

GEOLOGICAL AND GEOCHEMICAL REPORT

- on the -

VIN AND CASCADE CLAIMS

Slocan Mining Division

- for -

JOHN R. KERR,

#1-219 Victoria Street,  
KAMLOOPS, B. C.

Location:

Vin Claim: 50°03.5'N; 117°35'W.  
NTS 82K/4E.  
17 km. WNW of New Denver, B. C.

Cascade Claim: 50°18'N; 117°13'W.  
NTS 82K/6E.  
36 km. NNE of New Denver, B. C.

PREPARED BY:

KERR, DAWSON & ASSOCIATES LTD.,  
#1-219 Victoria Street,  
KAMLOOPS, B. C.

John R. Kerr, P. Eng.,  
January 7, 1980.

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT

7838  
NO.

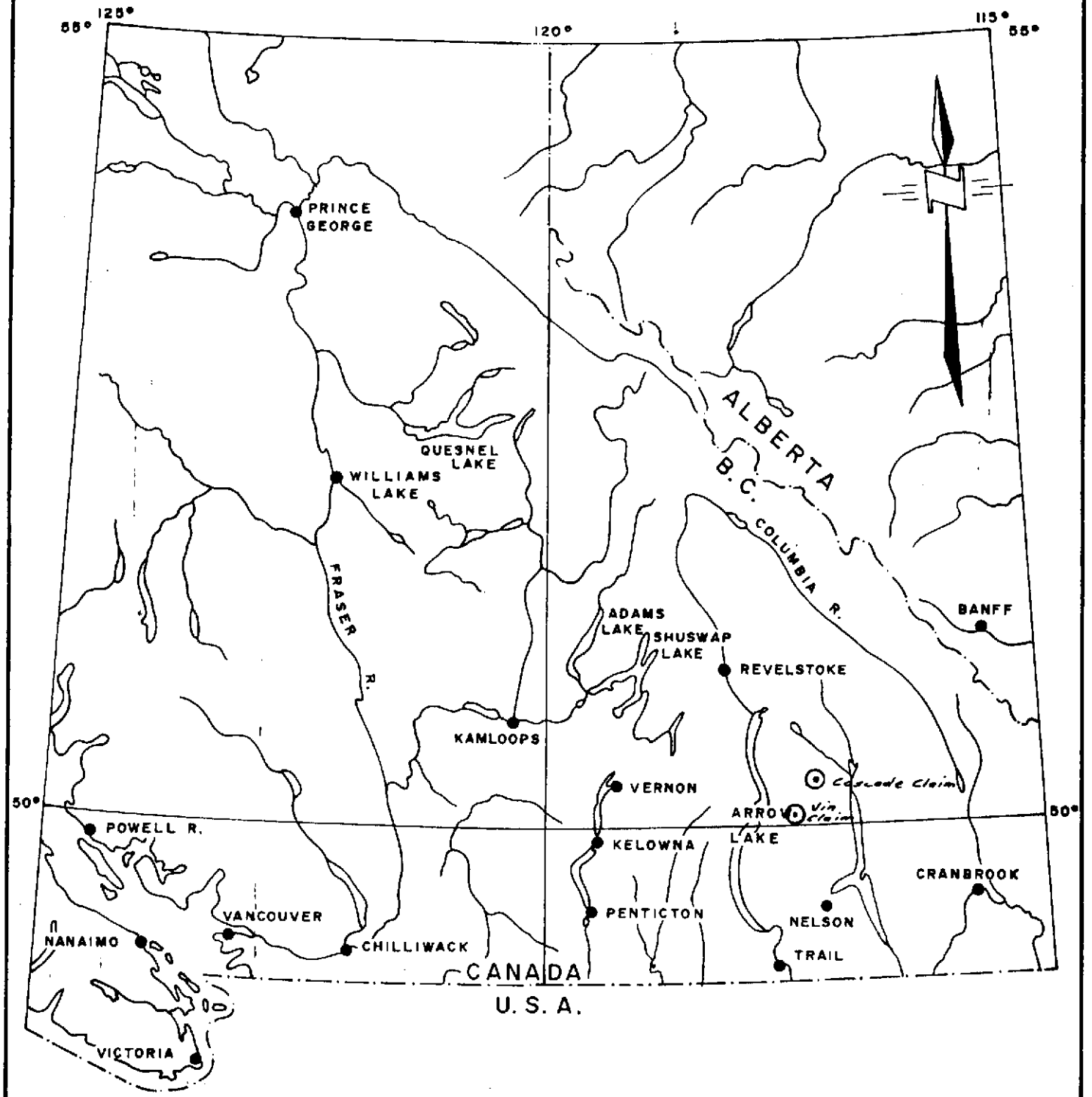
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                          Locations-Vin Claim



<p>LOCATION MAP</p> <p><i>CASCADE &amp; VIN CLAIMS</i></p> <p><i>Stocan M.D.</i></p>	
Date: <i>Jan. 1980</i>	Scale: 1" = 64 Miles
Dwn by: <i>J.R.K.</i>	Dwg no. <i>194-1</i>

