GEOLOGICAL, GEOCHEMICAL, GEOPHYSICAL REPORT

on the

EMILY 1 - 8 MINERAL CLAIMS

YA 35473 - 480

MAP SHEET 105A/15

LAT. 60°54'N; LONG. 128°46'W

WATSON LAKE MINING DIVISION

YUKON

by

J.C. STEPHEN

090454

WORK DONE: Sept 5 - 20, 1978

MARCH 1979

BY: J.C. STEPHEN EXPLORATIONS LTD.

FUNDED BY: CANADA TUNGSTEN MINING CORP. LTD.

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

$ 1600.00

D. F. Craig / 1 May 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

for Commissioner of Yukon Territory

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GEOLOGICAL, GEOCHEMICAL, GEOPHYSICAL REPORT

ON THE

EMILY 1 - 8 MINERAL CLAIMS

INTRODUCTION

The EMILY 1 - 8 claims were staked August 31, 1978 to cover a rusty zone in sediments near the granite contact north of the RAY group. Very minor scheelite mineralization was located and a program of mapping, soil sampling and magnetometer surveying was started on tape and compass lines. The zone had been located by Wayne Bulmer during regional reconnaissance and was staked on his instructions.

LOCATION AND ACCESS

The EMILY claims are located 3 miles south of the Nahanni Ridge (Can Tung) Road on the north east slopes of Mt. Murray. (See Figure I)

Elevations on the property range in the vicinity of 5000 feet extending from just below tree line on the east side of the property to over 5000 feet on the open north east spur of Mt. Murray. See Photos 1 and 2.

Access to the property has been entirely by helicopter.

REGISTER OF CLAIMS

NAME	RECORD NO.	STAKED	RECORDED	STAKER
EMILY 1-8	YA35473 - 480	Aug. 31/78	Sept. 13/78	James A. Turner

View of Anomalous Creek EMILY 6,8.

