

ASSESSMENT REPORT



GEOLOGICAL AND GEOCHEMICAL REPORT
ON THE
SPRUCE 1 - 48 MINERAL CLAIMS

WATSON LAKE MINING DISTRICT
YUKON TERRITORY
CANADA

60°18' N 126°32' W
N.T.S. 95-D-7

REPORT BY: MICHAEL A. STAMMERS

WORK PERFORMED BETWEEN: June 12, 1982 and October 31, 1982

DATE OF REPORT: MAY 1983

001453

001453

This report has been examined by
the Geological Survey Unit
at the north of 53rd, Yukon Quartz
claims and is valued as
representing a value of the amount
of \$ 9,600-.

Watson

for Regional Director, Inspection and
Geological Services for Commissioner
of Yukon Territory.

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1. INTRODUCTION

The Spruce 1-48 mineral claims were staked in the Spruce Creek area, southeastern Yukon, in June 1982 to cover shale-hosted zinc-barium soil geochemical anomalies and mineralized occurrences of barite, hydrozincite, pyrite and rare sphalerite. Acquisition of this property is considered part of Serem Ltd.'s Coal River Regional exploration project.

Work performed during the 1982 field season includes: preliminary geological mapping, hammer prospecting, contour soil sampling and stream silt-sediment sampling.

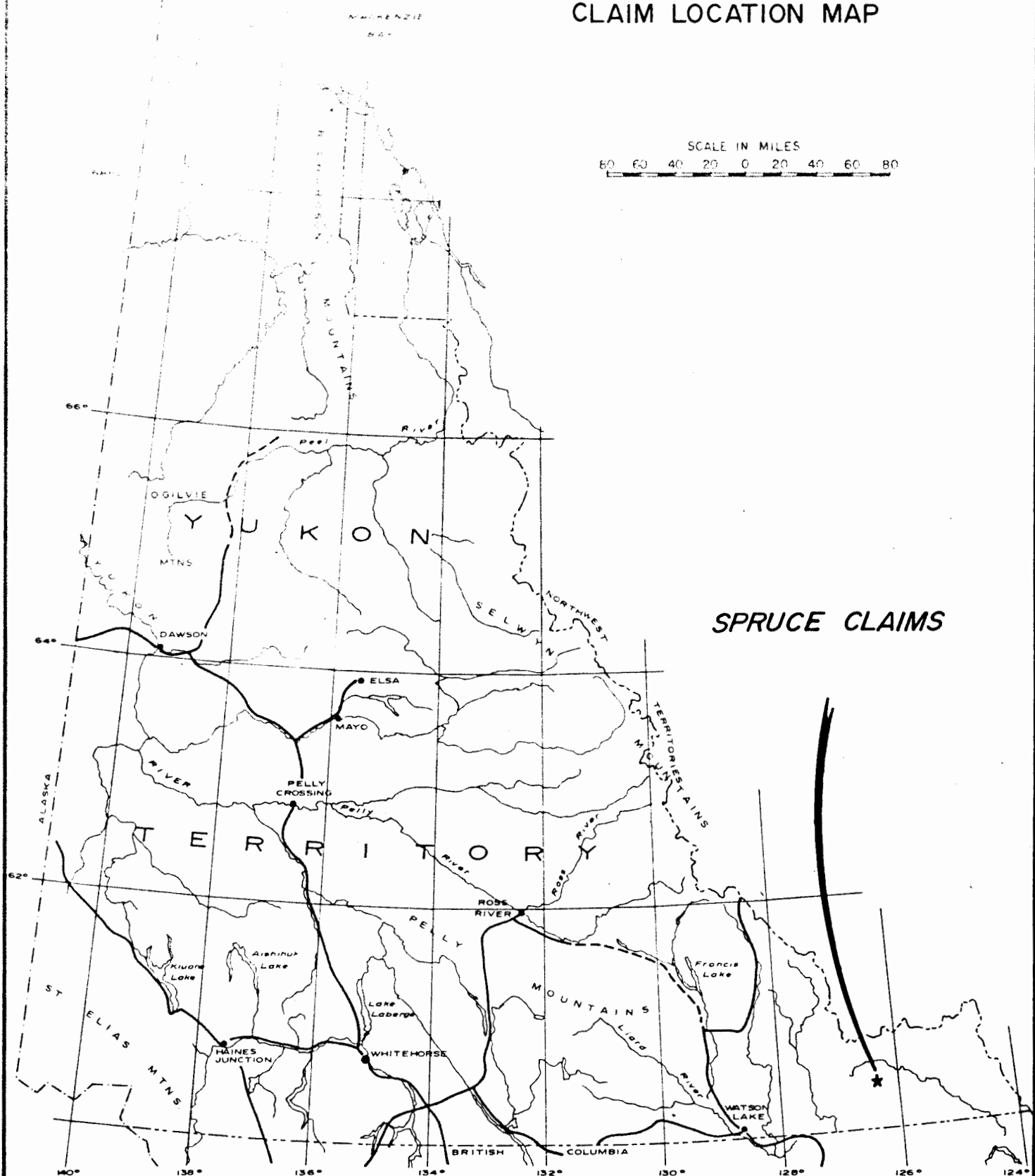
The claims are underlain by a sequence of Ordovician to Devonian carbonaceous shales, siltstones and argillites of the Road River and Besa River Formations. Dolomite of the Ordovician Sunblood Formation outcrops in the north-eastern claims area.

