

81-#612-952

CASSIAR RESOURCES
(Division of Brinco Mining Limited)

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REPORT ON UNDERGROUND

DIAMOND DRILLING

for June - July 1980
beneath the

CASSIAR MINE

Liard Mining Division
N.T.S. 104 P/5W

By: M. Pennock, B.Sc.
B. Whiting, B.Sc.

Date: April 1981

A list of the 4 meridian 4-post mineral claims and the 16 crown granted mineral claims is given in section 3, "Description of the Claims", as the "Fred Group"

Latitude: 59° 19'N

Longitude: 130° 50.6'W

Owner: Cassiar Resources
(Division of Brinco Mining Limited)

9525

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1. INTRODUCTION

With approximately 10 years of production left to the open pit operation of the Cassiar Mine, exploration for possible underground ore bodies is currently being conducted.

An exploration adit has been driven beneath the current open pit and drilling has commenced to expand reserves. Favourable results have been obtained with the discovery of the southern orebody which at present is open-ended to the south and east and with depth.

This report describes one period of diamond drilling of the southern body and has been prepared for submission as assessment work for adjacent mineral claims.

2. LOCATION AND ACCESS

The Cassiar Mine is located in northern British Columbia at latitude $59^{\circ} 19'N$, longitude $130^{\circ} 50.6'W$ in rugged mountainous terrain 80 kilometers (50 miles) south of the Yukon border, 1,177 air kilometers (735 miles) northwest of Edmonton and 320 air kilometers (200 miles) southeast of Whitehorse. (See index map App. I).

A 14 kilometer (9 mile) road branches off highway No. 37 to the town of Cassiar. The mine road heads north from the Plant area and the exploratory adit can be reached by a well marked road which provides access to a tramline tower as well as the adit.

3. DESCRIPTION OF THE CLAIMS

<u>Claim Name</u>	<u>Record No.</u>	<u>Units</u>	<u>Acres</u>	<u>Date Recorded</u>
Fred 1	1291(5)	12	741.36	28 May 1980
Fred 2	1292(5)	8	494.24	28 May 1980
Fred 3	1293(5)	18	1,112.04	28 May 1980
Fred 4	1294(5)	12	741.36	28 May 1980

Crown Granted Mineral Claims

<u>Claim Name</u>	<u>Lot No.</u>	<u>Crown Grant No.</u>	<u>Acres</u>	<u>Date of Crown Grant</u>
Rug fr.	6279	5811/929	17.73	9 June 1955
Mist #2	6292	2100/891	35.52	3 Dec 1952
Vale fr.	6295	2102/891	32.79	3 Dec 1952
Last	6431	2103/891	51.21	3 Dec 1952
Rugged #2	6432	5792/928	26.57	9 June 1952
Mist #1	6433	2101/891	41.31	3 Dec 1952
Rugged #4	6434	5791/928	27.59	9 June 1952
Hill	6435	2106/891	51.65	3 Dec 1952
Dell	6436	2105/891	45.53	3 Dec 1952
Goat #1	6501	5796/928	43.29	9 June 1955
Goat #2	6502	5797/928	37.08	9 June 1955
Talus fr.	6513	5804/929	44.48	9 June 1955
Cirque #1	6523	5809/929	47.47	9 June 1955
Cirque #2	6524	5806/929	47.47	9 June 1955
Cirque #3	6525	5807/929	51.65	9 June 1955
Cirque #4	6526	5808/929	51.65	9 June 1955

Total number of claims 20

Total acreage 3741.99 which is equivalent to 60.57 units

The above 4 meridian 4-post mineral claims and 16 crown granted mineral claims have been grouped as the "Fred Group."

4. PREVIOUS HISTORY

Asbestos has been known in this area for many years before any development took place. In 1950, four prospectors staked the large deposit and in 1951 when transportation and economics improved, the Conwest Exploration Company Limited of Toronto formed Cassiar Asbestos Corporation Limited to develop the deposit. [This is currently the Cassiar Resources - (Division of Brinco Mining Limited) operation].

The first ore was mined in the fall of 1952 and delivered to a mill rated at a capacity of 250 tons per day. Many changes have happened since then with current production from the open pit operation at 4,000 tons per day with an annual recovery of approximately 100,000 tons of fibre.

The open pit operation is estimated to have approximately 10 years remaining. In light of this, an exploration program has been initiated to test the possibility of future underground mining of asbestos down dip from the current ore body.

An adit was driven at the 1578 meter (5127 foot) level to a length of 1334 meters (4375 feet) from May 1978 to April 1980. From this adit, a series of diamond drill holes have been initiated. 8127 meters (26,413 feet) were drilled up to the end of May 1980. This report concerns the 626.5 meters (2036 feet) NQ and 175.4 meters (570 feet) BQ drilling during June - July 1980.

5. PURPOSE OF THE DRILLING PROGRAM

The purpose of the drilling program from the adit was to increase the sampling density of known ore reserves and to probe unknown areas of Chrysotile fibre. The ore body south of the shear zone was the target tested by the drilling described in this report.

The June - July 1980 underground drilling program consisted of 626.5 meters (2036 feet) of NQ and 175.4 meters (570 feet) of BQ drilling in 4 holes.

Hole No.	Type	Dip	From	To	Total Coring	Azimuth
U-80-157	NQ	-40 ⁰	138'	565'	427'	289 ⁰ 40'
U-80-158	NQ	-45 ⁰	0'	693'	693'	270 ⁰ 30'
U-80-159	NQ	-85 ⁰	0'	573'	573'	289 ⁰ 41'
U-80-160	NQ	-50 ⁰	0'	343'	343'	194 ⁰ 10'
	BQ	-50 ⁰	343'	913'	570'	
Total Drilling					2606'	(801.8 meters)

See App. II for the location of drill hole collars.

Drilling was carried out by Cameron McCutcheon Drilling Limited of Vancouver, B.C. under the supervision of M.R. Pennock and W. Pratt.

6. INTERPRETATION OF THE RESULTS

The exploration holes drilled indicate a fibre body to the south of the presently mined ore body. The quality and grade of fibre intersected by these holes is encouraging and the present knowledge indicates a continuous body open ended to the south and east and increasing in size and grade with depth.

Because asbestos fibre is not amenable to normal chemical analysis, for valuation purposes, the following method is employed at Cassiar.

1. Fibre bearing zones of core are divided into five foot lengths (1.52 meters).
2. In each five foot section the length of every fibre seam is measured in 1/16th inch (1.587mm) increments.

3. To obtain an estimate of the percent of fibre in each section, the total length of all fibre measured is divided by the length of recovered core, to obtain a Core Reading Grade (CRG). Because the Cassiar Orebody is considered a stockwork, all fibre seams are oriented randomly. To account for this randomness a correction factor ($\text{Cosecant } 45^{\circ} = 1.414$) is applied to the CRG ($\text{CRG} \times 1.414$) to give a Corrected Core Reading Grade (CCRG). At present a CCRG of less than 3% is not considered ore.

In addition to CCRG, using the length distribution of the fibre seams and past performance of the mill an estimate of fibre product distributions can be made.

The Geological Resources inferred from drilling to date are 5,443,000 Tonnes of Possible Ore at a CCRG of 3% or greater.

7. CONCLUSIONS AND RECOMMENDATIONS

Studies based on this preliminary information indicate that both the tonnage and grade must be increased to make the deposit viable.

With this in mind a second stage drilling program has been recommended for 1981 consisting of three phases:

Phase 1 - 8,600' (2,646 meters) drilling. Primarily to test the tonnage and grade of the areas to the south and east.

Phase 2 - 2,000' (615 meters) drilling. To improve sample density in the fibre zone and provide necessary information in the footwall argillites. This will be carried out only if Phase 1 indicates a substantial increase in tonnage and grade.

