84-962-13121

COMINCO LTD.

EXPLORATION
NTS: 92F/4

WESTERN DISTRICT

# ASSESSMENT REPORT

# GEOLOGY, GEOCHEMISTRY AND GEOPHYSICS

# OF THE

# NICKEL 1,2, 3 AND LORNE MINERAL CLAIMS

LATITUDE: 49°12'; LONGITUDE: 125°37'

ALBERNI MINING DIVISION

TOFINO INLET AREA, B.C.

OWNER: LORNE (BUS) HANSON

WORK PERFORMED APRIL 26-28, 1984; JUNE 11-16, 1984



IAN M. MASON

OCTOBER 1984

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WESTERN DISTRICT
October 1984

# ASSESSMENT REPORT

# ON THE

# NICKEL 1, 2, 3, AND LORNE MINERAL CLAIMS

# ALBERNI MINING DIVISION

# TOFINO INLET AREA, B.C.

## I. INTRODUCTION

The adjacent Nickel 1, 2, 3 and Lorne claims (owned by Lorne Hanson, Tofino) are located on Deer Bay, which is the most northerly part of Tofino Inlet, on Vancouver Island, some 25 km ENE of the town of Tofino. They are most conveniently reached by boat from Tofino. See Figure 1.

The showing, which has been owned by Hanson since the 1950's, was first visited by Ian M. Mason and Bob J. Sharp (both of Cominco) April 26-28th when the showing was mapped and sampled, Figure 2. This showed that while interesting Cu/Ni values were present, only one small outcrop was visible with no indication of possible size. Between June 11-16, the property was re-visited by Ian M. Mason, B.C. Waters and A. Stordy and an orientation geophysical and geochemical study carried out to try to define extensions of the showing outcrop. At the same time the shoreline of Deer Bay was mapped to determine the general setting; Plate 1.

## II. GEOLOGY (Plate 1 & Figure 2)

### A) The Showing

The showing in which the Cu/Ni sulphides occur is located some 700 m east of the small grassy bay north of Similar Island at an elevation of 275 metres. It occurs on the west bank of the gully of a boulder-filled intermittent creek and probably outcrops due to slumping of the glacial cover into the creek.

The two outcrops which comprise the showing are only some 30x10 metres (Figure 2). They are made up of bands of ultramafic and anorthositic rock with the sulphides occurring in the former; these rocks are in fault contact in the east with quartzofeldspathic gneisses. These gneisses are also exposed on the east side of the creek but there are no exposures to the west of the showing. Petrographic studies show that the ultramafic zones are now composed of a colourless Ca-Mg low Fe amphibole, (tremolite) and/or hornblende while the anorthositic zones are composed largely of heavily saussuritised plagioclase with interstitial hornblende. The dominant sulphide is pyrite, with subordinate chalcopyrite and a nickel-bearing mineral tentatively identified as bravoite. Chromite and magnetite are absent which probably explains why the mag survey was not as successful as anticipated (See below).

B) Regional Setting

The showing is in fault contact with gneisses of the "West Coast Complex" which also occur on the shores of Deer Bay (Plate 1). These are fine to medium grained, foliated quartzofeldspathic gneisses composed essentially of quartz and plagioclase (K-spar is very rare) with chlorite and epidote as the principal mafic minerals; garnet is present in only a few specimens. West of the camp there is a 10 m wide band of coarse grained marble containing garnet and diopside.

A common feature of the gneisses is the presence of dyke-like, but discontinuous bodies of dense, black amphibolite varying from a few decimetres to several metres wide. Best seen on the shore outcrops, these dykes can locally make up 20% of the outcrop. While grossly conformable to foliation of the gneisses, the larger bodies contain occasional inclusions of the gneiss and the narrower bodies are impersistent suggesting they have an intrusive origin. Petrographically they consist of hornblende and plagioclase (the former predominating) with minor magnetite and epidote.

Although lacking definitive evidence it is believed, with Mueller, that these rocks probably represent Sicker-age rocks intruded by Karmutsen-age dykes metamorphosed to greenschist facies in some undefined Mesozoic event.

The northern part of the claims are underlain by a major diorite composed of saussuritised plagioclase, hornblende (with marginal alteration to chlorite) with accessory magnetite, often with narrow rim of epidote. This body may be related to the dykes noted above.