INTRODUCTIONGeneral Statement:

The recent discovery of molybdenum at Butters Creek in the Battle Range batholith by the Noranda-Amax syndicate, and development of the Trout Lake MoS<sub>2</sub> deposit in the Lardeau valley by the Newmont-Esso syndicate has led to extensive exploration in the Slocan and Lardeau valleys. Knowledge of two Mo geochemical anomalies associated with the Wragge Creek stock, and along the eastern contact of the Kuskanax batholith led to the staking of the Vin and Cascade claims by the writer in February, 1979. During July, 1979, the writer and staff of Canadian Superior Exploration Ltd. completed a two day geochemical and geological assessment programme on the two claims. This report summarizes the results of this programme.

Location and Access:

The Vin claim is located at the headwaters of Shannon Creek flowing to the east and Caribou Creek flowing to the west, approximately 17 km. WNW of New Denver, B. C. Geographic coordinates of the L. C. P. are  $50^{\circ}03.5'N$ ;  $117^{\circ}35'W$  (NTS 82K/4E).

The Cascade claim is located at the headwaters of Cascade Creek, 19 km. due west of Howser, B. C., and 36 km. NNE of New Denver, B. C. Geographic coordinates of the L. C. P. are  $50^{\circ}18'N$ ;  $117^{\circ}13'W$  (NTS 82K/6E).

Access to both properties is best gained by helicopter. As both claims are above timberline, landing sites for a helicopter are available in valley floors. Logging roads are present up Shannon Creek to within 2 km. of the northeast corner of the Vin claim, and up Caribou Creek to within 1.5 km. of the western boundary of the Vin claim.

Topography and Vegetation:

Both claims are located in very steep, high terrain of the Selkirk Mountain Range. The Vin claim

is located on the western slopes of Mt. Vingolf. Total relief is 470 meters, ranging from 2,000m (a.s.l.) in the Caribou and Shannon Creek valleys to over 2,470m (a.s.l.) in the central portion of the claim.

The Cascade claim is in the Cascade creek valley, and on the eastern slopes of Cascade Mtn. Total relief is in excess of 1,000m, ranging from 1,600m (a.s.l.) in the northern portion of the claim to over 2,560m (a.s.l.) in the western portion of the claim.

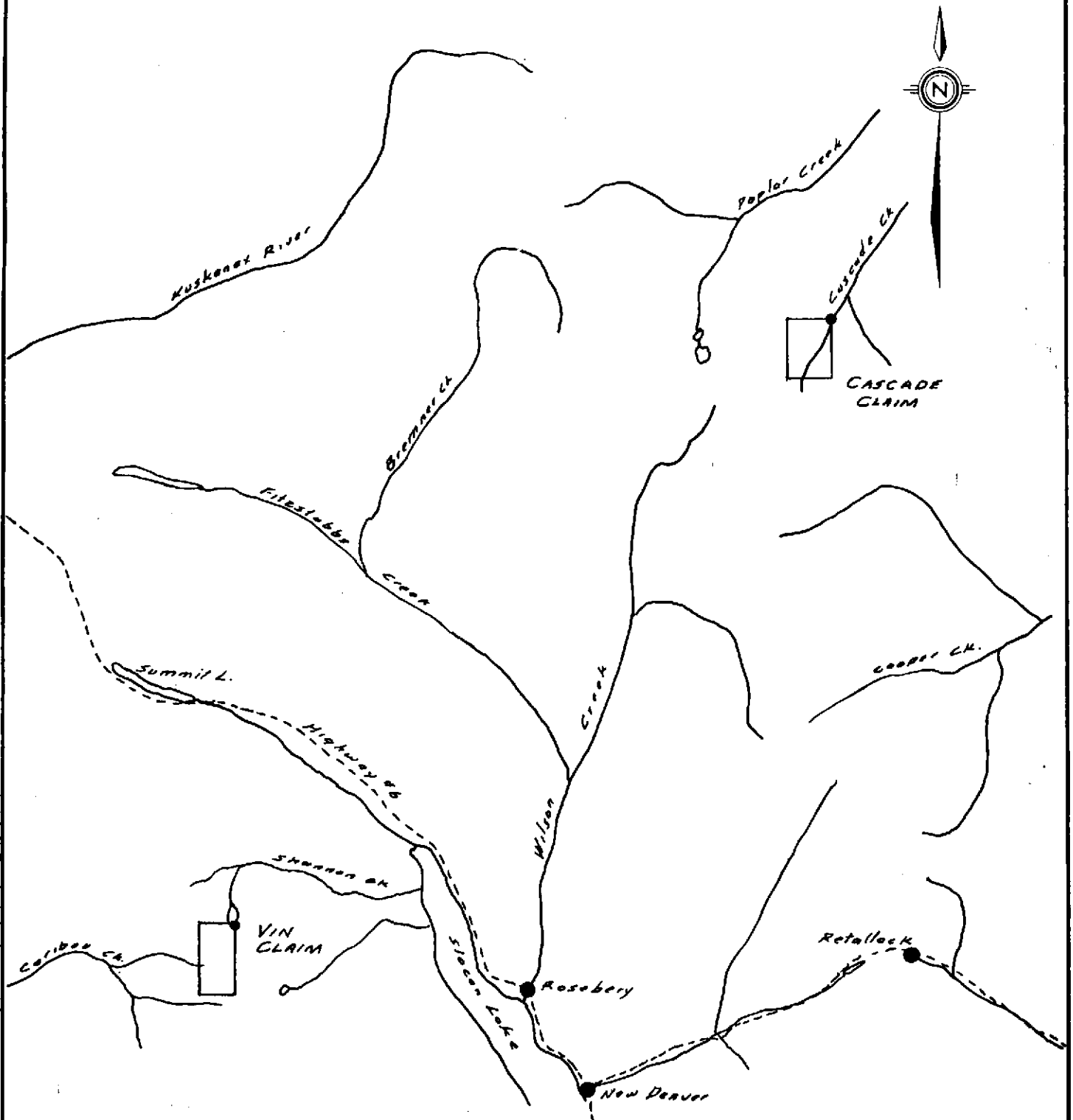
Both claims are in alpine country, with small stands of spruce and balsam at the lower elevations.

