



GEOLOGICAL GEOCHEMICAL GEOPHYSICAL REPORT

ZINC 1 - 16 CLAIM GROUP

YA 33021 - 036

WATSON LAKE MINING DIVISION

MAP 105B/4

by

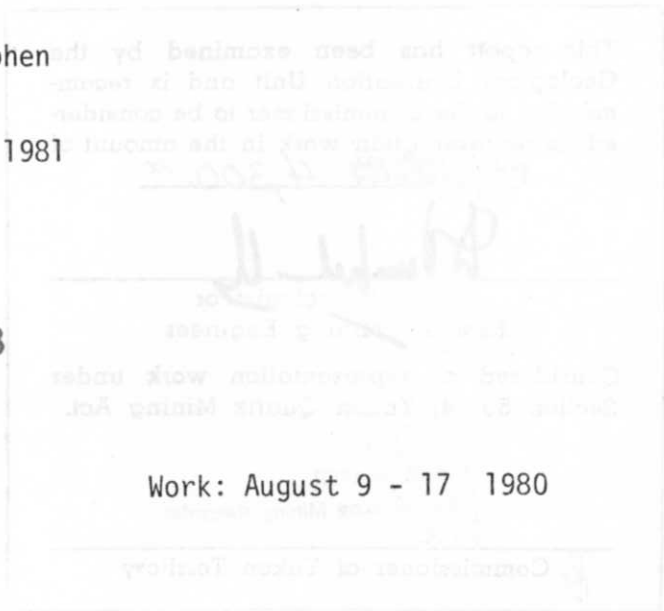
J.C. Stephen

February 1981

090778

Operator: D.C. Syndicate

Work: August 9 - 17 1980





This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

\$~~11,000.00~~ 4,300.00

Resident Geologist or
Resident Mining Engineer

Considered as representation work under Section 53 (4) Yukon Quartz Mining Act.

Commissioner of Yukon Territory

09077000

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
LOCATION AND ACCESS	2
REGISTER OF CLAIMS	2
CLAIM LOCATIONS	4
1980 PROGRAM	
GEOLOGY	6
ROCK TYPES	6
STRUCTURE	8
MINERALIZATION	11
GEOCHEMISTRY	12
SOIL GEOCHEMISTRY	12
ROCK GEOCHEMISTRY	13
GEOPHYSICS	
MAGNETOMETER PROFILES	16
GENERAL	17
APPENDIX I	TABLE OF EXPENDITURES
APPENDIX II	STATEMENT OF QUALIFICATIONS

LIST OF ILLUSTRATIONS

<u>Figure</u>	<u>Title</u>	<u>Page</u>
I	ZINC CLAIM GROUP LOCATION MAP	3
II	CLAIM MAP	5
III	ZONE 8 ROCK FACE	10
 <u>Maps</u>		
I	ZINC CLAIM GROUP GEOLOGY 1:6000	in pocket of report
II	ZINC CLAIM GROUP GEOCHEMISTRY 1" - 200'	in pocket of report
III	ZINC CLAIM GROUP MAGNETOMETER PROFILES 1" - 200'	in pocket of report

INTRODUCTION

Prospecting in the Zinc Creek area had originally been instituted to follow up on zinc anomalies obtained by silt sampling during 1976. During 1977 more detailed sampling was done and early in 1978 some of these samples were analysed for tin. Values ranged up to 100 - 150 ppm Sn in three small creeks and the location was chosen for staking and further prospecting.

Preliminary geological mapping and soil sampling was done during 1978 and results are described in "Geological, Geochemical Report on the ZINC 1 - 16 Mineral Claims" dated March 1979. A strong geochemical soil anomaly was located and recommendations were made for more detailed work.

No funds were available for work on Zinc group during 1979 although a brief visit was made during which portions of the Seagull batholith and the intrusive-sedimentary contact were examined.

During the 1980 field season a program was conducted which generally followed the recommendations made in the 1978 report.

LOCATION AND ACCESS

Figure I

The ZINC claim group is located 22 miles north west of Swift River and 21 miles north of the Alaska Highway. Elevations vary from about 4000 to 5000 feet on the claim group. The central portion of the group is at about the elevation of the local tree line.

Drainage on the claims is mainly to the north into Zinc Creek which flows across the north east corner of the group and north west into the Morley River.

Access to the claim group has been entirely by helicopter.