2. LIST OF CLAIMS (Figure 2)

<u>Claim Name</u>	<u>Grant Numbers</u>	<u>Expiry Date</u>
SPRUCE 1-48 incl.	YA68381-YA68428 incl.	June 11, 1983

All claim posts have been tagged in accordance with the regulations contained in The Yukon Quartz Mining Act.

SPRUCE 1-48 MINERAL CLAIMS CLAIM LOCATION MAP



SPRUCE CLAIMS

FIG. 1

126°30'W

3000'

3000'

3500'

3500'

32 YA68412	31 YA68411	20 YA68400	19 YA68399	2 YA68382	1 YA68381
34 YA68414	33 YA68413	22 YA68402	21 YA68401	4 YA68384	3 YA68383
36 YA68416	35 YA68415	24 YA68404	23 YA68403	6 YA68386	5 YA68385
38 YA68418	37 YA68417	26 YA68406	25 YA68405	8 YA68388	7 YA68387
40 YA68420	39 YA68419	28 YA68408	27 YA68407	10 YA68390	9 YA68389
42 YA68422	41 YA68421	30 YA68410	29 YA68409	12 YA68392	11 YA68391
44 YA68424	43 YA68423	JT 2 JT 1		14 YA68394	13 YA68393
46 YA68426	45 YA68425	JT 4 JT 3		16 YA68396	15 YA68395
48 YA68428	47 YA68427	JT 6 JT 5		18 YA68398	17 YA68397

JT 8 JT 7

SPRUCE CREEK
60° 15' N



SEREM LTD. SELWYN BASIN

SPRUCE CLAIMS, YUKON

CLAIMS MAP

DATE APR 83	REV.	
NTS 95D7	DATA MS	DR.
SCALE 1" = 1/4 MILE		FIGURE
0 [Scale bar]		2

3. LOCATION AND ACCESS

The Spruce 1-48 mineral claims are located 125 kilometres east-northeast of Watson Lake, Yukon and 15 kilometres south of Gusty Lakes at latitude $60^{\circ}18'$ N and longitude $126^{\circ}32'$ W.

Access during the field season was provided by float-equipped aircraft from Watson Lake to a base camp on Gusty Lakes and thence by helicopter to the property.

4. PHYSIOGRAPHY AND CLIMATE

Elevations on the Spruce claims range between 730 and 1,100 metres (2,400 and 3,600 feet) above sea level. Relief on the property ranges from gentle to steep, particularly along the deeply incised cut bank of Spruce Creek.

Outcrop is restricted entirely to the steep creek banks and is typical of the Hyland-Liard Plateau physiographic region.

Climate in the Spruce claims area is characterized by short warm summers and long cold winters. The best exploration months are May through September.

Wildlife, including moose, beaver and black bear, has been spotted by crews working in the claims area.

5. EXPLORATION HISTORY

The eastern Coal River region has been explored periodically by various individuals and companies over the past twenty years. Few mineral claims have been recorded as

inhospitable terraine including heavy forest and glacial till cover prevent an easy assessment of the mineral potential.

Serem Ltd. initiated a regional base metal program in the Coal River area in September 1980. Results from 'grass roots' prospecting and geochemical survey work spurred the initial interest in the Spruce Creek area.