Claims:

The two properties consist of one claim located on each property by the Modified Grid System.

<u>Claim Name</u>	<u>No. of Units</u>	<u>Record No.</u>	<u>Mining Div.</u>	<u>Expiry Date</u>
Cascade	20	1076	Slocan	Feb. 5, 1981*
Vin	18	1077	Slocan	Feb. 5, 1980

\* on acceptance of this report.



To accompany a report by J. R. Kerr

<b>INDEX MAP</b> <b>CASCADE &amp; VIN CLAIMS</b> <b>Sloocan M.D.</b>	
Tech. Work By: Kerr, Dawson & Assoc. Ltd.	Scale: 1:250,000
Drawn By: J.R.K.	Date: Jan. 1980
Approved By: J.R.K.	Fig No. 194-2

N.T.S. NO. 82K

The claims are recorded in the name of John R. Kerr, and are held in agreement with J. M. Dawson, W. Gruenwald, K. L. Daughtry and W. Gilmour.

History:

During 1970/71, Pan Ocean Oil Ltd. of Calgary completed a reconnaissance geochemical, prospecting, and follow-up programme in the Slocan-Lardeau area. Detailed silt and soil sampling programmes were undertaken at this time in the area of the two claims.

There is no history of mineral exploration or claim records in the areas of the claims prior to 1970.



GEOLOGY

The general geology of the areas of the Vin and Cascade claims is well documented on Open File #288, Geology of the Lardeau West Half (scale 1:125,000) by P. B. Read.

In summary, the Slocan-Lardeau area is comprised of intrusive rocks of the Kuskanax batholith and related fringe stocks intruding early-middle Palaeozoic sediments in the Lardeau valley, and Mesozoic sediments and volcanic rocks in the Slocan Valley.

Vin Claim: The Vin claim is dominantly underlain by three phases of intrusive rocks.

Wragge Batholith: Coarse-grained, occasionally porphyritic, white-pink quartz monzonite. In areas of the claims examined, the rock is massive, and generally unaltered. The fracture density is low, and occasional quartz veins carrying pyrite were observed.

Rocks of the Wragge batholith are the youngest within the Vin claim, being dated by Read at 74 my. (Cretaceous).

Shannon Lake Stock: Medium-coarse grained, massive white, granodiorite or quartz-monzonite. In the field, this rock is not easy to differentiate from rocks of the Wragge Batholith. In the vicinity of Shannon Lake, numerous aplite, pegmatite and quartz veins were observed.

Age dating of the stock is not available; however, Read relates the age to the same period as the Kuskanax batholith.

East Caribou Stock: Dark grey-black, fine-medium grained porphyritic, slightly altered quartz diorite. Feldspar phenocrysts are abundant and range up to 1 cm. diameter. South of Caribou Creek quartz veins carrying pyrite and  $\text{MoS}_2$  were observed.

Age dating of the stock is not available; however, Read dates the age as younger than the Kuskanax batholith, possibly a late phase of this intrusive activity.

Faulted blocks of the Triassic Slocan Group of sediments are observed in the southern portion of the claim. The sediments are highly sheared, fractured, thermally altered, and generally very rusty. The original rock type is unrecognizable; however was probably a shale or argillite.

Cascade Claim: The dominant rock-types underlying the Cascade claim are thermally and regionally metamorphosed limestone, argillite, shale, and quartzite of the Pennsylvanian Milford Group. A small granodiorite or quartz-monzonite stock, related to the Kuskanax batholith, intrudes the sediments and occupies the northwest portion of the claim.

