

5453

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A GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE

SHEILA M.C. GROUP

NINE MILES NORTH OF GERMANSEN LANDING

OMINECA MINING DIVISION

BRITISH COLUMBIA

93N/15E

MINERAL CLAIM MAP NTS 93N/15E

SHEILA 27-48

Latitude: 55°54'

Longitude: 124°42'

FOR

SEREM LTD.

BY

PIERRE F. SONNENDRUCKER, P.ENG.

Geological Engineer

Field Work: June 8 - July 5, 1974

Report: April, 1975

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 5453 MAP

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⁵ Fig. 6 Geochemical Survey in Soils Scale 1"=500' Zn

⁶ Fig. 7 Geochemical Survey in Soils Scale 1"=500' Ag

Fig. 8 Cumulative distribution for Pb Zn Ag in soil

1. INTRODUCTION

The SHEILA GROUP has been located by Mr. Douglas Stelling, prospector at Germansen Landing, in June, 1973 and optioned to SEREM Ltd. in May, 1974.

SEREM Ltd. carried out a geological mapping and a geochemical survey in soils in June-July, 1974.

This report describes the work done to date, discusses the results and present conclusions and recommendations. Survey data is presented on a geological map and geochemical maps for Pb, Zn and Ag, scale 1" = 500'.

2. PROPERTY AND OWNERSHIP

The SHEILA #27-48 Mineral Claims were located by Mr. Douglas Stelling in June, 1973 and recorded at Smithers Mining Recorder, Omineca Mining Division, on June 25, 1973 under Record Numbers 126017-126038 inclusive.

Notice to group the 22 Mineral Claims into the SHEILA GROUP was filed on November 8, 1973. Certificates of work No. 186609-30 were issued on December 31, 1973 to Mr. Douglas Stelling for one year of assessment credit (Geochemical Survey-Assessment Report 4899).

Mr. Douglas Stelling optioned the property to SEREM Ltd. in May, 1974. Bill of sale was registered at Germansen Landing on July 19, 1974.

SEREM Ltd. on behalf of Bergminex Associates has been the operator of the work done in 1974 on the SHEILA GROUP.

3. LOCATION AND ACCESS (Fig. 2)

The SHEILA GROUP is located 9 miles due north of Germansen Landing and 3 miles northeast of Nina Lake, and covers the southern tip of a small lake locally known as Echo Lake.

The property is at latitude $55^{\circ}54'$, longitude $126^{\circ}42'$ on Mineral Claim Map NTS Sheet 93N/15E, in the Omineca Mining Division.

Access to the property is by helicopter from Germansen Landing. Work was carried out in 1974 from a fly camp set up on the north shore of Echo Lake.

4. PHYSIOGRAPHY (Fig. 3)

The SHEILA GROUP covers the northeastern slopes of a range of hills, south of the Echo Lake Valley. Elevations range from 325' to 5000'.

The area is heavily timbered with various variety of spruce and abundant balsam fir.

Outcrops are scattered through an extensive overburden over the main part of the property. Only one good lithological section could be run along the creek by the SHEILA #29-30 M.C. initial post.

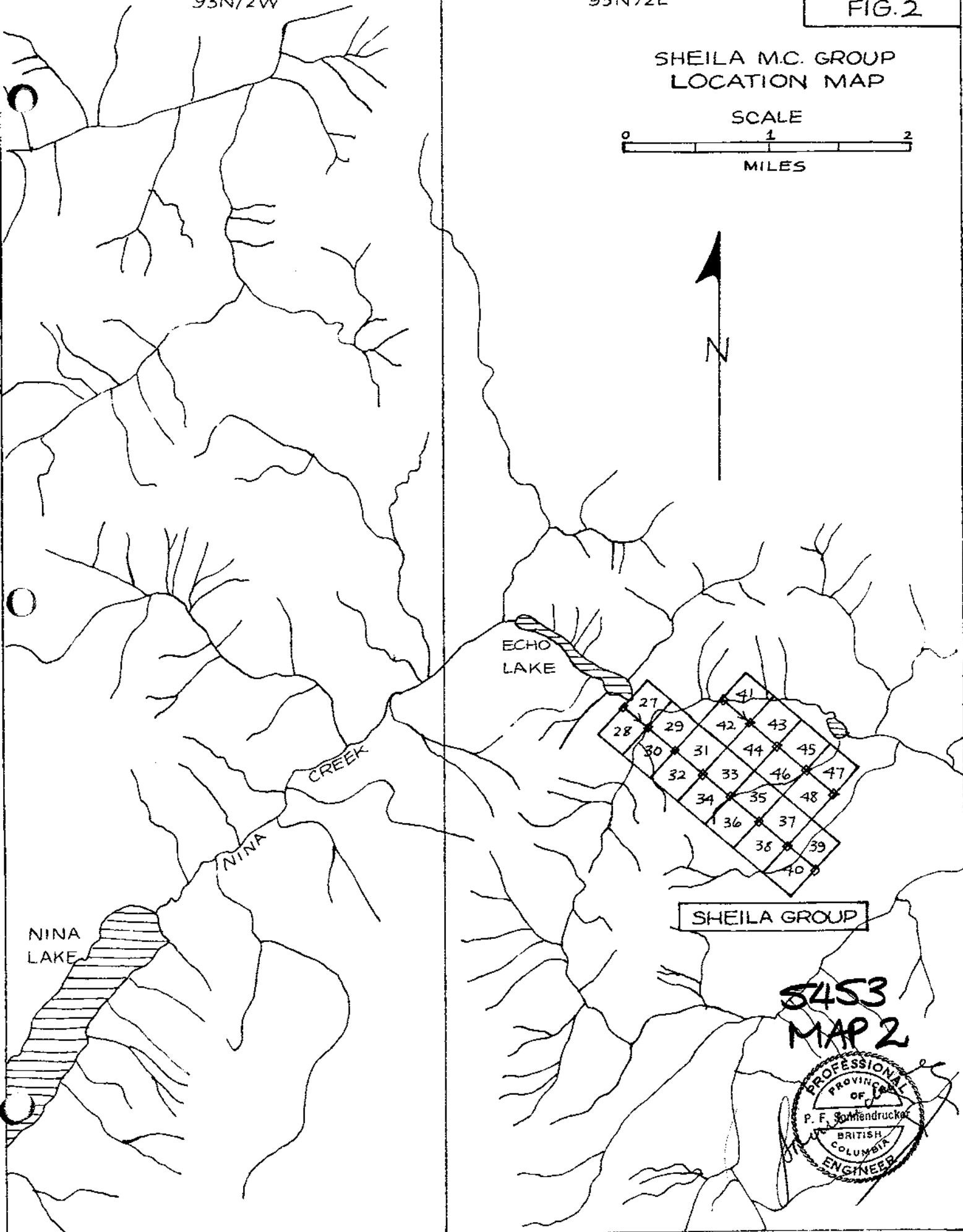
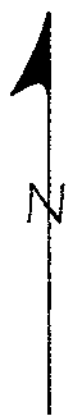
5. GEOLOGY

