Dawson M.R. Dec 31/81

COMBINED GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL ASSESSMENT REPORT

ON

ROAD 1-4, RAIL 1-214, AND TRACK 1-28
MINERAL CLAIMS

116-C-8

64°23'N - 140°10'W

NORANDA EXPLORATION COMPANY LIMITED
(NO PERSONAL LIABILITY)

May 23-August 31, 1981

K. Grapes
G. MacDonald

This report has been examined by the Geological Evaluation Unit under Section 53 of Yukon Quartz Mining Act and is approved as representation work to the value of $ 30,500 .

R Walker

for Regional Manager, Exploration and Geological Services for Commissioner of Yukon Territory.

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LIST OF ILLUSTRATIONS

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5	Geology West	1:10,000
6 a,b	Soil Geochemistry North	1: 5,000
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12	VLF Survey, Filtered and Profile	1"=200m Profile 1"=20°

SUMMARY

The Rail Road and Track claims (246 claims) were staked between 1979 and 1980 as a result of geochemical survey anomalies and prospecting discoveries by Noranda Exploration crews.

On the property outcrop exposure is poor; however, as the drift cover is thin, bedrock nature can usually be determined from float. Rock geochemistry of boulders in the Pionjar Creek area produced values of up to 700 ppm tungsten with high zinc values. As a result of these encouraging results, a programme of geophysical surveying (VLF, magnetometer), geological mapping, geochemical sampling and prospecting was carried out during the 1981 field season.

Geochemical surveys have delineated anomalous zones along the intrusive contact as well as indicated rock type mineralization.

The geophysical survey confirmed results obtained in an earlier airborne survey.

VLF and magnetometer anomalies correspond to soil anomalies, dike rocks or rhyolite porphyries.

The work done in the summer of 1981 extended known mineralized zones and outlined new potential areas of mineralization to be examined in more detail during the summer of 1982.

1. INTRODUCTION

The Rail, Road and Track claims were staked in 1979 and 1980 following reconnaissance prospecting of a geochemical anomaly.

The claims are located in the Yukon Territory 56 km northwest of Dawson City (Figure 1).

The major objectives of this program were to investigate the potential of the property and to extend known mineralization.

Work referred to in this report consists of linecutting, reconnaissance and detailed mapping, soil, silt and rock geochemistry, and a geophysical survey in 1981 as follows :

i)	Linecutting	- M.B.W. Surveys - May 23 - June 7, 1981 (Figure 2)
ii)	Geological Mapping and Prospecting	- K. Grapes, P. Whiting (T. McKinaly) June 12 - August 28, 1981
iii)	Soil and Silt Geo-Chemistry	- M. Fekete, P. Jensen, G. Addie June 24 - August 26, 1981
iv)	Geophysical Survey	- J. Moore, R. Kaatz July 5 - July 19, 1981

All except those contracted by M.B.W. Surveys were employees of Noranda Exploration Company Limited (N.P.L.).

Mapping and geochemical control was provided by topographic maps with a scale of 1:10,000.

The 1981 program was directed by K. Grapes, Project Geologist, under the supervision of G. MacDonald, Yukon District Geologist for Noranda Exploration.

FIGURE 1

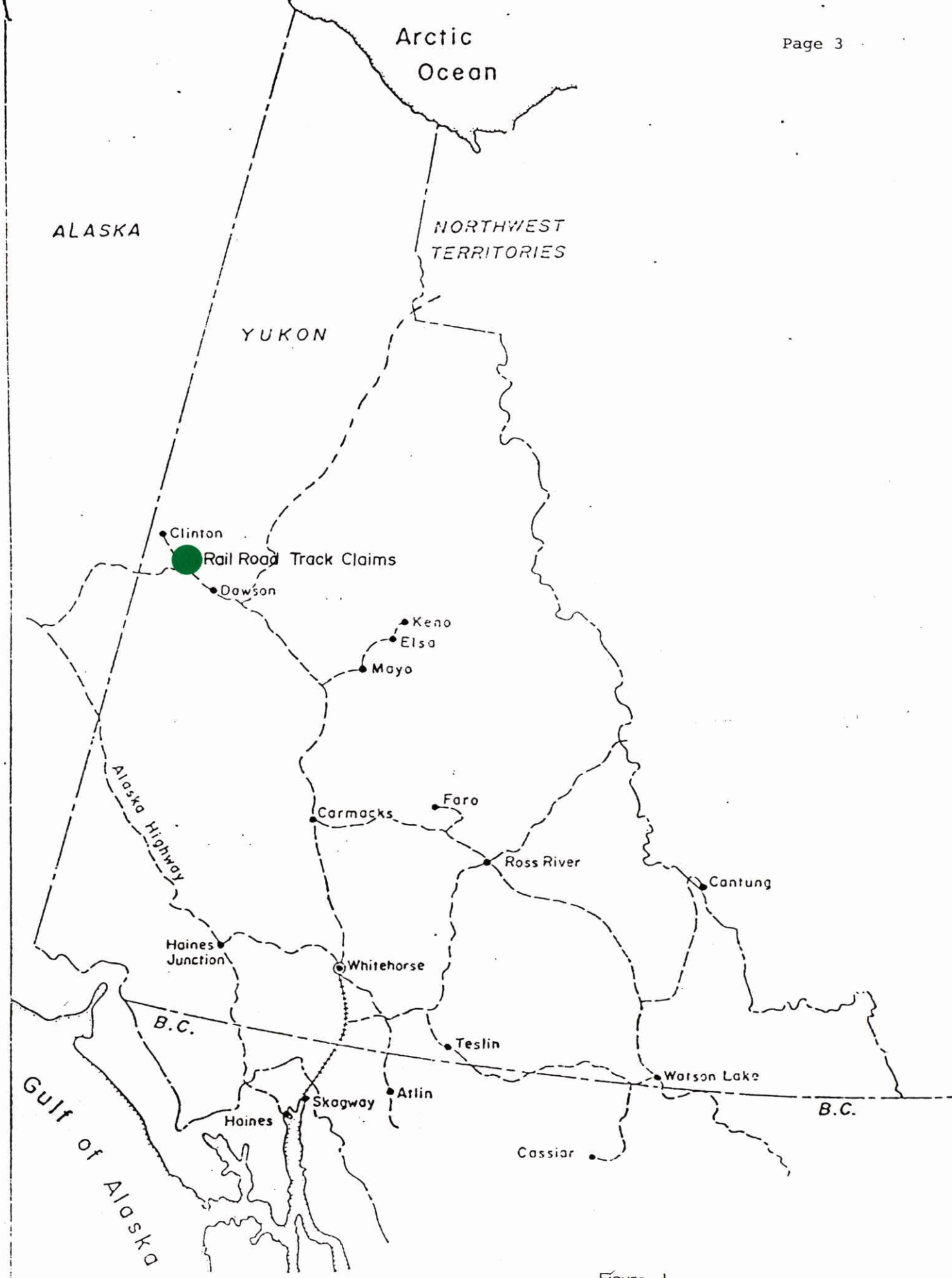
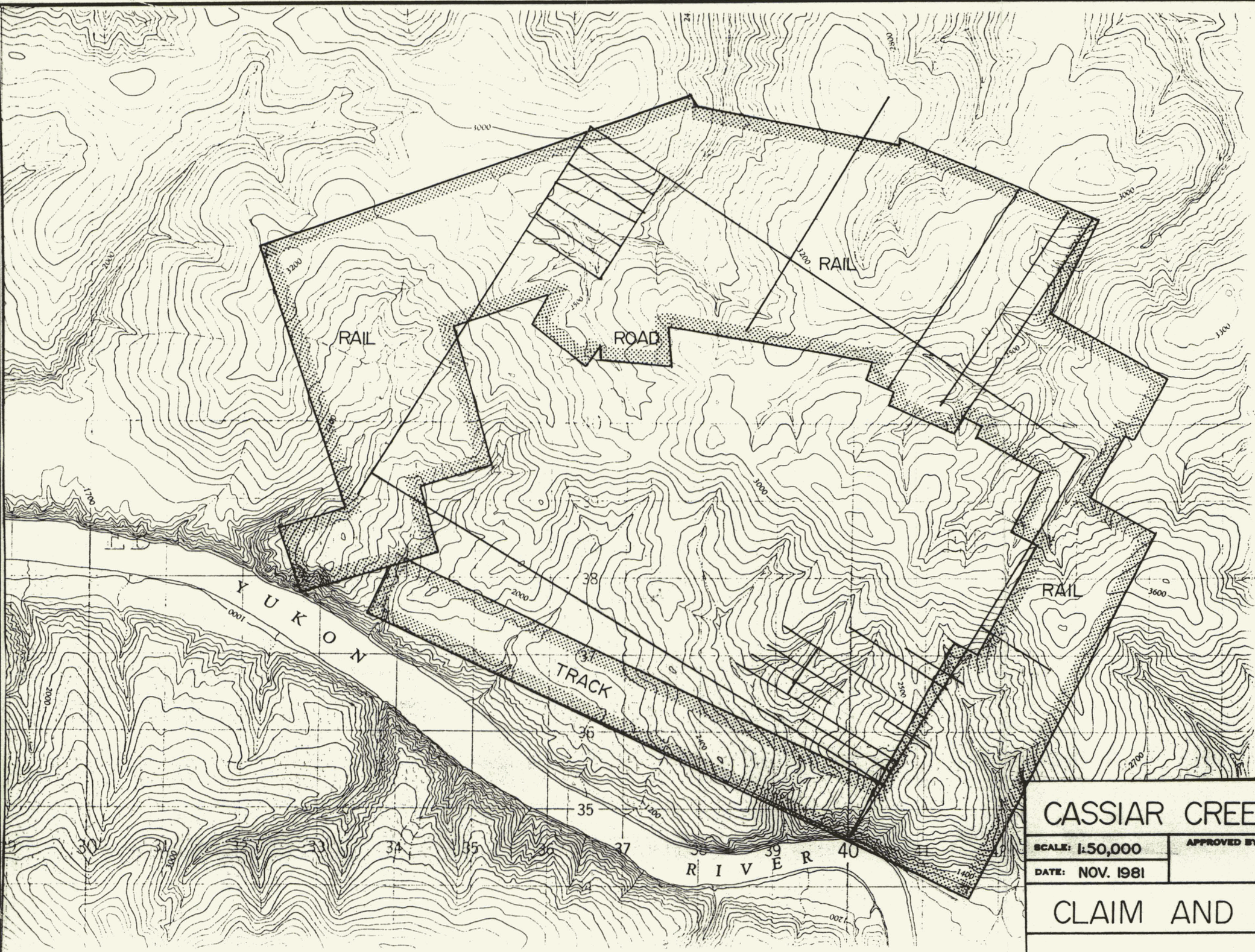

Arctic Ocean
ALASKA
NORTHWEST TERRITORIES
YUKON
Clinton
Rail Road Track Claims
Dawson
Keno
Elsa
Mayo
Alaska Highway
Carmacks
Faro
Ross River
Cantung
Haines Junction
Whitehorse
B.C.
Teslin
Watson Lake
B.C.
Skagway
Atlin
Haines
Cassiar
Gulf of Alaska
scale — miles
50
100
150

Figure 1.

FIGURE 2



N

Claim group

grid

CASSIAR CREEK PROPERTY

SCALE: 1:50,000	APPROVED BY:	DRAWN BY K.J.G.
DATE: NOV. 1981		REVISED

CLAIM AND GRID LOCATION.

Figure 2

11X17 PRINTED ON NO. 1000H CLEARPRINT

1.1 Location and Access

The claims are located on the Dawson map sheet (N.T.S. 116-C-8). They are situated 56 km northwest of Dawson City between the Yukon River and Coal Creek (Figure 1 and 2).

Access to the property is predominantly via helicopter from Dawson, or by boat down the Yukon River.

1.2 Topography

The property is unglaciated, characterized by rounded hills, plateau surfaces and V-shaped valleys with interlocking spurs. Exposures are poor, however. As the drift cover in the area is thin the nature of the bedrock can often be ascertained from float.

1.3 Claim Status

The Rail-Road-Track property consists of 246 claims as listed below:

NAME	GRANT NUMBER	DUE DATE
Track 1- 28	YA52818-YA52845	Sept. 01, 1982
Road 1- 4	YA32574-YA32577	Aug. 31, 1983
Rail 1- 4	YA32570-YA32573	Aug. 31, 1983
Rail 5- 20	YA32666-YA32681	Aug. 31, 1983
Rail 21- 24	YA32777-YA32786	Aug. 31, 1983
Rail 25- 32	YA32792-YA32799	Aug. 31, 1982
Rail 35- 56	YA32800-YA32821	Aug. 31, 1982
Rail 57	YA32822	Aug. 31, 1983
Rail 58- 60	YA32823-YA32825	Aug 31, 1982
Rail 61- 62	YA32826-YA32827	Aug. 31, 1983
Rail 63-166	YA32835-YA32938	Sept. 01, 1982
Rail 165-212	YA47217-YA47264	Aug. 31, 1982
Rail 213-214	YA49047-YA49048	Sept. 01, 1982

2. HISTORY

Part of the property along the river was staked as a copper skarn showing in 1895 by R. Matheson and W. Cornel. It was restaked 4 times between 1901 and 1908 as listed below :

DATE	NAME	STAKED BY
May , 1901	Pyramid	Ole Tweedin
October, 1901	Polly Copper	
April , 1908	Metre Hill	J. Cameron
later , 1908	Ethelda Copper	G.S. Richards

When the claim was known as the Metre Hill claim, a 20 foot adit was driven by J. Cameron.

Little has been reported on the property from 1908 to 1979 when Noranda staked their first claims.

In June and August of 1979 the Rail 1-4 and Road 1-4 claims were staked over a stream sediment anomaly detected in a regional G.S.C. geochemical survey. Work in 1979 comprised reconnaissance prospecting, geological mapping, a magnetometer survey and a geochemical survey. Subsequent to the results of this work further claims were contract staked and transferred to Noranda.

Reconnaissance mapping and geochemical surveys continued in 1980. On the basis of geochemical data the Track claims were staked . Four BQ holes totalling 466 m were drilled to test favourable VLF responses

and geochemical anomalies. Minor amounts of mineralization were intersected.

During the 1981 season a program of linecutting, prospecting, stream and soil geochemistry, reconnaissance and detail mapping, and geophysical surveys was conducted.

3. REGIONAL GEOLOGY

Low grade metamorphosed sedimentary rocks (Nasina Series) underlie much of the area southwest of the Tintina Trench. Outcropping on both sides of the Yukon River west of Dawson is a belt containing greenstones and related rock types. These are Green's (1972) Unit C but may represent parts of the Nisutlin Allochthon as described by Templeman-Kluit (1979). All of these units are intruded by stocks of granodiorite, quartz monzonite and by small sills and dykes of quartz rhyolite porphyry.

TABLE 1

AGE	REGIONAL UNIT	GEOLOGY (GREEN AND RODDICK, 1972) ROCK TYPE
Tertiary	25	Quartz rhyolite porphyry
Cretaceous	21 a	Granodiorite, quartz monzonite
Metamorphic Rocks	C	Greenstone and banded amphibolite gneiss, minor chloritic quartz-mica schist, graphitic quartz-mica schist, quartzite, and limestone

TABLE 1 (CONT.)

AGE	REGIONAL UNIT	GEOLOGY (GREEN AND RODDICK, 1972) ROCK TYPE
Metamorphic Rocks	A	Nasina "Series" : micaceous quartzite, quartz mica schists, quartz biotite gneiss, graphitic schist and quartz-muscovite-chlorite schist.

Structurally the area shows small scale, isoclinal folding with development of a strong foliation in places which obliterates bedding (Green, 1972). This folding may affect large-scale structures. Foliation is variable, indicating multiple phase folding or deformation.

Foliation in the Nasina Series east of the Rail, Road, Track property trends 60° NE, and dips 55° W.

4. PROPERTY GEOLOGY

4.1 Stratigraphy

A generalized column for the sequence found on the property, as defined by Noranda mapping, is shown in Table 2.

TABLE 2

GENERALIZED STRATIGRAPHY OF THE
RAIL-ROAD-TRACK PROPERTY

Dtr	fine grained dike
Rhy	rhyolite porphyry
Kg	granodiorite
Kgp	marginal, foliated granodiorite
Km	leached marginal granodiorite
Pm	banded marble
Pbsk	banded diopside-biotite skarn
Pss	siliceous schist
Psk	garnet-diopside skarn
Pdsk	diopside skarn
Psh	fine grained rusty hornfels
Psha	chlorite schist

NASINA "SERIES"

Psbq	biotite-quartz schist
Pqm	grey-green mica quartzite
Psbm	light grey and silvery weathering mica schist
Pgb	quartz-biotite gneiss
Psg	graphite schist
Psmq	quartz-muscovite-chlorite schist
Unit C	greenstone and banded amphibolite gneiss, (after Green, 1972)

The geology of the property is presented in drawings 1 to 5 inclusive.

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4.1.1 Rock Types

Intrusive Rocks :

Dtr — This rock type occurs as thin dikes cross-cutting the granodiorite. It is generally fine grained dark grey-blue when not overly rusty, with occasional small feldspar phenocrysts. Some of the dikes contain small rusted out pits. These rocks occur in the south of the property (drawing 4).

Rhy — The rhyolite porphyry occurs as scattered small bodies and dikes in the southern portion of the property. These rocks weather pale buff on fresh surfaces. They range from cream, buff, and grey to a greenish colour. They are fine grained and contain fairly euhedral smokey quartz crystals up to several mm long. Altered white feldspars with occasional pyroxene, hornblende or pyrite occur in a few samples (drawing 4).

Kg — The granodiorite forms a roughly equant plug 8 km in diameter. It is quite resistant to weathering, forming steep cliffs along the Yukon River.

The main body of the intrusive is composed of a fresh looking granodiorite consisting of quartz, biotite, plagioclase and orthoclase with minor amounts of hornblende. The texture is generally idiomorphic granular with relatively coarse biotite and feldspar. Orthoclase tends to increase in size towards the interior of the pluton.

Jointing and blocky weathering are apparent in outcrops along the river (Figure 3).

Kgp, Km — Foliated granodiorite and the occasional leached granodiorite characterize the margin of the intrusive. The foliated granodiorite can vary in biotite content from 3% up to 15%. Some samples show recrystallized or secondary biotite. Small xenoliths of biotite schist incorporated into this marginal phase have been observed. The leached granodiorite is predominantly quartz, feldspar and muscovite/sencite with no mafics. In general, these rocks are finer grained and buff to tan coloured.

Aplite dikes, occasionally containing garnet or hornblend are abundant around the periphery of the stock, as well as cross-cutting quartz veins.