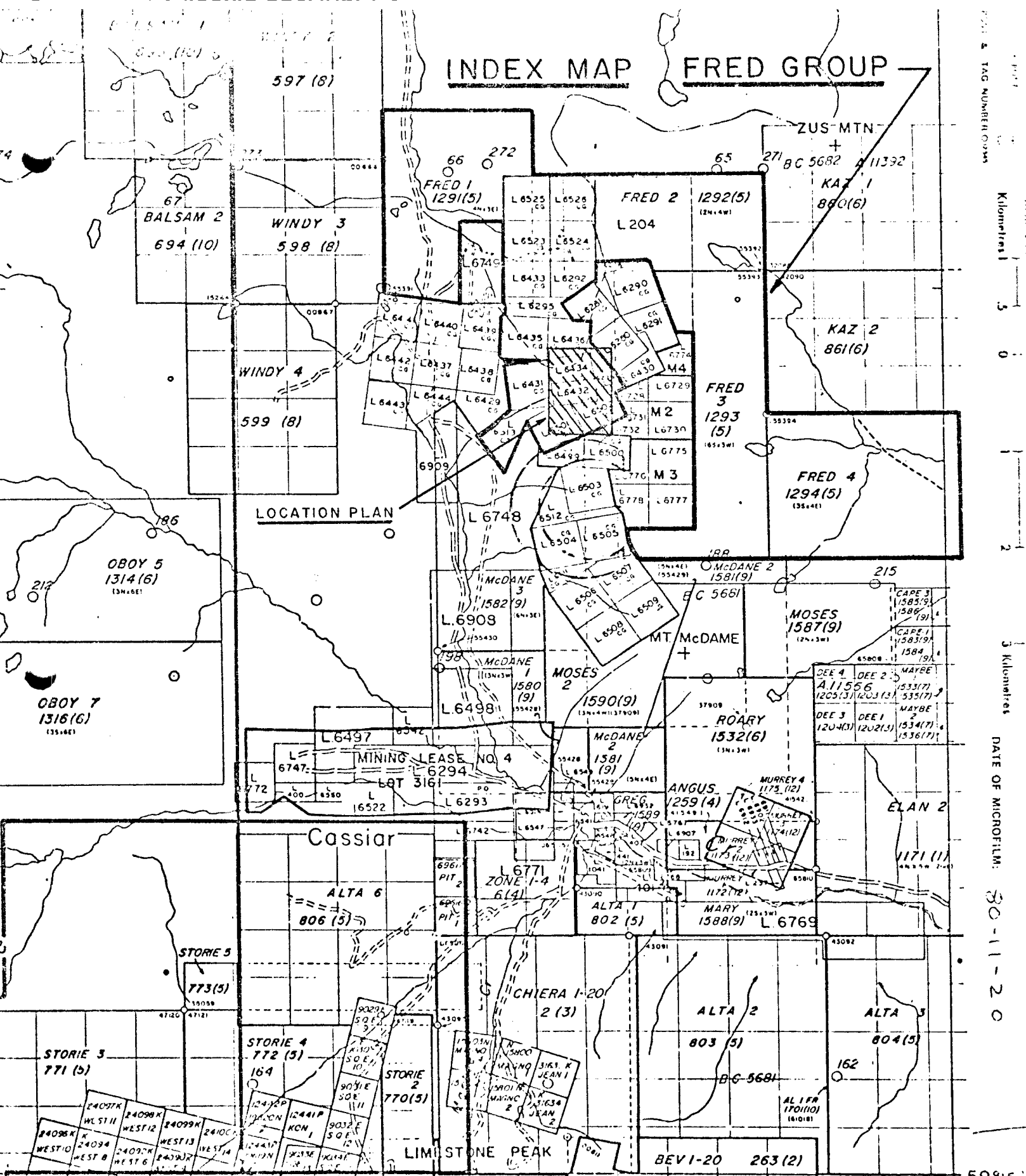
Phase 3 - 2,200' (677 meters) drilling. To be drilled if Phase 1 and 2 infer a northern extension of the fibre body across the shear zone.

8. REFERENCES

Pewsey, B.G.; Hewett, F.G.; Zimmer, G.S.; Lethley, G.J.;
Jones, P.C.; Cook, D.C.; and Taylor, M.S.;
"The Cassiar Story" published in the CIM Bulletin, 1978.

Pennock, M.R.; Riordon, T.P.; Stewart, D.; and Pulsifer, C.H.;
"Cassiar Mine, Ore Reserve Statement; unpublished, October
31, 1980.

INDEX MAP FRED GROUP



TO SOUTH SEE MAP 104-P-4-W

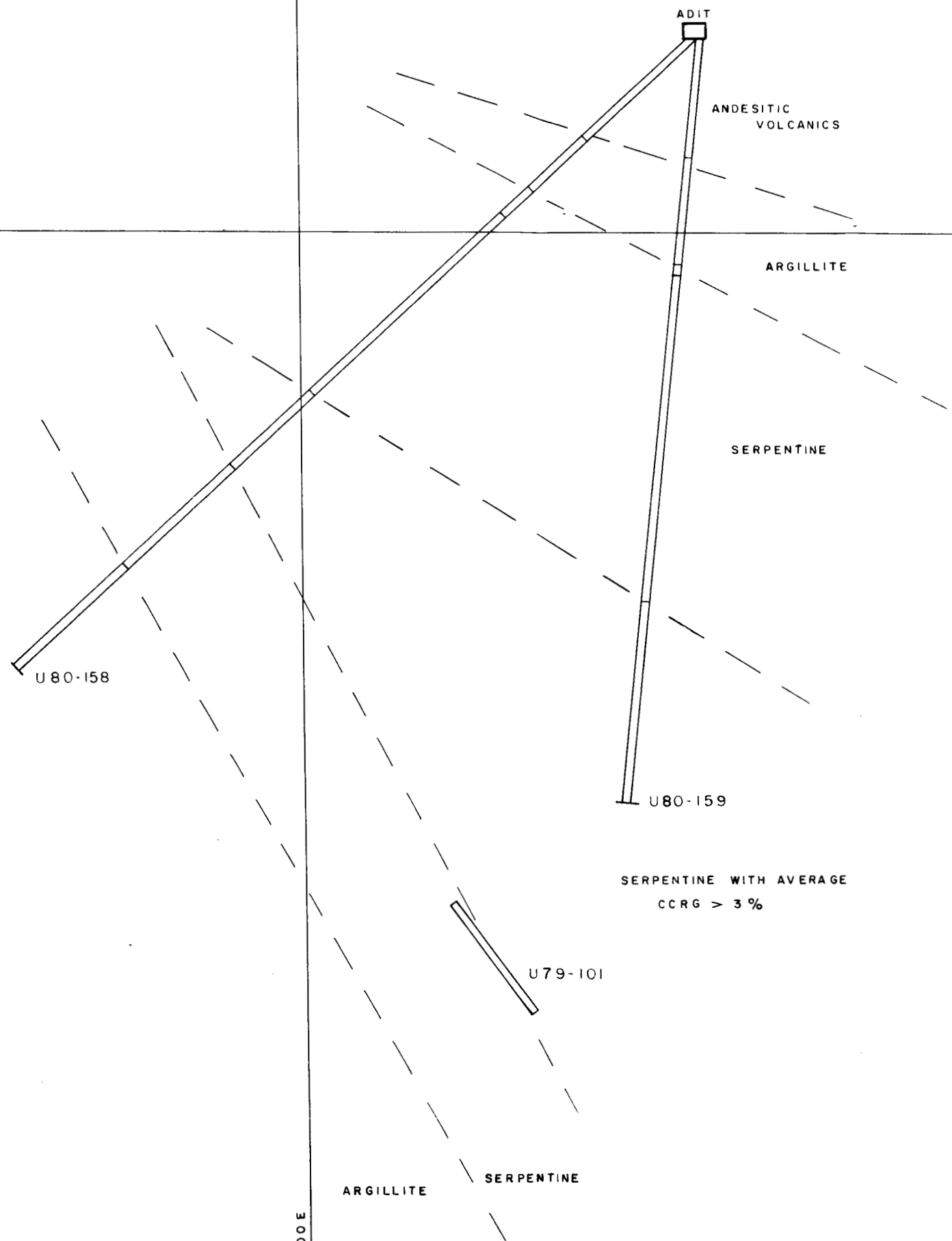
MINERAL TITLES REFERENCE MAP 104 P/5W

DEPARTMENT OF MINES AND PETROLEUM RESOURCES VICTORIA, B.C.

