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ASSESSMENT REPORT

GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL REPORT

ON THE

RAMBLER GROUP

Mineral Claims Included:

Stonie Creek Michelle Grand Trunk Shelley Morning Sun Rambler St. Helen Murphy

LAWLESS CREEK AREA
SIMILKAMEEN MINING DIVISION

by

MICHAEL A. STAMMERS

and

W. JAMES CRAWFORD

LOCATION: N.T.

N.T.S. 92H/10W 49⁰34' N Latitude 120⁰54' W Longitude

OWNERS: TARBO RESOURCES LTD. and KEITH GEORGE

OPERATOR:

SEREM LTD.

DATES WORK PERFORMED: Between October 19 and November 19, 1982

DATE OF REPORT: NOVEMBER 1982

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INTRODUCTION

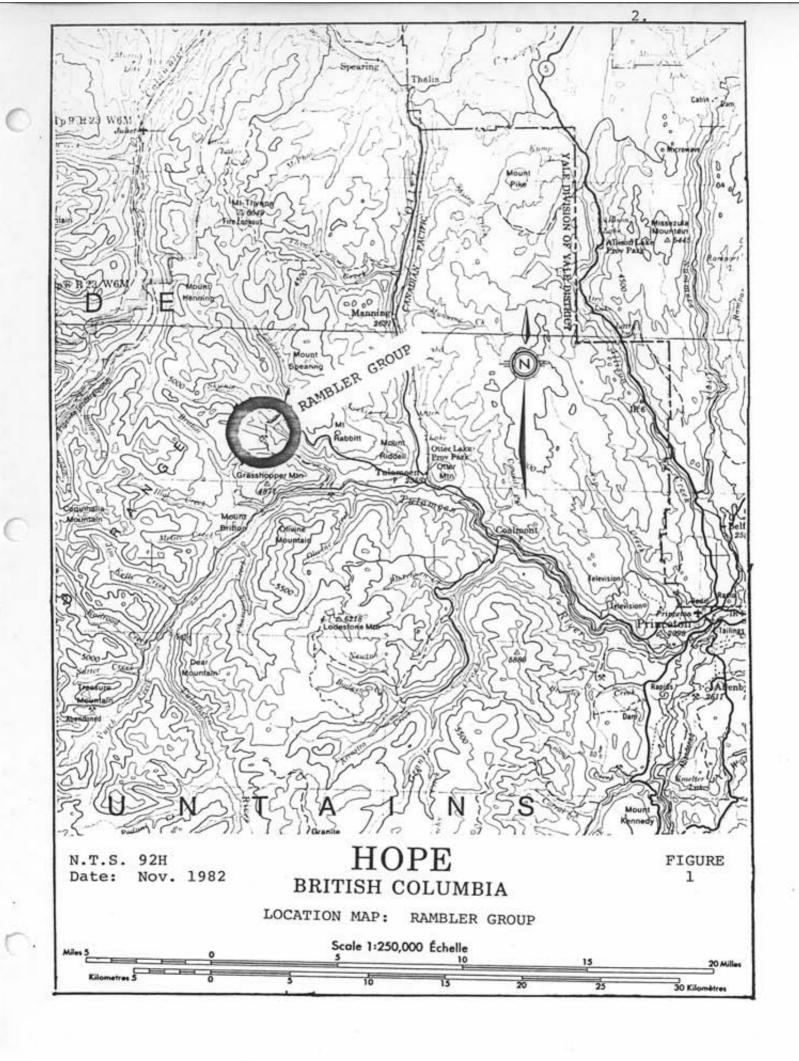
The Rambler Group is located 30 kilometres west-northwest of Princeton, B.C. at latitude 49^O34' North and longitude 120^O54' West in the Lawless Creek area, Hope map sheet (N.T.S. 92H/10W), Similkameen Mining Division (Figure 1).