5.1 Regional

In the Manson Creek Belt of the Omineca Mountains, lead-zinc mineralization occurs within a massive, often brecciated carbonate unit (dolomite and dolomitic limestone) overlain by or pinching out into a grey to black slate and argillite unit, which is overlain by a thick volcanic and sedi-

56°00' 93N/2W 124° 45' 93N/2E FIG.2

SHEILA M.C. GROUP LOCATION MAP



SHEILA GROUP

5453
MAP 2



mentary sequence of altered greenstones with ribbon cherts, argillites, pelites and some conglomerates. Eastward, the carbonate unit appears in faulted contact with older metamorphic terrains of late Precambrian to lower Cambrian age.

The limestone-slate-greenstone lithological assemblage was previously attributed with doubt to the Cache Creek Group of upper Paleozoic age (J.E. Armstrong, 1949).

Recent field work by the G.S.C. indicates that late Proterozoic carbonates, succeeded to the west by phyllites, quartzites and pods of lower Cambrian limestones, are overlain with slight angular discordance by approximately 1000' of dolomite and dolomitic limestone, followed by slates of unknown thickness. Lower middle or possibly late lower Devonian fossils occur just below the slate, in a dolomite horizon that locally contains disseminated galena and sphalerite (J.W.H. Monger, 1973).

5.2 Local (Fig. 4)

Few outcrops have been encountered on the whole property.

Four mappable lithological units are distinguished:

- 1 - Slates: fissile, dark grey, siliceous aphanitic rock. This unit crops out in a band striking eastward at mid slope from SHEILA M.C. #28 to M.C. #33. Higher along the slopes, only chips of softer black slates have been recognized.
- 2 - Dolomite: only one type is mappable, but local varieties have been encountered.

The main unit is a grey, fine-grained, poorly bedded rock. At some outcrops, especially adjacent to the showings, one distinguishes a medium-grained, light brown, mottled or banded variety which is a transition between the black

limestone and the grey dolomite. Coarse white dolomite in veinlets occurs by places in the mineralized areas.

- 3 - Dark limestone: thin to medium bedded, grey to dark grey coloured, finely crystalline rock. This unit occurs along the gully downstream from the showing (SHEILA M.C. #30) and can be hardly followed by float tracing to the Northeast. Sedimentary structure (slumps, brecciated beds) have been recognized in this unit.
- 4 - Grey limestone: medium to thickly bedded, light grey coloured finely crystalline to aphanitic rock. This unit is extensively developed in the cliff facing south, north of Echo Lake and North of the SHEILA GROUP.

Dolomitic rocks occur in two bands, one of them bordering the slates unit, the other at 800' downhill. Zinc mineralization is closely related to the dolomitic facies.

Relationships between carbonates and slates is unknown. There is no outcrop close to the contact. The closest outcrop exhibit no brecciation or shattering. Morphologically, there are a series of troughs with steep 20'-30' banks in the area of the contact zone. These grooves are parallel to the contact zone and more or less parallel to the strike of the slates.

It is probable that a zone of weakness occurs along the contact carbonates - slates.

