'81-#322-#9147

1980 Geological Report
for the
SEVEN SISTERS PROJECT
Omineca Mining Division

N.T.S. 103 I/16E and 103 P/1E

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 9147

Authors: B.H. Whiting
T.J. Garde

January, 1981

Description of the Claims

Claim Name	No. of Units	Record No.	Date Recorded
Fox 1-4	78	1879-1882	17 July, 1979
Tim 1-4	80	1883-1886	17 July, 1979
Ry 1-4	80	1887-1890	17 July, 1979
Rush 1-4	80	1891-1894	17 July, 1979
Fox 5	2	2114	19 Sept., 1979

Latitude: 54°55' to 55°2' N
Longitude: 128°6' to 128°14' W

Operator: Cassiar Resources Limited
(formerly: Cassiar Asbestos Corporation Limited)

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1. INTRODUCTION

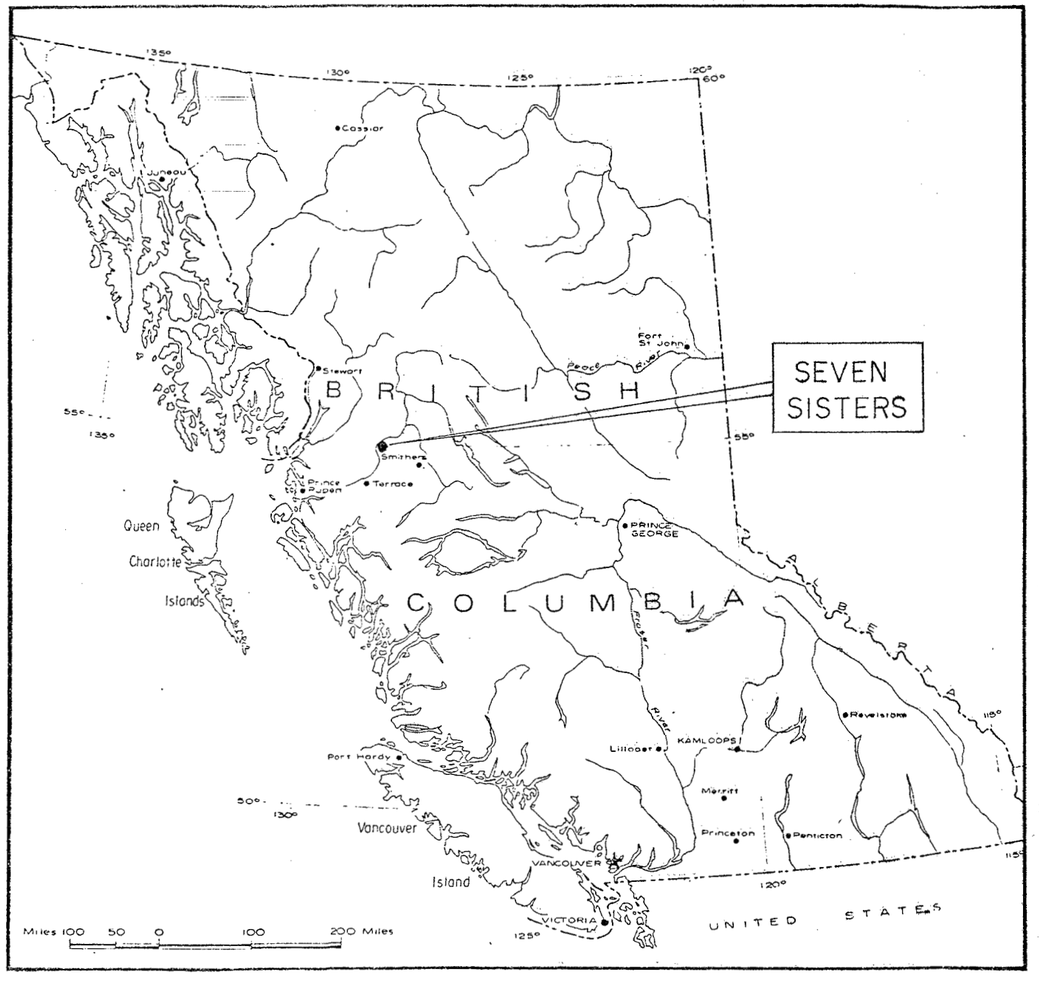
The Seven Sisters Project consists of 320 claim units covering the Seven Sisters Peaks northeast of Terrace, British Columbia. The peaks consist of Bowser Group Sediments which have been deformed and crenulated by the intrusion of the Seven Sisters Stock. Molybdenite chalcopyrite and scheelite mineralization occur within the stock and adjacent dyke swarms. Mineral occurrences within the Bowser Group contain minor amounts of lead, zinc, copper and silver.

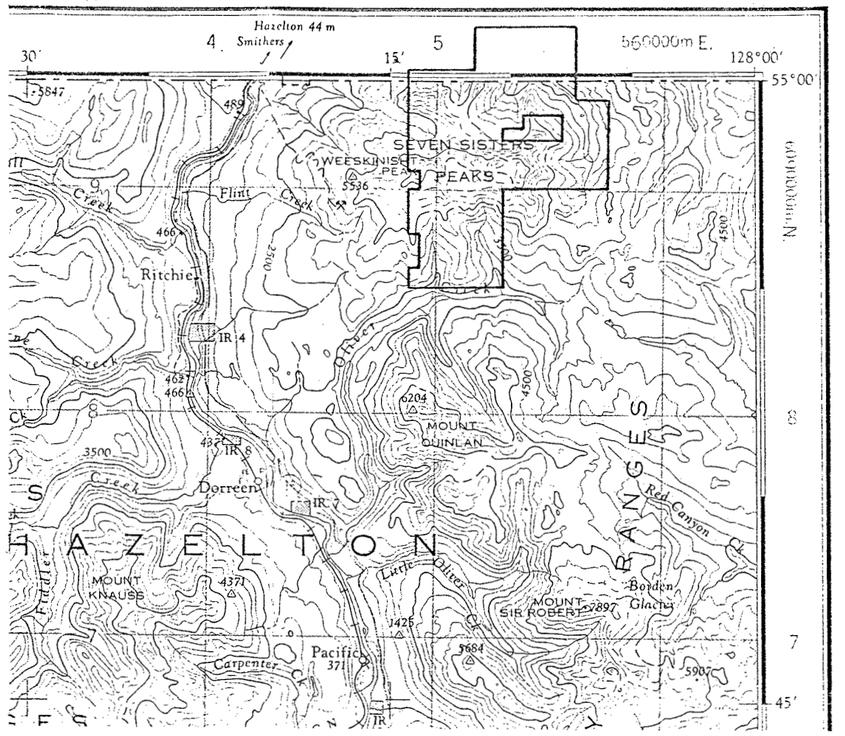
The 1980 exploration programme was to examine the property in light of a possible molybdenum porphyry deposit. Results were somewhat disappointing in that the amount of mineralization and fracture density were too low to warrant further study.

No further work has been recommended.

EDITION 1

103-I





MINERAL RESOURCES BRANCH
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Cassiar Resources Limited

SEVEN SISTERS PROJECT

LOCATION MAP

Drawn by: BHW	Date: Jan 1981
Drafted by:	N.T.S. 1031 & 103P
Approved by: BHW	Figure No. 1

2. LOCATION AND ACCESS

Latitude: 54°55' to 55°02'N
Longitude: 128°06' to 128°14'W
N.T.S.: 103 I/16E and 103 P/1E

The Seven Sisters Project, consisting of the Fox, Ry, Tim and Rush claims, is located on the Seven Sisters Peaks 59 kilometres (37 miles) northeast of Terrace, B.C.

The old mineralized showings on the south side of the property can be reached by four-wheel-drive vehicle along roads extending approximately 13 kilometres (8 miles) from Highway #16.

Most of the property is only accessible by helicopter. This area is serviced by Okanagan Helicopters Limited based in Terrace (25 minutes flying time).

3. TOPOGRAPHY AND GLACIATION

The extremely rugged topography in this area was the most restricting factor to mapping the property. Cliffs and overhangs as much as 600 metres (1,950 feet) high are common. Elevation in this area varies from 227 metres (738 feet) along the Skeena River rising to 2,781 metres (9,039 feet) on the peak of Mt. Weeskinisht. Intermittent rockfalls break the silence every few minutes.

Much of the area is covered by thick glacial ice. Spectacular glacial cirques have been carved out with classic morainal and esker features evident. Ice falls were also common and extensive crevasses posed problems when crossing the glaciers.

By comparing the position of the various glacial tongues in the air photographs to their observed position, it is believed that the glaciers are receding an average of 40 centimetres (16 inches) annually.

4. DESCRIPTION OF THE CLAIMS

Name	No. of Units	Record No.	Date Recorded
Fox 1	18	1879 (7)	17 July, 1979
Fox 2	20	1880 (7)	"
Fox 3	20	1881 (7)	"
Fox 4	20	1882 (7)	"
Tim 1	20	1883 (7)	"
Tim 2	20	1884 (7)	"
Tim 3	20	1885 (7)	"
Tim 4	20	1886 (7)	"
Ry 1	20	1887 (7)	"
Ry 2	20	1888 (7)	"
Ry 3	20	1889 (7)	"
Ry 4	20	1890 (7)	"
Rush 1	20	1891 (7)	"
Rush 2	20	1892 (7)	"
Rush 3	20	1893 (7)	"
Rush 4	20	1894 (7)	"
Fox 5	2	2114 (9)	19 September, 1979
Total	320 units		

Note: Due to claim overlap, the P.J. 1-6 claims, the Jackal 1-5 claims and parts of Noranda's Massa and Fun claims reduce the total claim area held by Cassiar to 312.5 units. The P.J. 1-6 claims were incorrectly plotted on the Government claim maps. Their true location appears on Figure No. 4.

