

014548

23F/15 11  
93F-37  
CALEDONIA

Dr. J.T. Fyles,  
Associate Deputy Minister.

October 15th 74

PF.93F/15W

Re: Caledonia molybdenum property (93F/15W)

A report on the Caledonia molybdenum property by Tom Schroeter is attached.

The owner, Eric Thomson of Vanderhoof, has extensively trenched and stripped an area 1,000 by 1,500 ft. Bedrock of equigranular and orphyritic quartz monzonite which is extensively fractured and mineralized by molybdenum bearing quartz veins and stringers is exposed.

Samples from mineralized quartz veins, fresh quartz monzonite and a diorite dyke contain significant amounts of molybdenum.

Schroeter's conclusion is that "the Caledonia property has a good exploration potential".

It does not appear that detailed geological mapping can serve any useful purpose at this stage. A programme of percussion drill sampling of the stripped area is now required.

It is understood that Amax Potash Ltd. is interested in optioning the property for that purpose.

SSH/jr

STUART S. HOLLAND,  
Chief Geologist, Geological Division,  
Mineral Resources Branch.

93F018

PROPERTY FILE

PROPERTY EXAMINATION

CALEDONIA GROUP

FRASER LAKE, B.C.

93F/15W

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SKETCHES

1. Location and Access
2. Claim Status
3. Property Outlay and Sampling Sketch

TABLES

Work on Mineral Claims

26 September 1974

Tom Schroeter,  
District Geologist,  
Department of Mines and  
Petroleum Resources,  
Smithers, B.C.

PROPERTY FILE

SUMMARY

On September 25th I examined the Caledonia Group consisting of 30 contiguous claims situated approximately 8 miles south-southwest of Fraser Lake. The geology and mineralization is similar to that at the Endako Molybdenum Mine located approximately 10 miles to the northwest. Quartz veins, with significant 'ribbon-type' molybdenum, ranging in width from 1/4 inch to greater than 4 feet intrude equigranular and porphyritic quartz monzonite. Younger 'dioritic' and andesite dykes cut the intrusive rocks. Fracture density is intense with three prominent directions noted. The total surface area of trenching and strip-ping measures approximately 1500 feet by 1000 feet with molybdenum bearing quartz veins observed in most trenches.

Little detailed exploration work has been carried out on the property. The Caledonia molybdenum prospect warrants further exploration.

LOCATION AND ACCESS

The Caledonia claim group is situated approximately 8 miles south-southwest of the village of Fraser Lake which is approximately 100 miles west of Prince George on the Yellowhead Highway 16. The latitude is 53°58' and the longitude is 124°50'. The property lies on the north face of a ridge which slopes towards the Nithi Valley. The property is accessible by 2-wheel drive vehicle along the Glenannan road to the east end of Francois Lake and then south along the road to Laurie Lake.

OWNERSHIP

The Caledonia group of claims is owned by Eric D. Thomson, He lives in Vanderhoof and his mailing address is Box 705, Vanderhoof, B.C. He holds Free Miner's Certificate No. 118209.

**PROPERTY FILE**

PAYMENTS AND MINERAL RIGHTS

The Caledonia group consists of 30 contiguous claims. The Group Notice No. is 2966. The claims included in the group are Caledonia 1 to 27 inclusive and Caledonia 29, 31 and 33 (see copy).

Assessment fees and rental fees were recorded August 9th, 1974 for a period of one year (i.e. Aug. 13/75 and Oct. 5/75 respectively). Stripping and trenching was the physical work recorded.

HISTORY AND EXPLORATION TO DATE

The Caledonia claim group was staked 9 years ago and has been kept in good standing since by Eric Thomson, a local prospector from Vanderhoof. Thomson has worked on several occasions for various mining companies as a cat operator in the area. His Caledonia property has undoubtedly been examined by numerous mining companies since. Julian Mining Co. was one of the first companies to examine the property. They did a small amount of trenching. Thomson put in several (30) of his own trenches. However, due partly to forestry regulations he stopped trenching in well timbered areas. Many of his trenches hit bedrock, but not all. Numerous quartz veins with molybdenum were encountered in the trenches. Amax, under Vim Lodder, sampled the area and carried out a limited induced polarization survey, apparently without success. Endako Mines, under Ed Kimura, also examined the property.

Although no lines have been cut over the property, flagged lines were noted, probably indicative that a geochemical soil survey has been conducted. There has been no drilling done on the property.

Amax, under Fred Harris, has re-examined the property this summer and apparently are in the process of drawing up an option agreement for a 20-hole percussion drilling program.