The Spruce 1-48 mineral claims were staked in early June 1982 and property work was completed by the end of the same month.

The JT 1-8 mineral claims staked in the autumn of 1981 by the R. Seraphim Venture, adjoin the Spruce claims to the west.

6. REGIONAL GEOLOGY

The Coal River regional geology is based on Geological Survey of Canada 1967 mapping by H. Gabrielse and S. Blusson and work in 1953 by E. Roots (GSC Map 11-1968).

Stratigraphy in the area ranges in age from Ordovician to Carboniferous and includes the Sunblood, Road River, Besa River, and Mattson Formations. The basic lithologies for each formation respectively are dolomite, black shale and limestone, black shale and argillite, and quartzite.

Major structures in the area include the Toobally Fault to the east, the Rock River Fault to the west, and the Caribou Anticline to the north. Minor folding and faulting of Paleozoic strata is common.

7. PROPERTY GEOLOGY

Geological exposure on the property is limited to the Spruce Creek canyon, short lengths of its tributaries and to the ridge exposed to the north of the claims. Outcrop patterns and major lithologies and formations are illustrated in Figure 3.

The oldest rocks exposed on the property are Ordovician aged, Sunblood Formation dolomites. Light orange to buff-grey, massive dolomite pinnacles outcrop north of Spruce Creek and are fault bounded to the west by younger shale and quartzite lithologies.

Approximately 300 metres of Road River Formation shale siltstone and argillite strata are exposed along the cliffs of Spruce Creek. The shale is black, friable and variably graphitic with minor showings of hydrozincite and pyrite. Siltstone and argillite lithologies are black, variably graphitic, cherty, laminated or calcareous. The contact with overlying Besa River strata is covered.

The black clastic sediments of the Devonian-Mississippian Besa River (or Canol) Formation outcrop north of the Spruce claims. The shale and siltstone is fissile, variably cherty or silty and is overlain by quartzite and siltstone of the Carboniferous Mattson Formation.

The prominent ridge (with elevation of 4,595 feet) north of the Spruce claims is capped by approximately 200 metres of white to dark grey quartzite and minor platy black siltstone and shale stratigraphy. Rocks of the Mattson Formation are the youngest consolidated sediments present in the claims area.

126° 30' W

60° 20' N



LEGEND

Carboniferous MATTSON FORM.



Mainly Quartzite

Devono-Mississ. BESA RIVER FORM.



Black Shale

Ord-Devonian ROAD RIVER FORM.



Black Shale & Siltstone

Ordovician SUNBLOOD FORM.



