

84-1408-13657
12/85

RAM EXPLORATION LTD

GEOLOGIC REPORT

ON THE SILVER 1 AND 2

MINERAL CLAIMS

RECORD NO.S. 1262(1) AND 1263(1)

GOLDEN MINING DIVISION

SOUTHEASTERN, BRITISH COLUMBIA

LAT. 50 18'N LONG. 116 22'W

N.T.S. 82K/8W

FOR

MANDUSA RESOURCES LTD.

BY

C. VON EINSIEDEL

CONSULTING GEOLOGIST

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

Vancouver, B.C.
September 5, 1984

13,657

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SUMMARY

At the request of L. Mikaluk, President - Mandusa Resources Ltd., Ram Exploration Ltd. carried out a preliminary evaluation of the former "Charlemont" silver prospect, situated on the Silver 1 Mineral Claim, Golden Mining Division, southeastern, B.C.

This prospect was first explored in the early 1900's and according to B.C. Department of Mines records, the owners made a small ore shipment (1904) which assayed 86 oz/ton silver and 59% lead. Development work, including three short adits and numerous open cuts and trenches, exposes both high grade vein type and lower grade replacement type silver - lead - zinc mineralization.

High grade silver - lead - zinc mineralization has been traced over a strike length of approximately 70m across a vertical range of thirty meters. Channel sampling across well mineralized sections of the vein (0.5 to 0.9m wide) returned assays as high as; Ag - 54.3 oz/ton, Pb - 28.2%, Zn - 16.0% and Cu - 1.7%. Selected samples of replacement type mineralization returned assays of up to; Ag - 48.3 oz/ton, Pb - 20.0%, Zn - 0.9% and Cu - 1.6%.

Considering the dramatic escalation in precious metal prices since the last recorded development work, the prospect clearly warrants continued evaluation. It is recommended that underground workings be rehabilitated for sampling purposes and that limited soil / talus geochemistry be carried out to trace possible extensions of known mineralization.