PROPERTY FILE

REGIONAL GEOLOGY

The Caledonia claim group is underlain by a phase of the Topley Intrusions, which include more than ten phases of granitic rock within a large area extending from Helene Lake (17 miles north of Fraser Lake) south to Hallett Lake (18 miles south of Fraser Lake). Most phases are quartz monzonites. Mineralization within these quartz monzonites and alaskites is almost exclusively molybdenite, very little copper. The major Endako molybdenum deposit is situated approximately 10 miles to the northwest of the Caledonia property. The Endako body is hosted by the Endako quartz monzonite phase, a medium to coarse grained equigranular rock. Quartz veining with "ribbon-filled" molybdenum constitutes the main mineralization. Fracture density is intense. The accepted theory for structural control of the ore is a doming resulting from extreme pressures and uplift.

The rock type on the Caledonia claim group resembles the Endako quartz monzonite phase. However, it is noticeably porphyritic. Alteration features are similar and mineralization characteristics are similar. Fracture density is strong.

The best reference to the Endako area may be found in the B.C.D.M. Annual Report for 1965 on pages 114 to 138.

PROPERTY GEOLOGY

The Caledonia group is underlain by quartz monzonite. Intruding the quartz monzonite are two types of dykes, one is dioritic in appearance and the other is a dark green andesitic dyke. The age with reference to mineralization of the dioritic rock is not known. The andesitic rock is definitely post mineral in age. There appears to be two varieties of quartz monzonite, both probably related, but one is noticeably porphyritic with large (up to 4" long) phenocrysts of orthoclase. Fracturing is intense within the monzonites (i.e. 6 fractures per foot). Three prominent directions of fracturing and quartz veining are: 025°, 115°, and 160°. Molybdenum occurs in

PROPERTY FILE

all three sets. In addition gouge zones with or without quartz veins carry significant molybdenum. There appears to have been a significant quartz 'flushing' into the quartz monzonite. In the vicinity of the quartz veins and gouging, significant secondary potash alteration exists in the monzonite.

The total surface area where trenching and stripping has been carried out measures about 1500 feet by 1000 feet.

Samples have been collected for assay over various key locations in trenches.

