

1989 PROSPECTING PROGRAM

on the

JOCK CLAIM GROUP

LOG NO: 0111	RD.
ACTION:	
FILE NO:	

Vernon Mining Division
Province of British Columbia

for

William D. Yorke-Hardy
555 Rutland Road, South
KELOWNA, B.C. V1X 3A2

Location:

49° 57' 2" N
119° 15' W

NTS 82E/NW

9 km. East of Kelowna, B.C. Airport
12 km. Northeast of Rutland (Kelowna)

Prepared by:

W.D. Yorke-Hardy
555 Rutland Rd., S.
Kelowna, B.C. V1X 3A2

GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,552

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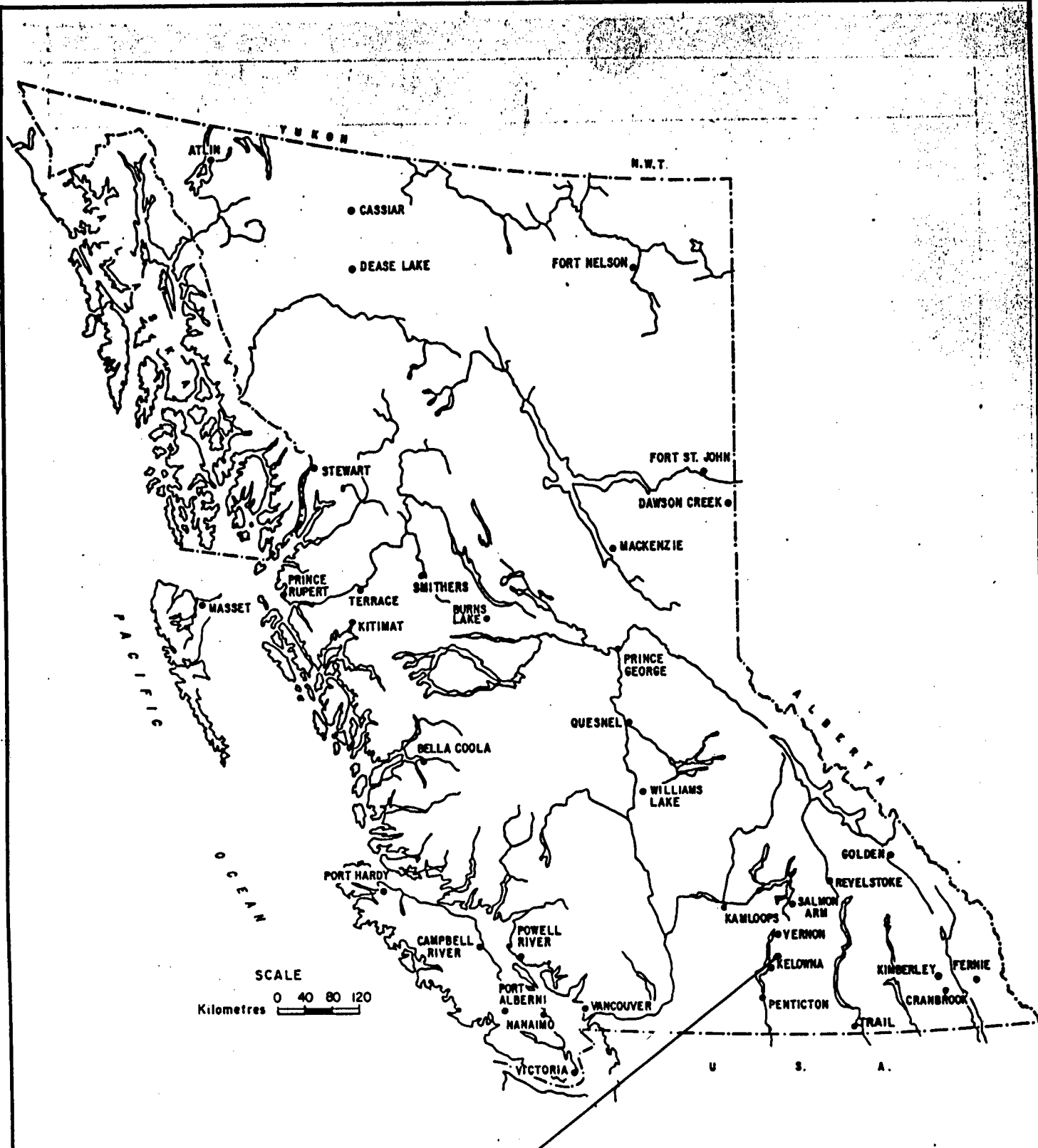
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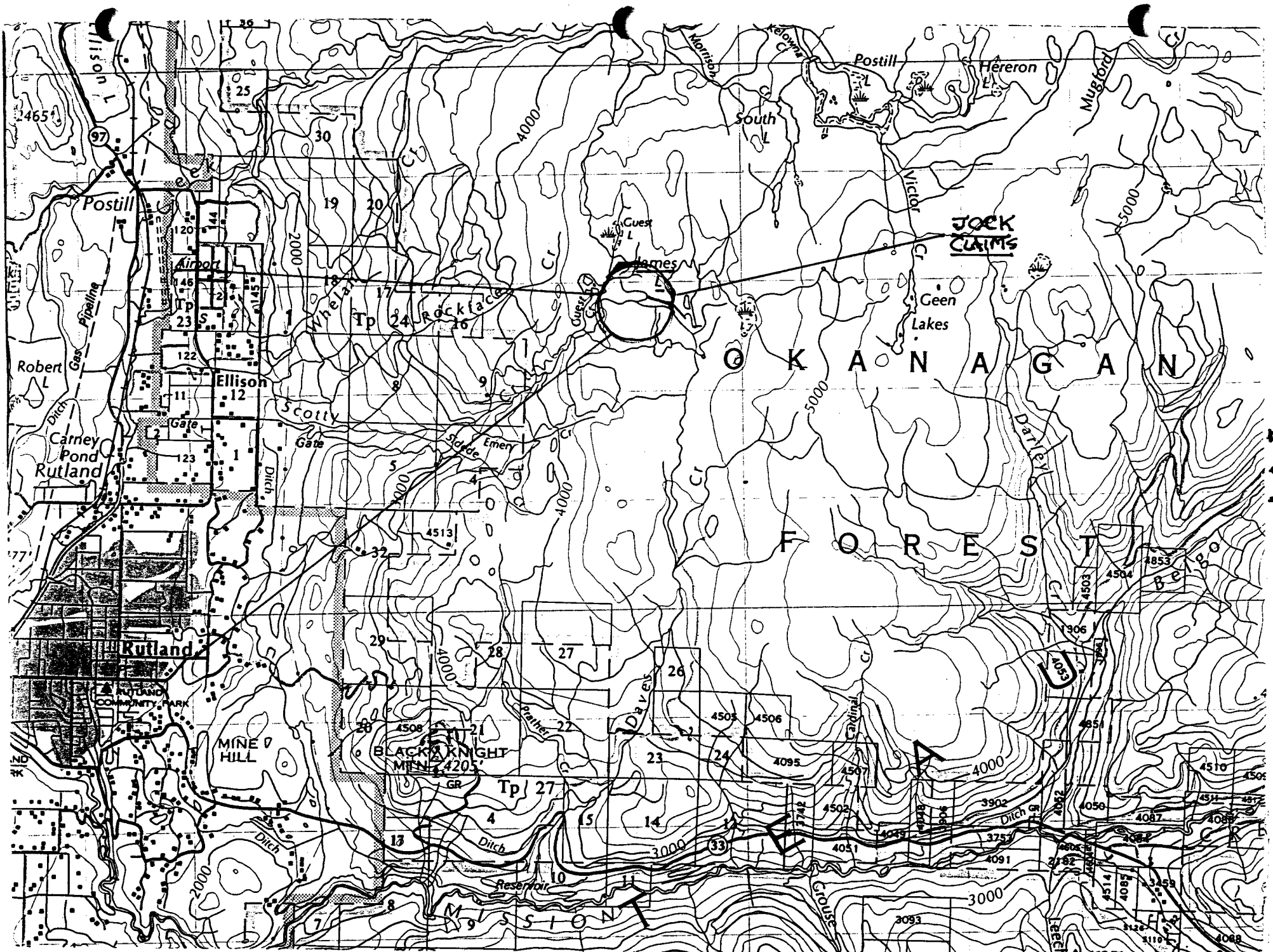
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PROPERTY

W.D. YORKE-HARDY	
JOCK GROUP	
LOCATION MAP	
Dec. 1989	1:8,000,000 Fig. 1



KELOWNA

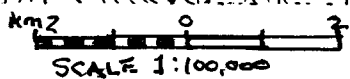
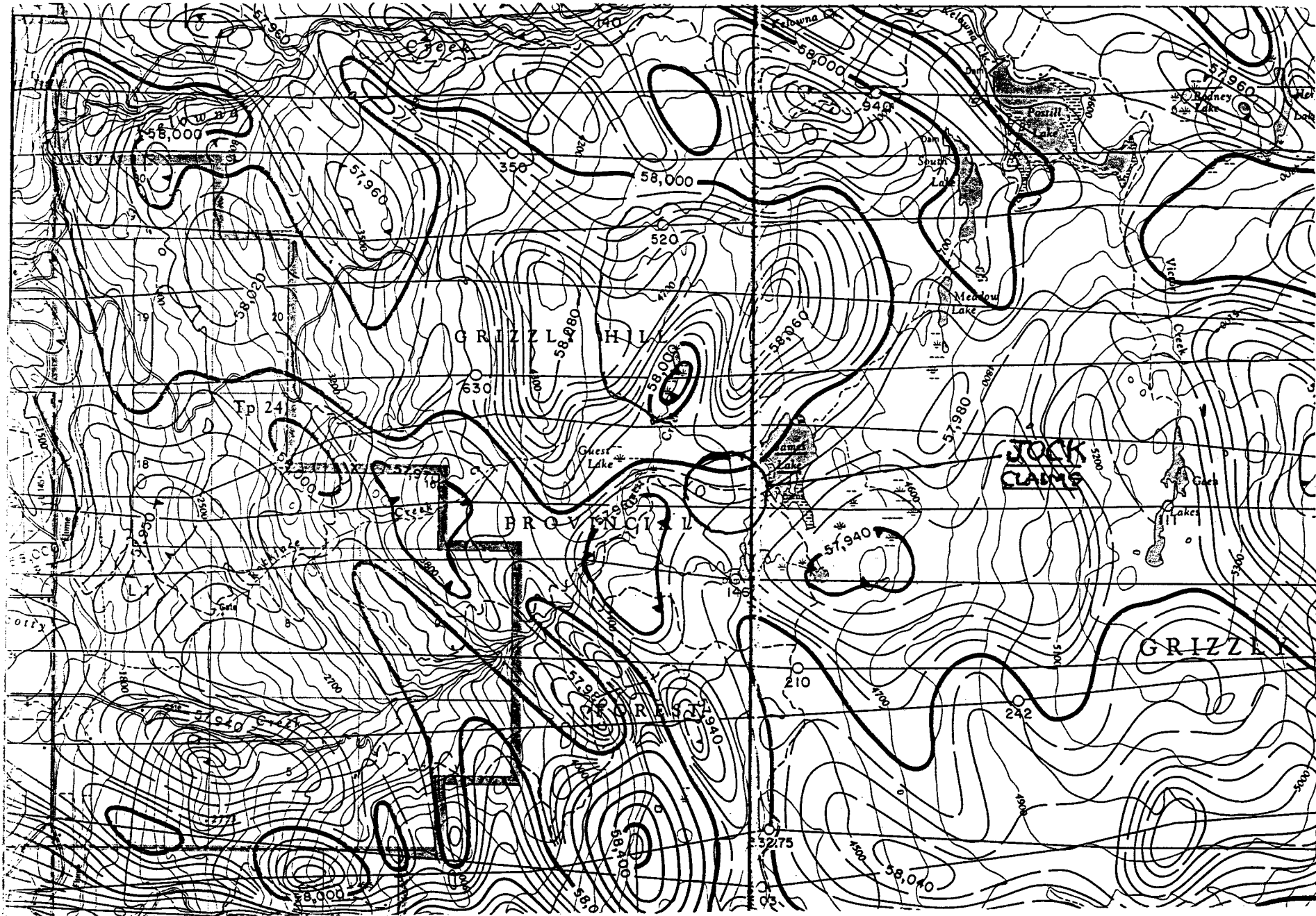


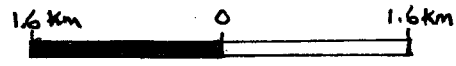
FIG. 2

82E/NW



GEOPHYSICAL SERIES (AEROMAGNETIC)

MAP 851G
 KELOWNA
 B.C.