5.3 Mineralization

Three types of mineralization have been noticed:

- I - Aggregates of very fine-grained, brown sphalerite in elongated patches, $\frac{1}{2}$ to 1 inch long, with fine pyrite in the fine-grained grey dolomite. This type of occur-

ence is suboutcropping south of the location line of SHEILA M.C. #29-30, between lines 22E and 24E, over a restricted 400' x 100' area.

- II - Disseminated light green sphalerite with barite in a coarse dolomite vein cutting across the first type of occurrence.
- III - Coarse galena and brown-red sphalerite with barite cementing a probable tectonic breccia (D. Stelling's Showing).

The table shows the assays results (Rock analyses by Bondar Clegg Lab, Vancouver).

No. PS-74	Rock Lithology	Zn %	Pb %	Ag ppm	Ba %	Cd ppm
1	Coarse grey dolomite with rare green sphalerite (Type II)	.20	.05	2.3	.63	14
1A		.15	.05	1.9	.61	12
2		.50	.10	2.9	6.03	28
2A	Fine grey dolomite with lenses of fine brown sphalerite and fine pyrite (Type I)	5.10	.05	1.7	.66	380
2B		7.00	.05	3.0	.15	510
2C		8.65	.05	3.4	1.35	1080
2D		8.35	.40	5.8	3.25	830
2E		4.00	.10	5.9	5.35	380

A rock specimen of the D. Stelling's showing (Type III) grades 12.45% Zn but it is only a local pod.

Obviously, the first type of described occurrence (Type I) is the most attractive. Even with a probable upgrading by Zn-carbonate coating, the grade is still interesting.

6. GEOCHEMICAL SURVEY IN SOILS (Fig. 5 to 8)

6.1 Survey Method

A 2000' long base-line was flagged from 30E to 50E along the SHEILA #37 to 40 location line, with crosslines on 200' intervals. Stations were marked at 100' interval along the crosslines over 1500'.

A 4000' long base line was flagged from 50E to 90E along the SHEILA #43 to 48 location line, with crosslines on 400' intervals. Stations were marked at 200' intervals along the crosslines over 1500'.

Surveying was carried out with Silva Ranger Compass and Topofil. Elevations were noted with a Thommen Altimeter.

A total of 12.1 miles of lines has been flagged.

6.2 Sampling Method

Soils samples were taken by hand under the organic horizon in the B horizon. The soil is fairly well developed. The B horizon is from 5 to 20 inches maximum below the surface. Colour is brown to grey. Few organic samples had to be taken.

6.3 Assay Method

Assays were run for Pb, Zn and Ag by Vancouver Geochemical Laboratories (Assay Reports #74-79-3, 6 and 9).

Samples were dried in a hot air dryer, then sifted to -80 mesh. 0.50 g. portions of the -80 mesh fraction were weighted with a torsion balance.

Extraction was by hot HClO_4 and HNO_3 digestion and detection by using a Techtron AAS (Atomic Absorption Spectrophotometer).

6.4 Results

480 soil samples have been collected along different grids.

- 340 over 4000 x 2000' at 200' x 100' spacing (SHEILA #31, 32, 41, 42)
- 140 over 4000 x 2600' at 400' x 200' spacing (SHEILA #33, 43 to 48)

The range of values is as follows:

Pb : 2 - 1330 ppm
 Zn : 18 - 1000 ppm
 Ag : 0.2 - 6.1 ppm

Because of the unhomogeneity of the sampling grid, a selection of population was done by screening at a fictitious grid of 400' x 400'.

