COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

ASSESSMENT REPORT

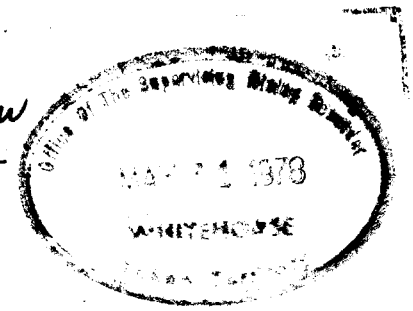
GEOLOGICAL AND GEOCHEMICAL WORK

ON THE

NOLE CLAIMS, PELLY MOUNTAINS

N.T.S. 105 G/6

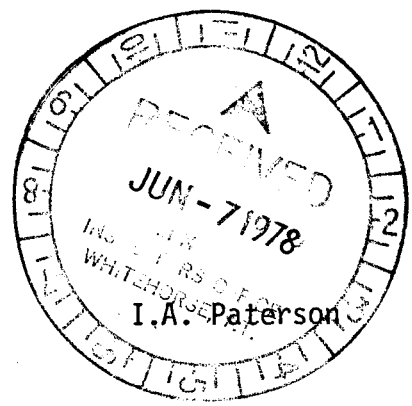
Latitude: ~~61°43'N~~ 61°19'N Longitude: ~~132°57'W~~ 131°11'W



Watson Lake Mining District

Period of Work

August 8 - 12, 1977



May, 1978

I.A. Paterson

090330

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

$ 2531.80

Acting J. A. Morin
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

TABLE OF CONTENTS

	PAGE
SUMMARY	1
INTRODUCTION	1
CLAIMS	2
PREVIOUS HISTORY	2
GEOLOGY	2
GEOCHEMISTRY	3
MINERALIZATION	3
CONCLUSIONS	4
RECOMMENDATIONS	4
REFERENCES	4

ATTACHMENTS

~~(i) Exhibit "A": Statement of Expenditures~~
~~(ii) Statement of qualifications~~

List of figures and maps

Fig. 1: Nole Property - location

Fig. 2: Nole Property - location and access

Fig. 3: Nole Property - regional geology

Fig. 4: Nole Property - claim map

Map 1: Nole Property - geology

Map 2: Nole Property - Pb geochemistry

Map 3: Nole Property - Zn geochemistry

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT
May 5, 1978

ASSESSMENT REPORT

GEOLOGICAL AND GEOCHEMICAL WORK

ON THE

NOLE CLAIMS, PELLY MOUNTAINS, Y.T.

SUMMARY

The NOLE claims are located 100 km southeast of Ross River, Y.T., along the southwest edge of the Tintina Trench. The property lies 45 km south of the Robert Campbell highway and 15 km south of the end of a winter road into the Hoo and Joe properties.

The claims are underlain by Cambro-Ordovician calcareous phyllites and platy limestones, Siluro-Devonian red-weathering sandy dolomite, Devonian black limestone and Upper Devonian-Mississippian graphitic shales and grits.

Mineralization consists of sphalerite, galena and pyrite in a brecciated sandy dolomite. This zone which is linear and may represent a fault breccia, is sporadically mineralized for 2 km along strike. Much of the zone is covered by talus and is poorly exposed. Highly leached in situ gossans consisting of massive oxide rubble are common along the trend. Strong zinc and lead soil geochemical anomalies 1300 m and 700 m long respectively are associated with the mineralization. Work in 1977 by Cominco consisted of geologic mapping and soil sampling.

It is recommended that the mineralized zone and the Pb-Zn geochemical anomalies be tested with 1200' of x-ray drilling.

INTRODUCTION

The Nole claims are 100% Cominco owned and were staked during a reconnaissance program in July 1977.

The claims are located 100 km southeast of Ross River, Y.T. on the southwest flank of the Tintina Trench (Figs. 1 and 2). The property lies 45 km south of the Robert Campbell Highway and 15 km south of the end of a winter road into the Hoo and Joe properties.

The topography is rugged with peaks rising to 6500' from a valley elevation of 4000'. Tree line is at 4700'.

Cominco carried out geological mapping and a soil geochemical survey from August 8-12, 1977. The work was done by M. Lomenda and M. Spurr of 409 Granville Street, Vancouver, B.C. V6C 1T8. I.A. Paterson of the same address visited the property on the 17th of August, 1977.