411556

129945'

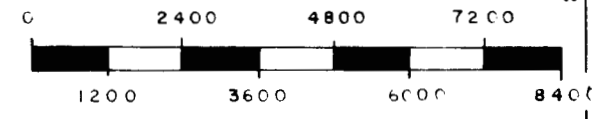
5000



9525

SCALE

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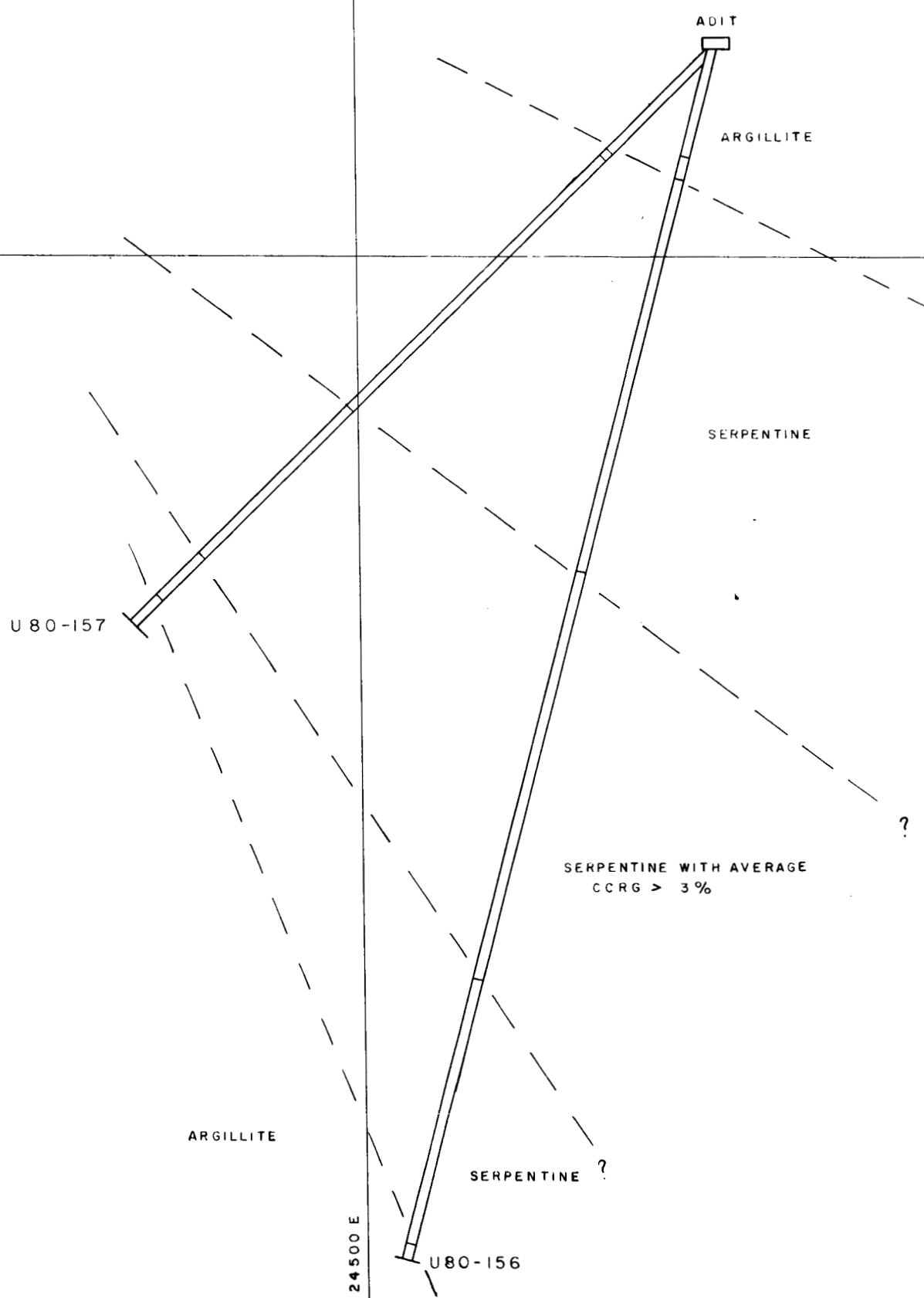
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SECTION 22000 N	
DRAWN BY: MRP	DATE: 28.4.81
SCALE: 1"=100'	