Numerous dykes, sills, and veins intrude the sediments in all portions of the claim. At least three various types of dyke rock were identified.

- (1). Fine grained, white aplite containing disseminated pyrite, galena, and molybdenite. Alteration of the rock is secondary silica and sericitization. Two dikes of this description were examined in the southeastern portion of the claim.
- (2). Grey-white-pink, highly altered and rusty, fine-medium grained, quartz monzonite or quartz dacite containing a high content of disseminated pyrite. Chemical analysis of this rock revealed only low content of molybdenum. Several dykes of this

nature were recognized in place and as float.

- (3). Light grey, massive, dense, fresh, medium-grained quartz diorite, containing minor disseminated pyrite. This variety appears to be the youngest rock-type on the claim. Only one dyke of this nature was observed in the southeast corner of the claim.

The dykes and sills are apparently quite conformable with the bedding attitudes of the sediments. In general, the dykes strike 130-160°, dipping 70°-90° SW.

GEOCHEMISTRY

The 1979 field programme consisted of follow-up rock chip sampling and limited silt sampling in areas delineated by anomalous silts and talus fines from the 1970-71 programme.

The programme consisted of sampling all of the various rock types in outcrop and as float from the areas examined on both claims. A total of 29 rock chip samples and 4 silt samples were collected from the Cascade claim. A total of 13 rock chip samples and two silt samples were collected from the Vin claim.

Samples collected by the staff of Canadian Superior Ltd. were sent to the laboratories of Acme Analytical Laboratories Ltd. in Vancouver for Mo, Cu, Pb, Zn, W and F determinations. Samples collected by the writer were sent to the laboratories of Bondar-Clegg and Co. Ltd. for Mo, W, and F determinations. An aliquot of the -80 mesh fraction was dissolved in hot aqua regia, and determinations for Mo, Cu, Pb,

and Zn were completed by atomic absorption methods. The W and F were extracted by basic fusion, the W determination by colorimetric methods and F determination by specific ion methods. All results are indicated in parts per million.

The sample locations are plotted on accompanying 1:12000 scale map sheets, Figure 194-3 and 194-4. An anomalous limit of 30 ppm Mo was arbitrarily chosen to indicate anomalous values of each sample.

The mean of each element as determined from rock chip samples is given below:

<u>Cascade Claim</u>	<u>No. of Samples</u>	<u>Mean (ppm)</u>
Molybdenum	29	37
Copper	6	14
Lead	6	113
Zinc	6	90
Tungsten	29	2
Fluorine	29	1,460
 <u>Vin Claim</u>		
Molybdenum	13	16
Copper	4	12
Lead	4	3.5
Zinc	4	15
Tungsten	13	1
Fluorine	11	275

DISCUSSION OF RESULTSVin Claim:

Results of a silt sample collected from the north end of the claim did not duplicate the 39 ppm Mo of the sample collected in the 1971 programme. Prospecting of the float and outcrop around the anomalous drainage did not reveal any  $\text{MoS}_2$  mineralization. The logical interpretation of the original high silt is that the valley and small lake acts as a collection and concentration basin for some metals, originating as trace concentrations in the surrounding rock.

Prospecting of the rocks in the southern portion of the claims revealed occasional quartz-veins containing low content of  $\text{MoS}_2$ . Rock chip sampling failed to reveal any potential economic contents.

In summary, economic concentrations of  $\text{MoS}_2$  are not indicated on the Vin claim, and the claim should be permitted to lapse.

Cascade Claim:

The Cascade claim lies along the same belt of intrusive and sedimentary belt of rocks as the Trout Lake MoS<sub>2</sub> deposit currently being developed by Newmont and Esso. The geological setting is considered favourable for the discovery of a similar deposit.

Two dykes (1 and 2 meters wide) were examined carrying disseminated pyrite, molybdenite, and galena. Geochemical analysis indicate up to 260 ppm Mo (.04% MoS<sub>2</sub>) content in these dykes. Sample analysis of a random sample of phyllite from near the mineralized dikes indicates 95 ppm Mo. This indicates Mo enrichment is prevalent in the sediments as well as the intrusive rocks.

Only a small portion of the Cascade claim has been prospected and explored. Airborne reconnaissance of the claim area indicates numerous unexamined dykes, which may contain similar contents of molybdenum. The



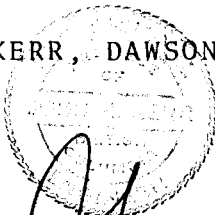
small stock in the northwest portion of the claim indicates unexplored fracture and gossan zones. Further exploration is warranted on this claim.