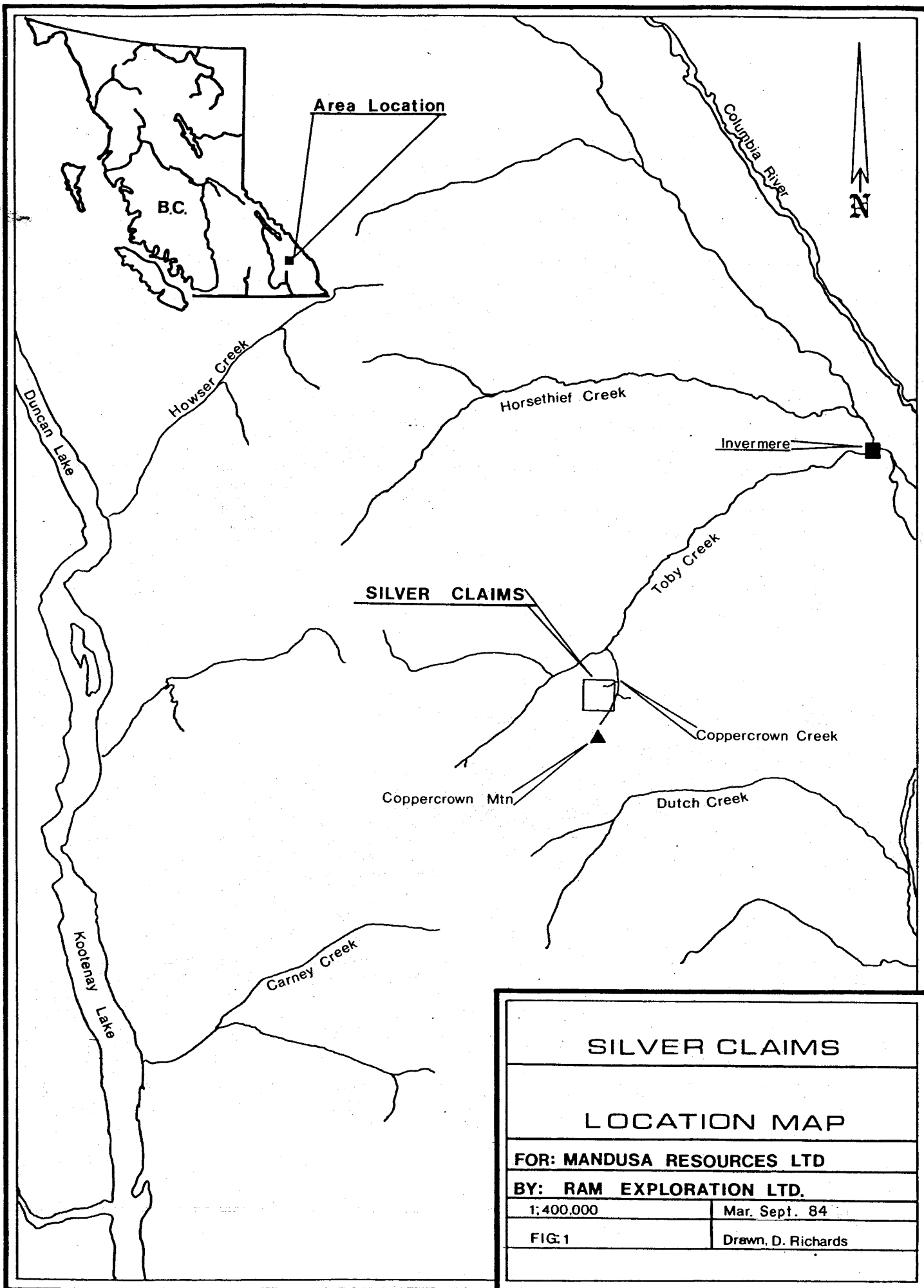
INTRODUCTION

This report is based on B.C. Department of Mines records, published descriptions of similar occurrences in southeastern B.C. and results of a property examination made between August 21 and 25, 1984. A helicopter fly camp was established near the workings which are at an elevation of approximately 7,000' on the west side of Coppercrown Creek.

The principal focus of the current seasons exploration program was to determine whether known mineralization is of sufficient economic interest to warrant continued evaluation. Surface and underground workings believed to be the former "Charlemont" prospect were mapped and sampled in detail.

Exposed within these workings are two principal types of silver - lead - zinc - copper mineralization.

- i) Shear hosted, galena, sphalerite and tetrahedrite bearing quartz - carbonate veins, and
- ii) Joint and fracture controlled galena stringers (possibly with tetrahedrite) and disseminated galena and sphalerite in a grey-green, blocky limestone.



Area Location

B.C.

Columbia River



Howser Creek

Horsethief Creek

Invermere

SILVER CLAIMS

Toby Creek

Coppercrown Creek

Coppercrown Mtn

Dutch Creek

Kootenay Lake

Carney Creek

SILVER CLAIMS

LOCATION MAP

FOR: MANDUSA RESOURCES LTD

BY: RAM EXPLORATION LTD.