24000 E

24500 E

25000 E

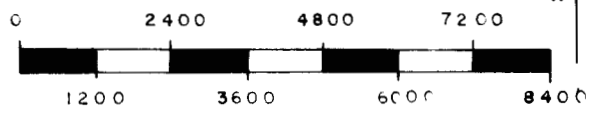
25500 E



5000

9525

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1:1200



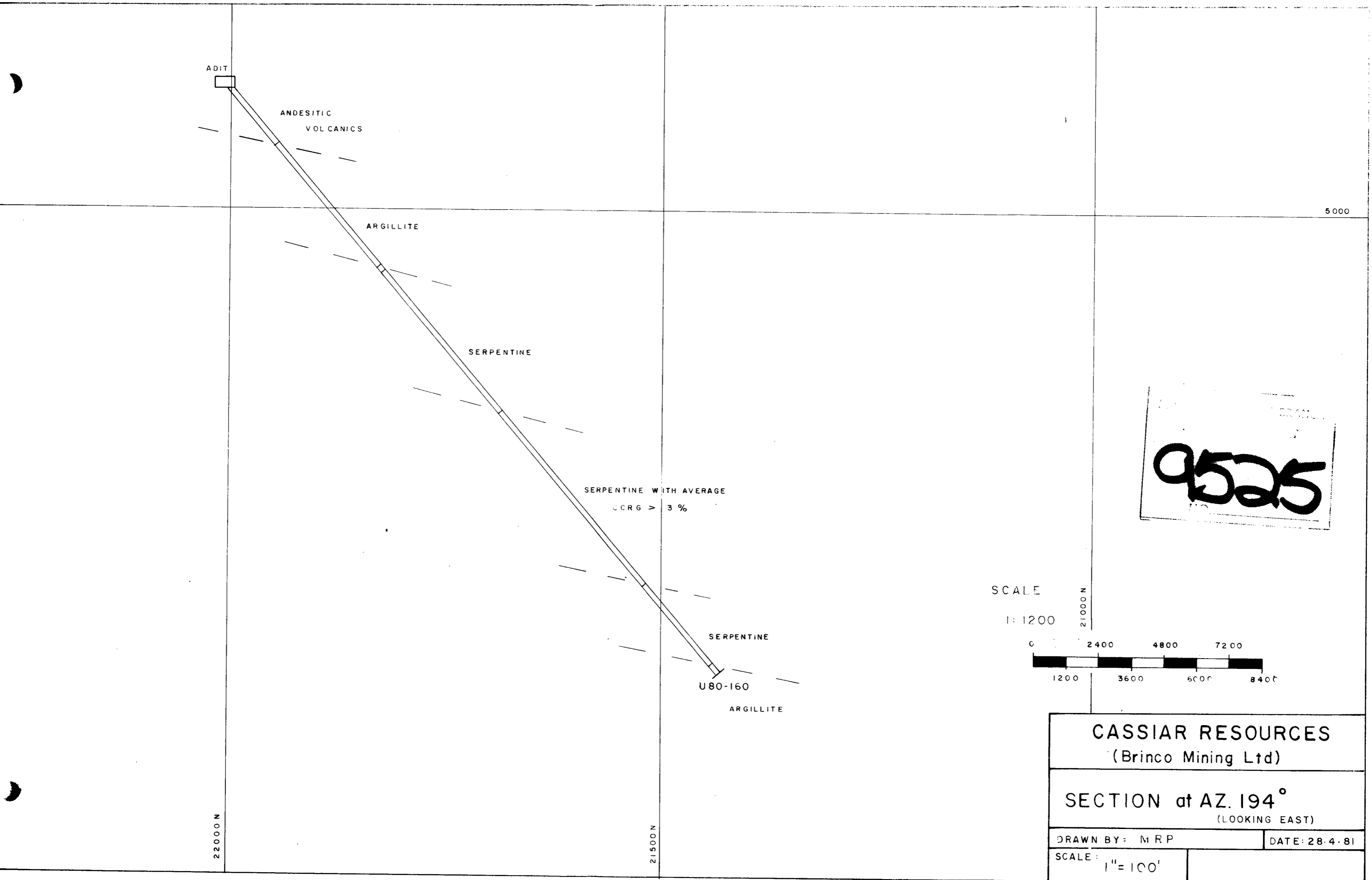
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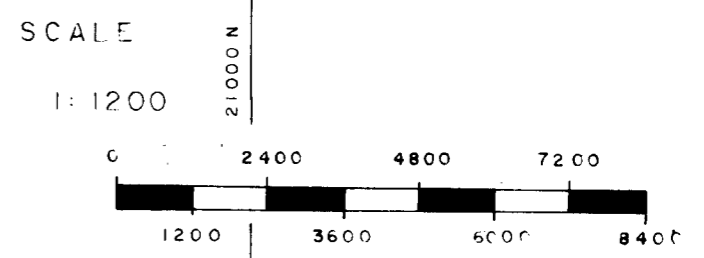
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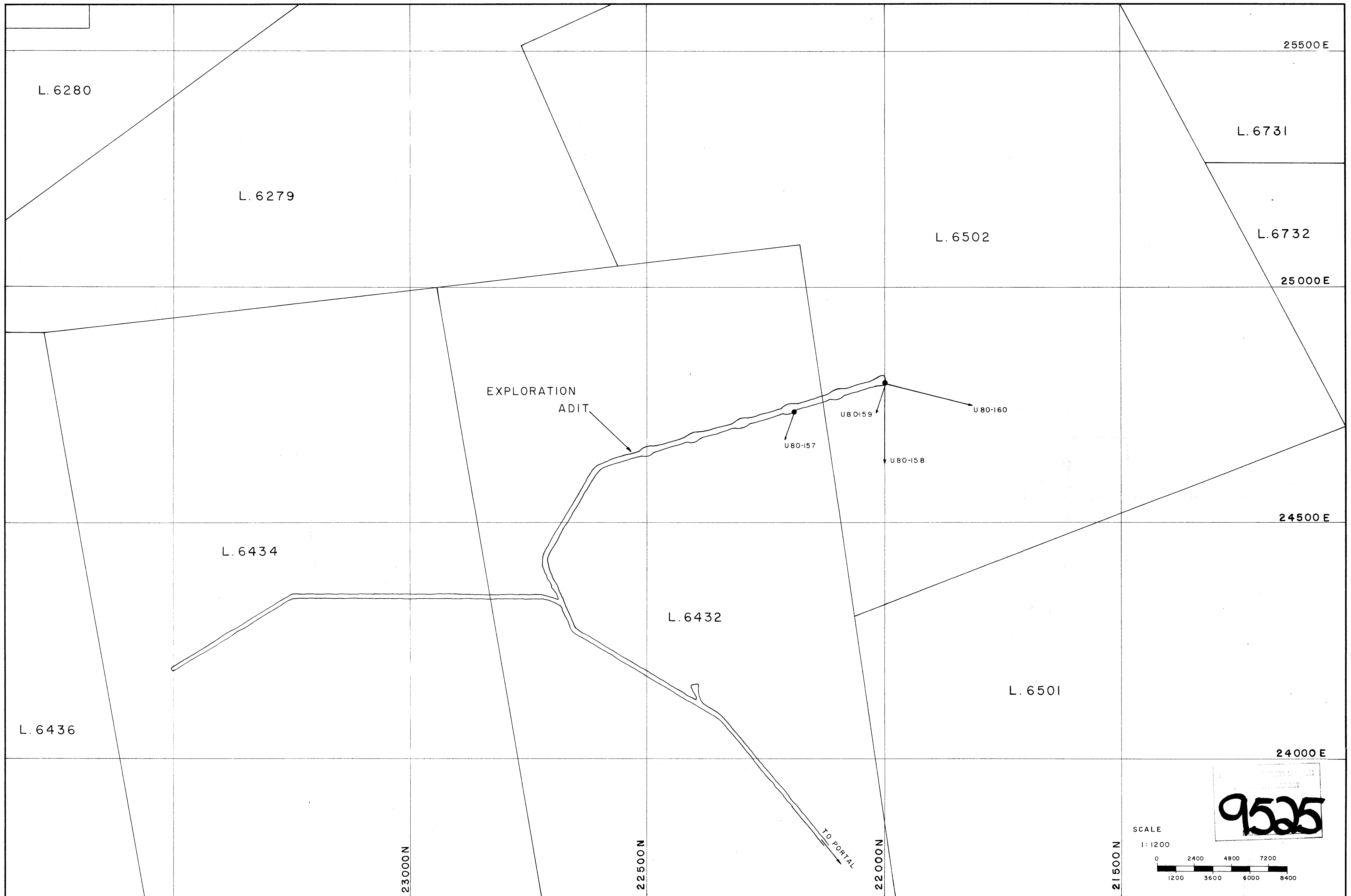
CASSIAR RESOURCES (Brinco Mining Ltd)	
SECTION 22200 N	
DRAWN BY: MRP	DATE: 28.4.81
SCALE: 1" = 100'	



9525



CASSIAR RESOURCES (Brinco Mining Ltd)	
SECTION at AZ. 194° (LOOKING EAST)	
DRAWN BY: MRP	DATE: 28.4.81
SCALE: 1" = 100'	



DRWG. No.	REFERENCE	No.	DATE	REVISIONS	BY	ISSUED FOR ABOVE PURPOSE	DATE	APP'D

LOCATION:		CASSIAR RESOURCES (Brinco Mining Ltd)	
TITLE: LOCATION PLAN		DRAWN BY: MRP	DATE: 28-4-81
		CHECKED BY: _____	DATE: _____
		APPROVED BY: _____	DATE: _____
		SECTION: _____	PROJ. No. _____
		SCALE: 1" = 100'	DWG. No. _____
			REV. _____

CASSIAR ASBESTOS CORPORATION LIMITED

FORM 10-3

DIAMOND DRILL CORE GEOLOGY LOG

PROPERTY _____ HOLE U80 - 157 _____ DEPTH 565 _____
 AZIMUTH _____ INCLINATION _____ SECTION _____
 LATITUDE _____ DEPARTURE _____ ELEVATION _____
 STARTED May 31/80 _____ FINISHED _____ LOGGED by B. Pratt
 date June/80 _____

LEGEND	
W	OVERBURDEN
B	SLATE
C	CARBONATE
Q	QUARTZITE
D	DIORITE
V	VOLCANIC
S	SERPENTINE
SH	SHEARING
SCALE: _____	

FROM	TO	LENGTH FT.	DESCRIPTION	VISUAL LOG
0	93		Arg; grey to blk; banded throughout; some minor volcanics interbedding between 0 - 23; * Altered arg/serp dykes @ 15 - 18; and 21-22; gry gry/blk numerous pyroxene crystals which are med grn in color; minor fibrous veins of alt fibre/or tremolite; from 23 onwards - typical H.W. arg gry/blk; blk; some light gry almost limy sects;	
93	99.5		Alteration; gry/grn to grn; fine grained; very hard; with some pale grn talc @ 97-98'; CN with serp is gradational; trace of grn garnets around 94-96; no actual jade;	
99.5	135		Serp; dk grn to med/dk grn; comp; blk; slightly broken; some amorphous serp/talc on frags; trace fibre; minor magnesite;	
135	203		Shear zone; mud and gouge, with minor sections of broken well fractured serp; some crumbly friable sections; fair amount of talc/amorphous serp; minor magnesite; dk grn with minor pale grn sects;	
203	243		Serp; dk grn; blk to broken; much the same as above; minor fibre from 220 onwards; minor shears @ 234-236; 249-250; 252-253;	
263	539		Serp; apple to dk grn; broken; fair amount of talc and slip fibre; some slickensides & rock shears; mineralization starting @ 292; good fibre @335 shears @306-317; 327-329; 400-402; 436-437; minor bastites from 335 to 470; end of good fibre @ 465; shears @ 437-441; 466-473; 477-479; from 478 to 539 - dk grn to blk serp; trace bastites; some fibre, 1-3% in sections	