REGISTER OF CLAIMS

<u>Name</u>	<u>Record Number</u>	<u>Dates Staked</u>	<u>Recorded</u>
ZINC 1 - 8	YA 33021 - 028	June 7, 1978	June 15, 1978
ZINC 9 - 16	YA 33029 - 036	June 6, 1978	June 15, 1978



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D.C. SYNDICATE
ZINC CLAIM GROUP
LOCATION MAP

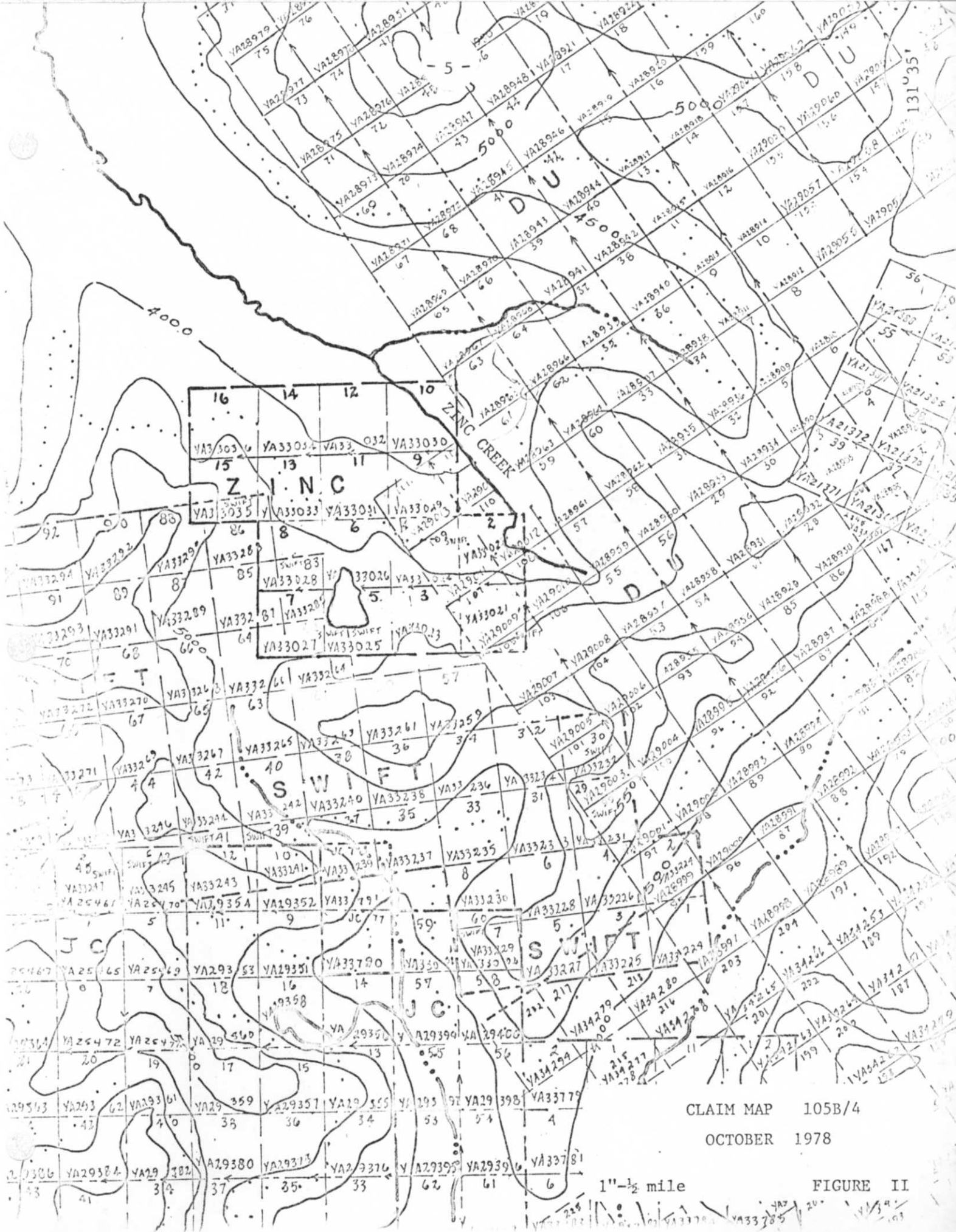
1:250,000

FIGURE I

CLAIM LOCATIONS

Figure II shows the general location of claims in the area. A more detailed plot of claim locations is shown on Map I, Geology at 1:6000 scale. Due to the irregular nature of the location line for ZINC 1 - 8 several fractions occur.