South of the claims occurs a coarse-grained granodiorite comprised of plagioclase and quartz, with minor K-spar and mafic minerals. Away from the contact with the gneiss the mafic mineral, showing no orientation, is biotite occurring in books; in the contact zone it is altered to a green chlorite. This body is patently younger and intrusive into the gneisses.

## III. GEOCHEMISTRY AND GEOPHYSICS (Plates 2 & 3)

To assess the method as a means of defining the extent of the host rocks of the showing, two traverses were run along compass lines at the level of, and 100 metres below the showing, (Plate 2) using a proton-magnetometer at 10 m spaced stations. As shown on Plate 2, although low amplitude anomalies were located (of the order of 100 gammas) they are not sufficiently pronounced to confidently predict the presence or absence of these host rocks. As noted above, this is undoubtedly due to the absence of both magnetite and pyrrhotite in the showing.

On the same lines soil samples of the B-horizon were collected, dried and sieved to <80 mesh in the laboratory and analysed for copper and nickel and the results are presented on Plate 3.

Despite the low number of samples, it appears that this will be a more satisfactory method of defining areas of further interest in future work.

Reported by: _____
Ian M. Mason
Senior Geologist

Endorsed by: _____
F.D. Gill
Assistant Manager

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

IMM/cgs

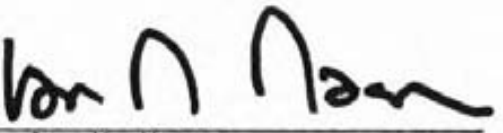
Distribution

Mining Recorder (2)
Western District
IMM

# APPENDIX A

## STATEMENT OF EXPENDITURES

| | | |
|---|---|---|
| Salaries: | I.M. Mason (10 days field, 2 office) @ $225/day | $2,700.00 |
| | R.J. Sharp 3 days @ $155/day | 465.00 |
| | B.C. Waters 7 days @ $150/day | 1,050.00 |
| | A. Stordy 7 days @ $95/day | 665.00 |
| | | $4,880.00 |
| Geochemistry: 22 samples @ $3.40/sample | | 74.80 |
| Magnetometer Rental | | 150.00 |
| Boat Charter: 2 round trips Tofino/Property | | 600.00 |
| Domicile: 27 man days @ $20/day | | 540.00 |
| | TOTOL | $6,244.80 |

Signed: 

Ian M. Mason
Senior Geologist

APPENDIX B

STATEMENT OF QUALIFICATIONS

I, Ian M. Mason of the City of Port Moody, in the Province of British Columbia, hereby certify:

1) THAT I am a geologist residing at 136 April Road, Port Moody, British Columbia with a business address of 700-409 Granville Street, Vancouver, British Columbia.

2) THAT I graduated with a Ph.D. in geology from McMaster University in 1969.

3) THAT I have practised geology with Cominco td. from 1969 to present.