CLAIMS	GRANT NOS.	DATE LOCATED	DATE RECORDED	DUE DATE
NOLE 1	YA 21647	July 16/77	Aug. 5/77	Aug. 5/78
2	YA 21648	July 16/77	Aug. 5/77	Aug. 5/78
3	YA 21649	July 16/77	Aug. 5/77	Aug. 5/78
4	YA 21650	July 16/77	Aug. 5/77	Aug. 5/78
5	YA 21651	July 16/77	Aug. 5/77	Aug. 5/78
6	YA 21652	July 16/77	Aug. 5/77	Aug. 5/78
7	YA 25508	Aug. 2/77	Sept. 2/77	Sept. 2/78
8	YA 25509	Aug. 2/77	Sept. 2/77	Sept. 2/78
9	YA 25510	Aug. 2/77	Sept. 2/77	Sept. 2/78

All claims are 100% Cominco owned.

PREVIOUS HISTORY

The property was first staked in August, 1961 as the Red claim by Cassiar who did some hand trenching. It was restaked in March, 1966 (Tintina claim - A. Racicot), July, 1971 (Herb claim - H. Fichtner) and in August, 1974 (Jen claim - C. Benson).

GEOLOGY

In the Pelly Mountains, most of the Cambrian-Devonian strata between the Tintina and St. Cyr Faults represent deposition on the north-east flank of the Pelly Cassiar Platform (Tempelman-Kluit et al., 1975). On the Nole property, Selwyn Basin carbonaceous pelites and fetid carbonates are intertongued with platform psammites and carbonates.

Rock units 1 and 2 (Map 1) are transitional facies between shelf and basin. The Road River equivalent (Unit 2) is orange-brown weathering, thin bedded, platy, argillaceous limestone, limy siltstone and shale and phyllitic equivalents. Quartz-carbonate sweats are common. Unit 1 is lithologically similar to unit 2, but weathers bright orange.

Underlying the Nole claims, a package of intercalated Silurian and Devonian shelf sediments (Unit 4) and Ordovician-Devonian basin sediments (Unit 3) occur between Units 1 and 2. Black and grey-black, calcareous and non-calcareous siltstone and shale and grey-black, fetid, argillaceous, limestone comprise the basinal lithofacies. The colonial coral Lithostrotion, which was found in one outcrop of fetid limestone, suggests shallow-water deposition. Grey-black, resistant, argillaceous quartzite and grey-brown, recessive, limy grit represent sandy tongues extending into the basin. The grit contains fine to medium grained, rounded, scattered quartz clasts up to 1 cm in diameter, minor angular carbonate clasts, and minor thin intercalations of limestone and shale.

A 10 to 15 meter thick unit of gossaned shelf dolomite contains the Pb/Zn mineralization. A fault separates this dolomite from shale and siltstone to the southwest. The dolomite is greenish to bluish-grey, grey to buff-brown weathering, quartz arenaceous, sucrosic, massive bedded, and partly brecciated. In places the unit is dolomitic sandstone. The shale and siltstone across the fault are cherty, pyritic, graphitic, and brecciated close to the fault.

Astride the fault between grid points BL 5+50W and 7+00W are found rubble and small outcrops of a recent breccia composed of dark reddish to purplish brown, iron-oxide cemented talus.

The Paleozoic rocks described above can be traced for about 1700 meters. On the ridge about 600 m southwest of the creek draining the Nole property, this sequence is replaced by Units 1 and 2 with intercalations of grey-black to black limestone and shale. About 2.2 km northwest of the property the exposed stratigraphy is similar to the Nole except for the absence of the mineralized dolomite and sandy beds.

The Nole structure is homoclinal with beds striking about 305°, dipping 55° to 65°NE. One fault is defined between the dolomite and shale and another is probable at the contact of Unit 1. Reversals in dip directions may be associated with faults.

GEOCHEMISTRY

Geochemical analyses of stream silts and soil were performed by Acme Analytical at their lab in Ross River. All samples were sieved at -80 mesh, dried at 75°C and analysed using standard aqua regia digestion and atomic absorption techniques. Lead values were background corrected. Results are given in Maps 2 (Pb) and 3 (Zn).

After locating the mineralized zone, a grid was constructed, 2000 m long with 250 m cross lines and the area was soil sampled. Most of the soils are talus derived except for the valley area in the eastern part of the grid where soils are of fluvioglacial origin.