Metamorphosed Rocks :

Pm — This is a coarse grained, monomineralic (calcite), grey and white banded, recrystallized limestone. It is commonly interbanded with garnet-diopside skarn along its margin. Towards the west and further from the contact the limestone has not been as recrystallized and retains many relict textures (drawing 1).

Psk — This rock is characterized by its red and green colour. This unit is composed of garnet, diopside with accessory epidote, chlorite, calcite, minor graphite and wollostonite, and quartz. The garnet is generally red-brown, massive, and granular. Diopside occurs as crystals up to 2 mm in length. Pyrrhotite is generally but not always present in amounts ranging up to more than 50% (MacDonald, December, 1980).

Pdsk — The diopside skarn is occasionally serpentinized (Sleath, 1980). Diopside crystals occur up to 1 1/2 to 2 cm in length. Quartz and calcite are common as highly contorted veins and veinlets. Pyrrhotite occurs as disseminated blebs or in small veinlets. Scheelite occurs as crystals up to 0.5 cm or as fine grained aggregates.

Pbsk — This unit is a diopside skarn with bands of biotite (phlogopite) intergrown. It is finer grained, commonly siliceous, and gradational with the siliceous schist (Pss). Pyrrhotite occurs in the biotite (MacDonald, December, 1980) or as blebs and veinlets. Quartz and calcite veins are found locally.

Psh — The oxidized hornfels is a fine grained rusty rock, rarely exposed fresh surfaces are grey to black, have small rusted out vugs and the occasional small feldspar phenocryst.

Psha — This rock is a chlorite schist containing occasional quartz eyes and/or garnets. Cross-cutting quartz veins are common. Folding is isoclinal with northerly trending axes.

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Nasina "Series" :

The Nasina "Series" has been subdivided into biotite-quartz schist (Pbsq); grey-green mica quartzite (Pqm); light grey and silvery weathering mica schist (Psbm); fine grained quartz-biotite gneiss (Pgb); graphite schist (including biotite-graphite schist and to the west, a graphite-muscovite-garnet schist), (Psg); and a quartz-muscovite-chlorite schist (Psmq). These low rank metamorphosed rocks underlie much of the surrounding area.

Unit C — Rocks of this unit occur west of the property (drawing 5) and on the south east corner of the property (drawing 4). They are best exposed along the river or in creeks where they form massive dark green cliffs. This unit is composed of greenstones, banded amphibolite gneiss, minor chloritic quartz-mica schist; graphitic-quartz-mica schist, quartzite and limestone. To date only the amphibolite schist unit has been recognized on the property.

4.2 Structural Geology

Northeast Pionjar Camp :

The intrusive contact near Pionjar Creek trends NNW. The host rocks are intensely folded. The foliation and trends of fold axes near the contact are almost perpendicular. The plunge of the folds is variable.

Further from the intrusive contact schistosity, cleavage and fold axes trend southeast, to easterly, and dip moderately south (Figure 3).

Northwest - S.D.J. Camp :

Rock units in this area strike parallel to the intrusive contact and dip 5 to 35 degrees north. Further from the contact the units strike 70 degrees. The graphite schist dips northerly. The limestone/marble dips to the south.

South :

Structures are difficult to see in the south part of the claims except where the granodiorite meets the river.

Three main jointing trends have been measured in the granodiorite along the river. Two are vertical and trend 268 and 360 degrees, and one dips 80° E and trends 155 degrees.

Strikes measured in the amphibolite schist along the shoreline are generally east-west, and dip 25 to 35 degrees south.

To the west the schistosity in the amphibolite schists and banded skarn appears to be perpendicular to the intrusive contact, and dips towards the contact.

5. GEOCHEMISTRY

All soil, silt pan and rock samples were analyzed for copper, zinc, lead, molybdenum, and silver at the Noranda Exploration laboratory in Vancouver. The analyst was E. VanLewan. Tungsten and gold analyses were done at Rossbacher Labs in Vancouver.

FIGURE 3

CASSIAR CREEK PROPERTY

SCALE: 1:50,000	APPROVED BY:	DRAWN BY KJG
DATE: NOV. 1981		REVISED

STRUCTURAL DATA

Figure 3

5.1 Sampling Method

Soil Samples :

Samples were taken at 50 meter intervals along a grid, by digging holes with a mattock to a depth where the "B" horizon or sub-outcrop was encountered. Samples were placed in "Hi Wet Strength Kraft", 3 1/2 X 6 1/8 inch, open-end envelopes on which the grid location was marked in indelible felt pen. Sample sites were recorded on computer cards and plotted upon grid maps (drawings 6 a,b,7 a,b).

Silt Samples :

Recconaissance silt samples were taken every 100 or 200 meters along streams. Silts from creek bottoms were placed in "Hi Wet Strength" envelopes and marked. The properties of the silts were recorded on computer cards and sample sites recorded on G.C.I. forms (drawings 8, 9 and 10).

Pan Samples :

Pan samples were obtained by digging pits to a depth of two feet. Soil samples taken from these pits were put into 12 1/2 X 18 1/4 inch plastic bags filled 3/4 full. The samples were then carried to the nearest creek and panned down. The sample location was indicated in the field with the site number on red flagging. Locations were plotted on the 1:10,000 base maps and 1:25,000 topographical maps (Figure 4, drawings 8,9 and 10).

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FIGURE 4

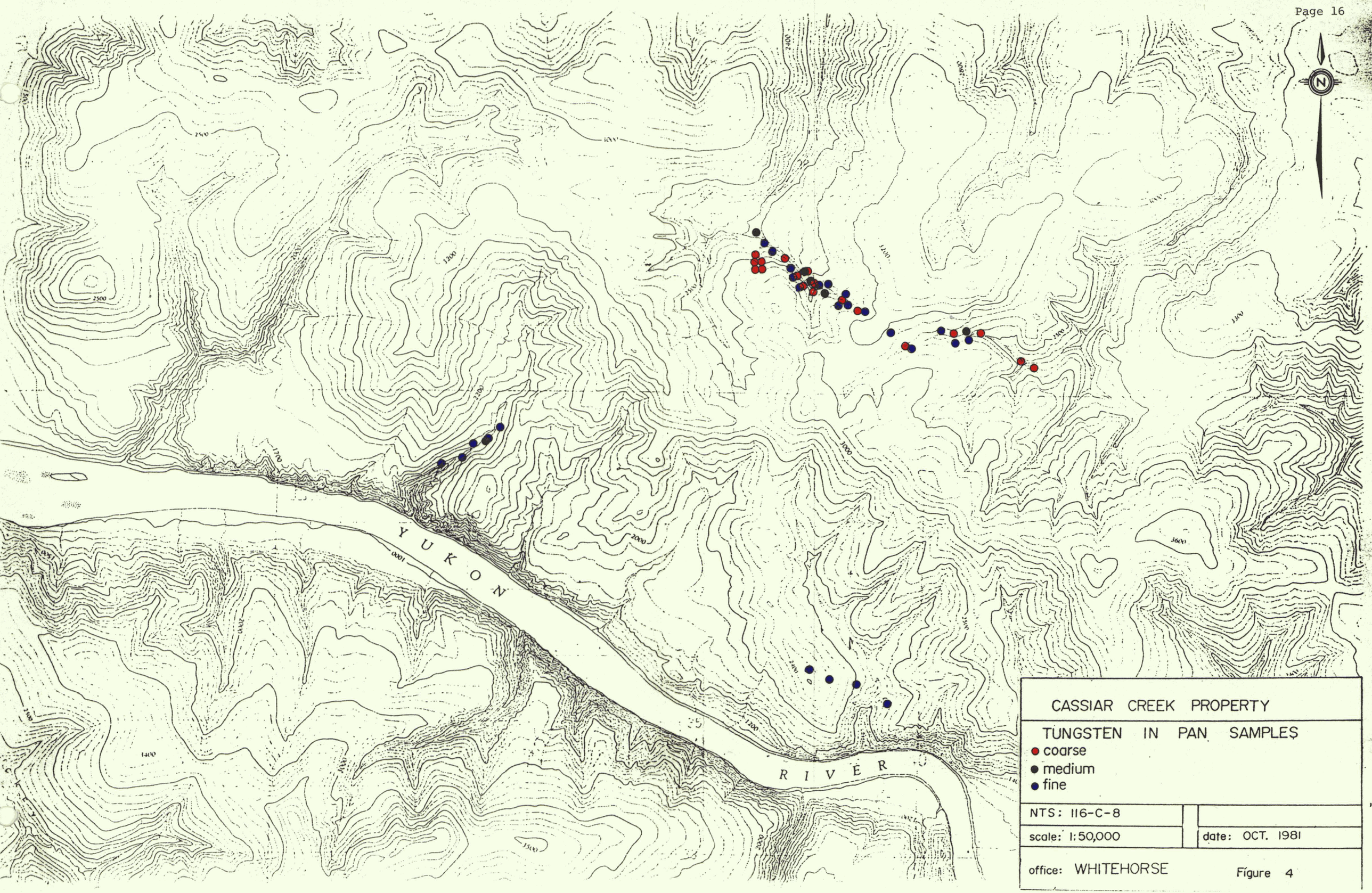

N
YUKON
RIVER
CASSIAR CREEK PROPERTY
TUNGSTEN IN PAN SAMPLES
coarse
medium
fine
NTS: 116-C-8
scale: 1:50,000
date: OCT. 1981
office: WHITEHORSE

Figure 4

.../17

Rock Samples :

Rocks with visible mineralization or occuring near geochemical anomalies were collected, labelled and sent to the Noranda Exploration lab in Vancouver for rock geochemistry. Sample locations were noted in field books and plotted up on 1:25,000 scale maps (Figures 5, 6 and 7).

5.2 Laboratory Determination Method

The soil, silt and pan samples are first placed in a drying cabinet for a period of 24 to 48 hours; the sample material is then scr-ened and sifted to obtain a -80 mesh fraction. The determination procedure for total copper, lead, zinc, silver and molybdenum is as follows :

> 0.200 grams of the -80 mesh material is digested in 2 ml of $HClO_4$ and 0.5 ml of HNO_3 for approximately 4 hours. Following digestion, each sample is diluted to 5 ml with demineralized H_2O. A Varian Techtron model AA-5 Atomic Absorption Spectrophotometer is used to determine the parts per million copper, silver, lead, zinc and molybdenum in each sample.

Determination of rock geochemistry is done as above after crushing the rock.

5.3 Results

Results of the soil survey are presented in drawings 6a,b and

7a,b. Silt survey results have been compiled with all previous data as well as with the pan sample results in drawings 8, 9 and 10. Figures 5, 6 and 7 show the results of rock geochemistry. These diagrams present elements in parts per million. Gold is presented as parts per billion.

5.4 Summary

The geochemical data has been compiled delineating anomalous zones shown in Figures 8 and 9.

North :

Copper, Zinc

Copper and zinc anomalies tend to occur together as small localized anomalies. Both occur as anomalous values in banded diopside skarn, diopside skarn, and in the mica schists of the Nasina Series.

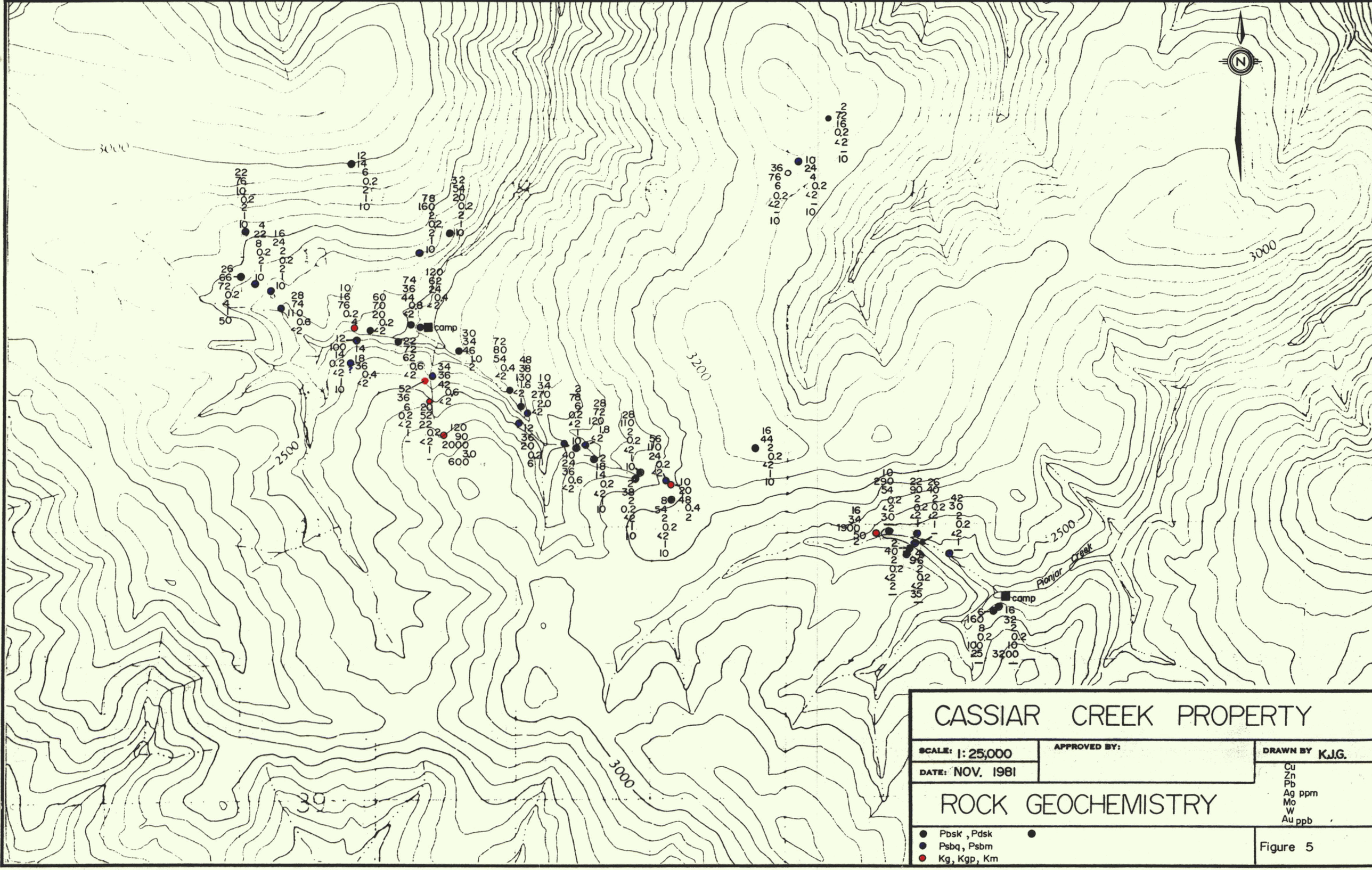
Lead

The lead anomaly in the area of the SDJ camp is quite extensive along the intrusive contact. It encompasses most of the other anomalous values in banded skarn, diopside skarn, mica schists and in the marginal granodiorite.

Silver

Two anomalous zones occur in the graphite schist and siliceous schist. These anomalies are associated with high values of copper and zinc. High silver values occur in one case in the marginal granodiorite south of the SDJ camp.

FIGURE 5



CASSIAR CREEK PROPERTY

SCALE: 1: 25,000

DATE: NOV. 1981

APPROVED BY:

DRAWN BY K.J.G.

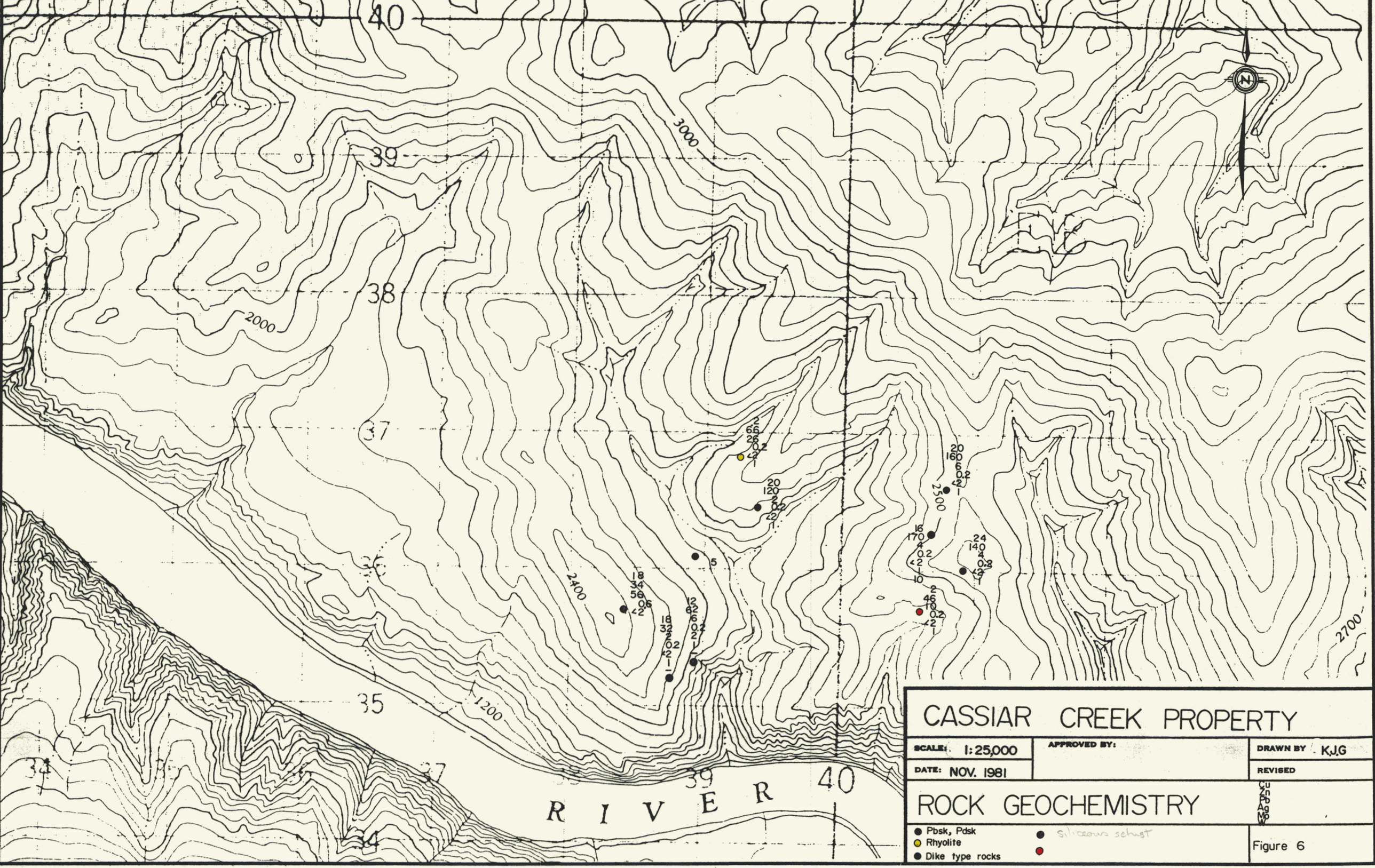
ROCK GEOCHEMISTRY

Cu
Zn
Pb
Ag ppm
Mo
W
Au ppb

- Pdsk', Pdsk
- Psbq, Psbm
- Kg, Kgp, Km

Figure 5

FIGURE 6



CASSIAR CREEK PROPERTY

SCALE: 1:25,000	APPROVED BY:	DRAWN BY K.J.G
DATE: NOV. 1981		REVISED

ROCK GEOCHEMISTRY

- ● Pbsk, Pdsk
- ● Rhyolite
- ● Dike type rocks
- ● Siliceous sediment

Figure 6

FIGURE 7

ppm

Cu
Zn
Pb
Ag
Mo
W

● amphibole . schist
○ Kg Kgp Km
● Pbsk Pdsk Psk

YUKON RIVER

CASSIAR CREEK PROPERTY

SCALE: 1: 50,000	APPROVED BY:	DRAWN BY K.J.G.
DATE: NOV. 1981		REVISED

ROCK GEOCHEMISTRY

Figure 7.