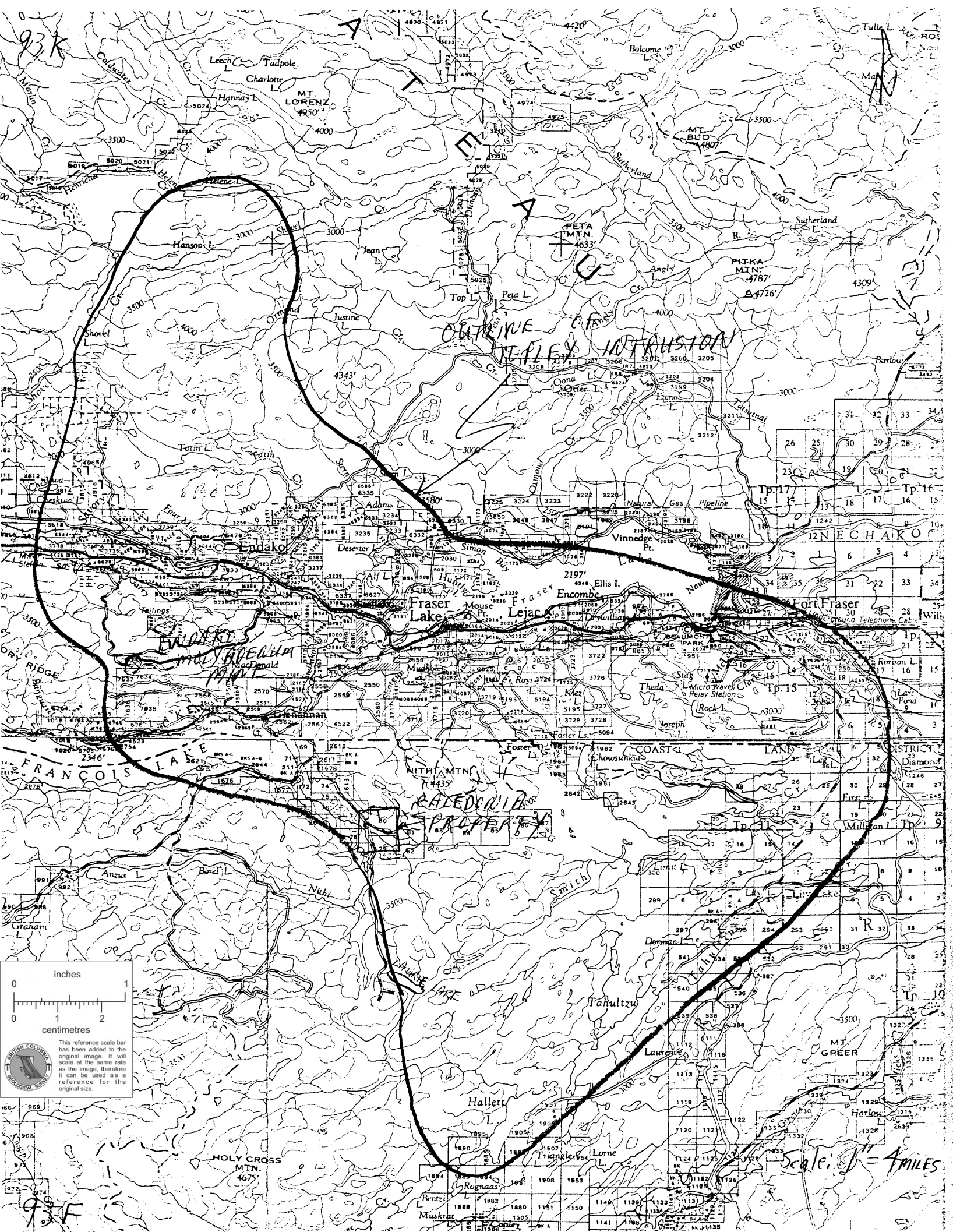
#### MINERALIZATION

Mineralization observed on the Caledonia property is similar to that at the Endako Molybdenum Mine. The host quartz monzonite is intensely fractured and cut by numerous quartz veins ranging in width from 1/4 inch to greater than 4 feet. Ribbon-type molybdenite occurs in the quartz veins as well as gouge seams within the rock. Three prominent directions of fracturing and quartz veining with molybdenum were observed. The strikes of these prominent quartz veins are: 025°, 115°, and 160°. The wallrock adjacent to the quartz veins has been altered to various intensities. One particular sample was taken from the 'fresh' quartz monzonite (6"), through the altered monzonite (6") and into the quartz vein (4"). The overall direction of the quartz veining system appears to be in an east-southeasterly direction. Molybdenum mineralization was noted in trenches over a surface length of at least 1500 feet. Minor amounts of chalcopyrite were observed. Magnetite appears to be a significant accessory mineral, as does pyrite.

#### EXPLORATION POTENTIAL

The Caledonia property has a good exploration potential.