SHEET 82 ¹¹¹
 FIG. 3

SUMMARY

25 Oct. 1988 - ICP analysis report received, dated 22 October, on soil and rock samples submitted to Min.En Laboratories, North Vancouver, prior to expiry date 23 Oct. 1988. (Results appended)

28 Oct. 1988 - ICP analysis report received, dated 28 October, on soil samples from grid line 1 + 40 before expiry date. (Results appended)

1 Dec. 1988 - Submitted specimen samples of skarn/garnet rock to Ministry of Mines, Victoria, for confirmation of the presence of Wollastonite, indicated in samples tested by the writer with HCl. Shipment via Greyhound Express not delivered, returned and reshipped 9 Jan. 1989.

February 1989 - presence of Wollastonite was verbally confirmed by Gary White, provincial geologist, while writer was attending the annual B.C. & Yukon Chamber of Mines Convention in Vancouver.

7 Aug. 1989 - Z.D. Hora, provincial geologist, visited the property with the writer and verbally confirmed the presence of short fibre Wollastonite. Samples were taken by Mr. Hora. He suggested the occurrence be checked for tungsten, and the possible use of the garnetiferous calcium/silicate skarn rock as decorative tile and dimension rock.

25 Sept. 1989 - the property was visited by retired geologists D.K. Norris and W.N. Plumb, both of Kelowna, B.C., with the writer. A sample JL 1 was taken of mineralized altered rock from the hangingwall contact between gneiss and skarn on the south (Scotty Creek) road. A sample JL2 was taken by the writer from the footwall contact between skarn and pyritized volcanics. Grab samples JL3 were taken by the writer from the skarn on Bata Main (north road). (Assay Report Appended) Rock was also taken by the writer for diamond saw cutting and polishing.

SUMMARY Cont'd

5 Oct. 1989 - The JOCK claims were visited by Rick Gibson, geologist, Minnova Inc., Tim Tofonoff, assistant, Robert W. Yorke-Hardy, Y-H Technical Services, Vernon, and the writer. Eleven samples were taken by Gibson from various locations on both north and south roads. (Report appended)

Numerous hours were spent throughout the year cutting by diamond saw and hand polishing samples of garnetiferous calcium/silicate skarn rock of varying sizes and thicknesses, for tile or lapidary use. Larger pieces were cut by George Menzies, Kelowna, rock shop owner. Contacts were made to determine potential markets for dimension stone or tile of various sizes and thicknesses, or bulk landscape rock.

CONCLUSIONS AND RECOMMENDATIONS

Sufficient geological and mineral interest has been established to warrant a more comprehensive and extensive program of soil sampling, EM or magnetometer or other instrument survey across both north and south established contacts, and across the intervening swamp area. Further effort should be made in respect to use as dimension, tile and bulk landscape rock because of the relative easy access. Other industrial uses may be possible, and should be investigated. Relative costs of imports appear to indicate that such a project may be unfeasible economically because of costs of quarrying, haulage, cutting, polishing, equipment, personnel, and marketing investigation.

INTRODUCTION

This report presents the data and results obtained from expiry date, 23 October 1988 to 20 October 1989, with reference also to previous data compiled by the writer from 1983, prior to staking of JOCK 1 to 6 Mineral Claims on 25 September, 1987.

The writer considers sufficient geological and mineral interest, as well as possible industrial use of the garnetiferous calc/silicate skarn and garnet, is indicated and warrants further exploration.

DISCUSSION OF RESULTS

Analysis results of soil and rock samples, while low are believed to tend toward being anomolous, and should be followed up by extended geological mapping, grid sampling for geochemical analysis, and geophysical, EM and Magnetometer surveys.

This assumption is based part;y on "Distribution of Elements in Igneous Rocks and Minerals", Table 2 - 1, Pages 43,44, Average abundance (or range) of selected minor and trace elements in the Earth's Crust, various rocks, soil and river water. (All values in ppm except those for river water, which are ppb.); and Appendix E - "Geochemical Characteristics of Selected Elements."

Following are highest values received to date from limited work due to personal financial capabilities:

CU	PB	ZN	AG	AU	AS	BI	NI	W	CR	
				ppb						
151	40	121	2.4	47	39	19	27	4	97	

PROPERTY

The property consists of six (6) two-post mineral claims. These claims have been grouped as the JOCK Group, dated October 20, 1988, as provided for under Section 28 of the Mineral Act Mineral Act, and form a contiguous unit.

<u>Claim Name</u>	<u>Record No.</u>	<u>Expiry Date</u>
Jock 1 (1 unit)	2371	October 23, 1991
Jock 2 (1 unit)	2372	October 23, 1991
Jock 3 (1 unit)	2373	October 23, 1991
Jock 4 (1 unit)	2374	October 23, 1991
Jock 5 (1 unit)	2375	October 23, 1991
Jock 6 (1 unit)	2376	October 23, 1991

The above claims are 100% owned by William D. Yorke-Hardy. They are located and recorded in the Vernon Mining Division. They expiry dates shown reflect the two years work and expenses incurred since October 23, 1988 and 1989.

LOCATION AND ACCESS

The JOCK mineral claims are located 9 km East of Kelowna Airport and 12 km northeast of Rutland (Kelowna) in the Central Okanagan valley of British Columbia. Geographic coordinates of the eastern end of the claim group are $49^{\circ} 57' 2''$ N, $119^{\circ} 15'$ W on Map Sheet NTS 82E/NW, Kelowna.

The property is readily accessible by 4-wheel drive or passenger vehicle from Rutland (Kelowna) via Highway 33 (blacktop) 9.9 km to Daves Creek/Goudie Main logging Road/Tamarack Estates turnoff, thence 6.5 km (blacktop) to James Lake Main logging road, thence 8 km to James Lake, and Bata Main logging road (road sign 39 km) north road, total 24.4 km.

Skarn exposure is .35 km northwesterly, on the northeast side of Bata Main. Initial post of the JOCK claim group (JOCK 1 and JOCK 2) is at the Scotty Creek road junction .4 km south of Bata Main junction. Exposures of gneissic, calc-silicate and volcanic rocks is at .2 km west on Scotty Creek road, and occur intermittently for upward of 1 kilometer.

PHYSIOGRAPHY AND VEGETATION

The area is generally well covered with overburden and is heavily forested, except where logged (clear cut), or covered with swamp. In spring and during seasonal rains the swamp is covered with varying depths of water, making much of it impassable. The claim area is gently rolling between 1440 m to the northeast and 1260 m to the southwest, from where it drops off quite rapidly to 520 m at the Kelowna airport, at the valley bottom. Drainage is southwesterly to westerly in Scotty Creek.

Okanagan valley climate is semi-arid, with generally hot, dry summers, long open springs and falls. The claim area is generally

PHYSIOGRAPHY AND VEGETATION Con't.

snow covered from early November to mid-April. Logging continues in the area throughout the winter months, when access roads are usually plowed and navigable by 4-wheel drive vehicles.

REGIONAL GEOLOGY

A large area east of Okanagan Lake is covered by units described as an assortment of argillaceous rocks, limestone, metavolcanics, schistose and Monashee (?) gneissic units and Cenozoic Daves Creek plateau basalt, lava and dykes. (See "Geology of the Kelowna Tertiary Outlier (East Half) NTS 82E, by B.N. Church, Pages 44, 45, Figures 17b and 17. Field Trip Guidebook, Trip 1, May 11-13, 1983. (Appended)

PROPERTY GEOLOGY AND MINERALIZATION

The JOCK Group of mineral claims is generally gneissic where exposed, with calcium/silicate skarn skarn and Kettle River (?) volcanics where exposed by logging roads construction.

Calc-silicate skarn and garnetiferous gneissic rock is exposed on the north (Bata Main) logging road .35 km northwesterly from the James Lake Main access road, for up to 215 metres. A large number of pieces of this rock of varying sizes (float) on the cut bank side north of the road, and as part of the road construction fill on the south side toward the swamp area. Some pyrite is seen.

On the south (Scotty Creek) road, .4 km south of the Bata Main junction, gneissic rock, calc-silicate skarn and volcanics are intermittently exposed on the south side for up to 1 km. Pyrite is present in all rock types. Some gneissic rock is exposed on the north side between the road and the swamp area. Chert nodules have been found in road material and in skarn in the road bed on JOCK 3.

PROPERTY HISTORY

The writer is not aware of any prospecting activity in this area, other than his own of the general area under the 1988 Prospectors Grant Program. An area of olivine basalt cap (Daves Creek Basalt) 3 to 3.5 km southwest of the JOCK claims was explored for uranium, none of which was detected, by Kerr-Addison Mines Ltd., in 1976/78 and by Lacana Mining Corporation in 1978/79.

The writer was first directed to the skarn zone in 1983 during a fishing trip to James Lake, particularly to the north road (since named Bata Main) because of what appeared to be some "quartz". Similarity in some respects to a rare earth pegmatite occurrence in Ontario which he had prospected in 1938/41 prompted the taking of rock samples. These samples were not submitted until 1987 for analysis by Bondar-Clegg. (Report appended)

November 1987 a sample of garnetiferous skarn was submitted to C.F. Mineral Research Ltd., Kelowna, B.C. for micro analysis. (Report appended)

Logging road construction had bared and blasted through the skarn rock to establish grade. Considerable volume of rock was pushed to both sides (see pictures appended. Very little bedrock was left exposed in the cut bank)

The south (Scotty Creek) road was visited in August 1987. Random "curiosity" soil and rock samples were taken in 1983, 1984 and 1987 prior to staking the JOCK claims to cover the area. Reports appended) "Borrow" stripping for road material exposed a number of areas of volcanic, rusty gneiss and calc/silicate rocks. Some indications of epithermal conditions, greyish to white clays have been noted in the swamp area.

PROSPECTING ACTIVITIES

1 Oct. 1989 - Five (5) trenches were made with pick and shovel on the south side of Scotty Creek road to expose bedrock surfaces in rusty soil areas, and at the skarn exposure sampled 25 September. On JOCK 4 mineral claim trenches 1, 2 and 3 were dug 3.5 metres apart on the road cutbank to the edge of overburden. Trench 1 - 1.3 m x 1.8 m x .3 m exposed pyritized volcanics; Trench 2 - 1 m x 2.5 m x .3 m exposed volcanics with quartz stringers and some pyrite; Trench 3 - exposed volcanics with minor pyrite. No samples were taken for assay. Trench 4 - exposed rusty volcanics with pyrite in an area of rusty soil. Road building material was taken from this and other locations along this road partially exposing rusty gneiss and volcanics with pyrite. The trench was dug .6 m x 2.5 m x .3 m. Not sampled.