Molybdenum

Molybdenum occurs as weak values in soil geochemistry but as strong values in garnet diopside skarn and in the marginal granodiorite.

Tungsten

Tungsten as scheelite can be traced by pan sampling along the intrusive contact. An anomalous zone extends from SDJ camp to Pionjar Creek camp. Tungsten anomalies occur with anomalous copper, zinc and lead. Diopside skarn and garnet diopside skarn host the tungsten mineralization.

South :

In the south few anomalies have been delineated. Anomalous values of zinc occur in the dike rocks. The rhyolite porphyries are anomalous in lead and tungsten is associated with the skarn rocks.

6. GEOPHYSICS

6.1 General

Magnetometer and VLF surveys were conducted on a grid in the south east corner of the property. A McPhar fluxgate magnetometer and a Sabre VLF unit, both belonging to Noranda Exploration, were used to follow-up results from an earlier airborne survey (T. Walker, 1980).

6.2 Results

The corrected results of the magnetometer survey can be seen plotted in drawing 11. VLF filtered data and profiles are shown in drawing 12.

6.3 Summary

The ground follow-up of the airborne survey confirms all of the VLF and magnetometer anomalies in the southeast grid.

A summary of the results of the VLF and magnetometer ground survey is found in Table 6.

7. MINERALIZATION

7.1 Location

Four mineralized zones have been delineated. Two of the zones, Pionjar Creek and S.D.J. camp (drawing 1) occur along the contact of the granodiorite and Nasina Series. The southwest showing (drawing 5) occurs along the granodiorite - Unit C contact, however, there may be a slice of skarnified Nasina Series in between. The showing to the southeast (drawing 4) is most likely a roof pendant in the granodiorite.

7.2 Skarn Alteration

TABLE 3

SKARN ALTERATION ASSEMBLAGE

A. Garnet - diopside - epidote ± pyrrhotite (disseminated) ± molybdenite (massive blebs) ± chalcopyrite (disseminated) ± pyrite (disseminated) ± scheelite (fine crystalline)

B. Diopside - quartz - calcite (veins and veinlets) ± pyrrhotite (blebs or veinlets) ± scheelite (blebs, aggregates and crystals up to 0.5 cm)

C. Diopside - biotite ± pyrrhotite (in biotite, blebs and veinlets) ± quartz ± calcite

7.3 Mineralization

The assemblages outlined in Table 3 occur as shells around the marble with assemblage A at the marble contact. This grades outwards into assemblage B and C.

Tungsten mineralization occurs as scheelite varying from very fine flakes to coarse crystals up to 0.5 cm in size. The distribution of scheelite coarseness is shown in Figure 4. The scheelite appears to be very pure, fluorescing blue-white in ultra violet light.

Tungsten mineralization appears to be associated with molybdenum pyrrhotite,pyrite, chalcopyrite and occasional sphalerite.

Pyrrhotite occurs as blebs and veinlets in the skarn; in areas where the skarn is garnet-rich, pyrrhotite is less abundant. Up to 50% pyrrhotite occurs in the diopside skarns (MacDonald, December, 1980).

Chalcopyrite is erratically distributed and not very abundant. Occasional malachite and azurite stain has been observed.

Quartz vein stock works along the periphery of the intrusive occur as barren, white, coarsely crystalline quartz and as tourmaline rich veins. Some of the veins contain sulfides ~~which~~ and prove anomalous in tungsten and gold.

The zone of mineralization recognized at Pionjar Creek was extended by pan sampling. It extends an approximate length of 4.2 km to the SDJ camp. No width or grade has been established yet.

To the southeast mineralization is more erratic. A scheelite rich zone associated with diopside and garnet skarn can be delineated. This zone occurs in a roof pendant in the granodiorite. To date, this scheelite has not been found associated with any other mineralization.

Crosscutting the granodiorites are fine grained dikes weakly anomalous in zinc.

8. SUMMARY AND CONCLUSIONS

8.1 Geology and Mineralization

A mid Cretaceous granodiorite plug intruded the gently dipping, outer shelf facies sequence of the Nasina Series. The intrusive activity caused the Nasina sediments to dome upwards.

In the area of the intrusive contact the Nasina Series strikes NW - SE. Schistosity is perpendicular to the contact.

A concordant skarn body was developed in the calcareous rocks immediately adjacent to the contact. Skarnification was probably facilitated by the perpendicular schistosity which allowed metasomatic fluids to percolate laterally along the schistosity.

The skarn probably underwent multiple phases of metasomatism. Evidence of this is found in the zoned nature of the skarn and in the fact that both scheelite and molybdenite occur together yet the scheelite remains pure-flourescing blue-white under ultra violet lamp, rather than yellowish, indicating a combination powellite plus scheelite. Mineralization is summarized in Table 4.

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TABLE 4

PROPERTY NORTH	% OF TOTAL ANOMALOUS ROCKS	COMMODITY	PROPERTY SOUTH	% OF TOTAL ANOMALOUS ROCKS
Kgp/Km	13.3	Copper	No	
Pbsk/Pdsk	46.7			
Psk	0		Anomalous	
Psbq/Psbm/Psmq	40.0			
			Rocks	
Total Anomalous Rocks	15			
Kgp/Km	7.7	Zinc	Kgp/Km	0
Pbsk/Pdsk	38.5		Pbsk/Pdsk	0
Psk	7.7		Psk	0
Psbq/Psbm/Psmq	46.1		Psbq/Psbm/Psmq	0
			Dtr	100
Total Anomalous Rocks	13		Total Anomalous Rocks	4
Kgp/Km	27.3	Lead	Kgp/Km	0
Pbsk/Pdsk	36.4		Pbsk/Pdsk	0
Psk	0		Psk	0
Psbq/Psbm/Psmq	27.3		Psbq/Psbm/Psmq	0
Psg	9.0		Dtr	0
			Rhy	100
Total Anomalous Rocks	11		Total Anomalous Rocks	1
Kgp/Km	42.9	Silver	No	
Pbsk/Pdsk	14.2			
Psk	0		Anomalous	
Psbq/Psbm/Psmq	42.9			
			Results	
Total Anomalous Rocks	7			

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TABLE 4 (CONT.)

PROPERTY NORTH	% OF TOTAL ANOMALOUS ROCKS	COMMODITY	PROPERTY SOUTH	% OF TOTAL ANOMALOUS ROCKS
Kgp/Km	25.0	Molybdenum	No	
Pbsk/Pdsk	12.5			
Psk	37.5		Anomalous	
Psbq/Psbm/Psmq	12.5			
			Results	
Total Anomalous Rocks	8			
Kgp/Km	0	Tungsten	Kgp/Km	0
Pbsk/Pdsk	57.0		Pbsk/Pdsk	0
Psk	43.0		Psk	0
Psbq/Psbm/Psmq	0		Psbq/Psbm/Psmq	0
			Dtr	0
			Rhy	0
Total Anomalous Rocks	7		Total Anomalous Rocks	1

NORTH ROCK TYPE	SUMMARY MINERALIZATION IN ORDER OF ABUNDANCE
Kgp/Km	Ag,Pb,Mo,Cu,Zn
Pbsk/Pdsk	W,Cu,Zn,Pb,Mo,Ag
Psk	W,Mo,Zn
Psbq/Psbm/Psmq	Zn,Cu,Ag,Mo
Psq	Mo,Pb

SOUTH ROCK TYPE	SUMMARY MINERALIZATION IN ORDER OF ABUNDANCE
Psk	W
Dtr	Zn
Rhy	Pb

NOTE : At the time of typing, not all rock geochemistry results were returned.

8.2 Geochemistry

TABLE 5

SUMMARY OF GEOCHEMICAL VALUES

	SOIL	SILT	PAN	ROCK	
Cu ppm	24-40 >40	8-30 >30		30-40 >40	threshold anomalous
Zn ppm	70-100 >100	42-90 >90	Have	16-80 >80	threshold anomalous
Pb ppm	25-35 >35	6-22 >22	Not	16-56 >56	threshold anomalous
Ag ppm	0.2-0.6 >0.6	0.2-0.6 >0.6	Received	0.2-1.0 >1.0	threshold anomalous
Mo ppm	<2-5 >5.0	<2-2 >2.0	These	<2-6 >6.0	threshold anomalous
W ppm	5-10 >10		Values		threshold anomalous
Au ppm			To Date		threshold anomalous

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Combined geochemical data has been plotted in Figures 8 and 9 showing the anomalous zones.

In the north the anomalies appear to be along the intrusive contact, however, this may be a result of biased sampling locations. Three anomalous zones occur in the graphitic and siliceous schists of the Nasina Series. These are predominantly silver, copper and zinc rich.

Copper anomalies are associated with zinc and lead anomalies.

Lead anomalies are associated with copper, zinc, tungsten (moly, silver) along the intrusive contact.

Tungsten anomalies occur along the contact with the intrusive. They were traced from SDJ camp to Pionjar Creek by pan sampling. These anomalies are associated with lead and a few zinc and molybdenum anomalies.

In the south, the combined data delineates few scattered anomalies.

Zinc anomalies occur in association with the dike rocks; lead appears to correlate with rhyolite porphyries; tungsten with diopside skarns, and copper with the granodiorites. There appears to be a very weak association between copper, lead and zinc anomalies.

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8.3 Geophysics

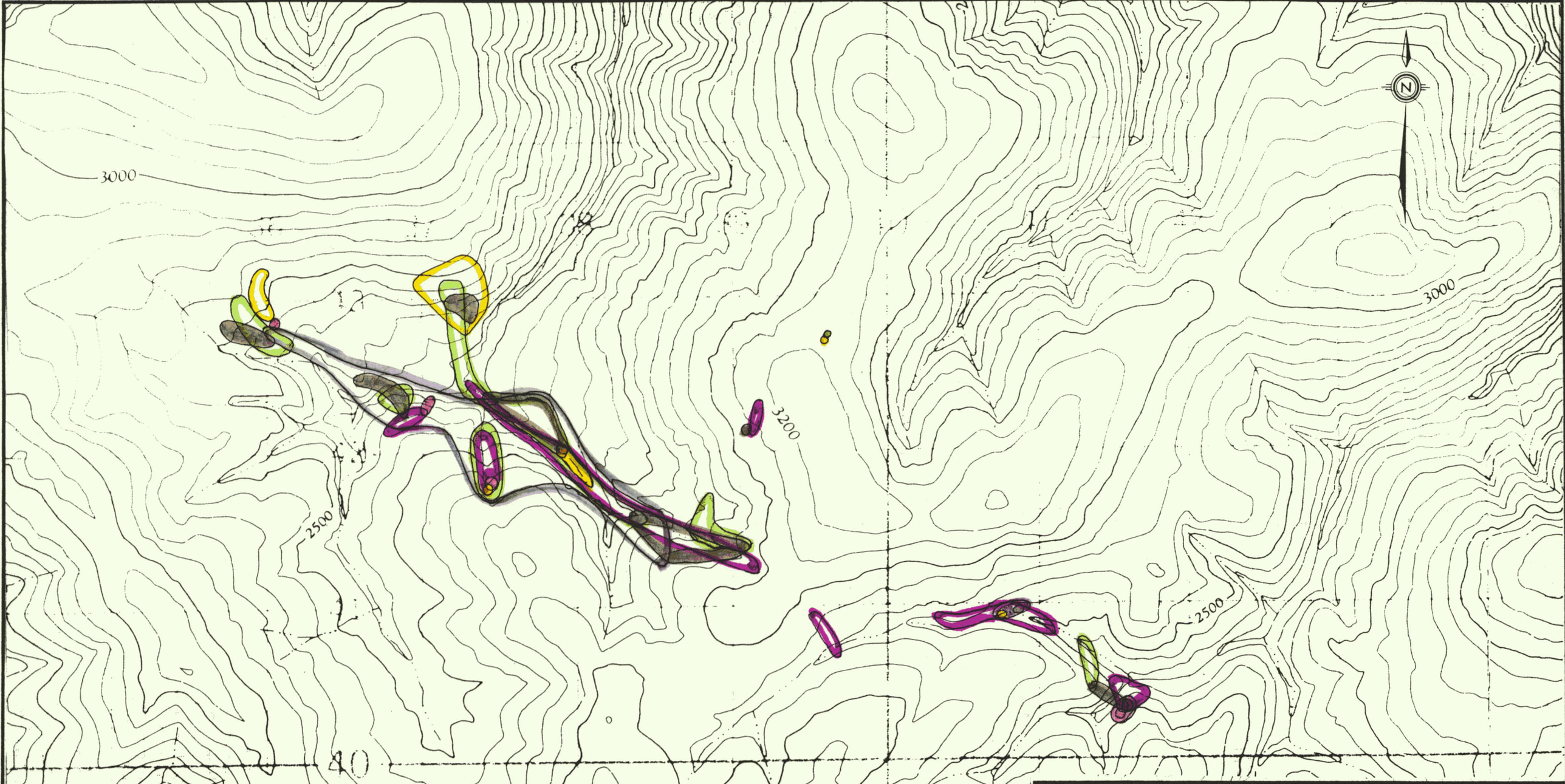
The ground follow-up of the airborne survey confirms all of the VLF and magnetometer anomalies in the southeast grid.

VLF anomalies on the ground are associated with copper, zinc and lead soil anomalies. Magnetometer highs and lows occur in areas with anomalous lead and zinc. Both VLF and magnetometer delineate dike rocks and rhyolite intrusives.

To the north in the area of the SDJ camp, VLF anomalies occur in the graphite schists and siliceous schists. Two of the anomalies (one is quite significant) occur in areas of anomalous silver zinc and copper.

A summary of the results of the VLF and magnetometer ground survey is found in Table 6.

FIGURE 8



CASSIAR CREEK PROPERTY

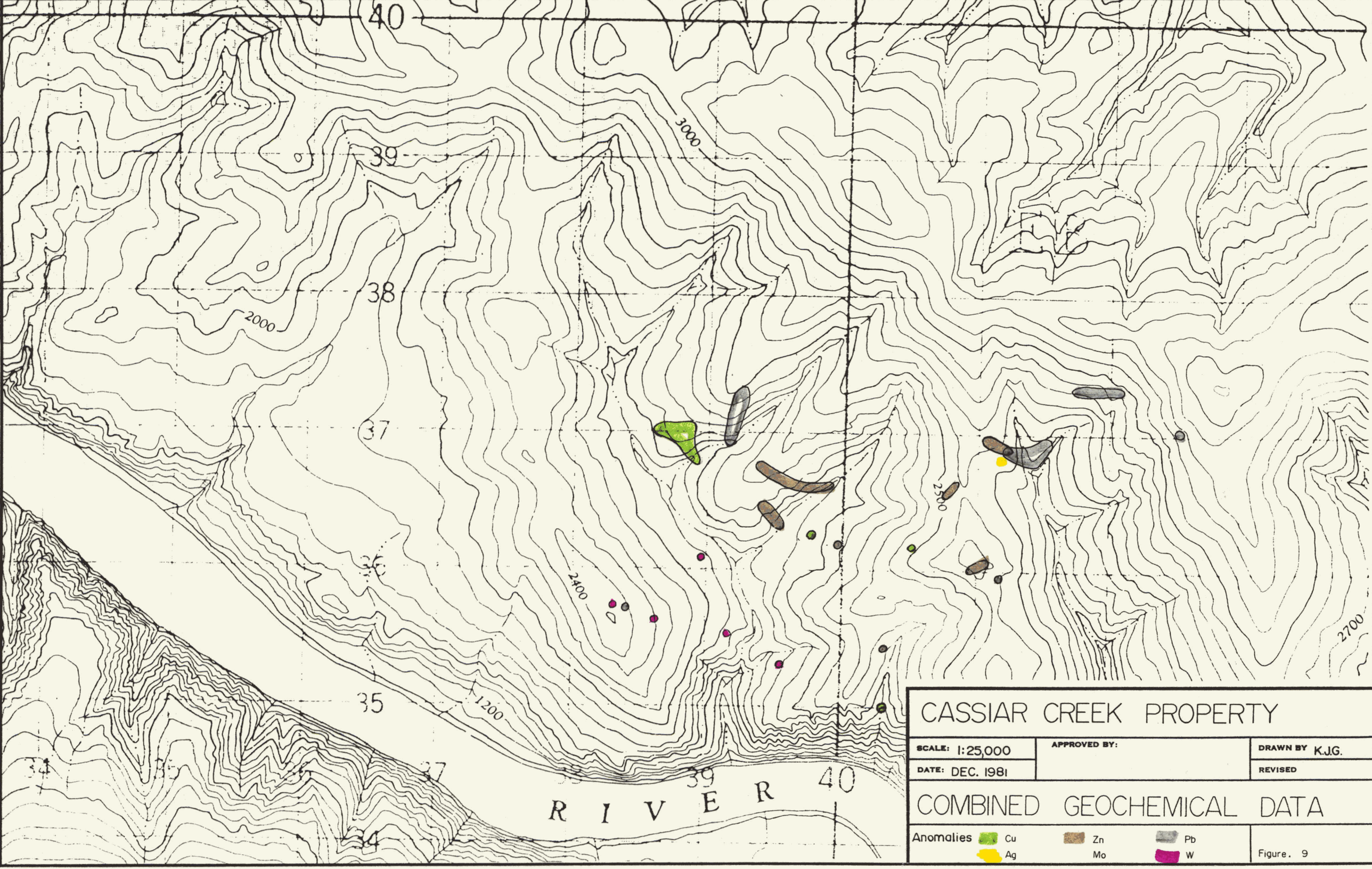
SCALE: 1 25000	APPROVED BY:	DRAWN BY KJG
DATE: DEC 1981		REVISED

COMBINED GEOCHEMICAL DATA

copper lead zinc
silver molybdenum tungsten

DRAWING NUMBER
Figure 8

FIGURE 9



CASSIAR CREEK PROPERTY

SCALE: 1:25,000	APPROVED BY:	DRAWN BY K.J.G.
DATE: DEC. 1981		REVISED

COMBINED GEOCHEMICAL DATA

Anomalies: Cu, Zn, Pb, Ag, Mo, W

Figure. 9

TABLE 6

SUMMARY OF GEOPHYSICAL ANOMALIES

GRID COORDINATES	MAG HIGH	MAG LOW	VLF ANOMALY	ANOMALOUS SOIL ASSOCIATION
BL 83+00/48+00			X	Cu
50+00			X	
59+00		X		Zn
59+50			X	Zn
60+00		X		
60+25		X		
62+00			X	
66+00			X	
1 66+75		X		
67+50		X		Pb
L 50+00/86+75		X		
87+25		X		
91+00	X			
92+00	X			
92+50	X			
93+50			X	
96+50			X	
L 52+00/84+00			X	(Zn)
88+00			X	
89+50		X		
91+00		X		
94+00			X	
96+25			X	
L 54+00/87+00			X	
87+50	X			
89+50			X	
90+00		X		
96+00			X	Zn
103+00			X	Cu
104+00			X	Cu
105+00			X	Cu
L 56+00/96+00			X	(Zn)
103+25			X	Pb
104+00	X			Pb
105+00			(X)	

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TABLE 6 (CONT.)