1:400,000

Mar. Sept. 84

FIG.1

Drawn, D. Richards

LOCATION / ACCESS / PHYSIOGRAPHY

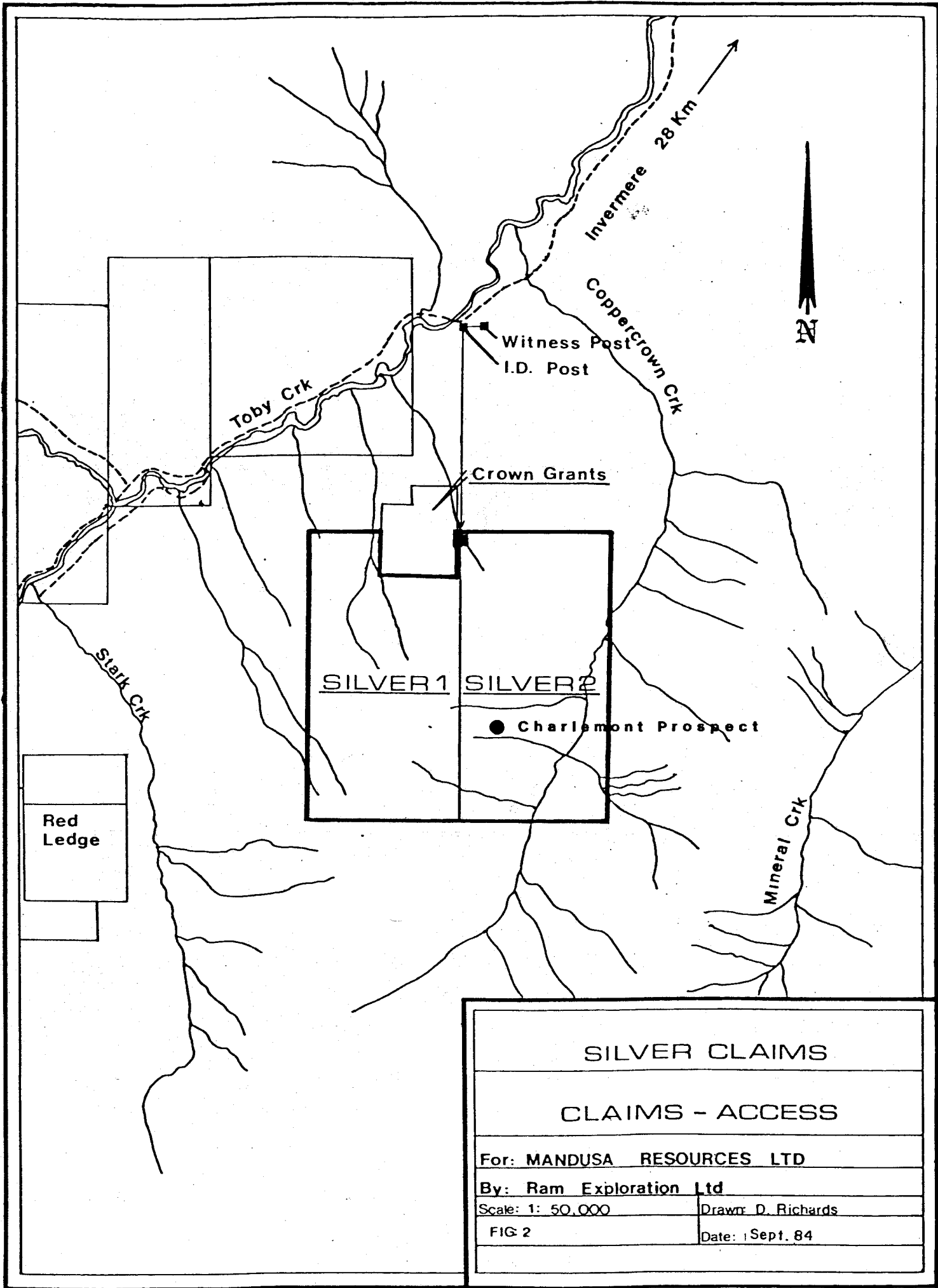
The Silver Claim Group is situated between Coppercrown Creek and Toby Creek approximately 30 km southwest of Invermere, British Columbia. Access to the claims is by gravel logging road to the confluence of Toby and Coppercrown Creeks and then by trail along Coppercrown Creek.

The claims cover the north face of Coppercrown Mountain which consists of parallel, steep sided ridges with elevations ranging between 3,500 and 8,000'. The former "Charlemont" silver prospect situated at an elevation of approximately 7,000' on the west side of the Coppercrown Creek Valley. At present, helicopter access is most convenient however, cat access to known surface workings could be achieved at a reasonable cost.

PROPERTY

The Silver 1 and 2 Mineral Claims comprise 36 claim units recorded in the Golden Mining Division on map sheet 82K8W. (Figures 1 and 2) Title is recorded as follows:

Claim Name	No. of Units	Record No.	Registered Owner	Expiry
Silver 1	18	1262(1)	Mandusa Resources	Dec. 16, 1984
Silver 2	18	1263(1)	Mandusa Resources	Dec. 16, 1984