Mainly Dolomite

Limit of Outcrop

Geologic Contact

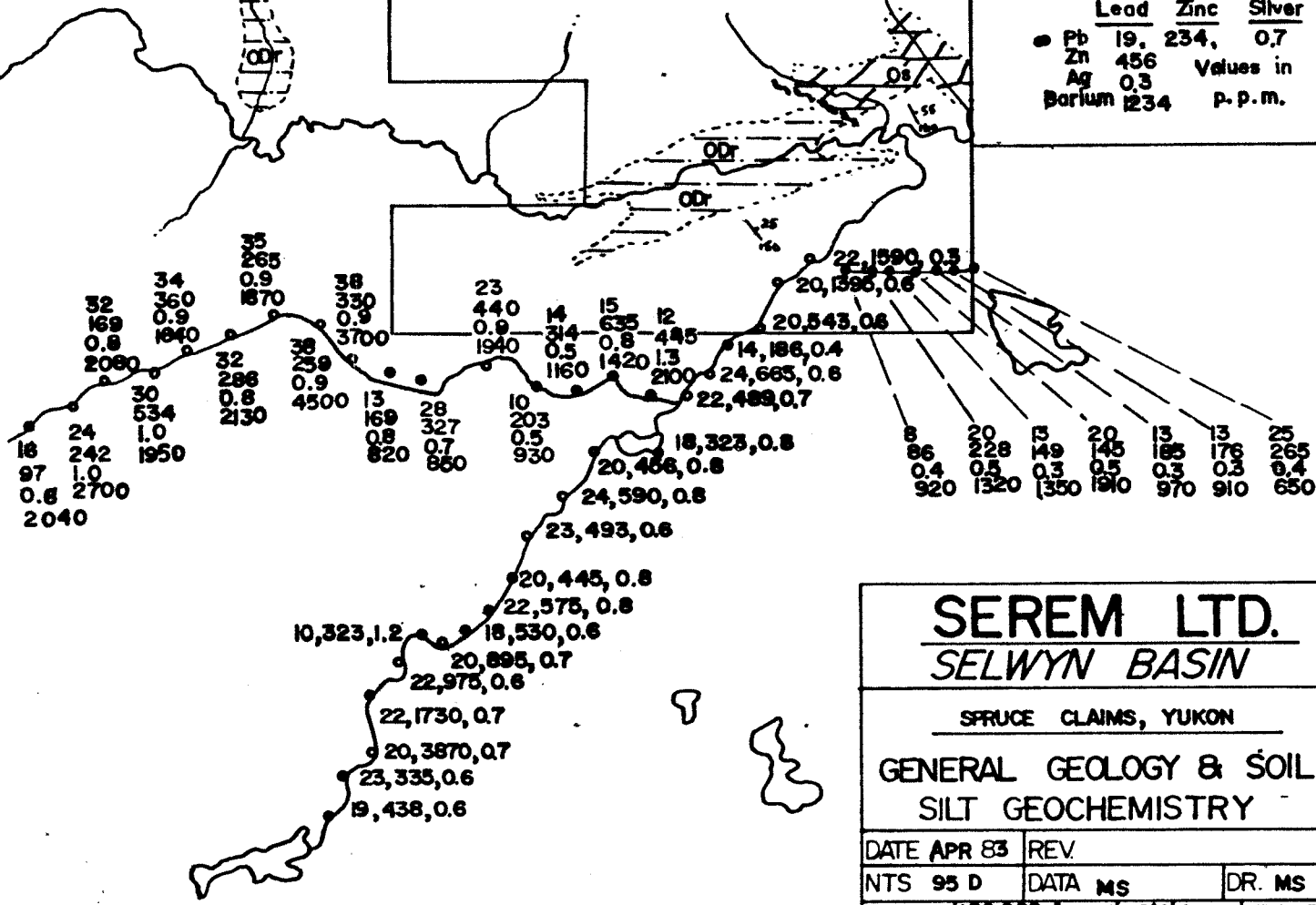
Fault

Bedding, Strike / Dip

Soil / Silt Sample

	Lead	Zinc	Silver
● Pb	19.	234,	0.7
● Zn	456		Values in
● Ag	0.3		p.p.m.
● Barium	1234		

SPRUCE 1-48



SEREM LTD.
SELWYN BASIN

SPRUCE CLAIMS, YUKON

GENERAL GEOLOGY & SOIL / SILT GEOCHEMISTRY

DATE APR 83 REV.

NTS 95 D DATA MS DR. MS

SCALE 1:50,000 Approximately FIGURE



The entire clastic-sedimentary sequence has been gently warped into a broad, north-trending antiformal structure with moderate easterly and gentle westerly dips.