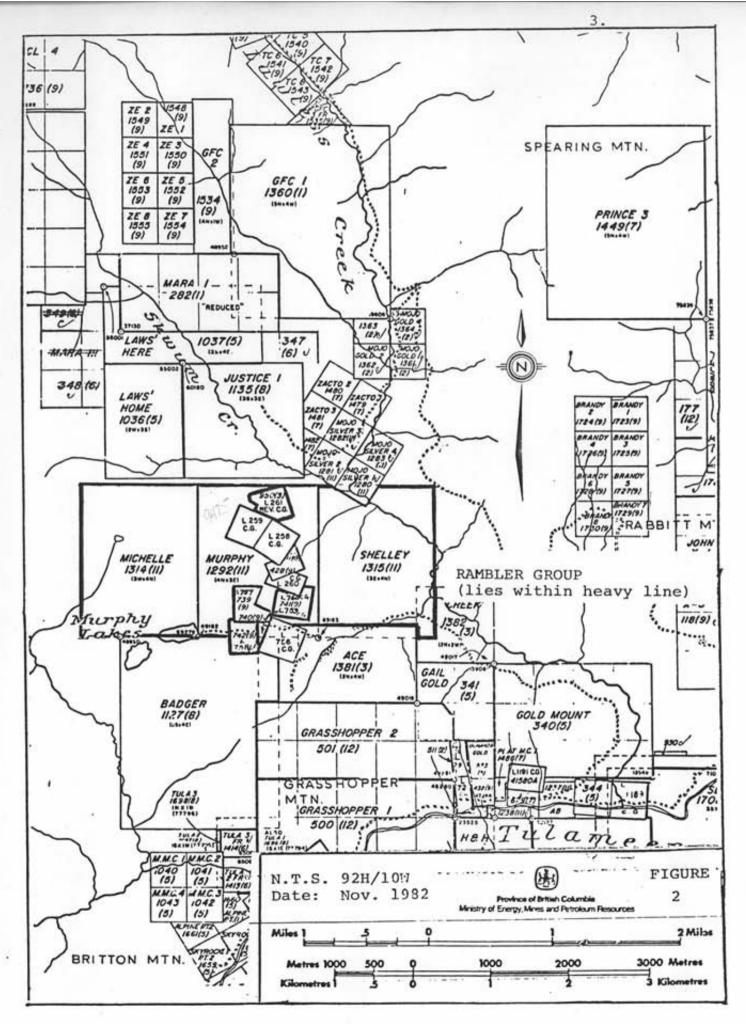
The Rambler Group consists of the Michelle, Murphy, Shelley, St. Helen, Morning Sun, Rambler, Grand Trunk and Stonie Creek claims (Figure 2). Actual work was performed on the Shelley, Murphy, St. Helen, Grand Trunk and Morning Sun claims. Some work was performed on the Liverpool, St. Lawrence, St. George, and Chicago crown grants and is included in this report in an attempt to provide the reader with a better understanding of the entire potential of the Rambler Group. Assessment work is being applied to the Michelle, Shelley, St. Helen, Morning Sun, Rambler, Grand Trunk and Stonie Creek claims.

All claims, with the exception of the St. Helen claim (owner, K. George of Keremeos, B.C.) are owned by Tarbo Resources Ltd. of West Vancouver, B.C. The Rambler Group of claims is considered part of the Law's Camp Venture area, managed by Goldwest Resources Limited of Vancouver and Serem Ltd. is the current operator.

Adjoining mineral claims include the Laws Home, Justice 1, Mojo 1 and 2 to the north; the Badger, Ace, Creek to the south; and the Liverpool, St. Lawrence, St. George and Chicago crown grants contained within the Murphy claim.

Access to the property during the October 1982 evaluation was provided by truck from Vancouver to Hope





CLAIMS MAP: RAMBLER GROUP

via Route 1 and then 76 kilometres via the Coquihalla Pass-Britton Creek route to the property. Food and lodging services are found in Princeton, 46 kilometres by road to the southeast.