Cassiar Resources Limited

SEVEN SISTERS PROJECT

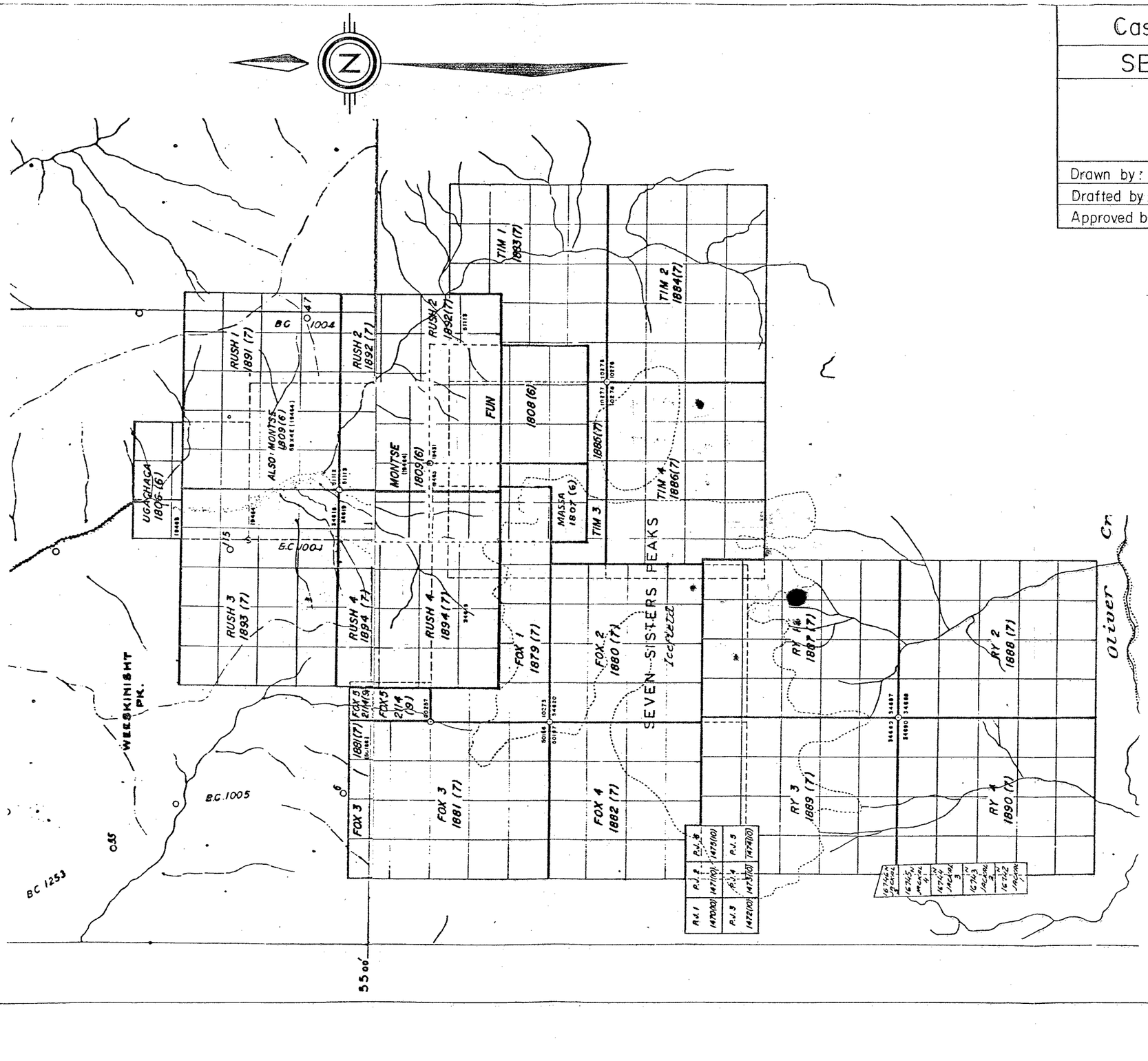
CLAIM MAP

Drawn by:	Date: Jan 1981
Drafted by:	N.T.S. 103I & 103P
Approved by:	Figure No. 2

1 0 1 2 Kilometres

SCALE: 1:50,000

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 9147
Part 1 of 2



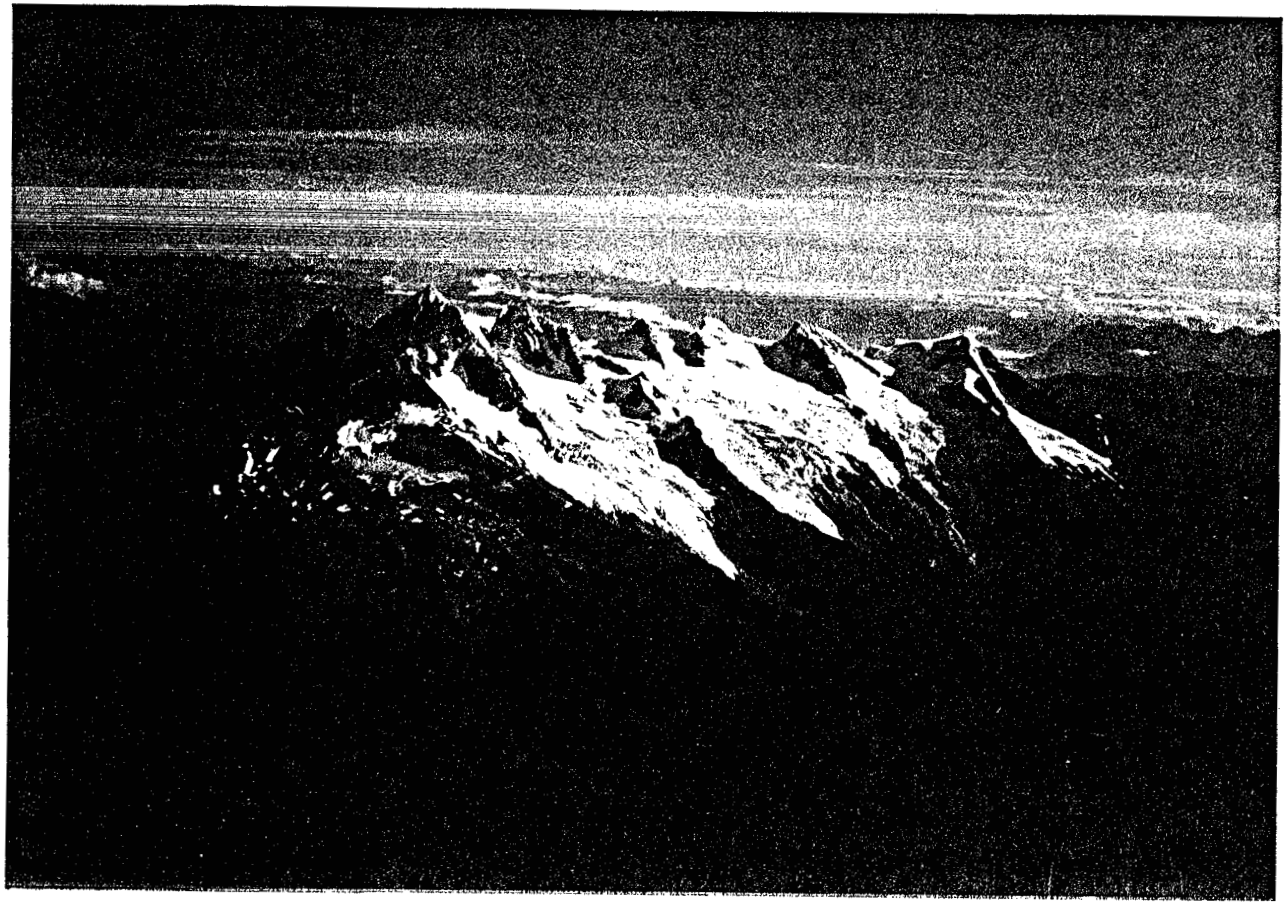


Plate No. 1. Photgraph of the Seven Sisters Peaks illustrating the rugged topography and snow/ice coverage. The highest peak on the left is Mt. Weeskinisht, elev. 9039 ft.

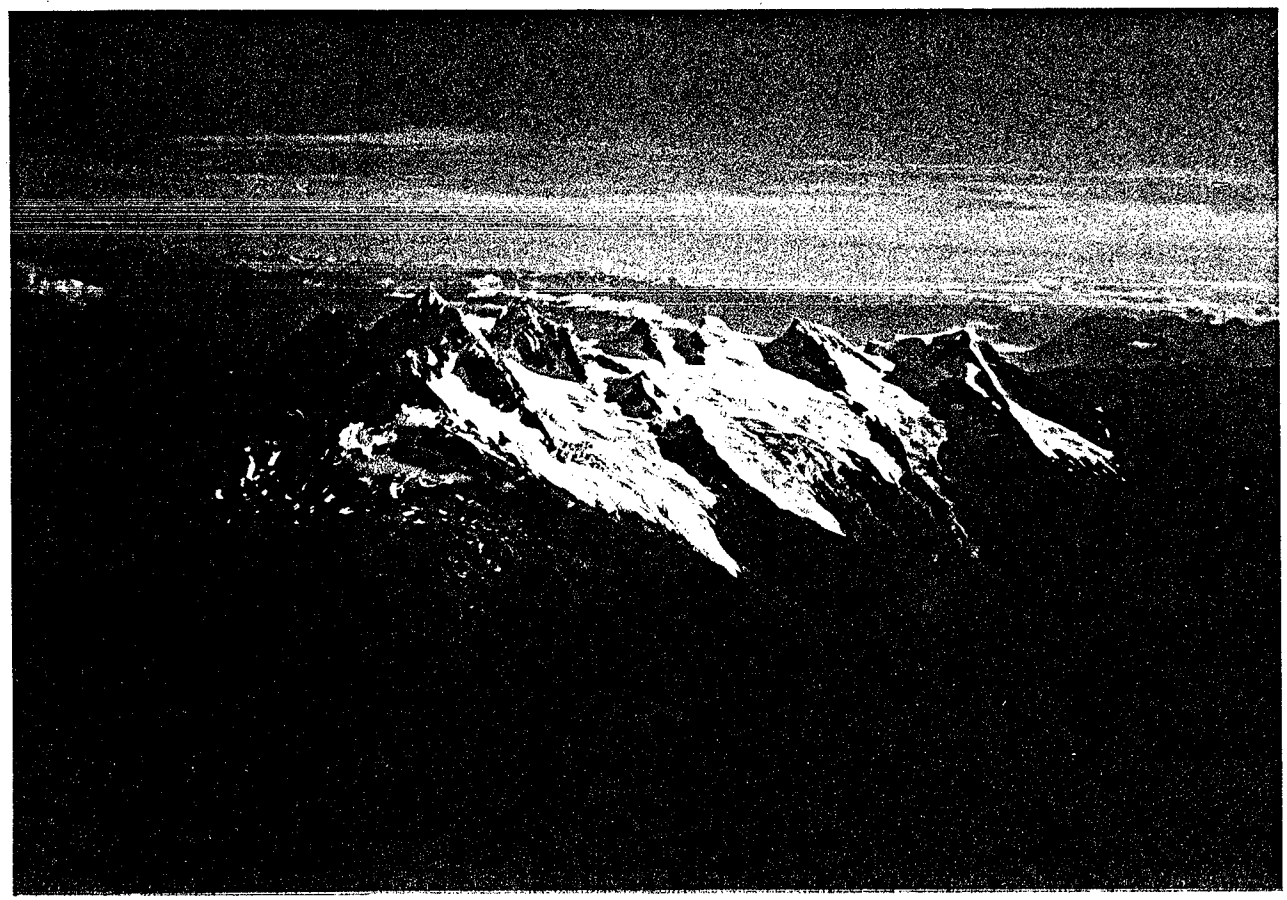


Plate No. 1. Photgraph of the Seven Sisters Peaks illustrating the rugged topography and snow/ice coverage. The highest peak on the left is Mt. Weeskinisht, elev. 9039 ft.