8. MINERALIZATION

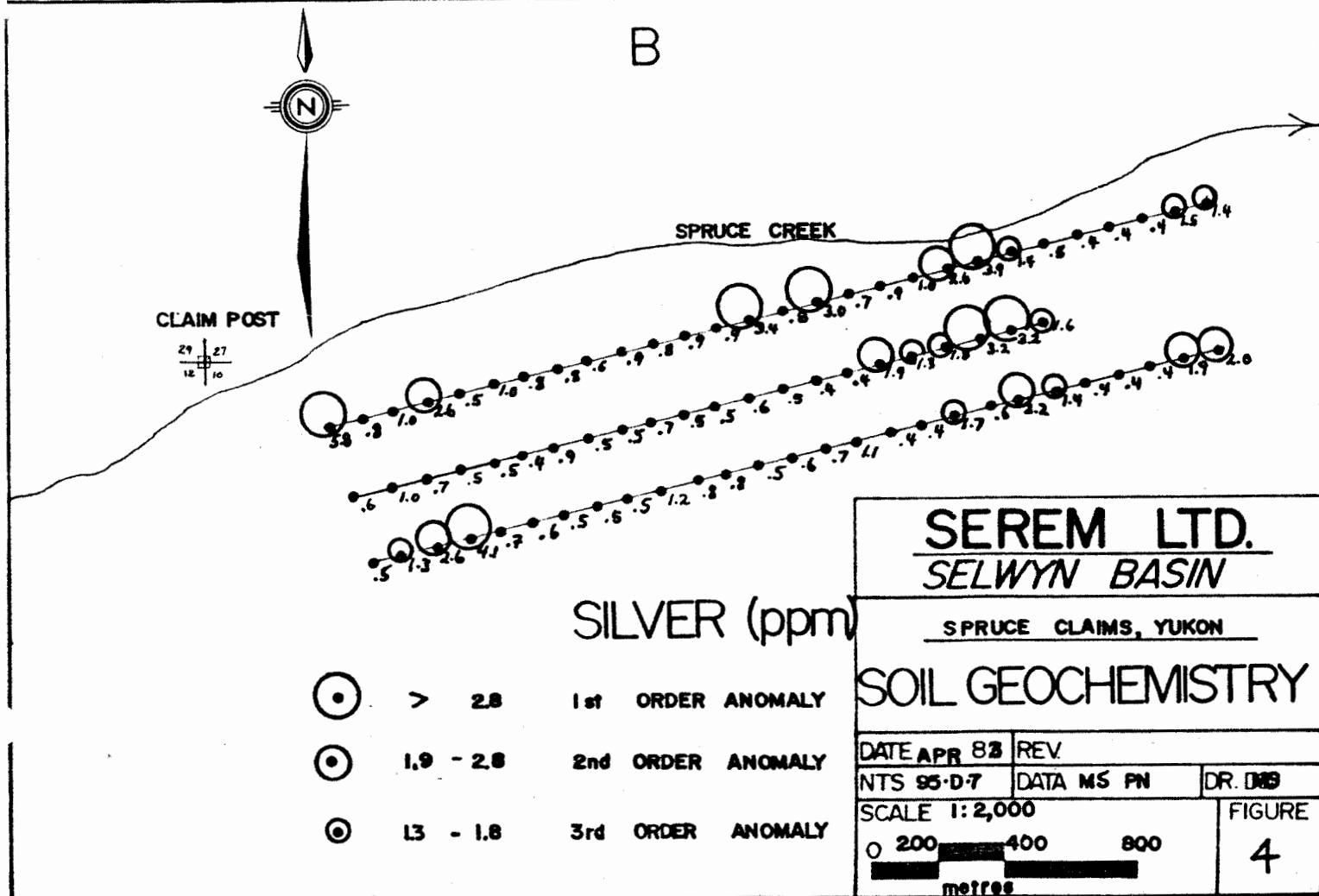
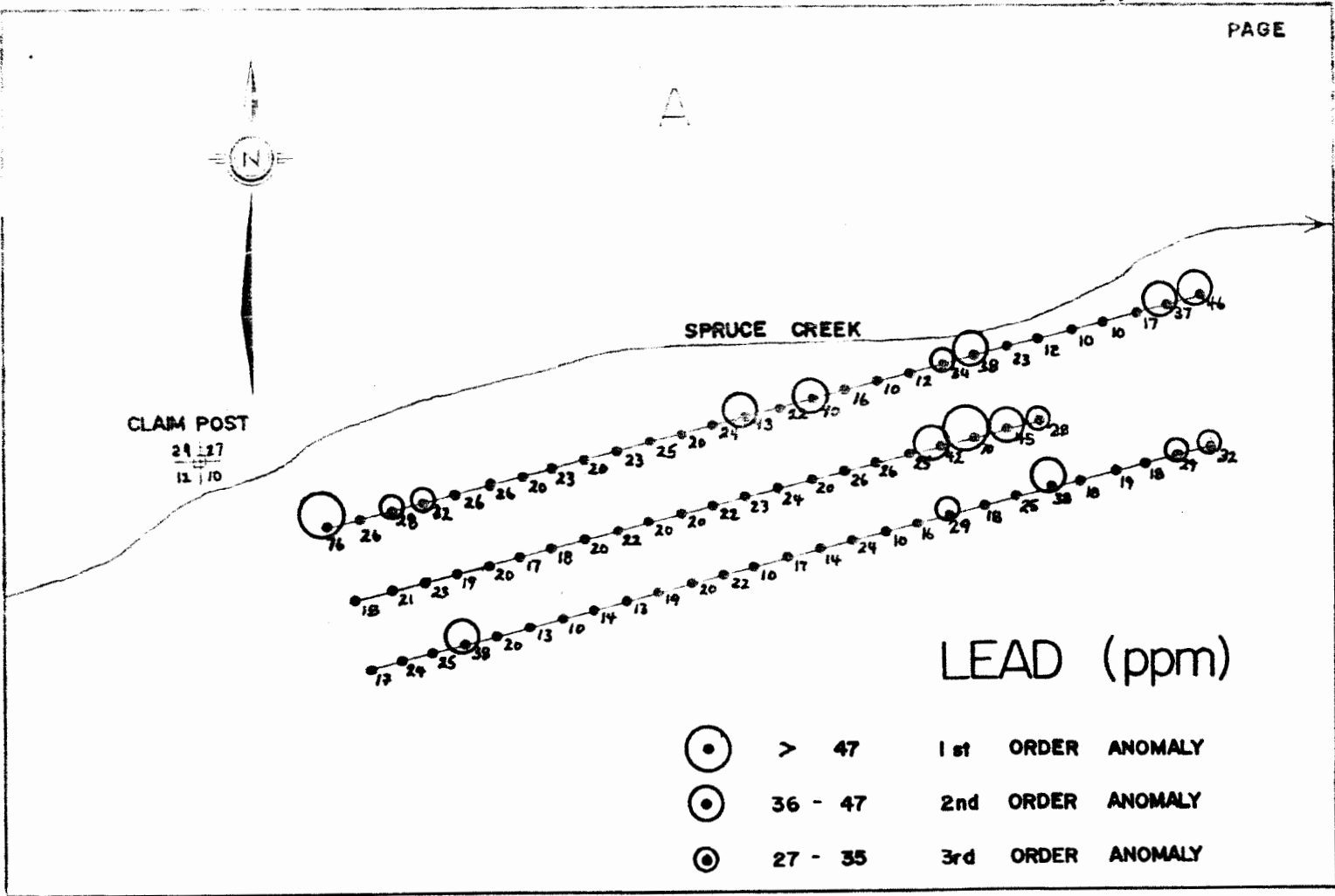
Mineralization located to date includes minor thin-bedded barite occurring as nodules or as semi-massive lenses, hydrozincite commonly washing Road River shales, sedimentary pyrite and rare sphalerite. All showings are small and clearly uneconomic.

