BRITISH COLUMBIA PROSPECTORS ASSISTANCE PROGRAM MINISTRY OF ENERGY AND MINES GEOLOGICAL SURVEY BRANCH

PROGRAM YEAR:1994/95REPORT #:PAP 94-57NAME:HORST KLASSEN

BRITISH COLUMBIA PROSPECTORS ASSISTANCE PROGRAM **PROSPECTING REPORT FORM (continued)**



JAN 30 1995

B. TECHNICAL REPORT

- One technical report to be completed for each project area

Refer to Program Requirements/Regulations, section 15, 16 and 17 If work was performed on claims a copy of the applicable assessment report may be submitted in lieu of the supporting data (see section 16) required with this TECHNICAL REPORT

Name HORST KLASSEN Reference Number 94-95 P178

LOCATION/COMMODITIES

LOCATION/COMMODITIES
Project Area (as listed in Part A.) WOULASTONITE Minfile No. if applicable
Location of Project Area NTS $\underline{B2F4E}$ Lat $\underline{49^{\circ}12'00''}$ Long $\underline{117^{\circ}44'00''}$
Description of Location and Access FROM BIRCHBANK GOLF COULSE
TAKE FORESTRAY SERVICE ROAD UP 4.5KM

Main Commodities Searched For WOLLASTONITE / LIMESTONE

Known Mineral Occurrences in Project Area VARLOUS OLD MINING CAMPS MAGNETITE / COPPER

WORK PERFORMED

1. Conventional Prospecting (area)	IMMEDIATE ANE OF SHOWIN	GAND SEARCH

2. Geological Mapping (hectares/scale) *EoR ExTENSION*

3. Geochemical (type and no. of samples)_____

4. Geophysical (type and line km)

5. Physical Work (type and amount)

6. Drilling (no. holes, size, depth in m, total m)

7. Other (specify)

SIGNIFICANT RESULTS (if any) Commodities LINESTONE Claim Name_____

Location (show on map) Lat_____ Long____ Elevation_____

Best assay/sample type_____

Description of mineralization, host rocks, anomalies

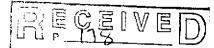
MY AUBERTSFORMATION SLATE, LIMESTONE

ANGILLACIOUS QUANTLITE, GREENSTONES.

Supporting data must be submitted with this TECHNICAL REPORT.

PROSPECTORS PROGRAM MEMPR

BRITISH COLUMBIA PROSPECTORS ASSISTANCE PROGRAM PROSPECTING REPORT FORM (continued)



JAN 30 1995

PROSPECTORS PROGRAM

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- Refer to Program Requirements/Regulations, section 15, 16 and 17

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Name HORST KLASSEN

Reference Number <u>94-95 P178</u>

LOCATION/COMMODITIES

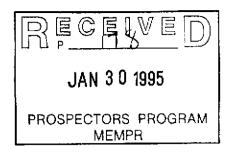
Project Area (as listed in Part A.) SILENCELAKE Minfile No. if applicable 123
Location of Project Area NTS <u>$82M/3E$</u> Lat <u>$51^{\circ}50'00''$Long</u> <u>$119^{\circ}41'30''$</u>
Description of Location and Access THE MAX I - IT MINERAL CLAIMS
ARE LOCATED 32KM NORTHEAST OF CLEARWATER
AT THE OLD SITE OF THE DIMAC TUNGSTENMINE

Main Commodities Searched For WOLLA STONITE

Known Mineral Occurrences in Project Area SCHEEUTE QUARTZ, WOLLASTONIFE

WORK PERFORMED	
1. Conventional Prospecting (area) MAIN QUARRY, EXTENSION DEVEN, COAN.	<u>s</u>
1. Conventional Prospecting (area) MAIN WUARRY, EXTENSION DEVENN, COAN 2. Geological Mapping (hectares/scale) (CLOSE TO CLAIMS)	
3. Geochemical (type and no. of samples)	
4. Geophysical (type and line km)	<u> </u>
5. Physical Work (type and amount)	(
6. Drilling (no. holes, size, depth in m, total m)	
7. Other (specify)	
SIGNIFICANT RESULTS (if any)	
Commodities WOLLASTONITE Claim Name	
Location (show on map) Lat Long Elevation	
Best assay/sample type	
Description of mineralization, host rocks, anomalies	
THE "UPPER BAND" ZONE WHICH CONTAINS	
A 15-20 METRE SECTION OF UP TO 35% WOLLASTON	<u> (17 6</u>
AS STATED IN THE OPEN FILE 1991-17 DOES NOT	
EXIST.	

Supporting data must be submitted with this TECHNICAL REPORT.



Prospecting Report

by Horst Klassen

for the Ministry of Mines Energy and Petroleum Resources

Silence Lake Wollastonite Showing

NTS: 82M/13E

LAT: 51°50'00"

LONG: 119°41'30"

CLAIM NAMES: MAX I - VI

OWNER OF CLAIM: Horst Klassen

OPERATOR: Horst Klassen

DATE SUBMITTED:

Property Location:

The Max 1 - VI mineral claims are located in the Kamloops mining district, 4 km north of silence lake 32 km northeast of Clearwater.

Access:

The access is along a well maintained forestry hauling road to within one km of the existing quarry site. During the winter months the last three km of the road is not maintained.

History:

The Silence Lake Mine produced tungsten in the early 80's until the price for tungsten collapsed which forced the mine to shutdown. The skarn in the area has several types of mineralization. One of these types is the wollastonite-garnetcalcite according to the Minfile O82M 123. In the Open File 1991-17 states that the skarn mineralization contains up to 35% Wollastonite over a width of 15-20 m. It also states that the wollastonite potential of the skarn had never been evaluated.

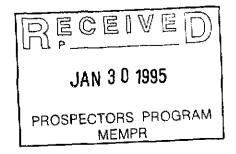
Work Performed:

In early September I prospected the Silence Lake wollastonite showings. On the first day all the adjoining area outside the claims was checked for any signs of wollastonite or any other interesting mineralization along road cuts, bluffs, or

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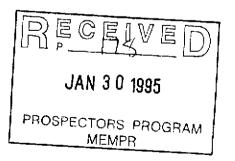
Silence Lake Wollastonite Showing - Horst Klassen any other visible outcrops. The results were negative. On the second day, time was spent to prospect the existing quarry area of the old Dimac tungsten mine where the wollastonite bearing skarn is located. I could find wollastonite, but there was much less than I anticipated from reading the reports. When I was taking samples by breaking pieces off the big wollastonite boulders I found that the boulders were chiefly alaskite covered with a thin crust of Wollastonite. The wollastonite mineralization probably took place when the heat of the intrusion, which created the skarn, cracked the rock and a solution seeped between the cracks resulting only in creating thin stringers of wollastonite on the cleavage plains through the alaskite. The result of this is that when boulders break off and roll down towards the creek they look like wollastonite boulders but are really just alaskite.

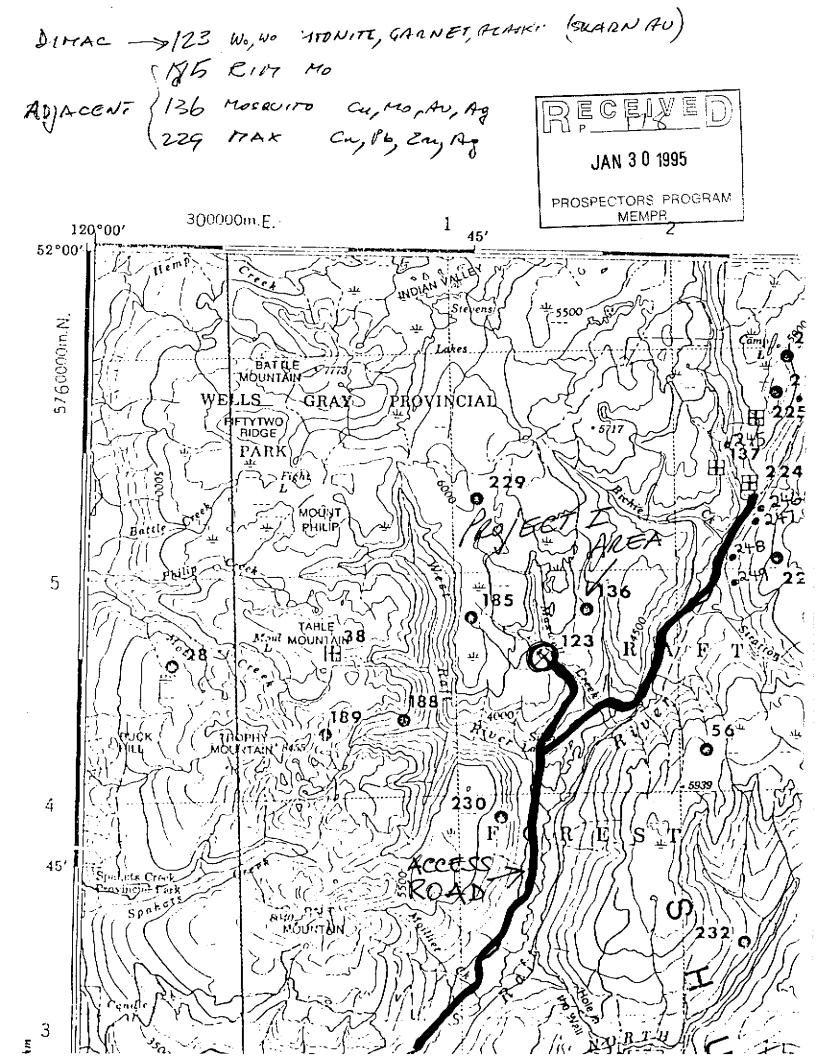
On the third day I explored the possibility of finding an extension of the skarn body on the other side of Maxwell creek which lies to the northeast of the existing quarry. On the other side there is a large ridge which follows the creek. The open file map indicated a possible continuation across the creek and that possibly a large tonnage deposit could be found. At no point up the slope or along the ridge did I find any wollastonite.



Silence Lake Wollastonite Showing - Horst Klassen Conclusions:

There was no indication of a viable wollastonite deposit. The biggest piece of massive wollastonite I could find did weigh **no** more than 3 kg. This sample was a small lens that was in the skarn. I had planned to do a major assessment of the area in my original prospector's grant proposal, but on finding no evidence which would warrant such a search, I consulted with Paul Wilton and Moira Smith, both regional geologists with the E.M.P.R. about the situation and they agreed that further prospecting would not be beneficial.





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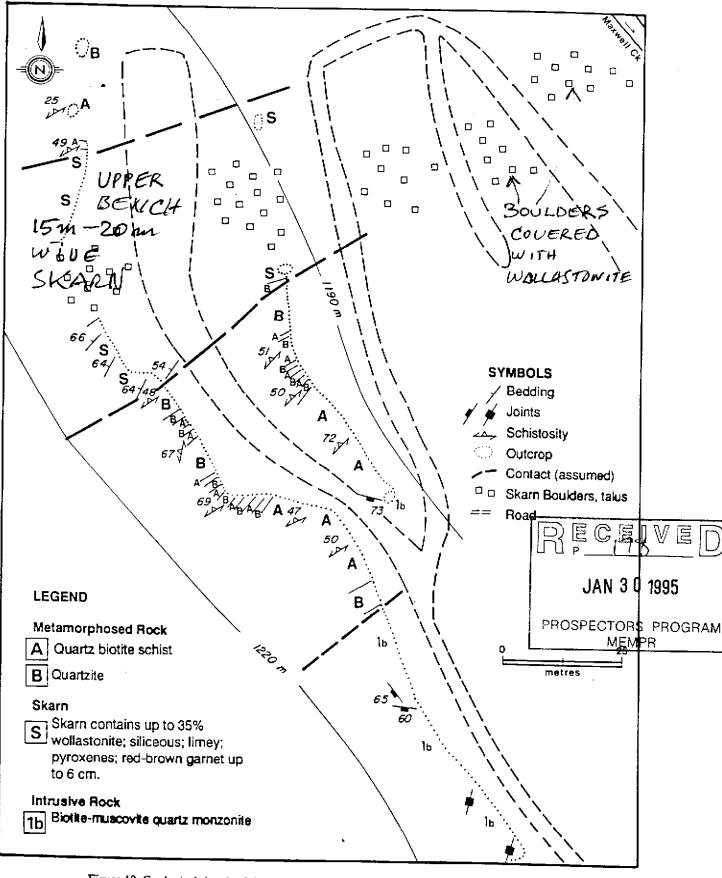


Figure 10. Geological sketch of the open pit area - Silence Lake mine (from White, 1989).

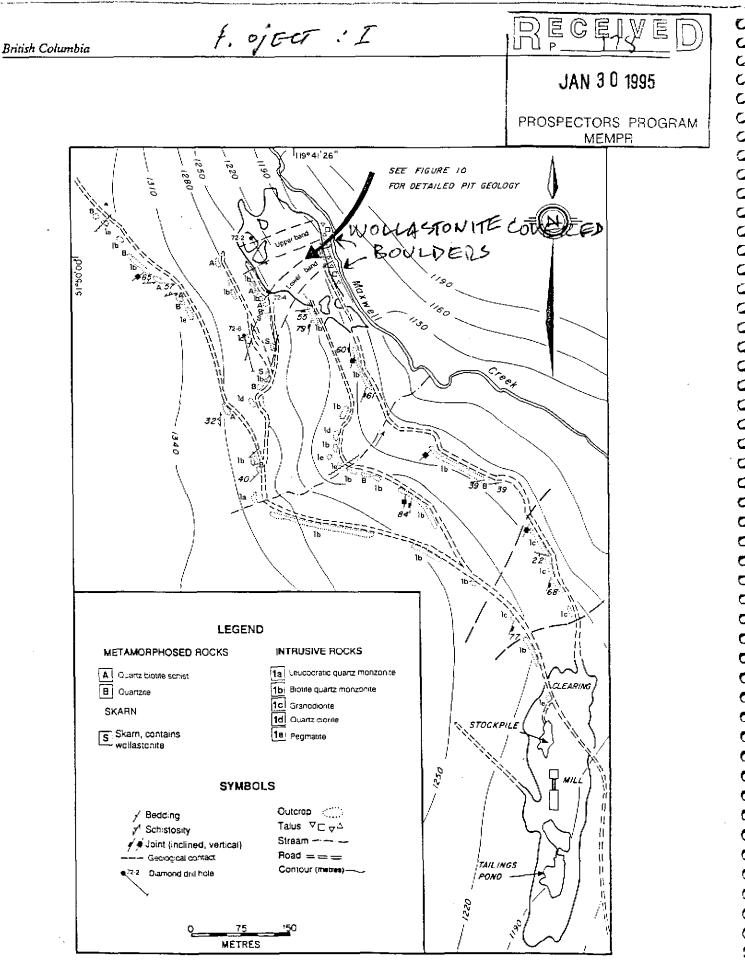


Figure 9. Geology of the Silence Lake mine (W5) (modified from White, 1989).

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BRITISH COLUMBIA DECE PROSPECTORS ASSISTANCE PROGRAM PROSPECTING REPORT FORM (continued)

B. TECHNICAL REPORT

One technical report to be completed for each project area *

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If work was performed on claims a copy of the applicable assessment report may be MEMPR . submitted in lieu of the supporting data (see section 16) required with this TECHNICAL REPORT

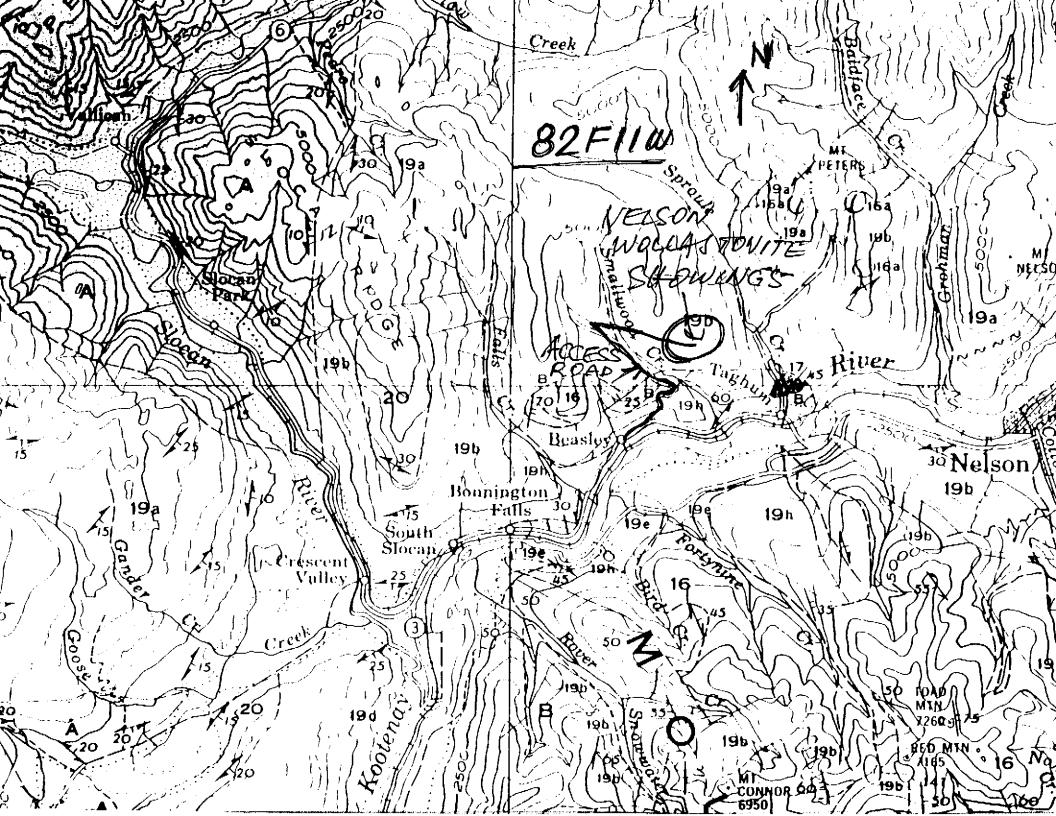
Name HORST KLASSEN Reference Number 9495 P178
E. SPROULECK.
Project Area (as listed in Part A.) <u>NELSON</u> Minfile No. if applicable
Project Area (as listed in Part A.) <u>NELSON</u> Minfile No. if applicable Location of Project Area NTS <u>B2F 11 W</u> Lat <u>49° 30′ 30″ Long 117° 26′ 00</u> ″
Description of Location and Access FILOFT DEASLY OR IT WEST OF
NELSON TAKE STIANWOO FORESTRY SERVICE ROAD
to KO7 6.5
Main Commodities Searched For WOULD STONITE
Known Mineral Occurrences in Project Area <u>HASNETITE / COPPER</u>
WORK PERFORMED
1. Conventional Prospecting (area) NELSON WOULAITONINE SHOAMNES
2. Geological Mapping (hectares/scale)
3. Geochemical (type and no. of samples)
4. Geophysical (type and line km) MAGNETOMETER SURVEY
5. Physical Work (type and amount) HAND TRENCHING
6. Drilling (no. holes, size, depth in m, total m)
7. Other (specify) APPROX 200 POUNDS OF WOLLASTONITE SATPLES WERE COLLECTED.
SIGNIFICANT RESULTS (if any)
Commodities WOLLASTONITE Claim Name HAS I TO XI
Location (show on map) Lat Long Elevation3700'
Best assay/sample type
Description of mineralization, host rocks, anomalies
HALL FORMATION SILTSTONE GREYWALKE
_ CONCLONERATE ARGILLITE, RUAATE BIOTITE SCHIST ANDESITE MINOR _ ELOWS PYROCLANTICS, LITESTONE, SEDIMENTARY ROCKS.