At the east end of ZINC group the locations of the original DU posts were recorded on Map I Geology filed with "Geological, Geochemical Report on the ZINC 1 - 16 Mineral Claims" dated March 1979 and based on mapping during summer 1978. During mapping in the summer of 1980 it was found that those posts had been removed and new posts were placed at locations shown on Map I Geology with this report. (i.e. north east of Gem Lake).



CLAIM MAP 105B/4

OCTOBER 1978

1" = 1/2 mile

FIGURE II

1980 PROGRAM

GEOLOGY

MAP I

Geological mapping was done at a scale of 1:6000 in areas of outcrop on the claim group and to some extent to the east and west of the claim group. Detailed mapping at 1:1200 was done in the south central portion of the group above the large soil anomaly indicated by 1978 sampling.

In general it appears that a gently south dipping sequence of quartzitic sediments with interbedded volcanic flows and tuffs is overlain by limestone - calc silicate horizons. This assemblage was intruded by an older phase of the Seagull batholith and this, in turn, has been intruded by younger massive phases of the Seagull.

ROCK TYPES

Quartzite and Altered Quartzite

Generally finely to medium crystalline, dark grey to grey-brown in colour, weathered surface dark grey and often rust coloured; some samples of altered quartzite outcrop having a high mica content with finely disseminated or thinly laminated fragments of biotite. (virtually gneissic in appearance due to preferred orientation of micas).

Altered quartzite highly impure, darker grey brown in colour with one outcrop on west side of large lake (ZINC 5) having minute blebs of finely disseminated pyrite.

Tuff

Finely crystalline, dark purple grey to purple brown in colour: weathered surface dark grey; bearing thin pods and lenses, plus very thin, pinched out "horizons" of light grey-green, finely crystalline, calc-silicate skarn. May vary widely from 90% dark purple "hornfels" appearing rock with 10% grey-green skarn like rock, to 90% grey-green calc-silicate with 10% hornfels.

Granite

This rock unit is specifically referred to as the Seagull Batholith and appears in outcrop as being fine, medium, and coarse grained (also virtually porphyritic in appearance). Weathered surface is light grey to pinkish beige in colour; fresh surface appears pinkish through to beige in colour; pinkish colouring may be due to limonite staining. Abundant minerals include: smokey quartz, milky to cream coloured feldspar, biotite, and black tourmaline.

Quartz is generally present as rounded and sub rounded "eyes." In porphyritic appearing samples, feldspar phenocrysts are irregular shaped and randomly distributed. Biotite is finely to coarsely disseminated throughout, and on many weathered surfaces has been weathered out completely to leave squarish cavities in the rock. Tourmaline appears in the coarser grained outcrops as irregular blebs distributed throughout, or as vein and fracture filling.

STRUCTURE

Contact relationships between intrusive and volcanic rocks varies from concordant in the northwest-southwest portion of the area to discordant in the south east. The variation is due to the geometry of the intrusive. Contacts between granite and volcanics were not observed as talus obscured much of the critical area. The contacts are assumed to be sharp.

The volcanics lie in an arcuate pattern dipping about 25° to 35° south west. They are locally highly contorted and display, on the mountain face, local unconformities. These features may be due to primary volcanic deposition.

The limestones appear to lie unconformably on the volcanics but contact relations are obscure. Strike and dip from the outcrops on the mountain top suggest an unconformity, yet, when viewed from a distance, a conformable contact appears likely. The precipitous face discourages first hand examination.