SILVER CLAIMS

CLAIMS - ACCESS

For: MANDUSA RESOURCES LTD

By: Ram Exploration Ltd

Scale: 1: 50,000

Drawn: D. Richards

FIG 2

Date: Sept. 84

HISTORY

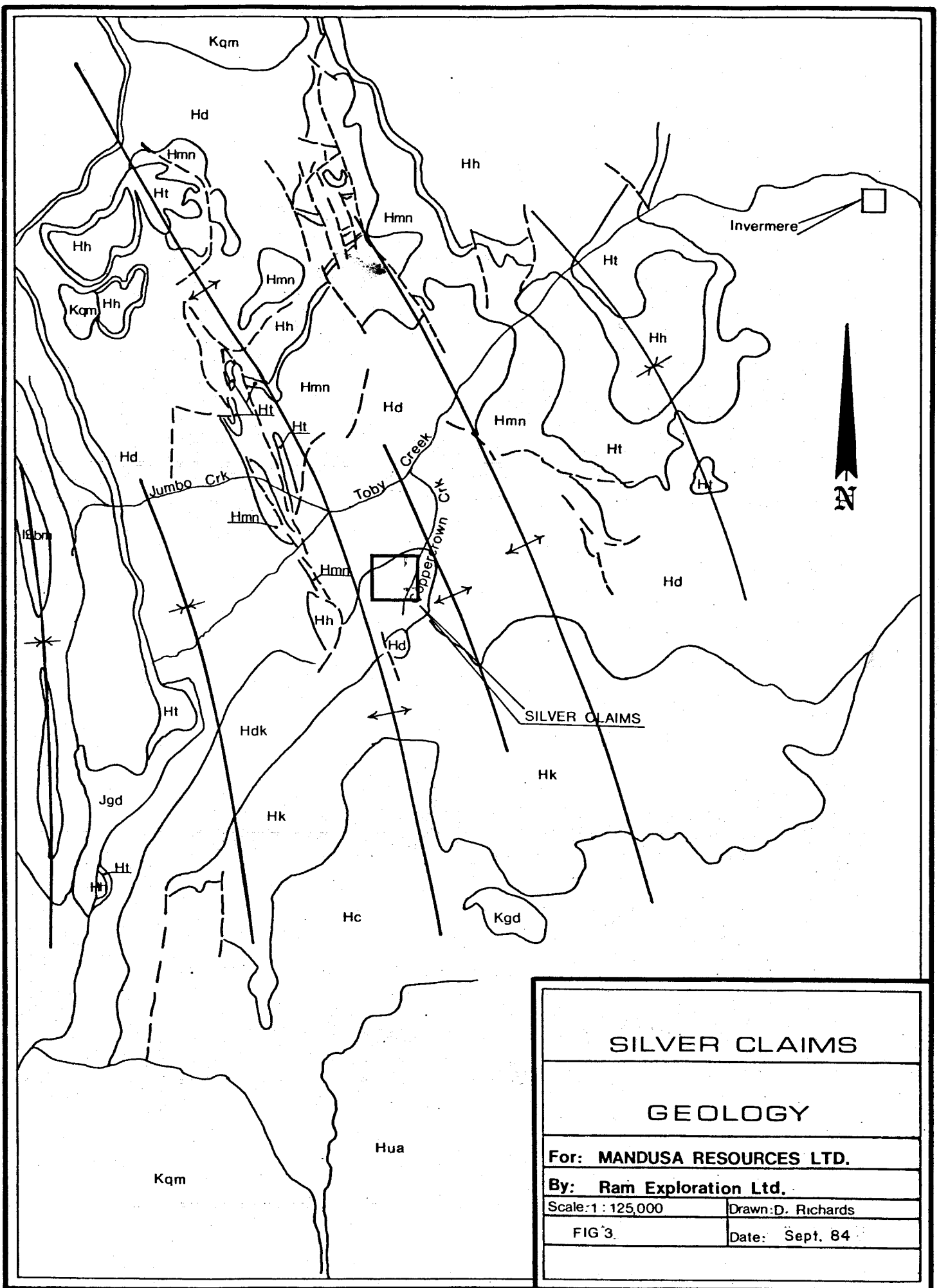
Early 1900's B.C. Department of Mines records document intermittent surface and underground development work and a limited production history for the "Charlemont" prospect. More recent exploration efforts include a limited geophysical and diamond drilling program carried out in 1969 and 1970 by North Canadian Oils Ltd., however, complete records are unavailable.