Relief on the property is gentle to moderate, with elevations ranging from 975 to 1,500 metres above sea level. The claims have been recently logged for fir, spruce, and hemlock. Outcrop is poor and restricted to bulldozer cuts made during logging operations.

Work on the crown grants dates back to 1900, including the production of \$600 worth of ore in 1916. More recent exploration work was completed by Cominco Ltd. in 1960 and Tarbo Resources in 1980. Thus to date, underground development, drilling and trenching work has been completed on the St. Lawrence, Liverpool and St. George crown grants.

Economic minerals present in the Rambler group area showings include chalcopyrite, sphalerite and minor galena with anomalous recorded values of gold and silver. The potential for an economic occurrence of a low tonnage massive sulfide deposit cannot be ruled out at this time for the Rambler Group area.

A total of 58 soil samples were collected over 2.6 kilometres of newly emplaced flag and compass lines in the northeast grid area during the October evaluation.

Approximately 1.65 kilometres of proton magnetometer survey and 4.25 kilometres of VLF-EM survey were completed over various parts of the Rambler Group.

Geological mapping over a 2.0 square kilometre area was completed at a scale of 1:5000.

Table 1. RAMBLER GROUP: CLAIM STATUS AND NATURE OF WORK PERFORMED

Claim Name	No. of	Record	Work Performed* Record Expiry D		Expiry Dates
	Units	No.		Date	Current Requested
Shelley	12	1315	gm, ng, ss, vlf	27/11/80	27/11/83 27/11/85
Murphy	12	1292	gm, ss, ng, vlf, mag	21/11/80	21/11/85
Michelle	12	1314	no work	27/11/80	27/11/83 27/11/84
Grand Trunk	1	757	gm	27/09/79	27/09/85 27/09/86
Rambler	1	758	no work	27/09/79	27/09/85 27/09/86
Stonie Creek	1	759	no work	27/09/79	27/09/85 27/09/86
Morning Sun	1	760	gm	27/09/79	27/09/85 27/09/86
St. Helen	1	950	gm	18/03/80	18/03/86 18/03/87

*	gm g	geological mapping
	SS	lead-zinc-copper soil geochemistry
	ng	new flag, hipchain and compass grid emplacement
	vlf	VLF-EM geophysical survey
	mag	Proton Magnetometer geophysical survey

HISTORY

In 1900, Charles Law and associates began the first development work on the St. Lawrence and St. George crown grants. Initially, two shafts, an adit and open cuts were developed on the St. Lawrence. Development work by 1916 consisted of two shafts 27 metres apart in massive sulfides on the St. George crown grant and three shafts over 50 metres of massive pyrite and sphalerite on the St. Lawrence crown grant as well as a further shaft 12 metres to the north in limestone, an adit and trench 30 metres to the south in breccia, and a lower main adit another 27 metres to the south, also in volcanic breccia. By 1916, one carload of ore was produced. The 30 tons of ore was reported to have returned \$600 and yielded 30 ounces gold, 466 ounces silver, and 869 pounds copper.

In 1922, Louis Marcotte developed the Liverpool crown grant with a shaft sunk to 18 metres. By 1926, a ll-metre adit was driven beside the shaft collar. A B.C. Department of Mines assay in 1929 yielded, over 1.8 metres on a stub adit from the shaft, 0.06 oz/ton gold, 0.58 oz/ton silver, and 1.26% copper. A sample of massive pyrite, with streaks of chalcopyrite taken from the face, ran 0.14 oz/ton gold, 0.60 oz/ton silver, and 1.31% copper. The Liverpool crown grant has been idle since 1929.

In 1960, Cominco Ltd. undertook limited geologic mapping, magnetometer and EM surveys, and drilled 13 diamond drill holes for a total of 914 metres. Apparently, the drilling indicated that the known massive sulfide lenses are sharply limited along strike and down dip (B.C.D.M. 1960).

