.7	7	1	54	.20	78	5	ND	1	304	9	703	2	2	10.80	.002	3	7	.15	92	.01	2	.01	.01	.01	1	1	3600
53333	1	4	4	4	.1	5	1	54	.34	2	5	ND	1	91	1	2	2	4	.94	.036	2	11	.45	29	.01	2	.06	.01	.01	1	2	10
53334	7	42	44	152	5.0	15	2	75	.57	6	5	ND	1	105	2	21	2	26	2.03	.036	3	12	.94	106	.01	2	.07	.01	.03	1	1	110
STD C/AU-R	18	61	38	132	6.6	72	30	1015	4.01	40	22	8	39	52	17	15	19	60	.49	.091	40	53	.83	177	.07	33	1.89	.06	.13	13	475	1300

- ASSAY REQUIRED FOR CORRECT RESULT -

ECONOMIC POTENTIAL OF POLYMETALLIC VEINS IN BLUE DOME MAP AREA (104 P/12) AX PROPERTY - NEW BASE METAL PROSPECT

Liard Mining Division

NTS 104 P/11, 12

by

Chris Baldys

Richmond, British Columbia

May 12, 1989

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LIST OF FIGURES AND APPENDIXES

SUMMARY

The Ax prospect represents one of the four polymetallic silver-bearing vein occurrences in the Blue Dome map area. It has a very good economic potential due to favourable geological setting, significant size of mineralized quartz breccia zones and structural proximity to Midway Deposit.

Geochemical values up to 55.6% of lead, 11.5% of copper and 1.6% of zinc with associated silver up to 3.98 oz/t were obtained from intensly mineralized sections (0.3 to 1.0 m. wide). One of the chip samples taken across 10 m wide quartz-limonite breccia zone assayed 1.3% copper, 4.8% lead and 0.44 oz/t silver. The mineralized sections are within silicified zones (up to 15 m wide) which are exposed along 300 m.

1. GENERAL GEOLOGY

The general geologic-tectonic setting of the Blue Dome area is identical to that described for Midway (Nelson and Bradford, 1987). Both are situated in the Cassiar platform, with exposed autochthonous stratigraphy ranging in age from Early Cambrian to Early Mississippian. In the Blue Dome area, these strata form a southwest-dipping panel disrupted to the east by high-angle faults (Figure 2, Prospecting Report). The Sylvester allochthon structurally overlies the Cassiar platform; the interface is either a thrust or a regional decollement. Components of the allochton in 104 P/12 probably range from Early Mississippian to Late Triassic. They are not indigenous to the Cassiar platform. Some are of very distal North American affinity; others entirely lack ties to North America.

The mid-Cretaceious Cassiar batholith cuts and metamorphoses the Sylvester allochton in the southwest corner of the area. A major strand of the dextral Kechika fault lies immediately east of 104 P/12 (Gabrielse, 1963). High-angle faults in the eastern part of the area may be related to it, although only stratigraphic (vertical) throws can be documented. Four mineral occurrences are related to these faults. They represent polymetallic silver-bearing veins.

2. DESCRIPTION OF NEW BASE METAL PROSPECTS

Polymetallic silver-bearing vein deposits hosted by Lower Cambrain Atan carbonates constitute the most significant exploration targets in map area 104 P/12 (Nelson, Bradford 1987). Four mineral occurrences of this type were documented by B.C. government geologists in 1987. All of them are located in the eastern part of the map sheet. Three of these; Ella Rose, Cyathid Mountain and Ax were discovered in the course of regional mapping program in 1987. The Ax showing, which was trenched in 1969, subsequently lay idle until it was rediscovered in 1987. The showings are high-angle silicified zones, containing fine-grained, vuggy and coarse white quartz with significant copper sulphides, galena and sphalerite, and abundant malachite and azurite

The Ella Rose and Pip showings are located on fault contacts between Atan and Kechika groups (Figure 2, Prospecting Report). The Ax showing is on the southern extention of the same fault as the Ella Rose. The Cyathid Mountain stockwork grades into a zone of brecciation and calcite spar 1.5 kilmetres to the northeast. These features all point to the importance of structural control for this kind of mineralization. The showings may be related to an episode of late Cretaceous to Eocene intrusion and lead-zinc-silver mineralizatioln (Panteleyev, 1980; Nelson and Bradford, 1987).

MINERAL OCCURRENCES
104P/12

after Nelson, Bradford 1987

Type/Age	Name(s)	MINFILE No.	Economic Minerals	Description
2. Polymetallic veins in carbonates (Upper Cretaceous)	(a) Ax	104P-106	galena, chalcopyrite, barite, chalcocite, sphalerite	Silicified zone 10 to 15 metres wide with 30-centimetre to 1-metre-wide mineralized zone exposed along 300 metres. Contains massive to disseminated galena, coarse white quartz with chalcopyrite-barite-chalcocite and late brecciated quartz with iron oxides and galena blebs. Grab samples assayed 248, 2 and 40 ppm silver, <20, <200 and <20 ppb gold, respectively. Hosted in Lower Cambrian Rosella Formation.
	(b) Ella Rose (new discovery)	104P-097	chalcopyrite, covellite	A 20-metre-wide zone of silicification in dark grey brecciated dolomite. Quartz is fine grained and vuggy with limonite and malachite. Chalcopyrite, covellite, brown sphalerite and galena occur in boulders in a sloughed creek bank 20 metres north of the outcrop. A grab sample from the showing assayed 24 ppm silver and <20 ppb gold.
	(c) Captain Lake, (Pip)	104P-060	chalcopyrite, chalcocite	Silicified zone with locally intense stockwork with chalcopyrite-chalcocite occurs along a highly brecciated fault contact between Kechika calcareous shale and Atan carbonates. The zone is up to 40 metres wide and exposed along 125 metres. Best assays reported are 1.36% copper over 25 metres (N.B. Vollo, 1976, Assessment Report 6087). An old trench exposes similar mineralization 600 metres on strike to the northwest.
	(d) Cyathid Mtn. (new discovery)	104P-098	chalcopyrite	A strong quartz stockwork with very minor chalcopyrite is exposed over 70 metres by 15 metres. Grades into a limonitic calcite breccia zone 1.5 kilometres along strike to the northeast.
3. Veins in marine sediments and volcanics , (Upper Cretaceous to Eocene)	(a) Chief East	104P-102	pyrite, chalcopyrite	A northwest-trending gossanous zone (0.5 by 3.5 kilometres) of strong quartz-sericite-pyrite alteration that hosts numerous quartz veins with pyrite and chalcopyrite. Hosted in Sylvester chert-argillite.
	(b) Reggie (new discovery)	104P-099	galena, pyrite	*En échelon* tension gashes in a narrow zone up to 0.7 metre wide with disseminated galena and minor pyrite.
	(c) Lat. 59°45′, Long. 130°00′			Intense quartz veining with minor graphite in Sylvester sediments is exposed over 800 by 250 metres.
4. Alteration within Division III intermediate volcanics (age uncertain)	(a) Mare	104P-105	chalcopyrite, pyrite	Numerous small zones of quartz-carbonate-clay-pyrite-chalcopyrite alteration. Extensive sampling by Falconbridge Limited yielded only two anomalous samples: 222.13 grams per tonne silver, no gold; 4.6 grams per tonne silver, 2.38 grams per tonne gold (T. Bruland, 1983, Assessment Report 11335)
	(b) Lat. 59°34′, Long. 129°38′		chalcopyrite, pyrite	Small zone of quartz-carbonate-clay-pyrite-chalcopyrite alteration with thin quartz-carbonate veinlets.
5. Magmatic ultramafic-hosted mineralization	(a) Ice Lake	104P-055	chromite	Disseminated to semimassive chromite as pods in peridotites at two locations in the Blue River ultramafite. Largest pod is exposed over 15 centimetres by 15 metres. In 104O/09 adjacent to 104P/12.
(1) Chromite (age uncertain, probably between Upper Devonian and Late Permian)	(b) Anvil chromite (new discovery)	104P-100		Semimassive to massive chromite occurs over 3 metres by 50 centimetres in talc-altered peridotite within the Blue River ultramafite.
(2) Nickel (age uncertain)	(c) Nickel Creek, Blue River Nickel, Heazlewood	104P-001	heazlewoodite	Heazlewoodite was identified by X-ray diffraction in partially serpentinized dunite. Assays to 0.21% nickel (Wolfe, 1969).
	(d) Anvil Nickel (new discovery)	104P-100	pyrrhotite, pentlandite	Semimassive net-textured sulphides and plagioclase occur along the margin of a coarse-grained, foliated gabbro within the Blue River ultramafite.
6. Molybdenite in the Cassiar batholith (Late Cretaceous)	(a) Blue Dome	104P-054	molybdenite	A small pod less than 1 metre long with 5% MoS_2 was reported by Wolfe (1969) within the Cassiar batholith.
	(b) Anvil Molybdenum (new discovery)	104P-101	molybdenite	A 0.5-metre-wide quartz vein with <1% molybdenite is exposed along a 100-metre strike length, adjacent to a biotite granodiorite dyke cutting the Blue River ultramafite.