RECOMMENDATIONS

- (1). No work is recommended on the Vin claim, and this claim should be cancelled.
- (2). The rock chip sampling programme is to be expanded to all areas of the Cascade claim. Topography at the headwaters of Cascade Creek prohibits normal grid methods of exploration. Sampling should be completed by reconnaissance pace and compass methods, in areas of the claim accessible on foot.
- (3). Geological mapping and prospecting is to accompany rock-chip sampling.
- (4). Test I. P. surveys and diamond drilling would be contingent upon the results of the above-mentioned surveys.

Respectfully Submitted By:

KERR, DAWSON AND ASSOCIATES LTD.,



*John R. Kerr*

---

John R. Kerr, P. Eng.,  
GEOLOGIST

Kamloops, B. C.,

January 7, 1980.

APPENDIX A

COST STATEMENT

COST STATEMENT

Cascade Claim

PERSONNEL - July 11 and 12, 1979.

John R. Kerr, P. Eng., 1 1/2 days @ \$200.00/day . . . . .	\$300.00	
Douglas Blanchflower, P. Eng., 1 day @ \$150.00/day . . . . .	150.00	
Adrian 1 day @ \$75.00/day . . . . .	<u>75.00</u>	\$525.00

EXPENSES:

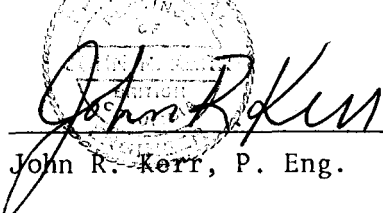
Helicopter Charter-Jet Ranger 1.9 hrs. @ \$370.00/hour . . . . .	\$703.00	
Truck Rental . . . . .	45.00	
Chemical Analysis . . . . .	366.00	
Room and Board . . . . .	57.80	

Report Preparation:

John R. Kerr (1 day)	\$200.00		
Drafting . . . . .	60.00		
Secretarial, Printing, and Report Binding	<u>28.00</u>	<u>288.00</u>	<u>1,459.80</u>

TOTAL HEREIN . . . . . \$1,984.80

CERTIFIED CORRECT:

  
\_\_\_\_\_  
John R. Kerr, P. Eng.

COST STATEMENT

Vin Claim

PERSONNEL - July 13, 1979.

John R. Kerr, P. Eng., 1 day @ \$200.00/day . . . . .	\$200.00	
Doug Blanchflower, P. Eng., 1 day @ \$150.00/day . . . . .	150.00	
Adrian 1 day @ \$75.00/day . . . . .	<u>75.00</u>	\$425.00

EXPENSES:


Helicopter Charger - Jet Ranger 1.8 hrs. @ \$370.00/hr. . . . .	\$666.00	
Truck Rental. . . . .	45.00	
Room and Board . . . . .	28.60	
Geochemical Analysis . . . . .	169.20	

Report Preparation:

John R. Kerr (one day) . . . \$200.00		
Drafting . . . 60.00		
Secretarial, Printing, & Report Binding . . . <u>28.00</u>	<u>288.00</u>	<u>1,196.80</u>

TOTAL HEREIN . . . . . \$1,620.80

CERTIFIED CORRECT:

  
*John R. Kerr*  
\_\_\_\_\_  
John R. Kerr, P. Eng.

APPENDIX B

LABORATORY REPORTS



To: Canadian Superior Exploration Ltd.,  
 #5 - 465 Victoria St.,  
 Kamloops, B. C.  
 V2C 2A9

Assaying & Trace Analysis

852 E. Hastings St., Vancouver, B. C. V6A 1R6

phone: 253 - 3158

File No. 0263

Type of Sample Rock, Soil

Disposition \_\_\_\_\_

**GEOCHEMICAL ASSAY CERTIFICATE**

P 171

SAMPLE No.		Mo	Cu	Pb	Zn	Ag	Au	F	W			
0041 K	S	1	54	14	64			290	0	} <i>silt sample</i>	1	
0042	R	1	50	72	66			560	0		<i>Pl'd gtz. monz.</i>	2
0043	R	260	4	445	280			500	0		<i>oplit<sup>z</sup> dyke</i>	3
0044	S	20	44	56	240	} <i>Cascade Claim</i>		1900	0		} <i>silt samples</i>	4
0045	S	21	40	56	220				1950			0
0046	R	18	5	120	86			345	0		<i>2 meter dyke</i>	6
0047	S	11	37	44	285			1750	0		<i>silt sample</i>	7
0048	R	1	3	15	54			400	0		<i>fresh dyke</i>	8
0049	R	2	5	23	46			28000	0		<i>float - skarny mat</i>	9
0050	R	1	17	1	9			60	0		<i>float gtz. vein</i>	10
0051	S	6	43	40	92	} <i>Vin Claim</i>				<i>Silt sample</i>	11	
0052	R	37	11	2	6		.1 .005			0	<i>Qtz vein</i>	12
0053	R	1	3	4	12				50	0	<i>Pink peg. dyke</i>	13
0054	R	14	6	2	10				46	0	<i>Limonic oplite</i>	14
0055	R	2	28	6	60					0	<i>Rusty meta sed</i>	15
0056	S	5	8	20	66						<i>Silt</i>	16
0057	S	2	59								17	
0058	S	1	68								18	
0059	S	1	52								19	
0060	S	1	70								20	
0061	R	1	17								21	
0062	S	2	50								22	
0063	S	4	64								23	
0064	S	1	54								24	
0065 K	S	5	12								25	
											26	
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											40	

All reports are the confidential property of clients  
 All results are in PPM.