SUMMARY OF GEOPHYSICAL ANOMALIES

GRID COORDINATES	MAG HIGH	MAG LOW	VLF ANOMALY	ANOMALOUS SOIL ASSOCIATION
L 58+00/80+00		(X)		
81+50			X	
85+00			X	
95+25			X	Zn
95+50		(X)		Zn
100+25			X	Zn
L 60+00/82+70		X		Zn
93+00			X	
95+50		(X)		
96+25		X		
96+50		X		
96+75		X		
99+75			X	
L 65+00/87+50	X			(Zn)
90+50			X	
93+00			X	
96+00		(X)		
L 67+00/82+00		X		(Pb)
85+50			(X)	Pb,Zn,Ag
88+50		X		(Zn)
88+75		X		(Zn)
L 75+00/78+50	X			
81+50			X	Pb
82+25			X	Pb

(X) Weakly Anomalous
(Pb) Near a Soil Anomaly

9. RECOMMENDATIONS

9.1 Drilling

1. Conduct a systematic drill program on the skarn showing in the area of Pionjar Creek. Step back (north) with the drill to define grade and extent of the mineralized zone.

2. Drill a series of holes at 1000 or so meters apart along the contact to determine if the zone extends along the contact west towards SDJ camp.

9.2 Trenching

1. Trench around the marbles on the north side of the creek to determine if associated skarns are mineralized.

2. Trench high lead, copper, silver, molybdenum anomaly south of SDJ camp.

9.3 Geochem

1. Silt sample all creek in the interior of the claim block (donut hole) and take occasional soil pan samples.

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9.4 Mapping

1. Detail map anomalous zone around SDJ camp.

2. Detail map pendant to southeast to determine its northwestern extent.

3. Remap the anomalous zone to the southwest.

4. Map the interior area surrounded by the claim block, checking out airborne anomalies not yet covered.

5. Map along east and west boundary of claim block.

9.5 Office

1. Petrography of the skarn rocks to determine alteration, zoning and composition.

2. More rock geochemistry to determine mineral associations.

K. Grapes
Geologist

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STATEMENT OF QUALIFICATIONS

I, KATHRYN J. GRAPES, OF THE CITY OF WHITEHORSE, IN THE YUKON TERRITORY, DO HEREBY CERTIFY THAT :

1) I have been employed as a Geologist by Noranda Exploration Company Limited (No Personal Liability) since April 1, 1981.

2) I am a graduate of the University of Western Ontario with a Bachelor of Arts degree in Geology, and a Certificate of Honors equivalent.

3) I am a member of the Canadian Institute of Mining and Metallurgy.

Kathryn Grapes

K.J. GRAPES

.../39

BIBLIOGRAPHY

Dawson, K.M., and Dick, L.A., 1978, Tungsten Bearing Skarns in the Southeast Yukon; Deposit Types, Distribution and Propspecting Guides; Canadian Mining Journal; Vol. 99, No. 4, p. 49-57.

Dick, L.A., 1979, Tungsten and Base Metal Skarns in the Northern Cordillera in Current Research Part A, Geological Survey of Canada Paper 79-1A; pg. 259-266.

Green, L.H., 1972, Geology of Nash Creek, Larsen Creek, and Dawson Map Areas, Yukon Territory; Geological Survey of Canada; Memoir 364.

MacDonald, G., May 1980, Combined Geological Geochemical and Geophysical Assessment Report on Road 1-4, and Rail 1-62 Mineral Claims 116-C-8. For Noranda Exploration Company Limited.

December, 1980, Combined Geological and Geochemical Assessment Report on Road 1-4, Rail 1-212 Mineral Claims 116-C-8. For Noranda Exploration Company Limited.

Sleath, A., 1980, Drill Core Logs, for Noranda Exploration Company Limited.

Templeman-Kluit, D.J., 1979, Transported Cataclasite, Amphibolite and Granodiorite in Yukon; Evidence of Arc-Continent Collision. Geological Survey Paper 79-14.

Walker, T., 1981, Report on the Airborne Geophysical Survey on the Cassiar Creek Property and Adjacent Area, Yukon Territory; for Noranda Exploration Company Limited.

Yukon Geology and Exploration 1979-1980; Indian and Northern Affiars, Whitehorse.

APPENDIX I

NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COST

PROJECT Cassiar Creek DATE October 26, 1981

TYPE OF REPORT Geology, Geochem & Line-Cutting

a) Wages:

No. of Days	397			
Rate per Day	$ 72.9726			
Dates From:	September 1, 1980 - August 31, 1981			
Total Wages	397	x	$ 72.9726	28,970.11

b) Food and Accomodation:

No of days	397			
Rate per day	$ 15.6999			
Dates From:	September 1, 1980 - August 31,1981			
Total Cost	397	x	$ 15.6999	6,232.88

c) Transportation:

No of days	397			
Rate per day	$ 38.2632			
Dates From:	September 1, 1980 - August 31, 1981			
Total Cost	397	X	$ 38.2631	15,190.44

d) Instrument Rental:

Type of Instrument
No of days
Rate per day $
Dates From:
Total Cost X $

Type of Instrument
No of days
Rate per day $
Dates From:
Total Cost X $

f)	Analysis (See attached schedule)	3,742.25
g)	Cost of preparation of Report	
	Author	510.81
	Drafting	664.45
	Typing	510.81
h)	Other:	
	Camp & Field Supplies	4,185.43
	Contractors	12,020.00
	Total Cost	$72,027.18

e) Unit costs for

No of days

No of units

Unit costs /

Total Cost x

The Exploration cost of $72,027.18
is certified correct.

J.E. Oscroft
Br. Accountant

NORANDA EXPLORATION COMPANY, LIMITED

(WESTERN DIVISION)

DETAILS OF ANALYSES COSTS

PROJECT: Cassiar Creek

ELEMENT	NO. OF DETERMINATIONS	COST PER DETERMINATION	TOTAL
Cu	677	1.50	1,015.50
Mo	677	.60	406.20
Ag	677	.60	406.20
Pb	677	.60	406.20
Zn	677	.60	406.20
Fe	677	.60	406.20
Mn	677	6.0	406.20
W	101	2.25	227.25
Au	5	2.50	12.50
Pb/Zn/Mo	2	2.40	4.80
Au/As	15	3.00	45.00
			$3,742.25

APPENDIX II

Rossbacher Laboratory Ltd.
GEOCHEMICAL ANALYSTS & ASSAYERS

2225 S. SPRINGER AVE.,
BURNABY, B.C.
CANADA
TELEPHONE: 299-6910
AREA CODE: 604

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 81415
INVOICE NO. 2018
DATE RECEIVED
DATE ANALYSED Oct, 1931

TO: NORANDA EXPLORATION CO LTD.
1050 Davie St.
Vancouver, B.C.

ATTN: 912 # 10-28 CASSIAR CREEK

SAMPLE NO.:	% NO_3	% T.Mo	oz/T Au
22130	0.50	0.010	0.020

Certified by

NORANDA EXPLORATION CO. LTD.

LOCATION Cassiar Creek, Yukon | PROJECT 912 #9-45 | SHEET 1

MATERIAL Rx | SAMPLE Nos. | COLLECTOR KG | DATE RECEIVED Sept./9/81

ANALYST [illegible] | DATE ANALYSED Oct./27/81

REMARKS Cu, Zn, Pb, Ag, Mo, Mn in ppm; Fe in %

0.2 g/a ml $HClO_4$, HNO_3 → 5 ml

T.T. No.	SAMPLE No.	1 Cu	2 Zn	3 Pb	4 Ag	5 Mo	6 Mn	7 Fe %	8	G.C.I. NUMBER
67	05019	16	32	29	0.2	< 2	400	1.6		
8	20	10	18	22	0.2	< 2	200	0.9		
9	21	20	64	22	0.4	< 2	340	3.8		
70	22	22	56	20	0.2	< 2	360	3.6		
1	23	14	72	16	0.2	< 2	310	3.3		
2	24	30	16	26	0.2	< 2	1600	1.9		
3	05025	22	60	26	0.2	< 2	310	3.6		
4	05915	16	34	1900	5.0	< 2	140	1.3		
5	16	28	74	110	0.6	< 2	880	4.1		
6	17	10	34	270	2.0	< 2	200	2.1		
7	18	48	38	130	1.6	< 2	230	3.6		
8	19	34	26	42	0.6	< 2	330	2.7		
9	05920	18	34	56	0.6	< 2	590	2.7		
80	21	72	80	54	0.4	< 2	320	4.1		
1	22	28	72	120	1.8	< 2	1000	5.6		
2	23	14	64	28	0.2	< 2	270	4.4		
3	24	10	16	76	0.2	4	2400	1.3		
4	05925	60	70	20	0.2	< 2	390	3.2		
5	22001	30	34	46	1.0	2	630	2.9		
6	02	40	24	36	0.6	< 2	250	1.8		
7	03	34	68	32	0.2	2	500	4.5		
8	04	30	64	32	0.2	< 2	530	2.4		
9	05	74	36	44	0.8	< 2	350	2.1		
90	06	22	72	62	0.6	< 2	670	3.5		
1	07	120	62	24	0.4	< 2	100	4.7		
2	08	6	44	26	0.2	< 2	300	2.7		
3	09	32	48	30	0.2	< 2	310	2.8		
4	22010	8	64	26	0.2	2	430	3.3		
5	11	30	28	28	0.2	2	400	3.6		
96	22012	24	24	32	0.4	< 2	280	1.5		

NORANDA EXPLORATION CO. LTD.

LOCATION Cassiar Creek, Yukon | PROJECT 912 # 9-45 | SHEET 2

SAMPLE Nos.

MATERIAL Rx | COLLECTOR FG | DATE RECEIVED / /

ANALYST Us | DATE ANALYSED Oct. 27 / 81

REMARKS Cu, Zn, Pb, Ag, Mo, Mn in ppm, Fe %

T.T. No.	SAMPLE No.	1 Cu	2 Zn	3 Pb	4 Ag	5 Mo	6 Mn	7 Fe %	8 P.P.B Au	G.C.I. NUMBER
97	22013	10	20	48	0.4	2	860	3.5		
8	14	56	110	24	0.2	<2	670	6.4		
9	22015	12	36	20	0.2	6	260	2.7		
100	CHECK NL-1	16	100	80	1.6	8	370	1.7		
1	22017	26	44	34	0.4	<2	200	3.2		
2	16	34	60	22	0.2	2	240	3.6		
3	18	20	46	20	0.2	<2	490	3.1		
4	19	14	18	36	0.4	<2	90	1.3		
5	22020	10	16	26	0.2	<2	130	0.9		
6	21	22	70	24	0.2	2	310	3.7		
7	22022	120	90	2000	3.0	600	150	1.3		
8	05016	38	68	54	2.0	4	390	3.0	10	
9	17	4	4	8	0.2	<2	60	0.6	10	
110	05018	14	56	26	0.4	<2	310	1.9		
111	CHECK NL-1	18	100	82	1.6	8	370	1.8		

Kossbacher Laboratory Ltd.

BURNABY, B. C.
CANADA
TELEPHONE: 299-6910

GEOCHEMICAL ANALYSTS & ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 81352
INVOICE NO.
DATE ANALYSED SEPT 24/81

TO:

CASSIAR CREEK (ROCK) K.G. PROJECT 912 #9-51

No.	Sample	pH	~~Hg~~	~~Ag~~	W	Sn								No.
01	22023				1	-								01
02	22024				5	-								02
03	22025				1	-								03
04	22042				1	8								04
05	22043				1	-								05
06	22044				1	-								06
07	22045				1	-								07
08	22046				1	-								08
09	22047				1	-								09
10	22048				1	-								10
11	22049				1	-								11
12	22050				1	-								12
13														13
14														14
15														15
16														16
17														17
18														18
19														19
20														20
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29														29
30														30
31														31
32														32
33														33
34														34
35														35
36														36
37														37
38														38
39														39
40														40

VALUES IN PPM. UNLESS NOTED OTHERWISE.

Certified by

NORANDA EXPLORATION CO. LTD.

LOCATION Cassiar Creek, Yukon | PROJECT 92 #9-51 | SHEET 1

MATERIAL Rx | SAMPLE Nos.

COLLECTOR KG | DATE RECEIVED / /

ANALYST US | DATE ANALYSED Nov / 10 / 81

REMARKS Cu, Zn, Pb, Ag, Mo, Mn in ppm; Fe in %

0.2 g / 2 ml $HClO_4$, HNO_3 → 5 ml.

T.T. No.	SAMPLE No.	1	2 Cu	3 Zn	4 Pb	5 Ag	6 Mo	7 Mn	8 Fe %	G.C.I. NUMBER
48	22023		36	70	36	4.4	< 2	510	4.4	
9	22024		52	66	10	0.2	4	430	5.4	
50	22025		60	38	8	0.2	< 2	500	4.5	
1	22042		28	34	10	0.2	< 2	360	2.1	
2	43		76	110	20	0.2	< 2	1500	8.1	
3	44		300	230	20	0.2	12	1400	11.0	
4	45		44	110	12	0.2	< 2	490	2.6	
5	46		52	30	16	0.2	4	370	4.1	
6	47		820	270	60	1.0	2	4300	16.0	
7	48		120	210	26	0.2	< 2	880	2.2	
8	49		14	14	24	0.2	2	260	0.5	
59	22050		120	78	26	0.4	6	700	2.1	

NORANDA EXPLORATION CO. LTD.

LOCATION Cassiar Creek, Yukon | PROJECT 92 #9-51 | SHEET 1

MATERIAL Rx | SAMPLE Nos.

COLLECTOR KG | DATE RECEIVED / /

ANALYST G | DATE ANALYSED Nov / 10 / 81

REMARKS Cu, Zn, Pb, Ag, Mo, Mn in ppm; Fe in % Au ppb

0.2 g / 2 ml $HClO_4$, HNO_3 → 5 ml

T.T. No.	SAMPLE No.	1 Au	2 Cu	3 Zn	4 Pb	5 Ag	6 Mo	7 Mn	8 Fe %	G.C.I. NUMBER
48	22023		36	70	36	4.4	< 2	510	4.4	
9	22024		52	66	10	0.2	4	430	5.4	
50	22025		60	38	8	0.2	< 2	500	4.5	
1	22042		28	34	10	0.2	< 2	360	2.1	
2	43	10	76	110	20	0.2	< 2	1500	8.1	
3	44		300	230	20	0.2	12	1400	11.0	
4	45		44	110	12	0.2	< 2	490	2.6	
5	46	10	52	30	16	0.2	4	370	4.1	
6	47		820	270	60	1.0	2	4300	16.0	
7	48		120	210	26	0.2	< 2	880	7.2	
8	49	10	14	14	24	0.2	2	260	0.5	
59	22050	10	120	78	26	0.4	6	700	7.1	

Kossbacher Laboratory Ltd.

GEOCHEMICAL ANALYSTS & ASSAYERS

BURNABY, B. C.
CANADA
TELEPHONE: 299-6910

CERTIFICATE NO. 81345
INVOICE NO. 1458
DATE ANALYSED 5 SEPT 1981

CERTIFICATE OF ANALYSIS

TO: NORANDA EXPLORATION CO. LTD.
1050 DAVIE STREET
VANCOUVER, B.C.

CASSIAR CREEK
PANNED CONS PROJECT 912 # 9-50

No.	Sample	pH	Mo	Cu		W								No.
01	22026					1		LP	33a					01
02	027					1			33b					02
03	028					2		PP	43					03
04	029					10		PP	45					04
05	030					1		PP	47					05
06	031					10		PP	48					06
07	032					10		RG	26					07
08	033					5		PP	49					08
09	034					1		PP	41					09
10	22035					5		KG	27					10
11	036					1		PP	31					11
12	037					2		PP	42					12
13	038					10		PP	40					13
14	039					1		PP	46					14
15	040					5		KG	25					15
16	22041					1		PP	32					16
17	STD. GWS					70								17
18														18
19														19
20														20
21														21
22														22
23														23
24														24
25														25
26														26
27														27
28														28
29														29
30														30
31														31
32														32
33														33
34														34
35														35
36														36
37														37
38														38
39														39
40														40

VALUES IN PPM. UNLESS NOTED OTHERWISE.

Certified by J. Kossbacher

NORANDA EXPLORATION CO. LTD.

LOCATION Cassiar Creek, Yukon
116 C/8

PROJECT 912 410 - 11 | SHEET 1

SAMPLE Nos.