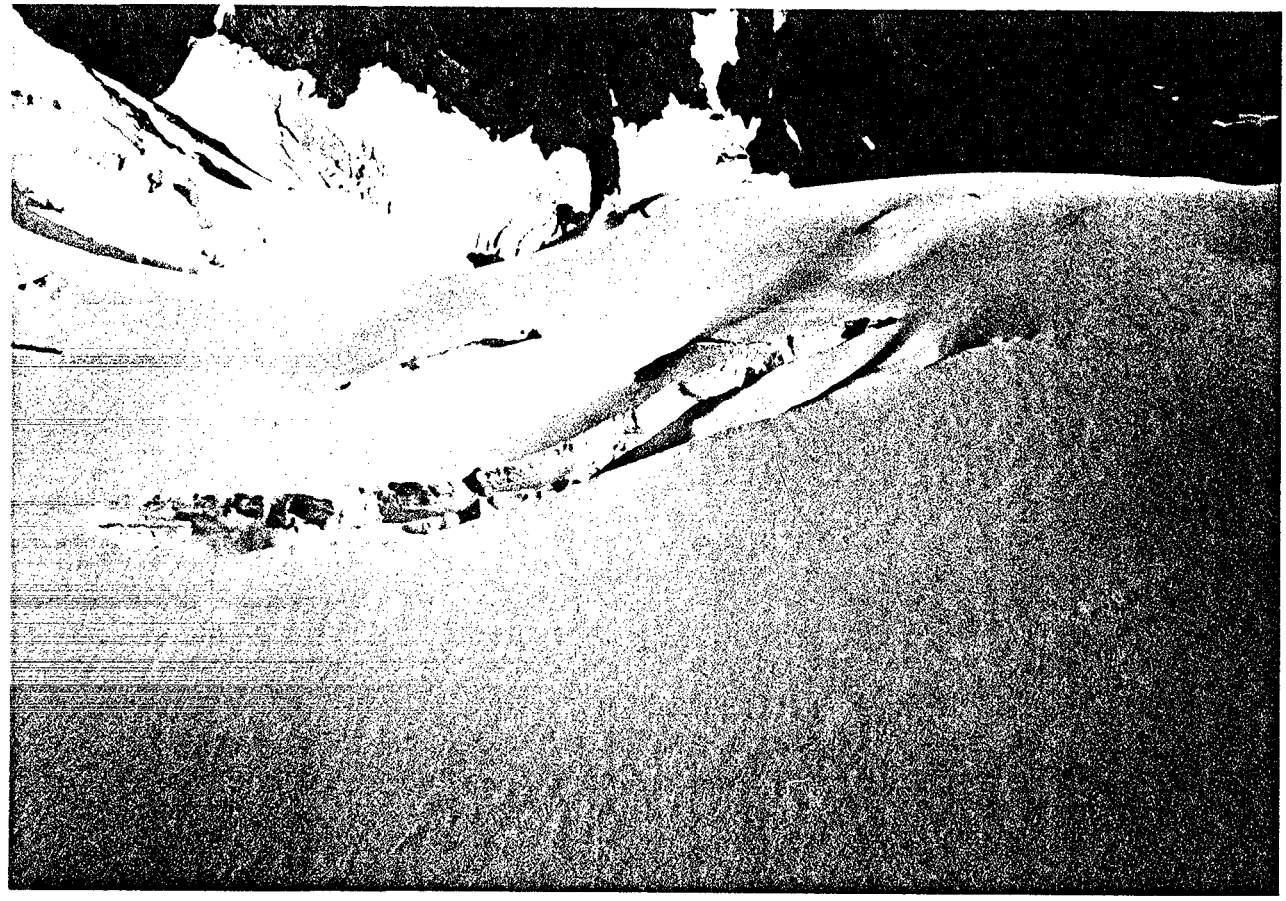


Plate No. 2 Photograph of a Glacial Crevasse. Deep and sometimes hidden crevasses extensively cover the many glaciers on the Seven Sisters Peaks making traverses dangerous in some areas.

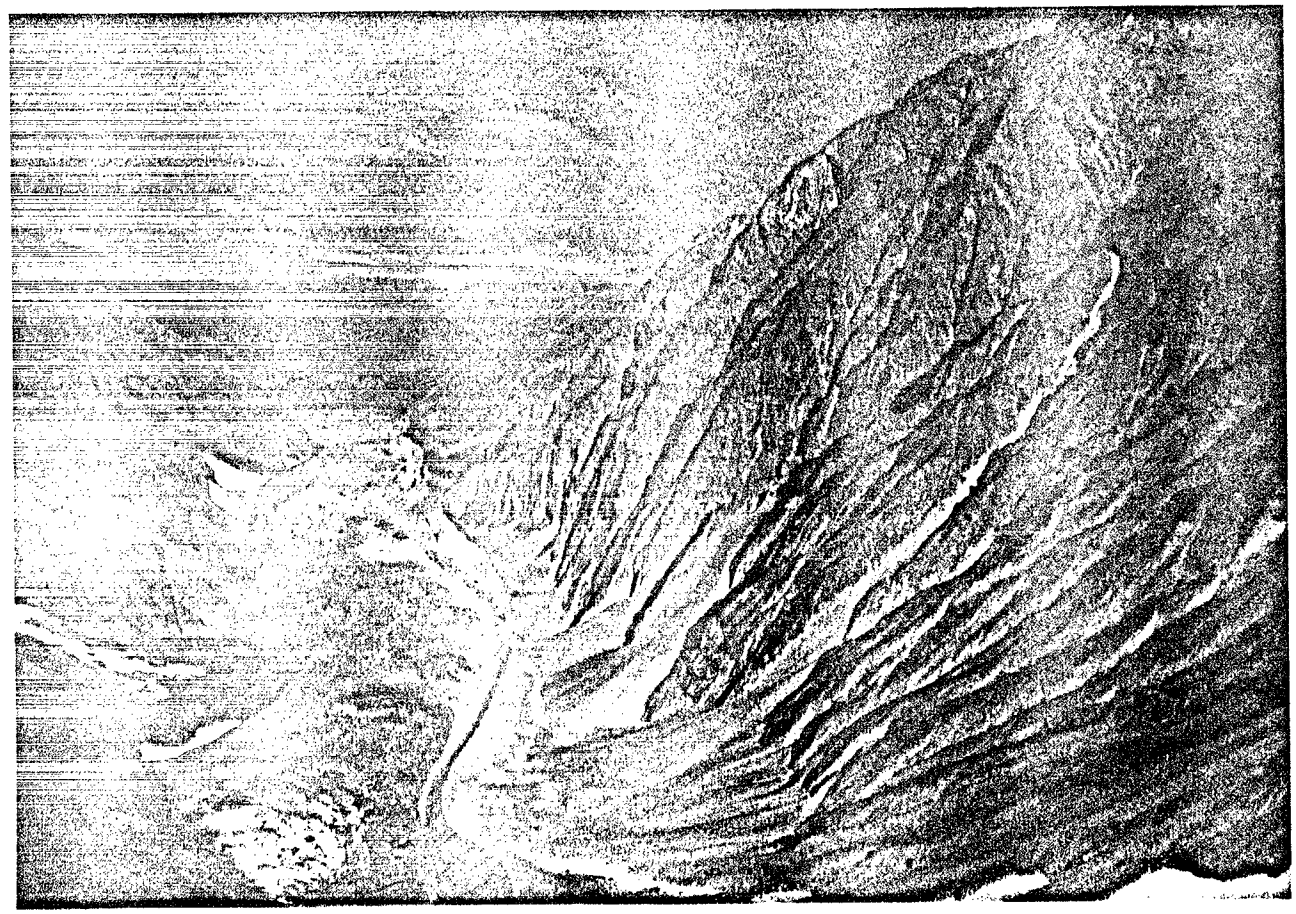


Plate No. 3 Photograph of a Glacial Moraine. Prominent latteral and terminal moraines are exhibited in this area.

5. HISTORY OF THE PROPERTY

The Seven Sisters property, covering 12.5 kilometres by 9 kilometres, includes several old prospects to the south ahd one prospect to the north of the main peak.

5.1 Old Prospects

5.1.1 Big Oliver (Minfile No. 103I - F128) first appears in the BCDM Minister of Mines Annual Report for 1929. Very little work was carried out on the two small showings which possess trace gold and sparse amounts of sphalerite and chalcopyrite. The Big Oliver property is on the Ry-2 claim.

5.1.2 Margarite (Minfile No. 103I - J129) also appears in the BCDM MMAR for 1929. The two showings assayed trace gold and silver but no copper. The Margarite property is on the Ry-4 claim.

5.1.3 Rega (Minfile No. 103I - J149). The original Rega 1-33 claims were operated by Magnetron Mining Limited of Vancouver.

In 1968 the surface workings were surveyed and electro-magnetic and magnetometer surveys were conducted on Rega 1-4 claims. Two adits, total length of 18.3 metres (60 feet), were driven.

In 1969, 16 line-kilometres (10 line-miles) of magnetometer survey were carried out on the Rega 1, 2, 3, 18 and 23 claims. A 30.5 metre (100 foot) trench was bulldozed and an X-ray hole of 22.6 metres (74 feet) was diamond drilled.

In 1971, an Aeromagnetic Survey of the Rega, Nillo, Mag and Jackal claims was conducted.

In 1972, a Gravity Survey of the Rega, Nillo, Mag and Jackal claims was conducted.

The Rega claims are now part of the Ry-3 claim.

5.1.4 Mag (Minfile No. 103I - J150). These claims were in two groups 3.2 kilometres (2 miles) apart. The western portion had old surface workings which were mapped, a 3 metre (10 foot) long trench was dug and 9.6 line-kilometres (6 line-miles) of magnetometer survey was carried out. This work was performed by Magnetron Mining Limited in 1969. The Mag property is on the Ry-4 claim.

The 1971 and 1972 programs were the same as for 5.1.3 Rega.

5.1.5 Jackal-Caledonia-Waverley (Minfile No. 103I - J055) is immediately adjacent to the west side of the Ry-4 claim. It was discovered in 1929 and was held by M. Orr, H. MacDonald and associates. In 1929, there was a 10 metre (30 foot) trench dug to expose a vein which yielded good silver, lead and zinc values and could be traced along the surface for 183 metres (600 feet).

In 1968-69, Magnetron Mining Limited took over this mineral occurrence. 11 line-kilometres (7 line-miles) of magnetometer survey were conducted on the Jackal 4 and 5 claims. Nine bulldozer trenches totalling 378 metres (1,329 feet) were dug through overburden and 3,363 square metres (36,200 square feet) of bedrock was exposed. Five trenches totalling 31.7 metres (104 feet) were cut into bedrock. Eight X-ray holes totalling 132 metres (434 feet) were diamond drilled.

The 1971 and 1972 programs were the same as for 5.1.3 Rega.

Assessment work was filed to keep the Jackal claims in good standing and Magnetron Mining Limited formed a company, Seven Sisters Mining Limited, to hold these claims. Officials at Magnetron have said that no plans to continue work on the Jackal property have been made at this time.

5.1.6 Molybenite (Minfile No. 103I - J056). To the north of the Seven Sisters Peaks on the Rush 4 claim is a molybdenite occurrence in granite rocks. The P.J. 1-6 claims cover this occurrence.

Mr. P. Huber conducted basic prospecting over these claims in 1979 and a minor aeromagnetic survey was proposed by the owners for late 1980. Results of this survey are not known.

5.2 Regional Programs which included Seven Sisters

The Geological Survey of Canada released Memoir 329 in 1964. This Memoir covers the geology of the Terrace map area (103 I/E½) by S. Duffell and J. G. Souther. Map 1136A at a scale of 1:253,440 accompanies this Memoir.

The British Columbia Department of Energy, Mines and Petroleum Resources prepared a geological compilation map of the Stewart, Anyox, Alice Arm and Terrace areas, preliminary map No. 8, at a scale of 1:250,000 by N. C. Carter and E. W. Grove in 1971.

In 1978, the British Columbia Ministry of Energy, Mines and Petroleum Resources conducted a slit sampling program which included 24 samples from the Seven Sis-ers Peaks area. The results of this program were released in 1979 as BCDM Accelerated Geochemical Survey RGS-1-1978 (103I and part of J) and RGS-2-1978 (103P and part of 0).

5.3 The 1979 Cassiar Program

The 1979 exploration program by Cassiar Asbestos Corporation Limited consisted of basic prospecting and geochemical sampling by W. E. Lumley and R. Bujas under the direction of D. R. Budinski. 61 soil samples and 20 rock samples were taken for analyses. This program led to the 1980 exploration program as a search for a molybdenum porphyry deposit.