3. COMPARISON OF POLYMETALLIC VEINS TO MIDWAY DEPOSIT

The Midway silver-lead-zinc deposit in the map area 104 0/16 is approximately 40 km northwest of the Ax showing. Mineralization consists of irregular, pipe-like, open-space filling and replacement massive sulphide bodies in mid-Devonian McDame Group carbonates beneath a major unconformity. Reserves are currently estimated at 1.185 million tonnes grading 410 grams per tonne silver, 9.6% zinc and 7.0% lead (Exploration in British Columbia, 1986; page A41). The data indicate that Midway is an epigenetic manto deposit. The intrusive body cores the hydrothermal system and underlies Brinco Hill, about 2 kilometres southeast of the Midway Deposit.

Studies of the Midway deposit to date have suggested several exploration guides and controls on mineralization. They can be summarized as follows:

Regional Scale

- localization of intrusive and associated hydrothermal systems along large scale, high angle faults systems
- genetic association with young felsic intrusives (post-Cassiar batholith) which are commonly reclusive in outcrop
- fluorine, base metal and lithophile element anomalies generated by the felsic intrusives

Deposit Scale

- mineralogical zonation reflecting temperature pressure and chemical gradients surrounding the heat source (i.e. depletion of sulphosalts at deeper levels)
- fault control of fluid pathways in areas with coeval or overlaping intrusion and faulting
- stratigraphical control: strongly brecciated, karsted carbonate sequence with enthanced permeability and less permeable capping sequences

Significant mineralized quartz breccia systems in Rosella carbonates represented by the Ax prospect are also keyed to massive carbonates and late faulting. Preliminaary examination suggests different style of mineralization. The possibility, however, that these showings are just different distal expressions of another manto type deposit have to be considered.

Twenty kilometres to the south of the Ax prospect numerous mineral showings occur along the margins of the Mount Haskin monzogranite stock (map sheet 104 P/5). The mineralization of sphalerite and galena occur in the form of replacement bodies in the Rosella Formation. In the case of Magno deposit, drill-indicated reserves total 426 417 tonnes grading 5.92% Pb, 4.15% Zn, 192 g/t Ag (MINFILE, 104 P 006). The geologic-tectonic setting and style of mineralization matches the scenario with respect to the Midway Deposit and possibly Blue Dome map area occurrences.

4. PROSPECTING REPORT, AX PROPERTY
(Assessment Report 17863) NEXT PAGE

PROSPECTING REPORT

AX PROPERTY

(Les and Sam Claims)

owned by:

Chris Baldys
Allan E. Poitras

operated by:

Chris Baldys
Allan E. Poitras

Liard Mining Division

NTS 104P/11, 12

59° 33' N

129° 31' W

by

Chris Baldys

Richmond, British Columbia

August 12, 1988

TABLE OF CONTENTS

LIST OF FIGURES AND APPENDIXES

Introduction

In September 1987 prospecting traverses were conducted at the newly staked AX property consisting of Les and Sam Claims.

The property is located 14 km northeast of Gallic Lake in Cassiar District and is owned and operated by Chris Baldys and Allan E. Poitras.

The AX showing was trenched in 1969 and subsequently lay idle until it was rediscovered in 1987 by geologists from B.C. Ministry of Mines and Petroleum Resources.

1. Location, Access and Topography

The AX property is located in Liard Mining Division approximately 45 km northeast of Cassiar, B.C. and 40 km southwest of the Midway Camp (figure 1). The property is accessible by foot or by horses from Gallic Lake which is situated at the heads of French River 16 km northeast of Cassiar. All weather four-wheel road leads to Gallic Lake from Cassiar Highway.

The AX claims lie in wide U shaped valley with fairly steep ridges on the eastern and western edges of the claim block. The northern part of the Sam claim reaches a terrain with gentle topography and features of glacial accumulation.

Intermittent streams with small quantities of water are within immediate vicinity of the AX showing. Adequate water sources for development work occur in southeastern corner of the claim block and immediately to the west of it.

2. Property Ownership

The AX property was staked in September 1987 by Chris Baldys. It consists of two modified grid system claims, Les and Sam. The registered owners of the property are Chris Baldys from Richmond, B.C. and Allan E. Poitras from Cassiar, B.C. Particulars are as follows:

Claim Name	Number of Units	Record Number	Expiry Date
Les	20	4177	Sept. 3, 1989
Sam	20	4178	Sept. 4, 1989

3. History

Between June and August 1987 a geological crew of B.C. Ministry of Mines performed a regional geological program in Blue Dome Map Area (104P/12). As a result of this work numerous mineral occurrences were discovered including the AX showing.

The property was staked as a result of a 1987 Prospecting Program that was financed in part by the grant from B.C. Ministry of Energy, Mines and Petroleum Resources (Prospecting Grant No. 10961-P165). Silicified zones were found independently from government geologists following-up the tips of local hunters on September 2, 1987.