MATERIAL Rx

COLLECTOR KG | DATE RECEIVED / /

ANALYST VS | DATE ANALYSED Nov. / 10 / 81

REMARKS Cu. Zn. Pb. Ag. Mn, Mo in ppm ; Fe %

0.2 g/2 ml $HClO_4$. HNO_3 → 5 ml

T.T. No.	SAMPLE No.	1	2 Cu	3 Zn	4 Pb	5 Ag	6 Mo	7 Mn	8 Fe %	G.C.I. NUMBER
1	CHECK NL-1		18	110	80	2.2	10	450	2.1	
2	22051		20	52	22	0.2	< 2	360	3.4	•
3	52		52	36	6	0.2	< 2	200	1.8	•
4	53		56	78	4	0.2	2	490	4.7	•
5	54		12	20	6	0.2	< 2	270	0.4	
6	55		2	4	8	0.2	< 2	70	0.1	
7	56		36	76	6	0.2	< 2	220	0.8	?
8	57		2	72	16	0.2	< 2	70	0.1	•
9	58		10	24	4	0.2	< 2	60	0.1	•
10	59		2	38	2	0.2	< 2	230	2.1	•
1	22060		8	54	2	0.2	< 2	580	2.1	•
2	61		28	110	2	0.2	< 2	1000	8.7	•
3	62		2	18	14	0.2	< 2	140	0.4	•
4	63		2	78	6	0.2	< 2	200	3.2	•
5	64		2	52	14	0.2	< 2	250	1.1	• amph.
6	65		30	78	2	0.2	< 2	5000	2.6	amph.
7	66		18	32	2	0.2	< 2	470	1.2	•
8	67		12	62	6	0.2	< 2	1300	5.6	•
9	68		22	90	2	0.2	< 2	790	1.4	•
20	69		16	44	2	0.2	< 2	54,000	1.8	•
1	22070		42	30	2	0.2	< 2	860	0.5	•
2	71		26	40	2	0.2	< 2	280	3.2	•
3	72		4	96	2	0.2	< 2	1200	2.9	•
4	73		12	58	2	0.2	2	480	2.2	•
5	74		2	40	2	0.2	2	420	2.5	•
6	75		8	60	2	0.2	< 2	490	4.3	
7	76		10	290	54	0.2	< 2	720	4.3	•
8	77		16	32	2	0.2	10	4600	2.6	•
9	22078		6	160	8	0.2	100	5400	2.3	•
30	22079		2	92	2	0.2	< 2	270	2.5	•

NORANDA EXPLORATION CO. LTD.

LOCATION Cassiar Creek, Yukon | PROJECT 912 # 10-11 | SHEET 2

MATERIAL Rx | SAMPLE Nos.

COLLECTOR KG | DATE RECEIVED / /

ANALYST U | DATE ANALYSED NOV. / 10 / 81

REMARKS Cu, Zn, Pb, Ag, Mo, Mn in ppm, Fe in %

T.T. No.	SAMPLE No.	1	2 Cu	3 Zn	4 Pb	5 Ag	6 Mo	7 Mn	8 Fe %	G.C.I. NUMBER
31	22103		34	78	2	0.2	< 2	1000	6.0	amph.
2	104		2	62	2	0.2	< 2	490	3.4	"
3	105		2	28	2	0.2	< 2	60	1.7	
4	22106		16	170	4	0.2	< 2	1100	9.3	" diss.
5	L 90 E - 160+50N		26	66	72	0.2	4	260	3.4	" s.
6	L 150+00N - 90+00E		12	100	14	0.2	< 2	630	4.0	"
7	L 90+00E - 158+00N		16	24	2	0.2	< 2	340	0.7	"
8	90+00E - 159+00N		4	22	8	0.2	< 2	370	0.1	"
9	92+00E - 162+00N		22	76	10	0.2	< 2	100	2.8	"
40	97+50E - 151+50N		78	160	2	0.2	< 2	270	6.7	"
1	100+00E - 149+50N		32	54	20	0.2	< 2	360	2.1	" s.
42	100+00E - 160+50N		12	14	6	0.2	< 2	170	0.1	"

Kossbacher Laboratory Ltd.

GEOCHEMICAL ANALYSTS & ASSAYERS

BURNABY, B.C.
CANADA
TELEPHONE: 299-6910

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 81403-1
INVOICE NO.
DATE ANALYSED OCT. 23/81
PROJECT 912 #10-11

TO: NORANDA EXPLORATION CO. LTD.
1050 DAVIE STREET
VANCOUVER, B.C.

CASSIAR CREEK
PPB

No.	Sample	pH	Mo	Cu	W	Au									No.
01	22051				1	-									01
02	22052				1	-									02
03	22053				1	10									03
04	22054				1	10									04
05	22055				-	10									05
06	22056				-	10									06
07	22057				-	10									07
08	22058				-	10									08
09	22059				1	10									09
10	22060				1	10									10
11	22061				1	10									11
12	22062				1	10									12
13	22063				1	10									13
14	22064				1	-									14
15	22065				1	-									15
16	22066				1	-									16
17	22067				1	-									17
18	22068				1	-									18
19	22069				1	10									19
20	22070				1	-									20
21	22071				1	-									21
22	22072				35	-									22
23	22073				1	-									23
24	22074				2	-									24
25	22075				-	10									25
26	22076				30	-									26
27	22077				3200	-									27
28	22078				25	-									28
29	22102				1	10									29
30	22103				1	10									30
31	22104				1	10									31
32	22105				-	60									32
33	22106				1	10									33
34	190E-160+00N				1	50									34
35	90+00E-150+00N				1	10									35
36	100E-150+00N				1	10									36
37	80+00E-150+00N				1	10									37
38	60E-150+00N				1	10									38
39	90+00E-150+00N				1	10									39
40															40

VALUES IN PPM. UNLESS NOTED OTHERWISE.

Certified by L. Kossbacher

K. GRAMES

1 Pathfinder

NORANDA EXPLORATION CO. LTD.

LOCATION CASSIAR CREEK, YUKON | PROJECT 912 #8-59 | SHEET 8

MATERIAL SOIL / SILT | SAMPLE Nos.

COLLECTOR K.G. | DATE RECEIVED AUG / 12 / 81

ANALYST R.F. | DATE ANALYSED AUG / 19 / 81

REMARKS Cu Zn Pb Mo Ag. Mn. in ppm. Fe in %

0.2 g / 2 mL HCl/Br : HNO_3 → 5 mL

T.T. NO.	SAMPLE NO.	1	2 Cu	3 Zn	4 Pb	5 Mo	6 Ag	7 Mn	8 Fe %	G.C.I. NUMBER
61	100E - 158.5N	SOIL	18	52	10	< 2	0.2	200	2.6	
2	159		24	62	10	< 2	0.2	200	3.0	
3	159.5		16	50	10	< 2	0.2	210	2.7	
4	160		18	56	10	< 2	0.2	210	3.0	
5	160.5		18	58	10	< 2	0.2	290	3.0	
6	161		16	60	12	< 2	0.2	300	3.3	
7	161.5		22	60	10	< 2	0.2	280	3.1	
8	100E - 162N		20	60	10	< 2	0.2	260	3.3	
9	150N - 89E		24	130	80	< 2	0.2	160	2.8	
70	90		48	82	12	< 2	0.2	680	2.9	
1	90.5	SW	18	84	16	< 2	0.2	290	3.2	
2	93		22	70	10	< 2	0.2	370	2.8	
3	93.5		24	68	12	< 2	0.2	220	2.3	
4	94		22	86	16	< 2	0.2	2500	3.9	
5	94.5		30	70	18	< 2	0.2	240	2.4	
6	95		26	78	16	< 2	0.2	750	3.5	
7	150N - 96E		68	96	12	2	1.2	510	3.0	
8	4501	SHIT 116 C/B	14	60	8	< 2	0.2	340	2.1	3502
9	02		20	62	12	< 2	0.2	540	2.6	
80	03		18	64	10	< 2	0.2	410	2.2	3502
1	04		26	88	16	2	0.2	520	3.0	3552
2	05		16	68	10	< 2	0.2	620	2.7	
3	06		26	84	10	< 2	0.2	460	3.0	
4	07		38	110	14	2	0.2	860	3.2	
5	08		30	100	22	< 2	0.2	510	3.2	
6	09		260	220	90	4	1.0	1500	9.0	
7	10		14	58	10	< 2	0.2	280	2.4	
8	11		12	52	8	< 2	0.2	260	2.2	
9	12		10	46	8	< 2	0.2	250	1.9	

NORANDA EXPLORATION CO. LTD.

LOCATION CASSIAR CREEK, YUKON | PROJECT 912 #8-59 | SHEET 9

MATERIAL SOIL / SILT | SAMPLE Nos.

COLLECTOR K.G. | DATE RECEIVED AUG / 12 / 81

ANALYST R.F. | DATE ANALYSED AUG / 19 / 81

REMARKS Cu, Zn, Pb, Mo, Ag, Mn in PPm. Fe in %
0.2 g / 2 mL $HClO_4$: HNO_3 → 5 mL

T.T. No.	SAMPLE No.	1	2 Cu	3 Zn	4 Pb	5 Mo	6 Ag	7 Mn	8 Fe %	G.C.I. NUMBER
91	4514	116 C/B	10	48	10	2	0.2	280	1.9	3552
2	15		10	46	8	< 2	0.2	280	1.9	
3	16		30	100	36	2	0.2	670	2.8	
4	17		10	44	8	< 2	0.2	220	1.9	
5	18		14	56	12	< 2	0.2	240	2.2	
6	4519		24	82	22	2	0.2	410	3.3	3552
7	5926		8	46	6	< 2	0.2	260	1.9	3503
8	27		14	50	6	< 2	0.2	250	1.8	
9	5928		10	48	8	< 2	0.2	250	1.8	3503
100	CHECK NL-1		18	110	78	8	1.8	430	2.1	
1	5929		12	60	8	< 2	0.2	360	2.3	3503
2	30		8	44	6	< 2	0.2	200	1.7	
3	31		8	42	6	< 2	0.2	210	1.6	
4	32		12	54	8	< 2	0.2	260	1.9	
5	33		12	56	8	< 2	0.2	260	2.0	
106	5934		12	54	8	< 2	0.2	290	2.0	3503

Kossbacher Laboratory Ltd.

GEOCHEMICAL ANALYSTS & ASSAYERS

BURNABY, B. C.
CANADA
TELEPHONE: 299-6910

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 81367 A-1

INVOICE NO.

DATE ANALYSED 2/9/81

PROJECT 912 #8-91

TO: NORANDA EXPLORATION CO. LTD.
1050 DAVIE STREET
VANCOUVER, B.C.

CASSIAR CR. K.G.

No.	Sample	pH	Mo	Cu	Ag									No.
01	L 100E 134N				1									01
02	134.5N				1									02
03	135 N				1									03
04	135 SN				1									04
05	136 N				1									05
06	136.5N				1									06
07	L 130N 100E				1									07
08	110.5E				1									08
09	111 E				1									09
10	111.5E				1									10
11	112 E				1									11
12	112.5E				1									12
13	113 E				1									13
14	113.5E				1									14
15	114 E				1									15
16	114.5E				1									16
17	115 E				1									17
18	115.E.				1									18
19	116 E				1									19
20	L 130N 116.5E				1									20
21	117 E				1									21
22	117.5E				1									22
23	118 E				1									23
24	118.5E				1									24
25	119 E				1									25
26	119.5 E				1									26
27	120 E				1									27
28	120.5 E				1									28
29	121 E				1									29
30	L 130N 121.5E				1									30
31	122 E				1									31
32	122.5E				1									32
33	123 E				1									33
34	123.5E				1									34
35	124 E				1									35
36	124.5				1									36
37	L 130N 90E				1									37
38	90.5E				1									38
39	91E				1									39
40	L 130N 91.5				1									40

cont. on next page #33

VALUES IN PPM. UNLESS NOTED OTHERWISE.

Certified by F. Kossbacher

Kossbacher Laboratory Ltd.

GEOCHEMICAL ANALYSTS & ASSAYERS

BURNABY, B. C.
CANADA
TELEPHONE: 299-6910

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 81367 - A - 2

INVOICE NO.

DATE ANALYSED SEPT 15/81

PROJECT 912 # 8-91

TO: NORANDA EXPLORATION CO. LTD. NORANDA
1050 DAVIE STREET
VANCOUVER, B.C.

No.	Sample	pH	~~Mo~~	~~Cu~~	W									No.
01	L130 N 93.5E				1									01
02	94E				1									02
03	94.5E				1									03
04	95E				1									04
05	95.5E				1									05
06	96E				1									06
07	96.5E				1									07
08	97E				1									08
09	97.5E				1									09
10	L130N 98E				1									10
11	98.5E				1									11
12	99E				1									12
13	99.5E				1									13
14	100.5E				1									14
15	101E				5									15
16	101.5E				10									16
17	102E				5									17
18	102.5E				10									18
19	103E				2									19
20	L130N 103.5E				5									20
21	104E				2									21
22	104.5E				1									22
23	105E				1									23
24	105.5E				2									24
25	106E				1									25
26	106.5E				1									26
27	107E				1									27
28	107.5E				1									28
29	108E				1									29
30	108.5E				1									30
31	109E				1									31
32	L130N 109.5E				2									32
33	L100E 130SN				1									33
34	131N				1									34
35	131.5N				1									35
36	132N				1									36
37	132.5N				1									37
38	133N				1									38
39	L100E 133.5N				1									39
40														40

VALUES IN PPM. UNLESS NOTED OTHERWISE.

Certified by A. Kossbacher

Rossbacher Laboratory Ltd.

BURNABY, B. C.
CANADA
TELEPHONE: 299-6910

GEOCHEMICAL ANALYSTS & ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 81367A-3

INVOICE NO.

DATE ANALYSED SEPT 15/81

PROJECT 912 # 8-91

TO: NORANDA EXPLORATION CO. LTD.
1050 DAVIE STREET
VANCOUVER, B.C.

No.	Sample	pH	Mo	Cu		W								No.
01	L130N 92E					1								01
02	92.5E					1								02
03	L130N. 93E					1								03
04														04
05														05
06														06
07														07
08														08
09														09
10														10
11														11
12														12
13														13
14														14
15														15
16														16
17														17
18														18
19														19
20														20
21														21
22														22
23														23
24														24
25														25
26														26
27														27
28														28
29														29
30														30
31														31
32														32
33														33
34														34
35														35
36														36
37														37
38														38
39														39
40														40

VALUES IN PPM, UNLESS NOTED OTHERWISE.

Certified by J. Rossbacher

NORANDA EXPLORATION CO. LTD.

LOCATION CASSIAR CREEK (YUKON) | PROJECT 912 #8-91 | SHEET 1

MATERIAL SOIL | SAMPLE Nos.

COLLECTOR K.G. | DATE RECEIVED AUG /21/81

ANALYST R.F. | DATE ANALYSED SEPT. / 1 /81

REMARKS Cu, Zn, Pb, Mo, Ag, Mn in ppm
Fe in %
(0.2g/2ml $HClO_4 \cdot HNO_3 \rightarrow$ 5ml)

T.T. No.	SAMPLE No.	1	2 Cu	3 Zn	4 Pb	5 Mo	6 Ag	7 Mn	8 Fe (%)	G.C.I. NUMBER
1	CHECK NL-1		20	110	70	10	1.6	400	2.0	
2	L 130N-110E		22	52	8	< 2	0.2	270	2.5	
3	110.5		18	42	6	< 2	0.2	220	2.0	
4	111		18	42	8	< 2	0.2	160	2.1	
5	111.5		20	50	4	< 2	0.2	240	2.4	
6	112		16	50	4	< 2	0.2	200	2.4	
7	112.5		18	42	6	< 2	0.2	190	2.4	
8	113		18	48	4	< 2	0.2	190	2.4	
9	113.5		20	48	4	< 2	0.2	200	2.2	
10	114		20	48	8	< 2	0.2	260	2.5	
1	114.5		18	58	8	< 2	0.2	350	3.1	
2	115		20	52	8	< 2	0.2	240	2.5	
3	115.5		26	58	4	< 2	0.2	300	2.5	
4	116		26	60	8	< 2	0.2	320	2.8	
5	116.5		20	62	8	< 2	0.2	250	2.8	
6	117		20	58	8	< 2	0.2	250	2.5	
7	117.5		20	56	8	< 2	0.2	260	2.6	
8	118		16	58	6	< 2	0.2	250	2.9	
9	118.5		34	(94)	10	< 2	0.2	750	2.9	
20	119		18	52	10	< 2	0.2	230	2.4	
1	119.5		26	58	8	< 2	0.2	330	2.8	
2	120		18	46	8	< 2	0.2	210	2.4	
3	120.5		22	58	12	< 2	0.2	290	2.9	
4	121		22	56	6	< 2	0.2	260	2.8	
5	121.5		22	62	6	< 2	0.2	340	2.8	
6	122		16	48	6	< 2	0.2	190	2.6	
7	122.5		18	46	8	< 2	0.2	240	2.6	
8	123		26	54	10	< 2	0.2	250	2.6	
9	123.5		24	52	6	< 2	0.2	260	2.6	

NORANDA EXPLORATION CO. LTD.

LOCATION CASSIAR CREEK (YUKON) | PROJECT 912 #8-91 | SHEET 2

MATERIAL SOIL | SAMPLE Nos.

COLLECTOR K.G. | DATE RECEIVED AUG / 21/81

ANALYST R.F. | DATE ANALYSED SEPT. / 1/81

REMARKS Cu, Zn, Pb, Mo, Ag, Mn in ppm
Fe in %
(0.2g/2ml $HClO_4 \cdot HNO_3 \rightarrow$ 5ml)

T.T. No.	SAMPLE No.	1	2 Cu	3 Zn	4 Pb	5 Mo	6 Ag	7 Mn	8 Fe (%)	G.C.I. NUMBER
31	L130N-129.5E		22	50	6	< 2	0.2	260	2.5	
2	90		16	46	6	< 2	0.2	170	2.4	
3	90.5		14	44	4	< 2	0.2	140	2.2	
4	91		16	60	8	< 2	0.2	230	2.6	
5	91.5		34	440	120	< 2	0.2	530	5.4	
6	92		22	120	16	< 2	0.2	490	3.8	
7	92.5		22	50	4	< 2	0.2	350	3.1	
8	93		42	160	16	4	0.2	3100	4.7	
9	93.5		20	50	6	< 2	0.2	250	2.6	
90	94		36	58	8	< 2	0.2	600	2.2	
1	94.5		24	56	8	< 2	0.2	240	2.6	
2	95		20	60	10	< 2	0.2	280	2.8	
3	95.5		18	62	12	< 2	0.2	220	2.8	
4	96		40	76	16	< 2	0.2	400	3.4	
5	96.5		24	70	10	< 2	0.2	310	2.7	
6	97		16	64	10	< 2	0.2	270	2.6	
7	97.5		20	54	10	< 2	0.2	360	2.6	
8	98		16	44	8	< 2	0.2	240	2.4	
9	98.5		12	44	8	< 2	0.2	230	2.2	
50	99		16	48	8	< 2	0.2	220	2.3	
1	99.5		24	58	8	< 2	0.2	330	2.4	
2	100.5		22	40	12	< 2	0.2	160	2.4	
3	101		26	68	12	< 2	0.2	290	3.1	
4	101.5		16	46	8	< 2	0.2	240	2.7	
5	102		20	58	10	< 2	0.2	370	2.7	
6	102.5		20	54	10	< 2	0.2	290	2.7	
7	103		32	74	16	< 2	0.2	440	3.3	
8	103.5		18	58	22	< 2	0.2	330	2.5	
9	104		18	48	12	< 2	0.2	380	2.4	

NORANDA EXPLORATION CO. LTD.