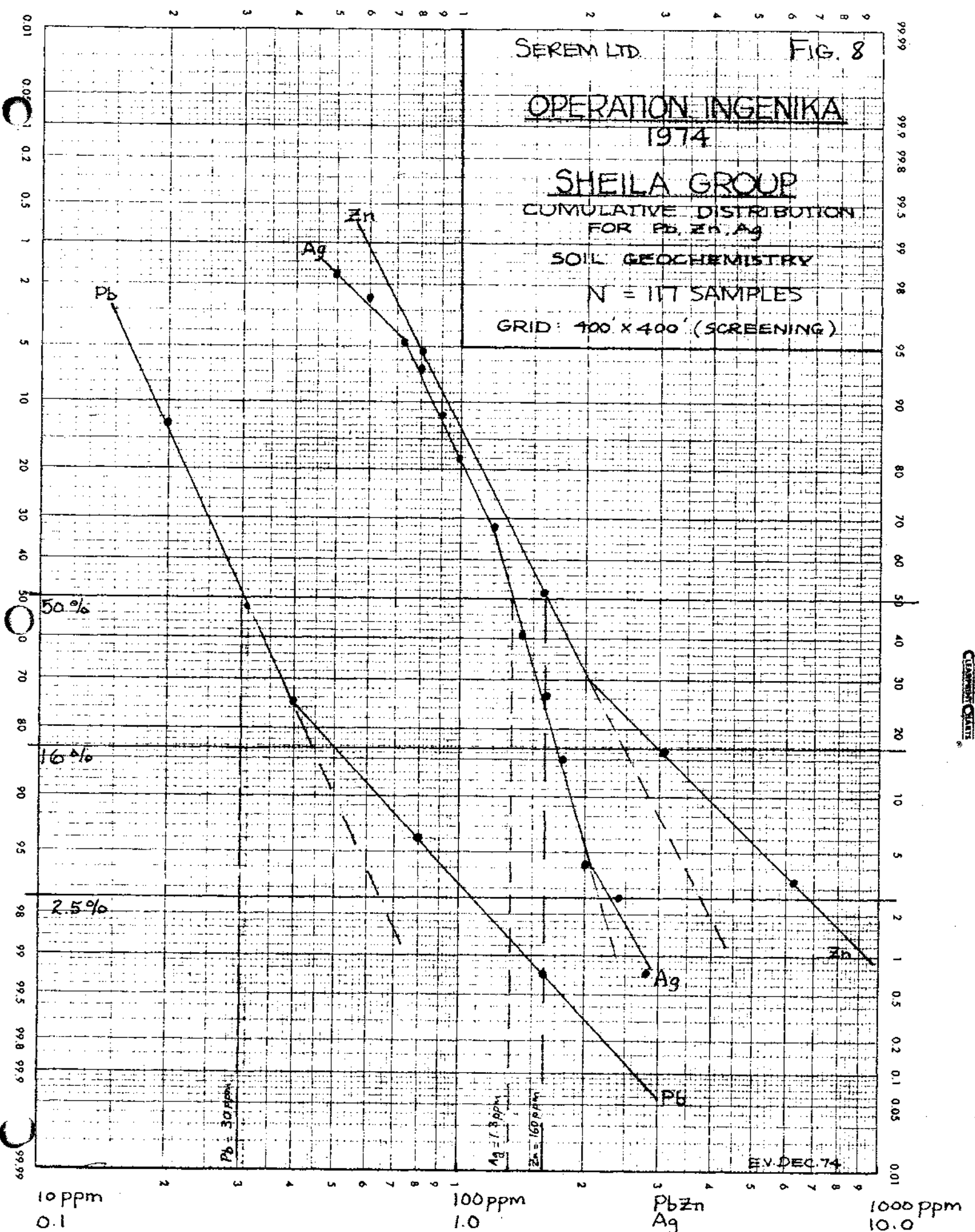
For the 118 screened soil samples, the Pb, Zn and Ag distributions are as follows:

ppm	20	40	80	160	320	640	1280
Pb	-	15	72	23	7	1	-
Zn	-	-	6	51	43	14	4

ppm	.4	.6	.8	1.0	1.2	1.4	1.6	1.8	2.0	3.0	
Ag	-	-	3	5	14	14	34	16	14	12	5

The Pb and Zn distributions show a positive skewness. The Ag appears normally distributed.

The cumulative frequency curves (Fig. 8) allow to define graphical parameters used to draw the isovalues lines on the geochemical maps.



The study of these maps (Fig. 5, 6 and 7) indicates that Pb and Zn anomalous points are scattered along the contact between carbonaceous rocks and slates. Because of the shifting of the Pb and Zn high values on SHEILA M.C. #44 between line 50E and 60E, a transverse fault is suspected in this area.

A noticeable Ag anomalous zone occurs on SHEILA M.C. #33 in a slate environment. No geological information is available for this zone. The anomaly could be located on the extension of the suspected fault.

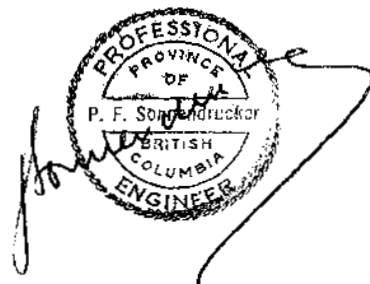
7. CONCLUSION & RECOMMENDATION

The Zn-showing located a few hundred feet south of the location line on SHEILA M.C. #30 deserves more attention. Rock analyses indicate a fairly consistent high Zn content.

However, this occurrence is known only by suboutcrops (or floats?) over a restricted 400 x 100' area.

The possible extension of this showing should be checked by detailed geochemical survey in soils and rocks (when possible) in this specific area, followed by trenching.

No drilling is proposed for the time being.



ANNEXE I

Statement of Expenses

The following is a breakdown of expenses incurred in carrying out the work on the SHEILA GROUP in June and July, 1974.

1. Field WorkPersonnel:

P. Sonnendrucker Senior Geologist	June 10-13 July 21 August 20	6 days @ \$80.00	\$ 480.00
C. Boyle Junior Geologist	June 8-13	6 days @ \$34.00	204.00
D. Paterson Geologist Assistant	June 8- July 5	28 days @ \$24.00	672.00
J. Bilinski Geochemical Sampler	June 8- July 5	28 days @ \$18.00	504.00
S. Seney Helper	June 8-13	6 days @ \$22.00	132.00
F. Yerbury Helper	June 8-13	6 days @ \$30.00	180.00
			<hr/>
			\$2,172.00
			<hr/>
<u>Food Expenses</u>	(\$8.00/man/day)	60 days	\$ 480.00
			<hr/>
<u>Helicopter Support</u>	(Jet Ranger \$250.00/hr.+ fuel)		
N.M.H. Invoice #7448	June 8 (1.9")		\$ 559.00
N.M.H. Invoice #7977	June 13 (3.1")		456.00
Okanagan Invoice #40364	July 5 (.8")		240.90
			<hr/>
			\$1,255.90
			<hr/>