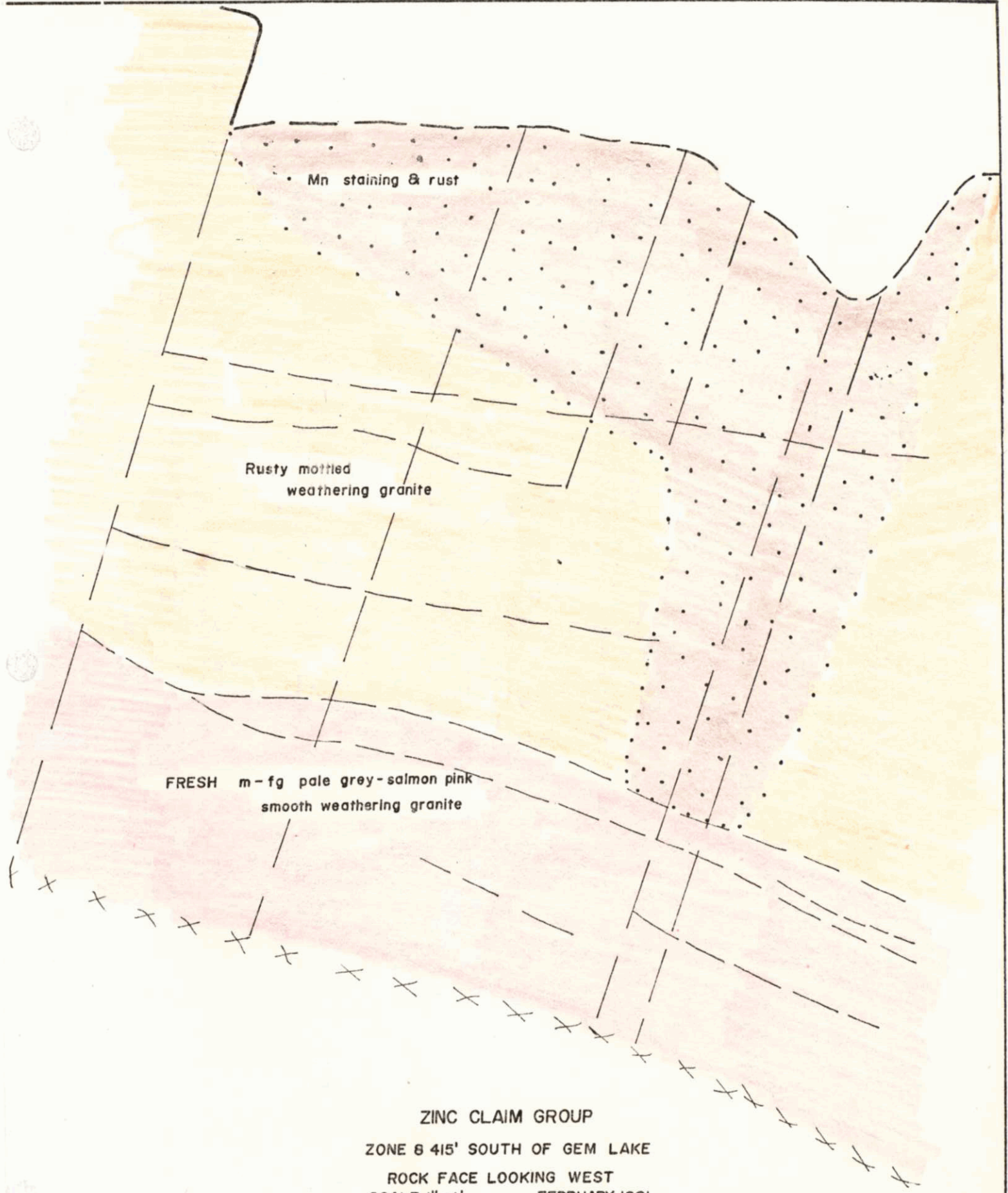
Obvious faulting appears directly south of claims ZINC 5 and 7. The limestone is cut off by an elevated footwall of volcanics indicating possible reverse faulting. The fault zone has been filled with mafic dyke rock. On ZINC 15 and to the west a sharp fault zone exists trending west and dipping steeply south. Only a little shearing is evident.

Sharp gullies in the mountain top and aretes to the south and south east of ZINC group indicate several faults trending approximately north. These are generally narrow, straight, nearly vertical zones with relatively little displacement.

In the north west portion of the claim group, near the granite - volcanic contact, a breccia pipe crosscuts the volcanics. The pipe contains angular to rounded granite fragments as well as blocks of volcanics.

On claim ZINC 15, a local "high" occurs at the granite contact immediately north of the west striking fault. For some fifty feet below the top of the granite the rock appears to be altered as though by a concentration of volatiles. Greenish muscovite mica, lenses of white quartz and some tourmaline give the granite a yellow green, soft appearance.

In the south east portion of the claim group several zones of east west striking fractures or joints occur. These contain some sulphide mineralization and a concentration of quartz and tourmaline. The zones are marked by rusty brown to black manganese stains and by apparent alteration of the wall rocks. The zones appear to narrow and weaken within short distances vertically as shown in Figure 3. No displacement is indicated on these zones but they contain the only significant tin mineralization found.