6. WORK CONDUCTED IN 1980

The 1980 exploration program consisted of geological mapping and prospecting at a scale of 1:5,000, geochemical soil sampling and rock assay sampling. A four man crew, assisted by helicopter and pilot, carried out a series of mapping/sampling traverses from 25 July to 2 September 1980.

165 soil samples were taken from the thin soil cover for geochemical analyses of copper, lead, zinc, molybdenum, silver, cadmium, cobalt and tungsten.

45 rock samples were taken for assay of silver, copper, molybdenum, lead, zinc and tungsten. Geochemical analyses and assays were performed by Bondar-Clegg & Co. of North Vancouver, B.C.

Six rock samples were taken and submitted to Vancouver Petrographics Limited of Fort Langley, B.C. for petrographic analysis.

The program was conducted by B. H. Whiting and T. J. Garde with field assistants R. Watson and C. Chisholm under the supervision of F. G. Hewett.

7. GEOLOGY

7.1 Regional Geology

The most extensive geologic grouping in this area is the Bowser group sediments and minor volcanics. The Bowser group sediments consist of a series of marine and fresh water shales, argillites, greywackes, sandstones, siltstones and conglomerates with minor tuffs and volcanic flows. The Geological Survey of Canada have determined the age of these rocks to be Upper Jurassic to Lower Cretaceous.

The Coast Intrusive Complex underlies many areas and outcrops in a series of stocks, plugs and batholiths. The Seven Sisters stock forms the core of the Seven Sisters Peaks and outcrops on the north and east sides. These granodiorites, granites and diorites are of Early Tertiary age. Alteration within the intrusive rocks is negligible.

7.2 Geology of the Claims

The major geologic division on the property is between the Seven Sisters stock and the Bowser Group sediments. Near the stock, the sediments are sharply crenulated and deformed. Subdividing within these groups has been attempted in several areas but extreme topography, extensive glacial cover and general inaccessability has limited the success. The names given to the units are field terms and vary slightly from the petrographic names assigned by Ms. J. Nelson of Vancouver Petrographics Limited.

7.2.1 Seven Sisters Stock (2) - Coast Intrusive Complex. This Upper Cretaceous intrusive is exposed in several cirques mainly on the north side of the Seven Sisters peaks.

7.2.1.1 Granite (2a) - Found in the central portion of the stock and as minor dykes which cross other phases of the intrusive and into the sediments is a pinkish, medium crystalline, massive and

REGIONAL GEOLOGY

LEGEND

Adapted from G.S.C. Map 1136A

QUATERNARY
Pleistocene and Recent

[8] Sand, gravel, clay, alluvium

UPPER CRETACEOUS or LATER

[7] Coast Intrusions - Undifferentiated:
granodiorite, diorite, quartz diorite, quartz monzonite, adamellite, granite, gabbro

UPPER JURASSIC and LOWER CRETACEOUS

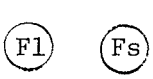
[6] Bowser Group - Greywacke, conglomerate, argillite, minor tuff.

LOWER AND MIDDLE JURASSIC

[5] Hazelton Group - Andesite, basalt, rhyolite, dacite.

[4] Hazelton Group (Lower) - Andesite, breccia, tuff, greywacke, argillite.

 Fault

 Fossil Locality (leaves, shells)

 Bedding

 Anticline

 Syncline

SHEET 103 I (East Half)

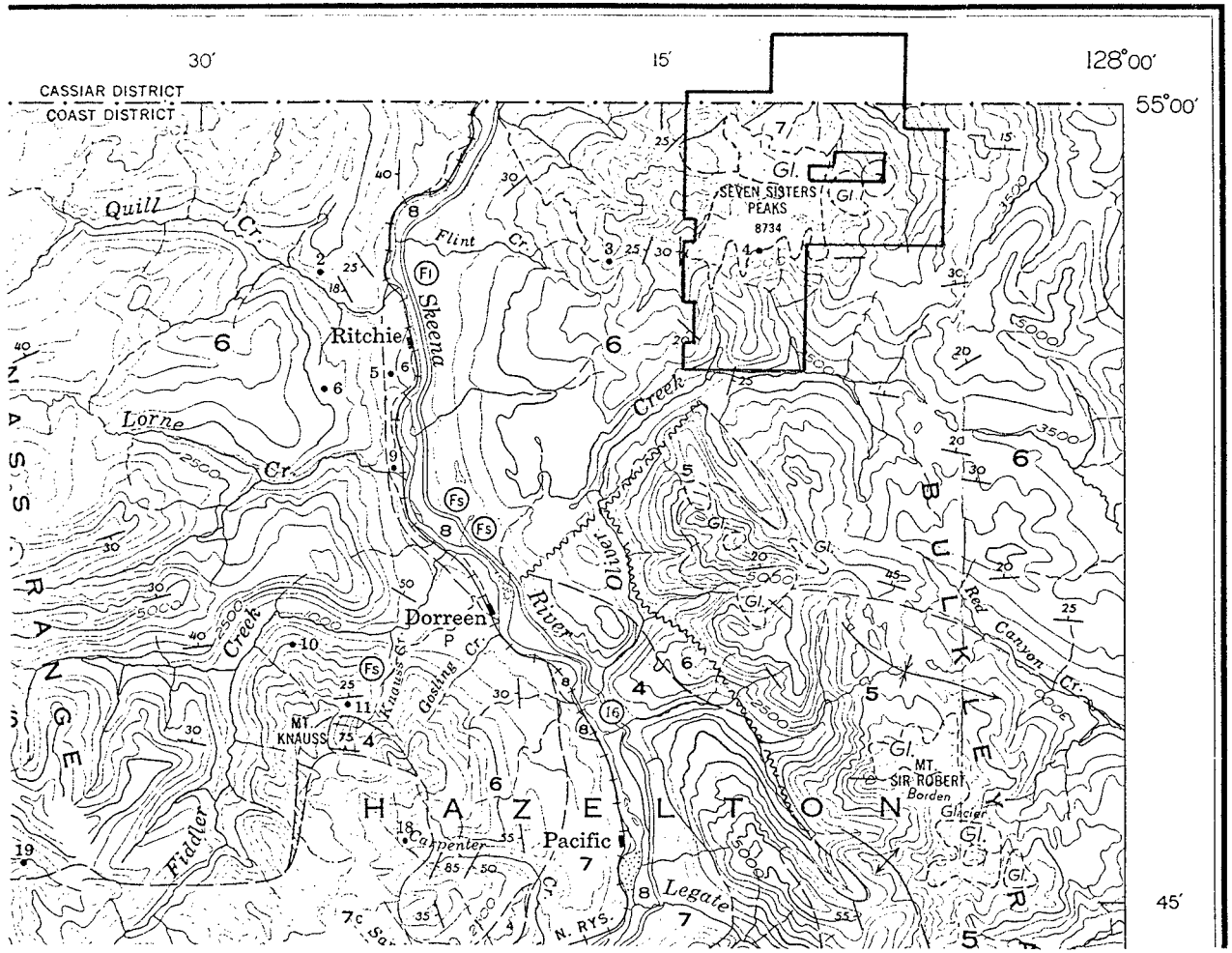


Figure 3 - Regional Geology - Adapted from G.S.C. Map 1136A. Showing Claim Boundaries

Scale: 1:253,440

uniform granite. (Sample SS-1022 Granite of Petrographic Report Appendix II is from this unit.)

7.2.1.2 Granodiorite (2b) - The most prevalent intrusive rock on the property, the granodiorite is massive generally uniform medium to coarsly crystalline and poorly fractured. Along the widely spaced fractures in some areas are quartz veins with molybdenum and minor chalcopyrite and sheelite. One malachite-azurite gossan 5 metres across is hosted by the granodiorite. A small vein with coarsly crystalline pale green fluorite can also be found in this unit. Petrographic descriptions of a sample from this unit placed it as a granite (Petrographic sample No. SS-11).

7.2.1.3 Quartz Feldspar Porphyry (2c) - This unit can be found with gradational contacts on the north side of the intrusive and as the major component of the large dykes which cut through the Bowser sediments. Feldspar phenocryst size up to 2 cm. and quartz eyes up to 8 mm. can be found. In a few locations the felspar seems to be "mantled" with anorthite rich cores and albite rich rims. This unit is generally barren of economic minerals.

The petrographic description has this as a Porphyritic Altered Rhyolite (hypabyssal). Why the choice of an extrusive instead of intrusive name is not clear. Essential descriptions are the same (Petrographic sample No. SS-25).

7.2.1.4 Aplitic Dykes (2d) - The aplitic dykes can be found as swarms extending from the intrusive into the sediments. Quartz also follows these dykes and minor molybdenite is seen as rosettes up to 2 cm. across. They are generally white with occasional small quartz eyes and do not seem to significantly alter the sediments (Petrographic sample No. SS-9 is listed as an Alaskite). Sample SS-1022 contained some Aplite.

Plate No. 4 Photograph of a vertical Quartz Feldspar Porphyry Dyke cutting through Bowser Group Sediments. Note the intrusive-sediment contact in the lower right.

Plate No. 5 Photograph of Aplitic Dykes cutting through Bowser Group Sediments. In this case the sedimentary rock is greywacke.

7.2.1.5 Diorite (2e) - Diorite is in contact with the granodiorite in the area of the Noranda claims on the east side of the property. This minor unit is about 50% mafics, medium crystalline and does not appear to be of any great extent or significance.

7.2.2 Bowser Group sediments and minor volcanics (1) - This Upper Jurassic and Lower Cretaceous sequence covers most of the map sheet and forms spectacular cliffs. Contacts within this group could only be followed for any extent on the south side of the property between the siltstone and greywacke. Banded pyritic gossans can be seen in several of the units and are generally barren of other sulphides. These gossans were tested whenever accessable. Minor hydrothermal quartz veins cut through the sediments.

7.2.2.1 Siltstone, Sandy Siltstone and Shaly Siltstone (1a)- Dark grey well sorted sediment with a pale grey weathering surface generally massive and barren. Sedimentary deformation features such as lode casts, boudinage and cross bedding can be seen as well as mudstone concretions up to 60 cm. across and minor faulting with 2 mm. to 5 m. displacement. A micro-graben 2 cm. across appears in finely interbedded sandstone and siltstone in a sample from the south side of the property. (Petrographic sample No. SS-15 is of the siltstone).

7.2.2.2 Greywacke and Sandstone (1b) - The greywacke is poorly sorted, greenish grey, arenaceous rock with semi-angular to semi-rounded clasts. The sandstone is a medium grey, clean, well sorted and massive rock. (Petrographic sample No. SS-1014 is of the Greywacke).

7.2.2.3 Conglomerate (1c) - The least extensive of the sedimentary units, the conglomerate, has well rounded pebbles up to 3 cm. across and is generally matrix supported. It is found in several spot locations on the south side of the property.

7.2.2.4 Greenstone and Rhyolite (1d) - These fresh and partly chloritically altered volcanics can be found on the north side of the intrusive stock and are of minor geologic interest. They appear as both sills and dykes.