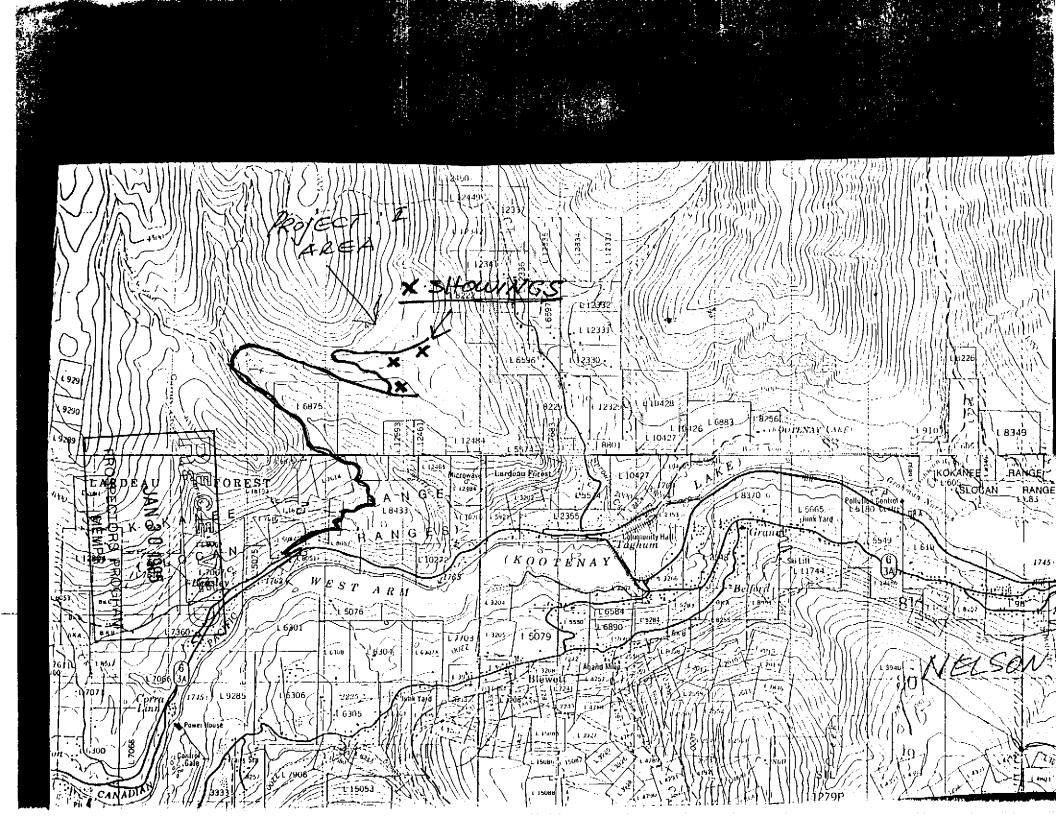
Supporting data must be submitted with this TECHNICAL REPORT.

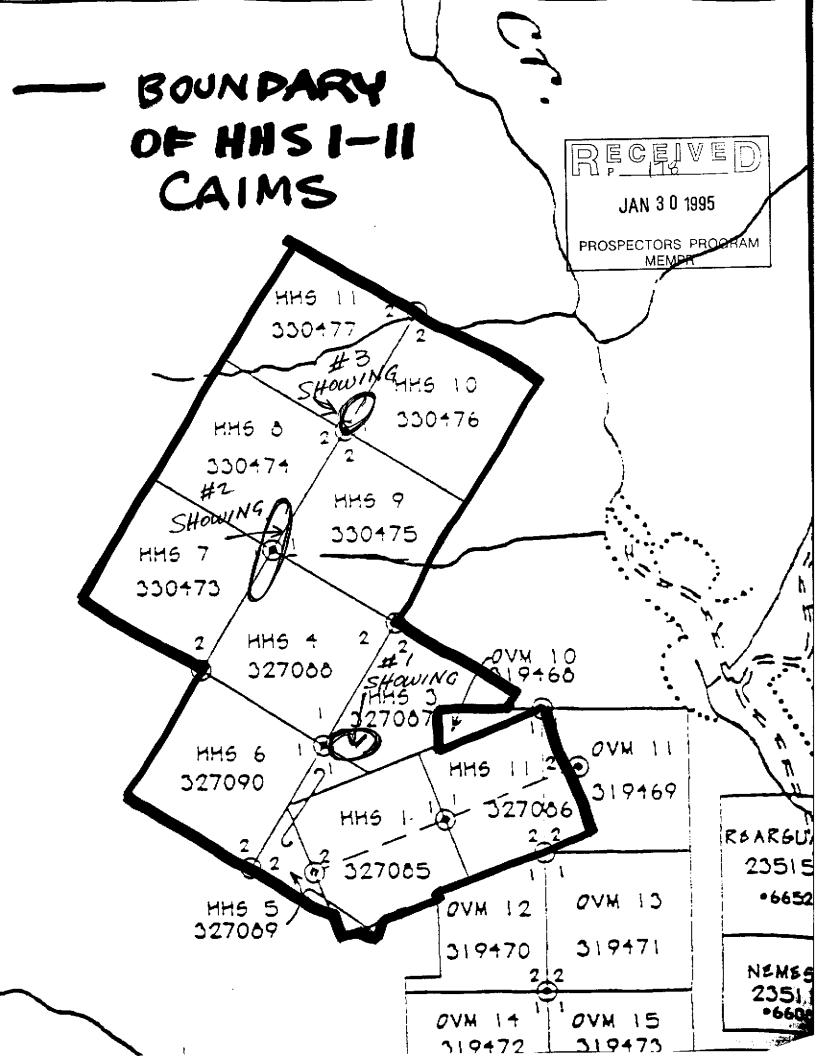
JAN 30 1995

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PROSPECTORS PROGRAM







Prospecting Report

by Horst Klassen

for the Ministry of Mines Energy and Petroleum Resources

Nelson Wollastonite Showing

NTS: 82F11W

LAT: 49 30 30 "

LONG: (17'26'00"

CLAIM NAMES:

OWNER OF CLAIM: Horst Klassen

OPERATOR: Horst Klassen

DATE SUBMITTED:

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Nelson Wollastonite Showing - Horst Klassen

Property Location:

The HHS 1 - HHS 11 claims are located above Beasley along the Kootenay Valley between Nelson and Castlegar.

Access:

The access is 6.5 km along the a well maintained Smallwood Creek forestry road from the highway.

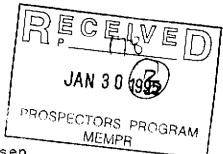
History:

The area was never prospected for industrial minerals and for wollastonite in specific to my knowledge. I found the occurrence while prospecting for copper. At the outcrop, there was only a crude right of way that was barely passable since the area had only been opened up recently at that time. Since I had past success in optioning another wollastonite property I felt that this occurrence would be a good one to check out because the outcrop was quite big.

Work Performed:

The HHS 1 - 6 claims were staked in June. Further prospecting revealed another two showings that were both subsequently staked. This brought the total number of claims in the group to 11.

Some hand trenching was done on the second and third showing. The second showing is 3 m - 5 m at its widest. George



Nelson Wollastonite Showing - Horst Klassen

Simandl, E.M.P.R. Industrial Minerals Specialist, said by telephone that if the grade is good and the vein is large enough that it may be of economic significance. The wollastonite is fine grained and is mixed with silica, calcite, and other impurities (e.g. diopside) at certain places. George Simandl said that the presence of silica would not be a problem for ceramic grade wollastonite. The aspect ratio is average by my opinion. I came to this opinion by crushing and sifting samples and then viewing them under a microscope.

I also had an engineer who had previous experience with wollastonite, visit the property in the fall. He was very interested with what he had seen and he had taken two burlap sacks of samples for testing.

The regional aeromagnetic map shows a pronounced low in the vicinity of the outcrops and indicates a possibility of a buried body limestone or wollastonite. Three grids, one over each showing, were laid out for a ground magnetometer survey. During the grid laying process, all outcrops that were crossed were checked for mineralization, but I did not find anything interesting other than wollastonite/limestone/silica bands. Those geomagnetic surveys were done during the summer. The data from those surveys are included in this report. A definite trend could not be established from the magnetic data by myself. However I do feel that the second showing definitely continues on since the vein could be traced through surface showings for 200m.

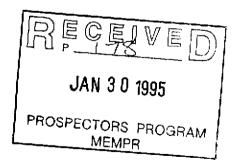


Nelson Wollastonite Showing - Horst Klassen

Conclusions:

At the present time the engineer which examined the property is seeking a financial backing to develop a beneficiating process for this particular type of wollastonite deposit. The research and development costs for this process are estimated to be between \$30,000 - \$50,000.

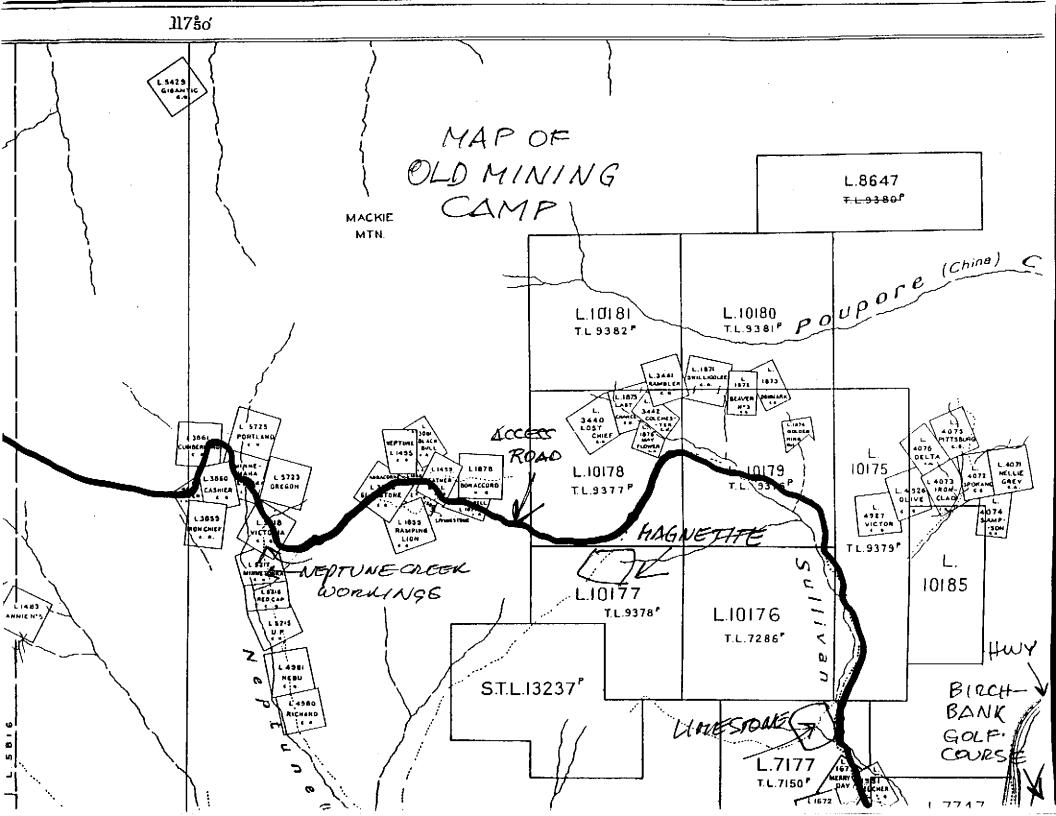
Because the area is covered with overburden in many areas, the extent of the showing cannot be determined without a drilling program. The initial discoveries seem to be up to about 50% wollastonite which definitely could be economic if the volume can be proven. This showing definitely warrants further exploration.

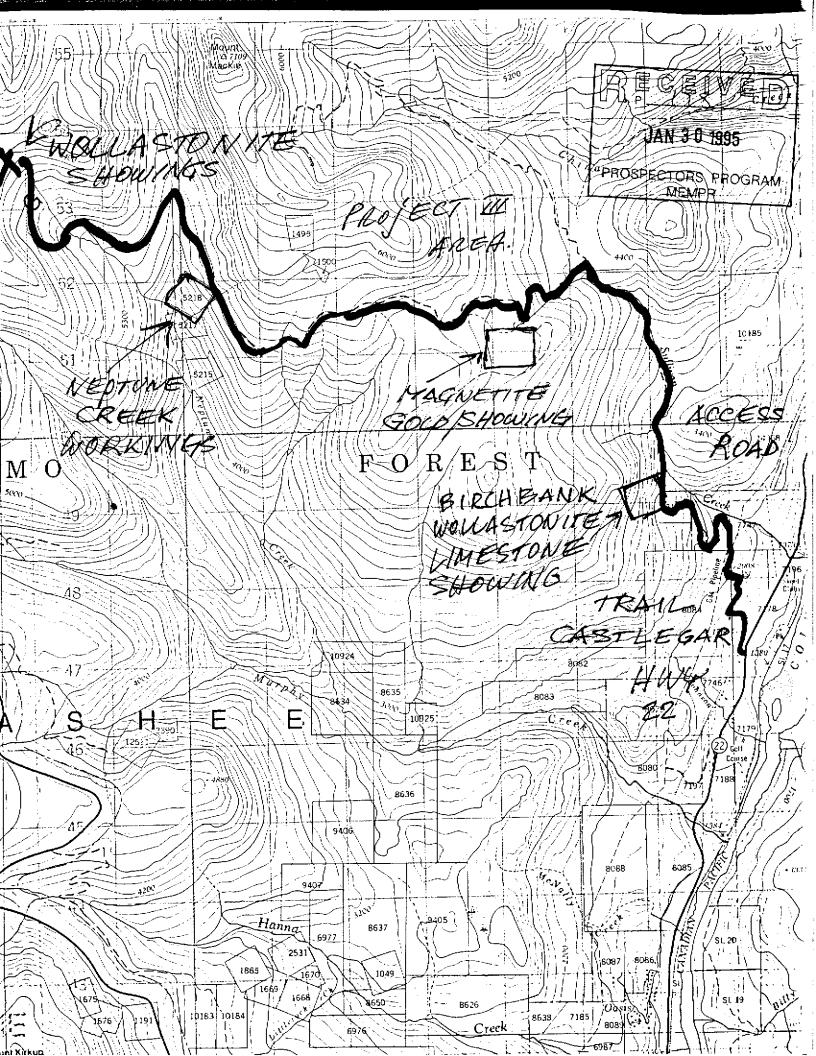


BRITISH COLUMBIA PROSPECTORS ASSISTANCE PROGRAM PROSPECTING REPORT FORM (continued) JAN 3 0 1995 B. TECHNICAL REPORT * One technical report to be completed for each project area * Refer to Program Requirements/Regulations, section 15, 16 and 17 * If work was performed on claims a copy of the applicable assessment report may be
submitted in lieu of the supporting data (see section 16) required with this TECHNICAL REPORT Name <u>HORST KLASSEN</u> Reference Number <u>94 95 P178</u> LOCATION/COMMODITIES Project Area (as listed in Part A.) <u>BIRCHBANK</u> Minfile No. if applicable Location of Project Area NTS <u>B2F4W</u> Lat <u>49°13'00"</u> Long <u>117°46'00"</u> Description of Location and Access <u>11.5 kM FROM TRAIL CASTLEGARHWY</u>
Main Commodities Searched For <u>MAGNETITE</u> GOLD Known Mineral Occurrences in Project Area <u>MAGNETITE</u> GOLD
WORK PERFORMED 1. Conventional Prospecting (area)
Description of mineralization, host rocks, anomalies

Supporting data must be submitted with this TECHNICAL REPORT.

