COMINCO LTD.

EXPLORATION
NTS 105 I/13

WESTERN DISTRICT

GEOLOGICAL AND GEOCHEMICAL ASSESSMENT REPORT

ON THE ROOK GROUP OF MINERAL CLAIMS

SITUATED AT:

62°45'N Latitude
129°55'W Longitude

WATSON LAKE MINING DISTRICT

Period of Work:

June 20 to July 9, 1978

090461

APRIL 23, 1979

S.B. BUTRENCHUK

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 June 79
$2,400.00

D B Craig 11 June /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

COMINCO LTD.

EXPLORATION
N.T.S. 105I/13

WESTERN DISTRICT
23 APRIL 1979

GEOLOGICAL AND GEOCHEMICAL REPORT ON THE ROOK 29-52 GROUP OF THE MINERAL CLAIMS SITUATED AT:

62°45'N Latitude
129°55'W Longitude

IN THE WATSON LAKE M.D., YUKON TERRITORY

Located claims on which assessment credits are requested:

CLAIM	RECORD NO.	DATE RECORDED	ASSESSMENT CREDIT	AMOUNT
ROOK 29	YA 33560	July 5, 1978	1 year	$ 100
30	YA 33561	July 5, 1978	1 year	100
31	YA 33562	July 5, 1978	1 year	100
32	YA 33563	July 5, 1978	1 year	100
33	YA 33564	July 5, 1978	1 year	100
34	YA 33565	July 5, 1978	1 year	100
35	YA 33566	July 5, 1978	1 year	100
36	YA 33567	July 5, 1978	1 year	100
37	YA 33568	July 5, 1978	1 year	100
38	YA 33569	July 5, 1978	1 year	100
39	YA 33570	July 5, 1978	1 year	100
40	YA 33571	July 5, 1978	1 year	100
41	YA 33572	July 5, 1978	1 year	100
42	YA 33573	July 5, 1978	1 year	100
43	YA 33574	July 5, 1978	1 year	100
44	YA 33575	July 5, 1978	1 year	100
45	YA 33576	July 5, 1978	1 year	100
46	YA 33577	July 5, 1978	1 year	100
47	YA 33578	July 5, 1978	1 year	100
48	YA 33579	July 5, 1978	1 year	100
49	YA 33580	July 5, 1978	1 year	100
50	YA 33581	July 5, 1978	1 year	100
51	YA 33582	July 5, 1978	1 year	100
52	YA 33583	July 5, 1978	1 year	100
			24 credit years	$2,400

Work was done on these claims June 20, 1978 to July 8, 1978.

Report by: Stephen B. Butrenchuk.
Stephen B. Butrenchuk
Geologist

Under the supervision of D.L. Cooke, P.Eng.

SBB/gk

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SITUATED AT:

62°45'N Latitude
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IN THE WATSON LAKE M.D., YUKON TERRITORY

INTRODUCTION

The portion of the Rook property consists of 24 mineral claims and on which work is being filed was acquired in 1978 to protect an area potentially favourable for tungsten mineralization. Along the northern perimeter of the Selwyn Basin a number of tungsten occurrences are present and the area now known as the Rook property had a number of favourable criteria to warrant staking.

In 1978 geological mapping and a geochemical survey were completed on the property, the results of which are described in this report.

Personnel employed by Cominco Ltd. during the course of the work are as follows:

S.B. Butrenchuk	2 days	700-409 Granville St., Vancouver, B.C.
D.M. Carr	2 days	700-409 Granville St., Vancouver, B.C.
D. Perkins	2 days	33092 Mill Lake Road, Abbotsford, B.C.
A. Glatiotis	2 days	700-409 Granville St., Vancouver, B.C.
U. Das Gupta	2 days	700-409 Granville St., Vancouver, B.C.

The above personnel completed work on the property during the period June 20, 1978 to July 9, 1978.

LOCATION AND ACCESS

The Rook property is located in the Yukon Territory, appproximately 160 km north-northeast of the small community of Ross River.

The claim group is situated at 62°45' north latitude and 129°55' west longitude within the Watson Lake Mining District. Access to the property is via helicopter from MacMillan Pass, a distance of 50 km. MacMillan Pass is accessible by road from Ross River during the summer. Also, a scheduled airline service from Whitehorse is available three days a week.