PHOTO 1

Camp Area Sept 20, 1978

PHOTO 2

CANADA
MINES AND TECHNICAL SURVEYS

EDITION 2
FIRST EDITION

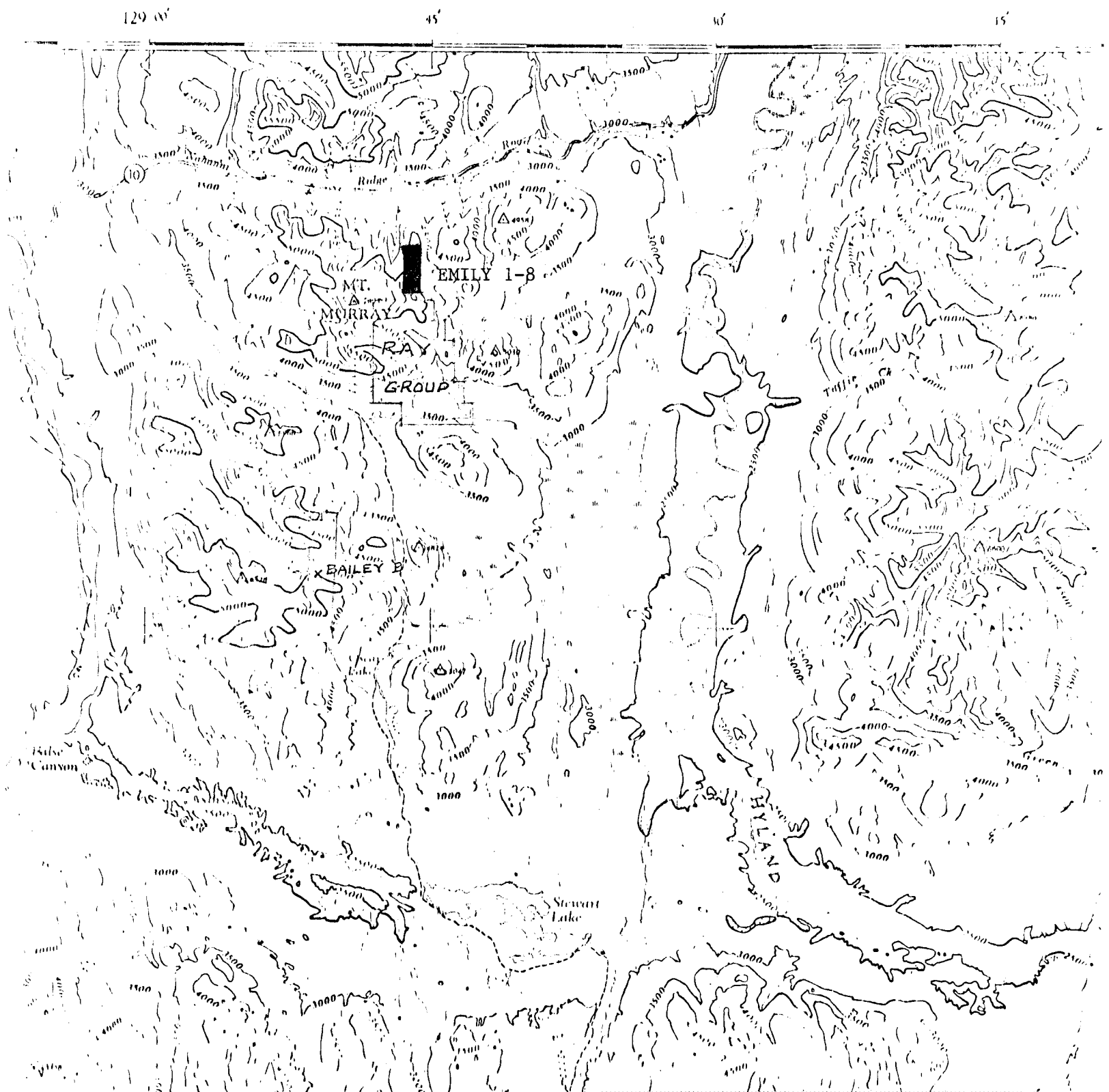


FIGURE I
LOCATION MAP

PART OF MAP 105A
EMILY CLAIM GROUP

1 ; 250,000

March 1979

GEOLOGY

REGIONAL

GSC Map 19 - 1966 Watson Lake shows the area to be underlain by Unit 7 Devonian and/or Mississippian sediments consisting of chert pebble conglomerate, carbonaceous black slate, etc., intruded by Unit 12, Cretaceous biotite-hornblende granodiorite.

The property straddles the east contact of the granodiorite batholith approximately nine miles north of the 'B' showing on the Bailey property which is on the east contact of the same intrusive.

LOCAL

The following are brief descriptions of the rock units encountered on the property and shown on Map I Geology.

Intrusives - Cretaceous

The east contact of the Mt. Murray - Mt. Billings batholith is exposed near the west boundary of the claim group. The intrusive is coarse to medium grained biotite grano diorite to granite. Aplite and quartz veins cut the main intrusive as well as the sedimentary formations. The quartz veins occasionally cut the aplite dykes.

Sediments Devonian and/or Mississippian

(1) Siltstone - dark grey to black, laminated, in part siliceous,

weathers rusty and contains thin seams and disseminations of pyrrhotite. Within the siltstone sequence are several thin skarn beds which were probably limey horizons.

(2) Limestone - thin bedded, siliceous, hard, white to light grey. This limestone outcrop area appears to be only lightly skarned.

(3) Transition Zone, Skarn - this rock is thin bedded, light green, hard and siliceous. It is very similar to the pale green calc-silicate skarn on SAR peak. No mineralization has been observed in this horizon on the EMILY claims although some minor scheelite mineralization is present in the SAR area.

(4) Siltstone - the siltstone overlying the skarn - limestone horizon is similar to unit (1). Sulphides in these beds consist of pyrrhotite, pyrite and very minor chalcopyrite. At 42S; 1E. a few flecks of scheelite occur in contact with granite. Abundant quartz occurs as laminations apparently "sweated" out of the sediment.

(5) Black Shale - this shale unit is typically black and soft with considerable graphite. It weathers in small fissile fragments. Only very minor disseminated pyrite and pyrrhotite occur. Near line 16S. a small amount of galena and minor sphalerite mineralization occur.

(6) Limestone, Dolomite -this is a siliceous limestone and buff brown

dolomite with mid-Devonian (?) crinoids and some coral. At line 28S: 10E. the apparent thickness is about 300 feet. No skarn development was found.