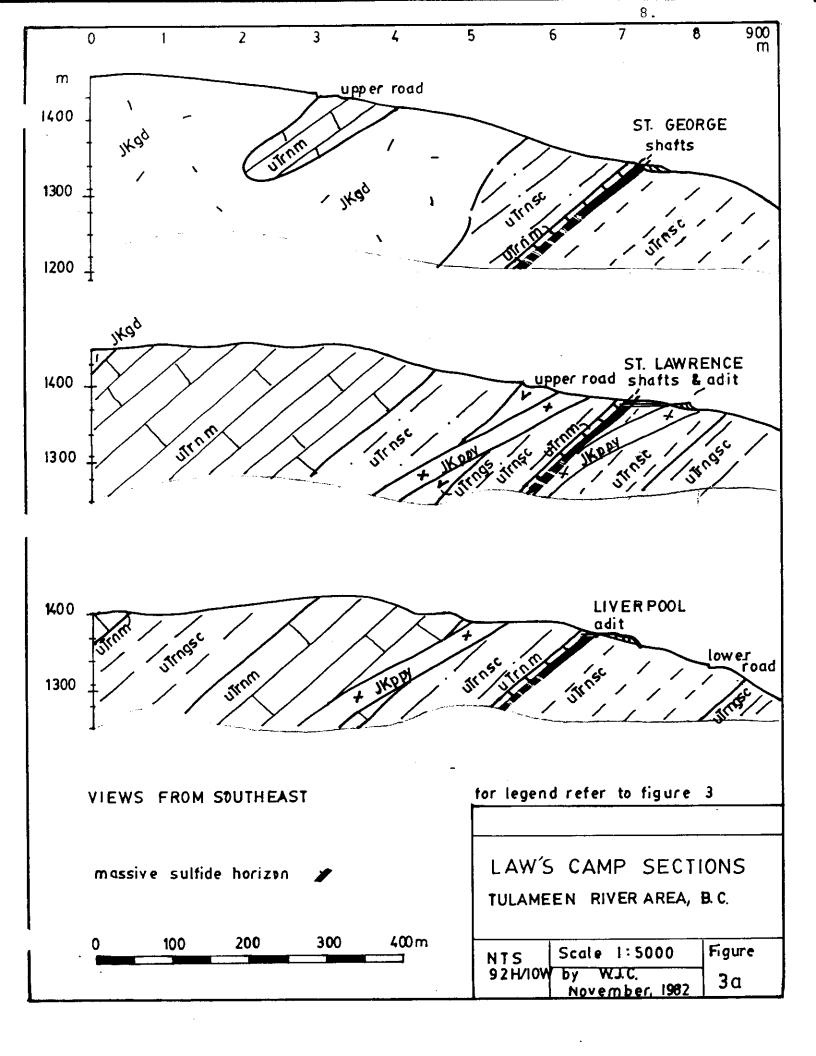
Goldwest Resources in 1980 contracted a soil geochemical survey for copper. A grid system of 26 kilometres of lines was established with 100-metre line spacings and 50-metre stations. The existing workings showed as significant copper anomalies. Goldwest reported a 1-metre chip sample taken by C.M. Armstrong from the Liverpool adit (limonite, hematite and malachite and incompletely oxidized pyrite and chalcopyrite) ran 2.75% copper, 1.66 oz/ton silver, and 0.015 oz/ton gold. A 'semi-massive' pyrite and chalcopyrite grab sample from the dump yielded 3.00% copper, 0.90 oz/ton silver, and 0.01 oz/ton gold.

In August 1982, Serem Ltd. examined the property, did limited mapping, and sampled the adits and shafts.