Soil Geochemistry & Rock Assays

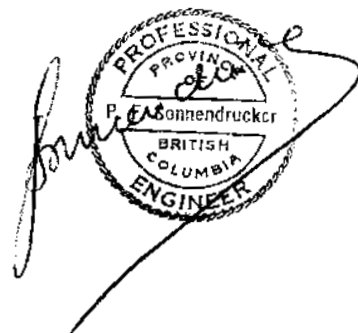
Testing soils Pb Zn Ag :	V.G.C. Report #3	171 samples	\$ 372.85
	Report #6	162 samples	355.15
	Report #9	206 samples	451.70
Testing rocks Pb Zn Ag Cd Bd :			
	V.G.C. Report #13	5 samples	29.25
Assaying rocks: Bondar Clegg	Report #1	12 samples	254.00
			<hr/>
			\$1,462.95

2. Office WorkPersonnel:

P. Sonnendrucker	5 days at \$80.00	\$ 480.00
E. Vipond	5 days at \$34.00	170.00
		<hr/>
		\$ 650.00

3. Recapitulation

<u>Field Work</u>	Personnel	\$2,172.00
	Food expenses	480.00
	Helicopter support	1,255.90
	Geochemistry	1,462.95
<u>Office Work</u>	Personnel	650.00
		<hr/>
		\$6,020.85



ANNEXE II

STATEMENT OF QUALIFICATIONS

I, PIERRE F. SONNENDRUCKER, with business address in VANCOUVER, B.C., hereby certify that:

1. I am a registered Professional Engineer in the Province of British Columbia:

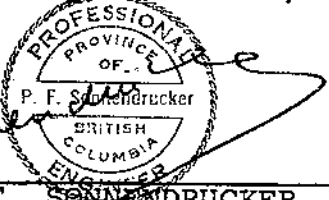
2. I am a graduate of the University of NANCY, FRANCE, with the diploma of Geological Engineer of the "Ecole Nationale Supérieure de Géologie Appliquée et de Prospection Minière" (Ingénieur-Géologue ENSG, Promotion 1954):

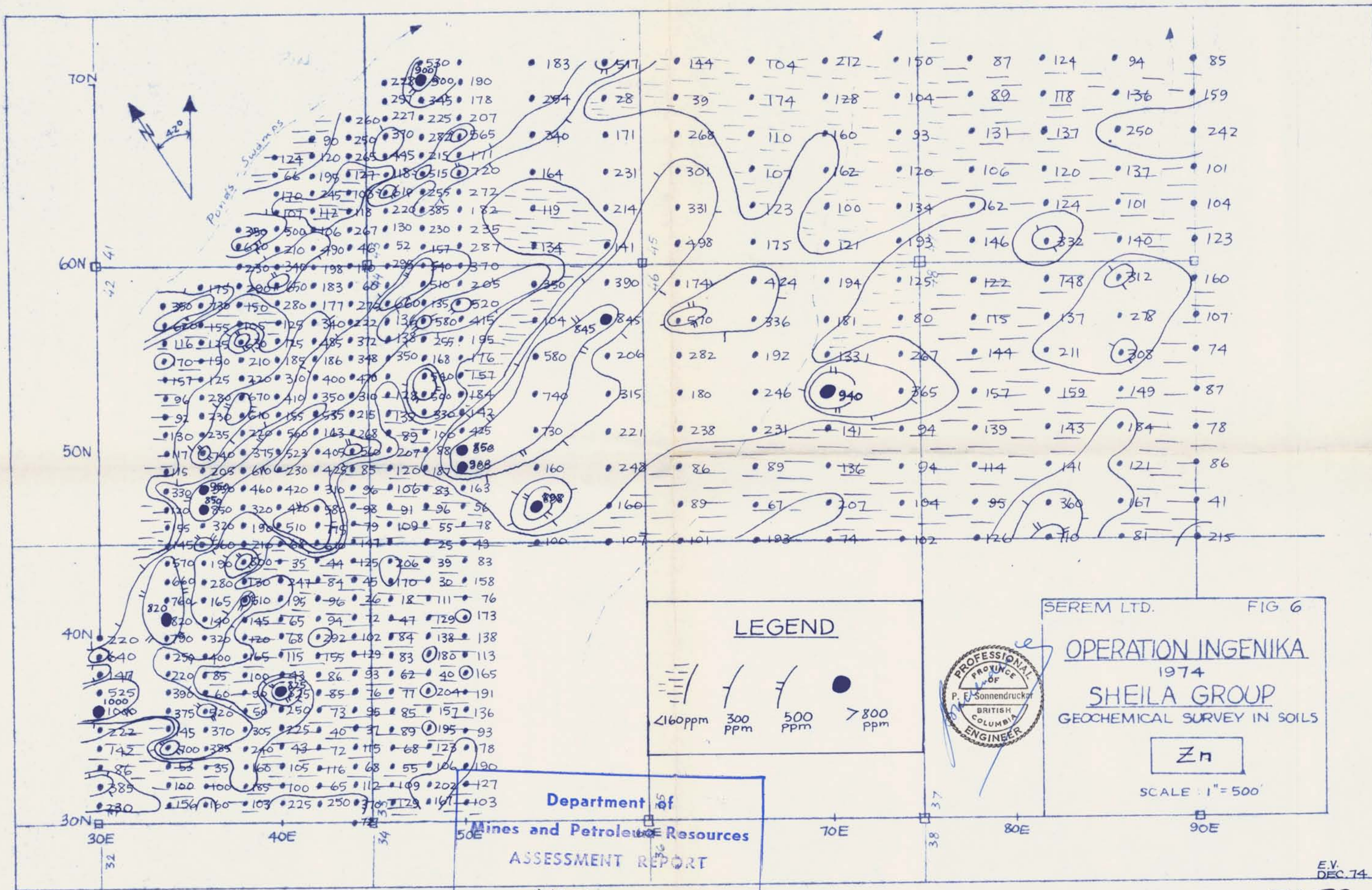
3. I have practised as a Geologist since 1957 in West Africa (Ivory Coast, Guinea), France and Canada (British Columbia);