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Prospecting Report

by Horst Klassen

for the Ministry of Mines Energy and Petroleum Resources

Birchbank Gold/Magnetite Prospect

NTS: 82 F 4 WLAT: $49^{\circ} 13^{\prime} 00^{\circ}$ LONG: $117^{\circ} 46^{\prime} 00^{\circ}$ DATE SUBMITTED:

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Property Location:

The Birchbank showing is approx. 11.5 km along the Neptune logging road which starts from the Castlegar-Trail highway at the Birchbank golf course.

Access:

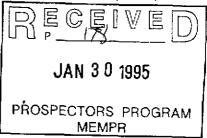
Following the logging road to kilometre 11.5 then take the spur road on the left hand side (heading south) for 750 m. The road although bumpy in places can be easily accessed by any truck. The spur road is getting to be over grown with alder, but it is still passable. The showing can be easily found along the spur road because of the rusty outcrop on the left side of the road.

History:

The area was prospected and evaluated and claimed by the old timers who were in search for gold and silver. There were many showings in the area, but none ever became a mine. The showing that had most of my interest had been looked at in 1989 by the Western Exploration Prop. Incorporated.

Work Performed:

Western Exploration registered an assessment report with the E.M.P.R. which showed one sample with gold values of 21,020 ppb (21.02 gm/ton) over a true width of 1.5 meters. I prospected 1



Birchbank Gold/Magnetite Prospect - Horst Klassen

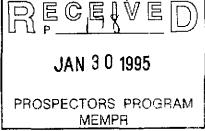
km along strike and the immediate areas of the showing. Samples were collected to try to verify the values of the assessment report. Two rock samples from the vein in the report were assayed and the results proved to be disappointing (Sample numbers 262 & 268) All the workings in the area were checked as well.

The extended area was also prospected. Old workings by the Neptune creek were found and prospected. One sample was taken from the dump in the area of the old Minnetonka mineral claim and was assayed (Sample #269). I also prospected the southeast ridge of Mount Mackie trying to locate some more old workings according to an old mineral titles map, but I could not locate any workings. I could not find any mineralization that caught my interest.

At the very end of the Neptune logging road on the north tributary of Murphy creek I found a very low grade wollastonite showing. It was a layer about .5 m wide and could not be traced due to the heavy amount of overburden in the area.

Conclusion:

Since the best assay result was only 5.46 gm/ton was too low to be of economic importance and also the magnetite mineralization was too small of a body to be mined. The sample from the Minnetonka was also disappointing and the Wollastonite occurrence is of too a grade to warrapt further exploration.



PROSPECTORS ASSISTANCE PROGRAM PROSPECTING REPORT FORM (continued)

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Name HORST KLASSEN Reference Number <u>94-95 P178</u>

LOCATION/COMMODITIES

Project Area (as listed in Part A.) <u>JACKSON BASIN</u> Minfile No. if applicable
Location of Project Area NTS <u>B2K3E</u> Lat <u>50°00'30"</u> Long <u>117°10'00"</u>
Description of Location and Access From THE WHITE WATER MINE ON
THE KASLONENDEWVER HWY FOLLOW THE JACKSON RASIN
ROAD FOR BUG TO THE OLD WORKING OF THE DACKSON WINE.

Main Commodities Searched For CILVER, ZINC, LEAD

Known Mineral Occurrences in Project Area MANY OLD PORMER PRODUCING MINES

WORK PERFORMED

1. Conventional Prospecting	(area)	010	JACKSON	MIANE.

2. Geological Mapping (hectares/scale)

3. Geochemical (type and no. of samples)

4. Geophysical (type and line km)_____

5. Physical Work (type and amount)_____

6. Drilling (no. holes, size, depth in m, total m)___

EXAMIME OLD MINE WORKINGS COLLECT SAMPLES 7. Other (specify)

SIGNIFICANT RESULTS (if any)

Commodities______Claim Name_____

Location (show on map) Lat _____ Long ____ Elevation _____

Best assay/sample type_____

Description of mineralization, host rocks, anomalies

KASLO SERIE BLACKSLATES - ARSILLITES

Supporting data must be submitted with this TECHNICAL REPORT.

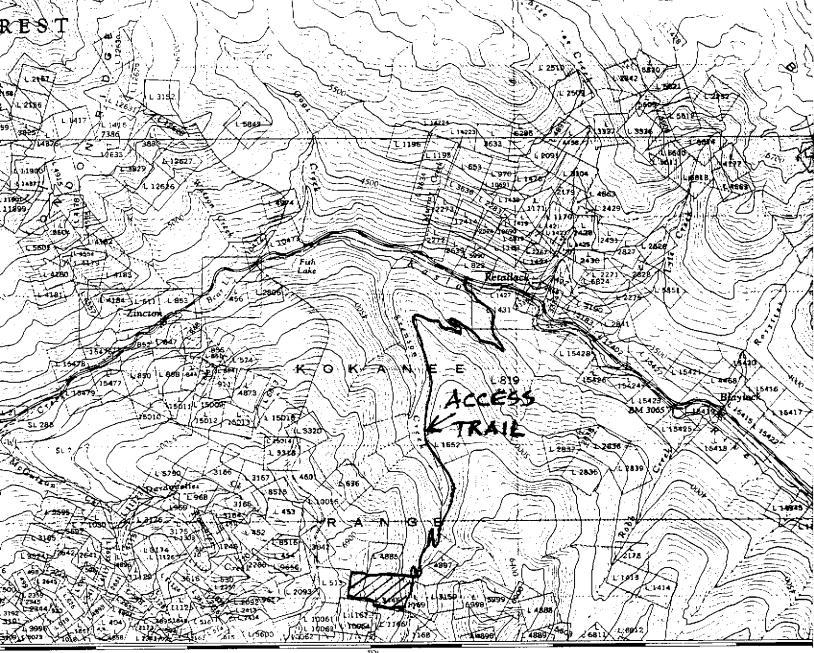
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JAN 3 0 1995

	ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAI(604)253-1716								
	ASBAY CERTIFICATE								
	Klassen ResourcesFile # 94-3162Page 1P.O. Box 172, Salimo BC VOG 120								
ľ	SAMPLE# Pb Zn Ag % % oz/t								
	$ \begin{array}{c ccccc} X & 0261 & - & - & 277.80 \\ X & 0263 & - & - & 21.44 \\ X & 0264 & - & - & 479.44 \\ X & 0265 & 22.96 & - & 28.91 \\ X & 0266 & 79.04 & - & 108.33 \end{array} $ JACKSON BASIN								
ļ	X 0267 - 45.95								
	1 GN SAMPLE LEACHED IN 75 ML AQUA - REGIA, DILUTE TO 250 ML, ANALYSIS BY ICP. - SAMPLE TYPE: ROCK <u>Samples beginning 'RE' are duplicate samples</u> DATE RECEIVED: SEP 12 1994 DATE REPORT MAILED: Sept 27/94 SIGNED BY								
	PROSPECTORS PROGRAM								

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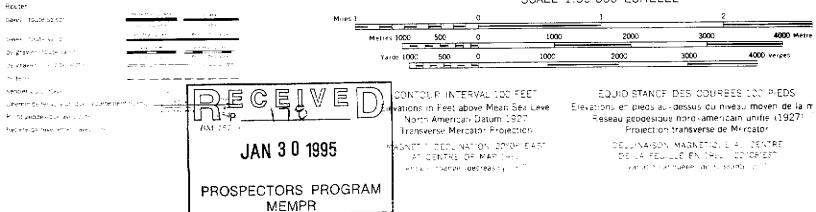
JACKSON BASIN CLAIMS SILVER 142

URVEYS AND MAPPING MINES AND TECHNICAL ographs taken in 1953.

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ROSEBERY KOOTENAY DISTRICT BRITISH COLUMBIA

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Prospecting Report

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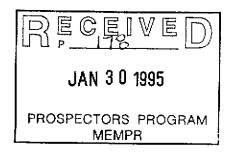
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by Horst Klassen

for the Ministry of Mines Energy and Petroleum Resources

Jackson Basin Silver Lead Zinc Prospect

NTS: **82K3E** LAT: 50°00'30" LONG: 117°10'00" OWNER OF CLAIM: Horst Klassen OPERATOR: Horst Klassen DATE SUBMITTED:



Dackson Sasin Ag Pb Zn Prospect - Horst Klassen Property Location:

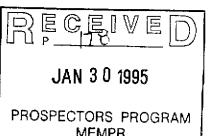
The Silver I & II mineral claims is located in the Jackson Basin Mining Camp morth east of Mount Reco which lies within the Slocan Mining District and is south of the Kaslo New Denver highway. The claims cover the part of the original Jackson Mine, including the most of the old workings.

Accessi

Access to the claim is via the mining road which starts at the old Whitewater mine along the Kaslo New Denver Highway. From the highway, the road must be followed for 8 km. The last 3 km are quite rough, but is still passable with a four-wheel drive truck.

History:

The Jackson Mine was in production in the early 1900's. Since then has been no further mining activity underground. The surface dumps were worked in the 1950's and a mill was built for purpose of resuming the underground mining but it was destroyed by several massive avalances. This poor planning led to the demise of the mine renewal venture at that time. In conversation with several miners who leased and worked a surface vein on the property in the 1960's I was told that they had examined the underground geology in one adit that was still accessable at the time. They said they seen a massive zine vein 1.25 m across and a galena vien 25 cm across beside the zine. This vien is also



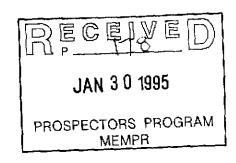
Jackson Basin Ag Pb Zn Prospect - Horst Klassen documented in an old mine plan that is located in the District Geologist's map file. There were large zinc present, but at the time the mine was operating, the zinc portion of the ore was discouraged by the smelter by assessing a penalty against it. Therefore, a large portion of the zinc ore could have been left in mine.

Work Performed:

A site visit was done by myself and a liscensed underground shiftboss to assess the old mine workings. Unfortuately he deemed that it was too risky to go underground at the point where a small opening would allow access. He recommended that at least one entrance be retimbered and a proper door installed before any underground exploration is done. We also examined all the surface workings. One vein 50 cm across, which is considerably leached and weathered, could be traced 10 m up an incline that was to steep to climb up. Three samples were collected, two of which were galena and one was zinc. The assays, which are included in this report, show that silver was quite high and the zinc sample was very high (45.95%).

Conclusions:

According to the old mine plan, there was over 700 m of tunneling and over 200 m of raises. But, only 2000 tonnes of ore was stoped out at one location. This leads me to the judgment that there could be much ore left within the mine. The Jackson Basin Ag Pb Zn Prospect - Horst Klassen encouraging assays combined with the history of the camp make future exploration of this property attractive.



REC. **BRITISH COLUMBIA PROSPECTORS ASSISTANCE PROGRAM** PROSPECTING REPORT FORM (continued) **JAN 3 0 1995**

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Name	HORST	KLASSEN	Reference Number	94-95	- P178	
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LOCATION/COMMODITIES

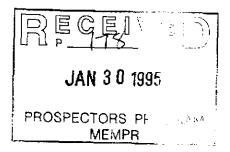
Project Area (as listed in Part A.) HIGHLAND	Minfile No. if applicable		
Location of Project Area NTS <u>B2F4W</u>	Lat <u>49° 08'00"</u> Long <u>117° 08'00</u> "		
Description of Location and Access VIA Local			
GRAVEL BIT (NEPINNE LOGGING	ED) FROM HWY 35 11KM		
NONTH OF LOSSLAN ON ALTER			

Main Commodities Searched For_ COPPER

Known Mineral Occurrences in Project Area COPPER, GOLD

WORK PERFORMED								
1. Conventional Prospecting (area)	1GHLAND	CLAMM						
2. Geological Mapping (hectares/scale)								
3. Geochemical (type and no. of samples)								
4. Geophysical (type and line km)								
5. Physical Work (type and amount)								
6. Drilling (no. holes, size, depth in m, total m)								
7. Other (specify)								
SIGNIFICANT RESULTS (if any)								
Commodities CORRER Location (show on map) Lat	Claim Name_	(ticitiano.						
Location (show on map) Lat	Long	Elevation						
Best assay/sample type								
Description of mineralization, host rocks, an	omalies	······································						
Supporting data must be submitted with this	TECHNICAL RE	EPORT.						

PROSPECTORS FROGRAM MEN



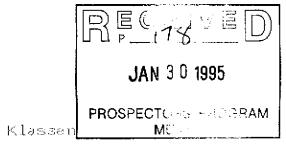
Prospecting Report

by Horst Klassen

for the Ministry of Mines Energy and Petroleum Resources

Kighland Copper Prospect

NTS: 82F4WLAT: $49^{2}0800''$ LONG: $117^{2}47'20''$ OWNER OF CLAIM: Horst Klassen OPERATOR: Horst Klassen DATE SUBMITTED: JAN - 27-95



Highland Copper Prospect - Horst Klassen

The Highland mineral claim is located appox. 10 km north of the city of Rossland and 1 km north of Hanna creek.

Access:

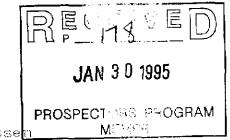
Access to the claim is via the logging road which starts at 11.5 km north of Rossland on highway 3b. An alternative approach is to take an old trail along Hanna creek from the village of Oasis.

Mistory:

The area was prospected and evaluated and claimed by the old timers who were in search for gold. An unpublished report from the early seventies states a five meter copper vein at 1.5% is located on the original Highland claim.

Work Performed:

A site visit located old trenches and two shallow shafts that are 1.5 m and 2.5 m in depth. The vein that was mentioned in the old report was located and then traced through surface outcrops for a length of 100 m. There is heavy sulphide mineralization visible in vein rock. The host rock of the area is the Mount Roberts formation. One km east of the outcrop the Nelson Batholith intrudes the rock. Also, the Violin Fault runs through the property according to the Rossland Geological map. Samples were collected, but have not been assayed yet.

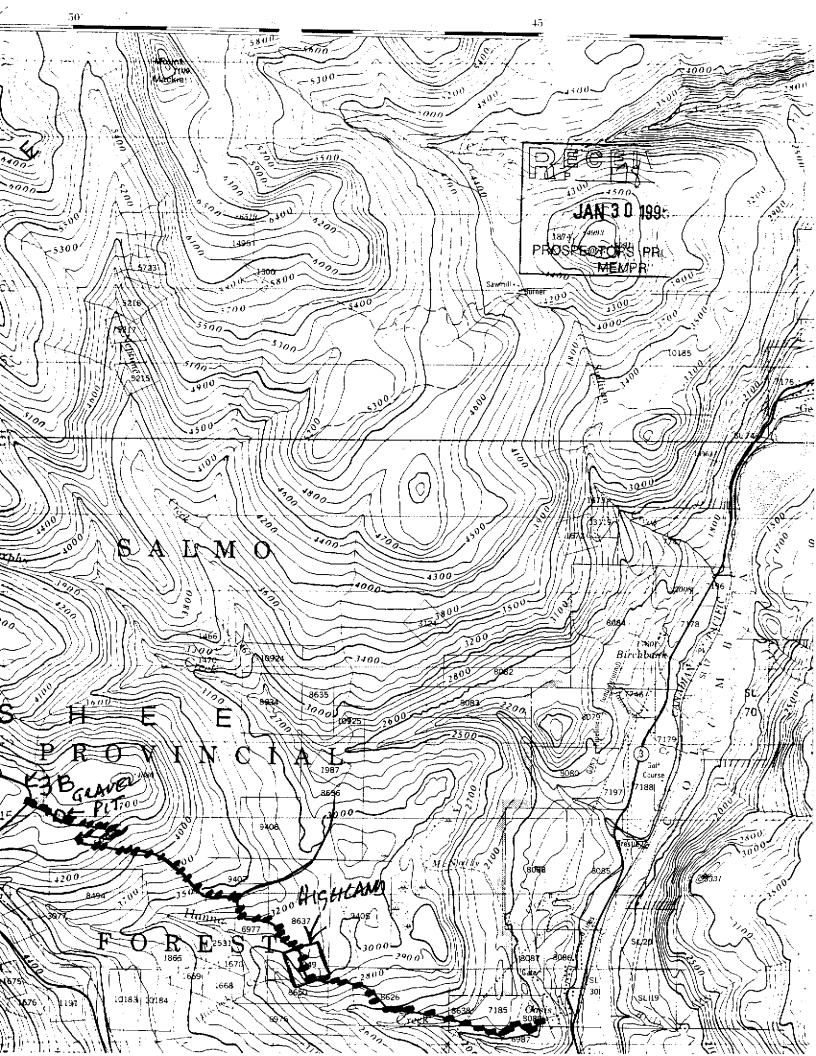


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Highland Copper Prospect - Horst Klassen Economic Evaluation:

Since only a small amount of field work was done it is difficult to reach a conclusion. However I feel that the property upon my inspection warrants further exploration. Justification for this is the recent discovery of the Katic copper porphyry deposit south of Salmo. This indicates the possibility of the existence of other similiar deposits in the region. Also, the surface expression and the vertical dip and the unpublished report suggest that there is a possibility of a stock work type deposit. There are plans to do a small geochem program to verify the lateral extent of the presence of copper.