LOCATION CASSIAR CREEK (YUKON) | PROJECT 912 #8-91 | SHEET 3

MATERIAL SOIL | SAMPLE Nos.

COLLECTOR K.G. | DATE RECEIVED AUG / 21 / 81

ANALYST R.F. | DATE ANALYSED SEPT. / 1 / 81

REMARKS Cu, Zn, Pb, Mo, Ag, Mn in ppm
Fe in %
(0.2g/2ml $HClO_4 \cdot HNO_3 \Rightarrow$ 5ml)

T.T. No.	SAMPLE No.	1	2 Cu	3 Zn	4 Pb	5 Mo	6 Ag	7 Mn	8 Fe (%)	G.C.I. NUMBER
61	L130N - 105E		12	44	10	< 2	0.2	190	2.7	
2	105.5		16	54	6	< 2	0.2	190	2.9	
3	106		16	50	8	< 2	0.2	190	2.6	
4	106.5		18	54	8	< 2	0.2	200	2.7	
5	107		20	52	8	< 2	0.2	170	2.5	
6	107.5		16	44	10	< 2	0.2	170	2.6	
7	108		20	60	8	< 2	0.2	320	3.2	
8	108.5		24	56	6	< 2	0.2	230	2.6	
9	109		(42)	60	12	< 2	(1.0)	150	3.0	
70	L130N - 109.5E		16	44	6	< 2	0.2	160	2.3	
1	L100E - 130.5N		(36)	(120)	(18)	< 2	0.2	640	3.6	
2	131		(26)	(74)	8	< 2	0.2	270	2.6	
3	131.5		20	54	10	< 2	0.2	190	2.5	
4	132		24	(82)	10	< 2	0.2	290	2.7	
5	132.5		20	58	12	< 2	0.2	250	2.8	
6	133		(32)	(84)	(16)	< 2	(0.4)		3.8	
7	133.5		18	48	8	< 2	0.2	160	2.2	
8	134		18	52	10	< 2	0.2	140	2.1	
9	134.5		(28)	(90)	10	< 2	0.2	520	3.2	
80	135.5		18	50	8	< 2	0.2	180	2.4	
1	136		18	52	8	< 2	0.2	210	2.2	
2	136.5		20	56	8	< 2	0.2	200	2.3	
83	L100E - 135N		20	54	8	< 2	0.2	260	2.7	

Kossbacher Laboratory Ltd.

BURNABY, B.C.
CANADA
TELEPHONE: 299-6910

GEOCHEMICAL ANALYSTS & ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 81532-1

INVOICE NO.

DATE ANALYSED AUG 25/81

TO: NORANDA EXPLORATION CO. LTD.
1050 DAVIE STREET
VANCOUVER, B.C.

PROJECT 912 CASSIAR CREEK #8-5-9

No.	Sample	pH	Mo	Cu	W									No.
01	85 E 150.5N				1									01
02	151 N				1									02
03	151.5N				1									03
04	152 N				1									04
05	152.5N				1									05
06	153 N				1									06
07	153.5N				1									07
08	154 N				1									08
09	154.5N				1									09
10	155.5N				1									10
11	156 N				1									11
12	156.5N				1									12
13	157 N				1									13
14	157.5N				1									14
15	158 N				1									15
16	158.5N				1									16
17	159 N				1									17
18	159.5N				1									18
19	160 N				1									19
20	160.5N				1									20
21	161 N				1									21
22	85 E 161.5N				1									22
23	87.5E 150.5N				5									23
24	151 N				5									24
25	151.5N				1									25
26	152 N				1									26
27	152.5N				1									27
28	153 N				1									28
29	153.5N				1									29
30	154 N				1									30
31	154.5N				1									31
32	155 N				1									32
33	155.5N				1									33
34	156 N				1									34
35	156.5N				2									35
36	157 N				5									36
37	157.5N				1									37
38	158 N				1									38
39	87.5E 158.5N				1									39
40														40

VALUES IN PPM. UNLESS NOTED OTHERWISE.

Certified by U Kossbach

Kossbacher Laboratory Ltd.

GEOCHEMICAL ANALYSTS & ASSAYERS

BURNABY, B. C.
CANADA
TELEPHONE: 299-6910

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 81339-2
INVOICE NO.
DATE ANALYSED AUG. 24/81
PROJECT 912 #8-59

TO: **NORANDA EXPLORATION CO. LTD.**
1050 DAVIE STREET
VANCOUVER, B.C.

No.	Sample	pH	Mo	Cu	W									No.
01	87.5E 159N				1									01
02	159.5N				1									02
03	160.5N				1									03
04	161 N				1									04
05	87.5E 161.5N				1									05
06	92.5E 150.5N				1									06
07	151 N				1									07
08	151.5N				1									08
09	152 N				1									09
10	152.5N				1									10
11	153 N				1									11
12	153.5N				1									12
13	154 N				1									13
14	154.5N				1									14
15	155 N				1									15
16	155.5N				1									16
17	156 N				1									17
18	156.5N				1									18
19	157 N				1									19
20	157.5N				1									20
21	158 N				1									21
22	158.5N				1									22
23	159 N				1									23
24	159.5N				1									24
25	160 N				1									25
26	160.5N				1									26
27	161 N				1									27
28	99.5E 161.5N				1									28
29	162 N 85 E				1									29
30	85.5E				1									30
31	86 E				1									31
32	86.5E				1									32
33	87 E				1									33
34	87.5E				1									34
35	88 E				1									35
36	88.5E				1									36
37	89 E				1									37
38	89.5E				1									38
39	90 E				1									39
40	162 N 90.5E				1									40

VALUES IN PPM, UNLESS NOTED OTHERWISE.

Certified by U. Kossbacher

Lossbacher Laboratory Ltd.

GEOCHEMICAL ANALYSTS & ASSAYERS

BURNABY, B.C.
CANADA
TELEPHONE: 299-6910

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 81332-3
INVOICE NO.
DATE ANALYSED AUG 24/81
PROJECT 912 #8-59

TO: NORANDA EXPLORATION CO. LTD.
1050 DAVIE STREET
VANCOUVER, B.C.

No.	Sample	pH	Mo	Cu	W									No.
01	162 N/91 E				1									01
02	91.5E				1									02
03	92 E				1									03
04	92.5E				1									04
05	93 E				1									05
06	93.5E				1									06
07	94 E				1									07
08	94.5E				1									08
09	95 E				1									09
10	95.5E				1									10
11	96 E				1									11
12	96.5E				1									12
13	97 E				1									13
14	97.5E				1									14
15	98 E				1									15
16	98.5E				1									16
17	99 E				1									17
18	162 N/99.5E				1									18
19	150N 85.5E				1									19
20	86 E				1									20
21	86.5E				1									21
22	87 E				1									22
23	87.5E				1									23
24	88 E				1									24
25	88.5E				15									25
26	89.5E				1									26
27	90.25E				10									27
28	91 E				5									28
29	91.5E				1									29
30	92 E				1									30
31	92.5E				1									31
32	95.5E				1									32
33	96.5E				1									33
34	97 E				1									34
35	97.5E				1									35
36	98 E				1									36
37	98.5E				1									37
38	99 E				1									38
39	150N 99.5E				1									39
40														40

VALUES IN PPM. UNLESS NOTED OTHERWISE.

Certified by U. Lossbacher

Rossbacher Laboratory Ltd.

GEOCHEMICAL ANALYSTS & ASSAYERS

BURNABY, B. C.
CANADA
TELEPHONE: 299-6910

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 81332-4

INVOICE NO.

DATE ANALYSED AUG 24/81

PROJECT 912 # 8-59

TO: NORANDA EXPLORATION CO. LTD.
1050 DAVIE STREET
VANCOUVER, B.C.

No.	Sample	pH	Mo	Cu	W									No.
01	95 E 150.5N				1									01
02	151 N				1									02
03	151.5 N				1									03
04	152 N				1									04
05	152.5 N				1									05
06	153 N				1									06
07	153.5 N				1									07
08	154 N				1									08
09	154.5 N				1									09
10	155 N				1									10
11	155.5 N				1									11
12	156 N				1									12
13	156.5 N				1									13
14	157 N				1									14
15	157.5 N				1									15
16	158 N				1									16
17	158.5 N				1									17
18	159 N				1									18
19	159.5 N				1									19
20	160 N				1									20
21	160.5 N				1									21
22	161 N				1									22
23	95 E 161.5 N				1									23
24	97.5 E 150.5 N				1									24
25	151 N				1									25
26	151.5 N				1									26
27	152 N				1									27
28	152.5 N				1									28
29	153 N				1									29
30	153.5 N				1									30
31	154 N				1									31
32	154.5 N				1									32
33	155 N				1									33
34	155.5 N				1									34
35	156 N				1									35
36	156.5 N				1									36
37	157 N				1									37
38	157.5 N				1									38
39	97.5 E 158 N				1									39
40														40

VALUES IN PPM, UNLESS NOTED OTHERWISE.

Certified by U. Rossbach

Rossbacher Laboratory Ltd.

GEOCHEMICAL ANALYSTS & ASSAYERS

CANADA
TELEPHONE: 299-6910

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 81332-S

INVOICE NO.

DATE ANALYSED AUG 24/81

PROJECT 912 #8-59

TO: **NORANDA EXPLORATION CO. LTD.**
1050 DAVIE STREET
VANCOUVER, B.C.

No.	Sample	pH	Mo	Co	W									No.
01	97.5E 158.5N				1									01
02	159 N				1									02
03	159.5N				1									03
04	160 N				1									04
05	160.5N				1									05
06	161 N				1									06
07	97.5E 161.5N				1									07
08	90E 150.5N				1									08
09	151 N				1									09
10	151.5N				1									10
11	152 N				1									11
12	152.5N				1									12
13	153 N				1									13
14	153.5N				1									14
15	154 N				1									15
16	154.5N				1									16
17	155 N				1									17
18	155.5N				1									18
19	156 N				1									19
20	156.5N				1									20
21	157 N				1									21
22	157.5N				1									22
23	158 N				1									23
24	158.5N				1									24
25	159 N				1									25
26	159.5N				1									26
27	160 N				1									27
28	160.5N				1									28
29	161 N				1									29
30	90E 161.5N				1									30
31	100E 149 N				1									31
32	149.5N				1									32
33	150 N				1									33
34	150.5N				1									34
35	151 N				1									35
36	151.5N				1									36
37	152 N				1									37
38	152.5N				1									38
39	100E 153 N				1									39
40														40

VALUES IN PPM, UNLESS NOTED OTHERWISE.

Certified By: F. Montaed

Rossbacher Laboratory Ltd.

GEOCHEMICAL ANALYSTS & ASSAYERS

BURNABY, B. C.
CANADA
TELEPHONE: 299-6910

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 81332-6

INVOICE NO.

DATE ANALYSED AUG 27/81

PROJECT 912 #8-59

TO: NORANDA EXPLORATION CO. LTD.
1050 DAVIE STREET
VANCOUVER, B.C.

No.	Sample	pH	Mo	Cu	W									No.
01	100E 153.5N				1									01
02	154 N				1									02
03	154.5N				1									03
04	155 N				1									04
05	155.5N				1									05
06	156 N				1									06
07	156.5N				1									07
08	157 N				1									08
09	157.5N				1									09
10	158 N				1									10
11	158.5N				1									11
12	159 N				1									12
13	159.5N				1									13
14	160 N				1									14
15	160.5N				1									15
16	161 N				1									16
17	161.5N				1									17
18	100E 162 N				1									18
19	150N 89 E				1									19
20	90 E				1									20
21	90.5E				51									21
22	93 E				1									22
23	93.5E				1									23
24	94 E				1									24
25	150N 94.5E				1									25
26														26
27														27
28														28
29														29
30														30
31														31
32														32
33														33
34														34
35														35
36														36
37														37
38														38
39														39
40														40

VALUES IN PPM. UNLESS NOTED OTHERWISE.

Certified by J. Rossbacher

NORANDA EXPLORATION CO. LTD.

LOCATION CASSIAR CREEK (YUKON) | PROJECT 912 #8-59 | SHEET 1

MATERIAL SOIL - SILT | SAMPLE Nos.

COLLECTOR K.G. | DATE RECEIVED AUG / 12 / 81

ANALYST R.F. | DATE ANALYSED AUG / 19 / 81

REMARKS Cu, Zn, Pb, Mo, Ag, Mn in ppm
Fe in %
(0.2g/2ml $HClO_4 \cdot HNO_3 \rightarrow$ 5ml)

T.T. No.	SAMPLE No.	1	2 Cu	3 Zn	4 Pb	5 Mo	6 Ag	7 Mn	8 Fe (%)	G.C.I. NUMBER
1	CHECK NL-1		20	120	80	10	2.0	430	2.0	
2	85E - 150.5N	SOIL	12	56	8	2	0.2	370	2.1	
3	151		18	58	6	< 2	0.2	410	2.7	
4	151.5		12	48	6	< 2	0.2	520	2.1	
5	152		12	62	10	< 2	0.2	490	2.8	
6	152.5		8	54	10	< 2	0.2	280	2.4	
7	153		8	48	12	< 2	0.2	550	2.5	
8	153.5		10	34	8	< 2	0.2	140	1.4	
9	154		12	66	12	< 2	0.2	380	2.5	
10	154.5		10	50	8	< 2	0.2	240	2.3	
1	155.5		12	42	6	< 2	0.2	250	1.7	
2	156		10	42	6	< 2	0.2	220	1.8	
3	156.5		12	46	6	< 2	0.2	370	2.2	
4	157		12	58	10	< 2	0.2	550	2.6	
5	157.5		12	56	6	< 2	0.2	290	2.8	
6	158		20	50	6	< 2	0.2	260	2.6	
7	158.5		20	56	6	< 2	0.2	250	2.7	
8	159		22	56	8	< 2	0.2	330	3.0	
9	159.5		12	48	10	< 2	0.2	210	1.9	
20	160		10	44	10	< 2	0.2	170	1.5	
1	160.5		26	58	6	< 2	0.2	290	2.3	
2	161		24	58	4	< 2	0.2	240	2.3	
3	85E - 161.5N		24	56	6	< 2	0.2	230	2.4	
4	87.5E - 150.5N		16	54	4	< 2	0.2	250	2.3	
5	151		16	58	6	< 2	0.2	260	2.4	
6	151.5		18	58	6	< 2	0.2	320	2.6	
7	152		24	68	4	< 2	0.2	340	3.3	
8	152.5		22	68	4	< 2	0.2	580	3.2	
9	153	(SILT)	10	50	6	< 2	0.2	500	2.2	

NORANDA EXPLORATION CO. LTD.

LOCATION CASSIAR CREEK (YUKON) | PROJECT 912 #8-59 | SHEET 2

MATERIAL SOIL/SILT | SAMPLE Nos. | COLLECTOR K.G. | DATE RECEIVED AUG/12/81

ANALYST R.F. | DATE ANALYSED AUG/19/81

REMARKS Cu, Zn, Pb, Mo, Ag, Mn in ppm
Fe in %
(0.2g/2ml $HClO_4 \cdot HNO_3 \rightarrow$ 5ml)

T.T. No.	SAMPLE No.	1	2 Cu	3 Zn	4 Pb	5 Mo	6 Ag	7 Mn	8 Fe (%)	G.C.I. NUMBER
31	87.5E - 159 N	SOIL	40	22	8	2	0.2	410	3.6	
2	159.5		28	56	8	< 2	0.2	320	3.4	
3	155		32	94	12	< 2	0.2	470	5.4	
4	155.5		4	66	16	< 2	0.2	560	2.9	
5	156		10	54	12	< 2	0.2	390	2.4	
6	156.5		8	66	18	< 2	0.2	500	3.0	
7	157		10	66	16	< 2	0.2	490	2.9	
8	157.5		10	50	8	< 2	0.2	420	2.5	
9	158		18	46	4	< 2	0.2	260	2.4	
40	158.5		12	46	4	< 2	0.2	440	2.2	
1	159		12	66	14	< 2	0.2	350	3.4	
2	159.5		18	64	8	< 2	0.2	470	2.8	
3	160.5		24	24	16	2	0.2	600	2.5	
4	161		18	94	12	< 2	0.2	290	2.4	
5	87.5E - 161.5N		24	82	18	2	0.2	510	2.9	
6	92.5E - 150.5N		24	60	8	< 2	0.2	260	2.4	
7	151		24	56	10	< 2	0.2	140	2.4	
8	151.5		22	66	10	< 2	0.2	300	2.6	
9	152		16	56	6	< 2	0.2	270	2.1	
50	152.5		20	52	6	< 2	0.2	460	2.6	
1	153		20	56	8	< 2	0.2	300	2.5	
2	153.5		22	62	8	< 2	0.2	290	2.7	
3	154		30	62	6	< 2	0.2	570	2.8	
4	154.5		28	70	8	< 2	0.2	1600	3.1	
5	155		24	64	6	< 2	0.2	230	2.6	
6	155.5		22	64	8	< 2	0.2	430	2.5	
7	156		22	60	6	< 2	0.2	270	2.7	
8	156.5		22	60	6	< 2	0.2	320	2.6	
9	157		22	60	8	< 2	0.2	280	2.5	

NORANDA EXPLORATION CO. LTD.

LOCATION CASSIAR CREEK (YUKON) | PROJECT 912 #8-59 | SHEET 3

MATERIAL SOIL/SILT | SAMPLE Nos.