Probably anomalous values for Zn and Pb in soils are 600 and 120 ppm and definitely anomalous values are 1200 and 450 ppm respectively. Maximum values for Zn and Pb are 10,400 ppm and 26,300 ppm respectively. The Pb anomaly is 700 m long. The strength of the anomaly at the east end may be partly caused by down slope dispersion from known mineralized areas. The zinc anomaly is 1300 m long and is coincident with the Pb anomaly except for a narrow 50 m wide tail which extends 600 m to the west. The lack of Pb expression in the area to the west can be explained by a change in nature of the mineralization along strike from Zn-Pb at the east end to Zn-Fe at the west end.

MINERALIZATION

Mineralization consists of patches of fracture controlled sphalerite, galena and pyrite in a sandy dolomite unit up to 15 m in thickness. Sporadic mineralization can be traced for at least 2 km along strike. It may be that the brecciation is associated with a fault which follows the southwest margin of the sandy dolomite unit.

The mineralization shows a lateral zonation. To the west the sulphide minerals are sphalerite and pyrite whereas in the main zone (4+00E) sphalerite and galena predominate with only minor pyrite.

CONCLUSIONS

Mineralization consisting of sphalerite, galena and pyrite occurs in a unit of sandy dolomite. This poorly exposed unit is brecciated and sporadically mineralized for about 2 km along strike. Strong zinc and lead anomalies, 1300 m and 600 m long respectively, showing values in excess of 1200 ppm Zn and 600 ppm Pb in the soils, occur over this mineralized zone.

The zone may represent a mineralized fault breccia or a paleokarst surface.

RECOMMENDATIONS

1. The mineralized horizon and coincident Pb-Zn geochemical anomalies should be tested by x-ray drilling.

Report by: I A Paterson
I.A. Paterson
Project Geologist

Endorsed by: _____
D.W. Heddle
Assistant Manager

Approved for
Release by: _____
G. Harden, Manager
Exploration,
Western District

IAP/pcd

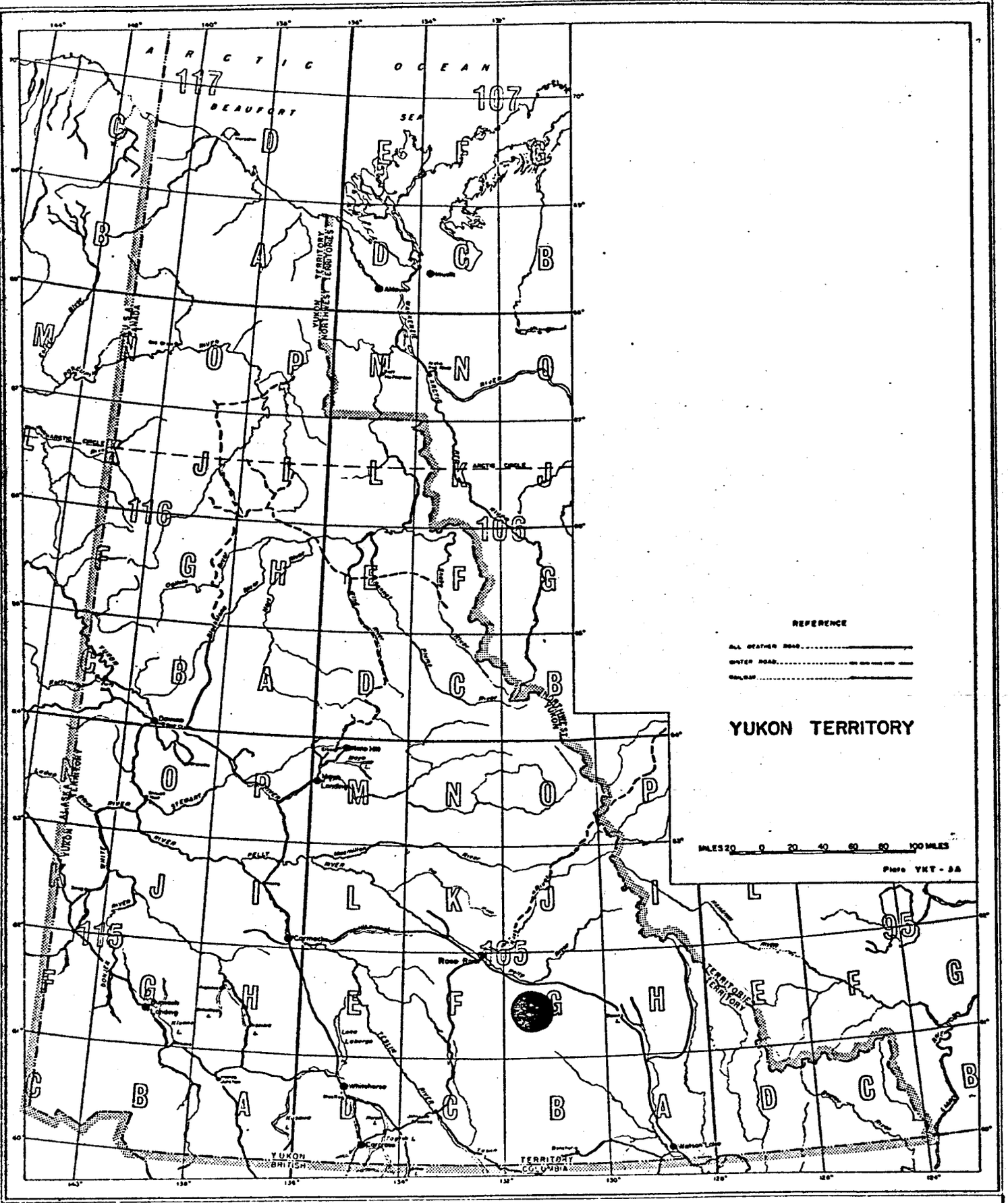
cc Watson Lake Mining Recorder
Western District Files