BRITISH COLUMBIA PROSPECTORS ASSISTANCE PROGRAM PROSPECTING REPORT FORM (continued)

Reference Number <u>94-95 P178</u>

B. TECHNICAL REPORT

- One technical report to be completed for each project area

Refer to Program Requirements/Regulations, section 15, 16 and 17 If work was performed on claims a copy of the applicable assessment report may be ٠ submitted in lieu of the supporting data (see section 16) required with this TECHNICAL REPORT

HORST KLASSEN Name_

LOCATION/COMMODITIES
Project Area (as listed in Part A.) LONDON RIDGE Minfile No. if applicable
Location of Project Area NTS <u>B2K3E/W</u> Lat <u>50°03'00</u> Long <u>117°12'00</u>
Description of Location and Access THE PROPERTIES STRADDLE THE SUMMIT
PETHE LONDON 121DEE HEACCESS IS VIA A HINE ROAD
STARTING FROM FISH LAKE BETWEEKASLOAND NEWDENVER
OFF THE HICHWAY THE LENGHT IS ABOUT 7 KM ALSO ACCESS
Main Commodities Searched For CAN BE CHINED FROMKANE CREEK
ON THE WEST SIDE OF THE RIDGE VIA THE HEALISTELTINERD
Known Mineral Occurrences in Project Area DRY SILVENORE ANGENFITE
SOGRHANITE TETRAHEDRITE,

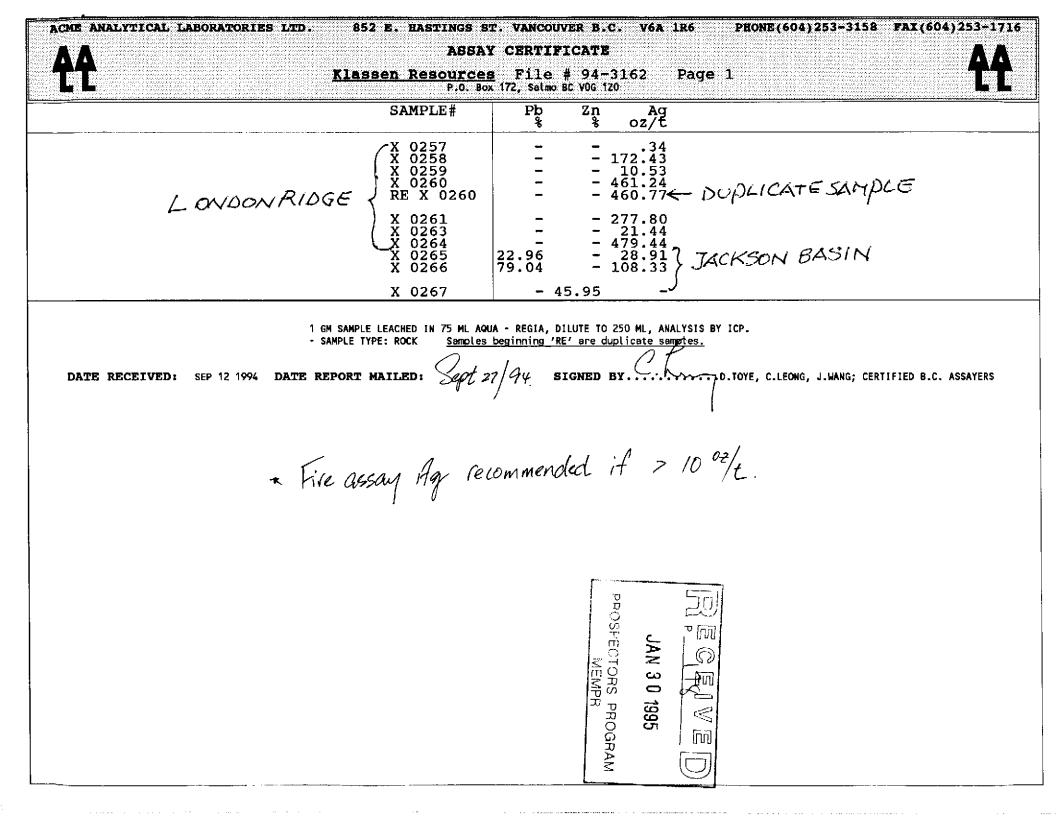
WORK PERF	ORMED
1. Convention	al Prospecting (area) LONDON RIDGE.
2. Geological	Mapping (hectares/scale)
3. Geochemic	al (type and no. of samples)
4. Geophysica	(type and line km)
5. Physical Wo	ork (type and amount)
6. Drilling (no	. holes, size, depth in m, total m)
7. Other (spec	ity) CouterTNS Storpies etterk inoen Show Working
SIGNIFICANT	RESULTS (if any)
Commodities	Server Claim Name PANAMA (SILVER 3)
Location (show	ServenClaim NamePANAMA (SILVER 3)on map) Lat50°03Long117'12'Elevation6500'
Best assay/sam	ple type SILVER 47902/ton
Description of	mineralization, host rocks, anomalies
······································	THE MINER MIZATION OCCURS IN
	QUARTZ LEINS AVERAGE Nº-24"
THE	OST ROCKS IS THE WASLO GENIES SLATE, SLATYAND ANGING
CEOUS S	EDIMENTS QUARTLITE DYKES VOLCAME INTRUSIONS.

Supporting data must be submitted with this TECHNICAL REPORT.

JAN 30 1995

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GPO	CHEMICAL ICP ANALYSIS
Klassen Reso	Durces File # 94-3906 Page 4
SAMPLE#	Te Ag** Au** Pt** Pd** ppm oz/t oz/t oz/t oz/t
X 0272 X 0273 X 0274 X 0275 X 0276	<pre><.1 1.98<.001<.001<.001 - 116.42 .004<.001<.001 - 132.38 .008 9.4 125.40 .003<.001<.001 - 61.96 .006</pre>
X 0280 X 0282 X 0283 X 0283 X 0284	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
ANALYSIS BY HYDRIDE ICP. GE - PARTIAL LEACHE	* BY FIRE ASSAY FROM 1 A.T. SAMPLE. BY ICP/GRAPHITE FURNACE.
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	JAN 30 1995 JAN 30 1995 MEMPR MEMPR



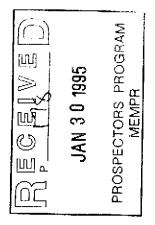
Klassen Resources FILE # 94-3906



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	Mo Cu Pb Zn	Fe As U Au Th % ppm ppm ppm ppm p		P La Cr Mg Ba Tî Al Na % ppm ppm % ppm % % %	a K W Zr Sn Y Nb Be Sc Au** Pt** Pd** K % ppm ppm ppm ppm ppm ppm ppm ppb ppb ppb
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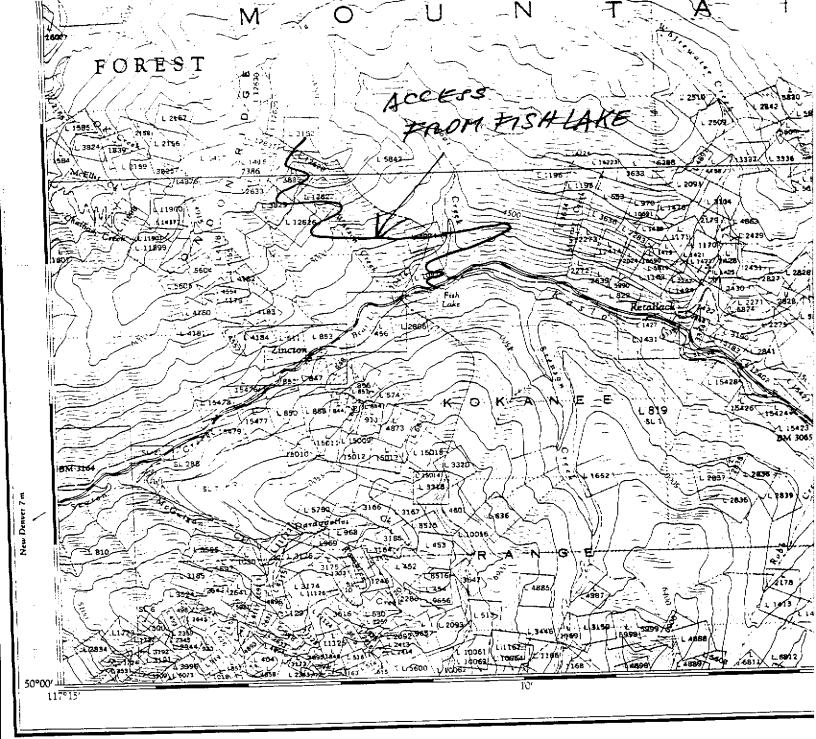
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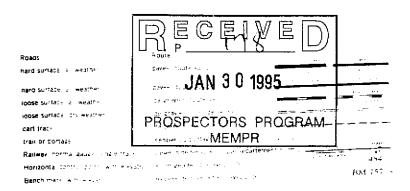
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AA	GEO	CHEMICAL	ICP ANALYS	JIS		AA
	Klassen Reso	urces Fi 2.0. Box 172, S	le # 94-39 almo BC VOG 120	06 Page	2	
	SAMPLE# As ppm	Sb ppm	Bi Ge ppm ppm	Se Te ppm ppm	Hg ppb	<u>Barren (1997)</u>
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- SAMPLE TYPE: ROCK DATE RECEIVED: OCT 28 1994 DATE	REPORT MAILED: A	lor 8/94	SIGNED BY	<u>C. h</u>	.D.TOYE, C.LEONG, J.WANG; CERT	IFIED B.C. ASSAYERS
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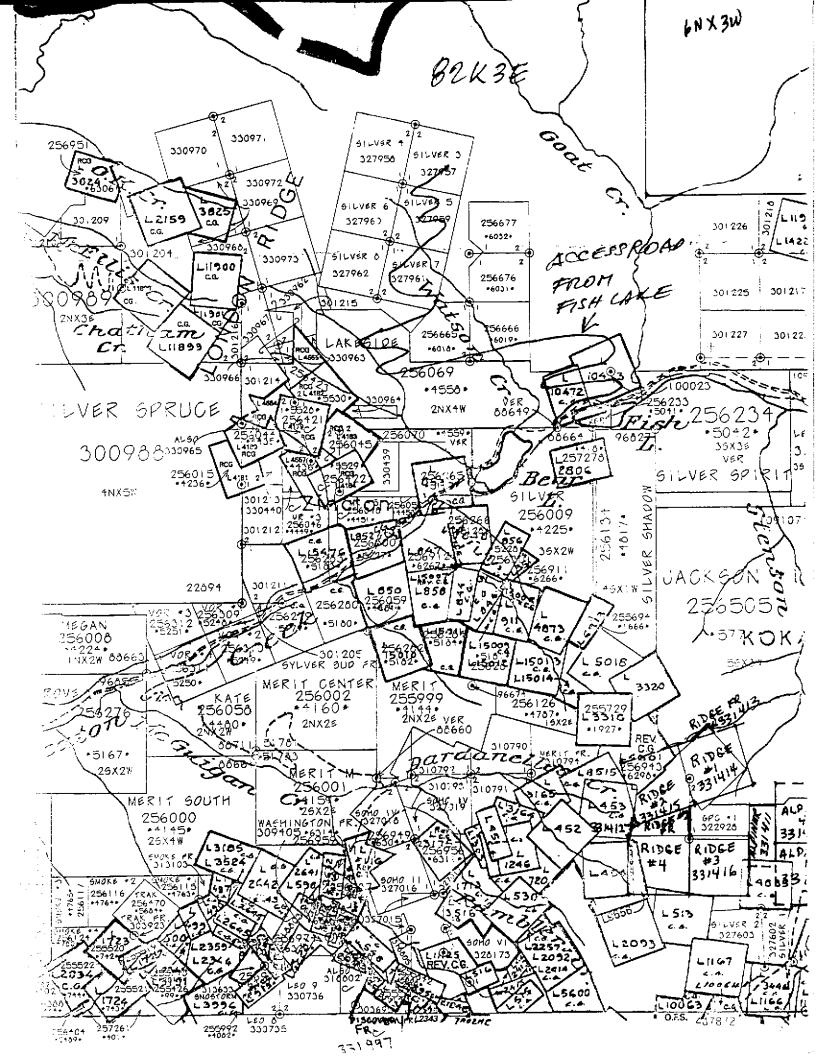
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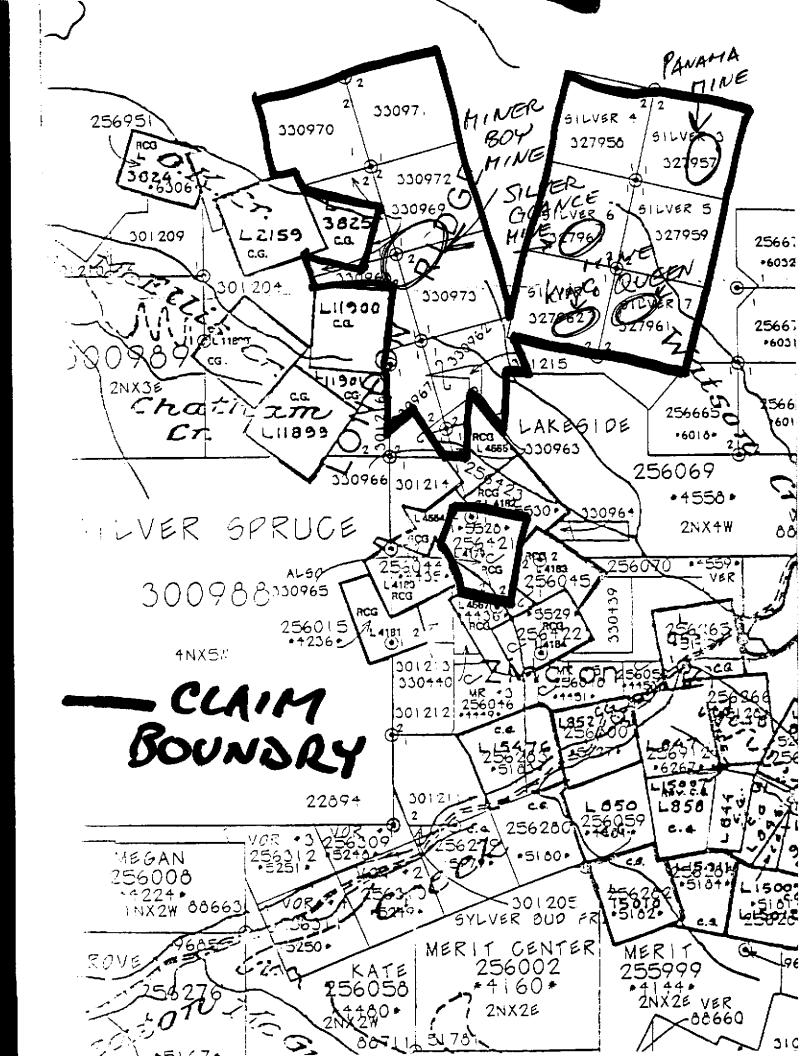


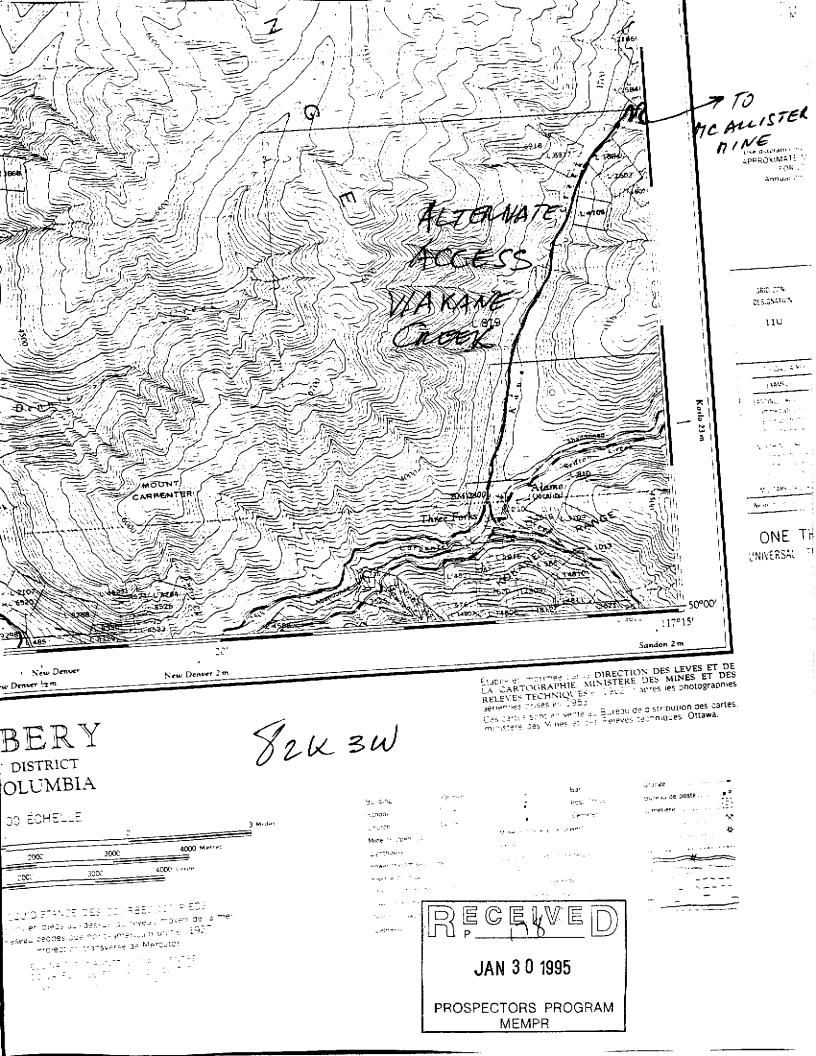
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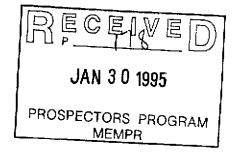
Prospecting Report

by Horst Klassen

for the Ministry of Mines Energy and Petroleum Resources

London Ridge Silver Prospect

NTS: **BZK3E** LAT: 50° 03' 00" LONG: 117' 12' 00" CLAIM NAMES: Silver 3 - 20 OWNER OF CLAIM: Horst Klassen OPERATOR: Horst Klassen DATE SUBMITTED:





JAN 30 1995

Nelson Wollastonite Showing - Horst Klassen PROSPECTORS PROGRAM

Property Location:

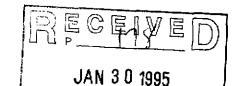
The Silver 3 - Silver 20 claims are located north of the Bear and Fish Lakes which are located on the summit of the Kaslo New Denver highway. Between the two lakes is the access road which climbs right to the top of the London Ridge. The claims straddle the ridge.