Mineral Inventory Maps, published by the Ministry of Mines indicate that within several km of the Silver Claims are seven past producing mines several of which produced significant tonnages of medium to high grade silver - lead - zinc ore.

REGIONAL GEOLOGY

The regional geology was recently summarized (Magrum, 1984) and comprises a northwest trending series of Proterozoic to Lower Paleozoic meta-sediments intruded by Mesozoic quartz monzonite and granodiorite (Reesor, 1973). The Silver Claims are situated along a major structural feature, the Purcell Anticlinorium, which defines a NNW plunging fold belt characterized by broad open folds in competent strata and tight, complex folds in thinner, more incompetent units.

The former "Charlemont" prospect is situated in a folded sequence of undifferentiated Proterozoic argillites and calcareous schists, carbonates and grits of the Dutch Creek and Kitchener - Siyeh Formations. These rocks are crosscut by steeply dipping, NNW trending, shear and fracture zones which in places, host high grade, silver - lead - zinc mineralization.



SILVER CLAIMS	
GEOLOGY	
For: MANDUSA RESOURCES LTD.	
By: Ram Exploration Ltd.	
Scale: 1 : 125,000	Drawn: D. Richards
FIG 3.	Date: Sept. 84

TABLE 1

Legend to accompany geologic map: Fig. 3.

CRETACEOUS

Kqm - Intrusives

LOWER CAMBRIAN

ICbm - Badshot Formation - marble, phyllite, schist

Ich - Hamill Group - quartzite, phyllite, schist

HADRYNIAN

WINDERMERE GROUP

Hh - Horsethief Creek Group - schist, marble, quartzite, conglomerate

Ht - Toby Formation - conglomerate

HELIKIAN

PURCELL GROUP

Hmn - Mount Nelson Formation - dolomite

Hd - Dutch Creek Formation - argillite, locally dolomitic

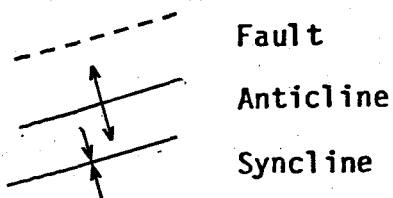
Hk - Kitchener - Siyeh formation - dolomitic & calcareous argillite

Hdk - Dutch Creek and Kitchener Siyeh Formation

Hc - Creston Formation - argillaceous quartzite

Hua - Aldridge Formation - quartzite

Symbols



CURRENT EXPLORATION PROGRAM

To facilitate geologic mapping and sampling, a helicopter fly camp was established near the lower adit of the "Charlemont" workings. Surface and underground workings were keyed to a 100m long control line established along the strike of the vein.

A total of eleven channel and dump samples were collected. These were shipped to Vancouver and assayed for silver, lead, zinc and copper (Bondar Clegg Laboratories). Geochemical analysis for gold yielded anomalous though insignificant concentrations. The results are listed in Table 2.

Development Work

Previous development work on the property consists of a series of trenches, mostly slumped, and three adits, two of which are caved at the portal. Figure 4. shows mineralized zones and plan dimensions of surface and underground workings. Figure 5. is a detailed sketch of the lower adit (Adit No. 1).