ZINC CLAIM GROUP
ZONE 8 415' SOUTH OF GEM LAKE
ROCK FACE LOOKING WEST
SCALE 1" = 1' FEBRUARY 1981

FIGURE 3

MINERALIZATION

The only mineralization of note occurs in the various east west striking manganese stained fracture zones. The zones contain quartz and tourmaline, probably some fluorite and variable small amounts of pyrite, sphalerite, galena and arsenopyrite. Geochemical analysis shows that tin is present in some zones although actual assays were done on only a few samples.

Sphalerite, with small amounts of pyrite and rare galena occur in lenses with calc silicate zones associated with the upper and lower contacts of the limestone horizon at the top of the mountain south of the ZINC claim group. Values up to 20% zinc may be obtained locally. Lenses appear to be small.

GEOCHEMISTRY

Soil Geochemistry

Two short lines of soil samples were taken on ZINC 2 to outline the east limits of the main soil anomaly. See Map II Geochemistry. High tin values were obtained on line 95+00E but these dropped off substantially on line 99+00E. Minor zinc values occur with very minor tungsten.

There is no outcrop apparent within the anomalous zone except for small outcrops of fresh, massive, barren Seagull intrusive at the south west edge of the anomaly. The creek channel was prospected and several manganese stained fine grained granitic boulders were found.

From present knowledge of the distribution of tin mineralization and the soil anomalies it is assumed the anomalies have formed as a result of glacial transportation of tin bearing rubble from the fracture zones in the south east corner of the property and in the high cirque area to the east known as Duponts' Plateau Zone.

Rock Geochemistry

Rock chip samples were cut across the several manganese stained fracture zones in the south east portion of the property and from some zones to the east. Isolated samples were taken south east of Zinc Lake and on ZINC 15. In the field these samples are marked by painted lines on the natural rock face or on the rock face cleaned by stripping and removal of loose rock. Sample numbers were painted over each sample section. Locations of samples are indicated by numbers (i.e. 67622) on Map I Geology. Results of analysis are listed on the following table. No values of ore tenor are indicated.

ZINC CLAIM GROUP

LIST OF ROCK GEOCHEM RESULTS

<u>Zone</u>	<u>Sample No.</u>	<u>Width</u>	<u>Geochem Values ppm</u>				
			<u>Sn</u>	<u>Zn</u>	<u>Ag</u>	<u>Pb</u>	
Duponts Plateau Zone	67603 B	5.0'	0.04%	0.20%	3.79 oz	0.34%	
	67605	2'	1				
	67654 B		15				
	67655		14				
	67656		18				
	67657		10				
	67658		1				
	67659		1				
	67660		12				
	67661			0.01%	0.03%	3.79 oz	0.09%
	67662			9			
	67663			0.01%	0.04%	0.15 oz	0.02%
	67664			3			
	67665			15			
	East Side Gem Lake	67602 B	5'?	59			
67606 B		1.2'	55				
67607		6'	14				
67608		1.2'	5				
67609		4'	27				

Zone	Sample No.	Width	Geochem Values ppm			
			Sn	Zn	Ag	Pb
South side Gem Lake	67622 B	2'	100	1700	0.1	
	67623	2'	29	-	0.1	
	67624	1'	33		0.2	
	67625	4'	160		0.2	
	67626	4'	92		0.1	
	67627	3'	595	1600	1.0	
	67628	3'	350		0.2	
	67629	1.5'	>1000			
	67630	6'	>1000			
	67631	6'	200			
	67632	6'	70			
North end Gem Lake	67601 B	1.5	8			
	67610	2'	69			
	67611	3'	15			
	67612	0.5'	45			
	67613	0.5'	120			
	67614	3'	>1000			
	67615	1.2	370			
South of Zinc Lake	67604 B	Talus	1			
	67616 B	2'	430			
	67617	2'?	25			
	67618	Talus	0.01%	3.65%	0.26 oz	
	67619	Talus	0.02%	2.57%	0.99 oz	
Zinc 15 Claim	67620 B	10				
	67621	7				

GEOPHYSICS

Magnetometer Profiles

Five widely spaced magnetic profiles were read on north south flagged lines. Results are shown on Map III Magnetometer Profiles. A Scintrex MP-2 Proton magnetometer was used to take readings at 25 metre intervals. Readings generally vary from 210 to 375 gammas with only a very few higher readings.

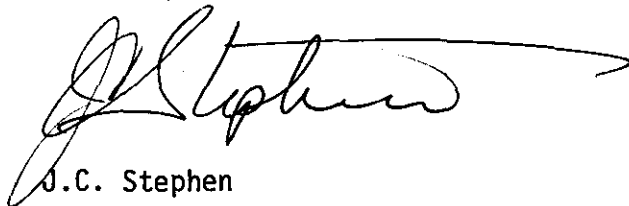
East of Zinc Lake two readings of 527 and 574 gammas indicate a local magnetic high. Check readings indicate this anomaly does exist but no evidence was found in local outcrop or float to indicate a possible cause.

