GEOLOGICAL, GEOCHEMICAL REPORT

on the

ZINC 1 - 16 MINERAL CLAIMS

YA 33021 - 036

MAP SHEET 105B/4
LAT. 60°13'N; LONG. 131°39'W,
WATSON LAKE M.D. YUKON

by
J.C. Stephen

090457

WORK DONE: June 16 - August 24 1978

BY: J.C. STEPHEN EXPLORATIONS LTD.

FUNDED BY: D.C. SYNDICATE

MARCH 1979

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

$1000.00

D. B. Craig 5 Jun 79

Resident Geologist or
~~Resident Mining Engineer~~

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

B. R. BAXTER
Supervising Mining Recorder

Commissioner of Yukon Territory

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on the

ZINC 1 - 16 MINERAL CLAIMS

INTRODUCTION

The claims lie near the south west contact of the Seagull batholith in an area which had previously been of interest to us because of high zinc values in silt samples from the main creek which is termed "Zinc Creek" in this report.

Prospecting in the vicinity in 1977 had located several zones of sphalerite mineralization. The best of these occur near the mountain top directly south of the Zinc group at, or near, the contact of the limestone horizon. The limestone lies above a sequence of volcanics and below beds of argillite. These mineralized zones were considered too small to warrant continued exploration.

The Zinc claim group was staked June 7, 1978 to cover an area where silt sampling had indicated anomalous tin values in three small creeks.

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 to Zinc Creek which flows across the north east corner of the group toward the north west into the Morley River.

Access to the claim group has been entirely by helicopter.

STAKING AND CLAIMS LIST

Figure II

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 further prospecting.

A crew was flown to the site June 5, 1978 with instructions to commence staking. Claim posts were found near the east boundary of the proposed claim block. These posts had recently been dropped by contractors staking for Dupont-Duval joint venture. Our claim block outline was adjusted to the west to avoid ground apparently staked.

Our staking was completed on June 7 just prior to helicopter staking by contractors on behalf of Welcome North. By chance

D.C. SYNDICATE

ZINC CLAIM GROUP

LOCATION MAP

1:250,000 FIGURE 1

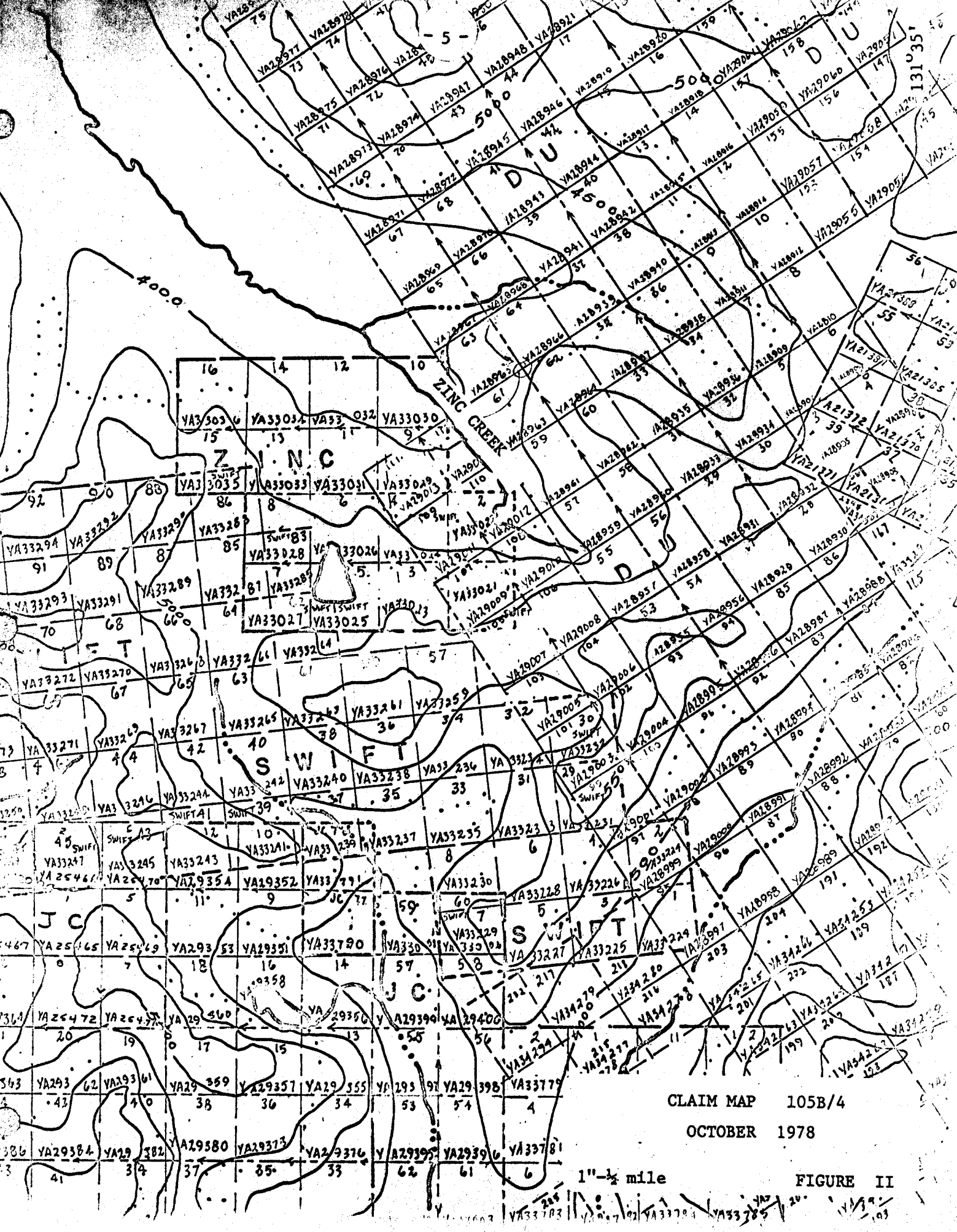
the writer was with John Brock of Welcome North on June 6 when we observed, from a distance, the staking activity on our behalf on the Zinc group.