GEOLOGY (Figures 3 and 3a)

The stratabound massive sulfide ores of the Law's Camp occur within a southwest dipping sequence of Upper Triassic Nicola Group metasediments. On the property, the Nicola Group can be subdivided into the following succession:

Nigola Croup	hamaina call	greenschist			
Nicola Group	hanging wall	white marble			
		pelitic schists with greenschist			
		greenstone and included			
		laminated marbles			
		and massive sulfides			
	footwall -	pelitic schists			



The massive sulfides appear to be located where the succession changes facies from noncalcareous pelitic schists to calcareous schists and marbles. The footwall sequence, a monotonous succession of fine-grained quartz-chlorite-biotite schist, extends down the mountain to the Tulameen haul road. In places, pyritic schists weather a rusty brown. The massive pure white marbles on the hanging wall outcrop in the hills above the upper haul road. The marble is well bedded, fine grained, and except for limonite stained areas, notably pure. An overlying green schist probably represents a local tuffaceous facies.

The massive sulfide horizon occurs at the base of a schist unit that extends from the base of the marble down to the lower St. Lawrence workings. The quartz muscovite and quartz muscovite chlorite schists contain a vesicular meta-andesite or greenstone immediately below the upper haul road. At the Liverpool adit, the mineralization is associated with grey laminated, impure marbles, the lowest observed in the section. Massive marbles also occur in the upper St. Lawrence shaft and St. George workings area.

The Nicola metasediments are intruded to the north and west by the Eagle granodiorite. The grey granodiorite, a phase of the foliated Coast Range intrusions of Jurassic-Cretaceous age, outcrops along the upper haul road and the main road to Coquihalla Pass. An associated grey feldspar porphyry system of dykes or sills (?) occurs on the hanging wall side of the ore horizon, especially on the St. Lawrence property below the upper haul road. Here, an interesting breccia has developed with cherty and pyritic clasts. A similar breccia is reported from the St. Lawrence adits.

MINERALIZATION

No significant mineralization is found on claims belonging to the Rambler Group. However, three significant massive sulfide showings have been previously located and explored adjacent to the Rambler Group: the St. Lawrence, Liverpool and St. George crown grants.

The St. Lawrence mineralized zone is exposed as a massive sulfide lense (less than 3 metre thickness) in three partially caved shafts and is composed of pyrrhotite, pyrite, sphalerite with minor galena, chalcopyrite and magnetite.

The St. George showing is exposed in two shafts and consists of a 1-metre wide band of disseminated to semi-massive chalcopyrite, sphalerite, galena, pyrite and pyrrhotite mineralization.

The Liverpool showing consists of a 1-2 meter thickness of semi-massive, highly oxidized malachite, azurite, chalcopyrite and pyrite mineralization.

GEOCHEMICAL SURVEY

Methods

Since the 1980 soil grid had some open anomalies on the north and east, sampling was extended in those directions. Grid control was kept by compass and Topofil hipchain, and each station was marked by surveyor's flagging with the station locality written on it. Samples were taken every 50 metres on lines 100 metres apart. Samples were collected from the B horizon at a depth of 20 to 30 centimetres and placed in Kraft sample bags. Samples were shipped to Min-En Laboratories in North Vancouver and analysed for copper, zinc and lead. The analytical procedure is described below:

The soil samples are dried at 95°C. Soil samples are then screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis.

For copper, zinc and lead, samples weighing 1.0 gram are digested for 6 hours with HNO3 and HClO4 mixture.

After cooling, the samples are diluted to standard volume. The solutions are analysed by Atomic Absorption Spectrophotometers using the CH₂H₂-Air Flame combination.

Results (Figures 4-6)

Soil sampling was initiated in the northeast claims area on the basis of an "open" copper anomaly outlined by work performed by others in late 1980. Results from 1982 sampling are encouraging, with a broad, moderate copper anomaly (Figure 4) being outlined over 500 metres. The north-northwest trending anomaly is approximately 150 metres wide on average and contoured copper values range from 125 to 396 parts per million.