On JOCK 4 - Trench 5 - 3.5m x 1.5 m x .9 m, with a cross trench 1.5 m x .5 m x 1.5 m exposed calc-silicate skarn in contact with gneiss on the hanging wall and volcanics on the footwall. Pyrite mineralization is present. Two samples were taken at this location 25 Sept. (Assay report appended)

On JOCK 1, on the Bata Main (north) road, Trench 6, 2.5 x 1 m x .3 m exposed contact between skarn and gneiss at the west end of a 120 m long exposure of skarn rock during road construction. Trench 7 - a small pit 1 m x .5 m x .3 m east of Trench 6, exposed the gneiss/skarn contact with some pyrite. No sample taken for assay. A piece of weathered skarn was taken for microscopic examination. Other pieces of garnetiferous skarn and gneiss were taken for examination, cutting and polishing. Total trenching exposed approximately 18 square metres of rock.

GEOLOGY OF THE KELOWNA TERTIARY OUTLIER (EAST HALF)

(N.T.S. 82E)

BY B. N. CHURCH

Figure 17b

LEGEND

CENOZOIC

PLATEAU BASALT



DAVES CREEK BASALT* (14.9 Ma), LAVA AND DYKES

WHITE LAKE FORMATION (OR EQUIVALENT EOCENE BEDS)



BROWN SANDSTONE AND SILTSTONE WITH SOME CARBONACEOUS SEAMS

MARRON FORMATION



NIMPIT LAKE MEMBER WELL EXPOSED ON MOUNT KNOX CONSISTING MOSTLY OF TAN TRACHYTE AND TRACHY-ANDESITE LAVA



KITLEY LAKE MEMBER COMPRISING NUMEROUS TRACHYTE AND TRACHYANDESITE LAVA FLOWS COMMONLY WITH CONSPICUOUS GLOMEROPHENOCRYSTS OF PLAGIOCLASE AND SANIDINE



ANDESITE OF UNCERTAIN CORRELATION CONSISTING OF BROWN BRECCIAS AND LAVA FLOWS POSSIBLY COGENETIC WITH THE ATTENBOROUGH CREEK ANDESITE IN THE TERRACE MOUNTAIN AREA

KETTLE RIVER FORMATION (INCLUDING ASSOCIATED FELSIC VOLCANIC ROCKS)



BLACK KNIGHT DACITE*; FELDSPATHIC LAVA, BRECCIA, AND SOME OBSIDIAN; LOCALLY ALTERED AND CUT BY QUARTZ VEINS (Q)



RHYOLITE BRECCIA AND FLOW-BANDED LAVA



SILTSTONE AND SANDSTONE WITH SOME CARBONACEOUS SEAMS

PRE-CENOZOIC BASEMENT ROCKS



MAINLY GRANITIC INTRUSIONS OF THE OKANAGAN BATHOLITH (LOWER CRETACEOUS/UPPER JURASSIC)



AN ASSORTMENT OF ARGILLACEOUS ROCKS (S), LIMESTONE (Ls), METAVOLCANIC ROCKS (Gv), SCHISTOSE AND GNEISS UNITS (Gn)

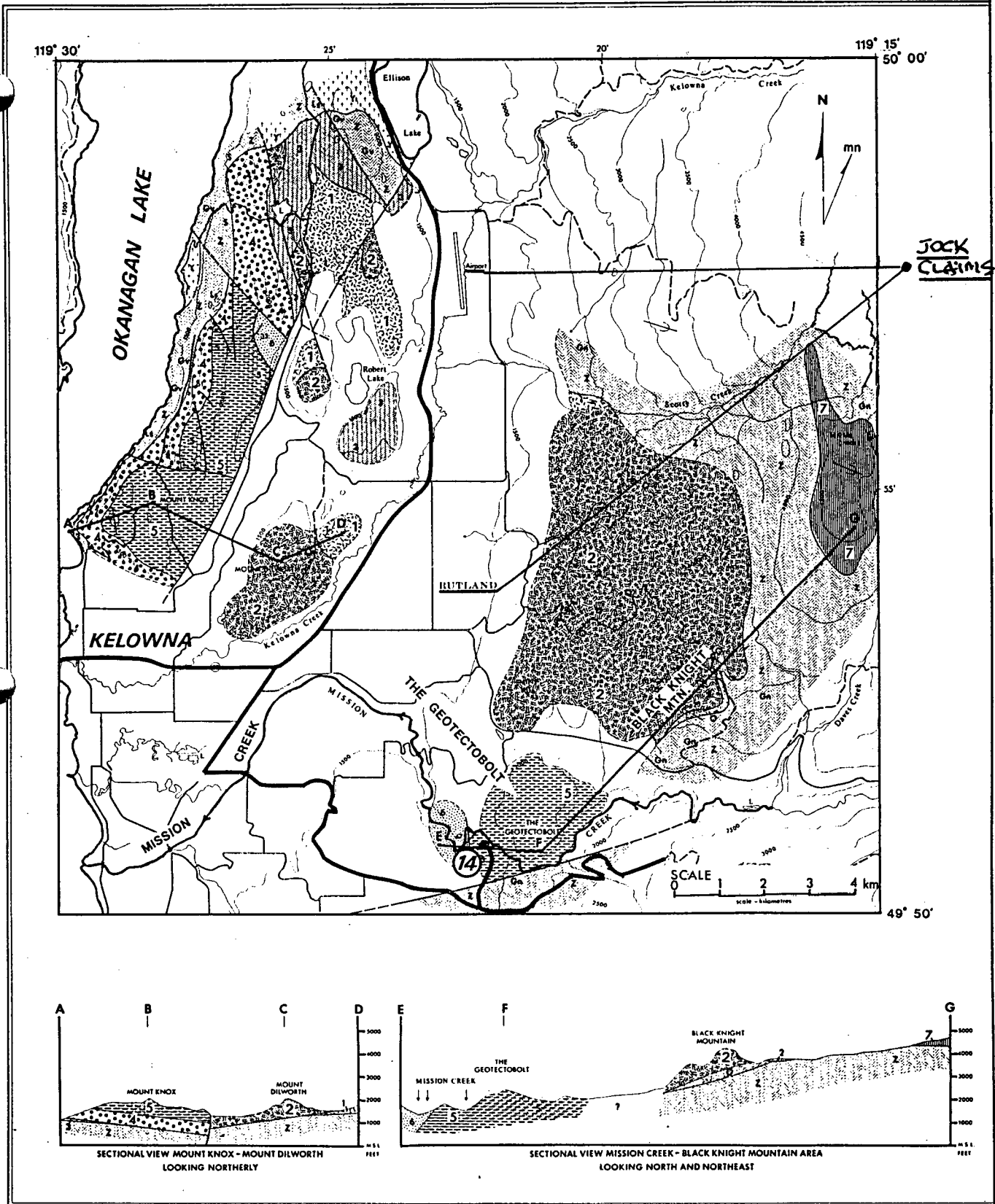


Figure 17

QUALIFICATIONS

I, William D. Yorke-Hardy, of Kelowna, British Columbia, do hereby declare my qualifications and experience as a prospector, as follows: Cobalt, Ontario, 1927-31; Noranda, Quebec, 1931-32; Blind River area, Ontario, May to November 1933; Prospectors Course, Ontario Dept. of Mines, Royal Ontario Museum, winter of 1933-34; Blind River, Spragge, Walford, Massey, Ontario, April 1934 to August 1935.

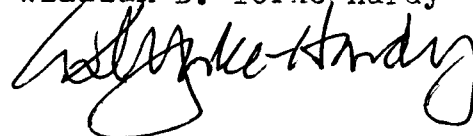
Weekend and holiday prospecting while employed at Inco Coppercliff smelter, Ontario, in areas of Iron Bridge, Worthington, and for strategic rare earth minerals tantalum, columbium, beryllium, etc., in the Bethnal, Stackpool, Gogama areas north of Sudbury, Ontario, 1938,39 to August 1941.

August 1941 to June 1946 - Active Service, Infantry, in Canada, including west coast defence. Winter of 1945-46, S17 Training Centre, Vernon, B.C., Royal Canadian Legion prospectors course. 1947-48-49 - short prospecting trips to Cottonbelt plateau north of Shuswap Lake, and North Barriere Lake, north of Kamloops, while employed in Vancouver. 1947, Ben Barlow Placer Mining School; 1948-49 B.C. & Yukon Chamber of Mines Prospectors Course.

1951-70 - Smithers, Hazelton, Telkwa, Walcott, Perow, Houston areas, including Hudson Bay Mountain molybdenite and Dome Mountain gold, parttime and fulltime periods. Winters of 1967-68 and 1968-69 - conducted prospectors courses at Smithers and Houston, co-ordinated with the Dept. of Mines, Victoria.

Limited activity since retiring to Kelowna, B.C. Refresher courses through Kelowna Prospectors Club in 1978-79, 1987-88, 1988-89.

William D. Yorke-Hardy



COST STATEMENT - 23 October 1988 to 20 October 1989

<u>8 Dec. 1988</u> - Greyhound Courier Express to Victoria, B.C. Rock Samples to Dept. of Mines - returned to Kelowna, B.C. Not Delivered -	\$ 13.40
<u>9 Jan. 1989</u> - Greyhound Courier Express to Victoria, B.C. Return of Rock Samples as above	\$ 12.15
<u>28 Sept. 1989</u> - Greyhound Courier Express to Min.En Lab- oratories, North Vancouver - Rock Samples -	\$ 9.55
<u>24 Oct. 1988</u> - Mail to Min.En Laboratories, North Vancouver, Soil Samples for analysis -	\$ 201.25
<u>31 Oct. 1988</u> - Min.En Laboratories, North Vancouver, Soil samples for analysis -	\$ 350.75
<u>4 Oct. 1989</u> - Min.En Laboratories, -North Vancourver, Rock samples for analysis -	\$ 57.75
<u>7 Aug. 1989</u> - Accompanying Z.D. Hora, provincial geologist - 1 man day, \$100.00 per day -	\$ 100.00
<u>25 Sep. 1989</u> - Accompanying geologists D.K. Norris and W. N. Plumb - 1 man day, \$100.00 per day	\$ 100.00
Transportation by personal car - 1 day	\$ 35.00
Gas -	\$ 10.00
<u>1 Oct. 1989</u> - Field work - W.D. Yorke-Hardy - 1 day-\$100.00	\$ 100.00
John R. Wright, prospector - 1 day\$75.00, John Robert Wright, helper, 1 day at \$50.00 per day -	\$ 125.00
Transportation by personal car - 1 day -	\$ 35.00
Gas -	\$ 10.00
<u>5 Oct. 1989</u> - Accompanying Rick Gibso, geologist, and J. Toponoff, assistant, Minnova Inc., and R.W. Yorke-Hardy, Y-H Technical Services, Vernon - 1 day -	\$ 100.00
R.W. Yorke-Hardy, Y-H Technical Services - 1 day -	\$ 250.00
Transportation - 4 x 4 Jeep at \$50.00 per day	\$ 50.00
Gas -	\$ 15.00
Rock cutting and polishing - George Menzies Rock Shop -	\$ 100.00
Rock cutting and hand polishing rock samples - W.D. Yorke- Hardy - ? days -	\$ 300.00
Compilation of information, report writing, map drawing, photocopying, and materials, etc. - ? days -	<u>\$ 250.00</u>
Total -	<u>\$2224.85</u>