SUMMARY

Work on the Rook claims was completed during the period of June 20, 1978 to July 9, 1978. The claims were geologically mapped at a scale of one inch equals one-quarter mile. Soil samples were collected on a 100 metre by 50 metre grid along the eastern margin of the claim group.

Geological mapping completed on the Rook claims during 1978 indicates that the property is underlain by a sequence of clastic and carbonate strata of probable Cambrian to Silurian age. Five stratigraphic units have been recognized on the property, of which, four are assigned to the Road River Formation. Strata comprising these units are mudstone, calc-silicate, siltstone and shale.

There is no observable outcropping of mineralization on the Rook 29-52 claims.

The geochemical program consisted of soil sampling on a grid having a 100 metre line spacing and sample locations at 50 metre intervals along these lines. Approximately 200 samples were collected and analysed for tungsten, copper and zinc. Anomalous areas were delineated for each of the three metals.

GEOLOGY

Regional

The Rook property is situated within the Selwyn Basin, a clastic sedimentary basin approximately 320 km in length and 80 km in width occurring along the Yukon-Northwest Territories border. Shallow marine to deep basinal, principally clastic strata of Cambrian to Mississippian age of unknown thickness comprise the stratigraphic sequence within the basin. The northern edge of the basin is marked by shelf carbonate strata of Cambrian to Devonian age; the southern part of the basin is marked by Proterozoic clastic strata.

Property

A sequence of strata of probable Upper Cambrian age to Silurian age underlies the Rook property. This stratigraphic sequence consists of a lower, predominantly siltstone unit of Upper Cambrian age overlain by a sequence of argillite, mudstone, and calc-silicate of Ordovician to Silurian age belonging to the Road River Formation.

There are no exposed igneous rocks on the Rook property. The nearest granitic pluton, a small quartz-monzonite stock, is located approximately 4 km east of the property on the neighbouring Clea property.

Stratigraphy

The oldest stratigraphic unit on the Rook property (unit 1) is believed to be Upper Cambrian in age and correlative to the Transition Unit of Upper Cambrian-Ordovician age. This unit is comprised of siltstone and calcareous-siltstone. Original carbonate lenses and beds within this unit are now present as skarn horizons.

This unit is a relatively resistant unit that generally occurs at the base of the east-west trending ridges. Rarely is a complete section of this unit observed as most of the exposures are below tree line. It appears to have a variable thickness with a minimum thickness of 25 metres.

Strata assigned to this unit are siliceous, dense and fine-grained. In places they have a cherty appearance. These strata are grey weathering and vary in colour from grey to brown and occasionally black. The green colouration appears to be caused by the alteration of an original calcareous cement to a calc-silicate cement consisting of diopside, epidote and possibly actinolite.

This unit is finely laminated to thin bedded with bedding thickness rarely exceeding 1 cm. Very often the bedding laminations are highly crenulated and locally folded on a small scale. These crenulations and folds hamper any measurement of the thickness of this unit.

Overlying the Cambrian siltstone unit are strata of the Road River Fromation, the oldest of which are of Ordovician-Silurian age.

The oldest stratigraphic member of the Road River Formation (unit 2) is a black argillite-mudstone unit. This unit is dark grey weathering and very often siliceous, giving the rock a cherty appearance. It is characterized by the presence of light grey, wispy siltstone lenses. These lenses rarely exceed 2 cm in thickness and 1 m in length. The bedding in this unit is very often obscured by a mild foliation, or slaty cleavage. Where observable the strata is thin to thick bedded, varying from a few cm up to 1 m in thickness. In the western region of the property this unit has a minimum thickness of 25 m with a general increased thickness to the east.

Overlying this argillite-mudstone unit is a white to light grey weathering calc-silicate (unit 3). This unit has a maximum thickness of 2 metres and at only a single location on the property.

The calc-silicate unit is overlain by a black argillite-mudstone (unit 4) that for the most part is indistinguishable from the Lower Argillite unit. The presence of graptolites distinguish this argillite from the Lower Argillite unit.

Overlying the Upper Argillite Unit is a distinct siltstone unit of Silurian age (Unit 5). It has a distinct orange weathering appearance and contains disseminated pyrite in variable amounts (5-10%). Locally this unit is comprised of argillite.

Structure

The structure on the Rook property is complex and difficult to interpret because of general paucity of outcrop and bedding fractures. Interpretation of the structure has therefore been based both on field observations and photo interpretation.