The property was originally staked in 1968 and expired a few years later. Numerous cat trenches in the claim area are evidence of advance exploration work carried out in 1969. However, no records of work have been found. Apparently the showing lay idle until it was rediscovered in 1987.

4. 1987 Prospecting

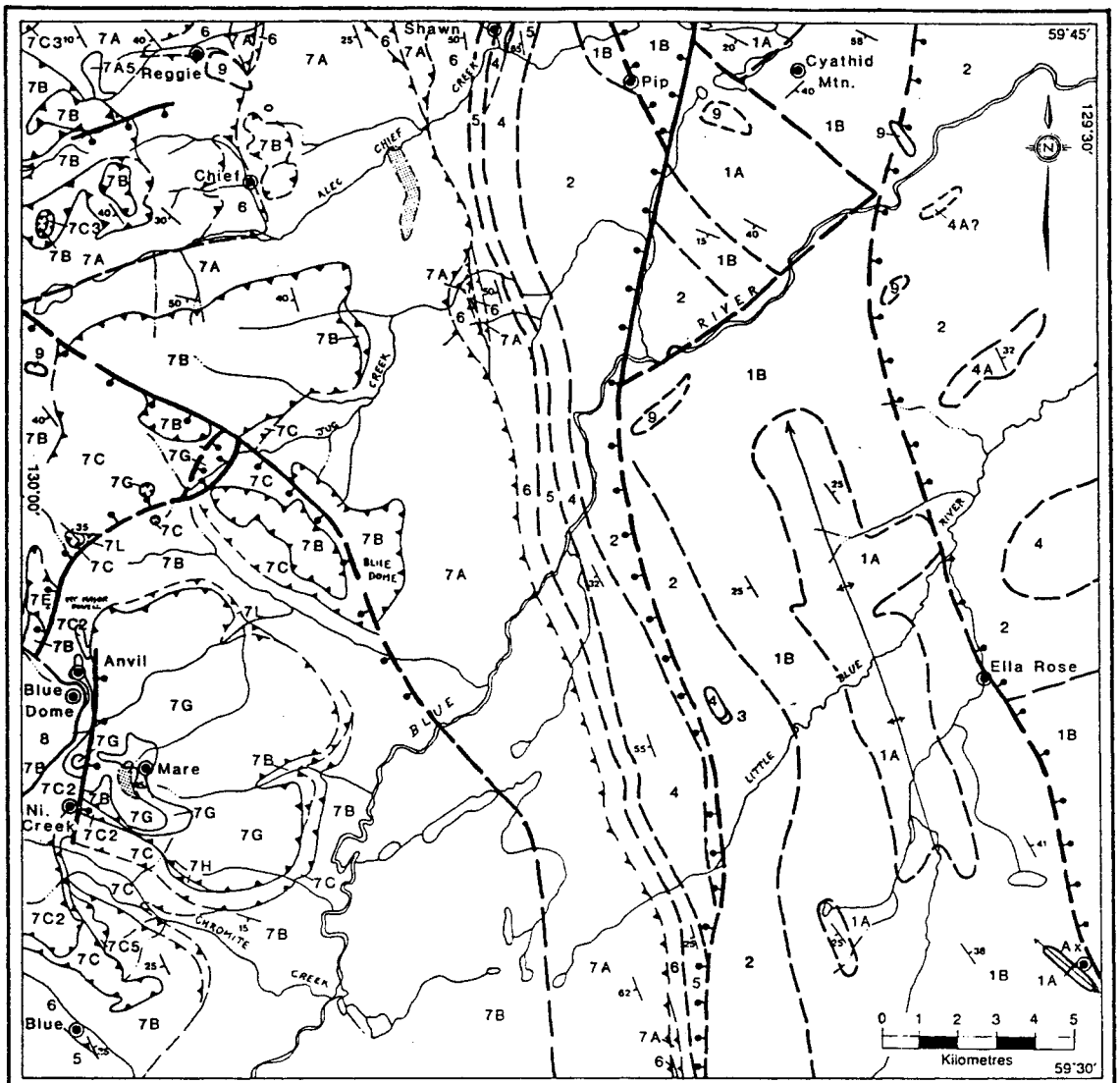
The 1987 Prospecting was performed by Chris Baldys and Allan E. Poitras from September 4 to September 9, 1987. A total of 14 rock samples and 2 heavy concentrates were collected from Les and Sam claims. Ten samples were assayed for gold, silver, lead, zinc, copper and associated elements.

5. Mineralization and Geological Summary

The main showing on the AX group of claims is a silicified zone 10 to 15 meters wide with 30-centimetre to 1-metre-wide massive sulphide zones exposed along 300 metres. The showing is referred to as Vein 1. The strike of the vein is approximately 335°. It contains massive to disseminated galena, coarse white quartz with chalcopyrite-barite-chalcosite and late brecciated quartz with iron oxides and galena blebs. One of the 1969 trenches uncovered a 10 m wide zone of highly oxidized quartz-breccia zone (with locally decomposed earthy yellow-greenish material) that produced high base metal values (see Sample Description C-05). The exposure of another silicified zone (Vein 2) that appears to be a vein-like structure is located approximately 150 northeast of the main showing. The vein is 2.5 to 3.0 m thick and consists of coarse quartz with minor calcite and is mineralized by chalcopyrite and sphalerite. It is subvertical and is striking approximately 10°.

A fair size heavily mineralized float (0.3 m diameter) was found about 100 m west up the slope from the main vein (Vein 1). This represents most likely the third mineralized structure on the property (Vein 3 on figure 3).

The veins are structurally controlled and hosted by platformal carbonates of Lower Cambrian Rosella Formation (figure 2). The mineral occurrences in the Blue Dome Map Area 104P/12 as discussed by Nelson and Bradford (1987) can be related to one of the three mineralizing episodes that were identified with respect to mineral deposits in the Midway area: one syngenetic in the Devono-Mississippian; another in the Mid-Cretaceous related to the main phase of the Cassiar batholith; and a third in the Late Cretaceous



LEGEND

Miocene-Pliocene

9 Tuya volcanics: olivine basalt

Cretaceous

8 Cassiar batholith: granite, granodiorite

Devonian to Triassic

7 Sylvester allochthon — For complete list of Sylvester units, see Table 1

Division I

7A Chert, argillite, limestone

$7A_5$ Greywacke, argillite, chert, exhalite

Division II

7B Basalt, diabase, chert, argillite, diorite, gabbro

7C Serpentinite and structurally related units

$7C_2$ Blue River ultramafite

7L Triassic limestone

Division III

7G Permian basic, intermediate, felsic volcanic rocks; limestone

$7G_2$ Calc-arenite, chert, limestone

7H Permian limestone

Devonian-Mississippian

6 Earn Group: argillite, siltstone, greywacke, limestone, exhalites

Middle Devonian

5 McDame Group: dolomite, limestone

Lower Devonian

4 Tapioca sandstone: dolomitic quartz arenite, quartzite, dolomite

Ordovician to Lower Devonian

4A Sandpile Group: dolomite, dolomitic quartz arenite, limestone; fossiferous dolomitic siltstone and dolomite