DIGESTION: .....

DETERMINATION: .....

DATE SAMPLES RECEIVED \_\_\_\_\_

DATE REPORTS MAILED July 19, 1979

ASSAYER Dean Toy

DEAN TOYE, B.Sc.  
 CHIEF CHEMIST  
 CERTIFIED B.C. ASSAYER



## Geochemical Lab Report

Extraction W,F; Basic Fusion Report No. 29 - 891  
Cu,Mo; Hot Aqua Regia  
 Method W; Colorimetric From Kerr-Dawson & Associates  
Cu,Mo; Atomic Absorption F; Specific Ion  
 Fraction Used \_\_\_\_\_ Date July 23, 19 79

SAMPLE NO.	Mo ppm	Cu ppm	W ppm	F ppm	SAMPLE NO.	Mo ppm	Cu ppm	W ppm	F ppm
VS 01	4	-	-	-	CR 21	5	dyke	2	45
02	6	-	-	-	22	5	float dyke	2	70
03	4	-	-	-	23	< 1	float dyke	2	2000
04	3	-	-	-	KVR 01	93	qtz. un	2	1650
05	5	-	-	-	02	< 1	felds pop	2	25
06	4	-	-	-	03	1	felds pop	2	<20
07	3	-	-	-	04	17	qtz. un	2	95
08	4	-	-	-	05	8	qtz. un	2	390
09	5	-	-	-	06	2	felds pop	2	<20
13	7	-	-	-	08	14	qtz. un	2	55
CR 01 ROCKS	3	float dyke	3	480	09	4	popite rusty qtz. monz	2	420
Cascade 02	7	float qtz. un	2	210	SR 01	1	2	-	-
Claim 03	29	float dyke	2	820	VR 02	6	-	-	-
04	4	float dyke	2	340	05	< 1	-	-	-
05	95	blks phyllite	2	340	06	2	-	-	-
06	230	blks dyke	2	130	10	1	-	-	-
07	230	blks dyke	2	100	11	1	-	-	-
08	83	chpt/m dyke	2	190	12	16	-	-	-
09	12	grab phyllite	2	2000	13	1	-	-	-
10	34	float dyke	2	1300					
11	17	grab dyke	2	550					
12	2	grab phyllite	2	70					
13	< 1	dyke	2	190					
14	10	dyke	2	480					
15	< 1	dyke	2	450					
16	2	dyke	2	140					
17	2	dyke	2	210					
18	< 1	dyke	2	520					
19	5	dyke	2	1000					
20	< 1	dyke	2	1050					