When it became evident that Welcome North claims conflicted with the Zinc group a meeting was held July 4, in Vancouver, with John Brock. At that meeting Welcome North agreed to withdraw claims applications for those claims which, on the sketches then available, appeared to lie within the Zinc group.

Subsequent work has resulted in locating the posts for some DU and some SWIFT claims. These are shown on Map II Geochemistry. There is considerable confusion among the DU group claim posts which has not been resolved. The posts located are considerable distances from the indicated positions on claim map 105B/4. In particular it may be that DU 95-112 have been staked from north to south rather than south to north as shown on Figure II "Claim Map".

ZINC GROUP CLAIMS

NAME	RECORD NO.	DATES STAKED	DATES RECORDED	STAKER
ZINC 1 - 8	YA33021 - 028	June 7/78	June 15/78	Jim Turner
9 - 16	YA33029 - 036	June 6/78	June 15/78	Brian Atkinson



CLAIM MAP 105B/4

OCTOBER 1978

1"–½ mile

FIGURE II

GEOLOGY

The regional geology is shown on G.S.C. Map 10-1960 Wolf Lake. The Seagull batholith is indicated to be "mainly biotite leuco-quartz monzonite and alaskite, in places with quartz tourmaline concentrations and miarolitic cavities" of uppermost Cretaceous or lowermost Tertiary age.

The batholith is some twenty seven miles long and two miles wide in the vicinity of the property. It trends south east-north west and intrudes Upper Devonian and Lower Mississippian sediments.

As shown on Map I "Geology" there is relatively very little outcrop on the claim group. Mapping was conducted during the latter part of June by Wayne Bulmer. Some further work was done by Jim Chartier in August while soil sampling was being conducted. Descriptions of rock types given here are primarily those of Bulmer.

SUMMARY

The area of bed rock mapped was approximately three square miles, of which only a small proportion (-20%) belonged to the claim group; the remainder consisted entirely of forested low-land, swamp, glacial till and talus.

The rocks, in decreasing order of abundance, are;- intermediate - felsic volcanics; medium to coarse grained sub-porphyritic granite with aplitic phases, and white crystalline and fossiliferous limestone. Chert may or may not be present as chert like outcrops may in fact be fine grained rhyolitic ash. The volcanics are composed essentially of pyroclastic material ranging from fine, thinly laminated, ash to ignimbrites. All intermediate

volcanics contain finely disseminated hematite, thus imparting a mauve tinge to an already medium grey coloured rock.

Thin fractures within fine ash crystal tuff on the mountain south east of the claims contain abundant schorl indicating an abundance of boron.