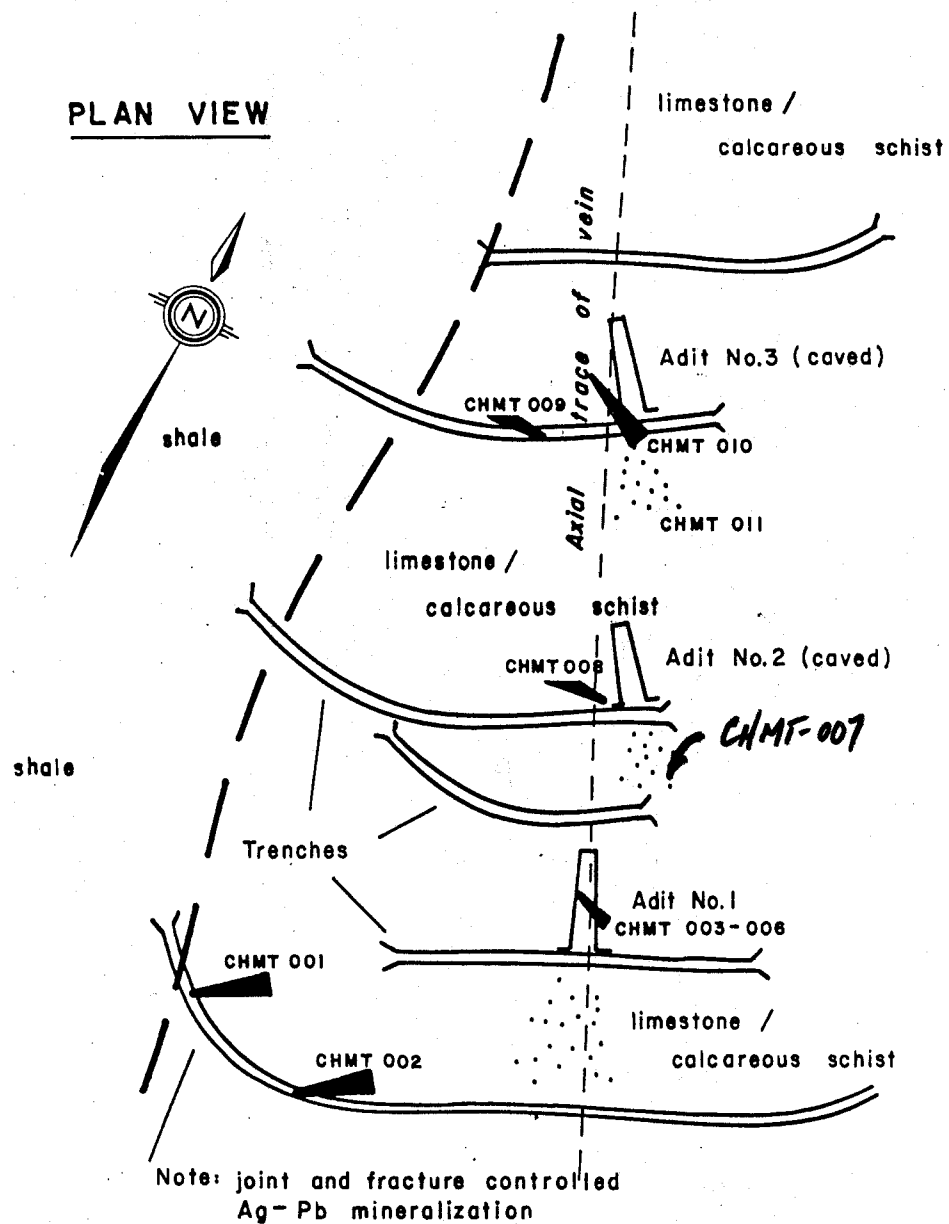
Property Geology

Rocks in the immediate vicinity of the Charlemont prospect comprise a northwest trending series of isoclinally folded, grey green, carbonates and calcareous schists crosscut by steeply dipping, NNW trending shear and fracture zones. A fissile, pyritic black shale (intense limonitic staining) in fault contact with the carbonate rocks forms the northwestern limit of observed mineralization.