Major folding is prevalent throughout the property and isoclinal in nature. Major fold axis are parallel to the bedding and axial plans dip steeply to the south. On a small scale open anticlines and synclines as well as isoclinal folds are present. These small scale folds reflect the large scale folding in that their axes are parallel to the bedding and their axial planes are either vertical or steeply dipping to the south. These small scale folds very often have shallow plunges: to the southeast on the south side of the major west flowing creek and to the northwest on the north side of this creek.

Faulting on the Rook property is of two types: high-angle normal faults and moderately dipping thrust faults.

Two thrust faults occur near the eastern margin of the property. These faults are northwest-southeast trending with the eastern fault dipping to the east and western thrust dipping to the west.

High angle normal faults have two preferred orientations: north-south and east-west. Displacements on these faults varies from a few cm to greater than 100 m. In general, the displacements do not appear to be large. Two periods of high angle faulting probably occurred: one prior to the period of thrust faulting and the other subsequent to the period of thrust faulting. Evidence for the existence of two periods of high angle faulting is suggested by the observation that some of these faults are truncated by the thrust surfaces (eastern region) while other high angle faults truncate the thrust faults (western region).

GEOCHEMISTRY

Introduction

During 1978 a program, consisting of the collection of approximately 200 soil samples, was completed on the Rook property. Soil samples were collected on a grid having a line spacing of 100 m and sample locations at 50 m intervals along these lines. Wherever possible samples were collected from below a volcanic ash layer, a light grey horizon of variable thickness (6 cm to 50 cm) within the soil profile, that is present throughout a large proportion of the southern Yukon. At those locations where the ash horizon could not be penetrated or where the organic content was too high no sample was collected. The samples that were collected were analysed for tungsten, copper and zinc.

Sample Preparation and Analysis

All samples were dried and sieved with the minus 80 mesh fraction being used. Copper and zinc values were determined using a hot aqua regia solution for extraction and analyzing the sample by atomic absorption techniques. Values for tungsten were determined using a pyrosulfate fusion technique for extraction and then analyzing the sample by colourimetry techniques.

Tungsten

Using a threshold value of 50 ppm tungsten, three anomalous areas were outlined. At the eastern margin of the claims an anomalous area measuring 100 metres by 75 metres in which values attain a maximum value of 150 ppm tungsten was outlined. Immediately to the west an anomalous area of approximately the same dimension but of lesser magnitude (maximum 75 ppm) was also outlined. At the western edge of the grid a single sample with a value of 150 ppm tungsten was attained.

Copper

On the Rook property soil geochemical values for copper range from a low of 8 ppm to a high of 840 ppm. The threshold value of copper is interpreted to be 100 ppm with highly anomalous values being those values greater than 300 ppm.

Areas of anomalous copper response are generally small and are distributed throughout the northern area of the sampling grid. There appears to be no definitive pattern to these anomalies.

Zinc

Soil geochemical values for zinc range from 8 ppm to 1408 ppm. The threshold value is interpreted to be 500 ppm and highly anomalous values are those greater than 1000 ppm.

The distribution of zinc anomalies is primarily restricted to the northeastern area of the sampling grid. These anomalies are generally small and exhibit no definitive pattern. The significance of these anomalies is not known at the present time. These anomalies may be related to zinc occurrences not presently known.

CONCLUSIONS AND RECOMMENDATIONS

The 1978 work on the Rook 29-52 claims did not reveal the presence of any mineralization at surface. Geochemical anomalies for each of the three metals, copper, tungsten and zinc may be indicative of mineralization. Further testing of these anomalies will be required before their significance is fully realized.