H

BOREHOLE No. 80 / 157

From	To	Rec'd	1's	2's	3's	4's	5's	6's	8's	10's	12's	14's	16's	18+'s	Core/S	CCRG	
165	170	2.0	3												45	.37	IG
170	175	3.5	4												45	.52	IG
175	180	5.0	5												45	.74	IG
180	185	4.5	3	3	9										45	2.12	Y
185	190	4.0	3												45	.28	IG
190	195	4.5	6												45	.82	C
195	200	4.5		2											45	.33	IG
200	205	5.0													0	0.00	IG
205	210	4.5													0	0.00	IG
210	215	4.5	1												45	.08	IG
215	220	4.5	1	2											45	.41	IG
220	225	5.0	1												45	.14	IG
225	230	4.5													0	0.00	IG
230	235	5.0													0	0.00	IG
235	240	5.0	1												45	.14	IG
240	245	5.0	1												45	.14	IG
245	250	5.0													0	0.00	IG
250	255	5.0													0	0.00	IG
255	260	5.0	3												45	.37	IG
260	265	5.0													0	0.00	IG
265	270	5.0													0	0.00	IG
270	275	5.0													0	0.00	IG
275	280	5.0	2												45	.21	IG
280	285	5.0	2	1											45	.44	IG
285	290	5.0	2												45	.21	IG
290	295	5.0	7	2	3										45	1.77	Y
295	300	5.0	6	1	3										45	1.40	Y
300	305	5.0	5	2											45	.96	IG
305	310	4.5	2	6	6										45	1.80	Y
310	315	4.0	1												45	.10	IG
315	320	4.5	6												45	.74	IG
320	325	3.5	7		4										45	1.58	Y
325	330	3.0	3												45	.37	IG
330	335	2.5	6	2											45	1.03	Y
335	340	4.0	1	6	6										45	1.94	Y
340	345	3.5	1	4	3		4								45	1.68	Y
345	350	4.0	11	9	4	3	10								45	5.25	P
350	355	4.5	7	12	3										45	3.18	O
355	360	5.0	8	13	6	6		6	8	5		7			45	8.68	R

365	370	5.0	4	8	6	6	3	6						45	4.79		O
370	375	5.0	7	5	9	4	8	9						45	6.04		P
375	380	5.0	5	5	8	2	13	9	16	10	6	8		45	11.94		R
380	385	5.0	7	6	11	12	8	6	12					45	8.91		R
385	390	5.0	2	4	8	12	3	3	4					45	5.16		P
390	395	5.0	7	17	9	2	3	15						45	7.74		R
395	400	5.0	7	7	6	10		6						45	5.23		P
400	405	5.0	8	6	11	4		9	8	15				45	8.91		R
405	410	5.0	9	7	5	4								45	3.61		O
410	415	5.0	8	4	8	6	13	6	4					45	7.00		R
415	420	5.0	3	9	8	4		3						45	3.90		O
420	425	5.0	4	1	3		5	3	4					45	2.96		Y
425	430	5.0	5	10	5									45	2.80		Y
430	435	5.0	5	2	2									45	1.19		Y
435	440	5.0	5	6	3		3	6	4					45	3.83		O
440	445	5.0	2	5	3	4	5	3						45	3.24		O
445	450	5.0	3	2	5	2	5							45	2.43		Y
450	455	5.0	4	7	15	12	5	3		10				45	8.24		R
455	460	4.5	7	6										45	1.80		Y
460	465	4.0	5	8	3	8	6	8						45	5.16		P
465	470	5.0	1	1	3	4								45	1.33		Y
470	475	3.0	3	8	3	7								45	2.94		Y
475	480	4.0	4		4	3	4	4						45	2.39		Y
480	485	4.5	2	1										45	.41		G
485	490	4.0	5	4	10	5		4						45	3.96		O
490	495	4.5	2	10	2		3	3						45	2.94		Y
495	500	3.5	9	11	7	6	4	4						45	5.90		P
500	505	3.0	5	3		3	5							45	2.21		Y
505	510	3.0	3	2										45	.74		G
510	515	2.5	4	8	12									45	3.39		O
515	520	1.0	5	5										45	1.10		Y
520	525	1.5	3			7		10						45	2.70		Y
525	530	1.5		3	10	13								45	3.93		O
530	535	1.0	5	10	25									45	5.16		P
535	540	2.5												0	0.00		G
540	545	3.0												0	0.00		G
545	550	2.5												0	0.00		G
550	555	5.0												0	0.00		G
555	560	5.0												0	0.00		G
560	565	5.0												0	0.00		G

CASSIAR ASBESTOS CORPORATION LIMITED

FORM 00-3

DIAMOND DRILL CORE GEOLOGY LOG

PROPERTY _____ HOLE U80 - 158 DEPTH 693
 AZIMUTH _____ INCLINATION _____ SECTION 22,000N
 LATITUDE _____ DEPARTURE _____ ELEVATION _____
 STARTED June 7/80 FINISHED June 10/80 LOGGED by B. Pratt
 date June/80

LEGEND

A	OVERBURDEN
B	SLATE
C	CARBONATE
D	QUARTZITE
E	DIORITE
V	VOLCANIC
S	SERPENTINE
	SHEARING

SCALE: _____

FROM	TO	LENGTH FT.	DESCRIPTION	VISUAL LOG
0	106		Volcanics - gry/grn fine to med grained; blk; well jointed; hard; 74-106 - some blk/gry banded arg; with some qtz stringer veins; interbedding arg and volcs;	
106	166		Arg - Typical slyvester arg; gry to blk; blk; well jointed; some banding of lt gry and blk arg throughout; minor iron pyrites on fract; ch to alt. zone is gradational over 4 ft.	
166	194		Alteration zone; gry/grn; very hard; blk; with some broken sects just before serp CN; minor veinlets of dk grn serp; 191 - 194 - 80-90% talc; minor sulphides;	
194	298		Serp - med to dk grn; broken; well fract; some slip fibre/talc on fract; *Minor shear zone 238-253; gouge and mud with minor 1' hard blk sections; fair amount of talc; minor fibre 255 onwards; minor bastites; minor shears at; 275-277; 284-286;	
298	338		Shear zone; pale to dk grn - mud and gouge; minor hard broken sects ≤ 2'; minor fibre; fair amount of talc;	
477			Serp - med to dk grn; blk; well fract; good fibre from 390 to 465 some bastites; some talc/slip fibre on facts; minor shears @ 452-453	
477	510		Shear zone; pale to dk grn; mud and gouge; fair amount of talc; minor crumbly broken sections;	

CASSIAR ASBESTOS CORPORATION LIMITED

DIAMOND DRILL CORE GEOLOGY LOG

FORM DD-3

Page 2

PROPERTY _____ HOLE US0=158 DEPTH 693
 AZIMUTH _____ INCLINATION _____ SECTION _____
 LATITUDE _____ DEPARTURE _____ ELEVATION _____
 STARTED _____ FINISHED _____ LOGGED by _____
 date _____

LEGEND

W	OVERBURDEN
S	SLATE
C	CARBONATE
Q	QUARTZITE
D	DIORITE
V	VOLCANIC
S	SERPENTINE
SH	SHEARING

SCALE: _____

FROM	TO	LENGTH FT.	DESCRIPTION	VISUAL LOG
510	535		Serp - pale to med grn with blk veinlets of serp/magnetite; trace fibre; some talc/slip fibre & amorphous serp on fract; broken;	
535	591		Serp - broken to rock shear sect; very crumbly incomp; some friable sects; med to dk grn; short sects of mud & gouge; some talc;	
591	693		Graphitic arg; blk - sheared; contorted incomp; minor qtz/calcite veinlets; minor pyrites to 628; 628 on rock is broken and well fract; 679 to 693 - banded lt gry to dk gry arg; slightly graphitic, banding predominant;	
			end of hole:	