(7) Siltstone - this is an interbedded grit, siltstone, shale unit with some chert pebble and shale conglomerate. No skarn or mineralization are evident.

STRUCTURE

Mapping has not been sufficiently detailed to provide good structural control. In general the sediments dip at 20^{o} to 40^{o} east from the granite contact area. Preliminary field work suggests there may be an unconformity between units 6 and 7.

Unit 6 is brecciated and fractured with slickensides as a result of apparent north-south faulting. This has been termed the Emily Fault and has been projected south into the RAY group just east of the main magnetic anomalies.

Garnet diopside skarn was found as large fragments engulfed in the granite south of the outcrop areas of Unit 1.

GEOCHEMISTRY

PROCEDURE

Soil sampling was done on a tape and compass grid with samples being collected in kraft paper bags. These were shipped to the base camp where they were dried and sifted to -48 mesh.

These sifted samples were shipped to Chemex Labs, North Vancouver, where they were pulverized to -200 mesh before analysis. This pulverizing step has been instituted in our procedure as it aids in getting more reliable tungsten values since segregation of heavy minerals in the sample is prevented.

RESULTS

Not all of the claim group was soil sampled. Results for tungsten are generally poor with values of 6 to 24 ppm at the west end of lines 24S and 28S. These values are in the vicinity of minor skarn beds within the siltstone.

No significant molybdenum values were reported in soil samples although 20 ppm are reported in one silt sample on line 36S. Very minor molybdenite mineralization was found associated with quartz veins in the granite.

Zinc determinations indicate anomalous values in the vicinity of the galena mineralization on line 16S. and more extensively on line 28S. Since these formations are equivalent to the lead-zinc bearing formations in the Selwyn basin there is some potential for base metal deposits. No lead or silver determinations have been made on any of the geochemical samples.

MAGNETOMETER SURVEY

PURPOSE

The magnetometer survey was conducted to aid in interpretation of the geology on this property but also to aid in interpretation of the magnetometer results on the RAY claims to the south where no outcrop was available in the vicinity of magnetic anomalies.

PROCEDURE

An M-700 McPhar fluxgate magnetometer was used to take readings on the same tape and compass grid that was used for soil sampling. Results are plotted on Map III Magnetometer Survey.

Repeated readings were made along the base line (claim location line) and those stations were then used as base stations for the traverses along east-west lines. No significant adjustment of readings was found to be necessary.

RESULTS

Two areas of positive magnetic anomalies are indicated, the first, on lines 16S. to 32S, corresponds to the siltstones and skarns bearing some pyrrhotite mineralization.

The second area, in the south west part of the grid, on lines 44S. and 48S., is within the granite where shear zones carry pyrrhotite, some of it massive but in small quantity, and close to the remnants of garnet bearing skarn. Some reconnaissance soil and talus geochem samples in this area ran 2 - 12 ppm W; 2 - 47 ppm Mo; and 22 - 710 ppm Cu. These samples were not tied in to the grid and are not

plotted on the geochem map.

In general the positive magnetic anomalies indicate the skarn zones and areas most favourable for tungsten mineralization.

The survey is incomplete in the vicinity of the Emily Fault and strongest zinc geochemistry. Indications are that magnetic values are low in those areas.