References

Tempelman-Kluit, D.J., 1977: Quiet Lake and Finlayson Lake map areas; Geological Survey of Canada, Open file 486.

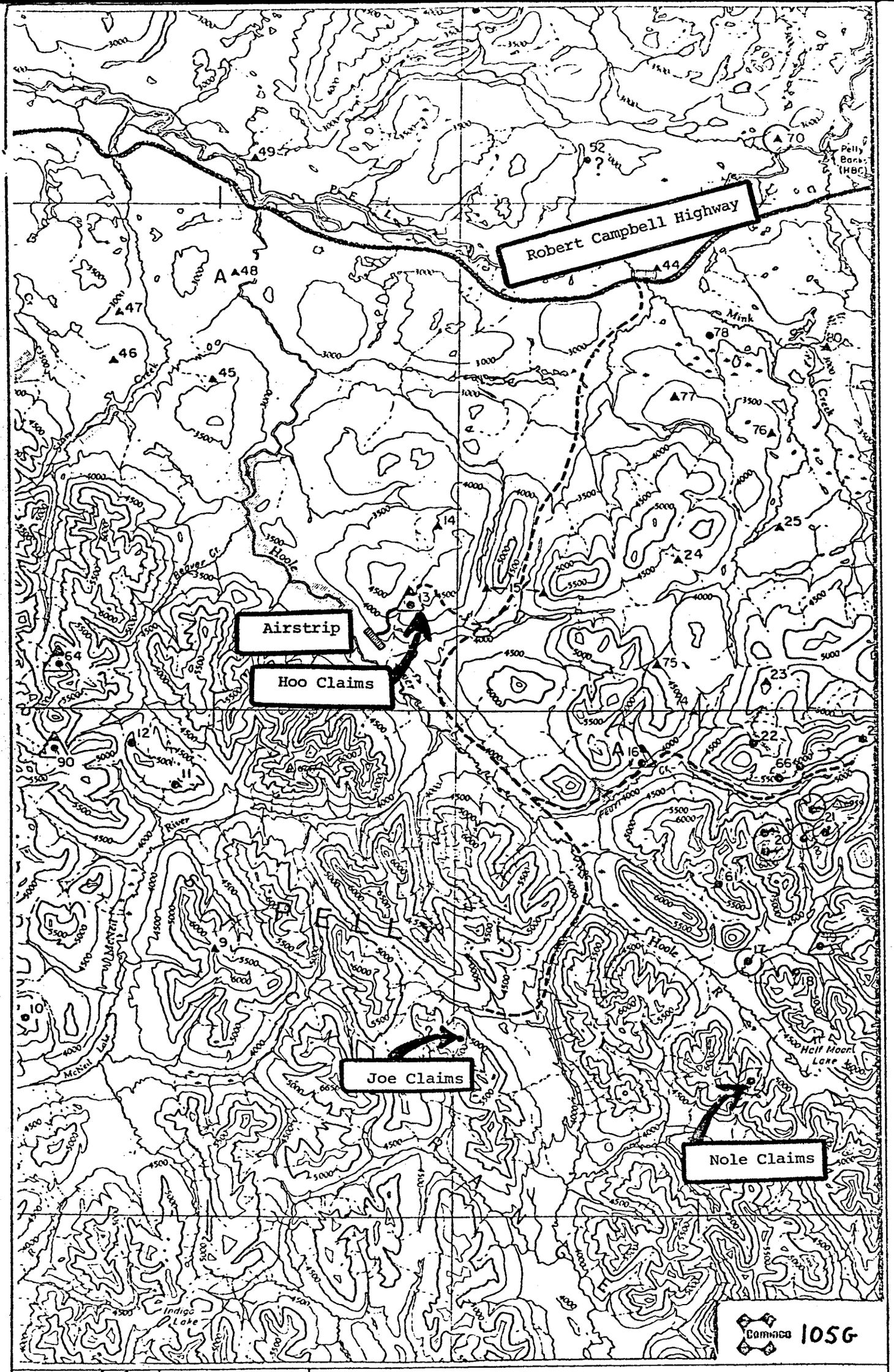
Tempelman-Kluit, D.J., Abbott, G., Gordey, S., and Read, B.C., 1975: Stratigraphic and structural studies in the Pelly Mountains, in Report of Activities, Part A, Yukon Territory; Geological Survey of Canada, Paper 75-1A, p. 45-48, 1975.