Geological mapping suggests that all lines are over rocks of the Seagull batholith except the south portion of the line along the west boundary of claim ZINC 3 which is at or just above the granite-sedimentary contact. No significant structures or geological trends were indicated by the survey.

GENERAL

Three diamond drill sites were found south east of the claim group as shown on Map I. These were drilled by Dupont to test several of the east west striking manganese stained fracture zones. Depths of these holes are not known. The most northerly hole is at the south boundary of ZINC 1. The zones drilled are the same zones that D.C. Syndicate prospected in 1977 as part of the investigation of the zinc anomaly in Zinc Creek.

Respectfully submitted,
J.C. Stephen Explorations Ltd.



J.C. Stephen

JCS/ms

A P P E N D I X I

TABLE OF EXPENDITURES

TABLE OF EXPENDITURES

WAGES AND BENEFITS

J.C. STEPHEN	AUGUST	9-16	7 DAYS @ \$150	\$1050	
N. STEPHANIAN	AUGUST	9-17	8 DAYS @ \$1500/m	387	
P. PHILLIPS	AUGUST	9-17	8 DAYS @ \$1500	387	
S. WOLLNER	AUGUST	9-17	8 DAYS @ \$1200	310	\$2134

CAMP AND SUPPLIES

32 MANDAYS @ \$10		320	\$ 320
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GEOCHEMISTRY AND ASSAYING

ASSAYS

2 SAMPLES FOR Pb, Zn, Ag, Sn	INVOICE 38605	\$ 44.20	
3 SAMPLES FOR Pb, Zn, Ag, Sn,	38604	\$ 56.10	

GEOCHEM

18 SAMPLES FOR Sn	@ \$3.25	\$ 58.50	
18 SAMPLES FOR Zn, Sn, W	@ 8.65	155.70	
29 SAMPLES FOR Zn, Sn, Ag	@ 6.55	189.95	\$ 504

HELICOPTER

AUGUST 9	½ of \$1074	\$ 537	
AUGUST 16	306	306	
AUGUST 17	½ of \$1126	563	\$1406

TOTAL	<u>\$4514</u>
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4364

A P P E N D I X II

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

NUSHY STEPHANIAN

I, Nushy Stephanian, of Mississauga, Ontario do certify
that:

- (1) I am a graduate geologist of the University of Toronto with a Bachelor of Science degree in geology obtained in 1979
- (2) I am a candidate for Master of Science degree in Mineral Exploration from Queen's University expected in 1981
- (3) I have the following mineral industry experience

Essex Minerals	May - Sept. 1978	Junior Assistant
Gulf Minerals Canada Ltd.	May - Sept. 1979	Senior Assistant
J.C. Stephen Explorations Ltd.	June - Sept. 1980	Geologist

N. Stephanian



21,917,500' N
 21,915,000' N
 21,912,500' N
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 21,907,500' N

21,905,000' N
 60° 12' 00"

1,150,000' E

1,152,500' E

1,155,000' E

1,157,500' E

1,160,000' E

1,162,500' E

1,165,000' E

- LEGEND
- 3 Seggill Quartz Monzonite
 - 0 Monzonite - rusty weathering
 - 2 Tuff, Tuffaceous Sediments
 - 0 Andesite
 - 1 Quartzite
 - Fault
 - Diamond drill hole
 - 67608 Rock chip sample number

J.G. STEPHEN EXPLORATIONS LTD
 D.C. SYNDICATE
ZINC CLAIM GROUP
 GEOLOGY
 NTS 105 B/4
 SCALE: 1:6000
 DATE: DECEMBER 1980
MAP I

00 35' 42"



123 SOIL SAMPLE w Zn P.P.M.

J.C. STEPHEN EXPLORATIONS LTD.
 D.C. SYNDICATE
 ZINC CLAIM GROUP
 GEOCHEMISTRY
 Scale: 1" = 200'
 March 1979
 AUG 31 1980



J.C. STEPHEN EXPLORATIONS LTD.
 D.C. SYNDICATE
ZINC CLAIM GROUP
 MAGNETOMETER PROFILES
 SCALE 1" = 200 gamma
 1" = 200'
 AUGUST 1980