Ordovician-Silurian

3 Road River Group: black slate

Cambrian-Ordovician

2 Kechika Group: thin-bedded limy slate, siltstone, limestone

Lower Cambrian

Atan Group

1B Rosella Formation: limestone, dolomite, grey and red shale

1A Boya Formation: quartzite, slate, siltstone, red shale

◉ pervasive hydrothermal alteration

Figure 2 Geology and mineral occurrences, 104P/12. after Nelson, Bradford 1987

to Eocene, related to small fluorine-rich intrusive bodies. However, the polymetalic veins differ somewhat in style, mineralogy and setting from late epigenetic deposits in 1040/16 such as Midway. Some of them are located along faults, although not within single swarm like the Tootsee River fault system (Nelson and Bradford, 1987).

6. Sample Description

C-01	float 2.0 kg	Quartz vein with minor calcite. Azurite/malachite, patchy concentrations after chalcopyrite. Total 0.5 - 1.0% mineralization - includes chalcopyrite. 0.53 oz/t Ag.
C-02	float 3.0 kg	Heavily oxidized sulphide rich boulder: limonite & hematite & hydrozincite?70%, sphalerite 3-5%. 1.64% Zn.
C-03	float 3.0 kg	Vuggy, drusy quartz breccia vein float mineralized with azurite, malachite chalcopyrite and other Cu-sulphides. Total 5-7% mineralization. Size 0.3 m diameter. 4.39% Cu.
C-04	suboutcrop 1.0 x 0.6 x 0.5 m 3 kg	Galena mineralized quartz-calcite vein (3-5% PbS, locally up to 20%). 10.60% Pb, 1.54% Zn, 1.33 oz/t Ag.
C-05	chip across 10 m 3.0 kg	Strongly limonite stained zone (trenched in 1969). Quartz-limonite mixed breccia with locally decomposed sections of earthy yellowish-green material. Minor azurite, malachite and galena mineralization. 4.83% Pb, 1.30% Cu, 0.44 oz/t Ag.
C-06	chip across 2.5 m 3.0 kg	Quartz-calcite vein with chalcopyrite, sphalerite mineralization. Locally malachite and azurite stain. 1.20% Cu, 1.24% Zn, 1.30 oz/t Ag.
C-07	float 1.0 kg	Volcanic rock sparsely mineralized by pyrite (source unknown).
C-08	grab across 1.0 m 2.0 kg	Strongly malachite stained zone with rich galena mineralization (20%) at the eastern edge of 15 m. wide silicified zone. 13.00% Pb, 10.80% Cu, 1.20 oz/t Ag.

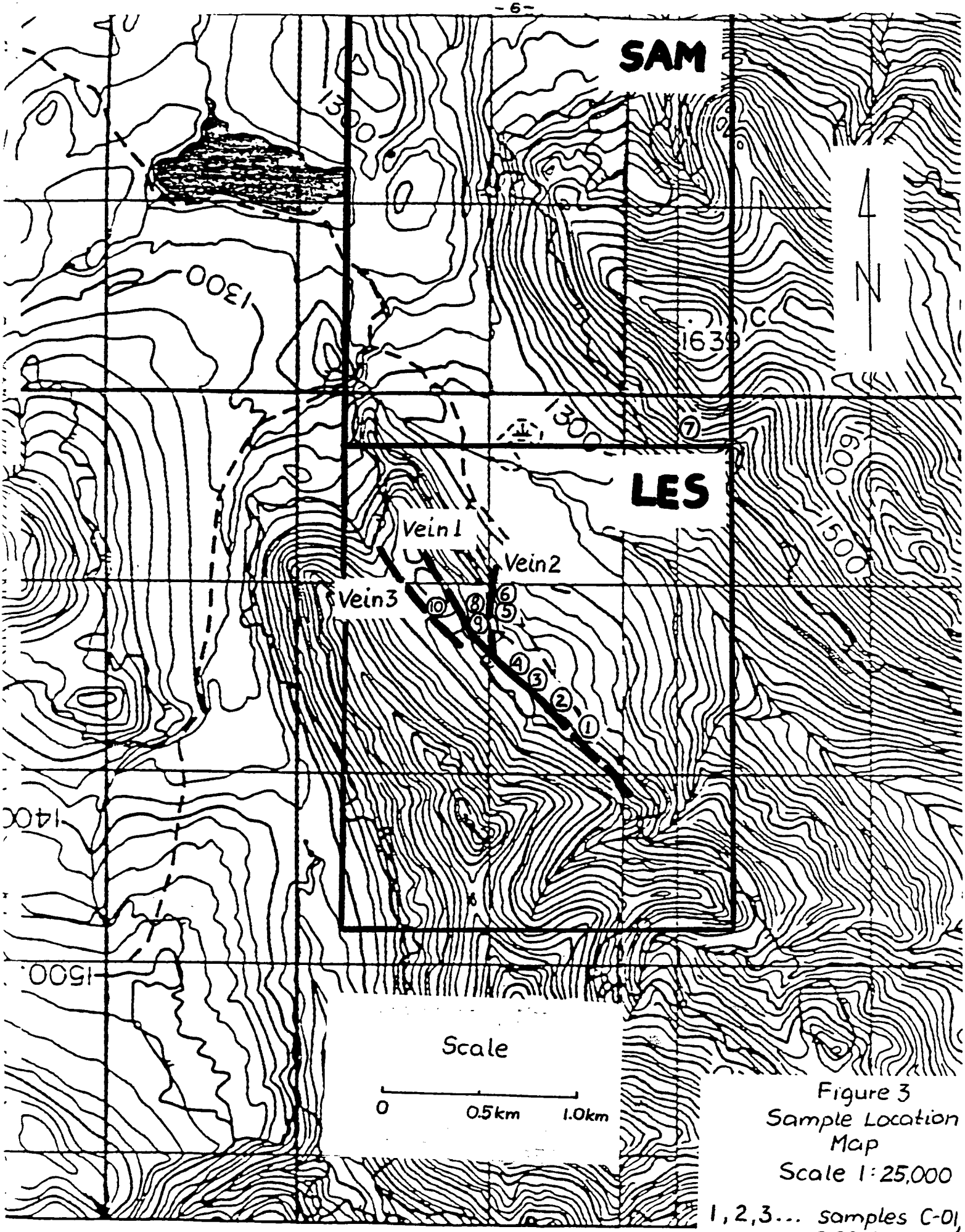


Figure 3
Sample Location Map
Scale 1:25,000

1, 2, 3... samples C-01, C-02, C-03.....