APPENDIX 1

ASSAY CERTIFICATES

**KAMLOOPS
RESEARCH & ASSAY
LABORATORY LTD.**

B.C. CERTIFIED ASSAYERS

912 LAVAL CRESCENT — KAMLOOPS, B.C.
V2C 5P5
PHONE: (604) 372-2784 — TELEX: 048-8320

GEOCHEMICAL LAB REPORT

Mr. W. D. Yorke-Hardy
355 Belgo Road
Kelowna, B.C.
V1X 3A2

DATE August 18, 1983

ANALYST _____

FILE NO. _____

FILE NO. G-855

KRAL NO.	IDENTIFICATION	ppb Au	ppm Cu	ppm Pb	ppm Zn	ppm Ag			
1	#1 Lime 187F	5	10	13	54	.6	<i>James</i> } <i>soils</i>		
2	#2 Lime 188F	5	6	13	68	.6			
	Rock Geochem: Crush entire sample subsample if necessary pulverize in ring grinder to approximately -100 mesh						Soil Samples		
	Au Method: Fire Assay Atomic Absorption						Au Method: -80 Mesh Fire Assay Atomic Absorption		
	Ag Method: Hot Acid Extraction Atomic Absorption						Cu, Pb, Zn, Ag Method: -80 Mesh Hot Acid Extraction Atomic Absorption		

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V2C 5P5
PHONE: (604) 372-2784 — TELEX: 048-8320

GEOCHEMICAL LAB REPORT

Mohawk Oil Company Ltd.
Box 610
Vernon, B.C.
V1T 6M6

DATE March 22, 1983

ANALYST _____

FILE NO. ATTENTION: MR. BRIAN CALLAGHAN

FILE NO. G-770

KRAL NO.	IDENTIFICATION	ppm Cu	ppm Pb	ppm Zn	ppm Ag			
1	#1 - 25W	17	40	100	.7	<i>James</i> } <i>Labels</i>		
2	#2 - 25E	14	19	74	.7			
	Cu, Pb, Zn, Ag Method: -80 Mesh Hot Acid Extraction Atomic Absorption							

**KAMLOOPS
RESEARCH & ASSAY
LABORATORY LTD.**

B.C. CERTIFIED ASSAYERS

912 LAVAL CRESCENT — KAMLOOPS, B.C.
V2C 5P5
PHONE: (604) 372-2784 — TELEX: 048-8320

GEOCHEMICAL LAB REPORT

Mr. W. D. Yorke-Hardy
555 Belgo Road,
Kelowna, B.C. V1X 3A2

DATE October 18, 1984

ANALYST _____

FILE NO. _____

FILE NO. G-1219

KRAL NO.	IDENTIFICATION	ppb Au	ppm Cu	ppm Ag					
1	12403	15	12	.1					
	Au Method: -80 Mesh								
	Fire Assay								
	Atomic Absorption								
	Cu, and Ag Method: -80 Mesh								
	Hot Acid Extraction								
	Atomic Absorption								

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&
ASSAY LABORATORY
LTD.

B.C. CERTIFIED ASSAYERS

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PHONE 372-2784 - TELEX 048-8320 - FAX 372 1112

GEOCHEMICAL LAB REPORT

W.D. YORKE-HARDY
555 BELGO ROAD
KELOWNA, B.C.
V1X 3A2

DATE AUGUST 21, 1987

FILE NO. G1708

PAGE 1 / 1

KRAL NO.	AU	AG
1	3.0	1.0

IN AU COLUMN 3 INDICATES (5PPB

AG REPORTED IN PPM



REPORT: 127-4835

Barium Cerium Yttrium Lanthanum

PROJECT: NONE GIVEN

PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Be PPM	Ce PPM	Y PPM	La PPM
R2 #1		2.0	<5	12	<5
R2 #2		2.0	<5	<5	<5
R2 #3		4.0	<5	<5	<5

James Lake samples from 1983



REPORT: 127-4835 (COMPLETE)

REFERENCE INFO:

CLIENT: MR. W. D. YONKE-HARDY
PROJECT: NONE GIVEN

SUBMITTED BY: W.D. YONKE-HARDY
DATE PRINTED: 17-JUL-87

ORDER	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Be Beryllium	3	0.5 PPM	MULTI ACID TOT DIG	Atomic Absorption
2	Ce Cerium	3	5 PPM		X-RAY Fluorescence
3	Y Yttrium	3	5 PPM		X-RAY Fluorescence
4	La Lanthanum	3	5 PPM		X-RAY Fluorescence

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
R ROCK OR BED ROCK	3	2 -150	3	CRUSH, PULVERIZE -150	3

REPORT COPIES TO: MR. W. D. YONKE-HARDY

INVOICE TO: MR. W. D. YONKE-HARDY



KAMLOOPS RESEARCH & ASSAY LABORATORY LTD.

912 - 1 LAVAL CRESCENT — KAMLOOPS, B.C.

V2C 5P5

PHONE: (604) 372-2784 — TELEX: 048-8320

CERTIFICATE OF ASSAY

B.C. LICENSED ASSAYERS
GEOCHEMICAL ANALYSTS
METALLURGISTS

TO Mr. W.D. Yorke Hardy
555 Rutland Rd. South
Kelowna, B.C. VIX 3A2

Certificate No. K 8286

Date September 11, 1987

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

Kral No.	Marked	Au	Ag						
		ozs/ton	ozs/ton						
1.	12413	L.001	L.01						
2.	12414	L.001	.08						
	L means "less than"								

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

David A. Seidell

Registered Assayer, Province of British Columbia

ACME ANALYTICAL LABORATORIES LTD.

852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6

PHONE (604) 253-3158 FAX (604) 253-1716

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEC. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
 THIS LEACH IS PARTIAL FOR MN FE CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
 - SAMPLE TYPE: SOIL AU11 ANALYSIS BY FA+AA FROM 10 GM SAMPLE.

DATE RECEIVED: OCT 14 1987

DATE REPORT MAILED: Oct 21/87

ASSAYER: *W. Yorke-Hardy* DEAN TOYE, CERTIFIED B.C. ASSAYER

W.D. YORKE-HARDY

File # 87-4863

SAMPLE#	MO	CU	PB	ZN	AG	NI	CO	MN	FE	AS	U	AU	TH	SR	CD	SB	BI	V	CA	P	LA	CR	MG	BA	TI	B	AL	NA	K	W	AU11
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	%	PPM	PPM	%	PPM	%	PPM	%	%	PPM	PPM	
1	1	19	8	59	.1	19	11	403	3.53	3	5	ND	6	37	1	2	3	64	.45	.093	18	29	.55	99	.31	2	1.75	.02	.10	1	1
2	1	20	4	40	.1	14	6	421	2.18	2	5	ND	4	28	1	2	4	34	.45	.063	15	19	.67	59	.17	2	1.48	.02	.06	2	1
3	1	19	8	58	.1	21	10	369	3.61	3	5	ND	4	41	1	2	2	63	.47	.095	25	33	.56	79	.31	2	1.91	.02	.10	1	1
4	1	17	14	63	.1	15	9	355	2.97	2	5	ND	5	26	1	2	2	53	.32	.093	14	24	.40	86	.27	5	1.82	.03	.09	1	1
5	1	15	8	77	.1	16	10	378	3.19	3	5	ND	3	27	1	2	2	57	.37	.103	16	26	.45	82	.29	2	1.58	.03	.08	1	1
6	1	12	11	63	.1	20	10	388	3.40	2	5	ND	4	35	1	2	2	61	.43	.104	18	29	.55	82	.29	3	1.66	.02	.09	1	1
7	1	22	9	58	.2	19	9	470	3.20	4	5	ND	5	39	1	3	2	53	.66	.101	23	29	.62	89	.24	4	1.95	.02	.09	1	1
8	3	58	32	31	.1	7	12	512	5.02	2	5	ND	3	25	1	2	2	40	.63	.138	17	10	.44	24	.05	2	1.09	.02	.05	2	1
9	1	15	10	66	.1	17	11	377	3.24	2	5	ND	5	28	1	2	2	58	.36	.087	16	25	.55	106	.29	3	2.10	.02	.11	1	1
10	3	21	7	76	.1	17	10	374	3.33	3	5	ND	4	20	1	2	2	55	.24	.085	11	24	.45	122	.25	4	3.05	.02	.05	1	1
11	3	16	6	63	.1	14	8	312	2.81	2	5	ND	4	21	1	2	2	47	.25	.092	11	20	.38	99	.23	4	2.59	.02	.06	1	1
12	2	17	8	63	.1	16	9	350	3.28	2	5	ND	4	26	1	2	2	57	.32	.066	17	26	.47	93	.28	6	2.15	.02	.05	1	1
13	3	16	14	60	.1	14	7	289	2.46	3	6	ND	6	24	1	2	2	37	.42	.058	15	18	.38	169	.18	2	3.23	.03	.05	1	1
14	2	22	11	65	.2	18	9	362	2.93	3	5	ND	4	26	1	2	2	47	.27	.090	15	22	.41	156	.24	5	2.81	.03	.07	1	1
15	2	13	11	67	.1	16	8	349	3.05	2	5	ND	4	26	1	2	3	52	.29	.086	14	24	.43	121	.27	2	2.20	.02	.07	1	1
16	1	19	12	64	.1	18	10	381	3.61	5	5	ND	5	38	1	2	2	62	.46	.103	21	29	.56	106	.30	2	2.09	.02	.06	1	3
17	4	33	10	78	.1	18	11	280	3.25	2	5	ND	5	20	1	2	2	51	.25	.179	13	21	.42	95	.23	3	3.59	.02	.08	1	2
18	2	35	12	82	.3	18	8	292	2.63	3	5	ND	4	60	1	2	2	36	.43	.065	13	19	.66	164	.17	3	2.81	.02	.11	1	1
19	2	20	8	74	.1	20	10	403	3.35	4	5	ND	4	33	1	2	2	57	.34	.113	18	28	.49	113	.28	3	2.37	.03	.08	1	1
20	2	21	4	80	.2	18	9	369	2.67	2	5	ND	4	18	1	2	2	46	.15	.121	12	20	.34	104	.22	2	3.10	.02	.05	1	1
STD C/AU-S	20	60	38	131	7.3	71	30	1070	4.03	39	16	9	40	56	18	18	21	62	.48	.099	42	60	.90	181	.07	39	1.88	.07	.15	13	48