Limestone contain no obvious mineralization other than infrequent hydrozincite coatings.

The granites invariably contain finely disseminated pyrite and have thin limonite coatings along most joint and fracture planes. The granite may be a source for fine grained cassiterite which, until now, has not been detected.

LITHOLOGICAL VARIETIES

(1) VOLCANICS

(a) Mauve-grey fine grained massive ash. Thinly laminated, may appear massive on fresh surface.

(b) Thinly laminated ash, few wisps and lenses of lighter material may be fragments.

(c) Abundant felsic fragments - lenses finely laminated. Pumice fragments, quartz veining.

(d) Quite siliceous,lighter material dominant, still laminated.

(e) Very silicious, laminated welded fragments, medium grey.

(f) Mauve with white-grey interbeds - crystal tuff.

(g) Massive grey mauve trachytic textured crystals - trachy-andesite.

Dark green to black, andesitic to basaltic flows, with amygdaloidal flow margins were observed south of Zinc 7.

(2) GRANITE

(a) Aplitic with quartz veinlets.

(b) Coarse grained, sub porphyritic with abundant quartz eyes.

(c) Equigranular, coarse grained.

(d) Pegmatitic, coarse feldspars.

(3) OTHER

Intrusive breccia pipe

STRUCTURE

Contact relationships between intrusive and volcanic rocks varies from concordant in the northwest-southwest portion of the area to discordant in the southeast. 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° southwest. 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 only in one place 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.

In the northwest 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.

MINERALIZATION

No mineralization of importance was located except for pyrite finely disseminated throughout the granites and felsic pyroclastics. Cassiterite may occur finely divided in the granites but has not been detected. One sample of fine grained granite was crushed and panned but no heavy minerals were detected except for minor magnetite.

Indications of sphalerite, galena, chalcopyrite, fluorite and axinite were seen in rock and talus samples collected for rock geochemical analysis but no mineralized zones have been located and mapped.

GEOCHEMISTRY

SOIL GEOCHEMISTRY

Some 229 soil and talus samples were collected on a tape and compass grid covering the central part of the claim group. These samples were analysed for zinc, tungsten and tin and results are shown on Map II "Geochemistry". Samplers notes indicate fair to good soil horizon development over much of the sampled area. The south end of most lines ran into areas of talus and part of the northeast corner of the grid was swampy.

ZINC

Values average 185 ppm with some values in the range of 300 - 500 ppm. The only distinctly anomalous values lie near the south boundary on Zinc 5. These values lie directly below thin zones (6 to 12 inches) of sphalerite mineralization at the upper contact of the limestone horizon at the top of the mountain. It is possible the values are due to mineralized talus from that source. It is, however, quite possible that more extensive mineralization is present on the cliff face which has not been observed because of difficult access.

There is no direct relationship between zinc values and those for tungsten or for tin.

TUNGSTEN

Values range generally from 5 to 15 ppm with a single high of 50 ppm. Two relatively high values of 25 and 30 ppm occur with the highest zinc values. No distinct zone of anomalous tungsten values is indicated and no zone of tungsten mineralization has been found. There is a suggestion in the distribution of the tungsten values that they are peripheral to the tin anomalies.

TIN

Values average 19 ppm but range as high as 250 ppm on the most easterly line.

Results are contoured, on Map II, at 10, 20 and 100 ppm Sn. These values were chosen arbitrarily to conform with results on the J.C. claim group. The mean value plus twice the standard deviation would total 83 ppm Sn. However, on the J.C. group, only very limited areas ran over 100 ppm even where significant tin values are indicated by trenching and assay. It is thought the 20 ppm Sn contour is significant.

The highly anomalous values south of post #1, Zinc 9,10 are in low ground, much of which may be fluvial material in the valley of Zinc Creek. These values might be due to the concentrating action of streams in this valley. However, the values in the southeast part of Zinc 4 are on relatively high ground and, as these anomalous areas trend westerly, it is thought the anomalies are due to material occurring near the granite - volcanic contact. The contact may be presumed to lie along a line from the southeast corner of Zinc 3 to near the southwest corner of Zinc 16. The main tin anomalies lie downhill to the northeast of this line-

ROCK GEOCHEMISTRY

Both Bulmer and Chartier took several character samples of rock types for geochemical analysis. The following is a list of those samples.