Tempelman-Kluit, D.J., Gordey, S.P., and Read, B.C., 1976: Stratigraphic and structural studies in the Pelly Mountains, Yukon Territory; in Report of Activities, Part A, Geological Survey of Canada, Paper 76-1A, p. 97-106, 1976.



NOLE CLAIMS

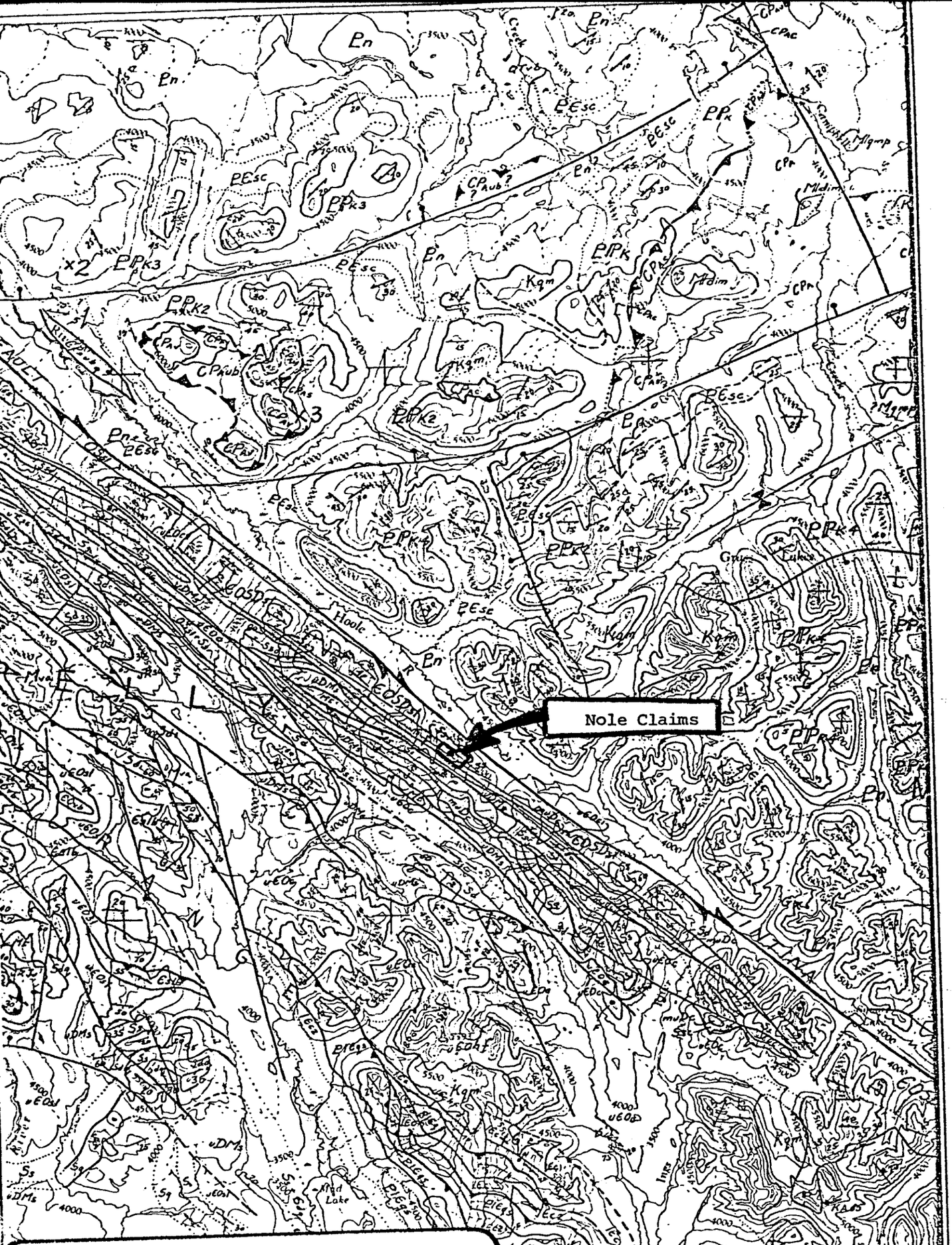
Drawn by:		Traced by:		NOLE PROPERTY		
Revised by	Date	Revised by	Date			
				Scale:	Date: NOV. 1977	Plate: N-1