BOREHOLE No. 80 / 158

From	To	Rec'd	1's	2's	3's	4's	5's	6's	8's	10's	12's	14's	16's	18+'s	Core/S	CCPG	
250	255	5.0	1												45	.14	G
255	260	5.0	3												45	.44	G
260	265	5.0	5	4											45	1.26	Y
265	270	5.0	1												45	.14	G
270	275	5.0													0	0.00	G
275	280	4.5	7												45	.98	G
280	285	5.0													0	0.00	G
285	290	5.0	1												45	.14	G
290	295	5.0	1												45	.07	G
295	300	3.5	1												45	.21	G
300	305	3.5													0	0.00	G
305	310	4.0													0	0.00	G
310	315	5.0	7	6											45	1.84	Y
315	320	5.0	4												45	.59	G
320	325	5.0		2											45	.30	G
325	330	5.0	2												45	.30	G
330	335	5.0	2	4											45	.81	G
335	340	5.0	1	2											45	.44	G
340	345	5.0	5	3											45	1.10	Y
345	350	5.0	2												45	.30	G
350	355	5.0	4												45	.59	G
355	360	5.0	3	2											45	.66	G
360	365	5.0													0	0.00	G
365	370	5.0	5	2											45	1.03	Y
370	375	5.0	3	4											45	1.03	Y
375	380	5.0	5	4											45	1.24	Y
380	385	5.0	4	9	9	4									45	3.75	O
385	390	5.0	7	8		4									45	2.73	Y
390	395	5.0	6	3	5			3							45	2.43	Y
395	400	5.0	14	8	2										45	3.46	O
400	405	5.0	9	9	8	4		12							45	6.04	P
405	410	5.0	8	14	6	2	5	6							45	5.97	P
410	415	5.0	5	8	14	2	8	12							45	7.00	R
415	420	5.0	5	6	3	8	5								45	3.97	O
420	425	5.0	6	9	3	2			4						45	3.46	O
425	430	5.0	7	7	5	2	3	9	8						45	5.83	P
430	435	5.0	6	6	3		3	6		5	6				45	5.08	P
435	440	5.0	5	10	9	6	8	9		10		6			45	8.24	R
440	445	5.0	7	6	6	4			8						45	4.50	O
445	450	5.0	4	5	9	6									45	3.54	O

450	455	5.0	5	6	3	6	3	15		5	12	24	45	11.50		R
455	460	5.0	3	6	2	8	3						45	3.10		O
460	465	4.5	4	7									45	1.56		Y
465	470	4.5	8	6	7								45	2.87		Y
470	475	4.5	6	7	3						7		45	3.28		O
475	480	4.0	4	1	4	5							45	2.02		Y
480	485	5.0	2	1	3	2	3	6					45	2.43		Y
485	490	5.0	1										45	.07		G
490	495	5.0	3	1									45	.59		G
495	500	5.0											0	0.00		G
500	505	5.0	2	2									45	.52		G
505	510	5.0	3	1									45	.51		G
510	515	5.0	3	1									45	.51		G
515	520	5.0	2										45	.23		G
520	525	5.0	2	2		2	8						45	1.99		Y
525	530	5.0	2		6								45	1.17		Y
530	535	5.0	4	2	2								45	1.10		Y
535	540	4.0	6	4									45	1.39		Y
540	545	5.0	6	7									45	1.92		Y
545	550	5.0	9	11	9	12	3	3					45	6.84		P
550	555	5.0	5	5	11		3	9		20			45	7.67		R
555	560	5.0	3	3		2	5						45	1.91		Y
560	565	5.0	12	11	6	10	5	6					45	7.30		R
565	570	5.0	5	7	2	4	3						45	2.87		Y
570	575	5.0	2	4	6	2							45	1.98		Y
575	580	5.0	3	6									45	1.26		Y
580	585	5.0	3	3	2								45	1.03		Y
585	590	5.0	4	6			5						45	2.14		Y

BOREHOLE No. 80 / 159

From	To	Pec'd	1's	2's	3's	4's	5's	6's	8's	10's	12's	14's	16's	18+'s	Core/S	CCRG	
220	225	5.0	2												45	.30	G
225	230	5.0	4												45	.52	G
230	235	5.0	1	2											45	.44	G
235	240	5.0	3												45	.37	G
240	245	5.0	5	4											45	1.33	Y
245	250	5.0	1	4											45	.74	G
250	255	5.0	1	2	2	2									45	.96	G
255	260	5.0													0	0.00	G
260	265	4.5	1												45	.17	G
265	270	4.5	1												23	.13	G
270	275	5.0	2	4											45	.89	G
275	280	5.0	2												45	.30	G
280	285	5.0		4											45	.59	G
285	290	5.0	2	2											45	.59	G
290	295	5.0													0	0.00	G
295	300	5.0													0	0.00	C
300	305	5.0	1												45	.14	G
305	310	5.0													0	0.00	C
310	315	5.0	3	1											45	.59	C
315	320	5.0													0	0.00	G
320	325	5.0	2												45	.21	G
325	330	5.0	2	3											45	.74	C
330	335	5.0	3	1											45	.52	G
335	340	5.0	1	4											45	.74	G
340	345	5.0	2	1											45	.44	G
345	350	5.0	3	4											45	.96	G
350	355	5.0	3	4											45	1.03	Y
355	360	5.0	4	6											45	1.40	Y
360	365	5.0	4	5											45	1.33	Y
365	370	5.0	6	3											45	1.26	Y
370	375	5.0	2												45	.23	G
375	380	5.0	3	1											45	.52	G
380	385	5.0	7	6	3										45	2.36	Y
385	390	5.0	6	6	3	4									45	2.73	Y
390	395	5.0	1												45	.14	G
395	400	5.0	1												45	.14	G
400	405	5.0	11	7											45	2.64	Y
405	410	5.0	5	2	2										45	1.17	Y
410	415	5.0	7	2											45	1.24	Y
415	420	5.0	1	2											45	.37	G

420	425	5.0	2	7													45	1.33			Y
425	430	5.0	5	4	2	2											45	1.77			Y
430	435	5.0	8	10	6	6	5		4	5							45	6.48			P
435	440	5.0	5	5	2	2											45	1.91			Y
440	445	5.0	10	8	8	4	3	9							6		45	6.86			P
445	450	5.0	9	6	3	2	3	12	4								45	5.67			P
450	455	5.0	8	7	5	4	5	3							6	7	45	6.56			P
455	460	5.0	8	4	14	10	5	12	4						6	16	45	11.57			R
460	465	5.0	6	4	8	14	8	18	4	5					6		45	10.61			R
465	470	5.0	9	12	12	16											45	7.21			R
470	475	5.0	12	10	9	10	3	6	4	25						8	45	12.67			R
475	480	5.0	7	9	12	24	13	15	8	20	12					24	45	21.14			R
480	485	5.0	5	10	12	6	5	9	4								45	7.51			R
485	490	5.0	8	17	15	18	10	9	4	5							45	12.60			R
490	495	5.0	11	17	8	10	3	15									45	9.21			R
495	500	5.0	4	12	12	12	8	6	16	10	6	7					45	13.62			R
500	505	5.0	9	14	5	4	3	9	4	5							45	7.59			R
505	510	5.0	5	13	6												45	3.46			O
510	515	5.0	7	12	6	10	10	6	8						12		45	10.38			P
515	520	5.0	6	6	2												45	1.91			Y
520	525	5.0	6	5		4											45	2.14			Y
525	530	5.0	3	5													45	1.10			Y
530	535	5.0	6	8	8	10	10		8								45	7.30			R
535	540	5.0	2	7			10										45	2.73			Y
540	545	5.0	3	2	6	6	8	12	8						12		45	8.32			R
545	550	5.0	6	3				6								16	45	4.50			O
550	555	5.0	9	5	5	22	8	24	16								45	12.88			R
555	560	5.0	2		3	8											45	1.91			Y
560	565	5.0	4	5	3	6				5							45	3.38			O
565	570	5.0	2	3	5			6									45	2.21			Y
570	575	5.0	3	3	3	12	3	9	8	5							45	6.70			P