Access:

The access is 7 km along the mining road which led to the Panama Mine which was operated by the London Silver Corp. in the early 1980's. The Silver Glance Mine is also located along this road. The western extent of the claims must accessed via the Kane Creek and McAllister Mine road.

History:

Most of the claims cover some formerly producing silver mines. The names of these mines are: The London Hill, Silver Glance, Panama, Empress, and the Miner Boy. These mines have production records dating back to the late 1800's and early 1900's which is evidenced in the Annual Ministry of Mines Reports from those years. These claims lie within the world famous Slocan Mining Camp.



Nelson Wollastonite Showing - Horst Klassen^{PROSPECTORS} PROGRAM Work Performed:

Extensive ground/surface prospecting was done. One quartz vein was located that looks promising since the assay and the width of the vein are the same than some of the producing mines. Also, since there are relatively new workings in the Panama Mine which are accessible, the underground workings were explored by myself and a licensed shift boss. In his opinion it would only take about one week of preparation underground to get the mine back into production since the rails and some of the air lines are still intact.

Upon further research, I found that additional ground was available for staking towards the west which was part of the London Ridge Silver Corp.'s mining lease. I promptly staked these claims in the fall.

Many samples were sent away for assaying. I had some very favourable results - some were as high as 479.44 ounces Ag/ton. The historical trend for all the mines in the immediate area has been about 150 ounces/ton and this seems to hold true from the sampling that was done for the Panama Mine.

Conclusion:

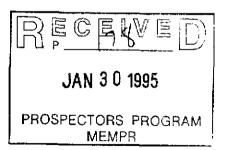
THIS GROUP OF CLAIMSHAS AVERY GOOD CHANCE DE BECOMING A MINE SINCE IT SHOWS VERY MIGH ASSAY VALUES. THE REHABILITATION OF THE WORKING SHOULD NOT COST MUCH SINCE THERE WAS PRODUCTION AS RECENTLY AS 1981 FIVE MINES IN THE GROUP HAVE PRODUCED AND SHIPPED ORE.

London Ridge Silver Group

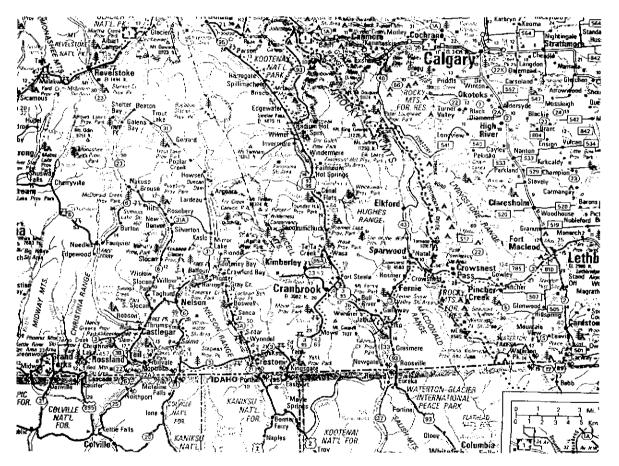
Klassen Resources

Horst Klassen P.O. Box 172 Salmo, B.C., Canada VOG 1ZO

Telephone: (604) 357 2514



Horst Klassen, the principal owner of Klassen Resources, has been prospecting in the Kootenay area for the last ten years. Although relatively new on the mining scene, Klassen Resources has accumulated some significant properties with industrial mineral potential. With the newly acquired London Ridge Silver Group, Klassen Resources now has a property with major potential to become an operating precious metals mine. Here are some general details of interest about this exciting property.



The properties are Located 432km (270 miles) air miles east of Vancouver. From the highway 31A between New Denver and Kaslo there is a 6.5 km access road which leads up to the heart of the properties where several mines are located. \Box

JAN 3 0 1995 PROSPECTORS PROGRAM MEMPR

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Located in the premiere silver area of British Columbia called the "Silvery Slocan" on the northern extension of the Kootenay Arc, the London Ridge Silver Group was first prospected and staked before the turn of the century. There are 18 2-post claims covering the area of interest. These claims cover old reverted crown grants and on the fringe cover existing crown grants. The following is a list of the old crown grants which are covered in various degrees by the existing claims called the Silver III to Silver XX:

Number	Claim Name
3152	Panama
12628	Booster
12629	Bourbon
1416	London
1417	Third of July
12633	Silver Glance Fraction
3829	Silver Glance
3830	Summit Queen
12626	King
12627	Queen
2158	Halton Chief
2157	Pay Rock
2165	О.К.
14376	Red Ruthite Fraction
4915	Miner Boy
14377	Tip Top Fraction
1478	Seattle
4179	Nonpareil

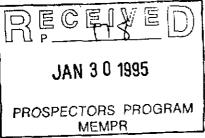
The package assembled is substantial in size and encompasses five formerly producing mines. Although production records are quite scanty due to poor record keeping, some production records were kept for various workings:

London Hill Mine	66	tons	0	161	οz.	Ag/ton
Silver Glance Mine	290	tons	0	146	oz.	Ag/ton
Panama Mine	373.5	tons	0	126	οz.	Ag/ton
Empress Mine	117	tons	0	245	oz.	Ag/ton
Miner Boy	21	tons	0	395	oz.	Ag/ton

RECEVED JAN 3 0 1995 PROSPECTORS PROGRAM MEMPR The ores from these mines are called "Dry Ores" because there is a negligible galena and sphalerite that are normally associated with the silver ores. Dry ore consists of Argentite which is 83% silver, Stephanite which 63% silver, Ruby Silver, Native Silver, Enargite, and Tetrahedrite. These dry ores can be very rich, in one old mining report one sample kicked at \$15,000/ton when silver was only worth \$1.00/oz.!

The host rocks are the Slocan series slates with various granodiorite and quartz porphyry intrusions. The quartz veins run quite consistently, with modern mining methods the veins could be successfully mined. All the former mines were worked on with hand steels except the Panama which was mined during the early 1980's. (Samples taken from Panama mine and its ore dumps are in the appendix.) At that time, \$600,000 was spent on access roads and surface workings, which are still an asset to the properties now. Also, several new veins have been found by the writer of this report, and these all look promising. The possibility of achieving ore reserves for the properties in the hundreds of thousands of tons at an average grade of 100 oz. Ag/ton is very possible.

Also included in the appendix are the minfile reports for the Panama, Halton Chief, London Hill Mine, Empress Mine, and the Silver Glance which list commodities of silver, copper, lead, zinc, and even gold for some of the properties. Also, Information about the individual mines can be found in the "Annual Ministry of Mines Reports."

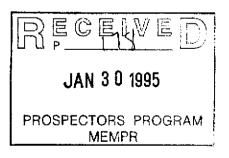


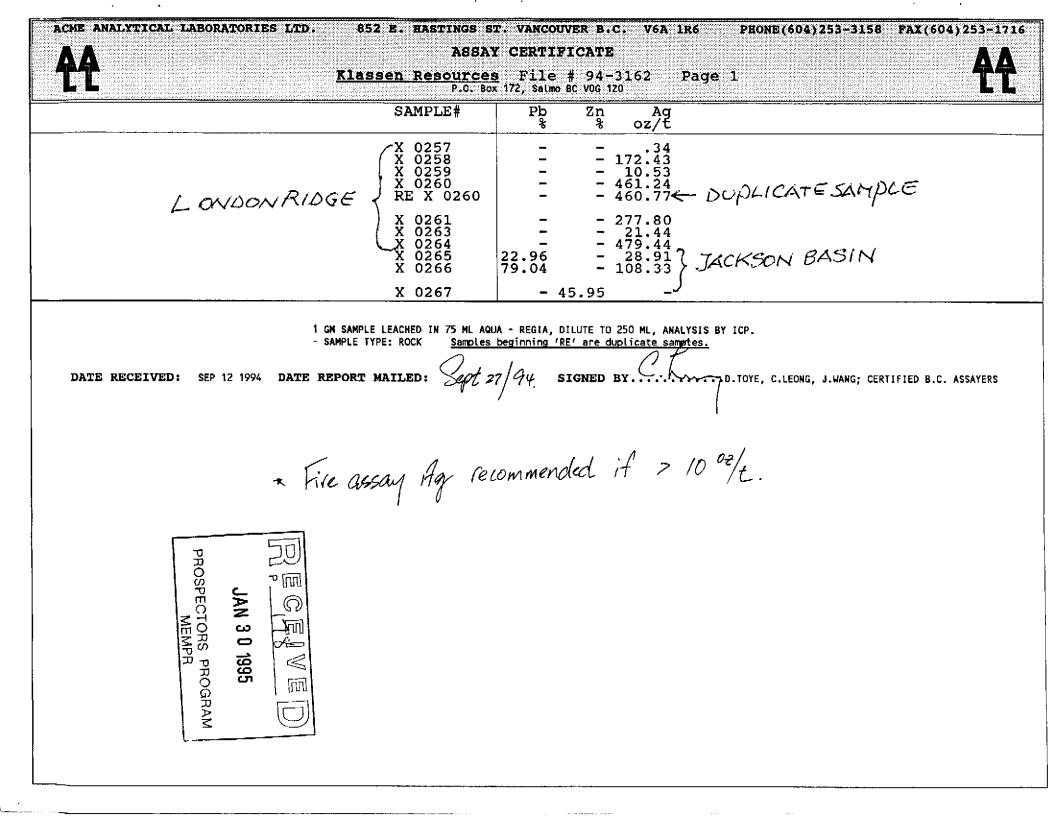
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The London Ridge Silver Group is a very attractive parcel of claims which have much potential for future development. With the right group of investors, the possibilites for actual production can be a reality in a very short time. If you have any questions or wish to express interest in the London Ridge Silver Group, please do no hesitate to contact us at (604) 357 2514.

Horst Klassen

Klassen Resources, Principal Owner





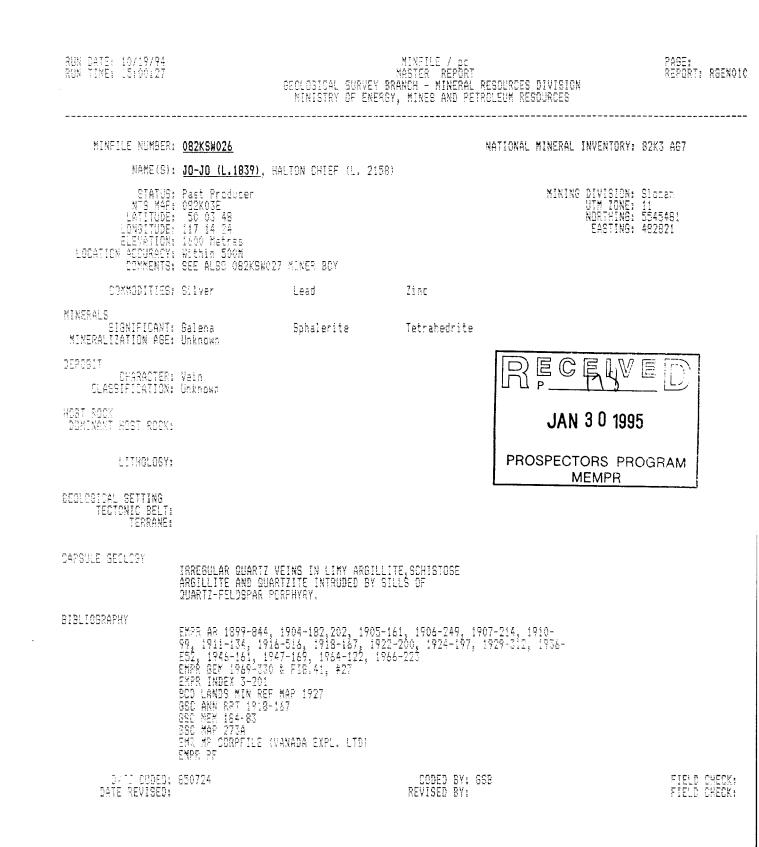
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KINFILE NUMBER:			Ń	ATIONAL MINERAL INVE	NTORY: 52K3 AB9
STATUS: NTS MAP: LATITUDE: LONGITUDE: ELEVATION COPATION ACCURACY:	50 03 42 117 12 24 2000 Metres	(L,5843-47)		UTK Nor	ISION: Slocan ZONE: 11 THING: 5545288 STING: 485207
COMMODITIES:	Silver	Copper	Lead	Zinc	Gold
MINERALS SIGNIFICANT: MINERALIZATION AGE:	Tetrahedrite Unknown	Silver	Ruby Silver	Salena	Sphalerite
DEPOSIT CHARACTER: CLASSIFICATION:	Unknown Unknown				
HOST ROCK DOMINANT HOST ROCK:					
LITHOLOGY:				RE	CEWED
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515LIOGRAPHY	EXPR AR 1897-846, 1 1913-124,420, 1914- 125, 1920-127,144, 1968-251 EMPR GEM 1967-331, EMPR EXPL 1978-864 EMPR INDEX 3-208 GENL #121,1979	1909-106,272, 1910-97 -286,509, 1915-119,44 , 1926-265, 1950-143, 1970-457, 1974-82	,243, 1911-132,2 5, 1916-196,516, 1961-76, 1964-1	34, 1912-322, 1917-186, 1919 22, 1965-189,	
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MINFILE NUMBER:	082KSW116			NATIONAL MINERAL INVENTORY: 8	2KT AC11
NAME(S):	EMPRESS, KING, 23	EEN			
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COMMODITIES:	Silver	Gold	Lead		
MINERALS	Tetrahedrite	Argentite	Galena	Sphalerite	
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DEPOSIT CHARACTER: CLASSIFICATION: HOST ROCK DOMINANT HOST ROCK: LITHOLOGY:				R ⊑ Ç Ey V E [JAN 3 0 1995	\bigcirc
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BIBLIOGRAPHY	EMPR AR 1900-963, 1907-96,213, 1908- 650 MEN 184-228 650 MAP 273A 650 DPEN FILE 288-	1901-1025, 1904- 94,246, 1909-106			
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MINFILE NUMBER:	082KSW115 NAT	IONAL MINERAL INVENTORY: 821	(3 AE10	
NAME(S):	LONDON HILL (L.141661)			
NTS MAP: LATITUDE: LONGITUDE: ELEVATION: CATION ACCURACY:	50 03 42 117 12 54 1372 Metres	MINING DIVISION: SI UTM ZONE: 11 NORTHING: 55 EASTING: 434	15290	
CONKODITIES:	Silver			
MINERALS SIGNIFICANT: KINERALIZATION AGE:	Tetrahedrite Unknown			5
DEPOSIT CHARACTER: CLASSIFICATION:	Vain Unknown	RECEN		
HOST ROCK DOMINANT HOST ROCK:		JAN 3 0 199	95	
LITHOLOGY:		PROSPECTORS PR MEMPR	ROGRAN	Л
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BIBLIOGRAPHY

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EMPR AR 1894-737, 1896-37,49,66, 1897-572,574, 1901-1025, 1912-322, 1915-473, 1950-143, 1961-76, 1964-122 EMPR INDEX 3-203 GSC OPEN FILE 288-265, 464-265 GSC MEM 184-66