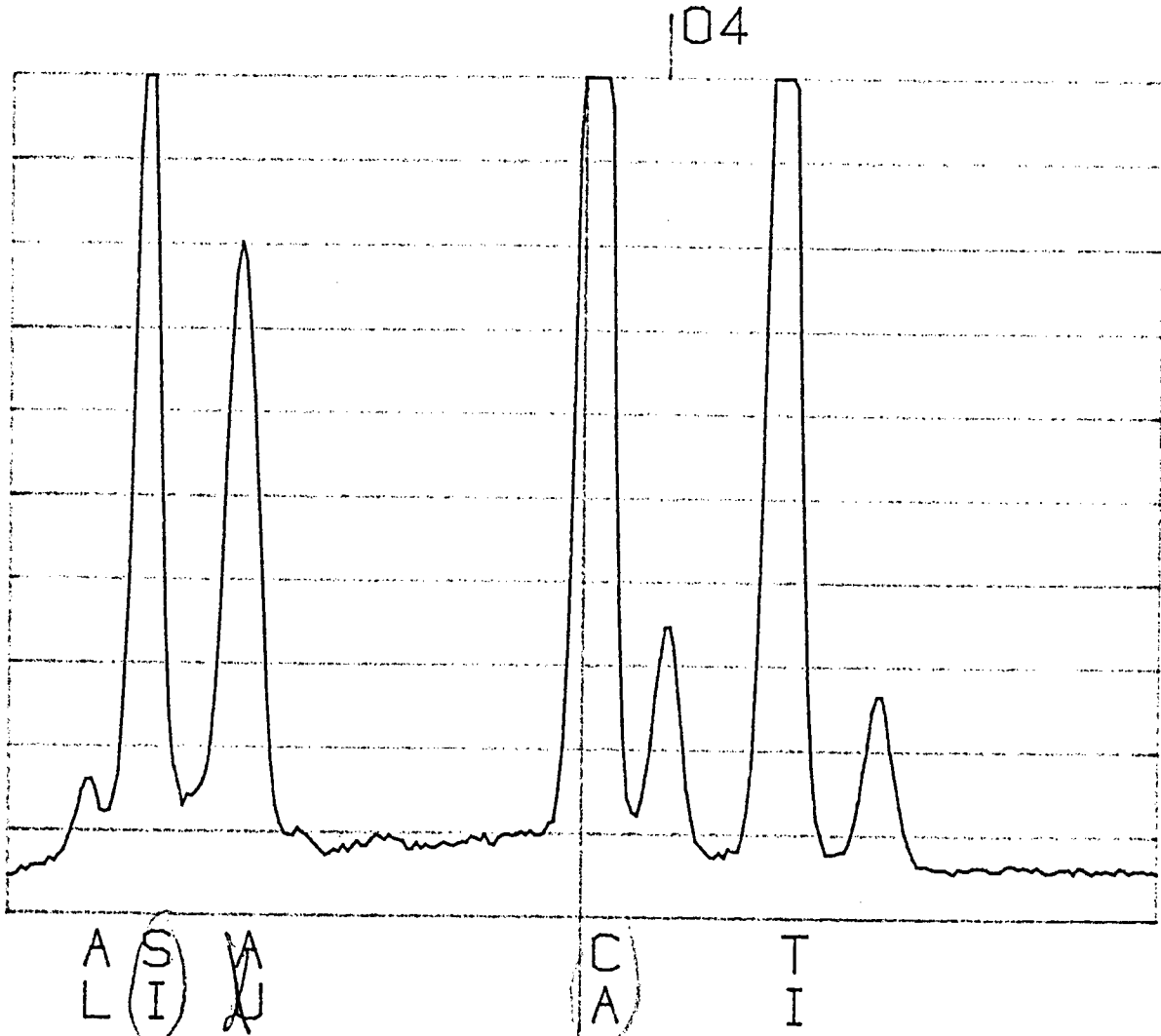
Electron Microscope - C.F. Mineral Research Ltd.
Kelowna, B.C.

05-NOV-87 00:09:44

RATE: CPS TIME 175LSEC

00-40KEV: 20EV/CH PRST: 200LSEC

A: B:
FS= 9153 MEM: A FS= 100



CURSOR (KEV) = 03.640

EDAX

Titanium

05-NOV-87 21:23:07

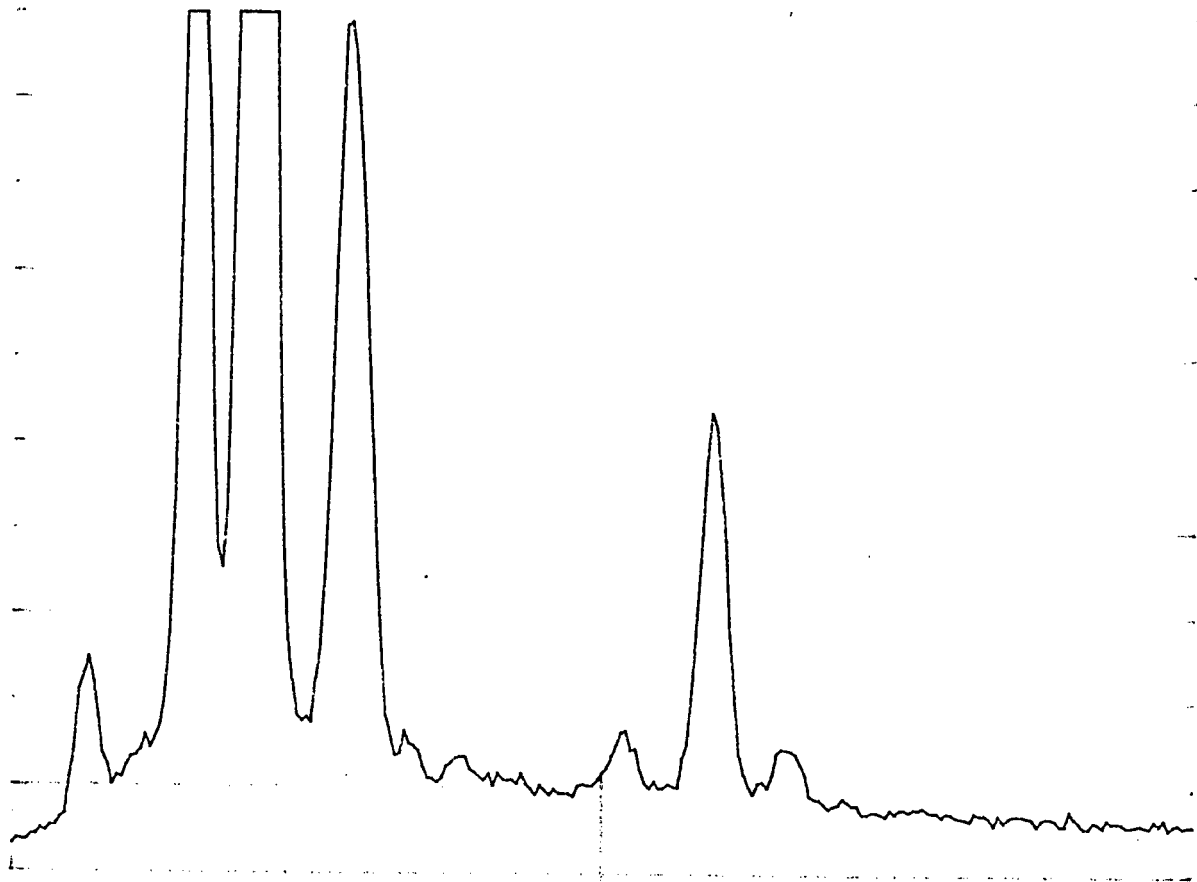
RATE: CPS TIME 200LSEC

CO-40KEV: 20EV XCH PRST: 200LSEC

A: WHITE GR 1 B:

FS= 4313 MEM: A FS= 50

04



N A S A K C
A L I U A

CURSOR (KEV) = 03.220

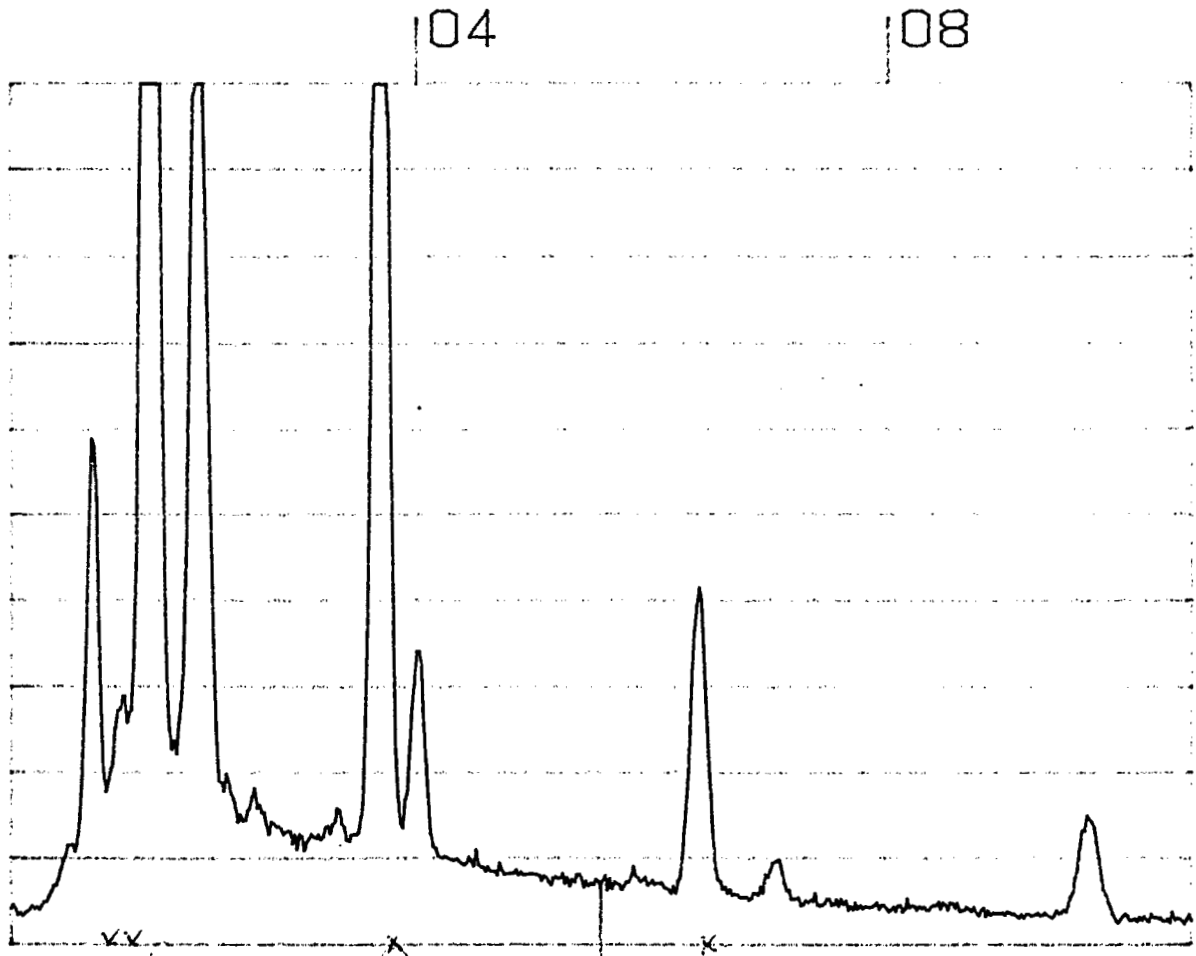
EDAX

Sodium
Aluminum
Silicon
Potash
Calcium

05-NOV-87 21:36:56

RATE: CPS TIME 200LSEC
00-40KEV: 20EV/CH PRST: 200LSEC

A: GREEN B:
FS= 3815 MEM: A FS= 50

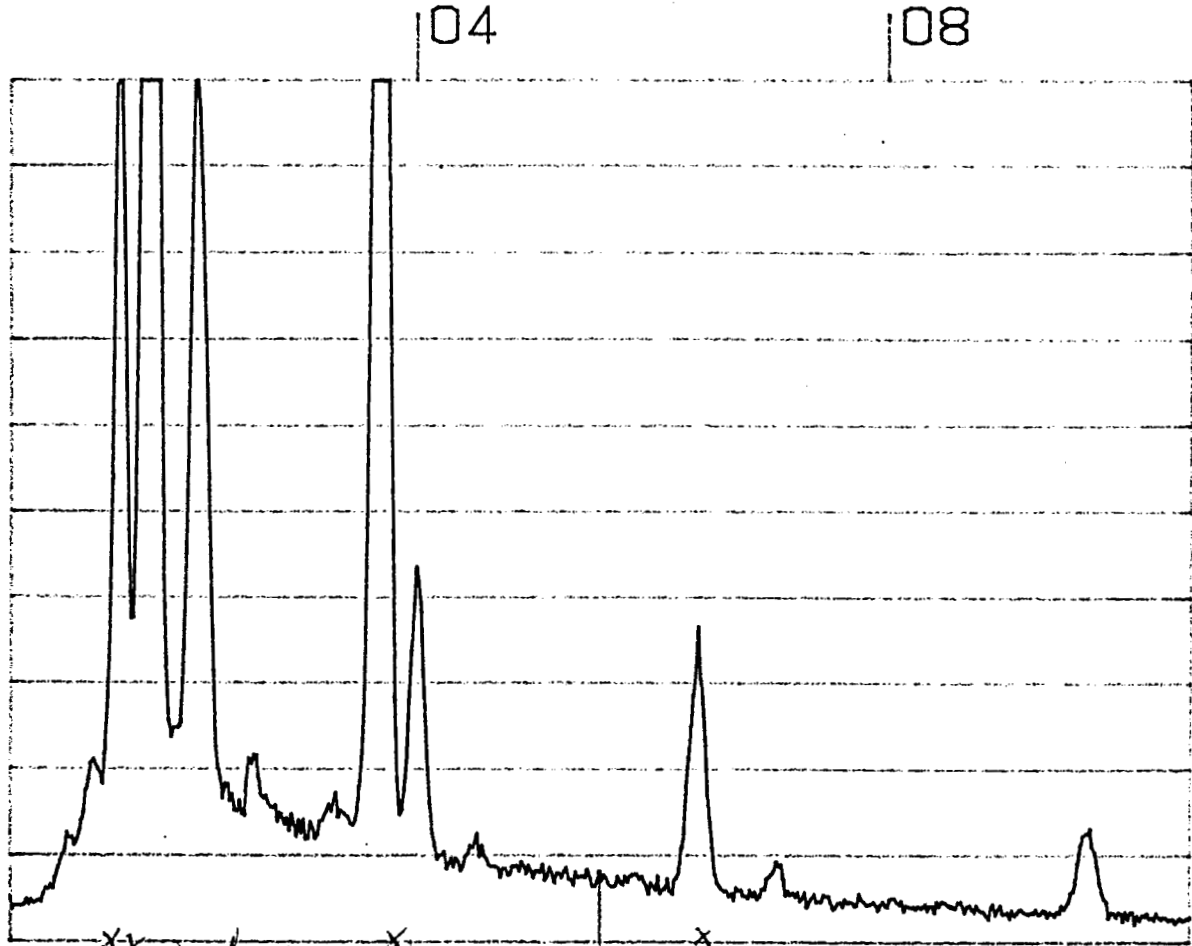


Mg Si Al C K Ca Fe
Q L W L A E

CURSOR (KEV) = 05.560 EDAX

Magnesium
Aluminum
Silica
Chlorine
Potash
Calcium
Iron

BROWN GARNET B:
FS= 2656 MEM: A FS= 50



MAG SIL CAL KAL
GIL L A
CURSOR (KEV) = 05.560

EDAX

(PPM) JL88-16 JL88-18 JL88-19

AG	1.1	1.7	2.4
* AL	35570	37800	26750
AS	26	25	17
B	2	2	1
BA	113	88	130

BE	1.8	1.3	1.1
BI	11	16	19
* CA	4070	1980	3680
CD	.9	.5	1.1
CO	15	21	20

CU	25	8	7
* FE	26030	34210	33550
K	790	1020	830
LI	20	19	13
* MG	3740	5150	5670

MN	233	430	286
MO	6	4	5
NA	380	280	320
NI	13	19	15
P	1100	1780	1330

PB	23	19	20
SB	3	4	2
SR	17	15	20
TH	1	1	1
U	1	1	2

V	44.2	69.6	73.2
ZN	75	82	54
GA	3	4	5
SN	4	5	4
W	1	2	2
CR	26	41	46

*Scotty Cr. hd - above contact
2 finer L. hd junction*

Upstream roots/skid rd

(PPM) JL88-17 JL88-20

AG	.7	1.5
X AL	10960	22120
AS	14	25
B	1	1
BA	22	37

BE	.8	1.2
BI	8	14
X CA	10160	8820
CD	1.9	3.5
CO	23	27

CU	93	10
X FE	38330	53670
K	1070	740
LI	10	32
X MG	8130	22440

MN	410	1099
MO	3	3
NA	1080	440
NI	17	13
P	900	1930

PB	13	18
SB	1	3
SR	14	16
TH	1	1
U	1	1

V	61.6	134.7
ZN	40	90
GA	1	3
SN	1	3
W	2	4

CR	79	97
AU-PPB	4	2

North Rd - east end of stream gage

*Alkan / volcanic dyke contact -
Steeley Cr Rd*

COMPANY: W.D.YORKE-HARDY
 PROJECT NO: JL
 ATTENTION: W.D.YORKE-HARDY

MIN-EN LABS ICP REPORT
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
 (604)980-5814 OR (604)988-4524

(ACT:F31) PAGE 1 OF 3
 FILE NO: 8-1833/P1
 DATE: OCTOBER 22, 1988

(VALUES IN PPM)	AG	AL	AS	B	BA	BE	BI	CA	CD	CO	CU	FE
JL88-1	.9	10000	1	1	42	.7	10	4150	2.5	12	9	20820
JL88-340M	.6	7260	3	1	38	.8	10	3750	3.3	13	8	19770
JL88-4	1.2	19560	2	1	88	1.3	13	3560	1.4	17	9	32400
JL88-4A	1.2	21150	4	1	137	1.0	12	3540	.6	18	8	30240
JL88-5	1.5	17860	6	1	82	1.1	13	6000	1.3	17	9	32350
JL88-7	1.6	19160	3	1	52	1.0	16	4300	1.3	19	9	31850
JL88-7A	1.0	28810	13	1	119	1.0	12	2310	.4	15	9	20400
JL88-10	1.2	22610	10	1	123	1.0	12	3240	1.1	19	7	28180
JL88-2	1.0	36110	21	1	97	1.5	12	2970	1.0	15	8	28020
JL88-3A40M	.8	10230	4	1	56	.7	10	4980	2.5	12	8	16120
JL88-840M	.9	7320	2	1	52	.7	11	4410	3.2	13	8	20220
JL88-9	1.1	33300	20	1	90	1.1	12	2000	.2	24	19	28640
JL88-11	1.5	20750	2	1	120	.9	14	3150	1.5	18	9	26250
JL88-12	1.1	19960	1	1	112	.9	13	3620	1.4	19	9	27130
JL88-13	1.2	23050	11	1	119	1.0	13	2680	.7	17	8	24020
JL88-14	1.5	29760	14	1	84	1.1	15	2240	1.1	25	61	47490
JL88-15	1.6	20620	16	1	89	1.2	14	7060	.9	19	8	31250

COMPANY: W.D.YORKE-HARDY
 PROJECT NO: JL
 ATTENTION: W.D.YORKE-HARDY

MIN-EN LABS ICP REPORT
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
 (604)980-5814 OR (604)988-4524

(ACT:F31) PAGE 2 OF 3
 FILE NO: 8-1833/P1
 DATE: OCTOBER 22, 1988

(VALUES IN PPM)	K	LI	MG	MN	MO	NA	NI	P	PB	SB	SR	TH
JL88-1	680	11	3730	274	4	210	11	1110	13	1	14	1
JL88-340M	600	11	4550	1069	4	240	9	880	13	1	14	1
JL88-4	790	11	4270	426	3	270	11	1500	17	2	17	1
JL88-4A	970	13	4350	405	4	340	13	1160	17	1	21	1
JL88-5	1360	13	6480	427	4	360	14	1400	21	1	25	2
JL88-7	890	10	5270	330	3	260	10	710	14	1	20	1
JL88-7A	710	13	2890	262	3	420	12	1210	18	3	17	1
JL88-10	960	14	4600	384	5	360	15	1240	18	1	17	1
JL88-2	960	22	4480	267	4	270	14	2280	16	5	24	1
JL88-3A40M	570	14	3530	478	4	300	10	730	14	1	18	1
JL88-840M	860	10	4930	361	3	320	9	970	17	1	26	1
JL88-9	720	20	4600	230	6	320	87	1660	23	4	15	1
JL88-11	780	15	3630	454	4	380	15	2300	15	1	17	1
JL88-12	870	15	4570	411	4	340	14	2050	15	1	19	1
JL88-13	780	13	3750	388	4	390	16	1310	21	1	15	1
JL88-14	1520	31	8040	529	4	280	8	2580	20	2	13	1
JL88-15	1160	13	6690	489	4	330	13	1280	16	1	22	1

COMPANY: W.D.YORKE-HARDY
 PROJECT NO: JL
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MIN-EN LABS ICP REPORT
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
 (604)980-5814 OR (604)988-4524

(ACT:F31) PAGE 3 OF 3
 FILE NO: 8-1833/P1
 DATE: OCTOBER 22, 1988

(VALUES IN PPM)	U	V	ZN	GA	SN	W	CR
JL88-1	2	51.7	39	1	1	1	27
JL88-340M	1	39.1	38	1	1	1	25
JL88-4	1	71.3	56	1	2	2	32
JL88-4A	1	63.9	61	1	1	1	32
JL88-5	1	67.8	53	3	2	2	44
JL88-7	1	72.1	47	2	3	2	32
JL88-7A	1	41.9	44	2	3	1	26
JL88-10	1	61.6	66	2	2	2	33
JL88-2	1	59.4	93	4	4	2	36
JL88-3A40M	2	37.2	30	1	1	1	25
JL88-840M	1	42.9	39	1	1	1	26
JL88-9	1	61.6	96	3	4	3	45
JL88-11	1	57.7	113	1	3	2	35
JL88-12	1	57.9	108	1	2	2	36
JL88-13	1	51.8	70	2	2	2	35
JL88-14	1	106.7	115	3	3	2	27
JL88-15	1	69.8	61	2	3	2	45



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• EN

LABORATORIES LTD.

SPECIALISTS IN MINERAL ENVIRONMENTS
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

VANCOUVER OFFICE:
705 WEST 15TH STREET
NORTH VANCOUVER, B.C. CANADA V7M 1T2
TELEPHONE (604) 980-5814 OR (604) 988-4524
TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Certificate of GEOCHEM

Company: W. D. YORKE-HARDY
Project: JL
Attention: W. D. YORKE-HARDY
X

File: 8-1833/P1
Date: OCT. 22/88
Type: SILT GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	AU-FIRE PPB	
JL88-2	3	Silt
JL88-3A	1	Silt
JL88-8	4	✓
JL88-9	2	Silt
JL88-11	23	✓
JL88-12	5	✓
JL88-13	3	✓
JL88-14	19	✓
JL88-15	18	✓

Certified by

MIN-EN LABORATORIES LTD.