104P/11.12

C-09	grab across 0.3 m 2.0 kg	Galena pocket from the same location as above. 55.6% Pb, 0.78% Cu, 3.98 oz/t Ag.
C-10	float 2.5 kg	Strongly malachite/azurite stained quartz vein boulder with rich galena mineralization (20%). Size 0.3 m diameter. 14.10% Pb, 11.50% Cu, 1.41 oz/t Ag.

7. Geochemical Results

Since only 10 samples were sent for analysis very limited interpretation about rock geochemistry is possible at this point. Majority of the samples represent highly mineralized zones within structurally controlled veins/silicified zones. The high content of base metals was confirmed by assays. (See Assay Certificates.)

The samples contain as high as 55.6% of lead, 11.5% of copper and 1.6% of zinc. Five of the samples assayed over 1.0 oz/t silver with the highest value of 3.98 oz/t Ag (see Sample Description C-09).

Particularly significant is the assay from the sample C-05 which was taken across 10 m zone of highly oxidized and decomposed section of the Vein 1. It assayed 1.3% copper 4.8% lead and 0.44 oz/t silver. Higher assays can be expected from fresh material.

High mercury content (up to 12 ppm) could be significant during the exploration as it is generally indicative of the nature of the hydrothermal system.

The results of the sampling done by B.C. government geologists in 1987 show higher values of silver in massive sulphide zones of the main mineralized structure (Vein 1). The highest assay was 8.7 oz/t Ag. Also values up to 200 ppb of gold were detected in the samples. The inconsistencies with the author's results suggest that the sampling to date is inadequate and methodical approach along with extensive blasting and trenching is necessary to properly evaluate the economic potential of the mineralized structures.

8. Conclusions

The 1987 Prospecting of the AX property revealed high base metal and silver values in structurally controlled polymetallic veins hosted by carbonates of Rosella Formation. Values up to 55.6% of lead, 11.5%of copper and 1.6% of zinc with associated silver up to 3.98 oz/t were produced from mineralized zones. The mineralized sections are 0.3 to 1.0 m wide. However, one of the 1969 trenches exposed 10 m wide quartz-limonite breccia

zone that might contain high sulphide content at depth. The chip sample from this trench assayed 1.3% copper, 4.8% lead and 0.44 oz/t silver. The massive sulphide zones are located in highly silicified vein-like structures that are up to 15 m wide and appear to be continous along the strike.

Recently published geological map of the area shows that the AX showing is located along the same system of high-angle faults, as two other newly discovered mineral occurrences Ella Rosa and Cyathid Mtn. (figure 2). These occurrences are located 6.5 and 22 km northwest of AX showing respectively. The fault system therefore, represents an excellent exploration target with potential for economic base and/or precious metal deposit.

References

1. Hubert Gabrielse — GSC Memoir 319, 1963
McDame Map-Area,
Cassiar District
British Columbia

2. Joanne Nelson et. al. — Geological Fieldwork, 1987
Geology and Patterns of
Mineralization
Blue Dome Map Area,
Cassiar District (104P/12)

Statement of Expenses

Travel (truck rental, gas)	$ 841.00
Food, Accomodation	362.00
Assays	401.50
Maps, Aerial Photographs, Recording Fees	371.13
Prospectors - Geologists 12 man/days @ $150/day	2,100.00
Report Preparation, 2 days (incl. copying, enlargements)	325.00
TOTAL	$4,400.63

Chris Baldys,
August 12, 1988

CERTIFICATE

I, Chris Baldys, of the Municipality of Richmond in the Province of British Columbia, do hereby certify that:

I) I am a self-employed Geologist at 9013 Steveston Highway, Richmond, British Columbia, V7A 1M6

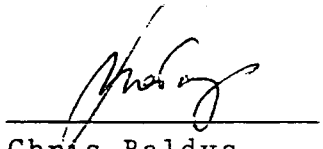
II) I graduated in 1980 from the Academy of Mining and Metallurgy, Cracow, Poland with a Magister of Engineering Degree in Mining Geology and Exploration.

III) I have been involved in mining geology from 1980 to 1983, and in mineral exploration in the Canadian Cordillera since 1983.

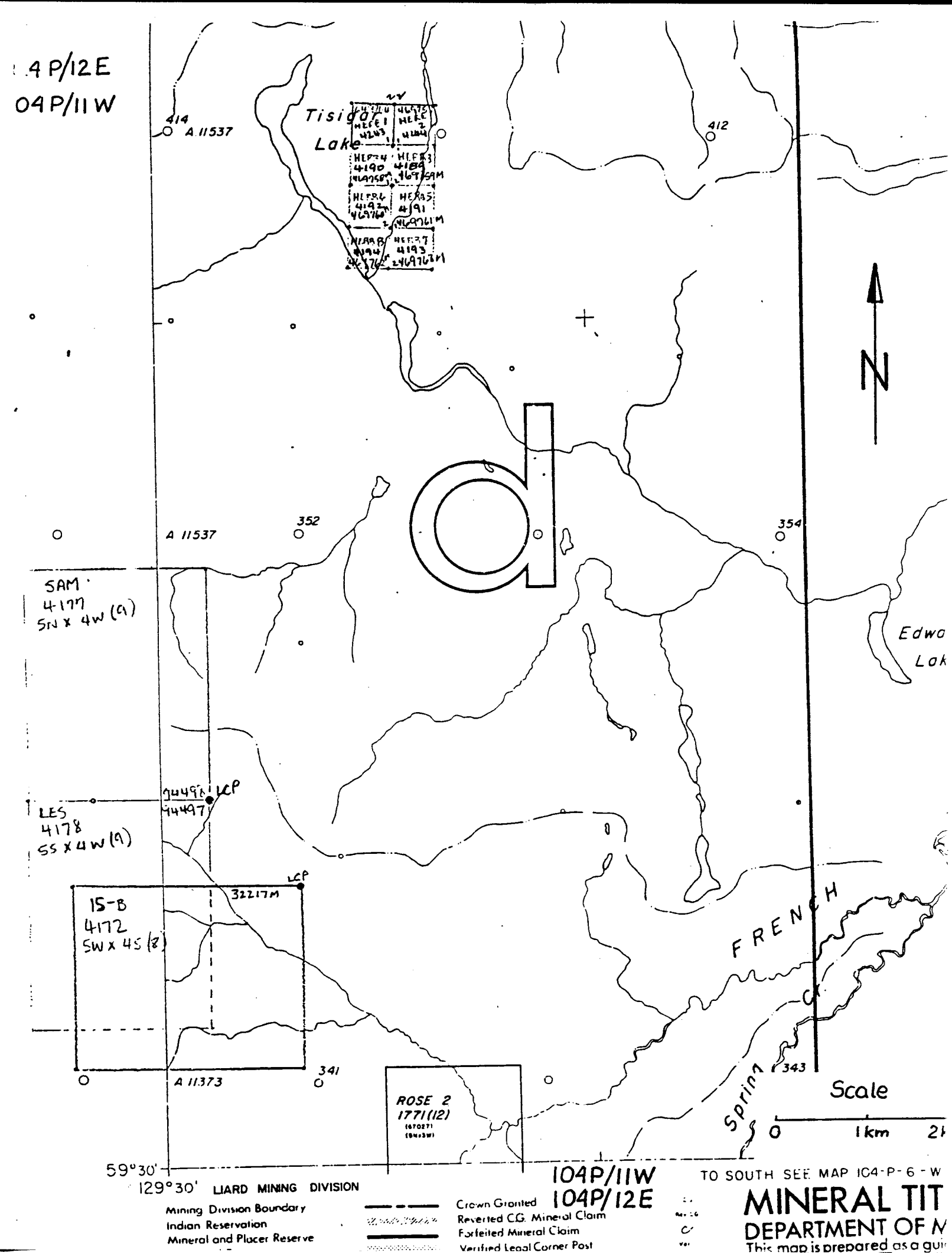
IV) This report is based on field work carried out by this author and Allan E. Poitras from September 4, 1987 to September 9, 1987.