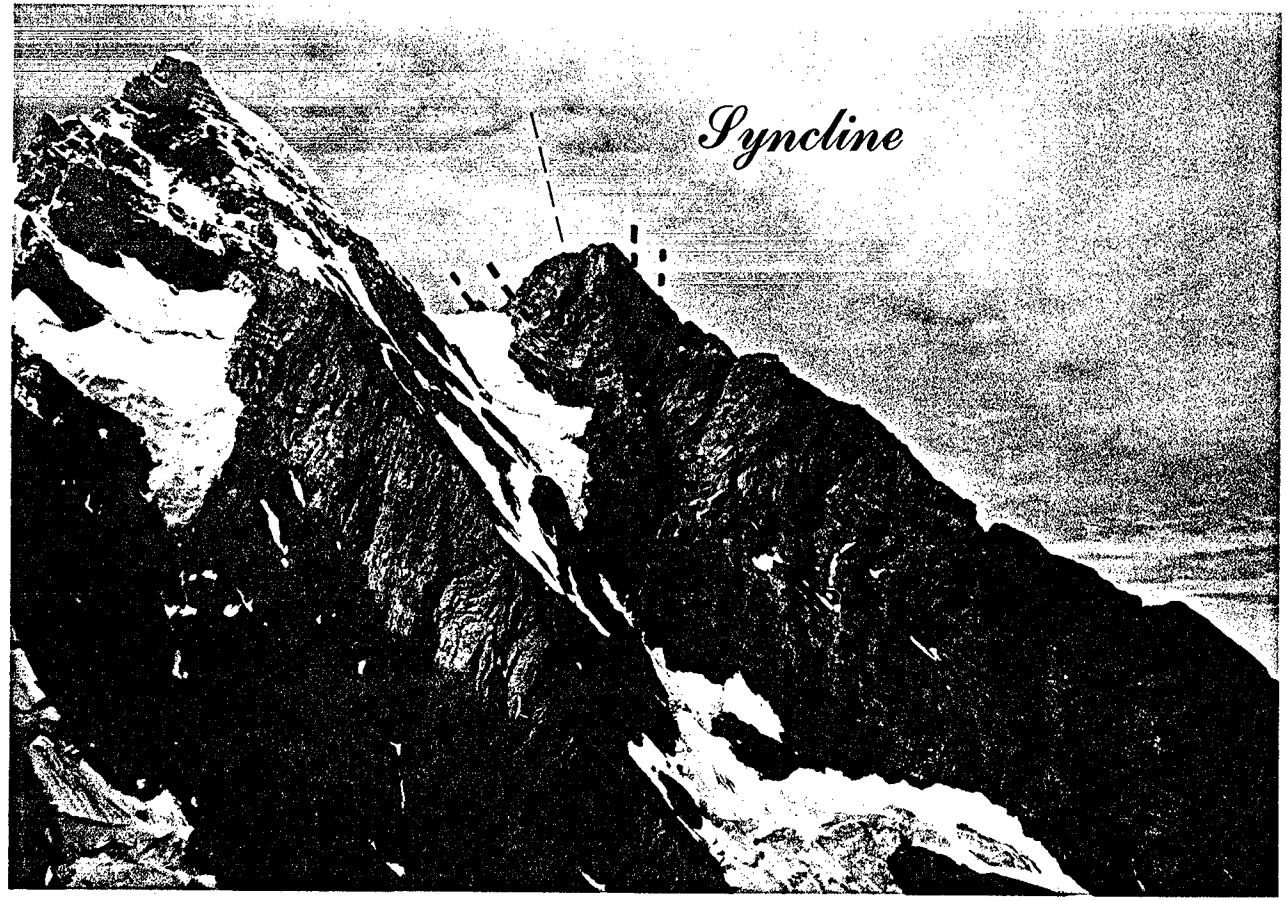


Plate No. 6 Photograph Looking Along the Axis of a Syncline. The Bowser Group Sediments have been extensively folded and faulted.

8. GEOCHEMISTRY

8.1 Rock Assays

The 45 rock samples were taken as selective grab samples where mineralization was seen. Samples SS-1 and SS-2 were taken from the old mine workings to the west of the map sheet where the mine buildings are still standing. Samples SS-39 and SS-40 were taken from the exploratory adits high on the ridge north of the old mine workings. Sample SS-1029 was taken from the Jackal property trenches. For the purposes of statistical examination, the above mentioned samples have not been included thus leaving only samples on the mineral claims. The above samples were taken only for comparisons.

SUMMARY OF ASSAY RESULTS

Element	No. of Samples	High Value	Low Value	Mean Value
Silver	40	0.72	< 0.02	0.06
Copper	40	1.27	< 0.01	0.09
Molybdenum	40	1.46	<0.001	0.05
Lead	40	0.04	<0.01	< 0.01
Zinc	40	34.80	<0.01	0.87
Tungsten	40	0.03	<0.01	0.01

The significant sample results come from 5 samples described below:

Samples SS-8, SS-10 and SS-12 were taken from the north side of the long cirque (see Figure No. 8). Molybdenite was visible on fracture surfaces at SS-8 and SS-10. A 5 metre across malachite gossan is exposed on the cliff face at SS-12. The cliff face is a fracture surface so the mineralization did not continue into the cliff. All of these samples are from granodiorite.

SS-8 - 0.26% molybdenum

SS-10 - 1.46% molybdenum

SS-12 - 0.72 oz/ton silver, 1.26% copper, 0.97% molybdenum

Sample SS-1026 was taken as a float sample from a small north-east facing cirque on the Fox 3 claim (see Figure No. 8). This chalcopyrite bearing sample may have derived from the stock to the south or more likely from one of the dykes.

SS-1026 - 1.27% copper

Sample SS-1030 was taken from a mineralized gossan immediately northwest of the Jackal claim group (see Figure No. 10). Sphalerite and minor pentlandite are present in sporadic amounts in siltstone. This occurrence was trenched by Magnetron Mining Limited and the tote road passes by here.

SS-1030 - 1.38 oz/ton silver, 0.70% copper, 34.80% zinc.

8.2 Soil Sample Results

The 165 soil samples were taken over widely spaced locations on the property (see Figures 8-11). The sampling usually consisted of C to B horizon at a depth of 5 centimeters. Because of the extreme topography and high elevation a well developed regolith is not usually present.

In areas where mineralization was seen there was generally a corresponding geochemical anomaly, thus the mean values are higher than normally expected because of the wide dispersion of very low grade mineral occurrences.

SUMMARY OF GEOCHEMICAL RESULTS

(values in parts per million)

Element	No. of Samples	High Value	Low Value	Mean Value
Copper	143	1190	8	113.5
Lead	143	1060	3	43.4
Zinc	143	835	9	102.8
Molybdenum	143	266	1	14.3
Silver	143	8.0	0.2	0.72
Cobalt	138	78	1	13.9
Cadmium	138	4.8	0.2	0.31
Tungsten	138	295	3	25.5

9. CONCLUSIONS AND RECOMMENDATIONS

It is concluded from this investigation that the mineralization occurring in the Bowser Group sediments to the south of the Seven Sisters Stock is generally of minor importance. The most impressive looking occurrence is covered by the Jackal claims but it did not show very much encouragement for sizeable extension.

The Seven Sisters Stock, while exhibiting excellent individual specimens of mineralization, is considered to be too dry a hydrothermal system with a lack of fracture density. Mineralization may be found along a facture face but the next mineralized fracture is often several hundred metres away.

No further work is recommended for this property, however, this program should be filed for assessment and the claims kept in good standing pending results of Noranda's program on the Fun and Massa claims.

10. REFERENCES

Ager, C.A. "Geophysical Survey and Polished Section Report for the Rega Mineral Group", Assessment Report No. 2016, 1968; "Aeromagnetic Survey of the Magnetron Claims", Assessment Report No. 3541, 1972; "Gravity Survey of the Magnetron Claims", Assessment Report No. 4276, 1973. Magnetron Mining Limited.

Carter, N. and Grove, E. "Geology of the Terrace and Nass River Areas", Preliminary Map No. 8, B.C.D.M., 1971.

Duffell, S. and Souther, J.G. "Geology of the Terrace Map area, British Columbia", G.S.C. Memoir 329, 1964.

Whiting, B.H. "Summary and Prospecting Report for the Seven Sisters Project", (part filed for Assessment). Cassiar Resources Limited (formerly: Cassiar Asbestos Corporation Limited).

Appendix I

GEOCHEMICAL AND ASSAY RESULTS

BONDAR-CLEGG & COMPANY LTD.
130 PEMBERTON AVE., NORTH VANCOUVER, B.C. PHONE: 985-0681 TELEX. 04-352667

Geochemical Lab Report

Extraction _____ Report No. 20 - 1723 PROJECT: 91-07 WHITING

Method _____ From Cassiar Asbestos Corp.

Fraction Used _____ Date August 22 19 80

SAMPLE NO.	Cu ppm	Pb ppm	Zn ppm	Mo ppm	Ag ppm	Co ppm	Cd ppm	W ppm	REMARKS
1008	85	118	134	41	0.6	8	0.2	35	
2001	32	12	34	10	0.2	5	0.2	19	
2002	321	59	85	49	2.8	28	0.2	35	
2003	349	40	123	60	1.0	78	0.3	160	
2004	294	69	77	122	2.2	34	0.2	63	
2005	410	188	108	266	5.4	54	1.8	45	
2006	585	122	382	47	1.6	8	0.2	45	
2007	214	14	87	4	0.7	14	0.2	6	
2008	48	14	75	4	0.2	14	0.2	8	
2009	45	12	59	3	0.2	14	0.2	7	
2010	41	12	65	2	0.4	18	0.2	3	
2011	67	14	79	2	0.2	24	0.3	3	
2012	106	29	105	3	0.4	32	0.2	4	
2013	59	12	83	2	0.2	14	0.2	8	
2014	56	19	84	3	0.2	14	0.2	7	
2015	64	14	85	2	0.2	15	0.2	3	
2016	169	110	144	11	0.6	16	0.3	28	
2017	109	80	138	4	0.8	15	0.4	35	
2018	113	30	102	5	0.6	17	0.2	18	
2019	77	68	142	5	1.2	30	0.5	9	
2020	52	12	50	4	0.4	6	0.2	3	
2021	103	14	95	4	0.3	16	0.2	8	
2022	66	10	98	4	0.2	18	0.2	4	
2023	237	30	108	5	1.0	19	0.2	6	
2024	54	13	50	3	0.3	6	0.2	9	
2025	143	60	97	5	0.5	16	0.2	13	
2026	54	26	97	7	0.5	12	0.2	25	
2027	121	64	227	8	1.2	16	0.4	9	
2028	59	8	56	4	0.2	8	0.2	13	
2029	51	10	45	4	0.3	8	0.2	6	

BONDAR-CLEGG & COMPANY LTD.