PROJECT NO: 2

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

FILE NO: 8-1898/P1

ATTENTION: W.D.YORKE HARDY

(604)980-5814 OR (604)988-4524

* TYPE SOIL GEOCHEM *

DATE: OCTOBER 28, 1988

(VALUES IN PPM)	AG	AL	AS	B	BA	BE	BI	CA	CD	CO	CU	FE
JL-88-0+15	1.1	24610	31	2	128	1.4	19	5350	2.5	23	13	37840
JL-88-0+30	1.0	28240	33	2	101	1.2	16	2790	1.8	18	11	27440
JL-88-0+45	1.0	30110	24	1	84	1.5	15	2080	.9	18	11	27500
JL-88-0+60	1.1	24470	27	1	108	1.1	18	4640	2.3	20	11	33040
JL-88-0+90	.8	31560	32	1	135	1.3	11	7800	.6	17	13	27650
JL-88-1+2020M	.8	31290	22	1	161	1.3	10	15270	1.2	19	11	38040
JL-88-1+35	1.1	18430	21	1	95	1.1	17	5700	3.0	18	11	23560
JL-88-2+1020M	.8	16700	21	1	120	1.4	7	16940	1.9	8	62	10460
JL-88-2+4020M	.8	21560	31	1	110	1.1	9	11580	1.9	9	34	12140
JL-88-2+55	1.1	25100	32	1	118	1.3	16	6570	2.3	18	10	25960
JL-88-2+70	1.2	18390	21	1	91	1.1	19	6620	2.4	21	10	33770
JL-88-2+85	1.3	20340	34	1	99	1.1	18	5550	1.8	18	12	26460
JL-88-3+00	1.0	21870	12	1	93	1.3	16	3070	2.3	19	11	26960
JL-88-3+15	1.0	25360	21	1	64	1.1	14	2090	2.9	18	10	23540
JL-88-3+30	1.1	24070	26	1	111	1.2	17	3180	1.7	19	12	26190
JL-88-3+45	1.0	24030	31	1	107	1.3	16	2750	1.5	18	12	24740
JL-88-3+60	1.0	29280	29	1	123	1.5	16	2340	.3	18	13	26890
JL-88-3+75	1.1	27860	36	1	110	1.2	17	2170	1.6	19	12	26680
JL-88-3+90	1.0	21610	18	1	94	1.0	14	2830	1.6	18	11	23750
JL-88-4+05	1.0	24370	33	1	95	1.1	16	2500	1.5	17	12	24460
JL-88-4+20	1.0	24120	37	1	85	1.1	14	2780	1.4	18	11	24890
JL-88-4+35	1.2	28990	39	1	64	2.1	13	10090	1.1	14	114	25910
JL-88-4+50	1.0	27440	23	1	95	1.3	14	3100	2.0	17	12	23300

PROJECT NO: 2

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2

FILE NO: 8-1898/P1

ATTENTION: W.D.YORKE HARDY

(604)980-5814 OR (604)988-4524

* TYPE SOIL GEOCHEM *

DATE: OCTOBER 28, 1988

(VALUES IN PPM)	K	LI	MG	MN	MO	NA	NI	P	PB	SB	SR	TH
JL-88-0+15	1380	15	8300	500	4	300	21	1670	25	2	23	1
JL-88-0+30	920	17	4310	443	5	350	19	2200	26	4	17	1
JL-88-0+45	730	19	4120	274	5	300	21	1040	27	5	17	1
JL-88-0+60	840	22	5750	297	3	380	19	1750	27	2	22	1
JL-88-0+90	1070	26	4690	729	6	230	26	1440	25	7	27	1
JL-88-1+2020M	1000	25	4660	1558	7	250	24	1290	28	4	37	1
JL-88-1+35	990	21	5790	291	6	500	18	800	21	1	24	1
JL-88-2+1020M	520	11	2600	83	6	160	27	1450	17	1	52	1
JL-88-2+4020M	560	16	2810	69	6	160	23	950	14	5	37	1
JL-88-2+55	900	23	5530	320	5	420	22	390	26	4	31	1
JL-88-2+70	980	19	5730	402	6	510	19	790	19	1	29	1
JL-88-2+85	940	25	5260	354	5	530	19	400	25	2	29	1
JL-88-3+00	870	15	4780	270	5	380	18	1720	19	1	16	1
JL-88-3+15	700	16	3420	439	5	320	20	1870	22	4	15	1
JL-88-3+30	840	15	4270	386	6	380	17	1500	21	4	19	1
JL-88-3+45	820	15	4120	454	5	340	17	1490	22	4	19	1
JL-88-3+60	810	17	4330	437	6	340	18	1330	27	6	17	1
JL-88-3+75	790	17	4540	307	5	320	19	1160	27	7	17	1
JL-88-3+90	730	15	3910	380	5	310	17	1110	18	3	17	1
JL-88-4+05	740	16	4120	412	4	340	17	1340	21	4	17	1
JL-88-4+20	750	15	3700	399	5	340	18	1550	19	5	17	1
JL-88-4+35	1040	49	4690	471	4	460	23	570	21	5	24	1
JL-88-4+50	820	17	3930	414	6	350	15	1620	22	5	18	1

(VALUES IN PPM)	U	V	ZN	GA	SN	W	CR	AU-PPB
JL-88-0+15	1	78.7	72	1	4	3	52	47
JL-88-0+30	1	57.9	90	1	4	2	40	3
JL-88-0+45	1	54.4	58	3	5	2	42	4
JL-88-0+60	1	69.8	89	2	3	2	45	3
JL-88-0+90	1	47.8	75	1	3	2	43	7
JL-88-1+2020M	1	59.6	77	1	3	1	39	2
JL-88-1+35	1	57.5	62	2	3	3	43	2
JL-88-2+1020M	1	29.6	55	1	1	1	28	3
JL-88-2+4020M	1	26.5	46	2	2	1	30	2
JL-88-2+55	1	50.1	41	3	4	3	44	1
JL-88-2+70	1	73.1	41	2	3	3	48	3
JL-88-2+85	1	58.9	41	3	4	3	43	2
JL-88-3+00	1	58.3	82	2	3	3	40	1
JL-88-3+15	1	50.9	80	1	4	2	37	4
JL-88-3+30	1	57.4	76	4	4	2	40	2
JL-88-3+45	1	53.3	69	3	3	2	38	5
JL-88-3+60	1	56.9	69	3	3	2	38	1
JL-88-3+75	1	57.0	68	3	4	3	39	4
JL-88-3+90	1	52.4	68	2	3	2	38	1
JL-88-4+05	1	53.3	71	3	4	2	37	3
JL-88-4+20	1	52.6	81	3	3	2	37	6
JL-88-4+35	1	47.6	55	1	3	2	43	5
JL-88-4+50	1	49.2	79	1	3	2	35	2

COMP: W.D.YORKE-HARDY
 PROJ:
 ATTN: W.D.YORKE-HARDY

MIN-EN LABS — ICP REPORT
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
 (604)980-5814 OR (604)988-4524

FILE NO: 9V-1247-RJ1
 DATE: OCT-04-89
 * TYPE ROCK GEOCHEM * (ACT:F31)

SAMPLE NUMBER	AG PPM	AL PPM	AS PPM	B PPM	BA PPM	BE PPM	BI PPM	CA PPM	CD PPM	CO PPM	CU PPM	FE PPM	K PPM	LI PPM	MG PPM	MN PPM	MO PPM	NA PPM	NI PPM	P PPM	PB PPM	SB PPM	SR PPM	TH PPM	U PPM	V PPM	ZN PPM	GA PPM	SN PPM	W PPM	CR PPM
JL-1-89	1.8	24440	1	1	38	1.3	15	8610	.1	27	151	64580	1340	26	19290	994	10	500	1	1810	32	1	6	1	1	65.8	121	2	2	1	3
JL-2-89	1.5	22370	1	1	34	1.3	11	35790	.5	24	22	38030	490	30	20510	799	7	290	13	1450	37	2	66	1	1	93.2	94	2	1	2	74
JL-3-89	1.0	5720	21	1	18	.6	2	110890	.8	4	8	5960	290	3	5600	265	5	340	5	470	10	2	1	1	1	15.0	20	2	1	1	88

JL-1-89 - South Rd Vancouver Wash?
JL-2-89 - " " " " " "

JL-3-89 - North Rd - Has been called "Silica" process



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NORTH VANCOUVER, B.C. CANADA V7M 1T2
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TELEX: VIA U.S.A. 7601067 • FAX (604) 980-9621

TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Assay Certificate

9V-1247-RA1

Company: W.D.YORKE-HARDY
Project:
Attn: W.D.YORKE-HARDY

Date: OCT-04-89
Copy 1. W.D.YORKE-HARDY, KELOWNA, B.C.

We hereby certify the following Assay of 3 ROCK samples submitted SEP-29-89 by W.D.YORKE-HARDY.

Sample Number	AU	AU
	G/TONNE	OZ/TON
JL-1-89	.05	.001
JL-2-89	.01	.001
JL-3-89	.04	.001

Certified by

MEN-EN LABORATORIES

APPENDIX 2

MINNOVA REPORT

.....
Minnova Inc.
Mining Innovation
4th Floor
311 Water Street
Vancouver, British Columbia
V6B 1B8
Telephone (604) 681-3771
Telecopier (604) 681-3360

December 12, 1989

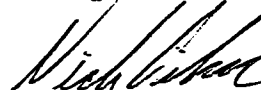
Bill York-Hardy
555 Rutland Road S.
Kelowna, B.C.
V1X 3A2

Dear Mr. York-Hardy:

I'm sorry for the delay on forwarding the sample results. I was under the impression that you were to forward information regarding the property. The results of the sampling done during the property inspection on October 5, 1989 are included. As you can see the skarn did not return any notable values. I agree that the property is geologically interesting and deserves some preliminary work (ie. soils and/or a VLF-EM survey) to define any possible structures. Unfortunately it is not the sort of program Minnova is pursuing at this time.

Thank you for the enjoyable tour and good luck with future endeavours.

Merry Christmas,



Nick Gibson
Geologist

NG/gh

SAMPLE DESCRIPTIONS:

Sample No.	Sample Description	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb
JK1	silicified garnet skarn	4	176	23	0.4	2
JK2	gneiss, in contact with skarn	28	67	69	0.6	1
JK3	epidote, calcic, silicified skarn with mild oxidation	13	26	18	0.3	10
JK4	garnet, epidote, calcic silicified skarn	22	33	16	0.5	4
JK5	cherty garnet skarn with 4cm quartz lenses -float	1	15	8	0.1	5
JK6	slightly rust weathered gneiss	37	18	73	0.5	4
JK7	rusty gneiss with minor disseminated pyrite	2	10	58	0.4	2
JK8	very rusty chloritic altered gneiss	2	10	58	0.4	2
JK9	chert with kaolinite nodules -float	143	16	68	0.9	1
JK10	massive gneiss, approx. 4% disseminated medium grained pyrite	40	18	47	0.7	2
JK11	weathered gneiss with 2cm quartz veins and 0.5cm blebs of fine grained pyrite	12	12	62	0.2	6

Nick Gibson
November, 1989



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TIMMINS OFFICE:
33 EAST IROQUOIS ROAD
P.O. BOX 867
TIMMINS, ONTARIO CANADA P4N 7G7
TELEPHONE: (705) 264-9996

Geochemical Analysis Certificate

9V-1312-RG1

Company: MINNOVA INC.
Project: 656 RICHTER
Attn: I. PIRIE/N. GIBSON

Date: OCT-16-89
Copy 1. MINNOVA INC., VANCOUVER, B.C.
2. MINNOVA INC., PENTICTON, B.C.

We hereby certify the following Geochemical Analysis of 30 ROCK samples submitted OCT-11-89 by J.FOFONOFF.

Sample Number	CU PPM	PB PPM	ZN PPM	AG PPM	AU-FIRE PPB
JK01	4	176	23	0.4	2
JK02	28	67	69	0.6	1
JK03	13	26	18	0.3	10
JK04	22	33	16	0.5	4
JK05	1	15	8	0.1	5

JK06	37	18	73	0.5	4
JK07	2	10	58	0.4	2
JK08	4	2	8	0.1	4
JK09	143	16	68	0.9	1
JK10	40	18	47	0.7	2

JK11	12	12	62	0.2	6

Certified by _____

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APPENDIX 3

PICTURES



Bata Main road -
northeast side, large
pieces of garnetiferous
calcium/silicate
skarn, with inclusions
of fragments of other
rock types, such as
in large rock in top
picture. Prospector
pick is $28\frac{1}{2}$ cm long,
pick head is 18 cm.
Centre picture shows
weathering of lime-
stone content of skarn.
Lower picture shows
cut bank exposing the
skarn/gneiss contact,
and thin overburden
covering at this lo-
cation.