9. GEOCHEMISTRY

A total of 99 soil and stream silt geochemical samples were collected and analysed for lead-zinc-silver and barium. An additional 20 samples were analysed for lead-zinc-silver only.

Contour soil sampling was selected to determine the extent and magnitude of small surface barium-zinc occurrences. Three lines (each 2.5 km long) separated by 100 metres of elevation were altimeter surveyed along the south side of Spruce Creek.

Results of this work are plotted on Figures 4A, 4B, 5A and 5B. The data has been treated statistically using the Lepeltier Method to determine first, second and third order anomalies for lead, zinc, silver, and barium. Graded anomalies are illustrated graphically in the figures.

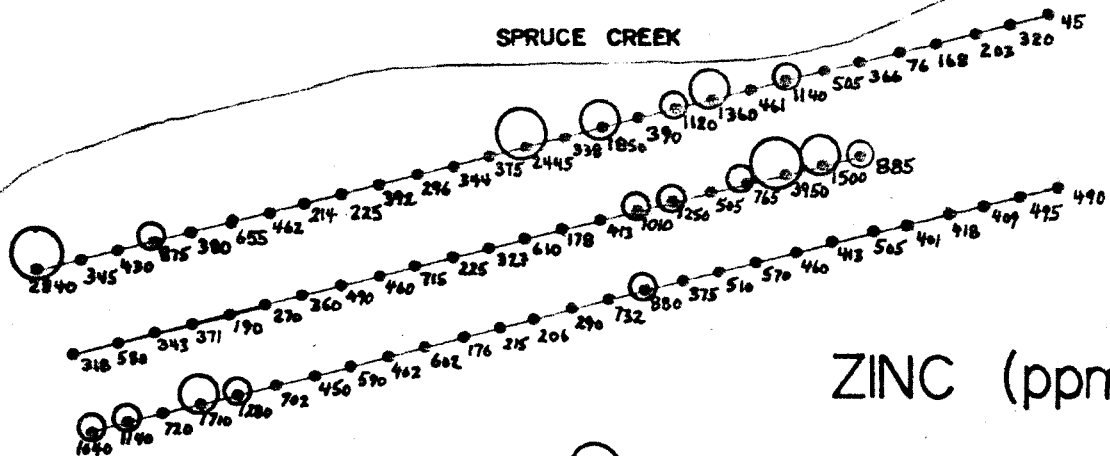


A






CLAIM POST
29 27
12 10

SPRUCE CREEK



ZINC (ppm)