Geochemical Lab Report

Report No. 20 - 1723 Page No. 2

SAMPLE NO.	Cu ppm	Pb ppm	Zn ppm	Mo ppm	Ag ppm	Co ppm	Cd ppm	W ppm	REMARKS
2030	42	8	51	4	0.2	9	0.2	8	
2031	52	8	80	4	0.2	15	0.2	4	
2032	97	9	147	5	0.2	26	0.2	9	
2033	58	5	85	5	0.2	25	0.2	7	
2034	112	8	83	6	0.2	20	0.2	11	
2035	141	13	132	9	0.2	30	0.3	9	
2036	46	6	68	4	0.2	15	0.2	6	
2037	72	4	20	< 1	0.2	4	0.2	4	
2039	22	6	40	1	0.2	6	0.2	3	
2040	21	11	40	< 1	0.2	7	0.2	4	
2041	71	16	50	3	0.5	10	0.2	5	
2042	8	9	9	1	0.2	1	0.3	4	
2043	46	12	97	10	0.2	12	0.2	58	
2044	43	4	52	5	0.2	10	0.4	11	
2045	61	4	65	10	0.2	14	0.2	21	
2046	45	3	55	2	0.2	10	0.2	8	
2047	89	5	70	5	0.2	16	0.2	28	
2048	153	8	87	17	0.2	20	0.2	18	
2049	84	11	94	2	0.2	20	0.2	6	
2050	46	9	36	2	0.2	6	0.2	8	
2051	141	9	66	4	0.2	12	0.2	13	
2052	58	9	57	4	0.2	9	0.2	3	
2053	43	11	70	12	0.2	14	0.2	28	
2054	81	9	80	1	0.2	13	0.2	18	
2055	63	13	95	11	0.2	13	0.2	14	
2056	67	20	108	44	0.5	16	0.2	25	
2057	56	27	105	29	0.5	13	0.2	18	
2058	40	16	73	16	0.2	10	0.2	25	
2059	43	13	80	18	0.2	10	0.2	9	
3001	275	24	85	9	0.9	14	0.2	6	
3002	560	34	90	43	4.0	15	0.2	105	
3003	337	52	78	74	2.1	12	0.2	98	
3004	109	91	87	26	0.9	8	0.2	38	
3005	126	122	400	51	1.0	10	1.4	25	
3006	49	30	36	54	0.2	10	0.2	83	

BONDAR-CLEGG & COMPANY LTD.

Geochemical Lab Report

Report No. 20 - 1723 Page No. 3

SAMPLE NO.	Cu ppm	Pb ppm	Zn ppm	Mo ppm	Ag ppm	Co ppm	Cd ppm	W ppm	REMARKS
3007	52	67	63	45	1.4	< 1	0.4	3	
3008	10	16	35	5	0.2	< 1	0.2	4	
3009	19	16	40	22	0.2	2	0.2	53	
3010	88	43	75	82	1.1	6	0.2	63	
3011	104	9	80	66	0.3	16	0.2	38	
3012	61	18	100	2	0.2	16	0.2	3	
3013	56	27	103	1	0.2	14	0.2	4	
3014	68	47	105	2	0.2	17	0.2	3	
3015	83	19	110	2	0.2	19	0.2	4	
3016	66	34	132	2	0.3	14	0.2	6	
3017	37	6	89	< 1	0.2	14	0.2	3	
3018	35	9	70	< 1	0.2	15	0.2	3	
3019	51	17	80	3	0.2	12	0.2	8	
3020	82	10	76	3	0.2	14	0.2	8	
3021	68	14	97	1	0.2	18	0.2	8	
3022	93	13	85	3	0.2	20	0.2	4	
3023	146	14	97	4	0.2	25	0.2	9	
3024	100	76	113	6	1.2	22	0.2	32	
3025	79	8	73	1	0.2	18	0.2	3	
3026	93	25	96	3	0.4	23	0.3	4	
3027	47	14	95	3	0.2	16	0.2	5	
3028	56	42	120	19	0.2	11	0.3	295	
3029	83	24	110	7	0.4	16	0.4	28	
3030	50	28	110	10	0.2	10	0.4	168	
3031	15	46	90	10	1.1	< 1	0.3	4	
3032	41	65	295	53	2.6	2	0.4	25	
3033	289	121	135	26	5.8	20	0.3	146	
3034	185	8	87	13	0.4	14	0.2	158	
3035	129	22	125	38	0.8	14	0.7	34	
3036	46	16	32	28	0.4	2	0.2	28	
3037	67	12	71	17	0.4	5	0.2	25	
cc Mr. F. Hewett Mr. B. Whiting									

BONDAR-CLEGG & COMPANY LTD.
130 PEMBERTON AVE NORTH VANCOUVER, B.C. PHONE 985-0681 TELEX 04-352667

Geochemical Lab Report

Extraction ____ Report No. 20 - 1862 PROJECT: 91-07

Method ____ From Cassiar Resources Ltd.

Fraction Used ____ Date August 29, 19 80

SAMPLE NO	Cu ppm	Pb ppm	Zn ppm	Mo ppm	Ag ppm	Cd ppm	Co ppm	W ppm	REMARKS
SS 2060	81	21	80	5	0.3	-	-	-	
2061	123	40	86	7	0.6	-	-	-	
2062	279	110	144	11	1.9	-	-	-	
2063	37	4	48	4	0.2	-	-	-	
2064	61	20	82	18	0.3	-	-	-	
2065	23	7	45	4	0.2	-	-	-	
2066	155	1060	490	63	1.9	-	-	-	
2067	107	133	190	1	0.4	-	-	-	
2068	1190	147	116	15	1.6	-	-	-	
2069	820	358	510	13	8.0	-	-	-	
2070	610	82	139	8	3.2	-	-	-	
2071	88	25	90	< 1	0.2	-	-	-	
2072	26	15	82	2	0.2	-	-	-	
2073	17	6	18	< 1	0.4	-	-	-	
2074	18	9	14	< 1	0.2	-	-	-	
2075	23	13	79	1	0.2	-	-	-	
2076	126	80	184	2	0.4	-	-	-	
2077	37	20	82	< 1	0.2	-	-	-	
2078	37	23	89	< 1	0.2	-	-	-	
2079	61	42	144	< 1	1.0	-	-	-	
2080	115	38	106	5	0.3	-	-	-	
2081	38	18	61	< 1	0.2	-	-	-	
2082	28	13	65	< 1	0.2	-	-	-	
2083	26	18	56	1	0.2	-	-	-	
2084	58	25	126	1	0.2	-	-	-	
2085	95	518	835	10	5.4	-	-	-	
2086	50	22	91	1	0.2	-	-	-	
3038	-	-	-	-	-	0.2	15	27	
3039	-	-	-	-	-	0.2	10	40	
3040	-	-	-	-	-	0.2	25	55	

BONDAR-CLEGG & COMPANY LTD.

Geochemical Lab Report

Report No. 20 - 1862 Page No. 2

SAMPLE NO.	Cu ppm	Pb ppm	Zn ppm	Mo ppm	Ag ppm	Cd ppm	Co ppm	W ppm	REMARKS
SS 3041	-	-	-	-	-	0.2	15	32	
3042	-	-	-	-	-	0.2	3	4	
3043	-	-	-	-	-	0.2	4	4	
3044	-	-	-	-	-	0.2	4	3	
3045	-	-	-	-	-	0.2	4	8	
3046	-	-	-	-	-	0.2	4	16	
3047	-	-	-	-	-	0.2	7	95	
3048	-	-	-	-	-	0.2	14	18	
3049	-	-	-	-	-	0.2	10	3	
3050	-	-	-	-	-	0.2	20	3	
3051	-	-	-	-	-	0.2	14	3	
3052	-	-	-	-	-	4.8	14	5	
3053	-	-	-	-	-	1.0	4	3	
3054	-	-	-	-	-	0.2	14	3	
3055	-	-	-	-	-	0.2	20	4	
3056	-	-	-	-	-	0.2	16	6	
3057	-	-	-	-	-	0.2	12	25	
3058	-	-	-	-	-	0.2	13	36	
3059	-	-	-	-	-	0.2	13	6	
									cc Mr. F. Hewett -
									Mr. B. Whiting

BONDAR-CLEGG & COMPANY LTD.
130 PEMBERTON AVE., NORTH VANCOUVER, B.C. PHONE: 985-0681 TELEX 04-352667

Geochemical Lab Report

Extraction _____ Report No 20 - 1969 PROJECT: 91-07

Method _____ From Cassiar Resources

Fraction Used _____ Date September 5, 1980

SAMPLE NO.	Cu ppm	Pb ppm	Zn ppm	Mo ppm	Ag ppm	Cd ppm	Co ppm	W ppm	REMARKS
SS - 2087	38	12	88	< 1	0.5	0.2	12	4	
2088	33	8	88	1	0.2	0.2	16	3	
2089	355	120	244	3	1.1	2.2	23	3	
2090	46	15	87	2	0.2	0.6	13	4	
2091	30	5	63	2	0.2	0.2	12	5	
2092	267	54	58	47	2.4	0.2	8	63	
2093	164	65	100	39	1.2	0.2	23	35	
2094	69	26	41	13	0.8	0.2	4	35	
2095	138	42	90	11	1.4	0.2	17	45	
3060	38	38	86	3	0.5	0.2	12	4	
3061	16	8	62	3	0.4	0.2	8	8	
3062	26	8	61	6	0.2	0.2	8	12	
3063	17	12	56	9	0.2	0.2	7	130	
3064	120	28	107	29	1.6	1.1	17	42	
3065	58	26	118	20	1.2	0.8	16	50	
3066	13	4	60	3	0.3	0.2	8	30	
3067	103	56	129	3	0.7	0.2	15	25	
3068	331	13	21	6	0.6	0.2	2	23	
3069	69	14	61	5	0.2	0.2	12	36	
3070	37	18	37	12	0.3	0.2	2	10	

cc Mr. B. Whiting
Mr. F. Hewett

To: Cassiar Resources Ltd.

PAGE NO. 1

REPORT NO. - 1190

DATE: September 10, 1980

Samples submitted: August 14, 1980

Results completed: September 10, 1980

PROJECT: 91-07

2000 - 1050 West Hastings Street
Vancouver, B.C. V6E 3V3

BONDAR-CLEGG & COMPANY LTD.

CERTIFICATE OF ASSAY

I hereby certify that the following are the results of assays made by us upon the herein described ..... ore ..... samples.

MARKED	GOLD		SILVER		Cu	Mo	Pb	Zn	W			
	Ounces per Ton	Grams per Metric Ton	Ounces per Ton	Grams per Metric Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
SS - 1005			<0.02		0.04	0.001	<0.01	<0.01	0.01			
1006			<0.02		0.04	0.001	<0.01	<0.01	0.01			
1010			<0.02		<0.01	<0.001	<0.01	<0.01	0.01			
1011			<0.02		0.01	<0.001	<0.01	0.01	0.01			
1012			<0.02		<0.01	<0.001	<0.01	<0.01	0.01			
1013			<0.02		<0.01	<0.001	<0.01	<0.01	0.01			
1015			<0.02		<0.01	<0.001	<0.01	<0.01	0.01			
1016			<0.02		0.02	0.001	<0.01	<0.01	0.01			
1017			<0.02		<0.01	<0.001	<0.01	<0.01	0.01			
1019			<0.02		<0.01	<0.001	<0.01	<0.01	<0.01			
1020			<0.02		0.03	0.001	<0.01	<0.01	0.01			
SS - 1			18.80		0.13	0.004	7.71	18.53	<0.01			
2			0.17		0.01	0.001	0.09	0.12	0.01			
5			0.02		<0.01	0.011	<0.01	0.01	0.01			
7			0.03		0.14	0.003	<0.01	<0.01	<0.01			
8			0.02		<0.01	0.26	<0.01	<0.01	0.01			
10			0.03		<0.01	1.46	<0.01	<0.01	0.03			
12			0.72		1.26	0.097	0.01	<0.01	0.01			
17			<0.02		0.06	0.008	<0.01	<0.01	0.01			
23			<0.02		0.08	0.001	<0.01	<0.01	0.02			
24			0.02		0.01	0.008	<0.01	<0.01	0.01			
26			<0.02		0.01	0.001	<0.01	<0.01	0.01			
27			0.02		0.01	0.001	<0.01	<0.01	0.01			
28			0.02		0.03	0.001	<0.01	<0.01	0.01			
29			0.04		0.03	<0.001	<0.01	<0.01	0.01			
30			<0.02		0.02	0.002	<0.01	0.01	0.02			

RECEIVED
CASSIAR RESOURCES LIMITED
SEP 16 1980
EXPLORATION DEPT.