COLLECTOR K.G. | DATE RECEIVED AUG/12/81

ANALYST R.F. | DATE ANALYSED AUG/19/81

REMARKS Cu, Zn, Pb, Mo, Ag, Mn in ppm
Fe in %
(0.2g/2ml $HClO_4 \cdot HNO_3 \rightarrow 5ml$)

T.T. No.	SAMPLE No.	1	2 Cu	3 Zn	4 Pb	5 Mo	6 Ag	7 Mn	8 Fe (%)	G.C.I. NUMBER
61	92.5E - 158 N	SOIL	16	50	4	< 2	0.2	230	2.1	
2	158.5		14	48	4	< 2	0.2	260	2.4	
3	159		16	50	6	< 2	0.2	190	2.1	
4	159.5		18	50	4	< 2	0.2	180	2.2	
5	160		16	48	6	< 2	0.2	240	2.4	
6	160.5		22	56	6	2	0.2	180	2.6	
7	161		20	50	6	< 2	0.2	250	2.3	
8	92.5E - 161.5 N		22	56	12	< 2	0.4	390	2.5	
9	162N - 85 E		18	52	4	< 2	0.2	250	2.3	
70	85.5		26	60	6	< 2	0.2	260	2.4	
1	86		18	58	8	< 2	0.2	200	2.3	
2	86.5		20	58	10	2	0.2	240	2.3	
3	87		16	56	12	< 2	0.2	260	2.3	
4	87.5		30	82	14	2	0.2	350	2.7	
5	88		18	36	6	2	0.2	570	1.6	
6	88.5		20	58	12	2	0.2	260	2.6	
7	89		32	78	4	< 2	0.2	320	4.7	
8	89.5		14	48	8	< 2	0.2	220	2.7	
9	90		*74	*139	6	2	0.2	640	5.6	
80	90.5		66	44	2	< 2	0.2	290	2.7	
1	91		*36	24	18	2	0.6	670	2.9	
2	91.5		16	46	8	< 2	0.2	230	2.5	
3	92		*50	*130	*20	2	0.2	250	3.8	
4	92.5		24	64	10	< 2	0.8	290	2.6	
5	93		14	54	10	< 2	0.2	230	2.5	
6	93.5		16	54	6	< 2	0.2	370	2.8	
7	94		22	56	6	< 2	0.2	210	2.6	
8	94.5		16	36	6	< 2	0.2	310	1.8	
9	95		16	62	10	< 2	0.4	290	2.5	

NORANDA EXPLORATION CO. LTD.

LOCATION CASSIAR CREEK (YUKON) | PROJECT 912 #8-59 | SHEET 4

SAMPLE Nos.

MATERIAL SOIL / SILT | COLLECTOR K.G. | DATE RECEIVED AUG / 12 / 81

ANALYST R.F. | DATE ANALYSED AUG / 19 / 81

REMARKS Cu, Zn, Pb, Ag, Mo, Mn in ppm
Fe in %
(0.2g/2ml $HClO_4 \cdot HNO_3 \rightarrow 5ml$)

T.T. No.	SAMPLE No.	1	2 Cu	3 Zn	4 Pb	5 Mo	6 Ag	7 Mn	8 Fe (%)	G.C.I. NUMBER
91	162N - 96 E	SOIL	24	56	6	< 2	0.2	250	2.8	
2	96.5		14	50	4	< 2	0.2	260	2.7	
3	97		16	58	8	< 2	0.4	320	2.6	
4	97.5		14	54	8	< 2	0.2	210	2.5	
5	98		(32)	(100)	(16)	2	0.2	300	3.3	
6	98.5		24	66	8	< 2	0.2	230	2.9	
7	99		30	(76)	10	2	0.2	330	3.2	
8	162N - 99.5E		14	66	8	2	0.4	360	2.9	
9	150N - 85.5E		16	58	6	< 2	0.2	330	2.3	
100	CHECK NL-1		20	(120)	(80)	10	1.8	460	2.1	
1	150N - 86 E		16	56	6	< 2	0.2	270	2.4	
2	86.5		22	62	4	< 2	0.2	290	2.5	
3	87		24	60	4	< 2	0.2	270	2.5	
4	87.5		20	58	4	< 2	0.2	250	2.3	
5	88		16	52	4	< 2	0.2	180	2.3	
6	88.5	15	20	66	12	(2)	0.2	270	2.5	
7	89.5		22	(88)	(18)	< 2	0.2	280	2.9	
8	90.25	10	(28)	(120)	12	< 2	0.2	440	3.8	
9	91		22	(98)	8	< 2	0.2	620	3.1	
110	91.5		24	60	8	< 2	0.2	240	2.3	
1	92		16	56	6	< 2	0.2	200	2.2	
2	92.5		18	58	6	< 2	0.2	400	2.5	
3	95.5		22	56	12	< 2	0.2	250	2.6	
4	96.5		(42)	(90)	6	(2)	(0.4)	340	3.3	
5	97		(38)	(120)	8	< 4	0.6	250	3.0	
6	97.5		22	(76)	6	2	0.4	220	2.9	
7	98		26	62	6	2	0.8	300	2.8	
8	98.5		(44)	(88)	4	< 4	0.2	360	3.6	
9	99		20	50	6	2	0.2	550	2.7	

NORANDA EXPLORATION CO. LTD.

LOCATION CASSIAR CREEK (YUKON) | PROJECT 912 #8-59 | SHEET 5

MATERIAL SOIL/SILT | SAMPLE Nos. | COLLECTOR K.G. | DATE RECEIVED AUG/12/81 | ANALYST R.F. | DATE ANALYSED AUG/19/81

REMARKS Cu, Zn, Pb, Mo, Ag, Mn in ppm
Fe in %
(0.2g/2ml $HClO_4 \cdot HNO_3 \rightarrow$ 5ml)

T.T. No.	SAMPLE No.	1	2 Cu	3 Zn	4 Pb	5 Mo	6 Ag	7 Mn	8 Fe (%)	G.C.I. NUMBER
121	95E - 150.5N	SOIL	22	54	12	< 2	0.2	1300	2.5	
2	151		18	58	14	< 2	0.2	360	2.5	
3	151.5		20	60	14	< 2	0.2	1700	3.1	
4	152		26	68	12	< 2	0.2	2500	6.8	
5	152.5		24	66	4	2	0.2	260	2.5	
6	153		26	76	8	< 2	0.2	250	2.6	
7	153.5		18	60	6	< 2	0.2	250	2.4	
8	154		14	48	4	< 2	0.2	180	2.1	
9	154.5		28	62	10	2	0.2	360	2.6	
130	155		14	48	4	< 2	0.2	170	2.1	
1	155.5		16	52	4	< 2	0.2	220	2.3	
2	156		18	48	4	< 2	0.2	370	2.4	
3	156.5		20	58	6	< 2	0.2	240	2.4	
4	157		16	52	10	2	0.2	180	2.3	
5	157.5		26	84	8	< 2	0.4	770	2.6	
6	158		32	58	10	2	0.2	500	3.0	
7	158.5		18	54	6	2	0.2	460	2.4	
8	159		24	60	10	2	0.4	300	2.6	
9	159.5		14	46	4	< 2	0.2	260	1.9	
190	160		20	54	6	< 2	0.2	180	2.2	
1	160.5		18	48	4	< 2	0.2	280	2.4	
2	161		22	58	6	2	0.2	340	2.9	
3	95E - 161.5N		32	60	6	2	0.2	240	3.0	
4	97.5E - 150.5N		*64	*130	12	*4	0.4	430	4.2	
5	151		*48	98	6	2	0.4	450	4.0	
6	151.5		*50	*120	4	2	0.8	450	4.6	
7	152		18	60	6	< 2	0.4	440	2.4	
8	152.5		18	64	8	< 2	0.2	170	2.5	
9	97.5E - 153 N		20	66	6	< 2	0.2	200	2.5	

NORANDA EXPLORATION CO. LTD.

LOCATION CASSIAR CREEK, YUKON | PROJECT 912 # 8-59 | SHEET 6

MATERIAL SOIL / SILT | SAMPLE Nos.

COLLECTOR K.G. | DATE RECEIVED AUG / 12 / 81

ANALYST R.F. | DATE ANALYSED AUG / 19 / 81

REMARKS Cu Zn Pb Mo, Ag, Mn in ppm Fe in %.
0.2 g / 2 mL $HClO_4$: HNO_3 → 5 mL

T.T. NO.	SAMPLE NO.	1	2 Cu	3 Zn	4 Pb	5 Mo	6 Ag	7 Mn	8 Fe %	G.C.I. NUMBER
1	CHECK NL-1		20	110	86	12	2.0	400	2.0	
2	97.5E - 153.5N	SOIL	24	68	12	< 2	0.2	220	2.8	
3	154		18	60	10	< 2	1.2	230	2.8	
4	154.5		22	62	10	< 2	0.2	260	2.9	
5	155		20	58	8	< 2	0.2	200	2.8	
6	155.5		16	46	6	< 2	0.2	180	2.4	
7	156		18	48	4	< 2	0.2	170	2.6	
8	156.5		16	42	4	< 2	0.2	180	2.7	
9	157		22	56	8	< 2	0.2	190	2.5	
10	157.5		32	38	2	< 2	0.2	270	3.6	
1	158		14	50	8	< 2	0.2	290	2.5	
2	158.5		12	44	6	< 2	0.2	200	2.4	
3	159		20	54	6	< 2	0.2	240	3.0	
4	159.5		18	60	8	< 2	0.2	260	3.2	
5	160		22	56	4	< 2	0.2	310	3.3	
6	160.5		28	62	6	< 2	0.2	290	3.6	
7	161		20	58	6	< 2	0.2	240	3.2	
8	97.5E - 161.5N		18	56	8	< 2	0.2	240	2.7	
9	90E - 150.5N		46	84	4	< 2	0.2	520	4.2	
20	151		24	90	12	< 2	0.2	280	3.1	
1	151.5		42	80	10	< 2	0.2	420	3.0	
2	152		36	94	12	< 2	0.2	180	2.5	
3	152.5		14	64	12	< 2	0.2	290	2.4	
4	153		26	98	12	< 2	0.2	270	2.5	
5	153.5		24	60	12	< 2	0.2	250	2.6	
6	154		32	100	16	< 2	0.2	320	3.4	
7	154.5		22	56	8	< 2	0.2	380	2.5	
8	155		26	60	10	< 2	0.2	310	3.2	
9	155.5		22	52	8	< 2	0.2	210	2.4	
			10	46	6	< 2	0.2	180	2.1	

NORANDA EXPLORATION CO. LTD.

LOCATION CASSIAR CREEK, YUKON | PROJECT 912 #8-59 | SHEET 7

MATERIAL SOIL / SILT | SAMPLE Nos. | COLLECTOR K.G | DATE RECEIVED AUG / 12 / 81

ANALYST R.F | DATE ANALYSED AUG / 19 / 81

REMARKS Cu, Zn, Pb, Mo, Ag, Mn in ppm, Fe in %
0.2 g / 2 mL $HClO_4$: HNO_3 → 5 mL

T.T. No.	SAMPLE No.	1	2 Cu	3 Zn	4 Pb	5 Mo	6 Ag	7 Mn	8 Fe %	G.C.I. NUMBER
31	90E - 156.5N	SOIL	24	52	6	< 2	0.2	210	2.5	
2	157		22	58	10	< 2	0.2	210	2.7	
3	157.5		22	52	6	< 2	0.2	190	2.4	
4	158		*38	(78)	12	< 2	0.2	380	2.8	
5	158.5		*46	(96)	16	< 2	0.2	310	2.8	
6	159		40	*130	*30	2	0.6	770	3.0	
7	159.5		34	(92)	12	< 2	0.2	240	2.4	
8	160		30	*110	*(34)	< 2	0.2	560	2.3	
9	160.5		*64	*210	*160	2	0.6	370	3.1	
40	161		24	68	10	< 2	0.2	330	3.7	
1	90E - 161.5N		*(44)	(94)	4	< 2	0.2	350	5.4	
2	100E - 149N		(32)	(78)	*(22)	< 2	0.4	470	2.8	
3	149.5		(28)	(72)	(16)	< 2	0.2	540	2.9	
4	150		(32)	64	10	< 2	0.4	450	2.4	
5	150.5		*(36)	(96)	14	< 2	0.2	480	3.0	
6	151		(32)	(76)	10	< 2	0.2	250	3.5	
7	151.5		*(38)	(92)	(16)	< 2	0.4	440	3.0	
8	152		*(36)	(88)	12	< 2	0.2	220	3.8	
9	152.5		18	56	*(20)	< 2	< 0.8	550	2.0	
50	153		14	50	4	< 2	0.2	270	1.9	
1	153.5		16	52	4	< 2	0.2	330	2.6	
2	154		24	56	8	< 2	0.2	240	3.1	
3	154.5		24	68	8	< 2	0.2	260	3.0	
4	155		16	54	6	< 2	0.2	210	2.8	
5	155.5		18	52	8	< 2	0.2	220	2.7	
6	156		16	50	12	< 2	0.2	180	2.4	
7	156.5		24	66	10	< 2	0.2	210	2.6	
8	157		18	58	10	< 2	0.2	170	2.3	
9	157.5		24	60	10	< 2	0.2	230	2.7	
[illegible]	[illegible]		20	56	10	< 2	0.2	270	2.4	

NDA EXPLORATION CO. LTD.

R CREEK
SILT

PROJECT 912 #8.59 | SHEET 8
SAMPLE Nos.
COLLECTOR K.G. DATE RECEIVED AUG / 12 / 81
ANALYST R.F. DATE ANALYSED AUG / 19 / 81

Zn Pb Mo Ag Mn in ppm. Fe in %
0.2 g / 2 mL HCl:H2O : HNO3 → 5 mL

D.

59 | SHEET 9
DATE RECEIVED AUG / 12 / 81
DATE ANALYSED AUG / 19 / 81
%

1	2 Cu	3 Zn	4 Pb	5 Mo	6 Ag	7 Mn	8 Fe %	G.C.I. NUMBER
SOIL	18	52	10	< 2	0.2	200	2.6	
	24	62	10	< 2	0.2	200	3.0	
	16	50	10	< 2	0.2	210	2.7	
	18	56	10	< 2	0.2	210	3.0	
	18	58	10	< 2	0.2	290	3.0	
	16	60	12	< 2	0.2	300	3.3	
	22	60	10	< 2	0.2	280	3.1	
	20	60	10	< 2	0.2	260	3.3	
	24	*130	*80	< 2	0.2	160	2.8	
	*48	82	12	< 2	0.2	680	2.9	
	18	84	16	< 2	0.2	290	3.2	
	22	70	10	< 2	0.2	370	2.8	
	24	68	12	< 2	0.2	220	2.3	
	22	86	16	< 2	0.2	2500	3.9	
	30	70	18	< 2	0.2	240	2.4	
	26	78	16	< 2	0.2	750	3.5	
	*68	96	12	2	*1.2	510	3.0	
SILT 116 C/B	14	60	8	< 2	0.2	340	2.1	3502
	20	62	12	< 2	0.2	540	2.6	
	18	64	10	< 2	0.2	410	2.2	3502
	26	88	16	2	0.2	520	3.0	3552
	16	68	10	< 2	0.2	620	2.7	
	26	84	10	< 2	0.2	460	3.0	
	38	110	14	2	0.2	860	3.2	
	30	100	22	< 2	0.2	510	3.2	
	260	220	90	4	1.0	1500	9.0	
	14	58	10	< 2	0.2	280	2.4	
	12	52	8	< 2	0.2	260	2.2	
	10	46	8	< 2	0.2	250	1.9	
	26	110	12	< 2	0.2	650	4.0	3552

	7 Mn	8 Fe %	G.C.I. NUMBER
e			
2	280	1.9	3552
2	280	1.9	
2	670	2.8	
2	220	1.9	
2	240	2.2	
2	410	3.3	3552
2	260	1.9	3503
2	250	1.8	
2	250	1.8	3503
8	430	2.1	
2	360	2.3	3503
2	200	1.7	
2	210	1.6	
2	260	1.9	
2	260	2.0	
2	290	2.0	3503

Kossbacher Laboratory Ltd.

BURNABY, B. C.
CANADA
TELEPHONE: 299-6910

GEOCHEMICAL ANALYSTS & ASSAYERS

CERTIFICATE NO. 81300

CERTIFICATE OF ANALYSIS

INVOICE NO.

TO: NORANDA EXPLORATION CO. LTD.
1050 DAVIE STREET
VANCOUVER, B.C.

DATE ANALYSED AUG. 18/8.

CASSIAR CREEK -PROJECT 912 #8-5

No.	Sample	pH	Mo	Cu	W									No.
01	45E-N87.0				1									01
02	87.5				1									02
03	88.0				1									03
04	88.5				1									04
05	89.0				1									05
06	89.5				1									06
07	90.0				1									07
08	90.5				1									08
09	91.0				1									09
10	45E-N91.5				1									10
11	92.0				1									11
12	92.5				1									12
13	93.0				1									13
14	93.5				1									14
15	94.0				1									15
16	94.5				1									16
17	95.0				1									17
18	95.5				1									18
19	96.0				1									19
20	96.5				1									20
21	97.0				2	←								21
22	97.5				1									22
23	45E N98.0				1									23
24	25E-N73.0				2	←								24
25	73.5				2	←								25
26	74.0				1									26
27	74.5				2	←								27
28	75.0				2	←								28
29	75.5				2	←								29
30	76.0				2	←								30
31	76.5				1									31
32	77.0				2	←								32
33	77.5				2	←								33
34	78.0				1									34
35	78.5				1									35
36	79.0				1									36
37	79.5				1									37
38	80.0				1									38
39	75E-N80.5				1									39
40														40

VALUES IN PPM, UNLESS NOTED OTHERWISE.

Certified by J. Kossbacher

Kossbacher Laboratory Ltd.

GEOCHEMICAL ANALYSTS & ASSAYERS

CANADA
TELEPHONE: 299-6910

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 81302-1
INVOICE NO.
DATE ANALYSED AUG. 17, 198

TO: NORANDA EXPLORATION CO. LTD.
1050 DAVIE STREET
VANCOUVER, B.C.

X GRAINS
CASSIAR CREEK #4
PROJECT 912 #8-85

No.	Sample	pH	Mo	Cu	W										No.
01	75E-N810				1										01
02	81.5				1										02
03	82.0				1										03
04	75E-N82.5				1										04
05	83N-E46.0				1										05
06	46.5				1										06
07	47.0				1										07
08	47.5				1										08
09	48.0				1										09
10	48.5				1										10
11	49.0				1										11
12	49.5				1										12
13	50.0				1										13
14	50.5				1										14
15	51.0				1										15
16	51.5				1										16
17	52.0				1										17
18	52.5				1										18
19	53.5				1										19
20	83N-E54.5				1										20
21	55.0				1										21
22	55.5				2										22
23	56.0				1										23
24	56.5				1										24
25	57.0				1										25
26	57.5				1										26
27	58.0				1										27
28	58.5				1										28
29	59.0				1										29
30	83N-E59.5				1										30
31	60.0				1										31
32	60.5				NSS										32
33	61.0				1										33
34	61.5				1										34
35	62.0				1										35
36	62.5				1										36
37	63.0				1										37
38	63.5				1										38
39	83N-E64.0				1										39
40															40

VALUES IN PPM, UNLESS NOTED OTHERWISE.

Certified by U. Kossbacher

Kossbacher Laboratory Ltd.

BURNABY, B.C.
CANADA
TELEPHONE: 298-8810

GEOCHEMICAL ANALYSTS & ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 81300-3
INVOICE NO.
DATE ANALYSED AUG. 17/81
PROJECT 912 #8-5

TO: NORANDA EXPLORATION CO. LTD.
1050 DAVIE STREET
VANCOUVER, B.C.