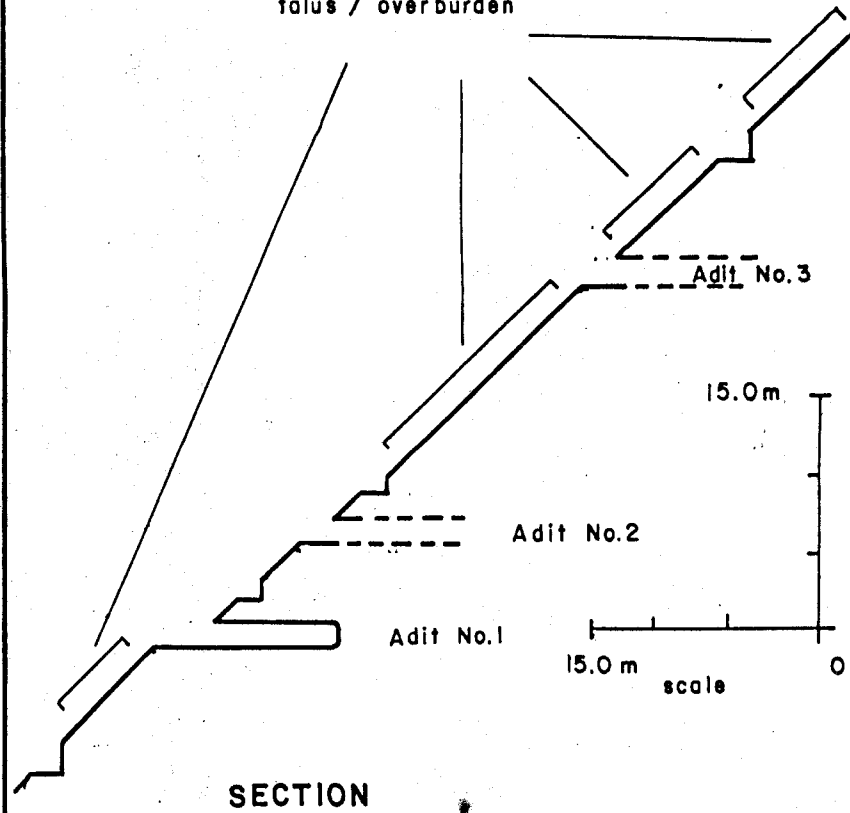
Mineralization

Two principal types of mineralization were observed. The first of these consists of galena, sphalerite and tetrahedrite bearing quartz-carbonate veins which occur along a steeply dipping shear / fracture zone (orientation 320°) within NW striking, calcareous schists. This structure has been trenched at several intervals on a moderately steep, talus / overburden covered slope.

PLAN VIEW



talus / overburden



SECTION

MANDUSA RESOURCES LTD.

Charlemont Prospect

GEOLOGY AND ROCK SAMPLE LOCATIONS

NTS-82K8W

Date: Sept 84

Drawn by: CVE

Figure No. 4

Table 2.

Rock Sample Descriptions

Sample ID	Ag(oz/t)	Cu%	Pb%	Zn%	Description
CHMT 001	48.25	1.66	20.00	0.89	-(1.0m channel) galena with abundant malachite staining on fracture surfaces in limestone
CHMT 002	2.92	0.06	3.36	3.80	-(grab sample) disseminated galena and sphalerite in grey-green limestone
CHMT 003	33.53	0.60	32.60	0.61	-(0.4m channel) quartz-carbonate vein with abundant galena, malachite
CHMT 004	3.94	0.29	3.78	2.16	-(0.8m channel) quartz-carbonate vein with minor galena, sphalerite
CHMT 005	12.94	0.34	10.20	1.75	-(0.5m channel) sheared carbonate with quartz-carbonate stringers, minor galena
CHMT 006	3.18	0.06	3.10	1.46	-(0.4m channel) quartz-carbonate vein with minor galena, sphalerite
CHMT 007	27.79	0.54	32.80	1.21	-(dump sample) galena with malachite stained, quartz-carbonate gangue
CHMT 008	54.32	1.69	28.18	15.98	-(0.9m channel) quartz-carbonate vein heavily mineralized with galena, sphalerite and malachite
CHMT 009	41.63	0.51	48.25	8.60	-(dump sample) galena, sphalerite in malachite stained quartz-carbonate gangue
CHMT 010	14.68	0.23	17.20	27.50	-(0.6m channel) highly oxidized quartz-carbonate vein with abundant galena, sphalerite

Table 2 (con't)

CHMT 011	16.74	0.19	19.60	13.00	-(dump sample) from muck pile @ portal of upper adit - abundant galena and sphalerite in a quartz-carbonate gangue
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Surface and underground mapping indicate that vein dimensions vary between 0.1 and 1.0m in width with an average northeast dip of between 70° and 90°. In places, (Adit No.1), the vein consists of a series of narrower, parallel veins 5 to 20cm wide. Surface trenches trace the structure and mineralization over a strike length of approximately 70m across a vertical range of 30m.