Drawn by: JAP.		Traced by:	
Revised by	Date	Revised by	Date

NOLE CLAIMS
LOCATION AND ACCESS

Scale: 1" = 4 miles | Date: 9 DEC 1977 | Plate: 2



P: Permian

C: Carboniferous

M: Mississippian

D: Devonian

S: Silurian

O: Ordovician

C: Cambrian

P Proterozoic &/or Lower Cambrian metamorphic rocks

s: shale

d: dolomite

v: volcanic

q: quartzite

t: chert

c: carbonate

Commico 105G

Drawn by: IAP		Traced by:	
Revised by	Date	Revised by	Date

NOLE CLAIMS
REGIONAL GEOLOGY (TEMPELMAN-KLUIT, 1977)

Scale: 1" = 4 miles

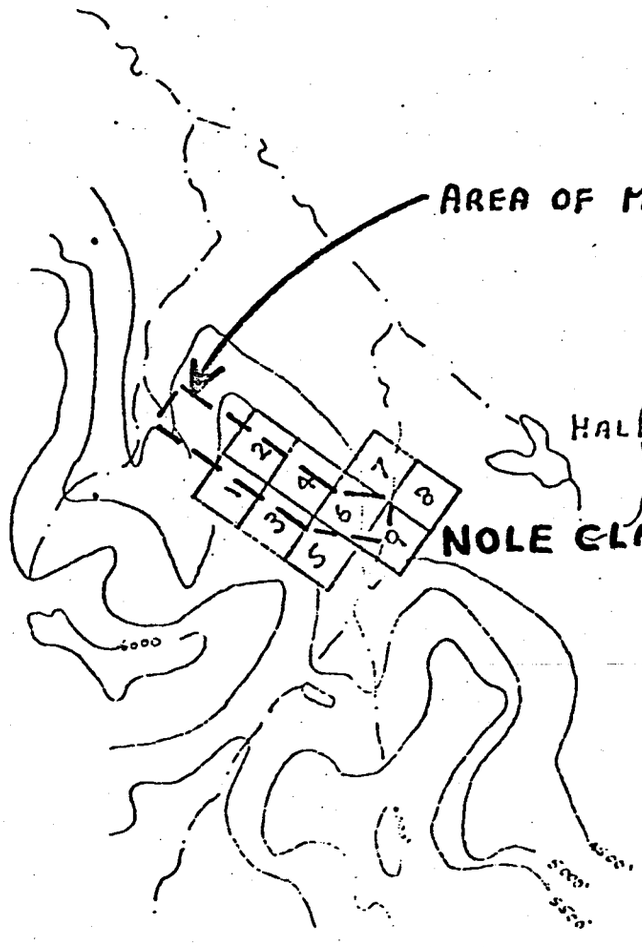
Date: 9 DEC. 1977

Plate: 3

210 0610

NCL 112A CL

N



61° 19' N

131° 11' W

61° 15'