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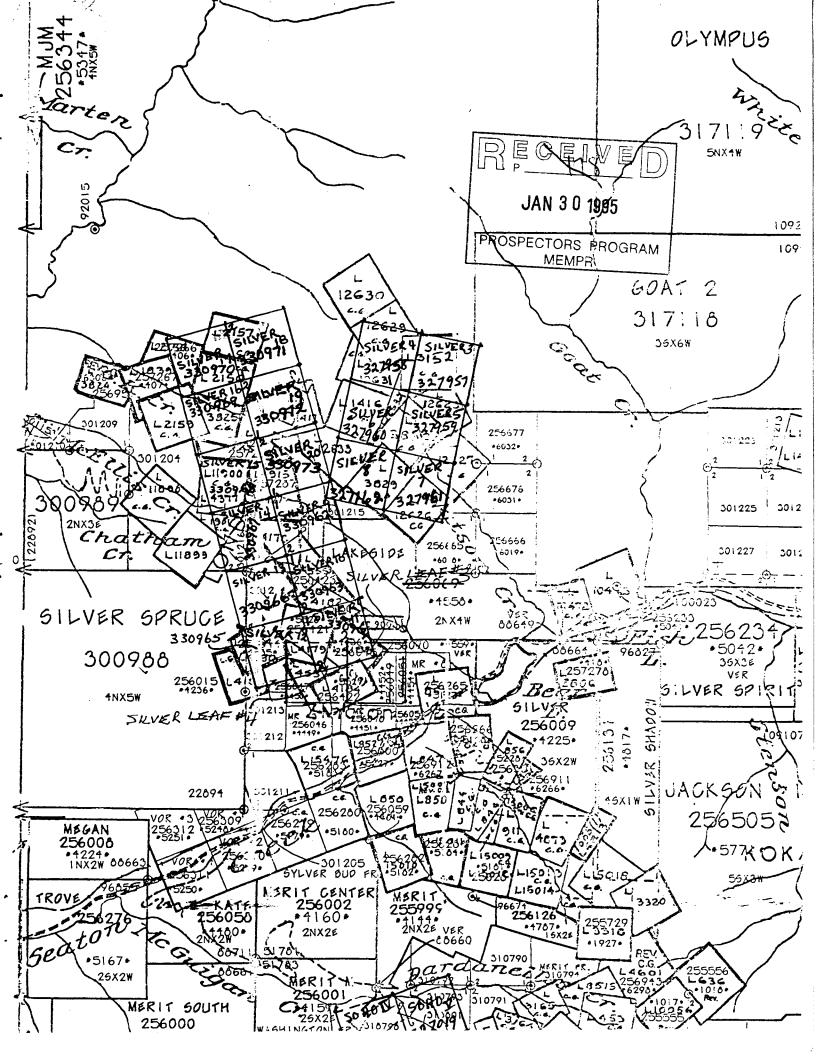
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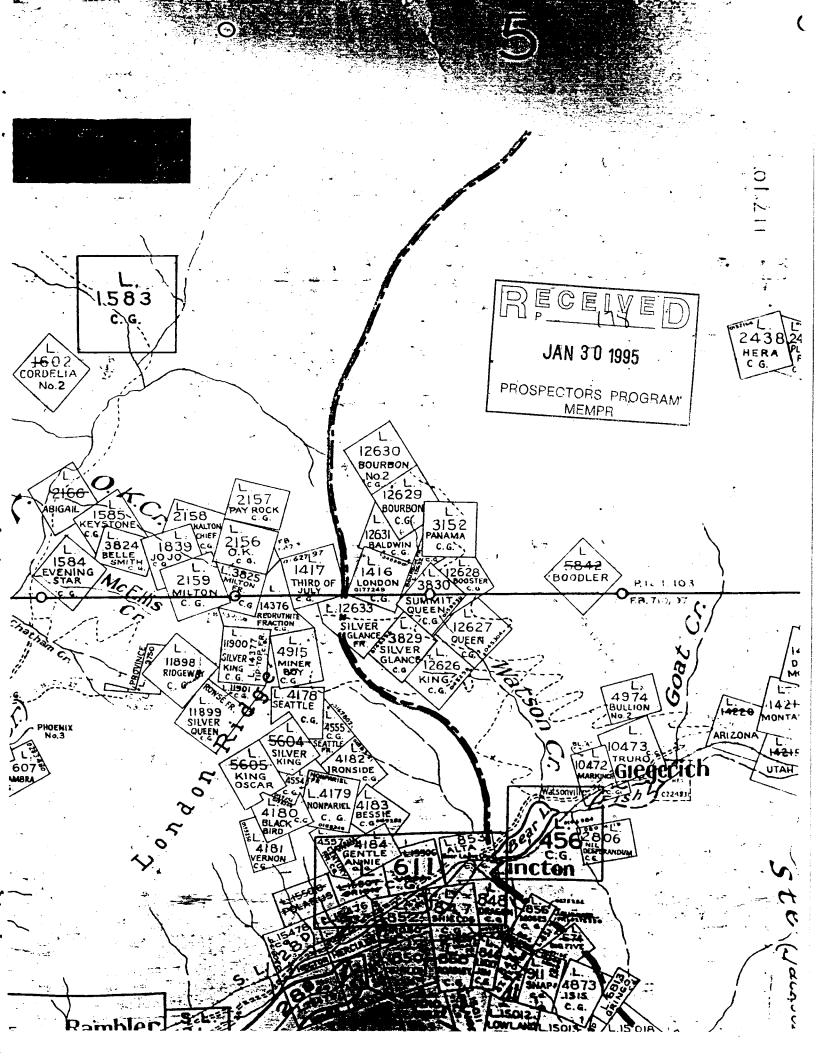
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MINFILE / pc MASTER REPORT GEDLOGICAL SURVEY BRANCH - MINERAL RESOURCES DIVISION MINISTRY OF ENERGY, MINES AND FETROLEUM RESOURCES

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MINFILE NUMBER:	<u>082KSW028</u>			NATIONAL MINERAL INVE	NTORY: 82K3 AB12
NAME(S):	SILVER GLANCE (L.3829)			
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CONNEDITIES:	Silver	Copper	Lead	Zinc	Gold
MINERALS SIGNIFICANT: MINERALIZATION AGE:		Tetrahedrite	Argentite	Stephanite	Pyrita
DEPOSIT CHARACTER: CLASSIFICATION:	Unknown Unknown				
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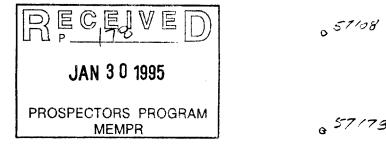
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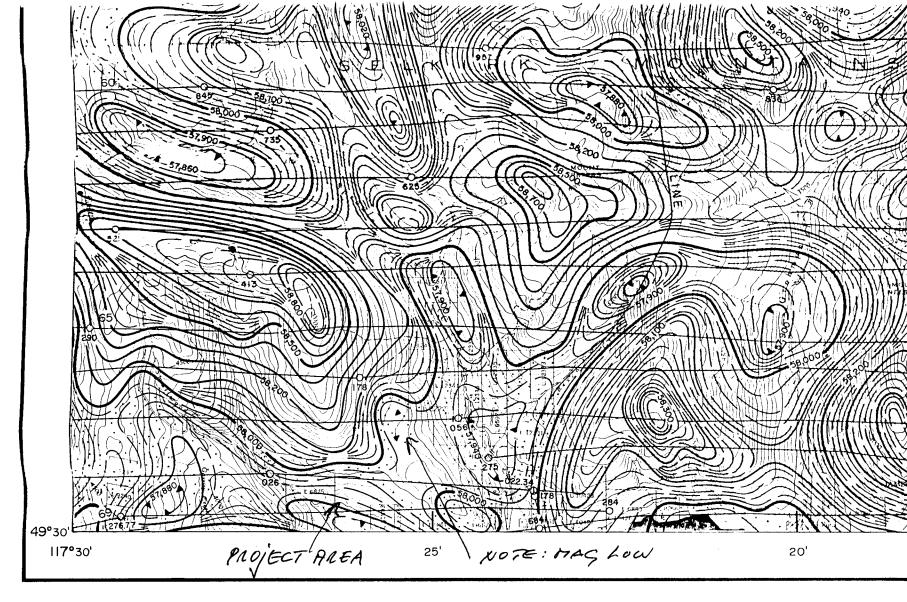
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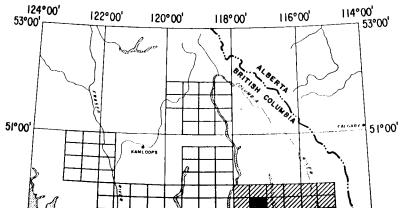


PROJECT I

NELSON WOULDSTONITE.

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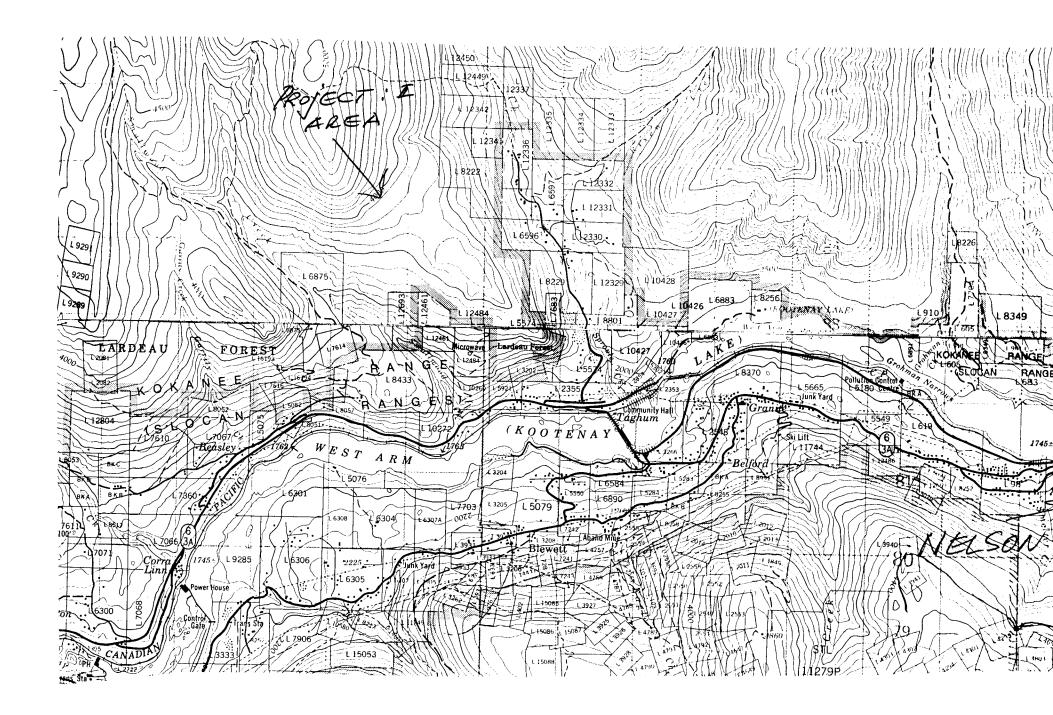


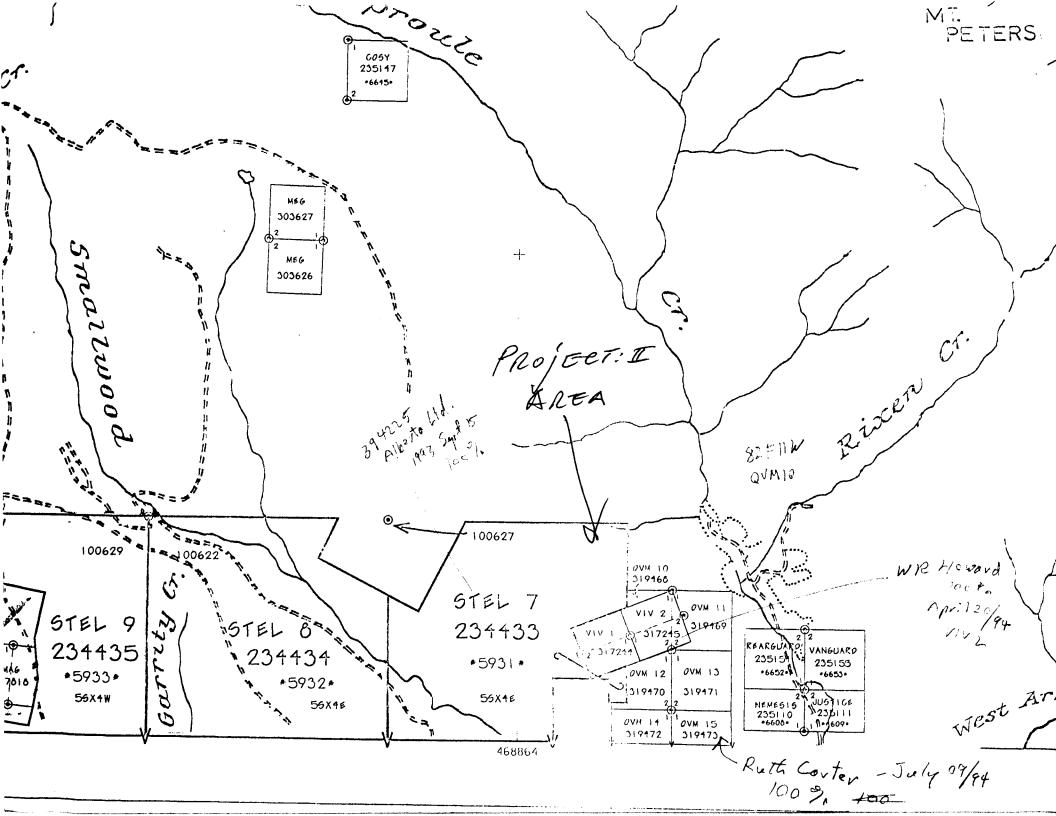


PROJECT: I

ISOMAGNETIC LINES (absolute total field)

100 gammas	
20 gammas	~~~
10 gammas	
Magnetic depression	ي الم المحكم
Flight lines	15 687



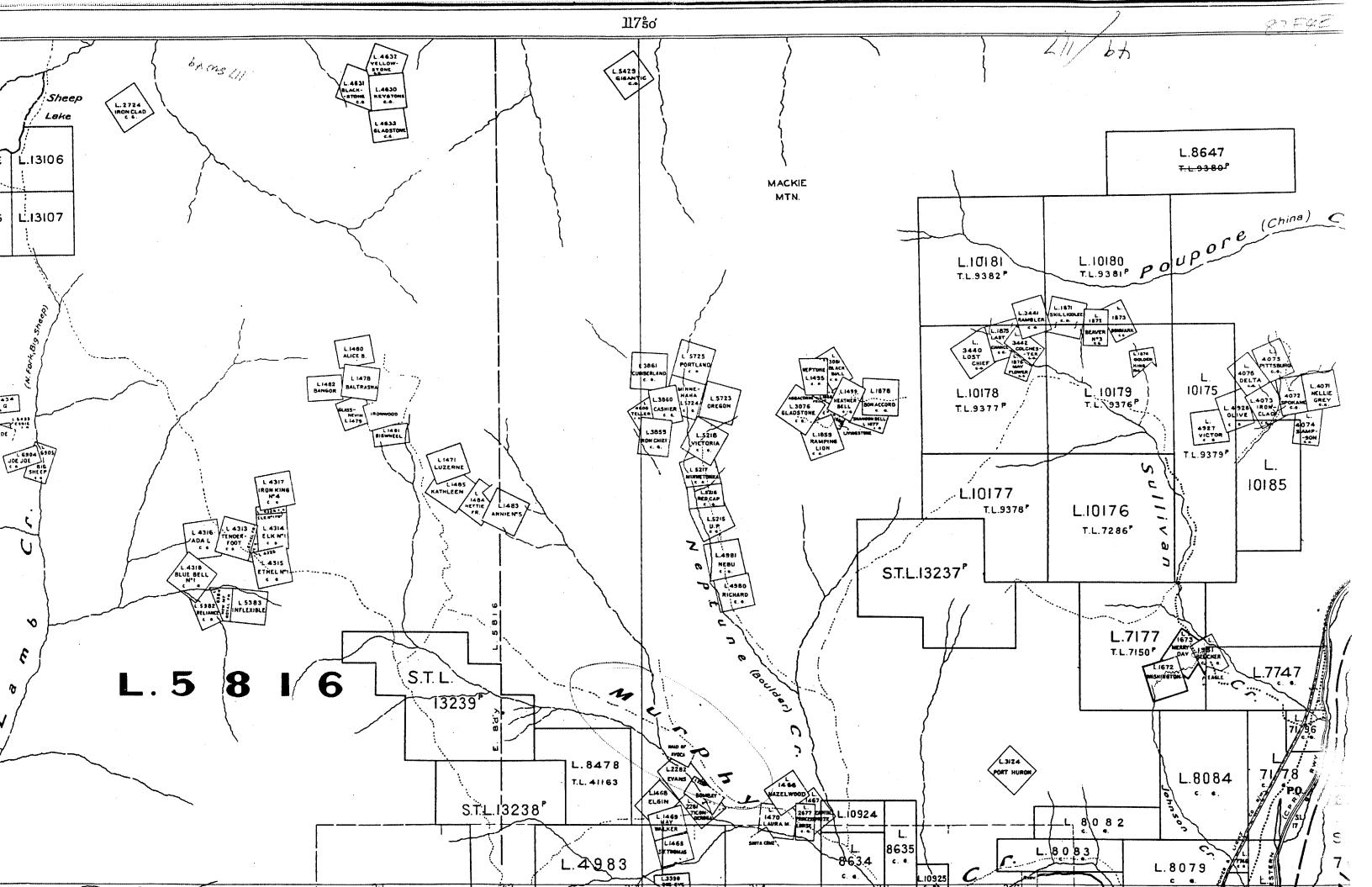


PROJECT III MT. LORD ROBERTS

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P178



GEOPHYSICAL -

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The Pearl grid VLF – EM results show two relatively weak anomalous zones, one centered on L 0 + 50 W at 2 + 75 N, and the other centered on L 3 + 00 W at 1 + 25 N. As these anomalies are neither continuous or linear in nature, they do not appear to represent a potential target.