4. I am employed by SEREM Ltd., 770-2100 Drummond Street, MONTREAL 107, Quebec, as a Senior Geologist. My residential address is 5981 Holland Street, VANCOUVER, B.C.

5. I have personally participated in the field work and supervised all the completed work included in this report. I have interpreted the data resulting from this work.

Respectfully submitted,


PIERRE F. SONNENDRUCKER, P.Eng.



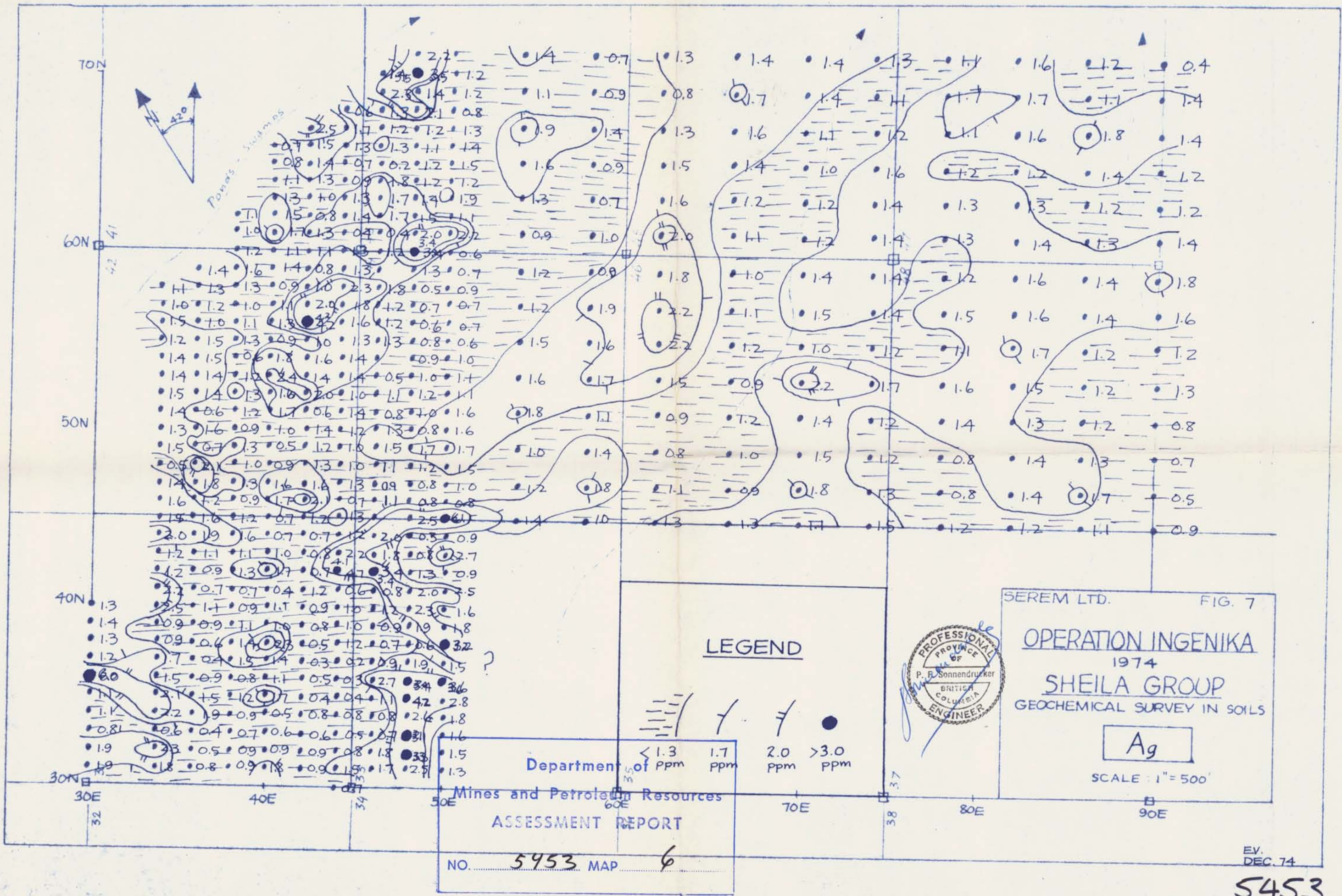
Department of
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ASSESSMENT REPORT
NO. 5453 MAP 5