Comaco 105G/6

Drawn by: JAP.		Traced by:	
Revised by	Date	Revised by	Date

NOLE CLAIMS
CLAIM MAP

Scale: 1" = 1 mile | Date: 9 DEC, 1977 | Plate: 4

NCI 112A CL

210 Dec 0

LEGEND

5 — Breccia, dark reddish brown, iron oxide cemented talus, gossan

PELLY - CASSIAR PLATFORM FACIES

SILURIAN – DEVONIAN

- 4c — Grit, light grey brown weathering, limy, quartz arenaceous
- 4b — Sandstone, grey-black argillaceous, fine grained, hard, veined with white quartz
- 4a — Dolomite, greenish to bluish grey; buff brown to grey weathering, sugary, quartz arenaceous, brecciated; including dolomitic quartzite

TRANSITIONAL

CAMBRIAN – DEVONIAN

- 2 — Thinly interbedded argillaceous limestone, limy siltstone, and shale, grey, orange brown weathering, slaty to phyllitic

CAMBRIAN – ORDOVICIAN

- 1 — Bright orange weathering Part of Unit 2

SELWYN BASIN FACIES

ORDOVICIAN – DEVONIAN

- 3c — Siltstone and shale, black carbonaceous, calcareous and non-calcareous
- 3b — Siltstone, grey black, carbonaceous, limy, finely laminated
- 3a — Limestones, grey black to black, argillaceous, fetid, locally sandy, containing crinod stems and rare corals

N

SYMBOLS

- BEDDING (50°)
- CONTACT, DEFINED, APPROXIMATE
- FAULT
- CHANNEL SAMPLE
- GRAB SAMPLE
- MINERALIZED TALUS
- OUTCROP
- CLAIM POSTS
- DIAGRAMMATIC TOPOGRAPHIC CONTOURS (Contour interval – 200' approx.)
- CREEKS, ACTIVE, INTERMITTENT

Crinoids

Crinoids and Lithostrotion

240 N — 200 N — 160 N — 120 N — 80 N — 40 N — BL — 40 S — 80 S — 120 S

10+00 W — 9+00 W — 8+00 W — 7+00 W — 6+00 W — 5+00 W — 4+00 W — 3+00 W — 2+00 W — 1+00 W — 0+00 E — 1+00 E — 2+00 E — 3+00 E — 4+00 E — 4+50 E

5+00 E — 5+50 E — 6+00 E — 7+00 E — 8+00 E — 9+00 E — 10+00 E

180 N — 160 N — 140 N — 120 N — 100 N — 80 N — 60 N — 40 N — 20 N — BL — 20 S — 40 S — 60 S — 80 S — 100 S — 120 S

100 0 100 200 300 400

METRES

NOLE PROPERTY

105 G/6

Drawn by: M.G.L.		Traced by:	
Revised by	Date	Revised by	Date

GEOLOGY

Scale: 1 : 2500 — Date: OCT., 1977 — Plate: 1

FORM 210 0660

SYMBOLS

- SOIL SAMPLE
- SILT SAMPLE
- P.P.M. LEAD
- LEAD CONCENTRATION CONTOUR — 120-450 ppm Pb: POSSIBLY ANOMALOUS; >450 ppm Pb: ANOMALOUS
- CLAIM POSTS
- DIAGRAMMATIC TOPOGRAPHIC CONTOURS — CONTOUR INTERVAL : 200' APPROX.
- CREEK, ACTIVE, INTERMITTENT