PROPERTY FILE



93K

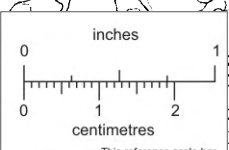
93F

OUTLINE MAP OF FRASER VALLEY

FRASER VALLEY

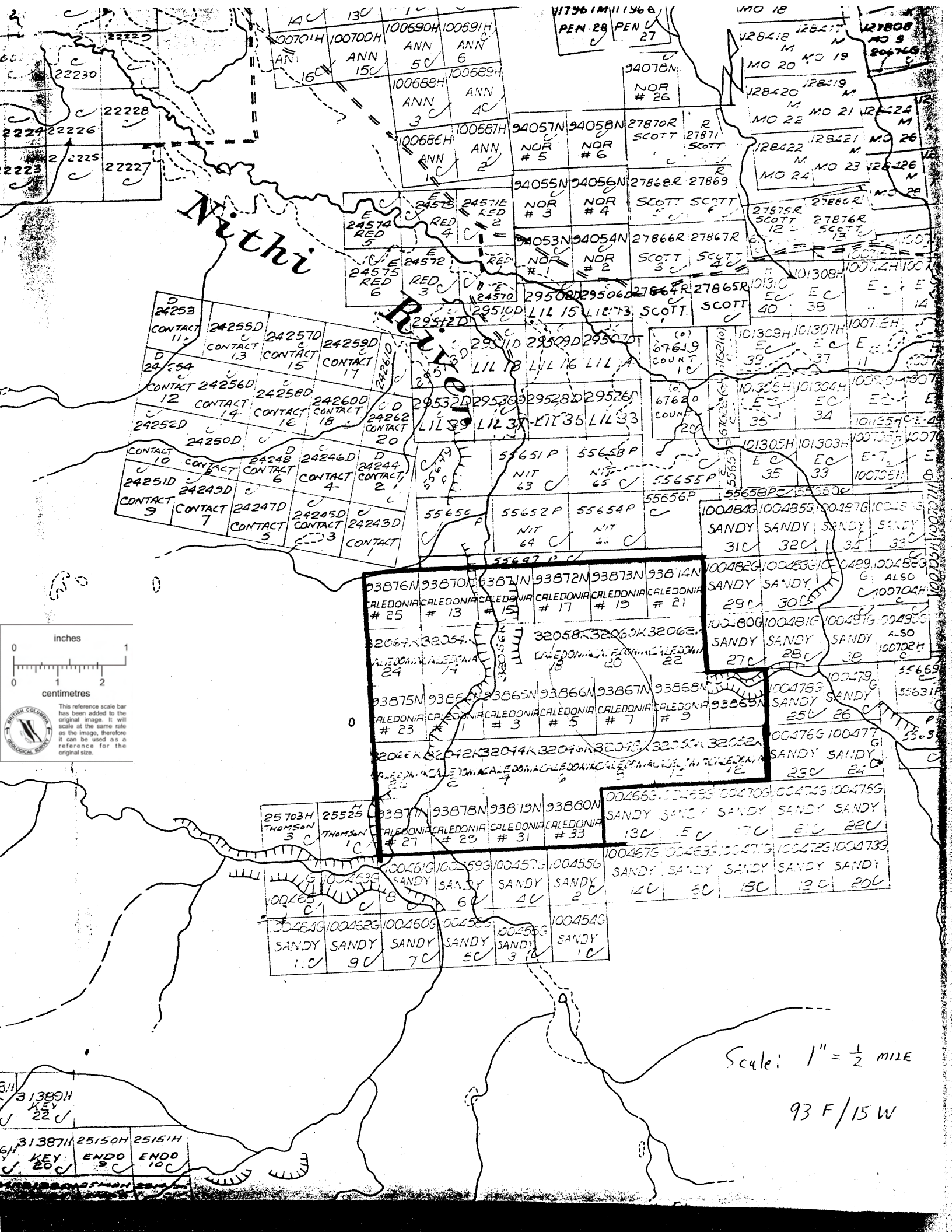
RALEIGH

31	32	33	34
26	25	30	29
15	14	13	18
10	11	12	17
3	2	1	6
34	35	36	31
27	28	29	32
20	21	22	23
13	14	15	16
6	7	8	9
32	31	30	29
24	23	22	21
17	16	15	14
10	9	8	7
3	2	1	4
34	33	32	31
27	26	25	24
20	19	18	17
13	12	11	10
6	5	4	3



This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

Scale: 1" = 4 MILES



Nithi

R.L.O.

11796 IM 11136 G  
PEN 28 PEN 27

MO 18

127800  
MO 9  
206760

22230  
22228  
22226  
22225  
22227

100690H ANN 5C	100691H ANN 6	100689H ANN 4C	100687H ANN 2
100688H ANN 3C	100686H ANN 1	100685H ANN 4C	100684H ANN 3C

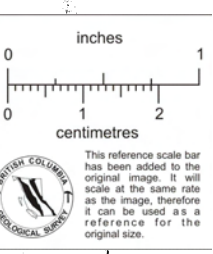
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94055N NOR # 3	94056N NOR # 4	27866R SCOTT	27869R SCOTT

128418 M MO 20	128417 M MO 19	128420 M MO 22	128419 M MO 21	128422 M MO 24	128421 M MO 23	128424 M MO 26	128426 M MO 28
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24253 CONTACT 11	24255D CONTACT 13	24257D CONTACT 15	24259D CONTACT 17
24254 CONTACT 12	24256D CONTACT 14	24258D CONTACT 16	24260D CONTACT 18
24252D CONTACT 10	24250D CONTACT 9	24248D CONTACT 6	24246D CONTACT 4
24245D CONTACT 7	24243D CONTACT 5	24244D CONTACT 2	24242D CONTACT 1

29510D LIL 15	29509D LIL 16	29507D LIL 17	29512D LIL 18	29511D LIL 19	29509D LIL 20	29508D LIL 21	29506D LIL 22	29505D LIL 23	29504D LIL 24
55651P NIT 63	55652P NIT 64	55653P NIT 65	55654P NIT 66	55655P NIT 67	55656P NIT 68	55657P NIT 69	55658P NIT 70	55659P NIT 71	55660P NIT 72

101308H EC 40	101307H EC 39	101306H EC 38	101305H EC 37	101304H EC 36	101303H EC 35	101302H EC 34	101301H EC 33	100724H EC 11	100723H EC 10	100722H EC 9	100721H EC 8	100720H EC 7	100719H EC 6	100718H EC 5	100717H EC 4	100716H EC 3	100715H EC 2	100714H EC 1
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93876N CALEDONIA # 25	93870N CALEDONIA # 13	93871N CALEDONIA # 15	93872N CALEDONIA # 17	93873N CALEDONIA # 19	93874N CALEDONIA # 21
32064K CALEDONIA # 24	32054K CALEDONIA # 24	32056K CALEDONIA # 24	32058K CALEDONIA # 20	32060K CALEDONIA # 20	32062K CALEDONIA # 22
93875N CALEDONIA # 23	93865N CALEDONIA # 1	93865N CALEDONIA # 3	93866N CALEDONIA # 5	93867N CALEDONIA # 7	93868N CALEDONIA # 9
32066K CALEDONIA # 2	32042K CALEDONIA # 7	32044K CALEDONIA # 7	32046K CALEDONIA # 5	32048K CALEDONIA # 12	32052K CALEDONIA # 12