The Lord Roberts grid VLF - EM results show a strong linear anomalous trend striking almost true east-west. Although the anomaly seems to peak in the centre of the grid, it is open ended to both the east and west. The fact that a possible geological contact between the Nelson Plutonics and the Mt. Roberts Formation (H.W. Little, 1963), and the known occurrences of massive sulfides, both follow this trend, should prove that the anomalous trend shows a continuation of the geological contact and/or the massive sulfides.

GEOCHEMICAL RESULTS -

A total of 11 rock chip and grab samples were taken from the trenches of the Lord Roberts showing. Detailed descriptions are listed in appendix B, and assay results are listed in appendix C.

Samples 1 thru 5 were chip samples taken from trench A, the most easterly. Of the five, samples 1 and 3 have the most positive results. Sample 1, taken over a true width of 2 metres across foliation, assayed 3,060 ppb (3.0 g/mt) gold, 254.9 ppm

(254.9 g/mt) silver, 7,535 ppm (0.75 %) lead, and 11,733 ppm (1.17 %) zinc. Sample 3, taken over a true width of 1.5 metres across foliation, assayed 21,020 ppb (21.0 g/mt) gold, 11.7 ppm (11.7 g/mt) silver, and 2932 ppm (0.29 %) copper.

Sample 6 was another chip sample taken from a quartzite outcrop 15 metres southwest of trench A. It was taken over one metre and assayed 2650 ppb (2.65 g/mt) gold.

Samples GS 001 thru 004 and GW 001 are grab samples taken from the other trenches of the Lord Roberts showing. One of the grab samples, GS 002, assayed 260 ppb (0.26 g/mt) gold and 2579 ppm (0.25 %) copper. Another grab sample, GS 003, assayed 36.65 % iron.

CONCLUSIONS

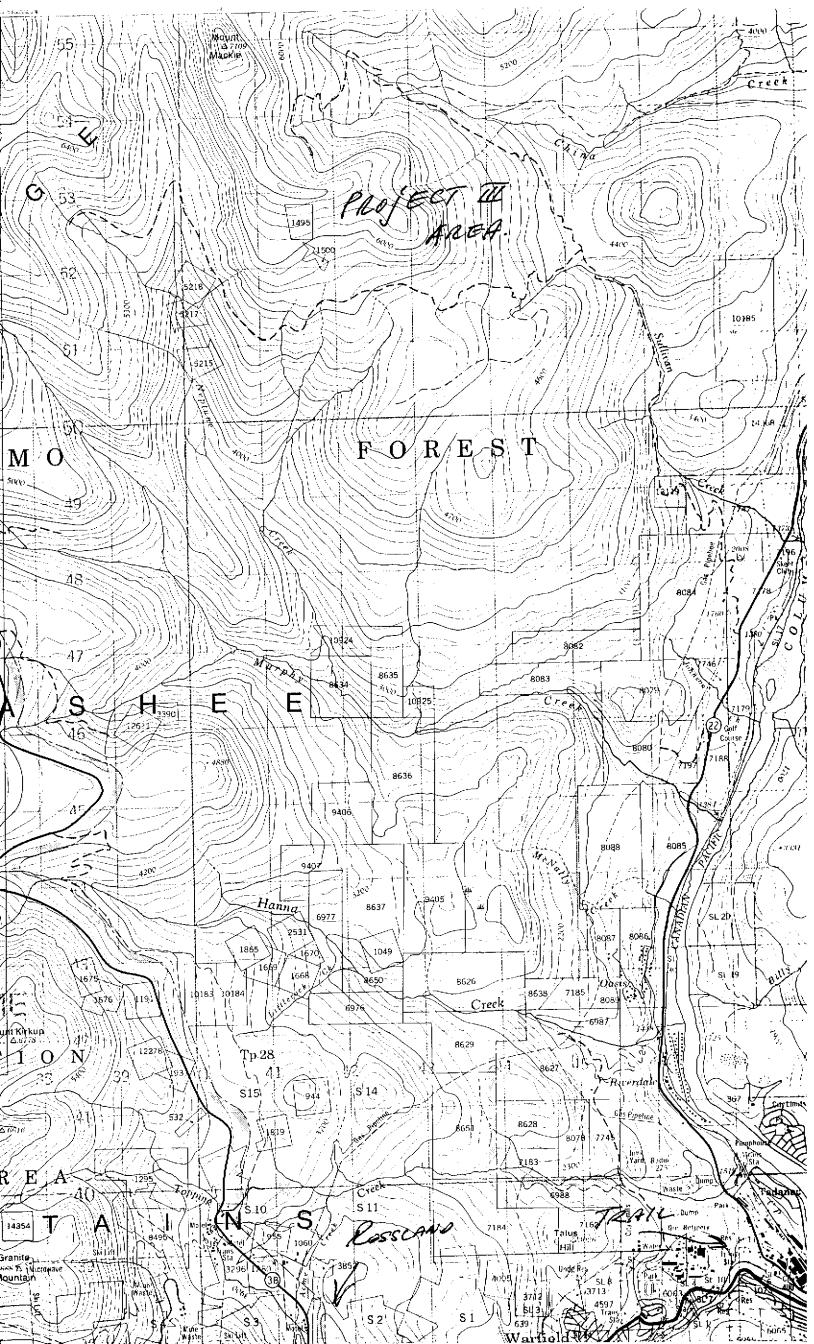
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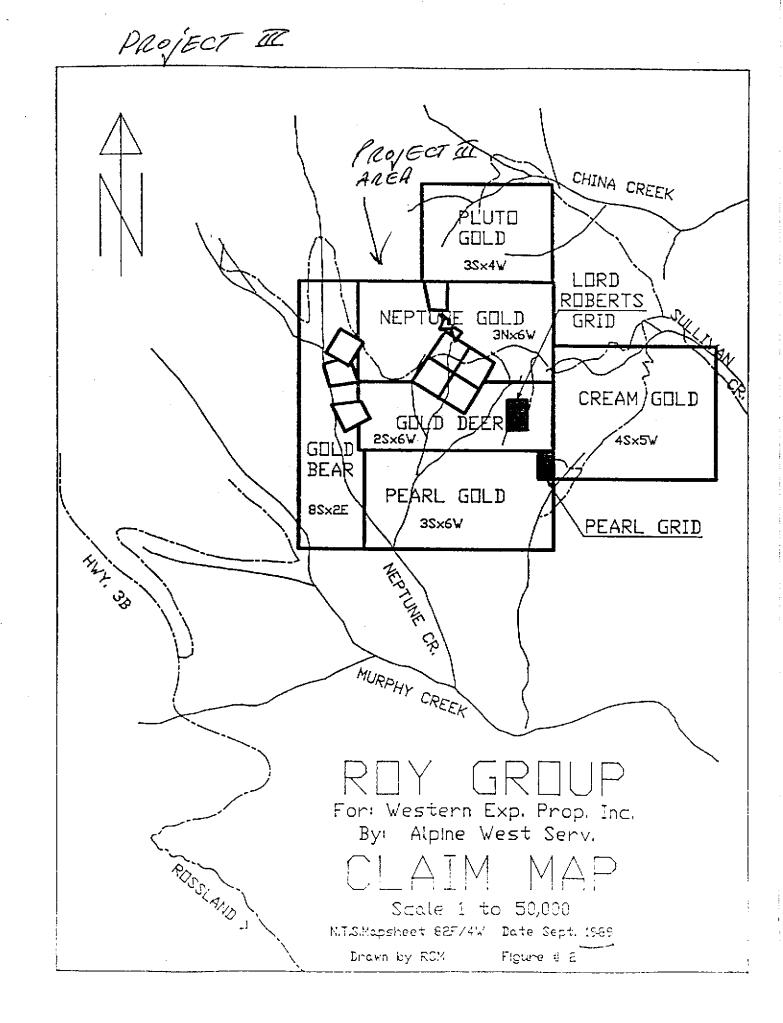
The Lord Roberts showing appears to be a body of magnetite that is associated with the contact between the Nelson plutonics and the Mt. Roberts formation. According to the B.C.M.M.A.R. of 1922, the ore deposition seems to be a result of contact metamorphism, a statement that is backed up by the presence of epidote, garnet, and hornblende. The showing has a number of phases of mineralization containing various percentages of pyrite, pyrrhotite, and traces of chalcopyrite and malachite all disseminated within the massive magnetite.

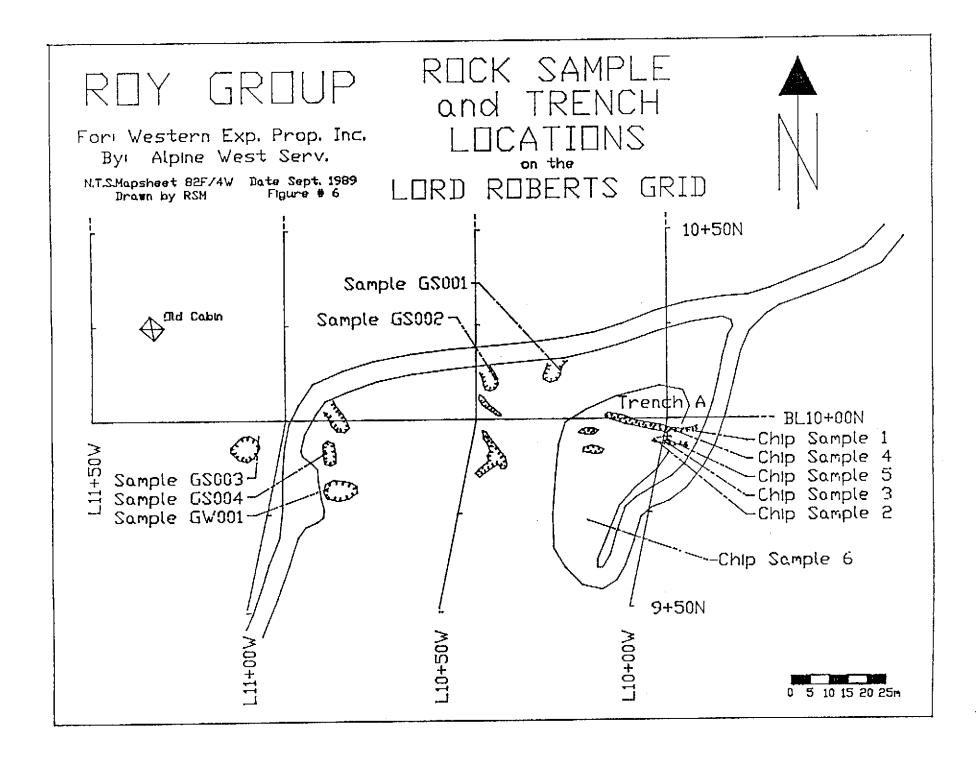
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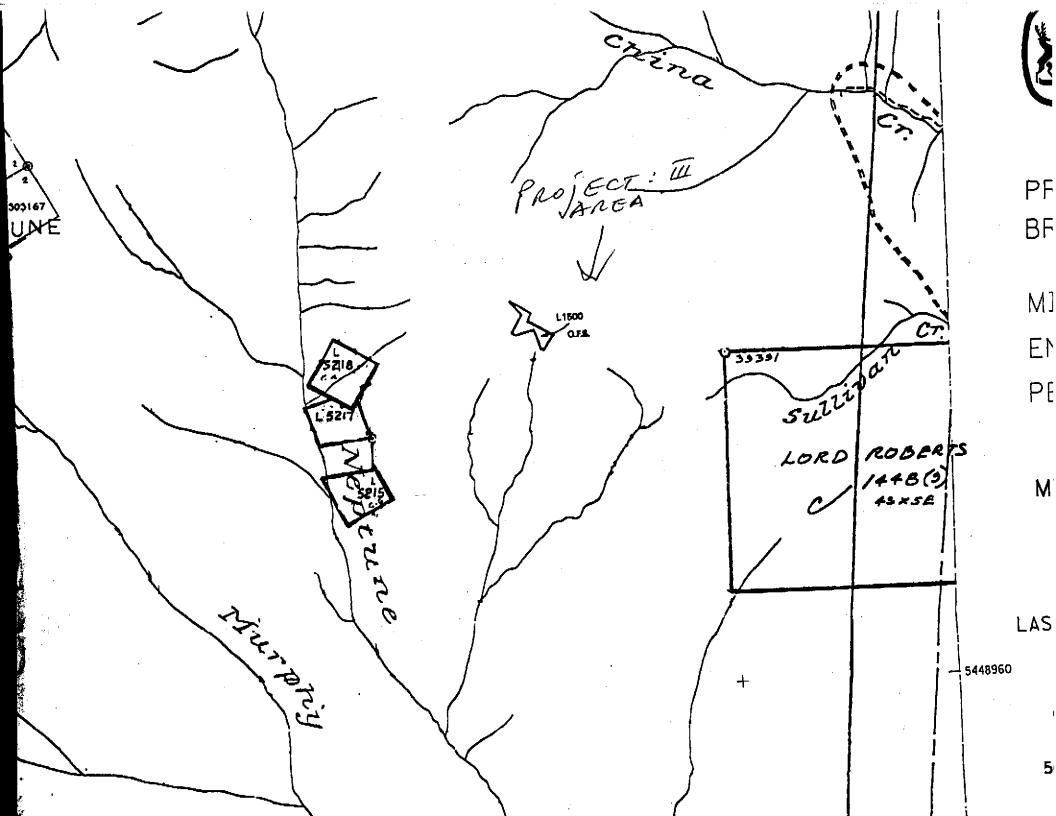
CRS 001 Trench A Channel Taken over 2.5 metres with a true width of 2 metres across foliation. Quartzitic with massive magnetite occurring in bands up to 20 cm wide. 65 % magnetite with 5 - 10 % visible pyrite, pyrrotite throughout. Traces of chalcopyrite, malachite, galena disseminated within magnetite bands.

- CRS 002 Trench A Channel Taken over 1 metre with true width of 1 metre across foliation. Very incompetent (sandy) but 80 % massive magnetite, 10 % visible pyrite, pyrrotite, chalcopyrite.
- CRS 003 Trench A Channel Taken over 1.5 metres with a true width of 1.5 metres across foliation. Similar to CRS 001, but pyrite, pyrrotite also occurs in massive clusters within magnetite bands.
- CRS 004 Trench A Channel Taken over 1 metre with a true width of 0.2 metres across foliation. Similar to CRS 001.









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PROJECT: I

SILENCE LAKE WOLLASTONITE.



grade (Andrews, 1989). Aspect ratios of the raw feed and the final concentrate are shown in Table 7, they are essentially the same, while brightness and lightness increased slightly in the concentrate. Distribution of aspect ratios is illustrated by Figure 8.

PREVIOUS WORK

Previous exploration in this area west of Okanagan Lake has concentrated on precious metal bearing quartz veins. One quartz vein (White Elephant mine), lying 1 kilometre northwest of the wollastonite zone, was mined sporadically in the 1920s and 1950s for gold and silver. Exploration of the wollastonite zone is limited to some mapping and sampling by R. Hallisey (1963) and G. White (1989).

JAMES LAKE	NTS 82E/14W
MINFILE No. 082ENW050	Latitude 49°57'27"
Map No. W4	Longitude 119°15'14"

LOCATION

This occurrence is situated 300 metres west of James Lake, some 18 kilometres northeast of Kelowna.

GEOLOGY

Flat-lying banded calcsilicate skarn is exposed for 340 metres along a northwest-trending road-cut (Z.D. Hora, 1989, personal communication; Yorke-Hardy, 1988). The deposit is overlain and underlain by gneissic rocks of the Okanagan gneiss complex. The skarn is comprised mostly of red, brown and green garnet, occasionally with fine-grained wollastonite and diopside.

Pyrite and chalcopyrite are sometimes evident within the skarn; the enclosing gneiss is pyritic in a few instances. Calcsilicate skarn also outcrops over a distance of 140 metres along a road-cut 680 metres southwest of the main exposure.

PREVIOUS WORK

This occurrence was sampled for precious and base metals in 1988 by prospectors W.D. Yorke-Hardy, R.G. Irving and J.H. Wright of Kelowna. It has yet to be evaluated for its wollastonite potential.

NORTH THOMPSON

SILENCE LAKE MINE	NTS 82M/13E
MINFILE No. 082M 123	Latitude 51°50'00"
Map No. W5	Longitude 119°41'30"

LOCATION

The Silence Lake mine worked for tungsten during the period 1981-1982 is located 4 kilometres north of Silence Lake, 32 kilometres northeast of Clearwater. The open pit lies on the west side of Maxwell Creek, 3.5 kilometres northeast of its confluence with the Raft River.

GEOLOGY

The following description is summarized from White, (1989). The area immediately north of Silence Lake is underlain by northeastward-trending roof pendants in a granitic stock probably related to the Cretaceous Raft batholith, 14 kilometres to the south. The stock intrudes northwest-dipping metasediments of the Shuswap metamorphic complex (Monashee gneiss), that have been isoclinally folded and regionally metamorphosed to amphibolite facies.

The pendants are locally comprised of calcareous to noncalcareous biotite schist, biotite quartzite and skarn (Figure 9). The schist is medium grained, brown to grey in colour and comprised of 40 to 50 per cent quartz, 20 per cent feldspar and 20 per cent biotite. A well-developed foliation strikes northeast. The schistose rocks are commonly intercalated with massive, grey, mediumgrained biotite quartzite. In the vicinity of the open pit two northeast-trending metasedimentary screens, the 'upper band' to the west and the 'lower band' to the east, are engulfed in medium-grained, equigranular, orangebrown-weathering biotite quartz monzonite and minor leucocratic quartz monzonite, granodiorite, quartz diorite and pegmatite. The intrusive lithologies outcrop more extensively south of the skarn zones.