Signed: _____

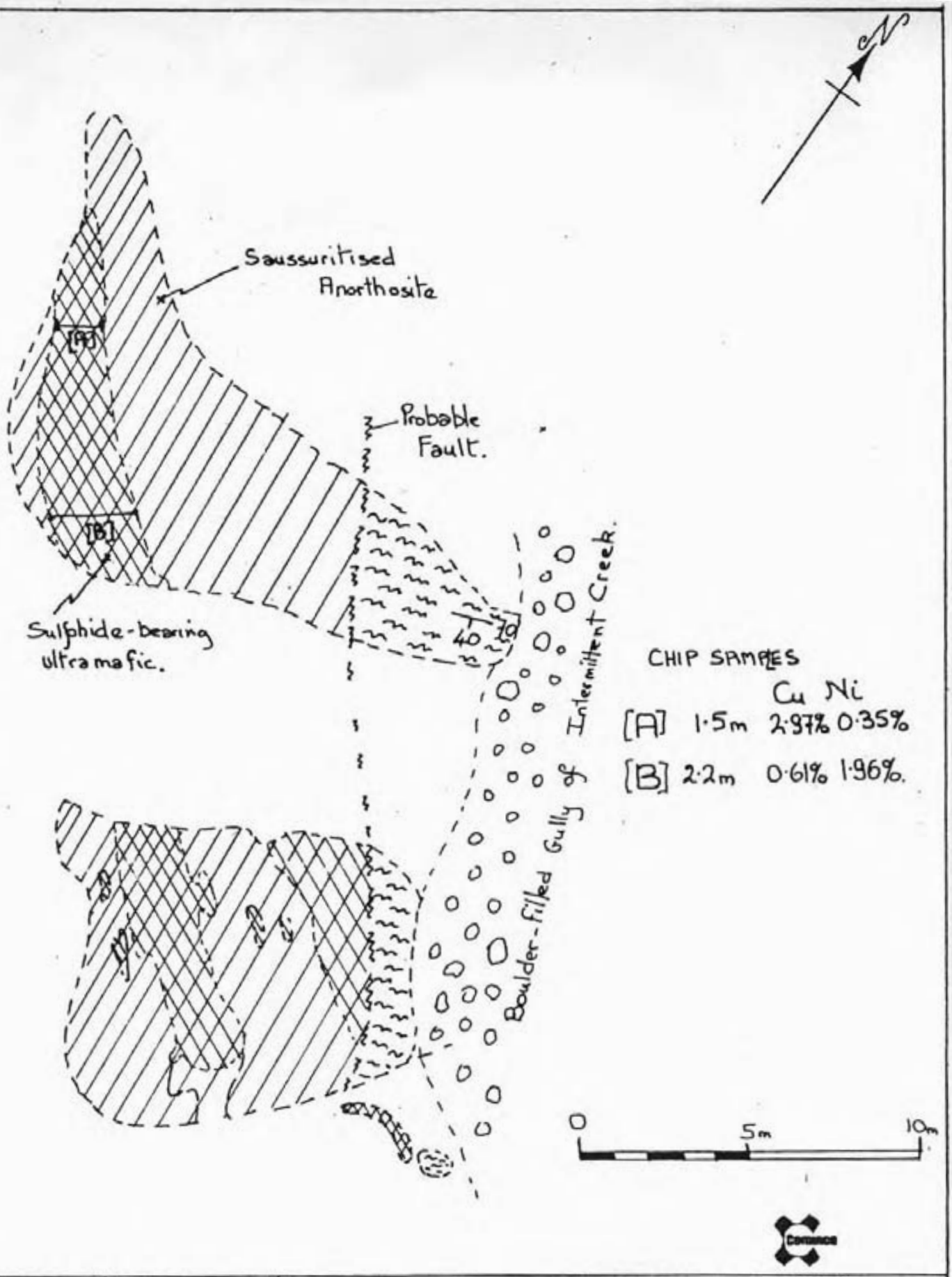
Ian M. Mason
Senior Geologist,
Cominco Ltd.

18 October 1984


| Drawn by: | | Traced by: | |
|---|---|---|---|
| Revised by | Date | Revised by | Date |
| | | | |

FIG-1. VANCOUVER ISLAND.
Location of B.C. Nickel Property.

| Scale: 1:2 million | Date: July 1984 | Plate: |
|---|---|---|




| Drawn by: WM. | | Traced by: | | FIG-2 |
|---|---|---|---|---|
| Revised by | Date | Revised by | Date | |
| | | | | SKETCH MAP OF B.C. NICKEL SHOWING |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| Scale: | | Date: July 1984 | | Plate: |

N

DIORITE

GRANODIORITE

QUARTZO-Feldspathic GNEISS. (with dyke-like amphibolite schlieren)

TF-14 Rock Sample.

Foliation in gneissic rock.

Geochem. and mag. lines.

I.R.

NICKEL-2 (1338)

NICKEL-1 (1043)

NICKEL-3 (1339)

LORNE (1341)

SIMILAR ISLAND

WOMAN ISLAND

DEER BAY

TRANQUIL INLET.

TOFINO INLET.

TRANQUIL CREEK

TOFINO CREEK

TF-1 TF-2 TF-3 TF-4 TF-5 TF-6 TF-7 TF-8 TF-9 TF-10 TF-11 TF-12 TF-13 TF-14 TF-15 TF-16 TF-17 TF-18 TF-19 TF-20 TF-21 TF-22 TF-23 TF-24

GEOLOGICAL BRANCH ASSESSMENT REPORT

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250 0 250 500 metres.

METRES 1:10,000

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REGIONAL GEOLOGY
B.C. NICKEL CLAIMS.