		VALUES ppm				
SAMPLE	DESCRIPTION	W	Sn	Zn	Pb	Cu
ZT23	Dark and light green volcanics with axinite. No fluorescence.		6			
ZT11	Rusty siliceous skarn. Mn stain. No fluoresence.		12			
West side talus	Fine grained aplitic granite, rust Mn stain, purple & green fluorite.		65			
ZT 3	Rusty weathering, fractured, fine aplitic granite. Little Mn stain.	8	8			

SAMPLE	DESCRIPTION	VALUES ppm W	Sn	Zn	Pb	Cu
ZT28	Coarse grained,buff weathering granular granite	2	4			
ZT21	Pegmatitic,buff weathering granite	2	5			
ZT27	Med.grained,buff to pink granite, quartz eyes and biotite.	6	4			
53506	Rusty breccia - float		1	30		
53507	Siliceous zone with sphal, py,gal from monzonite o.c. S.E. of Zinc 1		1000	8450	2850	20
53508	Rusty float (gossan)		15	80	510	
53509	Talus with schorl.	8	5			
53510	Dark basic intrusive - dyke float.		6	155		380

The two specimens with high tin content (53507 and "West side talus") suggest tin is associated with late dykes, fracturing and mineralization in the Seagull batholith near the contact.

OBSERVATIONS

To the south of Zinc 1 a creek flows south to Smart River. On the east side of that creek the Seagull batholith extends south to a point about one mile north of the Smart River and the granite-sediment contact is at an elevation of about 5500 feet just capping the mountain peaks.

On the west side of the same creek the Seagull batholith south contact is about two miles north of Smart River and the granite-sediment contact is at the 4000 - 4500 foot elevation.

A fault has been postulated trending north with movement, on the east side, up and to the north. Projection of this fault was through a sharp draw south of the southeast corner of Zinc 5.

Mapping around the Zinc group has not confirmed this fault but the general pattern of rock types suggests a fault could run north throught the southeast corner of Zinc 3 and may be marked by the north

trending monzonite dyke. Such a zone might be a favourable place for tin mineralization and it lies on the approximate trend of the high tin values on the most easterly line sampled.

The high silt sample values which first indicated this as an area of possible tin mineralization occurred on claims Zinc 2 and 11. These high values occur in three separate creeks at about the location of the main east-west tin geochem high.

These values, as well as the pattern of the soil sample results, indicate a zone of interest near the granite - volcanic contact which trends across the central portion of the claim group.

RECOMMENDATIONS

Further exploration should be conducted on the claim group as follows:-

(1) a magnetometer survey should be conducted to help interpret the geology in the large area of overburden;

(2) detailed geological mapping, preferably by plane table, should be conducted in the southeast portion of the claim group to outline the pattern of granitic phases;

(3) soil sampling should be continued on Zinc 1 and 2;

(4) rock geochem and chip sampling should be done on any zones of apparent mineralization

(5) most importantly, claim posts of the DU group should be mapped to locate the claim group boundaries.