Report by: Stephen B. Butrenchuk.
Stephen B. Butrenchuk
Geologist

Endorsed by:
D.L. Cooke, P.Eng.
Senior Geologist

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

SBB/gk

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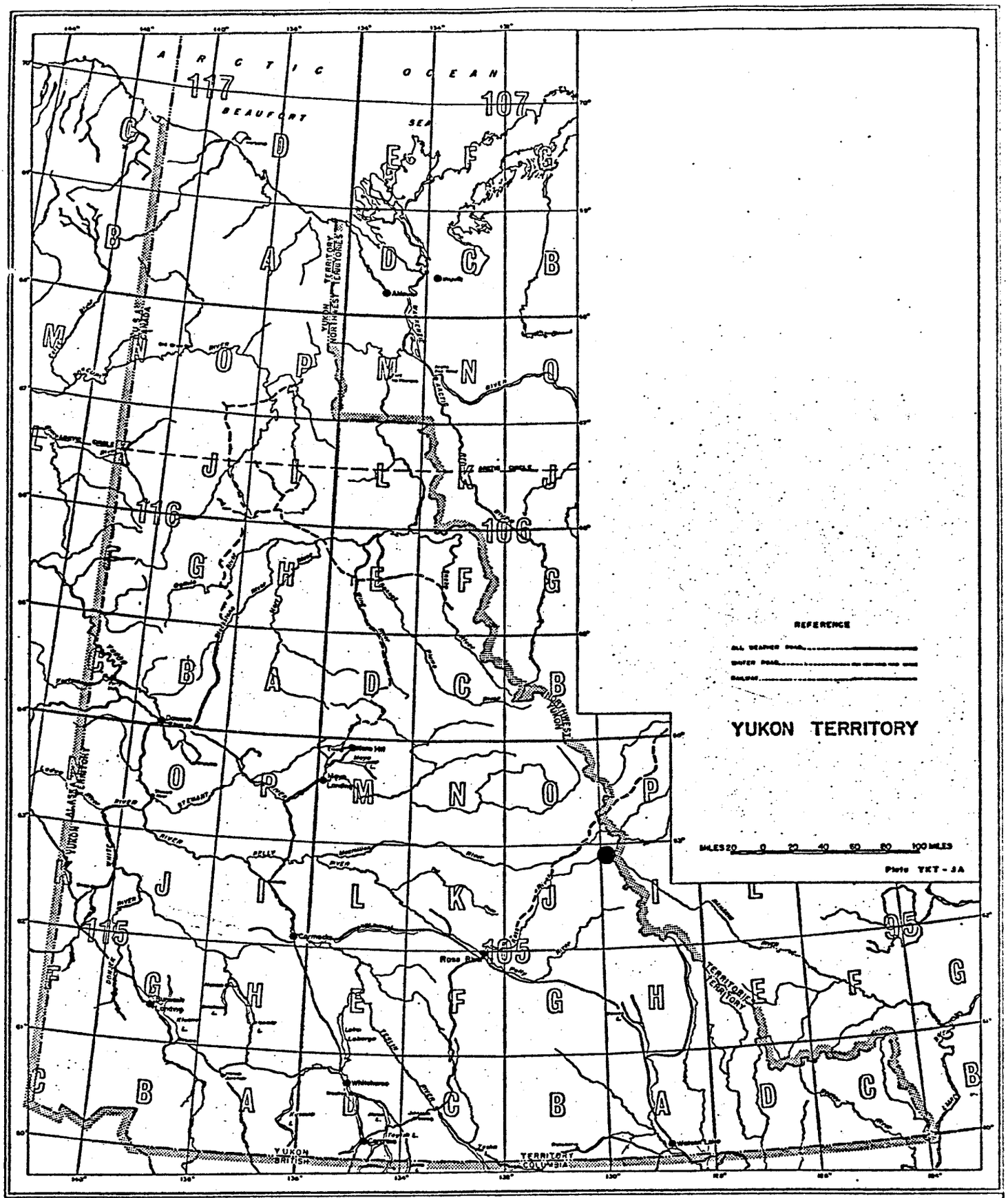
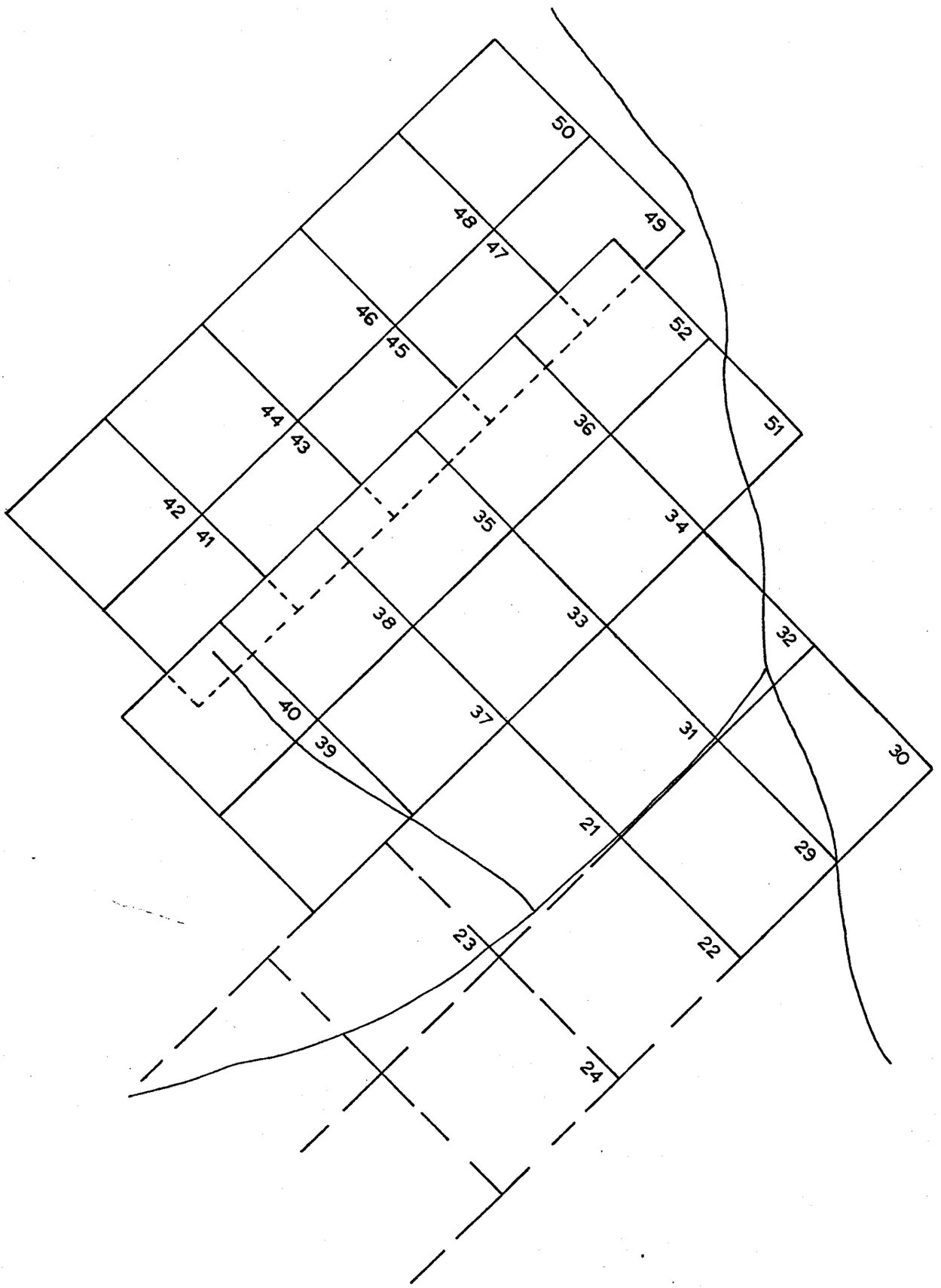