100 0 100 200 300 400

METRES

NOLE PROPERTY

LEAD GEOCHEMISTRY

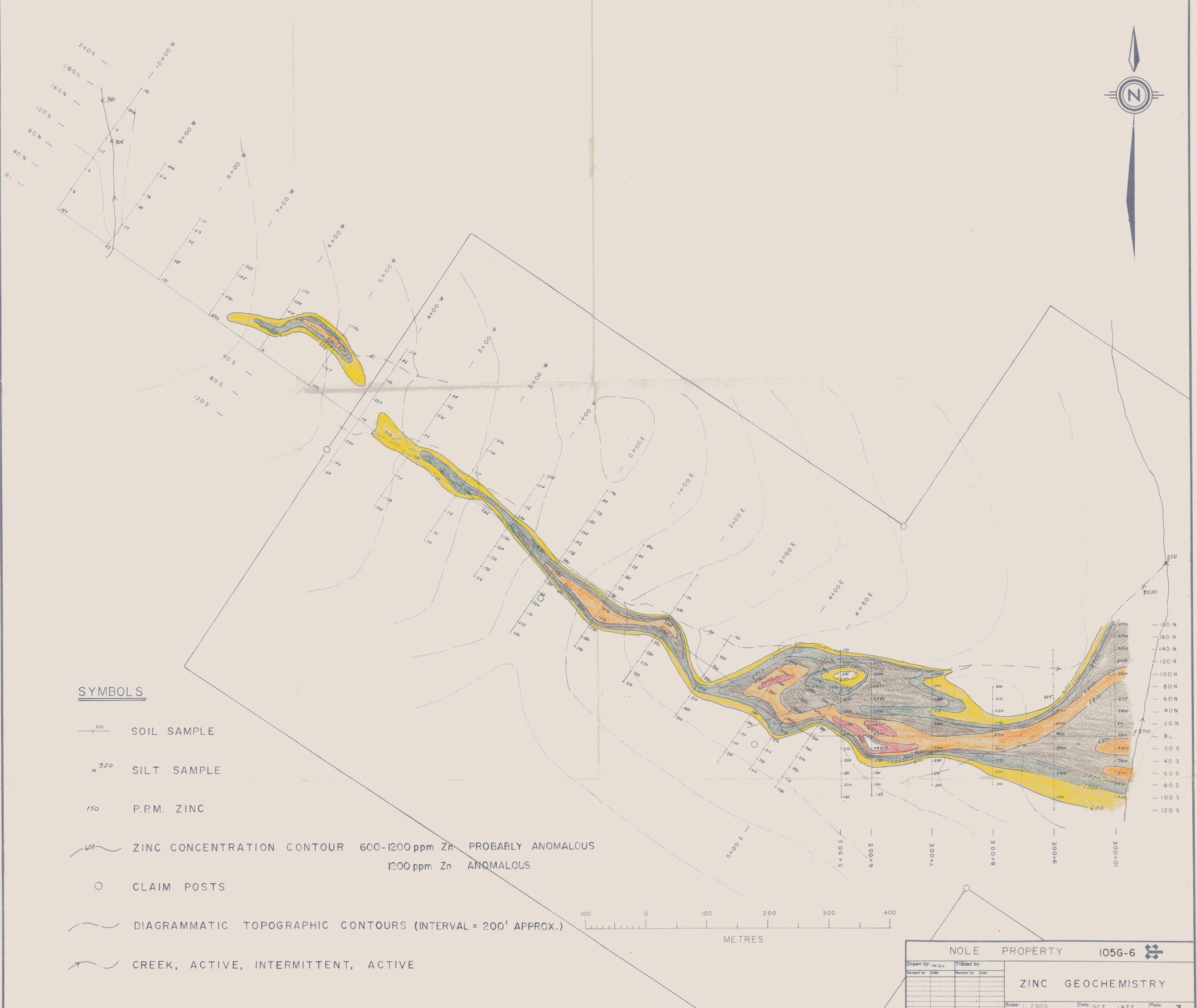
105G-6

Drawn by: Traced by:

Revised by	Date	Revised by	Date

Scale: 1: 2500 Date: OCT., 1977 Plate: 2

FORM 2190-0660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10+00 W
9+00 W
8+00 W
7+00 W
6+00 W
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3+00 W
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0+00E
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4+00E
4+50 E
5+00 E
5+50 E
6+00E
7+00E
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160 N
120 N
80 N
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100 N
80 N
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40 N
20 N
BL
20 S
40 S
60 S
80 S
100 S
120 S
340
305
550
8500
X 2700
SYMBOLS
100
SOIL SAMPLE
x 320
SILT SAMPLE
150
P.P.M. ZINC
600
ZINC CONCENTRATION CONTOUR 600-1200 ppm Zn PROBABLY ANOMALOUS
1200 ppm Zn ANOMALOUS
CLAIM POSTS
DIAGRAMMATIC TOPOGRAPHIC CONTOURS (INTERVAL = 200' APPROX.)
CREEK, ACTIVE, INTERMITTENT, ACTIVE
100 0 100 200 300 400
METRES
NOLE PROPERTY 105G-6
Drawn by: M.G.L.
Traced by:
Revised by Date
Revised by Date
ZINC GEOCHEMISTRY
Scale: 1:2500
Date: OCT., 1977
Plate: 3