CASSIAR ASBESTOS CORPORATION LIMITED
DIAMOND DRILL CORE GEOLOGY LOG

PROPERTY Cassiar HOLE U80-160 DEPTH _____
 AZIMUTH _____ INCLINATION _____ SECTION _____
 LATITUDE _____ DEPARTURE _____ ELEVATION _____
 STARTED June 19/80 FINISHED _____ LOGGED by B. Pratt
 date June/80

LEGEND	
W	OVERBURDEN
B	SLATE
C	CARBONATE
Q	QUARTZITE
D	DIOGENITE
V	VOLCANIC
S	SERPENTINE
W	WEARING
SCALE _____	

FROM	TO	LENGTH FT.	DESCRIPTION	VISUAL LOG
0	85.5		Volcanics - GRN to GRN/GRY; fine grnstones to med to fine grn'd Andesitic volcs. with numerous epidote crystals dissiminated throughout; White qtz vein at 29-31; Some chloritic type ?/Serp? on fractcs; blk; well jointed; hard;	
88.5	277		Argillite; blk to gry blk; blk; well fractured; some sulphides on fractcs and disseminated veinlets; from 98-128 - Arg and Volcs; interbedding; 133-135 - altered serp/arg?dyke with numerous pyroxene crystals; 138 onwards typical gry/blk args; well banded gry blk; minor pyrites on fractures; minor qtz/calc stringers; 225 to 238 - gry/grn altered arg almost chloritic along fractcs; 238 on - blk/gry arg again; badly broken 238 to 250;	
277	283		Alteration zone; grn to lt gry/grn some tremolite veinlets; minor lime grn uvarovite flecks; minor talc/soapstone; hard;	
283	900.6		Serp; Dk grn to med grn; broken; some talc and magnesite in veins and along fractcs; minor picrolite; 304 to 315 shear zone some gouge; 315 to 317 - Dyke of Pale gren alt. zone; 323 to 342 shear zone; very talcy; some gouge; 337 to 338 fair amount of magnesite (one vein 4") 338 to 354 badly broken serp reduced to BQ @ 338; trace fibre 354 onwards; minor bastites; typical H.W. Serp; shear zones at 437 to 445; 451 to 455; badly broken 460 to 484 * Shear zone 484 to 503 Mud and gouge with some broken friable sections; Good fibre 505 to 635 - core compt. blk; well jointed; fair amount of long fibre; numerous bastites; numerous 1' blks of core; from 635 on 1-3% fibre short 2 1/2" minor shears @ 669-673 691-693; 707-708; 889-890;	

CORRHOLE No. 80 / 160

From	To	Pec'd	1's	2's	3's	4's	5's	6's	8's	10's	12's	14's	16's	18+'s	Core/S	CCRC	
355	360	4.5	1			4									45	0.82	G
360	365	4.5		2											45	0.33	G
365	370	5.0	1				5								45	0.89	G
370	375	5.0	1												45	0.14	G
375	380	5.0													0	0.00	G
380	385	4.5	1	2											45	0.49	G
385	390	4.5													0	0.00	G
390	395	3.0													0	0.00	G
395	400	5.0													0	0.00	G
400	405	4.0	1												45	0.18	G
405	410	5.0				4									45	0.59	G
410	415	5.0	1	2											45	0.44	G
415	420	4.0	4												45	0.55	G
420	425	5.0	5												45	0.66	G
425	430	4.5	2	2	2	2									45	1.23	Y
430	435	3.5	1												45	0.21	G
435	440	2.0													0	0.00	G
440	445	1.5	3												23	0.18	G
445	450	3.0													0	0.00	G
450	455	3.5	1												45	0.21	G
455	460	4.5	1												45	0.17	G
460	465	3.0													0	0.00	G
465	470	4.0	3												45	0.28	G
470	475	3.5													0	0.00	G
475	480	3.5	1												45	0.21	G
480	485	3.5	3												45	0.42	G
485	490	3.5	6												45	0.74	G
490	495	4.5	1												45	0.17	G
495	500	4.0	1												45	0.18	G
500	505	4.5	4	2											45	0.91	G
505	510	3.0	12	15	3	17		5							45	7.48	R
510	515	4.0	6	6	11	10		8							45	5.98	P
515	520	4.0	3	8	6	5	13	8							45	5.90	P
520	525	5.0	1	5	6	2	5		16			14	16		45	9.50	R
525	530	5.0	2	2	2	2									45	1.10	Y
530	535	5.0	2	2	3		5		8						45	2.94	Y
535	540	4.5	7	3			3	7		11			18		45	7.04	R
540	545	5.0	1	1	3	2				10	12		16		45	6.63	P
545	550	5.0	4	12	8			6	8						45	5.44	P
550	555	5.0	3	2	8	10		6							45	4.20	O

555	560	5.0	7	5	2	8												45	3.17	<input type="checkbox"/>	O
560	565	5.0	7	12	9	12												45	5.83	<input type="checkbox"/>	P
565	570	5.0	7	3		4	3	15	8									45	5.74	<input type="checkbox"/>	P
570	575	5.0	4	7	5	6		6	8									45	5.16	<input type="checkbox"/>	P
575	580	5.0	6	12	5	6	5	12										45	6.63	<input type="checkbox"/>	P
580	585	5.0	10	9	5	2												45	3.68	<input type="checkbox"/>	O
585	590	5.0	8	11	6	6	3	3	4		14							45	7.96	<input type="checkbox"/>	R
590	595	5.0	4	6	3	8		3								8		45	4.64	<input type="checkbox"/>	O
595	600	5.0	4	3		4	3								16			45	4.27	<input type="checkbox"/>	O
600	605	5.0	5	6	3	2	3	6										45	3.54	<input type="checkbox"/>	O
605	610	5.0	5	4	2		3	3								16		45	4.72	<input type="checkbox"/>	O
610	615	5.0	8	4		2		3						5				45	4.34	<input type="checkbox"/>	O
615	620	5.0	4	5	5	6	8		4	15						16		45	9.07	<input type="checkbox"/>	R
620	625	5.0	4	5	2	2												45	1.77	<input type="checkbox"/>	Y
625	630	5.0	5	14	11	2	3											45	4.94	<input type="checkbox"/>	O
630	635	5.0	5	5	2	4	3											45	2.64	<input type="checkbox"/>	Y
635	640	5.0	2	3	5	4	3											45	2.28	<input type="checkbox"/>	Y
640	645	5.0	4	3	5	8												45	2.87	<input type="checkbox"/>	Y
645	650	5.0	2	1	3	2	3	3										45	1.99	<input type="checkbox"/>	Y
650	655	5.0	5	3	3	4												45	2.14	<input type="checkbox"/>	Y
655	660	5.0	1															45	0.14	<input type="checkbox"/>	C
660	665	5.0	7	1	9	14	3	6										45	5.74	<input type="checkbox"/>	P
665	670	5.0	1	8	3	4	3	3										45	3.10	<input type="checkbox"/>	O
670	675	4.0																0	0.00	<input type="checkbox"/>	G
675	680	4.0	8															45	1.10	<input type="checkbox"/>	Y
680	685	4.0	4	4	3	3												45	1.75	<input type="checkbox"/>	Y
685	690	4.5	7	2	2	7												45	2.46	<input type="checkbox"/>	Y
690	695	4.0	1															45	0.18	<input type="checkbox"/>	G
695	700	4.5	1	2														45	0.41	<input type="checkbox"/>	G
700	705	4.0	8															45	1.02	<input type="checkbox"/>	Y
705	710	3.5		1	3													45	0.52	<input type="checkbox"/>	G
710	715	5.0	9															45	1.33	<input type="checkbox"/>	Y
715	720	5.0	5															45	0.66	<input type="checkbox"/>	G
720	725	5.0	1															45	0.14	<input type="checkbox"/>	C
725	730	5.0	7	5	6	4												45	3.17	<input type="checkbox"/>	O
730	735	5.0	5	7	5	2	3											45	3.10	<input type="checkbox"/>	O
735	740	5.0	4	11	3	4												45	3.17	<input type="checkbox"/>	O
740	745	5.0	6	9	3	2	3											45	3.24	<input type="checkbox"/>	O
745	750	3.0	3	10	3	10												45	3.80	<input type="checkbox"/>	O
750	755	2.0	5	3	5													45	1.65	<input type="checkbox"/>	Y