V) I have half interest in the AX property.

VI) This report was submitted for assessment purposes to the B.C. Ministry of Energy, Mines and Petroleum Resources.



Chris Baldys,
January 20, 1989


104P/12E
104P/11W
414
A 11537
Tisigo Lake
412
352
A 11537
354
SAM
4177
5N x 4W (9)
LES
4178
5S x 4W (9)
LCP
LCP
15-B
4172
SW x 4S (8)
322.17M
A 11373
341
343
ROSE 2
1771(12)
FRENCH
Edwa
Lak
Sprin
N
Scale
0
1km
59°30'
129°30'
LIARD MINING DIVISION
104P/11W
104P/12E
Mining Division Boundary
Indian Reservation
Mineral and Placer Reserve
Crown Granted
Reverted C.G. Mineral Claim
Forfeited Mineral Claim
Verified Legal Corner Post
TO SOUTH SEE MAP 104-P-6-W
MINERAL TIT
DEPARTMENT OF M
This map is prepared as a gui

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To : BALDYS, CHRIS

9013 STEVESTON HWY.
RICHMOND, BC
V7A 1M6

Project :
Comments:

Date : 28-OCT-87
Invoice # : I-8723149
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8723149

SAMPLE DESCRIPTION	PREP CODE		Cu %	Pb %	Zn %	As NAA %	Hg %	Sb NAA %	Ag FA g/tonne	Au FA g/tonne		
C-9	207	--	0.78	55.6	0.02	0.002	< 0.001	0.075	113.0	0.27		

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Project :
Comments:

Date : 19-OCT-87
Invoice # : I-8723148
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8723148

SAMPLE DESCRIPTION	PREP CODE		Cu %	Pb %	Zn %	As NAA %	Hg %	Sb NAA %	Ag g/t RUSH FA	Au g/t RUSH FA		
C-4	236	--	0.06	10.60	1.54	0.001	< 0.001	0.014	37.7	< 0.07		

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Project : ASHNOLA EPITHERMAL
Comments:

Date : 14-DEC-87
Invoice # : I-8727508
P.O. # :

CERTIFICATE OF ANALYSIS A8727508

SAMPLE DESCRIPTION	PREP CODE		Cu %	Pb %	Zn %
C-2	214	--	-----	-----	1.64
C-3	214	--	4.39	-----	-----
C-5	214	--	1.30	4.83	-----
C-6	214	--	1.20	-----	1.24
C-8	214	--	10.80	13.00	-----
C-10	214	--	11.50	14.10	-----

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CERTIFICATION : B. Stewart

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Project :
Comments:

Date : 22-OCT-87
Invoice # : I-8723150
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8723150

SAMPLE DESCRIPTION	PREP CODE		Au ppb FA+AA	Sb ppm	As ppm	Bi ppm	Cd ppm	Cu ppm	Pb ppm	Hg ppb	Mo ppm	Se ppm	Ag ppm	Zn ppm
C-01	205	—	< 5	270	60	0.1	2.3	4000	312	1100	1	0.2	15.0	289
C-02	205	—	< 5	27.0	560	0.1	38.0	5380	2360	2500	20	0.2	0.1	>10000
C-03	205	—	< 5	19.0	170	0.1	2.8	>10000	284	1500	140	6.0	2.3	1430
C-05	205	—	< 5	120.0	150	0.1	4.5	>10000	>10000	7600	110	2.6	12.5	6850
C-06	205	—	< 5	520	120	0.1	17.0	>10000	3800	12000	1	1.4	36.0	>10000
C-07	205	—	< 5	4.4	2	0.1	0.1	229	141	100	1	1.2	0.1	181
C-08	205	—	< 5	110.0	70	0.1	6.0	>10000	>10000	2800	6	0.2	34.0	1180
C-10	205	—	< 5	100.0	80	0.1	6.8	>10000	>10000	2800	7	0.2	40.0	1090

CERTIFICATION : Jan H Bichler

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Tot. Pages: 1
Date : 13-DEC-87
Invoice # : I-8727507
P.O. # :