Scale: 1:10,000 Date: July 1984 Plate: 1

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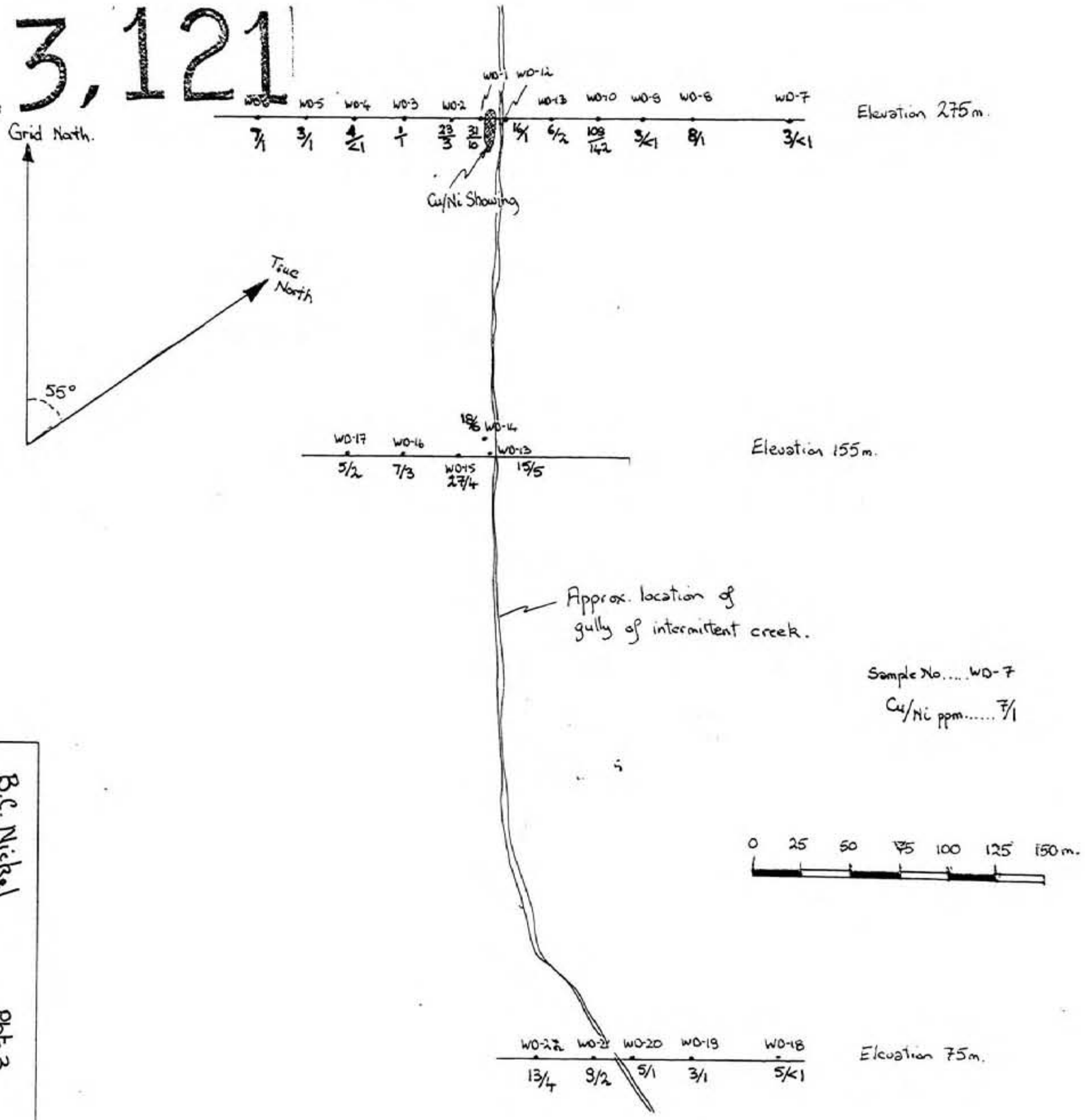


See Plate 1 for location of lines.