NOTE:
Rejects retained three weeks
Pulps retained three months
unless otherwise arranged

Registered Assayer, Province of British Columbia

To: Cassiar Resources Ltd.

PAGE No. 2

REPORT NO. - 1190

DATE: September 10, 1980

BONDAR-CLEGG & COMPANY LTD.

CERTIFICATE OF ASSAY

I hereby certify that the following are the results of assays made by us upon the herein described ore samples.

MARKED	GOLD		SILVER		Cu	Mo	Pb	Zn	W			
	Ounces per Ton	Grams per Metric Ton	Ounces per Ton	Grams per Metric Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
SS - 31			<0.02		<0.01	<0.001	<0.01	<0.01	<0.01			
33			<0.02		0.01	0.002	<0.01	<0.01	0.01			
34			<0.02		0.01	0.002	<0.01	<0.01	0.01			
37			<0.02		0.01	<0.001	<0.01	<0.01	0.01			

NOTE:
Rejects retained three weeks
Pulps retained three months
unless otherwise arranged

Registered Assayer, Province of British Columbia

To: Cassiar Resources

PAGE NO. 1

REPORT NO. 0 - 1265

DATE: September 16, 1980

Samples submitted: August 25, 1980
Results completed: September 16, 1980

PROJECT: 91-07

2000 - 1055 West Hastings Street
Vancouver, B.C. V6E 3V3

BONDAR-CLEGG & COMPANY LTD.

CERTIFICATE OF ASSAY

I hereby certify that the following are the results of assays made by us upon the herein described core samples.

MARKED		GOLD		SILVER		Cu	Mo	Pb	Zn	W			
		Ounces per Ton	Grams per Metric Ton	Ounces per Ton	Grams per Metric Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
29301	SS-1027	-		0.04		0.03	0.001	<0.01	<0.01	0.01			
29302	-1029	-		3.53		0.08	0.006	2.27	0.74	<0.01			
29303	-1030	-		1.38		0.70	<0.001	0.04	34.80	<0.01			
29391	SS-39	-		0.14		0.23	<0.001	0.04	6.65	<0.01			
29392	-40	-		0.04		0.23	<0.001	0.02	0.21	0.01			
29393	-42	0.002		0.02		<0.01	0.002	0.01	0.04	<0.01			
29394	-46	-		0.02		0.01	<0.001	<0.01	<0.01	<0.01			
29395	-48	-		0.02		0.17	<0.001	<0.01	<0.01	0.01			
29396	-1021	-		0.02		0.01	0.003	<0.01	0.01	<0.01			
29397	-1023	0.002		0.04		<0.01	<0.001	<0.01	<0.01	<0.01			
29398	-1024	-		0.03		0.03	0.002	0.01	0.01	0.01			
29399	-1025	-		0.02		0.02	<0.001	<0.01	<0.01	<0.01			
29400	-1026	-		0.05		1.27	<0.001	<0.01	0.01	0.01			

cc Mr. F. Hewett
Mr. B. Whiting

NOTE
Rejects retained three weeks
Pulps retained three months
unless otherwise arranged

Registered Assayer, Province of British Columbia

To: Cassiar Resources Ltd.

PAGE No. 1

2000 - 1055 West Hastings Street
Vancouver, B.C. V6E 3V3

BONDAR-CLEGG & COMPANY LTD.

CERTIFICATE OF ASSAY

REPORT NO. - 1330

DATE: September 16, 1980

Samples submitted: September 2, 1980
Results completed: September 16, 1980

PROJECT: 91-07

I hereby certify that the following are the results of assays made by us upon the herein described ore samples.

MARKED	GOLD		SILVER		Cu	Pb	Zn	Mo	W			
	Ounces per Ton	Grams per Metric Ton	Ounces per Ton	Grams per Metric Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
SS-1031 (20304)			0.02		0.07	<0.01	<0.01	0.002	0.03			
1032 (29305)			<0.02		0.02	<0.01	<0.01	0.003	0.01			

cc Mr. B. Whiting
Mr. F. Hewett

NOTE:
Rejects retained three weeks
Pulps retained three months
unless otherwise arranged.

Registered Assayer, Province of British Columbia

Appendix II

PETROGRAPHIC REPORT

Vancouver Petrographics Ltd.

JAMES VINNELL, Manager
JOHN G. PAYNE, Ph. D. Geologist

RECEIVED
CASSIAR RESOURCES LIMITED
SEP 25 1980
EXPLORATION DEPT.

P.O. BOX 39
8887 NASH STREET
FORT LANGLEY, B.C.
VOX 1JO

PHONE (604) 888-1323

22 Sept. 1980
Invoice 2205

Mr. Ben Whiting
Cassiar Resources Ltd.
2000 - 1055 W. Hastings
Vancouver, B.C.

Dear Mr. Whiting:

Enclosed please find petrographic descriptions for the Seven Sisters samples.

They have been named as follows:

SS9: Alaskite
SS11: Granite
SS15: Siltstone
SS25: Rhyolite
SS1014: Intrusive breccia or greywacke
SS1022: Granite/aplite contact

They represent a very leucocratic intrusive suite and its country rocks.

Alteration includes gypsum and fluorite (SS11) and traces of tourmaline, as well as more common secondary phases. The two samples which contain traces of mineralization are SS9 (molybdenite) and SS15 (chalcopyrite).

Although tin minerals were not seen in the samples, the environment is consistent with tin mineralization as well as molybdenum.

Hope this information is of help to you.

Sincerely yours,

J. Nelson

JoAnne Nelson, M.Sc.

SS9 Medium-grained alaskite

This sample shows an equigranular, plutonic texture; average grainsize is about .3 mm. Mafic minerals (biotite and secondary chlorite-epidote) are very rare, hence the designation of alaskite.

Mode

54 Kspar
30 quartz
15 plagioclase (An 0-15)
1 biotite, chlorite
tr epidote
tr magnetite
tr zircon tr molybdenite

Kspar grains tend to be larger than those of the other phases. They are anhedral, forming an intergrown aggregate with plagioclase and quartz. Some are perthitic. In some cases Kspars contain round quartz inclusions.
Quartz grains are equant and anhedral. A few range up to 2 mm in diameter.
Plagioclase grains are subhedral (rational faces in zone parallel to z axis) to anhedral. They show weak normal zoning. They are clear and unaltered, except for dust which occurs in both varieties of feldspar.
Biotite is seen as a few reddish brown interstitial plates. Most of them are now pseudomorphed by chlorite, with epidote along cleavages.
Magnetite (hard, grey reflective, isotropic) occurs as a few interstitial clumps. The largest measures .2 mm. Epidote grows along one border of the clump.
Very small zircon prisms are scattered in the section.

Note: Molybdenite occurs in trace quantities in the hand sample, but was not seen in polished section.

SS11 Granite

This sample is a coarse grained equigranular plutonic rock, only mildly altered. It consists of biotite, quartz, plagioclase and Kspar grains which range from .5 to 1 mm. A few euhedral plagioclase crystals reach 2 mm across.

Alteration has albitized plagioclases and partly chloritized biotite plates. Fluorite and gypsum occur in interstices and in vugs, for instance in the corroded cores of some plagioclases.

Mode

30	quartz	
12	plagioclase	
50	Kspar	
4	biotite	
2	hematite, opaques (ilmenite, pyrite)	
1	gypsum	
1	fluorite	
tr	tourmaline	tr allanite
tr	white mica	tr zircon
tr	epidote	
tr	chlorite	

Quartz forms anhedral, equant grains, which in some cases are interstitial to plagioclase.

Plagioclases are tabular to subhedral. Scattered instances of complex twinning occur, but most show only albite and a few Carlsbad twins. Some are faintly normal zoned (An 10 to 0). Heavy sericite clouds the cores of many grains.

Kspar grains are perthitic, but lack grid twinning. They are anhedral and interstitial to plagioclase in some cases.

Biotite forms reddish brown, subhedral to anhedral interstitial plates and, less commonly, aggregates. Pleochroic haloes are dark and abundant. Numerous very small zircon inclusions can be seen. There is a trace of alteration to chlorite and green biotite. Very small biotite plates are included in plagioclase in a few cases.

Opaques form interstitial patches .1 mm across. Edges and fractures are altered to hematite. Heavy hematite splotches occur in the cores of altered plagioclase, along with gypsum. Ilmenite occurs along biotite cleavages.

Fluorite grows in small cavities and intersticial sites such as grain boundaries and three-grain intersections. It is isotropic and clear with very low relief.

One interstitial, possibly secondary, tourmaline grain was seen.

SS11 cont.

A few small white mica plates are probably secondary. Epidote pseudomorphs a single allanite grain enclosed in biotite. It also forms small grains in interstices with fluorite and chlorite.
A few red-brown allanite prisms, up to .2 mm long, associate with biotite.

SS 15 Siltstone

This sample is a siltstone with fine bedding, which is best viewed in the thin section without magnification. Bedding is not apparent in the hand sample, which is dark and hard and would be field-classified as an argillite. Sedimentary features observed in the thin section include flame structures, cross-bedding, and truncation of beds. The original top direction was towards the top of the thin section.

The clasts are angular to subangular with low sphericity. They average .1 mm across. They are surrounded by a very fine grained matrix, almost optically irresolvable, which consists of quartz, clay/white mica, and opaques.

Mode

40	white mica, clay
11	non-reflective opaque (Ti-oxide?)
4	ilmenite
tr	chalcopyrite
tr	magnetite
15	feldspar
30	quartz
tr	chlorite
tr	apatite
tr	zircon

Most of the white mica and clay in the section is very fine grained, less than .001 mm. White mica concentrates in the plagioclase clasts, while clay with very low birefringence is more abundant in the matrix. Fe-oxide staining gives it a dusky cast.

The major reflective opaque phase is ilmenite, which occurs as wormy interstitial grains .01 mm long and small, spongey aggregates. A few grains of chalcopyrite were seen. Most are interstitial, with concave borders. One is surrounded by magnetite, then ilmenite. The matrix is clouded with non-reflective opaque material, probably Ti-oxides.

Long axes of plagioclase clasts lie in the plane of bedding or near it. A few show albite twinning. All are strongly sericitized.

Quartz forms a few round clasts. It occurs in poorly-defined veinlets and small equant segregations. Very fine grained quartz is difficult to resolve optically but is probably abundant in the matrix. This would account for the high hardness of the rock.

A few small chlorite grains and patches occur in the matrix. Theyare clear to very pale green with very strong anomalous extinction.

Scattered euhedral apatite prisms, one of them broken, may be clasts.

Scattered euhedral zircon clasts are present.

SS25 Altered rhyolite (hypabyssal)

This sample consists of very large euhedral plagioclase and Kspar phenocrysts, biotite plates, and rounded quartz phenocrysts, in a quartzofeldspathic matrix with unusually abundant myrmekite.

Alteration phases are chlorite, epidote, and gypsum.

Mode

25	quartz
50	Kspar
15	plagioclase
3	biotite
2	opaques
3	chlorite
2	epidote
tr	allanite
tr	gypsum
tr	tourmaline

Quartz phenocrysts are anhedral to (less frequently) euhedral, all with rounded edges. They are embayed, some severely. They occur singly or in clumps. Quartz forms small anhedral grains intergrown with Kspar in the matrix.