Respectfully submitted,
J.C. Stephen Explorations Ltd.,
for D.C. Syndicate

J.C. Stephen, Manager

LEGEND

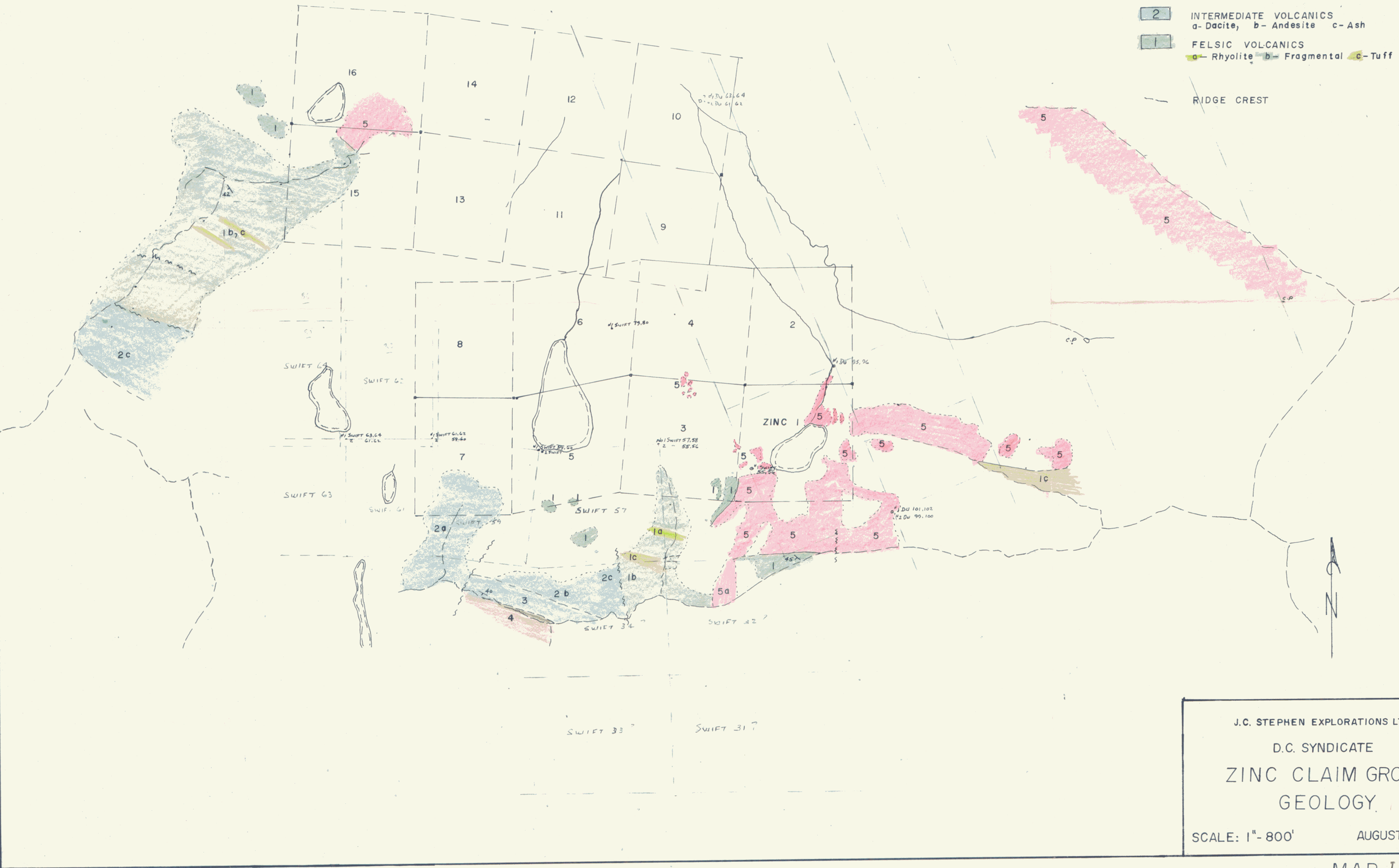
CRETACEOUS

- 5a — DYKES - MONZONITE
- 5 — SEAGULL QUARTZ MONZONITE

U. DEVONIAN - L. MISSISSIPPIAN

- 4 — ARGILLITE, SILTSTONE
- 3 — LIMESTONE
- 2 — INTERMEDIATE VOLCANICS
  a- Dacite, b- Andesite c- Ash
- 1 — FELSIC VOLCANICS
  a- Rhyolite b- Fragmental c- Tuff

— RIDGE CREST



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ZINC CLAIM GROUP

GEOLOGY

SCALE: 1"- 800' AUGUST 1978

MAP I

ZINC 16

ZINC 14

ZINC 12

ZINC 10

LAKE

ZINC 15

L 30 E LINE

5 BE

6 6 E

7 4 E

8 2 E

10 SE

20 SE

20 SW

10 SW

100 SW

ZINC CREEK

123
6 25 = SOIL SAMPLE w Zn Sn P.P.M.

1 DU 63,64
2 DU 61, 62

1 DU 95,96

1 DU 101, 102
2 DU 99, 100

1 SWIFT 63,64

1 SWIFT 61,62

1 SWIFT 59,60

1 SWIFT 57,58

SWIFT 64

SWIFT 62

LAKE

SWIFT 63

SWIFT 61

SWIFT 59

SWIFT 57

ZINC 7

ZINC 5

ZINC 3

ZINC 2

ZINC 1

LAKE

LAKE

13 11 9 8 6 4

N

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ZINC CLAIM GROUP GEOCHEMISTRY

Scale: 1"- 200' March 1979

MAP II