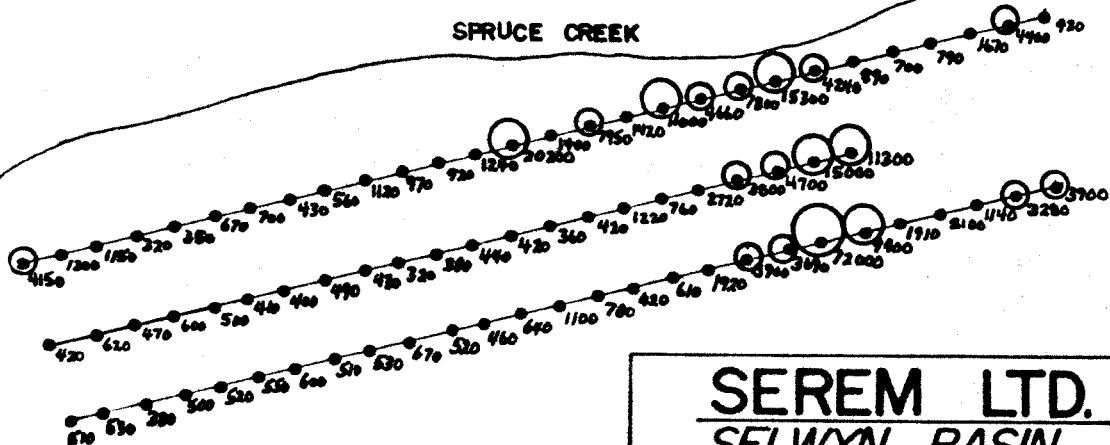
-  > 2200 1st ORDER ANOMALY
-  1300-2199 2nd ORDER ANOMALY
-  760 - 1299 3rd ORDER ANOMALY

B






CLAIM POST
29 27
12 10

SPRUCE CREEK



BARIUM (ppm)

-  > 21,000 1st ORDER ANOMALY
-  8,000-20,999 2nd ORDER ANOMALY
-  3,000-7,999 3rd ORDER ANOMALY

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SPRUCE CLAIMS, Y.T.

SOIL GEOCHEMISTRY

DATE APR 83	REV	
NTS 95D 7	DATA MS, PN	DR. MS
SCALE: 2,000		FIGURE
0 200 400 800 metres		5

As illustrated on Figures 4 and 5, a coincident, sizeable zinc-barium-lead-silver soil anomaly has been outlined in the eastern sampling area. Values reaching 3,950 ppm zinc, 72,000 ppm barium, 70 ppm lead, and 3.9 ppm silver are included in the 300-metre wide anomaly.

Additional reconnaissance soil and silt sampling was carried out in the southern Spruce claims and in open ground to the south. These generally disappointing results are plotted on Figure 3.

10. CONCLUSIONS

The Spruce 1-48 mineral claims were staked to cover small barite-hydrozincite shale-hosted occurrences during a competitive exploration season in the Coal River region.

Geochemical surveys have outlined a significant zinc-barium-lead-silver soil anomaly on the south side of Spruce Creek.

Geological mapping has depicted a favourable depositional environment for shale-hosted base metal mineralization.

Retention of the claims is advised pending full evaluation of the soil anomaly.

11. RECOMMENDATIONS

- i. Follow up the Spruce Creek south soil anomaly employing detailed rock and soil geochemistry.
- ii. The north side of Spruce Creek should be explored with contour soil sampling and prospecting.