RECOMMENDATIONS

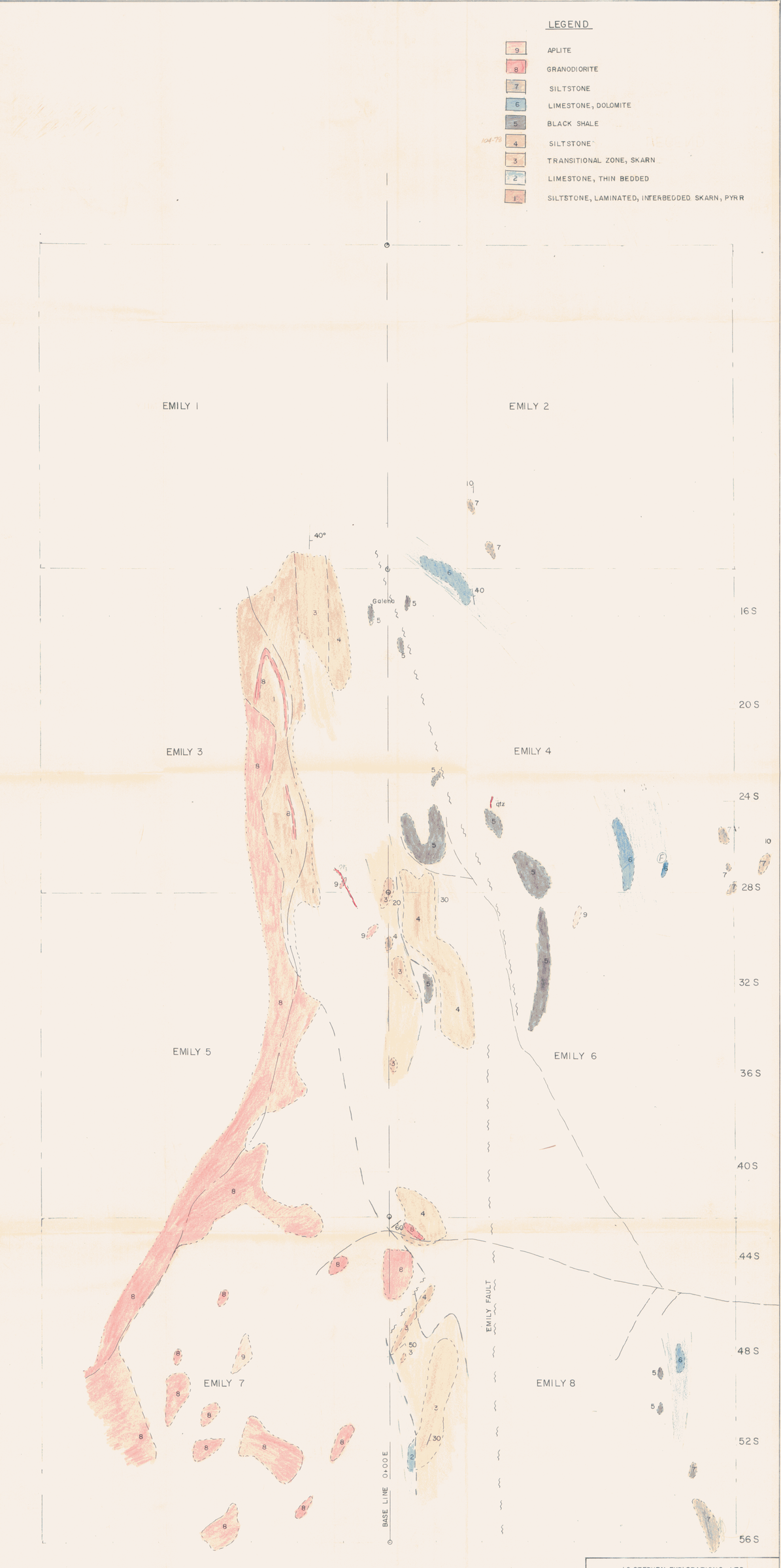
The mineralization found to date does not appear to be significant. The soil sample grid, however, should be extended in the east part of the claim group since these formations are favourable for lead zinc deposition.

Prospecting and preliminary mapping should be continued north in claims EMILY 1 and 2, particularly along the trend of units 1 and 3 as better mineralized skarn could be present.

Prospecting and preliminary mapping should be done south from EMILY 7 as the skarn remnants here are approximately on strike with the magnetic anomalies on RAY group. There is a gap equivalent to about one claim width between the claim groups. This work would entail a minimum of one weeks fly camp work at a cost of about $ 3,800.00.

Respectively submitted
J.C. Stephen Explorations Ltd.