SEREM LTD. FIG 6
OPERATION INGENIKA
1974
SHEILA GROUP
GEOCHEMICAL SURVEY IN SOILS
Zn
SCALE: 1" = 500'



E.V. DEC. 74

5453
MAP 5



Panas - Suamias

LEGEND

- < 1.3 ppm
- 1.7 ppm
- 2.0 ppm
- > 3.0 ppm



SEREM LTD. FIG. 7

OPERATION INGENIKA
1974

SHEILA GROUP
GEOCHEMICAL SURVEY IN SOILS

Ag

SCALE: 1" = 500'

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NO. 5453 MAP 6

EV. DEC. 74

5453
MAP 6

SEREM LTD. FIG 4
 OPERATION INGENIKA
 1974
 SHEILA GROUP
 GEOLOGY

LEGEND

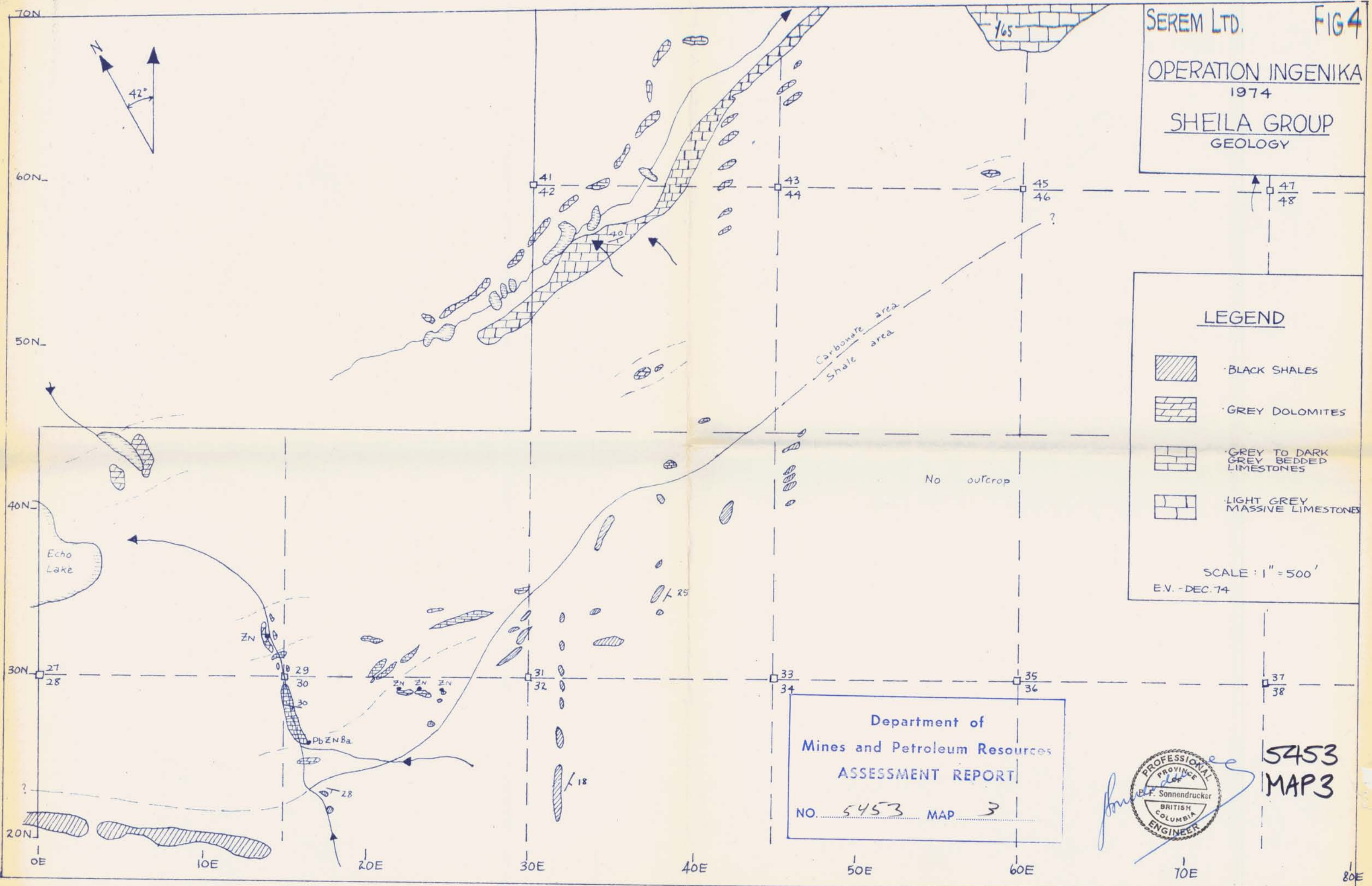
-  BLACK SHALES
-  GREY DOLOMITES
-  GREY TO DARK GREY BEDDED LIMESTONES
-  LIGHT GREY MASSIVE LIMESTONES