100482G SANDY 29C	100483G SANDY 30C	100484G SANDY 31C	100485G SANDY 32C	100486G SANDY 33C	100487G SANDY 34C	100488G SANDY 35C	100489G SANDY 36C	100490G SANDY 37C	100491G SANDY 38C	100492G SANDY 39C	100493G SANDY 40C	100494G SANDY 41C	100495G SANDY 42C	100496G SANDY 43C	100497G SANDY 44C	100498G SANDY 45C	100499G SANDY 46C	100500G SANDY 47C
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25703H THOMSON 3C	25525H THOMSON 1C	93877N CALEDONIA # 27	93878N CALEDONIA # 29	93819N CALEDONIA # 31	93880N CALEDONIA # 33
100465G SANDY 8C	100463G SANDY 6C	100461G SANDY 4C	100459G SANDY 2C	100457G SANDY 1C	100455G SANDY 1C
100453G SANDY 11C	100452G SANDY 9C	100450G SANDY 7C	100448G SANDY 5C	100446G SANDY 3C	100444G SANDY 1C

100466G SANDY 13C	100464G SANDY 11C	100462G SANDY 9C	100460G SANDY 7C	100458G SANDY 5C	100456G SANDY 3C	100454G SANDY 1C
100467G SANDY 14C	100465G SANDY 12C	100463G SANDY 10C	100461G SANDY 8C	100459G SANDY 6C	100457G SANDY 4C	100455G SANDY 2C

Scale: 1" = 1/2 mile

93 F / 15 W

31389H  
KEY 22

31387H 25150H 25151H  
KEY 20 ENDD 20 ENDD 10C



WORK SHEET

APPLICATION OF WORK ON MINERAL CLAIMS

MINING DIVISION OMINECA MINING RECEIPT NO. 92156E AMT. \$ 300.00

NAME OF GROUP Caledonia GROUP NOTICE NO. 2966 DATE RECORDED NG Oct 5/70  
(IF ANY) W Aug 9/74

NUMBER OF YEARS  
AND TYPE OF WORK  
(EACH CLAIM)

TOTAL  
YEARS

WORK NUMBER(S)	NAME (S) OF CLAIM(S)	RECORD NUMBER(S)	WORK DONE SINCE (LAST ANNIV. DATE)	PENALTY FEES \$	NUMBER OF YEARS AND TYPE OF WORK (EACH CLAIM)						TOTAL YEARS
					PHYSICAL	DRILLING D	LEGAL SURVEY S (SINGLE CLAIM)	GEO. SURVEY G	PROSPECTING P	LEGAL SURVEY S (PERIMETER)	
1959	Caledonia No. 2	32042	Aug 13/73		1						1
1960	Caledonia No. 4	32044	Aug 13/73		1						1
1961	Caledonia No. 6	32046	Aug 13/73		1						1
1962	Caledonia No. 8	32048	Aug 13/73		1						1
1963	Caledonia No. 10	32050	Aug 13/73		1						1
1964	Caledonia No. 12	32052	Aug 13/73		1						1
1965	Caledonia No. 14	32054	Aug 13/3		1						1
1966	Caledonia No. 16	32056	Aug 13/73		1						1
1967	Caledonia No. 18	32058	Aug 13/73		1						1
1968	Caledonia No. 20	32060	Aug 13/73		1						1
1969	Caledonia No. 22	32062	Aug 13/73		1						1
1970	Caledonia No. 24	32064	Aug 13/73		1						1
1971	Caledonia No. 26	32066	Aug 13/73		1						1
1972	Caledonia #1	93864	Oct 5/73		1						1
1973	Caledonia #3	93865	Oct 5/73		1						1
1974	Caledonia #5	93866	Oct 5/73		1						1
1975	Caledonia #7	93867	Oct 5/73		1						1
1976	Caledonia #9	<del>93868</del> 93868	Oct 5/73		1						1

TOTAL ALL YEARS 18

MINING DIVISION OMINECA MINING RECEIPT NO. 92156E AMT. \$ 300.00

NAME OF GROUP Caledonia GROUP NOTICE NO. 2966 DATE RECORDED — N G Oct 5/70  
 (IF ANY) — W Aug 9/74