Mike Stamas

APPENDIX 1

LIST OF PERSONNEL

FIELD WORK ON SPRUCE 1-48 MINERAL CLAIMS

<u>Name/Residence</u>	<u>Dates Worked (1982)</u>	<u>Position</u>
Margot Sangster, Vancouver, B.C.	June 12, 21, 27, 28, 29, 30	Sampler
James Crawford, West Vancouver, B.C.	June 13, 25, 26	Geologist
Peter Newman, North Vancouver, B.C.	June 27, 28, 29, 30	Prospector
Paula Power, Squamish, B.C.	June 12, 13	Cook
Michael Stammers, Port Coquitlam, B.C.	June 25	Geologist/ Party Chief

APPENDIX 2

STATEMENT OF COSTS

SPRUCE 1-48 MINERAL CLAIMS

WAGES - Field

Geologist	3 days x 1.55 x 135.00/day	\$ 627.75	
Geologist/Supervisor	1 day x 1.55 x 137.50/day	213.12	
Prospector	4 days x 1.55 x 115.00/day	713.00	
Sampler	6 days x 1.35 x 80.00/day	648.00	
Cook	2 days x 1.35 x 82.50/day	<u>222.75</u>	
	Total Field		\$2,424.62

WAGES - Office

Geologist	5 days x 1.35 x 145.00/day	\$ 978.75	
Drafting	5 days x 1.35 x 145.00/day	978.75	
Secretarial	2 days x 1.35 x 75.00/day	<u>202.50</u>	
	Total Office		\$2,160.00
	Total Wages		\$ 4,584.62

TRANSPORTATION

Helicopter	7.0 hours x \$400/hour	\$2,800.00	
Helicopter fuel	7.0 hours x 30 gal/hr x \$4	840.00	
Truck Rental & Gas - Watson Lake		50.00	
Fixed Wing - Fuel/Supplies/Crew		<u>750.00</u>	
	Total Transportation		\$ 4,440.00

ROOM AND BOARD

	\$30/manday x 18 days (includes pilot)		\$ 540.00
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ANALYSIS/GEOCHEMISTRY

Silt/Soil Samples: Pb,Zn,Ag,Ba	99 x \$8.90	\$ 881.10	
Soil/Silt Samples: Pb,Zn,Ag	20 x \$4.65	93.00	
Freight	200 lb. x .65	<u>130.00</u>	
	Total Analysis		\$ 1,104.10
	TOTAL SPRUCE 1-48		<u>\$10,668.72</u>

APPENDIX 3

GEOCHEMICAL METHODS AND ANALYSIS

Silt samples were collected from the active section of streams and placed in Kraft sample bags. Soil samples were collected from typical "B" horizon mineral soil and placed in similar bags. Both silt and soil samples were then shipped to Min-En Laboratories Ltd., North Vancouver, B.C. to be dried, sieved to -80 mesh and then analysed for the respective element by methods listed below:

Pb, Zn, Ag Nitric, perchloric digestion,
Atomic Absorption

Ba Fusion-Multi Acid, Atomic Absorption

APPENDIX 4

STATEMENT OF QUALIFICATIONS

I, MICHAEL STAMMERS, of Port Coquitlam, British Columbia, hereby 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. I am the author of this report and 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 Stammers,
Geologist.

Vancouver, B.C.
May 1983

AFFIDAVIT

IN THE MATTER OF APPLICATION FOR A CERTIFICATE OF WORK
FOR THE SPRUCE 1-48 MINERAL CLAIMS, WATSON LAKE MINING
DISTRICT, YUKON TERRITORY, SUBMITTED ON BEHALF OF
SEREM LTD.

I, Michael Stammers, Geologist of SEREM Ltd., Suite 300,
535 Thurlow Street, Vancouver, British Columbia, HEREBY CERTIFY
THAT:

The preceding SUMMARY OF COSTS totalling \$10,668.72
which is submitted in support of the Application for
Certificate of Work, is the actual amount incurred by
SEREM Ltd., in conducting geological and geochemical
surveys on the SPRUCE 1-48 Mineral Claims, Watson Lake
Mining District, between June 12, 1982 and June 30, 1982.

AND THAT Application for Certificate of Work is attached for
the following Representation Work:

<u>MINERAL CLAIMS</u>	<u>GRANT NUMBERS</u>	<u>AMOUNT APPLIED</u>
SPRUCE 1-48 incl.	YA68381-YA68428 incl.	\$9,600.00
	Total applied	\$9,600.00
Balance of Cost Unapplied		\$1,068.72

SWORN BEFORE ME at *Vancouver*)
British Columbia, this *18* day)
of *May*, 19*83*.)
H. S. Aitken)

Notary Public

Michael Stammers

Michael Stammers