755	760	2.5	2	4	6					
760	765	3.0	8	3				10		
765	770	5.0	7	2		4	5		8	
770	775	5.0	4	2		2	8			
775	780	5.0	1	4						
780	785	4.5	1	2						
785	790	5.0	1							
790	795	5.0	3							
795	800	4.5	9	3						
800	805	4.5	1	2	3					
805	810	4.0	1							
810	815	5.0	6	5	5	2				
815	820	4.5	1	4	3					
820	825	5.0	1	2	5	10				
825	830	4.5	3	1		4	3			
830	835	4.5	4	8			3	7	4	
835	840	4.5	7	3	2	2			4	
840	845	3.0	8	17	8	7				
845	850	3.5	3	1						
850	855	4.0	3							
855	860	4.5	1							
860	865	5.0	3							
865	870	5.0	4			4				
870	875	5.0	5	2	2					
875	880	5.0	6	3						
880	885	4.5	2		2					
885	890	3.0	7	2						
890	895	1.5		7		13				
895	900	3.0		2						

45	1.77	<input type="checkbox"/>	Y
45	3.07	<input type="checkbox"/>	O
45	3.83	<input type="checkbox"/>	O
45	2.29	<input type="checkbox"/>	Y
45	0.74	<input type="checkbox"/>	G
45	0.41	<input type="checkbox"/>	G
45	0.14	<input type="checkbox"/>	G
45	0.44	<input type="checkbox"/>	G
45	1.80	<input type="checkbox"/>	Y
45	0.98	<input type="checkbox"/>	G
45	0.18	<input type="checkbox"/>	G
45	2.50	<input type="checkbox"/>	Y
45	1.32	<input type="checkbox"/>	Y
45	2.59	<input type="checkbox"/>	Y
45	1.73	<input type="checkbox"/>	Y
45	3.76	<input type="checkbox"/>	O
45	2.53	<input type="checkbox"/>	Y
45	5.64	<input type="checkbox"/>	P
45	0.64	<input type="checkbox"/>	G
45	0.28	<input type="checkbox"/>	G
23	0.07	<input type="checkbox"/>	G
45	0.37	<input type="checkbox"/>	G
45	1.10	<input type="checkbox"/>	Y
45	1.17	<input type="checkbox"/>	Y
45	1.24	<input type="checkbox"/>	Y
45	0.58	<input type="checkbox"/>	G
45	1.23	<input type="checkbox"/>	Y
45	2.94	<input type="checkbox"/>	Y
23	0.18	<input type="checkbox"/>	G

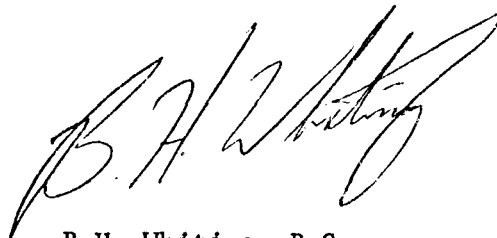
**CASSIAR
RESOURCES
LIMITED**

STATEMENT OF QUALIFICATIONS

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

- a). I am a graduate of the University of British Columbia in 1979 with a Bachelor of Science degree in geology.
- b). I am a member of the Canadian Institute of Mining and Metallurgy and an associate of the Geological Association of Canada.
- c). From 1975 to 1979 I held positions with Rio Tinto Canadian Exploration Limited, Welcome North Mines Limited and the Pacific Science Congress.
- d). From January 1980 until the present I have been an Exploration Geologist with the Cassiar Resources Division of Brinco Mining Limited.

Dated: 26 March 1981
in: Cassiar, B.C.



B.H. Whiting, B.Sc.
Exploration Geologist

**CASSIAR
RESOURCES
LIMITED**

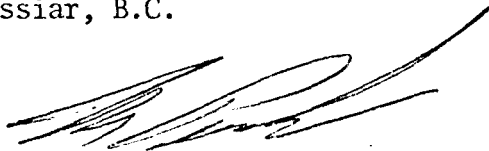
Statement of Qualifications

I, Michael R. Pennock with business and residential addresses in Cassiar, British Columbia, do hereby certify that:

- a) I am a graduate of the University of British Columbia in 1971 with a Bachelor of Science degree in Geology.
- b) I am a member of the Canadian Institute of Mining and Metallurgy.
- c) From 1971 to 1974 I held positions with Texas Gulf Inc., as an Exploration Geologist.
- d) From 1974 to 1978 I held positions both in production and engineering with Wesfrob Mines Limited.
- e) From 1978 to 1980 I held positions in engineering with Union Miniere Explorations and Mining Corporation.
- f) From June 1980 until the present I have been employed as Mine Geologist at the Cassiar Mine of Cassiar Resources Division of Brinco Mining Limited.

Dated: 3 April 1981

In: Cassiar, B.C.



Michael R. Pennock
Mine Geologist

Statement of Costs

A. Salaries and Wages

M. Pennock - Supervision
10 days @ \$76/day = \$ 760.00

W. Pratt - Supervision
20 days @ \$66/day = 1,320.00

B. Food and Accommodations

M. Pennock -
10 days @ \$30/day = \$ 300.00

W. Pratt -
20 days @ \$30/day = 600.00

Total B = \$ 900.00

C. Contracts and Services

Underground diamond drilling by

Cameron McCutcheon Drilling Ltd.

1. Hole costs

June NQ 2,036 ft. @ \$22.83/ft. = \$46,472.00

BQ 485 ft. @ \$23.50/ft. = 11,398.75

July BQ 85 ft. @ \$24.15/ft. = 2,052.75

Total C - 1 = \$59,923.50

2. Site costs

June labour 377 hrs. @ \$20.75/hr. = \$ 7,822.75

Equip. standby 36.5 hrs @
13.00/hr. = 474.50

Equip. operating 142 hrs. @
\$19.00/hr. = 2,698.00

Total June + 10% = \$12,094.77

July labour 132 hrs. @ \$20.75/hr.	=	\$ 2,739.00
Equip. standby 27.5 hrs. @ \$13.00/hr.	=	357.50
Equip. operating 28.5 hrs. @ \$19.00/hr.	=	541.50
		<hr/>
Total July + 10%		\$ 4,001.80

Total C - 2		\$16,096.57
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3. Supply of Materials

Bits - rodshoes etc.

June		\$ 3,620.67
July		258.87
		<hr/>
Total C - 3		\$ 3,879.54

4. Support Service

(Room and board, compressors, camp operation, fuel allowance, etc.)

June		\$35,884.35
July		14,762.64
		<hr/>
Total C - 4		\$50,646.99

5. Power Plant Rental and Electric Fan

June		\$ 4,600.00
July		1,372.41
		<hr/>
Total C - 5		\$ 5,972.41

6. Demobilization

Lump sum		\$ 8,200.00
Camp		12,500.00
		<hr/>
Total C - 6		\$20,700.00

Total Contracts and Services to Cameron McCutcheon
Drilling Ltd. = \$157,219.01

D. Report and Maps Preparation

B. Whiting 4 days @ \$76/day	= \$	304.00
Printing and photocopying etc.		50.00
		<hr/>
Total D		354.00

Summary of Expenditures

A. Salaries and Wages	\$	2,080.00
B. Food and Accommodations		900.00
C. Contracts and Services		157,219.01
D. Report and Maps Preparation		354.00
		<hr/>
Total Costs		\$160,553.01

Taxes are paid on the crown granted mineral claims on
the 2nd of July accounting.

This work is hereby filed as assessment for the Fred
1 - 4 mineral claims consisting of 50 units.

3 years @ \$100.00/unit/year x 50 units = \$ 15,000.00
10 years @ \$200.00/unit/year x 50 units = 100,000.00

Total applied for assessment	\$115,000.00
Total applied for P.A.C.	45,500.00
Balance	53.01