NUMBER OF YEARS AND TYPE OF WORK (EACH CLAIM)						TOTAL YEARS	
PHYSICAL	DRILLING	D	LEGAL SURVEY S (SINGLE CLAIM)	GEO. SURVEY G	P	LEGAL SURVEY S (PERIMETER)	
							18
1							1
1							1
1							1
1							1
1							1
1							1
1							1
1							1
1							1
1							1
1							1
1							1
1							1
1							1
1							1

WORK NUMBER(S)	NAME(S) OF CLAIM(S)	RECORD NUMBER(S)	WORK DONE SINCE (LAST ANNIV. DATE)	PENALTY FEES \$
1977	Caledonia #11	93869	Oct 5/73	
1978	Caledonia #13	93870	Oct 5/73	
1979	Caledonia #15	93871	Oct 5/73	
1980	Caledonia #17	93872	Oct 5/73	
1981	Caledonia #19	93873	Oct 5/73	
1982	Caledonia #21	93874	Oct 5/73	
1983	Caledonia #23	93875	Oct 5/73	
1984	Caledonia #25	93876	Oct 5/73	
1985	Caledonia #27	93877	Oct 5/73	
1986	Caledonia #29	93878	Oct 5/73	
1987	Caledonia #31	93879	Oct 5/73	
1988	Caledonia #33	93880	Oct 5/73	

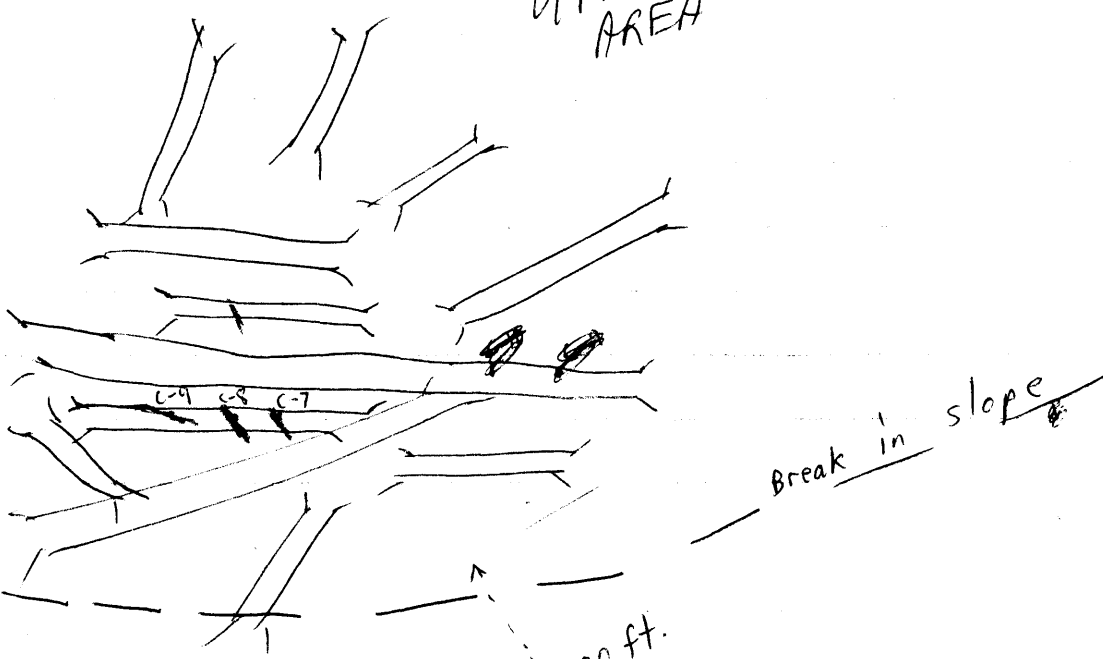
PROPERTY FILE

# CALEDONIA PROPERTY

"Rough sketch"