APPENDIX C

WRITER'S CERTIFICATE

**JOHN R. KERR, P.ENG.**

**GEOLOGICAL ENGINEER**

**1 - 219 VICTORIA STREET**

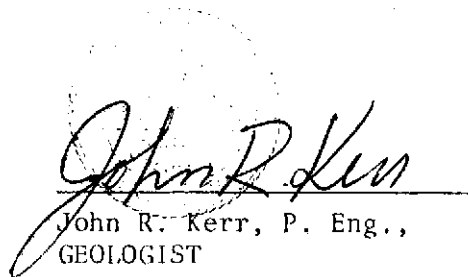
**KAMLOOPS, B.C.**

**PHONE (604) 374-0544**

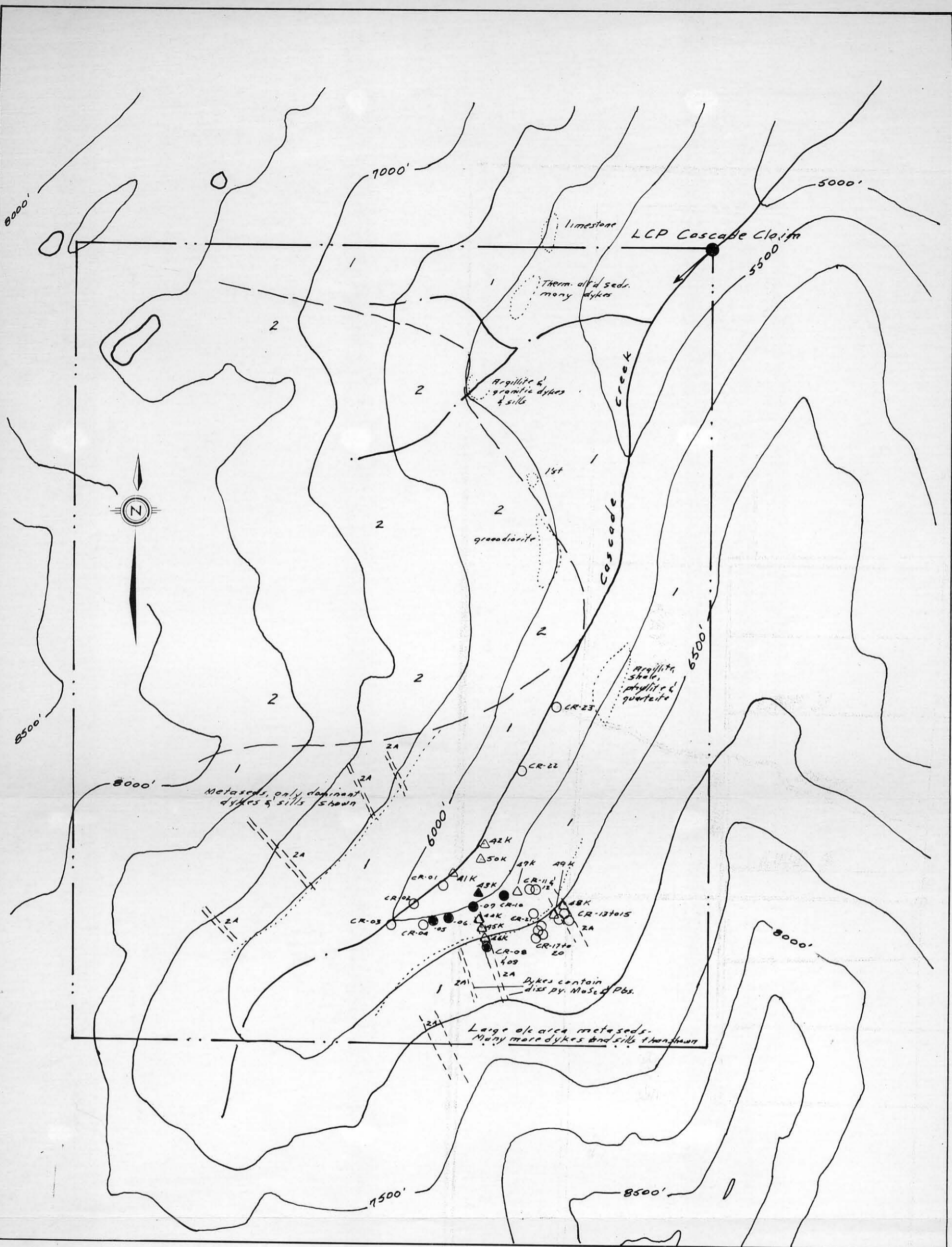
STATEMENT OF QUALIFICATIONS

I, JOHN R. KERR, OF KAMLOOPS, BRITISH COLUMBIA, DO HEREBY CERTIFY  
THAT:

- (1). I am a member of the Association of Professional Engineers of British Columbia, and a Fellow of the Geological Association of Canada.
- (2). I am a geologist, employed by Kerr, Dawson and Associates Ltd. of #1-219 Victoria Street, Kamloops, B. C.
- (3). I am a graduate of the University of British Columbia, with a B. A. Sc. in Geological Engineering and have practised my profession continuously since graduation.
- (4). I supervised and assisted with the collection of data as compiled in this report. I am the author of this report which is based on literature research and collected data.

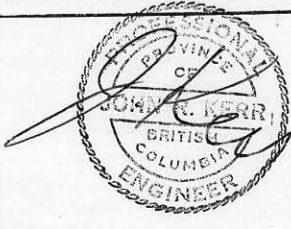
  
John R. Kerr, P. Eng.,  
GEOLOGIST

Kamloops, B. C.,  
January



- LEGEND**
- Rock outcrop area
  - Geological Contact
  - Dykes & Sills
  - Sills & Rock chip samples, collected by Cdn. Superior Ltd.
  - Rock chip samples collected by J.R. Kerr
  - 2** INTRUSIVE ROCKS - Jurassic  
Granodiorite & qtz. Monzonite  
2A. Dykes sills.
  - 1** MILFORD GROUP - Pennsylvanian  
Phyllite, shale, argillite, limestone,  
& quartzite - Thermally alt'd.

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**7838**  
NO.