Three types of skarn mineralization are developed in the metasediments (White, 1989; Cook, 1972; Dickinson, 1980; Falconer, 1986). Widespread siliceous garnet skarn forms massive, rough-surfaced, brown outcrops with indistinct layering in both upper and lower bands. It is comprised of coarse to very coarse-grained garnet (andradite-grossularite), diopside, idocrase, scheelite and quartz. Garnet occurs as clusters of medium-grained euhedral crystals or as coarse-grained subhedral crystals. This mineral assemblage appears to replace wollastonite skarn (Falconer, 1986). This skarn is host to economic scheelite mineralization in the 'upper band'. Pyroxene skarn, comprised of fine to medium-grained, iron and manganese-rich grossularite garnet, actinolite, idocrase, diopside, pyrrhotite and scheelite is confined to the 'lower band', where it also hosts economic scheelite mineralization. The rock is green to grey to black and massive or fine to medium banded.

A third skarn assemblage comprises medium to coarse-grained wollastonite, grossularite, diopside and calcite that forms chalky white, rough-surfaced outcrops, mostly in the 'upper band'. Red-brown garnet occurs as medium-grained, equigranular crystals clustered together in masses 1 to 5 centimetres in diameter that comprise 5 to 30 per cent of the rock. Massive, white wollastonite forms radiating aggregates growing outward from the garnet clusters with fibres up to 3 centimetres long in bands up to a metre in width. Calcite occurs in

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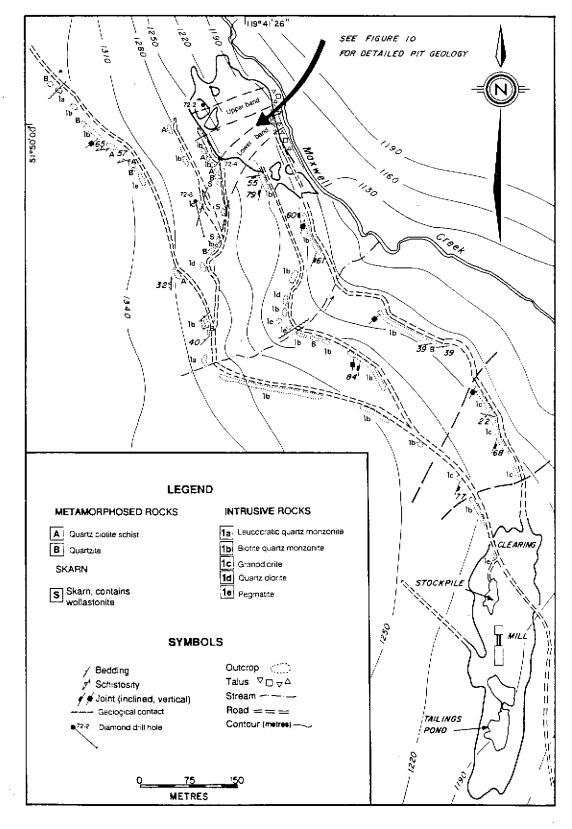


Figure 9. Geology of the Silence Lake mine (W5) (modified from White, 1989).

Ministry of Energy, Mines and Petroleum Resources

medium to coarse-grained masses that often outline indistinct layering. This third skarn type is occasionally intercalated with thin quartzite beds 0.1 to 1 metre thick.

The 'upper band' contains a significant zone of wollastonite-bearing skarn. The pit exposes a 15 to 20metre section of this zone grading up to 35 per cent wollastonite (Figure 10). The zone strikes east-northeast and dips 60° to 70° northwest. An angled hole (DDH-72-2, bearing: 150°, inclination: -45°), collared approximately 35 metres west-southwest of the skarn exposures in the

TABLE 15. MAJOR OXIDE XRF ANALYSES OF SAMPLES FROM SILENT LAKE MINE

		_			
	36372	36373	36374	36375	CANMET ¹
SiO2	43.66	57.15	43.92	56.17	45.2
Al_2O_3	2.94	12.80	5.66	13.10	2.90
Fe ₂ O ₃	1.99	4.09	2.44	4.34	1.60
CaO	40.07	15.17	35.89	15.51	
CaCO ₃	-	-	-	-	12.7
MgO	0.82	2.04	0,96	2.16	0.56
Na ₂ O	0.23	1.14	0.15	0.15	
K ₂ O	0.04	1.08	0.04	1.21	
TiO ₂	0.16	0.32	0.34	0.34	
P_2O_5	0.59	0.20	0.13	0.25	
MnO	0.09	0.43	0.09	0.48	
BaO	0.02	0.05	0.01	0.05	
L.O.I.	7.32	2.70	7.41	2.99	5.07
Brightn	iess -	-	-	-	76.05
Lightne	ss -	-	-	-	89.10
Total	97.93	97.17	97.03	97.77	

Mineralogy (by XRD)

36372	Wollastonite, calcite, grossular, quartz	diopside,			
36373	Quartz, plagioclase, grossular, calcite, muscovite, amphibole				
36374	Wollastonite, quartz, calcite, gr diopside,	ossular,			
36375	Quartz, grossular, plagioclase, , muscovite, amphibole	, calcite,			
Mineralogy	(by image analysis) ¹				
CANMET	Wollastonite	75.9			
	Quartz + minor feldspar	10.2			
	Calcite + mafics +				
	minor dolomite	0.6			
	Ferruginous dolomite	9.2			
	CaSiO3 - lower Ca phase	0.1			
	Iron oxides and sulphides	0.2			
	Andradite	3.8			
	Total	100.0			

¹Andrews (1989)

pit (Figure 9) cored 10 metres of wollastonite skarn at a depth of 17 and 27 metres. Two holes (DDH-72-4 and 72-8, bearings: 173° and 167° respectively, inclinations: both -45°), drilled 90 and 160 metres south-southwest of the pit exposure (Figure 9) encountered shorter intercepts (up to 5 metres) of wollastonite skarn within the 'lower band' (Falconer, 1986). Wollastonite skarn is exposed over widths of up to 6 metres in three outcrops 100 to 200 metres southeast of the two holes, also within the 'lower band' (Cook, 1972).

SAMPLING AND TESTING

Major oxide analyses of two samples of wollastonite skarn (Samples 36372, 36374) and two samples of tailings (36373, 36375) are presented in Table 15.

A 59.4-kilogram sample of wollastonite-skarn was submitted to CANMET for magnetic separation and flotation tests (Andrews, 1989; Lastra *et al.*, 1989). Analytical results for a sample of the raw material are also presented in Table 15. Particles containing at least 70 per cent wollastonite comprised 97.5 per cent of the 212 to 3.4 micrometre size-fraction of the ground raw material.

Results of the magnetic separation of the -420 micrometre size-fraction are shown in Table 9. Wet magnetic separation successfully reduced the Fe₂O₃ content to less than 1 per cent by rejecting just over half of the iron.

Results for the reverse flotation of calcite and quartz from wollastonite for the -420 micrometre size-fraction are shown in Table 11. Reverse flotation of the raw feed reduced the ignition loss to less than 1 per cent with an Fe₂O₃ content of greater than 1 per cent, while reverse flotation of the nonmagnetic fraction produced a final concentrate containing less than 1 per cent Fe₂O₃ and with less than 1 per cent ignition loss. The final concentrate contained 88.14 per cent wollastonite, 0.4 per cent garnet and 11.3 per cent other silicates (Lastra *et al.*, 1989, p. 29).

Wet magnetic separation and reverse flotation produced a wollastonite concentrate of adequate grade with low to moderate acicularity and low Fe₂O₃ and ignition loss, acceptable for most ceramic and filler applications. Wollastonite content was increased from 75.9 to 88.14 per cent, brightness raised from 76.05 to 81.20 per cent and lightness increased from 89.10 to 91.37 per cent. The acicularity of the raw feed and the final concentrate remained essentially the same as shown in Table 7. A histogram of the distribution of the aspect ratios is shown on Figure 11.

PREVIOUS WORK

The deposit was initially explored for its tungsten content in 1972 by Union Carbide Exploration Corporation. The company carried out geological mapping and 540 metres of drilling in eight holes. An additional three holes were drilled in 1973 for a total of 438 metres.

PhojEct: I

British Columbia

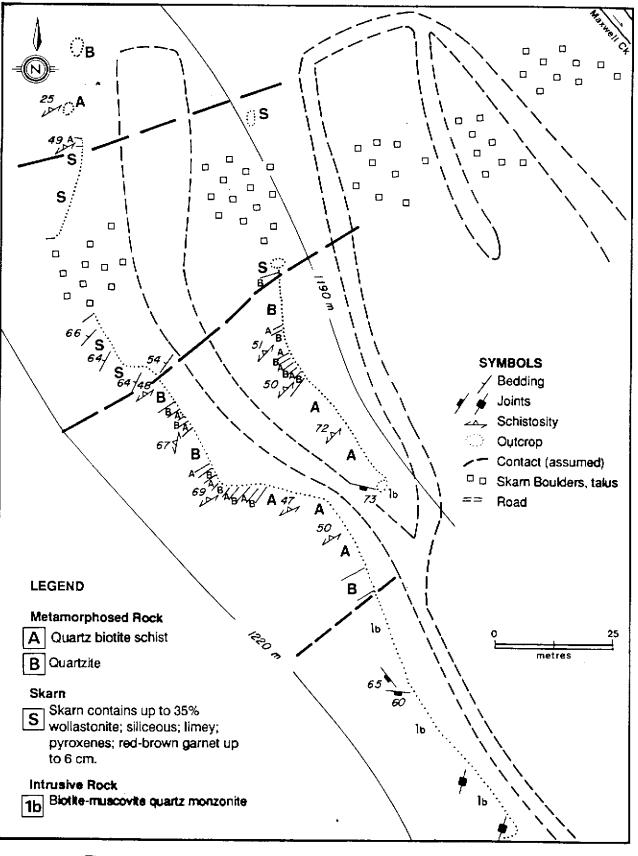
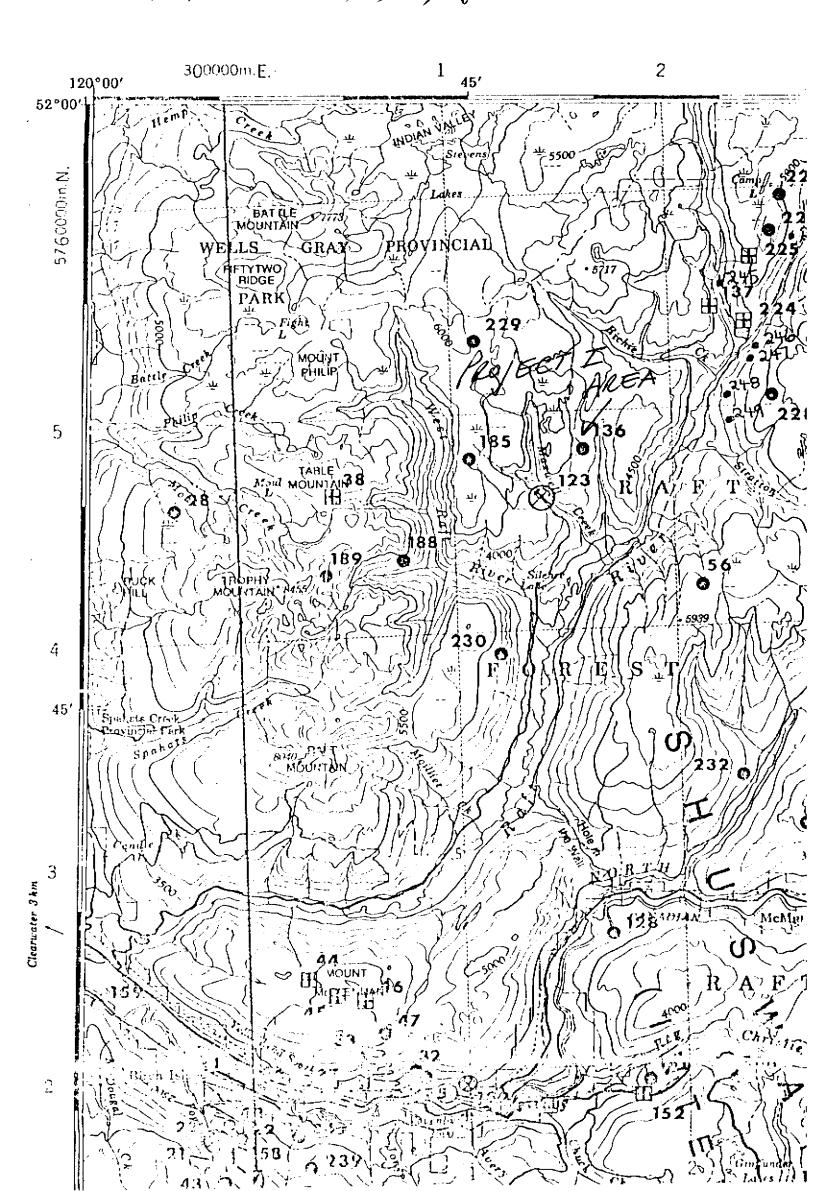


Figure 10. Geological sketch of the open pit area - Silence Lake mine (from White, 1989).

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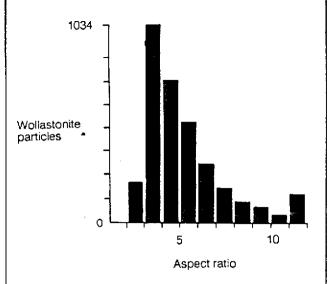


Figure 11. Histogram of number of wollastonite particles with a specific aspect ratio for Silence Lake (from Laustra et al., 1989).

Between 1977 and 1979 United Mineral Services Ltd. defined several zones of scheelite-bearing skarn in the upper and lower bands by trenching and 287 metres of percussion drilling in eighteen holes. Dimac Resource Corporation, a subsidiary of United Mineral Services Ltd., became operator in 1979 and placed the property in production in October, 1981, after drilling 20 holes totalling 500 metres. A further 476 metres of diamond drilling and 609 metres of percussion drilling was carried out in the immediate vicinity of the pit. A total of 18350 tonnes of tungsten ore was produced to November, 1982, when rapidly declining tungsten prices forced mine closure. Dimac was placed in receivership in 1983 and the mine and 100 tonne per day mill were acquired by Troudor Resources Inc. Troudor evaluated the remaining tungsten reserves in 1986, but the wollastonite potential does not appear to have ever been evaluated.

NORTHWESTERN BRITISH COLUMBIA

CRAIG RIVER

NTS 104B/11E MINFILE No.104B 005 Latitude 56°36'40" Longitude 131°10'12"

Map No. W6 LOCATION

The Craig River occurrence is located south of the Iskut River, 13 kilometres up the Craig River valley. A wollastonite showing is reported on the southeast side of Seraphim Mountain, immediately west of the river.

GEOLOGY

Seraphim Mountain is underlain by an Early Tertiary granodiorite stock intrusive into a Permian to Lower Triassic sequence of limestones, siltstones, shales and volcanic rocks along the southeast flank of the mountain (Kerr, 1935, 1948). Kerr (1948) reported: "In Craig Valley, near the masses of hornblende granodiorite, the limestone is largely converted to wollastonite and silica." An unsuccessful attempt to find this occurrence was made in 1988 (White, 1989).

MAID OF ERIN	NTS 114P/10E
MINFILE No. 114P 007	Latitude 59°34'15"
Map No. W7	Longitude 136°35'05"

LOCATION

The Maid of Erin wollastonite occurrence is situated in the headwaters of the Klehini River, northwest of Rainy Hollow and 5 kilometres west of the Haines-Whitehorse Highway.

GEOLOGY

Skarn occurs in a roof pendant of argillite, quartzite and limestone, within Oligocene granite, quartz monzonite and diorite. The skarn zones are comprised of variable amounts of garnet, monticellite and idocrase, with sporadic pyrite, magnetite, sphalerite, galena, bornite and chalcopyrite. Drilling by Falconbridge Limited on the Maid of Erin Crown-granted claim (Lot 722) intersected a few narrow sections of wollastonite in four holes (Wilson, 1983). Drill-hole intercepts with sporadic yeins and patches of wollastonite in skarn vary from centimetres to ten's of centimetres in length and more continuous sections up to 2 metres in length are reported. An examination of drill core and outcrops in 1988 failed to identify significant quantities of wollastonite (White, 1989).

PREVIOUS WORK

Falconbridge Limited carried out geological, geochemical and geophysical surveys between 1981 and 1982 and completed 1481 metres of diamond drilling in 20 holes in 1983, while exploring the property for base and precious metals.

RANCHERIA	NTS 1040/16W
MINFILE No. 104O 034	Latitude 59°58'20"
Map No. T1	Longitude 130°24'40"

LOCATION

The Rancheria tremolite-wollastonite occurrence is located 17 kilometres southeast of Rancheria, 3.5 kilometres south of the British Columbia - Yukon border. It outcrops between 1420 and 1700 metres elevation, approximately 3 kilometres northwest of the Tootsie River.

GEOLOGY

Calcsilicate skarn is developed along the east margin of the Cretaceous Cassiar batholith in northeast-trending sediments of Ordovician to Devonian age (Gabrielse, 1969).

The Rancheria property is underlain by black and grey limestones and light and dark quartzites dipping 40°

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MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES MINERAL RESOURCES DIVISION - GEOLOGICAL SURVEY BRANCH MINFILE - REPORT

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