Drawn by: SBB		Traced by:	
Revised by:	Date:	Revised by:	Date:

ROOK

Scale: As shown | Date: Oct., 1978 | Plate: Rook – 1



105 I/13

Drawn by: SBB		Traced by:	
Revised by	Date	Revised by	Date

ROOK CLAIMS

Scale: 1 inch = 1/4 mile | Date: APRIL , 1979 | Plate: ROOK - 2

210-0610

LEGEND

ORDOVICIAN-SILURIAN:

5	Siltstone	: orange weathering, pyritic
4	Argillite-Mudstone:	graptolitic
3	Calc-Silicate	
2	Argillite-Mudstone:	cherty, wispy grey siltstone lenses

CAMBRIAN:

1	Siltstone, Calcareous Siltstone:	contains thin calc-silicate and skarn beds and lenses

SYMBOLS

70	Bedding	: inclined
	Anticline	: overturned
	Fault	: defined, assumed
	Thrust fault	
	Geological boundary:	defined, approximate
	Outcrop	

ROOK

Cominco 105 I/13

Drawn by: SBB	Traced by:		
Revised by	Date	Revised by	Date

GEOLOGY

Scale: 1 inch = 1/4 mile | Date: May , 1979 | Plate: Rook - 3

210-0620

≥ 100 ppm

50-99 ppm

40-49 ppm

0 100 200 meters

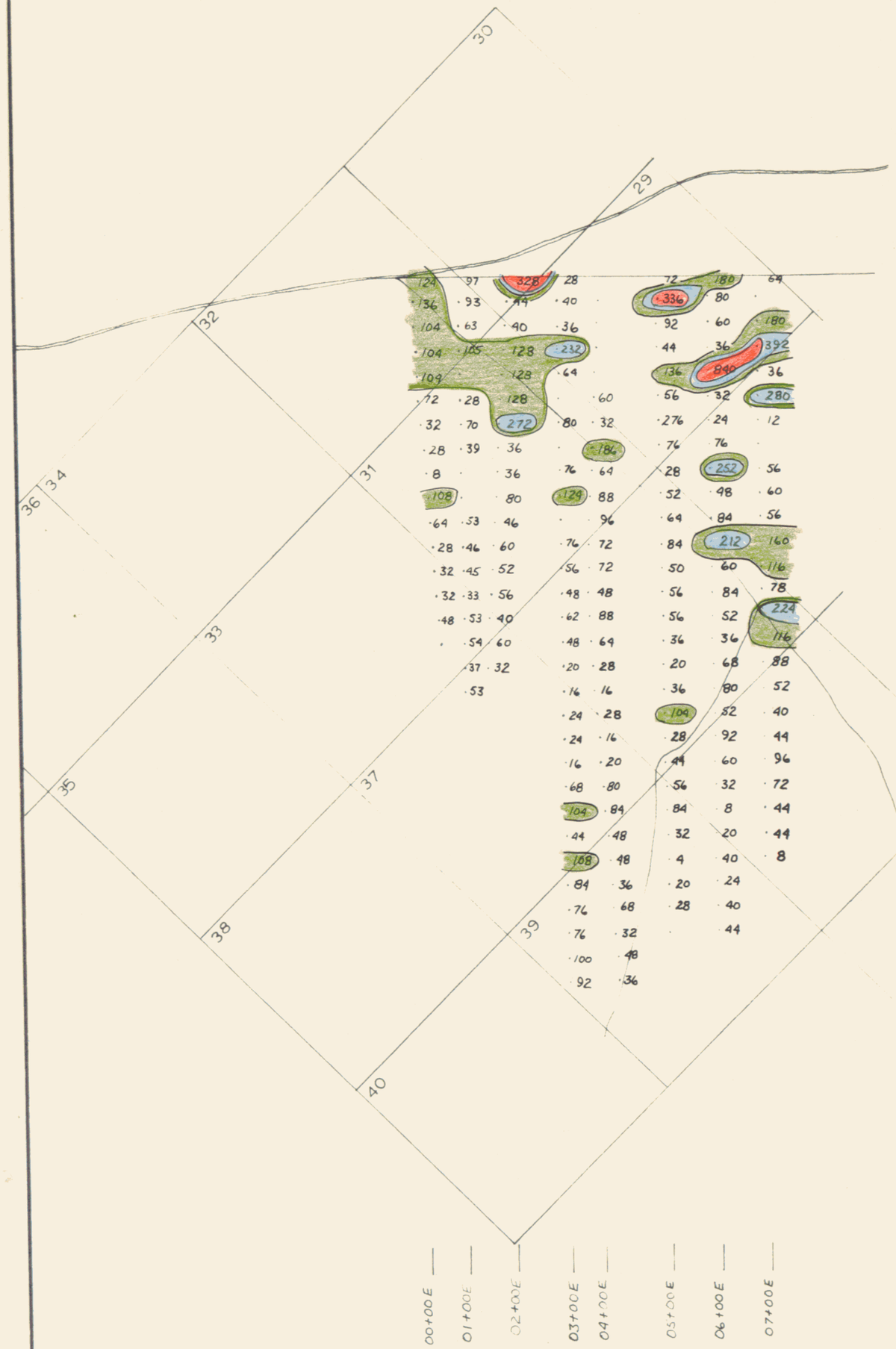
ROOK

Cominco

Drawn by: SBB		Traced by:	
Revised by	Date	Revised by	Date

TUNGSTEN GEOCHEMISTRY

Scale: 1:10000 | Date: May, 1979 | Plate: Rook - 4



> 300 ppm

201-300 ppm

100-200 ppm

0 100 200 meters

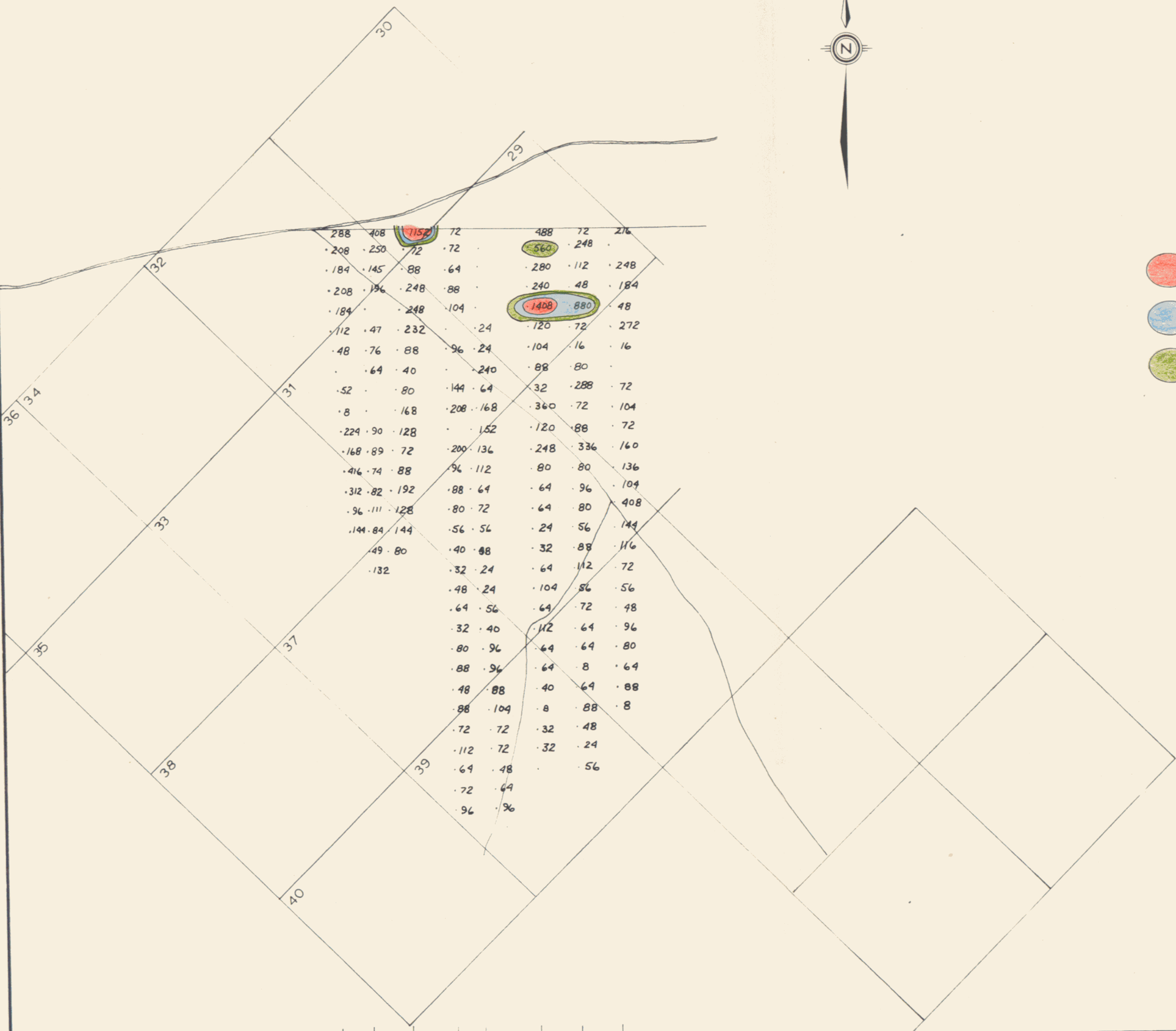
ROOK

Cominco

Drawn by: SBB	Traced by:		
Revised by	Date	Revised by	Date

COPPER GEOCHEMISTRY

Scale: 1:10000 | Date: May, 1979 | Plate: Rook - 5



ROOK

Cominco

Drawn by: SBB	Traced by:		
Revised by	Date	Revised by	Date

ZINC GEOCHEMISTRY

Scale: 1:10000 | Date: May, 1979 | Plate: Rook - 6