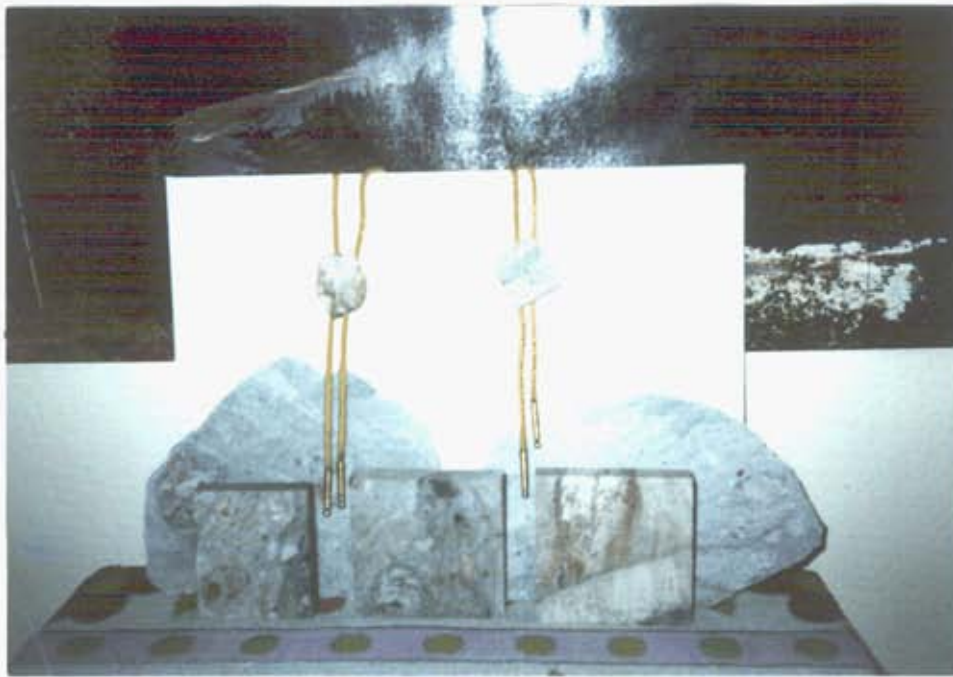
Scotty Creek road - Skarn exposed by road construction, in area of Trench 5, with pyritized volcanics in roadbed. A "frozen" footwall contact between the volcanic dyke or sill and the skarn is exposed. The upper contact, hangingwall, is with gneissic rock containing pyrite. (Top picture)



Centre picture - skarn exposure, extension of top picture showing.

Lower picture - area of rusty pyritized gneiss, and volcanic (grey area) partially exposed for road building material.





KELOWNITE

These pictures show pieces of garnetiferous calcium/silicate skarn cut and hand polished for use as decorative tile and or lapidary use, as indicated as bola in top picture.

The tile is cut 4" x 4" x 3/4".

The centre piece in the lower picture is identified as developing garnet.





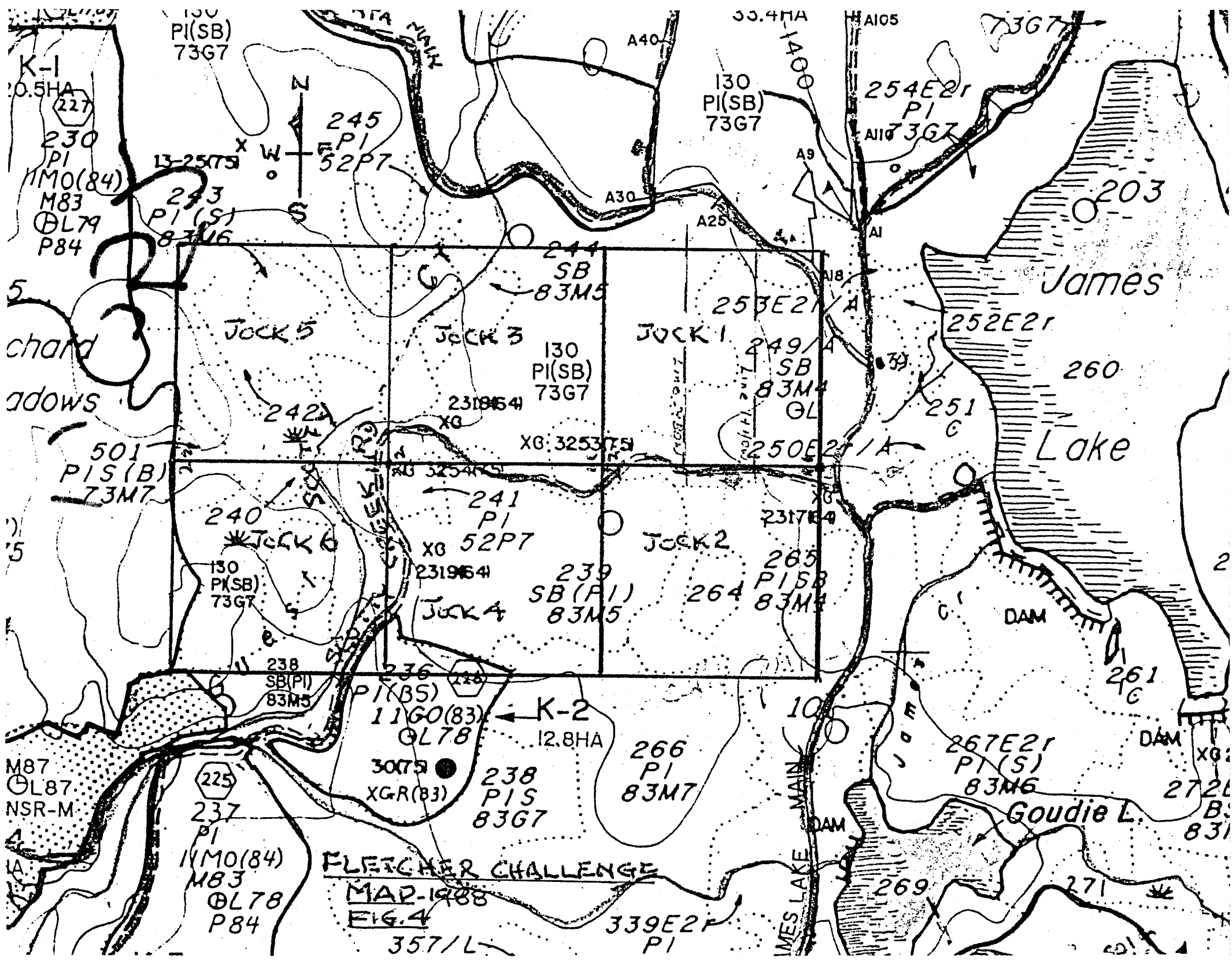
K E L O W N I T E

All three pictures are of pieces of garnetiferous rock. The banded pieces possibly contain scheelite and wollastonite, by ultra-violet and Hcl tests.



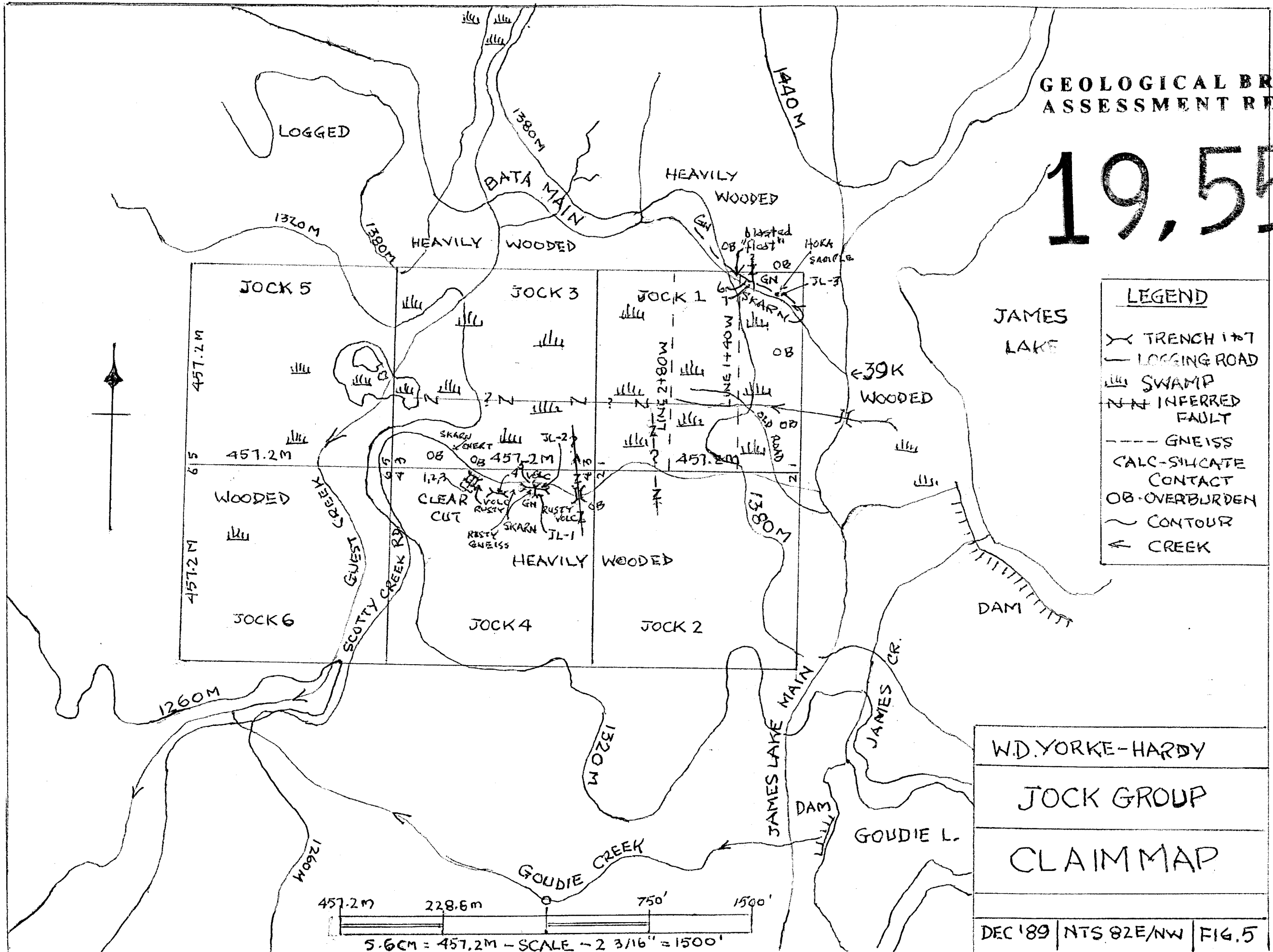
Darker pieces are mainly brown (grossular or andradite) garnet(?).





FLETCHER CHALLENGE
 MAP-1988
 FIG. 4
 357/L

19,552



LEGEND

- X TRENCH 1+7
- LOGGING ROAD
- ||| SWAMP
- - - INFERRED FAULT
- GNEISS
- CALC-SILICATE CONTACT
- OB OVERBURDEN
- ~ CONTOUR
- ← CREEK

W.D. YORKE-HARDY

JOCK GROUP

CLAIM MAP

DEC '89 | NTS 82E/NW | FIG. 5