Lead results (Figure 5) are generally poor with values ranging from 10 to 34 ppm. The highest lead values (not considered anomalous) coincide with copper and zinc anomalies.

Zinc results (Figure 6) are weakly anomalous. A 400 by 100 metre anomaly trends northerly and closely subparallels the previously described copper anomaly. A second

zinc anomaly, similar in dimension and intensity, is located 100 metres east of the other zinc anomaly. Values range from 65 to 432 ppm zinc with values over 250 ppm zinc considered anomalous.

GEOPHYSICAL SURVEY

Proton Magnetometer Methods

Approximately 1.65 line kilometres of proton magnetometer work was completed during October, 1982, on the Murphy claim. Magnetometer readings were taken every 25 metres on lines spaced approximately 100 metres apart over the Liverpool and St. Lawrence section of the grid. Refer to Figure 3 for location and Figure 7 for detail results. The survey lines were laid out with hip-chain and compass and each recording station was marked by surveyor's flagging.

A Geometrics G 826 proton precession magnetometer was used for the survey. It measures total intensity of the earth's magnetic field and has a sensitivity of ± 1 gamma over a range of 20,000 to 90,000 gammas. The sensor was mounted on a 2.44-metre staff and held vertically at arm's length. Readings were taken twice at each station to check for magnetic storm activity. Diurnal fluctuations were corrected by the loop-back method. No magnetic storms occurred during the time that the survey was performed. Diurnal drift for any of the loops was less than 10 gammas over 40 minutes.

Results

Corrected magnetometer readings were plotted at 1:2,500 scale and contoured at 100-gamma intervals (Figure 7). Readings range from 57,324 to 57,918 gammas or a range of only 594 gammas.

Three weak magnetic features were delineated in the 1982 survey:

- A magnetic low, directly over the St. Lawrence showings.
- 2. A corresponding magnetic high, immediately west of the St. Lawrence showings.
- 3. An isolated magnetic high low pair over the Liverpool showings.

Despite the weak intensity of these magnetic anomalies, it can be stated that the magnetic low values appear to occur over known massive sulfide occurrences, e.g., St. Lawrence and Liverpool, and a corresponding magnetic high is likely to be occurring nearby.

VLF-EM Methods

The Very Low Frequency-Electromagnetic (VLF-EM) survey was conducted over two areas of the Rambler Group grid. Readings were taken every 50 metres on lines spaced 100 metres apart in the northeast grid area (Figure 9) and every 25 metres on lines spaced 100 metres apart in the Liverpool-St. Lawrence section of the grid (Figure 8).

The instrument used was a Phoenix Geophysics Limited VLF-2 electromagnetic unit. The unit is a hand-held portable and weighs less than 850 grams.

Cutler, Maine, with a 17.8 kHz frequency, was selected as the VLF station. A second station can provide corroborating data. Single station results are plotted. The unit measures the orientation and magnitude of the major and minor axes of the ellipse of polarization.

Results

Non-filtered results are presented as line profiles with positive (west) and negative (east) dip values plotted. Results over the northeast grid area (Figure 9) are generally insignificant with only isolated cross-overs occurring on lines 12+00 North and 17+00 North. Other line profiles are very flat, indicating an absence of significant conductors.

Figure 8 shows the VLF-EM results for the St.

Lawrence-Liverpool area. The results are considered significant. A crisp series of cross-overs occur on lines 7+00 North through 13+00 North, with only line 10+00 North exhibiting confusing data. The cross-overs may represent the surface trace of a probable VLF-EM conductor that closely corresponds with the St. Lawrence and Liverpool massive sulfide showings. The extensive strike length of the anomalous VLF-EM conductor is significantly encouraging and can be used as a guide for future geological investigations.

CONCLUSIONS

Interesting copper, zinc, silver and gold mineralization and/or values occur on the St. Lawrence, Liverpool and St. George crown grants within the Rambler Group of claims. Past work and the recent re-evaluation of these showings by Serem Ltd. indicate the grade and dimensions of these particular showings are sub-economic.