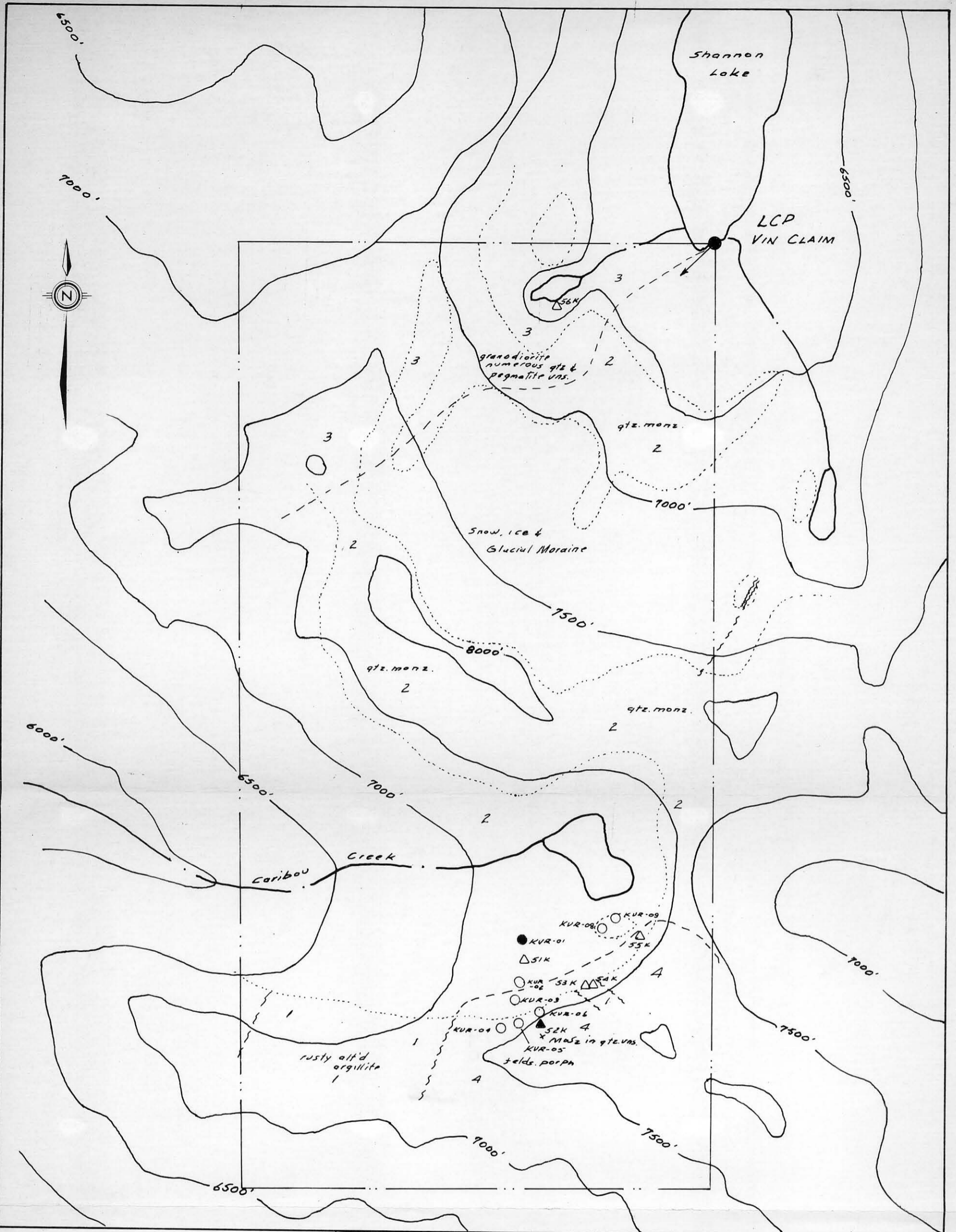
Sample results - see lab reports (Appendix B)

- > 30ppm Mo

To accompany report by: J.R. Kerr, P. Eng.

<b>CASCADE CLAIM</b> Slocan M.D.	
SAMPLE LOCATIONS & GENERALIZED GEOLOGY	
Tech Work: KPA & Cdn. Sup.	Scale: 1:12,000
Drawn by: J.R.K.	Date: Jan. 1980

Fig. 194-3



**LEGEND**

- Rock Outcrop
- Geological Contact
- Fault
- Rock Chip Samples - Cdn. Superior Ltd.
- Rock Chip Samples - J. R. Kerr

- 4** INTRUSIVE ROCKS - Jurassic  
East Caribou Stock  
- feldspar porphyry
- 3** Shannon Lake Stock  
- granodiorite & qtz. monzonite
- 2** Wraye Batholith - Cretaceous  
- dominantly qtz. monzonite
- 1** SLOCAN GROUP - Triassic  
Dominantly thermally altered shale,  
phyllite & schist

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**7838**  
Cdn. Superior Ltd.  
J. R. Kerr

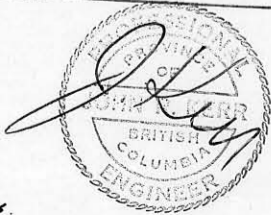


Fig. 194-4

For sample results - see lab reports (Appendix B)

● > 30 ppm Mo

To accompany a report by: J.R. Kerr, P. Eng

<b>VIN CLAIM</b> Slocon M.D. <b>SAMPLE LOCATIONS &amp;          GENERALIZED GEOLOGY</b>	
Tech Work: KDA & Cdn. Sup.	Scale: 1:12,000
Drawn by: J.R.K.	Date: Jan. 1980