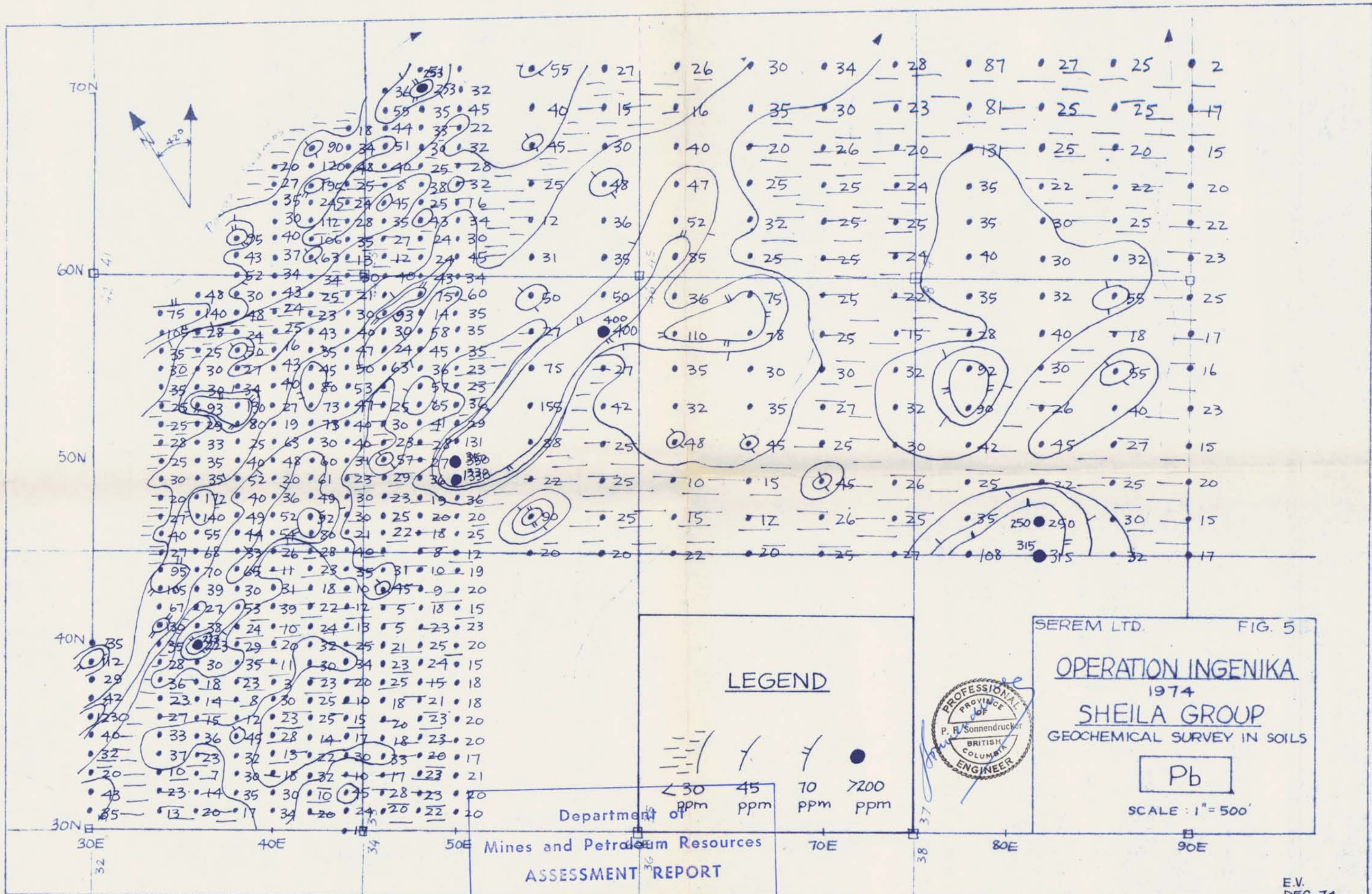
SCALE: 1" = 500'
 E.V. - DEC. 74

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 MAP 3





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 NO. 5453 MAP 4

SEREM LTD. FIG. 5
 OPERATION INGENIKA
 1974
 SHEILA GROUP
 GEOCHEMICAL SURVEY IN SOILS
 Pb
 SCALE: 1" = 500'



E.V.
 DEC. 74

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 MAP 4

SHEILA GROUP
TOPOGRAPHICAL MAP

SCALE : 1" = 1000

DRAWN BY EVIPOND
FEBRUARY 1975

TOPOGRAPHICAL BACKGROUND

PACIFIC SURVEY CORPORATION
1409 WEST PENDER STREET
VANCOUVER B.C.
V6G 2S4

LEGEND

- - ACTUAL CLAIM POST LOCATION
- - APPROXIMATE CLAIM POST LOCATION.

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MAP 7