B.C. Nickel

Plate 3

Preliminary Geochemistry in area of B.C. Nickel Showing

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Plate: 3

Gamindo

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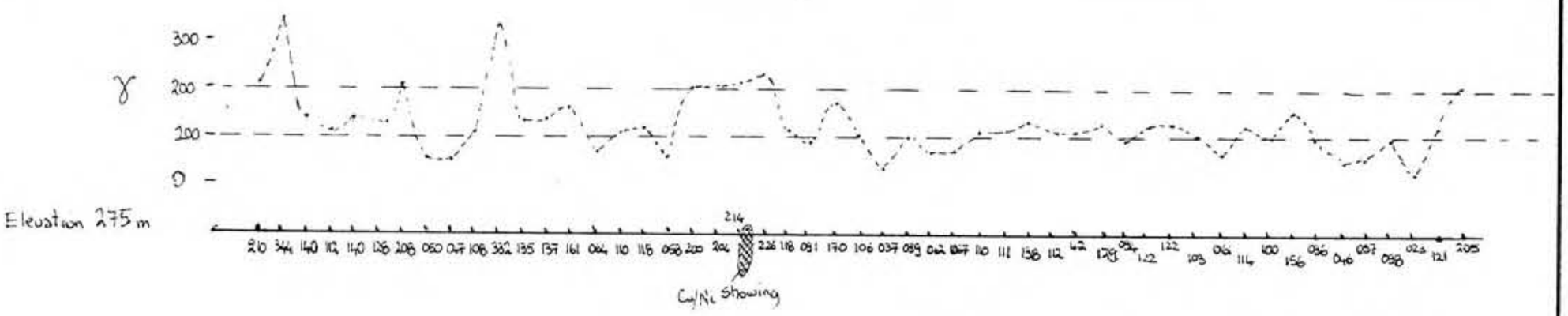


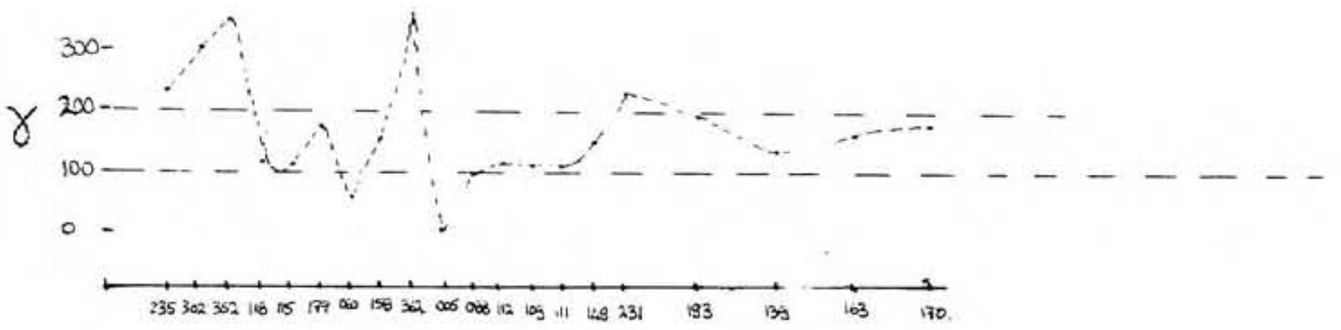


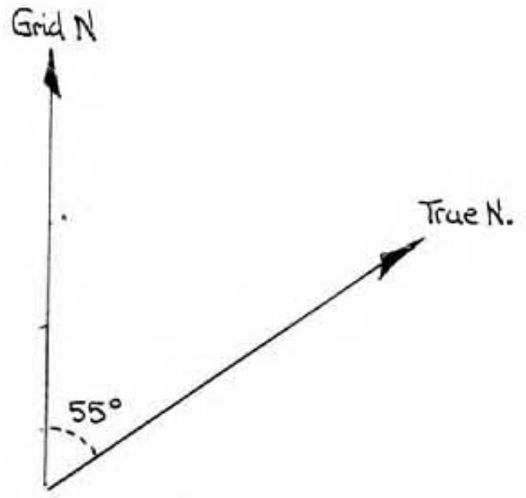


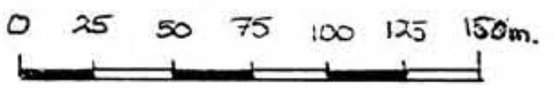


See Plate 1 for location of lines

GEOLOGICAL BRANCH
ASSESSMENT REPORT

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B.C. Nickel

Plate 2.

Magnetometer Profiles over the B.C. Nickel Showings

Cominco

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|---|---|---|---|---|---|
| | | | | | |

Scale:

Date:

Plate: 2

710.0620