However, the potential for an economic deposit in the Rambler Group area remains fairly good. Further work should continue to focus on the volcanic members for a larger scale deposit. The information obtained from this year's soil sampling and geophysical surveys can be used as a helpful tool in future exploration efforts.

RECOMMENDATIONS

- Extend VLF-EM survey to north and south of present anomalous area.
- Extend grid to close copper soil anomaly in northeast claims area.
- 3. Prospect northeast copper soil anomaly.
- 4. Test VLF-EM and copper soil anomalies using trenching as an exploration tool.
- 5. Other exploration methods, such as induced polarization geophysical surveys and diamond drilling, may be used, depending on the results of the above listed recommendations.

Mile Stommers

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- Vulimiri, Mohan and Stammers, Michael. 1982: Assessment Report, Geological Report on the Liverpool Claim, Lawless Creek Area, Similkameen Mining Division, 92H/10W, for Serem Ltd.

Maps:

Aeromagnetic Series	1:63,360	Tulameen	92H10	1973
Claim Map	1:50,000	92H10W		
Topographic Series	1:50,000	Tulameen	92H10	1976

CERTIFICATE OF QUALIFICATIONS

I, MICHAEL A. STAMMERS, of Port Coquitlam, British Columbia, certify that:

- 1. I am a geologist employed by Serem Ltd. of 300 535 Thurlow Street, Vancouver, B.C.
- 2. I hold a B.A. degree in geology and geography from McMaster University, Hamilton, Ontario.
- 3. I have worked in geology and mineral exploration for 9 years.
- 4. The field work described in this report was carried out under my supervision.
- 5. I have no financial interest in the claims covered by this report or in Serem Ltd.

Michael A. Stammers, Geologist.

Vancouver, B.C.

CERTIFICATE OF QUALIFICATIONS

I, W. JAMES CRAWFORD, do hereby certify that:

- I am a geologist employed by Serem Ltd., with offices at #300 - 535 Thurlow Street, Vancouver, British Columbia, V6E 3L2.
- 2. I am a graduate of: The University of British Columbia, B.A.Sc., Geological Engineering. The University of Washington, M.S. and Ph.D., Geology.
- I have worked in mineral exploration in the Yukon and British Columbia since 1973.
- 4. This report is based on my geological field work on the claims, and field work carried out by Serem staff.
- 5. I have no financial interest in the claims covered by the report or in Serem Ltd.

W. James Crawford, Geologist.

Vancouver, B.C.

STATEMENT OF EXPENDITURES

Wages - Field							
D. Dolsen:	Oct.	19-23, 1982 5 days @ \$110.00 x 1.35*	ċ	742 50			
J. Crawford:	Oct.	19–23, 1982	Ş				
M. Stammers:	Oct.	5 days @ \$135.00 x 1.35* 19-23, 1982		911.25			
M. Vulimiri:		5 days @ \$137.50 x 1.35* 19-21, 1982		928.12			
M. VULIMILLE:	œt.	3 days @ \$150.00 x 1.35*		607.50			
					\$3,189.37		
- Office							
J. Crawford:		2 days @ \$135.00 x 1.35*	\$	364.50			
M. Stammers:		2 days @ \$137.50 x 1.35*		371.25			
Drafting:		3 days @ \$184.00		552.00			
Secretarial			_	100.00			
					\$1,387.75	i	
						\$4	,577.12
Geochemical Assay	s	58 samples @ \$4.65					269.70
Geophysical Instrument							
Rental:		5 days @ \$20/day				\$	100.00
Truck Rental		5 days @ \$50/day				\$	250.00
Room and Board		18 mandays @ \$35/day				\$_	630.00
			Tot	al		\$5	,826.82

^{*} Note: Denotes true cost factor of overtime, benefits and administration.