CERTIFICATE OF ANALYSIS A8727507

SAMPLE DESCRIPTION	PREP CODE		Hg ppb
C-4	214	--	5500
C-9	214	--	840

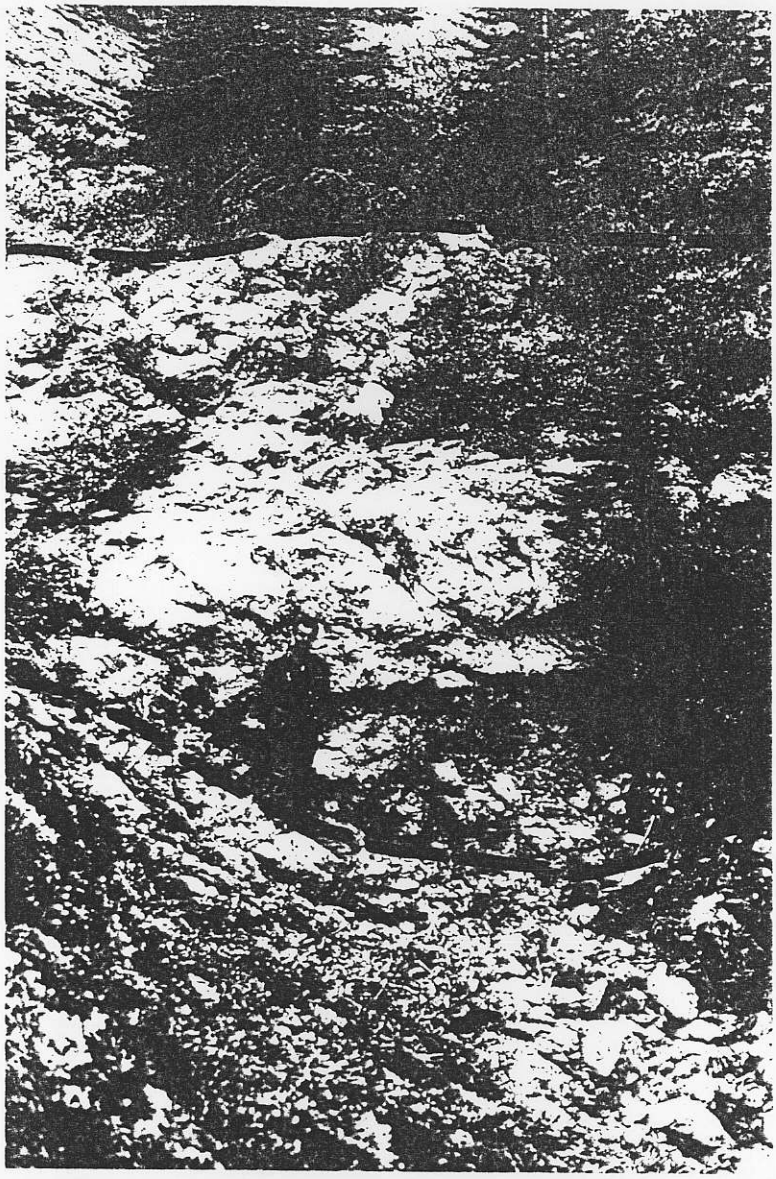
CERTIFICATION : Hart Bichler

REFERENCES

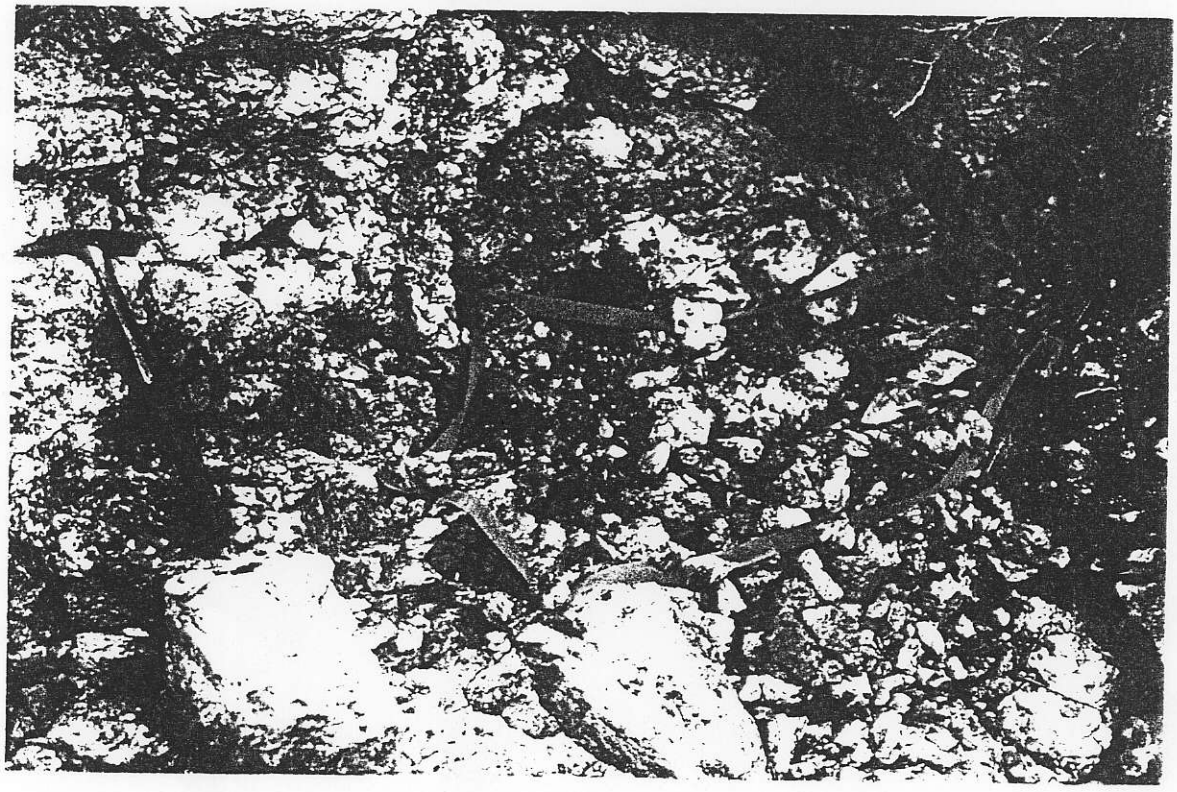
J.L. Nelson, J.A. Bradford K.C. Green and M. Marsden	Geology and Patterns of Mineralization, Blue Dome Map Area Cassiar District (104 P/12) Geological Fieldwork 1987 Paper 1988-1
J.A. Bradford and C.I. Godwin	Midway Silver-Lead-Zinc Manto Deposit, Northern British Columbia (104 O/16), Geological Fieldwork 1987 Paper 1988-1
J.L. Nelson and J.A. Bradford	Geology and Mineral Deposits of the Cassiar and McDame Map Areas, British Columbia Geological Fieldwork 1988 Paper 1989-1
A. Panteleyev (1980)	Cassiar Map Area Geological Fieldwork 1979 Paper 1980-1