Near surface, vein material is highly oxidized and in places, heavily stained with malachite and azurite (possibly from tetrahedrite). Fine grained masses of galena occur as vertical seams, (2 to 10cm wide), within a quartz-carbonate gangue. Sphalerite occurs as fine euhedral crystals disseminated within gangue material.

The second type of mineralization was only noted in the SW part of the lowermost trench. Here, galena with abundant malachite and azurite staining occurs along joint and fracture planes in a blocky, grey-green limestone. A 1.0m channel sample across the best mineralization observed assayed: Ag - 48.3 oz/ton, Pb - 20.0%, Zn - 0.9% and Cu - 1.7% (Sample No. CHMT 001). Float collected from a slumped part of the trench adjacent to the fracture related mineralization, showed disseminated galena and sphalerite in similar grey-green limestone. Sample locations are shown on Figure 4.

CONCLUSIONS AND RECOMMENDATIONS

Preliminary geologic mapping and sampling of the former "Charlemont" silver prospect clearly indicates that the Silver 1 and 2 Mineral Claims have the potential to host significant reserves of high grade, silver - lead - zinc ore.

It is recommended that surface and underground workings be rehabilitated for sampling and that limited geophysical and geochemical surveys be employed to assess the potential for extensions of known mineralization. Should mineralization persist in the upper adits (caved at time of examination), the structure should be drill tested to determine if sufficient ore is present to warrant a small, high grade mining operation.

Respectfully Submitted,

C. von Einsiedel
Consulting Geologist

REFERENCES

The following publications, reports and maps have been used in the compilation of this report.

- Baird, J.G., 1968, Report on Induced Polarization Survey on Some Melody Claims, Invermere Area, British Columbia, On Behalf of North Canadian Oil, Ltd., Assessment Report # 1897.
- B.C. Ministry of Mines, Annual Report, 1900, p.805; 1902, p.135; 1904, p.113; 1905, p.146; 1907, p.90,213; 1915, p.91; 1921, p.125,165; 1925, p.224; 1926, p.242; 1927, p.265.
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- Fyles, J.T., 1964, Geology of the Duncan Lake Area, Lardeau District, British Columbia Dept. of Mines, Petrol. Resources, Bull. 49.
- Reesor, J.E., 1975, Geology of the Lardeau Map Area, East Half, British Columbia, G.S.C. Memoir 369, p 129.
- Magrum, M.M., 1984, Report on the Silver 1 and 2 Mineral Claims. Engineering Report on behalf of Mandusa Resources.

STATEMENT OF COSTS

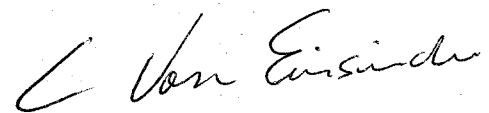
Geologist 4 Days @ \$275.00	\$ 1,110.00
Assistants (2) 4 days @ \$175.00	1,400.00
Helicopter 3.6 hours @ \$570.00	2,050.00
Camp 4 days @ \$75.00	300.00
Assays 11 @ \$40.00	440.00
Miscellaneous Expenditures (field supplies, shipping costs)	610.00
Report 1 Drafting	<u>900.00</u>
TOTAL	\$ 6,800.00

CERTIFICATE

I, CARL A. VON EINSIEDEL, of the City of Vancouver, British Columbia, hereby certify that:

1. I am a Consulting Geologist with offices at #404 - 850 West Hastings Street, Vancouver, British Columbia.
2. I hold a degree of Bachelor of Science of Geology from Carleton University in Ottawa, April, 1982.
3. I have completed undergraduate and post graduate courses in exploration and geochemistry, geostatistics and geophysics.
4. I have been employed in my profession for the past six years.
5. I have no interest either directly or indirectly, nor do I expect to receive any interest in the property covered in this report or in the shares of Mandusa Resources Ltd.
6. This report is based on field examinations made by myself between August 21 and 25, 1984.

Dated at Vancouver, British Columbia, this 5th day of September, 1984.



C.A. Von Einsiedel
Consulting Geologist