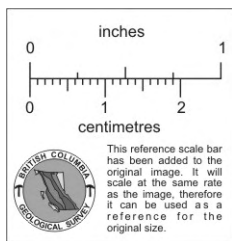
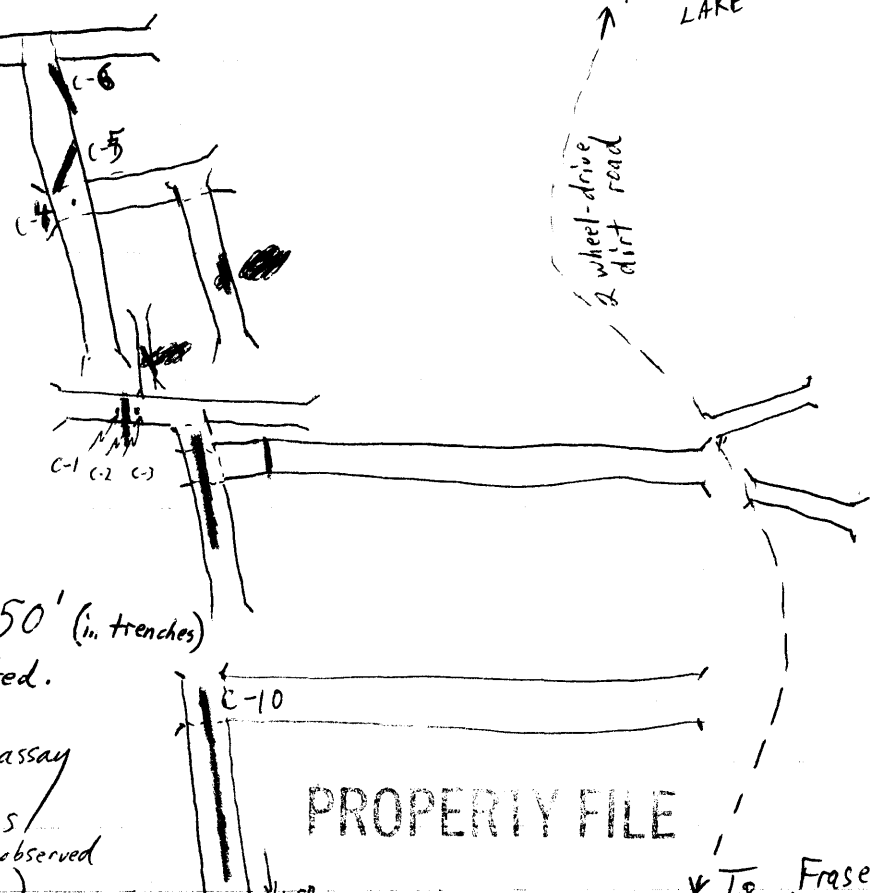
UPPER AREA (Hill)



Break in slope

200 ft.

LOWER AREA



Scale: Approx. 1" = ~~100~~ 50' (in trenches)  
- otherwise scale is exaggerated.

- C-2 Samples taken for assay
- Mineralized quartz veins  
(Note: only veins sampled or observed are shown here)

PROPERTY FILE

115°

To Fraser Lake



WHEN REPLYING PLEASE REFER TO

FILE NO. ....

Box 877,  
Smithers, B.C.  
2 October 1974

DEPARTMENT OF MINES AND PETROLEUM RESOURCES  
VICTORIA

Dr. S. S. Holland,  
Chief, Geological Division,  
Mineral Resources Branch,  
Department of Mines and  
Petroleum Resources,  
Parliament Buildings,  
Victoria, B.C. V8V 4S2

Dear Stu,

Sorry for the omission of sample widths together with descriptions on my Caledonia property summary. Please find the pertinent data listed below.

<u>SAMPLE NUMBER</u>	<u>SAMPLE WIDTH</u>	<u>DESCRIPTION</u>	
CAL - 1	6"	'Fresh' quartz monzonite adjacent to sample CAL -2.	40 0.70%
CAL - 2	6"	'Altered' (clay) quartz monzonite adjacent to quartz vein.	0.003
CAL - 3	4"	Mineralized quartz vein (MoS <sub>2</sub> ) in quartz monzonite.	0.023
CAL - 4	1'	Grab sample of diorite dyke.	1.73
CAL - 5	16"	Mineralized quartz vein (MoS <sub>2</sub> ), plus magnetite in quartz monzonite.	0.003
CAL - 6	4'	Mineralized quartz vein (MoS <sub>2</sub> ) plus pyrite and magnetite in quartz monzonite.	0.38
CAL - 7	1'	Gouge and quartz vein (+MoS <sub>2</sub> ) in quartz monzonite.	1.23

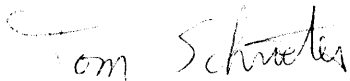
Cont'd . . . 2

PROPERTY

page 2  
Dr. S. S. Holland,  
2 October 1974

<u>SAMPLE NUMBER</u>	<u>SAMPLE WIDTH</u>	<u>DESCRIPTION</u>	Mo %
CAL - 8	6"	Gouge and quartz vein (+MoS <sub>2</sub> ) in quartz monzonite.	0.19
CAL - 9	6"	Gouge and quartz vein (+MoS <sub>2</sub> ) in quartz monzonite .	4.31
CAL -10	2'	Quartz vein with high grade MoS <sub>2</sub> and magnetite.	0.75

Yours truly,



Tom Schroeter,  
District Geologist

TS/hh

DEPARTMENT OF MINES AND PETROLEUM RESOURCES

Date:

21/10

From:

To:

JR

INSTRUCTIONS

- |   |  |
|---|--|
| <input type="checkbox"/> For your approval.     | <input type="checkbox"/> Prepare reply for my signature. |
| <input type="checkbox"/> For your information.  | <input type="checkbox"/> Prepare draft of reply.         |
| <input type="checkbox"/> For necessary action.  | <input type="checkbox"/> Return to me.                   |
| <input type="checkbox"/> Send me copy of reply. | <input type="checkbox"/> Return to file.                 |
| <input type="checkbox"/> For your comments.     | <input type="checkbox"/> For signature.                  |
| <input type="checkbox"/> Wish to discuss.       |  |

REMARKS:

This is the correct  
assay sheet to  
accompany Schreiner's  
report on the Caledonia  
93F/15W



2322

DEPARTMENT OF MINES AND PETROLEUM RESOURCES  
VICTORIA

DEPT. OF MINES  
AND PETROLEUM RESOURCES  
Rec'd OCT 21 1974

*SA*

SAMPLE RECEIVED FROM..... T. SCHROETER (N. C. Carter)

ADDRESS..... Geological Division

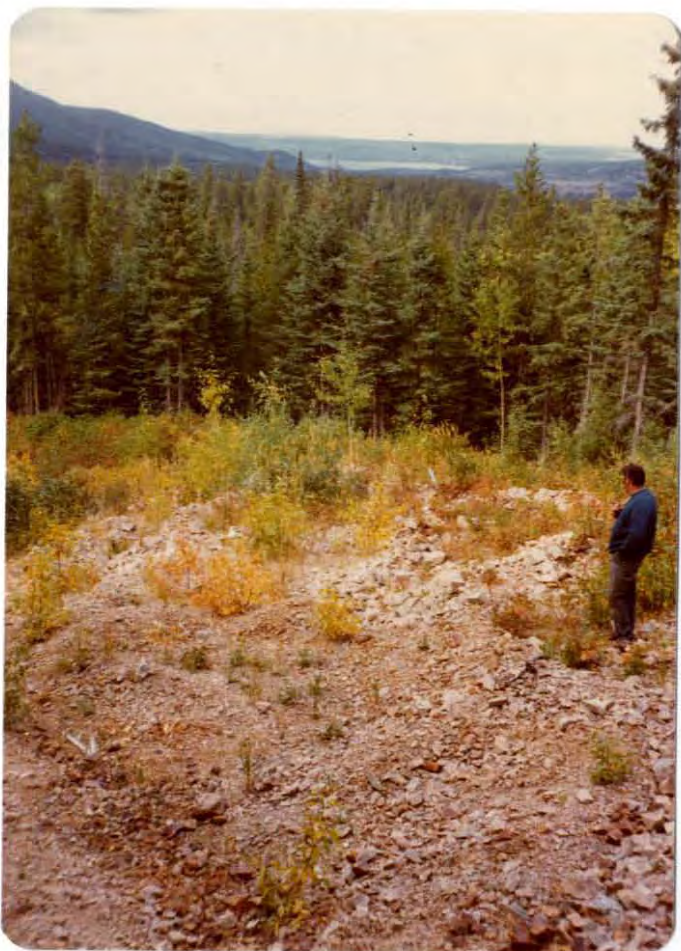
LABORATORY No.	SUBMITTER'S MARK	LABORATORY REPORT	
		<u>Cu %</u>	<u>Mo %</u>
14270M	CAL-1	<0.01	<0.003
14271M	CAL-2	0.01	1.73
14272M	CAL-3	<0.01	0.023
14273M	CAL-4	<0.01	0.003
14274M	CAL-5	0.03	0.70
14275M	CAL-6	<0.01	0.38
14276M	CAL-7	0.02	1.23
14277M	CAL-8	<0.01	0.19
14278M	CAL-9	<0.01	4.31
14279M	CAL-10	<0.01	0.75
<i>cancel copy - supersedes previous one.</i>			

THIS DOCUMENT, OR ANY PART THEREOF, MAY NOT BE REPRODUCED FOR PROMOTIONAL OR ADVERTISING PURPOSES.

DATE..... October 18, 1974

*M. M. Johnson*  
CHIEF ANALYST AND ASSAYER.

PROPERTY FILE



Looking northwest towards Endako  
Mine from lowermost trench on  
CALEDONIA property.  
- Francois Lake in background.



Samples Cal 1 - 2 - 3 on CALEDONIA property.

- Cal 1 - Fresh quartz monzonite.
- Cal 2 - Altered (clay) quartz monzonite.
- Cal 3 - Mineralized quartz vein ( $\text{MoS}_2$ ).

PROPERTY FILE





Trench on CALEDONIA property showing good fracture density (3 directions mineralized) and good mineralized quartz veins and gouge.



Well mineralized quartz vein in quartz monzonite - CALEDONIA property.