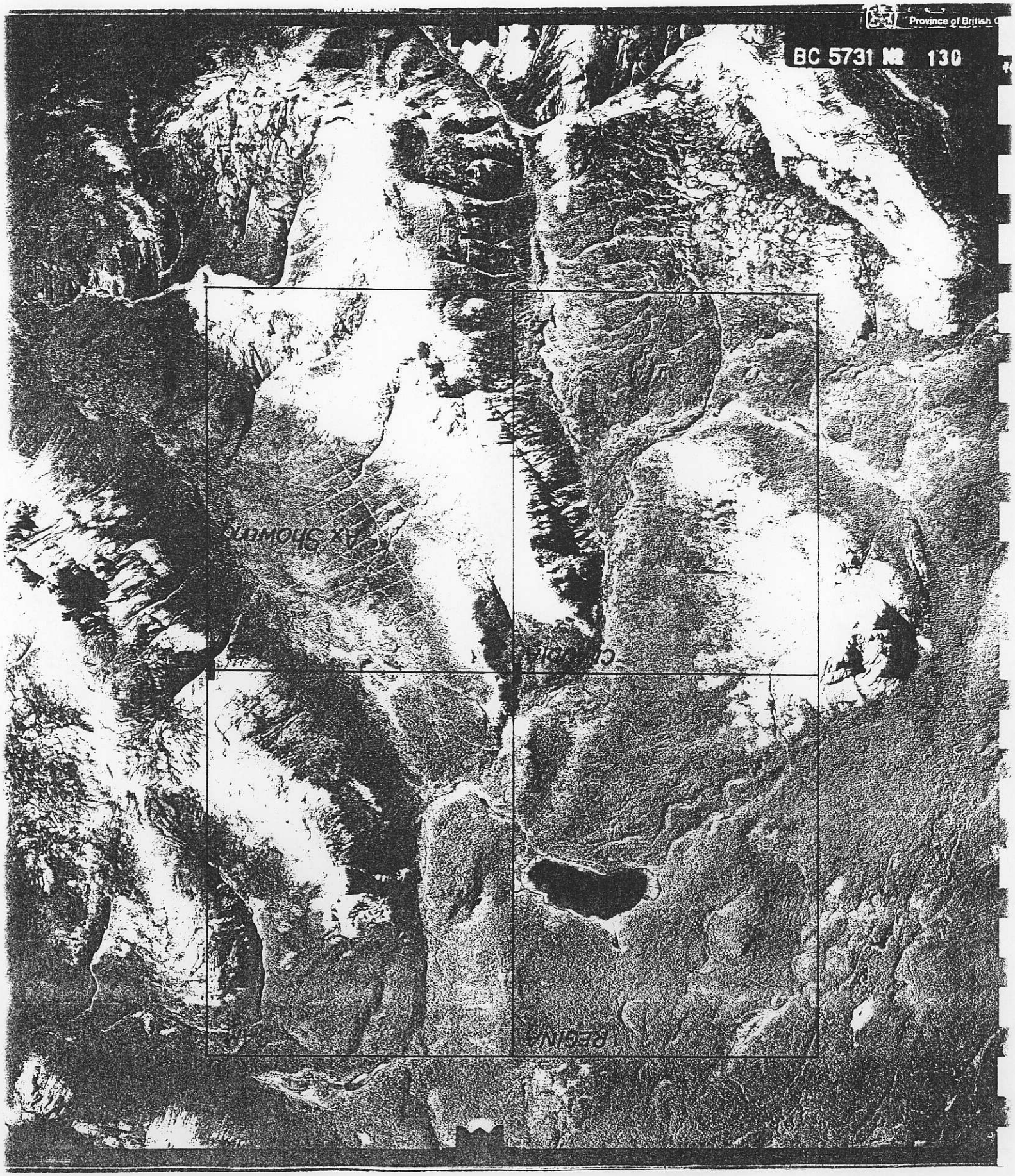
Ax Showing - Vein 1

(Right)
15 m wide silicified zone with galena and malachite



(Below)
Close up of a galena rich zone

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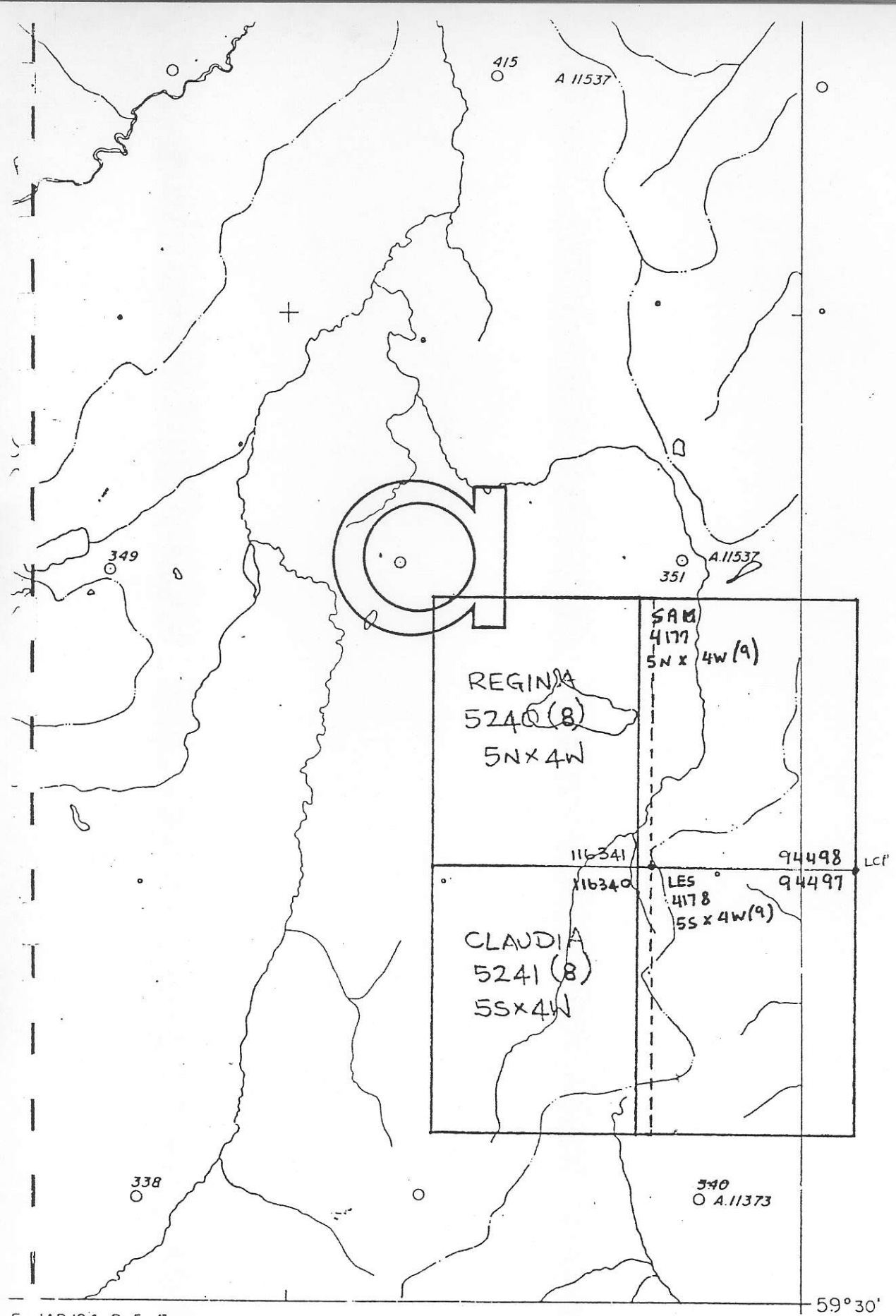
BC 5731 130



Scale

Miles 1 .5 0 1 2 Miles

Metres 1000 500 0 1000 2000 3000 Metres

Kilometres 1 .5 0 1 2 3 Kilometres

Province of British Columbia
Ministry of Energy, Mines and Petroleum Resources

UNLESS VERIFIED OR SURVEYED, THE MAP POSITION OF A LEGAL CORNER POST IS BASED ON THE LOCATOR'S SKETCH. FOR FURTHER INFORMATION, APPLY TO THE OFFICE OF THE MINING DIVISION CONCERNED.

DATE OF MICROFILM:

C

E IAP 104-P-5-E

NERAL TITLES REFERENCE MAP 104P/12E

R MENT OF MINES AND PETROLEUM RESOURCES VICTORIA, B.C.

o is prepared as a guide only to the location of mineral claims that have not been surveyed. Where the ohic position of a legal corner post has been verified it is indicated with the symbol, Ver. Additional tic with respect to the claims may be obtained at the Mining Division concerned.

Scale 1:31,680