J.C. Stephen



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RECONN PROJECT

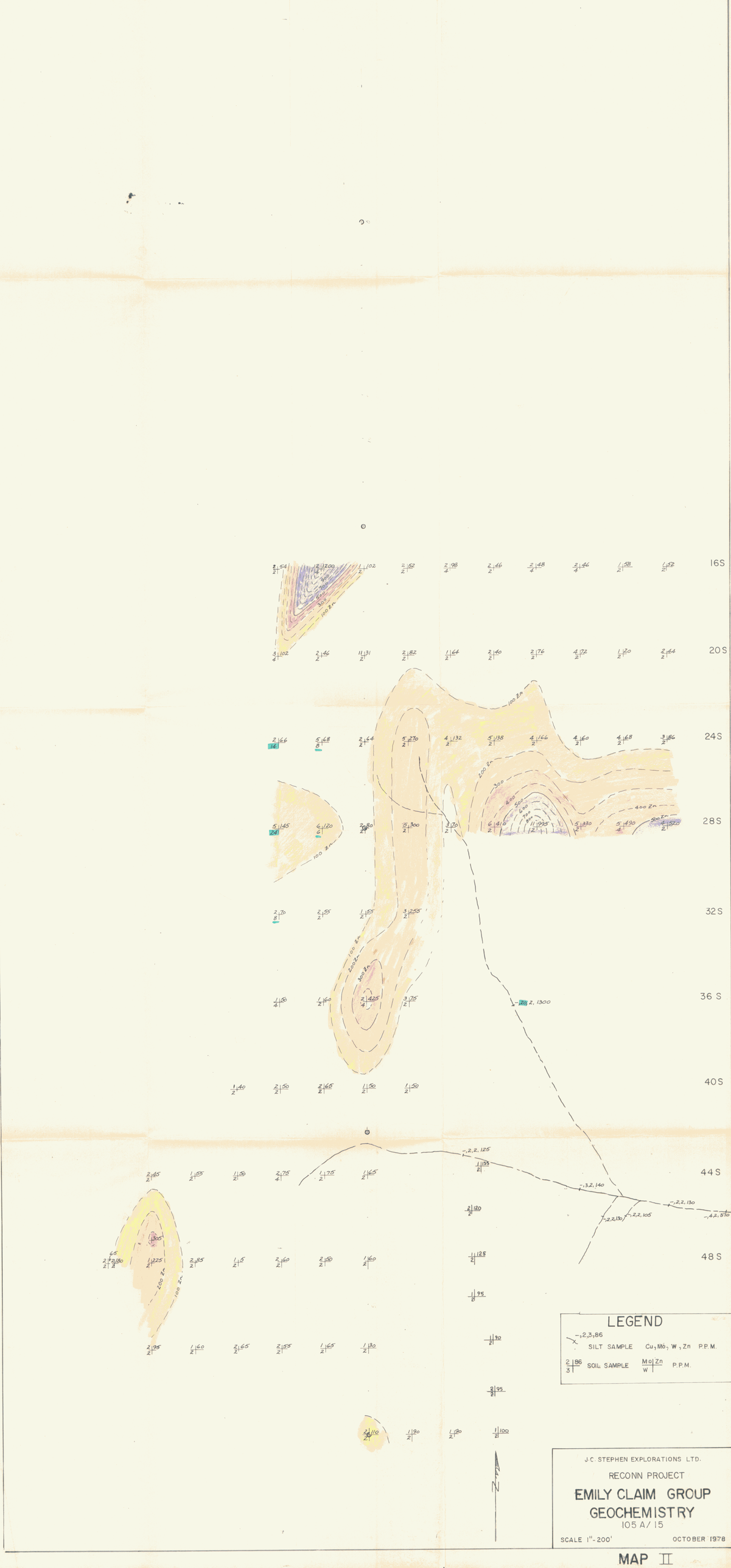
EMILY CLAIM GROUP GEOLOGY

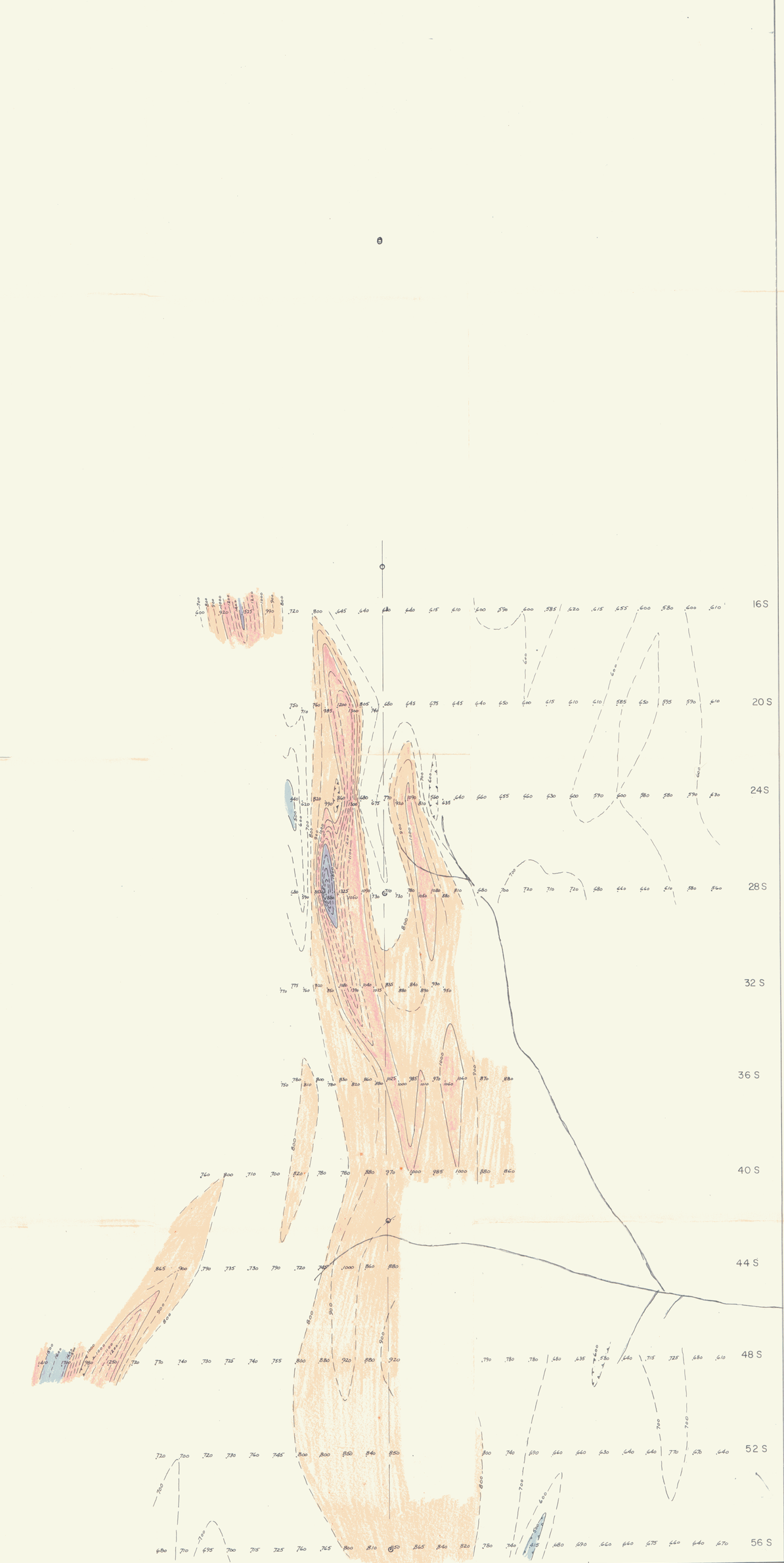
105A/15

SCALE 1"=200'

OCTOBER 1978

MAP I


16S
20S
24S
28S
32S
36 S
40S
44S
48S
100 Zn
200 Zn
300
400 Zn
500
600
700
800
1000
1200
-2,2,1300
-2,2,125
-3,2,140
-2,2,130
-2,2,105
-4,2,870
LEGEND
-1,2,3,86
SILT SAMPLE Cu, Mo, W, Zn P.P.M.
2/3 86 SOIL SAMPLE Mo/W Zn P.P.M.
J.C. STEPHEN EXPLORATIONS LTD.
RECONN PROJECT
EMILY CLAIM GROUP
GEOCHEMISTRY
105 A/ 15
SCALE 1"-200'
OCTOBER 1978
MAP II



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RECONN PROJECT

EMILY CLAIM GROUP

MAGNETOMETER SURVEY

105 A/15

SCALE 1"=200' OCTOBER 1978

MAP III