Kspar forms large dusty phenocrysts which include abundant euhedral plagioclase crystals. Most Kspar phenocrysts are euhedral. Some, however, are rounded slightly. Many of these show a discontinuity (for instance defined by included quartz), followed by a Kspar rim. In some cases the rim includes numerous euhedral feldspar inclusions as well as inclusions of matrix. Kspar dominates the matrix of the rock.

Plagioclase phenocrysts are smaller and much less abundant than Kspars. Most have been albitized, but a few (inside Kspar) retain normal and oscillatory zoning. Plagioclase is a subsidiary matrix constituent, "swamped out" by myrmekite.

Composite phenocrysts consist of myrmekitic Kspar and quartz in complex intergrowths.

Biotite plates are reddish brown. They alter to chlorite on cleavages. One biotite aggregates pseudomorphs a euhedral hornblende crystal .7 mm across. This was probably a magmatic reaction.

Opaques are interstial equant clumps as well as cubes (pyrite?)

Chlorite occurs after biotite, and in aggregates with epidote.

One euhedral phenocryst of hornblende is pseudomorphed by fine matted chlorite.

Fine grained granular epidote interfingers with chlorite in

SS25 cont.

pseudomorphs of biotite. Columnar epidote fills irregular vugs, along with chlorite, opaque material and hematite. Epidote grains occur within quartz inclusions in plagioclase phenocrysts.
A few dark brown allanite crystals occur as small phenocrysts.
Gypsum seems to be an alteration of plagioclase. It favors plagioclase grains included in Kspar, where it forms seams along fractures and partial patchy replacements.
Tourmaline, with strong green birefringence, was seen in one instance as an inclusion in Kspar.

SS1014 Intrusive breccia or greywacke

This is a polymict breccia or greywacke. Clasts include euhedral, less commonly angular plagioclases; fine grained porphyritic dacites, and angular quartz. Secondary minerals are abundant. They include chlorite, clay, and gypsum, with lesser calcite and epidote.

It was identified as an intrusive breccia based on 1) abundance of plagioclase crystals rather than fragments and 2) lack of bedding. However, it should be noted that this reflects a dacitic parentage, rather than granitic as is seen in the intrusive rocks. It may be a coarse turbidite intercalated with the siltstones.

Mode

64	plagioclase
7	gypsum
15	clay
5	Ti-oxide
4	chlorite
3	calcite
2	epidote
1	ilmenite
tr	pyrite

Clasts:

1) plagioclase. Most are euhedral laths, packed densely. Some "line up" parallel to borders of adjacent larger clasts.
2) quartz..Angular, with undulatory extinction.
3) chlorite-epidote aggregates after biotite.
4) ilmenite in angular to rectangular grains .05-.1 mm, partly altered to non-reflective Ti-oxides.

5) lithic clasts- a)very fine grained with sparse large plagioclase phenocrysts b)felted plagioclase c)plutonic? polycrystalline quartz-white mica-Ti-oxide aggregate, .05 mm grains, hypabyssal appearance

Matrix:

1) Clay. In matrix with plagioclase crystals which range down to very small sizes; secondary in lithic clasts.
2) Gypsum. Skeletal grains replacing plagioclase clasts; in interstitial spaces; rims clasts.
3) Chlorite. Deep anomalous blue-birefringent, in interstices, radiating inwards.
4) Calcite. Small ragged grains in gypsum.
5) Epidote. Granular aggregates; small grains in plagioclase clasts.
6) Ti-oxide. Fine speckles in matrix; scattered larger clumps.
7) Pyrite. A few tiny cubes.

SS 1022 Contact between coarse grained granite and aplite

Granite: average grain size .5 to 1 cm

Mode

43	Kspar
30	quartz
20	plagioclase
5	biotite
2	magnetite
tr	hematite
tr	epidote, apatite
tr	allanite

Kspar grains are anhedral and commonly interstitial to quartz and plagioclase, but they tend to grow larger than the other phases. They are perthitic. Many contain euhedral tabular plagioclases.
Quartz grains are anhedral and round in outline.
Plagioclase (An 7-13) is primary albite. Secondary albite (An 0) is also present; it is dusty, sericitized and unzoned. Plagioclase grains are tabular-subhedral with uneven margins against Kspar. Inclusions of biotite are seen in places.
Biotite forms reddish brown euhedral to subhedral plates. Some are seamed with chlorite.
Magnetite forms equant grains in and with biotite. Ti-oxide thinly coats some grains.
Hematite occurs in a bladed cluster with biotite.
Epidote and apatite prisms occur in a cluster with biotite, included in plagioclase.
Euhedral allanites are rare; they occur in association withe biotite.

Aplite: penetrates granite along grain boundaries. Graphic-textured.

Mode

43	plagioclase
30	quartz
25	Kspar
1	biotite
1	magnetite

Plagioclase, An 8, forms an interlocking aggregate with Fe-oxide dusted Kspar and quartz. Graphic intergrowths of quartz and feldspars dominate the texture of the aplite. Small reddish brown biotite plates, euhedral to interstitial, are slightly to totally replaced by chlorite. Magnetite occurs as small cubes and equant anhedra, which average .08 mm across. Some magnetite occurs interstitially.

Appendix III

STATEMENTS OF QUALIFICATION

CASSIAR
RESOURCES
LIMITED

STATEMENT OF QUALIFICATIONS

I, Bernard Henry Whiting, with business and residential addresses in Vancouver, British Columbia, do hereby certify that:

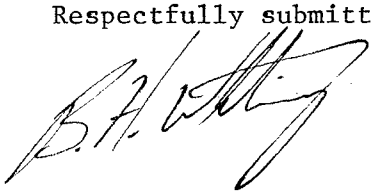
1. I am a graduate of the University of British Columbia with a Bachelor of Science Degree in Geology, 1979.

2. I am a member of the Canadian Institute of Mining and Metallurgy and an associate of the Geological Association of Canada.

3. From 1975 to 1979, I was employed in mineral exploration as a geologist for temporary positions with Rio Tinto Canadian Exploration Limited, Welcome North Mines Limited and the Pacific Science Congress.

4. I am presently employed on a full-time basis, as an exploration geologist with Cassiar Resources Limited (previously named Cassiar Asbestos Corporation Limited).

Respectfully submitted,



Bernard H. Whiting, B.Sc.

Vancouver, Canada
BHW/jh

CASSIAR
RESOURCES
LIMITED

STATEMENT OF QUALIFICATIONS

I, Timothy John Garde, with business address in Vancouver, British Columbia and residential address in Toronto, Ontario, do hereby certify that:

1. I am a graduate of Queen's University of Kingston, Ontario with a Bachelor of Science Degree in Geological Engineering, 1979.

2. I am a candidate for a Master of Engineering Degree in Engineering Geology at the University of Alberta.

3. From 1978 to 1979, I was employed in mineral exploration as a geologist for temporary positions with Hudbay Mining Limited. During 1980 I was employed as a research assistant for Dr. R. A. Price of the Department of Geological Sciences, Queen's University.

4. From May to September, 1980, I was employed on a temporary basis as an exploration geologist with Cassiar Resources Limited (previously named Cassiar Asbestos Corporation Limited).

Respectfully submitted,

for

Timothy J. Garde, B.Sc.(Eng.)

Vancouver, Canada
TJG/jh

CASSIAR
RESOURCES
LIMITED

STATEMENT OF QUALIFICATIONS

I, Fred G. Hewett, with business address in the city of Vancouver and residential address in the District of Coquitlam, in the Province of British Columbia, do hereby certify that:

1. I am a graduate of the University of British Columbia with a Bachelor of Science Degree in Geology, 1972.

2. I am a registered member of the Association of Professional Engineers of the Province of British Columbia.

3. I am a member of the Canadian Institute of Mining and Metallurgy and a fellow of the Geological Association of Canada.

4. I have practised various levels of my profession in Canada for approximately fifteen years.

5. I am presently employed by Cassiar Resources Limited and did personally supervise work described in this report.

Respectfully submitted,

Fred. G. Hewett, P.Eng.

FGH/jh

2000-1055 West Hastings St., Vancouver, B.C. Canada V6E 3V3 • Phone (604) 688-2511 • Telex 04-508664 • Cable "Cassbestos"

Appendix IV

STATEMENT OF COSTS

Statement of Costs

for the

SEVEN SISTERS PROJECT

Omineca Mining Division

British Columbia

1. SALARIES AND WAGES

Chisholm, C.	
July 25 - September 1, 1980	
39 days @ $44.00/day	$1,716.00
Garde, T.	
July 25 - September 1, 1980	
39 days @ $60.00/day	2,340.00
Hewett, F.	
August 14 - 16, September 2, 1980	
4 days @ $110.00/day	440.00
Watson, R.	
July 25 - September 2, 1980	
40 days @ $44.00/day	1,760.00
Whiting, B.	
July 25 - September 2, 1980	
40 days @ $69.00/day	2,760.00
Total Salaries and Wages	$9,016.00

2. ACCOMMODATION AND MEALS

(Accommodation at the Slumber Lodge in Terrace)

Chisholm, C.	
39 days @ $46.00/day	$1,794.00
Garde, T.	
39 days @ $46.00/day	1,794.00
Guenter, K. (pilot)	
40 days @ $46.00/day	1,840.00
Hewett, F.	
4 days @ $46.00/day	184.00
Watson, R.	
40 days @ $46.00/day	1,840.00
Whiting, B.	
40 days @ $46.00/day	1,840.00
Total Accommodation and Meals	$9,292.00

3. TRANSPORTATION

Ground Transportation	
1 - 4x4 Bronco leased from Castle Rentals plus maintenance and gasoline	
40 days @ $56.00/day	$2,240.00
Air Transportation	
1 - Hiller 12-E on contract from Yukon Airways Ltd.	
58 hours @ $360.00/hour	20,880.00
C.P. Air: Vancouver-Terrace (one way) (Watson, Whiting) @ $96.00/each	192.00
Vancouver-Terrace (return) (Chisholm, Garde, Hewett(twice)) @ $192.00/each	768.00
Total Transportation	$24,080.00

4. ANALYSES

165 soil samples analysed	
sample prep. @ 0.50/sample	$ 82.50
Cu, Zn, Pb, Mo, Ag, Co, W, Cd	
@ $8.35/sample	1,377.75
by Bondar-Clegg & Co. Ltd. of North Vancouver	
45 rock samples assayed for	
Ag, Cu, Mo, Pb, Zn, W	
@ $37.00/sample	1,665.00
by Bondar-Clegg & Co. Ltd. of North Vancouver	
6 rock samples for petrographic analyses	
by Vancouver Petrographics Ltd. of Fort Langley	313.00
Total Analyses	$3,438.25

5. REPORT AND MAP PREPARATION

B. Whiting	
1 month @ $2,291.67/month	$2,291.67
J. W. Drafting Services Ltd.	1,100.00
Miscellaneous office expenses, etc.	50.00
	$3,441.67

6. SUMMARY OF EXPENSES

1.	Salaries and Wages	$ 9,016.00
2.	Accommodation and Meals	9,292.00
3.	Transportation	24,080.00
4.	Analyses	3,438.25
5.	Report and Map Preparation	3,441.67
	Total Expenses	$49,267.92

Note: The total excludes costs of staking and other expenses not directly attributable for assessment credit. Work was conducted simultaneously on the various claim groups.

APPLICATION FOR ASSESSMENT

1 year @ $100/claim unit x 320 units =	$32,000.00
Applied to P.A.C. account =	17,200.00
Balance =	$ 67.92