No.	Sample	pH	Mo	Cu	Li									No.
01	83N-E64.5				2									01
02	65.0				1									02
03	65.5				1									03
04	66.0				1									04
05	66.5				1									05
06	67.0				1									06
07	67.5				1									07
08	68.0				1									08
09	68.5				1									09
10	83N-E69.0				1									10
11	69.5				1									11
12	70.0				1									12
13	70.5				1									13
14	71.0				1									14
15	71.5				1									15
16	72.0				1									16
17	72.5				1									17
18	73.0				1									18
19	73.5				1									19
20	74.0				1									20
21	74.5				1									21
22	83N-E75.0				1									22
23	54E-N83.5				1									23
24	84.0				1									24
25	84.5				1									25
26	85.0				1									26
27	85.5				1									27
28	86.0				1									28
29	86.5				1									29
30	87.0				1									30
31	87.5				1									31
32	88.0				1									32
33	88.5				1									33
34	89.0				1									34
35	89.5				1									35
36	90.0				1									36
37	90.5				1									37
38	91.0				1									38
39	54E-N91.5				1									39
40														40

VALUES IN PPM. UNLESS NOTED OTHERWISE.

Certified by J. Kossbacher

Kossbacher Laboratory Ltd.

GEOCHEMICAL ANALYSTS & ASSAYERS

CANADA
TELEPHONE: 299-6910

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 81300-U
INVOICE NO.
DATE ANALYSED AUG. 18, 1981
PROJECT 912 #8-5

TO: NORANDA EXPLORATION CO. LTD.
1050 DAVIE STREET
VANCOUVER, B.C.

No.	Sample	pH	Mo	Cu	Pb									No.
01	54E-N92.0				1									01
02	92.5				1									02
03	93.0				1									03
04	94.0				1									04
05	95.0				1									05
06	96.0				1									06
07	96.5				1									07
08	97.0				1									08
09	97.5				1									09
10	54E-N98.0				1									10
11	98.5				1									11
12	99.0				1									12
13	99.5				1									13
14	100.0				1									14
15	100.5				1									15
16	101.0				1									16
17	101.5				1									17
18	102.0				1									18
19	102.5				1									19
20	54E-N103.0				1									20
21	103.5				1									21
22	104.0				1									22
23	104.5				1									23
24	105.5				1									24
25	106.0				1									25
26	106.5				1									26
27	107.0				1									27
28	54E-N107.5				1									28
29	60E-N83.5				1									29
30	84.0				1									30
31	84.5				1									31
32	85.0				1									32
33	85.5				1									33
34	86.0				1									34
35	86.5				1									35
36	87.0				1									36
37	87.5				1									37
38	88.0				1									38
39	60E-N88.5				1									39
40														40

VALUES IN PPM, UNLESS NOTED OTHERWISE

Certified by J. Kossbacher

Kossbacher Laboratory Ltd.

GEOCHEMICAL ANALYSTS & ASSAYERS

BURNABY, B. C.
CANADA
TELEPHONE: 299-6910

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 81300-5
INVOICE NO.
DATE ANALYSED AUG. 18, 198
PROJECT 912 #8-5

TO: NORANDA EXPLORATION CO. LTD.
1050 DAVIE STREET
VANCOUVER, B.C.

No.	Sample	pH	Mo	Cu	W									No.
01	60E-N89.0	1			1									01
02	89.5				1									02
03	90.0				1									03
04	90.5				1									04
05	91.0				1									05
06	91.5				1									06
07	92.0				1									07
08	92.5				1									08
09	93.5				1									09
10	60E-N94.0				1									10
11	94.5				1									11
12	95.0				1									12
13	95.5				1									13
14	96.0				1									14
15	96.5				1									15
16	97.0				1									16
17	97.5				1									17
18	98.0				1									18
19	98.5				1									19
20	60E-N99.0				1									20
21	99.5				1									21
22	100.0				1									22
23	100.5				1									23
24	101.0				1									24
25	101.5				1									25
26	102.0				1									26
27	102.5				1									27
28	103.5				1									28
29	104.0				1									29
30	60E-N104.5				1									30
31	58E-N95.0				1									31
32	95.5				1									32
33	96.0				1									33
34	96.5				1									34
35	97.0				1									35
36	97.5				1									36
37	98.0				1									37
38	98.5				1									38
39	58E-N99.0				1									39
40														40

VALUES IN PPM. UNLESS NOTED OTHERWISE.

Certified by J. Kossbacher

Rossbacher Laboratory Ltd.

GEOCHEMICAL ANALYSTS & ASSAYERS

CANADA
TELEPHONE: 299-6910

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 81300-6

INVOICE NO.

DATE ANALYSED AUG. 18, 1981

PROJECT 912 # 8-5

TO: NORANDA EXPLORATION CO. LTD.
1050 DAVIE STREET
VANCOUVER, B.C.

No.	Sample	pH	Mo	Cu	Au									No.
01	58E-N99.5				1									01
02	100.5				1									02
03	102.0				1									03
04	102.5				1									04
05	58E-N103.0				1									05
06	56E-N106.5				1									06
07	101.0				1									07
08	101.5				1									08
09	102.0				1									09
10	102.5				1									10
11	103.0				1									11
12	103.5				1									12
13	104.0				1									13
14	104.5				1									14
15	105.0				1									15
16	105.5				1									16
17	56E-N106.0				1									17
18	58E-N103.5				1									18
19	104.0				1									19
20	104.5				1									20
21	105.0				1									21
22	80.0				1									22
23	80.5				1									23
24	81.0				1									24
25	81.5				1									25
26	82.0				1									26
27	83.5				1									27
28	84.0				1									28
29	84.5				1									29
30	58E-N85.0				1									30
31	85.5				1									31
32	86.0				1									32
33	86.5				1									33
34	87.0				1									34
35	87.5				1									35
36	58E-N88.0				1									36
37	62E-N81.5				1									37
38	82.0				1									38
39	62E-N82.5				1									39
40														40

VALUES IN PPM. UNLESS NOTED OTHERWISE.

Certified by J. Rossbacher

Kossbacher Laboratory Ltd.

BURNABY, B. C.
CANADA
TELEPHONE: 299-6910

GEOCHEMICAL ANALYSTS & ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 81300-7
INVOICE NO.
DATE ANALYSED AUG. 18, 1981
PROJECT 912 #8-5

TO: NORANDA EXPLORATION CO. LTD.
1050 DAVIE STREET
VANCOUVER, B.C.

No.	Sample	pH	Mo	Cu	W									No.
01	67E-N-83.5				1									01
02	84.0				1									02
03	84.5				1									03
04	85.0				1									04
05	85.5				1									05
06	86.0				1									06
07	86.5				1									07
08	87.0				1									08
09	87.5				1									09
10	67E-N88.0				1									10
11	88.5				1									11
12	89.0				1									12
13	89.5				1									13
14	67E-N90.0				1									14
15	56E-N92.0				1									15
16	92.5				1									16
17	93.0				1									17
18	93.5				1									18
19	94.0				1									19
20	94.5				1									20
21	95.0				1									21
22	95.5				1									22
23	96.0				1									23
24	96.5				1									24
25	97.0				1									25
26	97.5				1									26
27	98.0				1									27
28	98.5				1									28
29	99.0				1									29
30	56E-N99.5				1									30
31	100N-E54.5				1									31
32	55.0				1									32
33	55.5				1									33
34	56.0				1									34
35	56.5			/	1									35
36	57.0				1									36
37	57.5				1									37
38	58.0				1									38
39	100N-E58.5				1									39
40														40

VALUES IN PPM. UNLESS NOTED OTHERWISE.

Certified by J. Kossbacher

Kossbacher Laboratory Ltd.

GEOCHEMICAL ANALYSTS & ASSAYERS

CANADA
TELEPHONE: 299-6810

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 81300-G2

INVOICE NO.

DATE ANALYSED AUG, 14, 198

PROJECT 912 #8-5

TO: NORANDA EXPLORATION CO. LTD.
1050 DAVIE STREET
VANCOUVER, B.C.

No.	Sample	pH	Mo	Cu	W									No.
01	100N-E59.0				1									01
02	100N-E59.5				1									02
03	50E-N83.5				1									03
04	84.0				1									04
05	84.5				1									05
06	85.0				1									06
07	85.5				1									07
08	86.0				1									08
09	86.5				1									09
10	87.0				1									10
11	87.5				1									11
12	88.0				1									12
13	88.5				1									13
14	89.0				1									14
15	89.5				1									15
16	90.0				1									16
17	90.5				1									17
18	91.0				1									18
19	91.5				1									19
20	50E-N92.0				1									20
21	92.5				1									21
22	93.0				1									22
23	93.5				1									23
24	94.0				1									24
25	94.5				1									25
26	95.0				1									26
27	95.5				1									27
28	50E-N96.0				1									28
29	65E-N83.5				1									29
30	84.0				1									30
31	84.5				1									31
32	85.0				1									32
33	85.5				1									33
34	86.0				1									34
35	65E-N86.5				1									35
36	65E-N87.0				1									36
37	65E-N95.5				1									37
38														38
39														39
40														40

VALUES IN PPM, UNLESS NOTED OTHERWISE.

Certified by

NORANDA EXPLORATION CO. LTD.

LOCATION CASSIAR CREEK
YUKON

MATERIAL SOIL

PROJECT 912 #8-5 | SHEET 1

SAMPLE Nos.

COLLECTOR K.G. DATE RECEIVED JULY /27/81

ANALYST R,F. DATE ANALYSED JULY/30/81

REMARKS Cu, Zn, Pb, Mo, Ag, Mn in ppm
Fe in %
(0.2g/2ml $HClO_4 \cdot HNO_3$ → 5ml)

T.T. No.	SAMPLE No.	1	2 Cu	3 Zn	4 Pb	5 Mo	6 Ag	7 Mn	8 Fe (%)	G.C.I. NUMBER
1	CHECK NL-1		18	110	76	8	1.8	400	2.0	
2	60E - 83.5N		14	54	10	< 2	0.2	210	2.3	
3	84		16	42	8	< 2	0.2	150	1.9	
4	84.5		18	50	8	< 2	0.2	200	2.2	
5	85		16	50	8	< 2	0.2	190	2.3	
6	85.5		20	30	10	< 2	0.2	100	1.7	
7	86		12	48	6	< 2	0.2	200	2.2	
8	86.5		12	48	6	< 2	0.2	200	2.3	
9	87		14	50	8	< 2	0.2	200	2.1	
10	87.5		8	44	12	< 2	0.2	180	1.9	
1	88		12	90	14	< 2	0.6	570	3.9	
2	88.5		10	56	8	< 2	0.2	290	2.5	
3	89		12	58	10	< 2	0.2	210	2.2	
4	89.5		10	56	16	< 2	0.2	380	2.5	
5	90		8	44	14	< 2	0.2	210	2.1	
6	90.5		8	40	8	< 2	0.2	230	2.2	
7	91		12	38	8	< 2	0.2	190	2.1	
8	91.5		10	58	10	< 2	0.2	240	2.7	
9	92		16	48	8	< 2	0.2	200	2.6	
20	92.5		14	48	8	< 2	0.2	240	2.4	
1	93.5		10	50	6	< 2	0.2	240	2.0	
2	94		16	70	8	< 2	0.2	250	2.1	
3	94.5		14	60	12	< 2	0.2	240	2.5	
4	95		22	60	8	< 2	0.2	260	2.4	
5	95.5		10	76	14	< 2	0.2	330	3.1	
6	96		10	62	12	< 2	0.2	270	2.6	
7	96.5		10	48	8	< 2	0.2	230	2.3	
8	97		8	46	14	< 2	0.2	360	2.1	
9	97.5		8	48	8	< 2	0.2	210	2.1	
			12	68	8	< 2	0.2	230	2.5	

NORANDA EXPLORATION CO. LTD.

LOCATION CASSIAR CREEK, YUKON
MATERIAL SOIL
PROJECT 912 #8-5 SHEET 2
SAMPLE Nos.
COLLECTOR K.G. DATE RECEIVED JULY 27/81
ANALYST R.F. DATE ANALYSED JULY 30/81
REMARKS Cu, Zn, Pb, Mo, Ag, Mn in ppm
Fe in %
(0.2g/2ml $HClO_4 \cdot HNO_3$ → 5ml)

T.T. NO.	SAMPLE NO.	1	2 Cu	3 Zn	4 Pb	5 Mo	6 Ag	7 Mn	8 Fe (%)	G.C.I. NUMBER
31	60E - 98.5N		12	64	8	< 2	0.2	280	2.7	
2	99		12	52	8	< 2	0.2	210	2.6	
3	99.5		12	52	8	< 2	0.2	200	2.8	
4	100		16	54	8	< 2	0.2	190	2.2	
5	100.5		18	54	8	< 2	0.2	210	2.2	
6	101		20	70	6	< 2	0.2	250	2.3	
7	101.5		10	46	10	< 2	0.2	220	2.0	
8	102		8	48	10	< 2	0.2	200	2.1	
9	102.5		12	40	8	< 2	0.2	180	2.0	
40	103.5		10	58	14	< 2	0.2	390	2.1	
1	104		8	46	6	< 2	0.2	360	1.9	
2	60E - 104.5N		8	78	(34)	< 2	0.2	260	2.4	
3	58E - 95N		12	(150)	(18)	< 2	0.2	1000	3.8	
4	95.5		12	56	8	< 2	0.2	240	2.3	
5	96		12	62	10	< 2	0.2	280	2.7	
6	96.5		10	56	14	< 2	0.2	290	2.3	
7	97		12	58	10	2	0.2	300	2.6	
8	97.5		12	72	8	< 2	0.2	300	2.8	
9	98		18	64	10	< 2	0.2	360	2.8	
50	98.5		18	60	12	< 2	0.2	280	2.9	
1	99		14	52	10	< 2	0.2	250	2.9	
2	99.5		12	70	(16)	< 2	0.2	440	3.1	
3	100.5		8	70	14	< 2	0.2	530	2.7	
4	102		12	54	10	< 2	0.2	240	2.5	
5	102.5		8	44	6	< 2	0.2	240	2.0	
6	58E - 103N		8	72	14	< 2	0.2	250	2.2	
7	56E - 100.5N		16	50	8	< 2	0.2	240	2.7	
8	101		14	58	8	< 2	0.2	280	2.5	
9	101.5		22	56	8	< 2	0.2	220	2.4	
60	56E - 102N		18	52	10	< 2	0.2	220	2.5	

NORANDA EXPLORATION CO. LTD.

LOCATION CASSIAR CREEK, YUKON | PROJECT 912 #8-5 | SHEET 3

MATERIAL SOIL | SAMPLE Nos. | COLLECTOR K.G. | DATE RECEIVED JULY/27/81

ANALYST R.F. | DATE ANALYSED JULY/30/81

REMARKS Cu, Zn, Pb, Mo, Ag, Mn in ppm
Fe in %
(0.2g/2ml $HClO_4 \cdot HNO_3$ → 5ml)

T.T. No.	SAMPLE No.	1	2 Cu	3 Zn	4 Pb	5 Mo	6 Ag	7 Mn	8 Fe (%)	G.C.I. NUMBER
61	56E - 1025N		8	54	12	< 2	0.2	210	1.9	
2	103		2	18	2	< 2	0.2	60	0.6	
3	103.5		8	48	8	< 2	0.2	230	2.1	
4	104		12	42	6	< 2	0.2	210	2.1	
5	104.5		8	66	14	< 2	0.2	220	2.6	
6	105		10	86	14	< 2	0.2	350	2.6	
7	105.5		22	58	10	< 2	0.2	270	3.0	
8	56E - 106N		26	52	8	< 2	0.2	230	2.8	
9	58E - 1025N		10	84	14	< 2	0.2	550	2.6	
70	104		8	76	16	< 2	0.2	250	2.3	
1	104.5		18	56	12	< 2	0.2	230	2.7	
2	105		8	52	10	< 2	0.2	350	2.2	
3	80		10	44	8	< 2	0.2	170	2.5	
4	80.5		16	88	24	2	0.4	410	3.8	
5	81		22	50	6	< 2	0.2	240	2.2	
6	81.5		18	54	6	< 2	0.2	270	2.5	
7	82		10	66	10	< 2	0.2	380	2.8	
8	83.5		18	20	10	< 2	0.2	270	3.0	
9	84		18	66	8	< 2	0.2	340	2.8	
80	84.5		16	46	8	< 2	0.2	230	2.4	
1	85		12	58	6	< 2	0.2	250	2.7	
2	85.5		10	76	12	< 2	0.2	470	3.7	
3	86		20	56	6	< 2	0.2	270	2.5	
4	86.5		16	60	10	< 2	0.2	270	3.2	
5	87		14	54	8	< 2	0.2	240	2.5	
6	87.5		26	66	18	2	0.4	310	3.4	
7	58E - 88N		10	48	8	< 2	0.2	180	2.3	
8	67E - 81.5N		12	68	10	< 2	0.2	220	2.6	
9	82		16	50	8	< 2	0.2	190	2.8	
90	67E - 82.5N		20	56	10	< 2	0.2	260	2.9	

NORANDA EXPLORATION CO. LTD.

LOCATION CASSIAR CREEK, YUKON | PROJECT 912 #8-5 | SHEET 1

MATERIAL SOIL | SAMPLE Nos. | COLLECTOR K.G. | DATE RECEIVED JULY 27/81 | ANALYST R.F. | DATE ANALYSED JULY 30/81

REMARKS Cu, Zn, Pb, Mo, Ag, Mn in ppm
Fe in %
(0.2g/2ml $HClO_4 \cdot HNO_3$ → 5ml)

T.T. No.	SAMPLE NO.	1	2 Cu	3 Zn	4 Pb	5 Mo	6 Ag	7 Mn	8 Fe (%)	G.C.I. NUMBER
91	67E - 83.5N		14	70	12	< 2	0.2	370	3.3	
2	84		10	88	20	< 2	0.2	560	3.6	
3	84.5		16	56	12	< 2	0.2	260	3.0	
4	85		12	62	10	< 2	0.2	300	3.2	
5	85.5		20	100	18	< 2	0.6	500	4.0	
6	86		16	48	6	< 2	0.2	220	2.3	
7	86.5		16	66	12	2	0.2	300	3.3	
8	87		12	110	10	2	0.2	420	3.5	
9	67E - 87.5N		16	78	10	2	0.2	440	3.3	
100	CHECK NL-1		20	110	80	10	2.0	410	2.1	
1	67E - 88 N		20	50	6	< 2	0.2	260	2.5	
2	88.5		14	64	12	< 2	0.2	280	2.7	
3	89		12	82	16	2	0.4	440	4.4	
4	89.5		18	60	8	2	0.2	240	3.0	
5	67E - 90 N		12	54	8	< 2	0.2	350	2.7	
6	56E - 92 N		12	52	4	< 2	0.2	220	1.9	
7	92.5		12	52	4	< 2	0.2	410	2.3	
8	93		22	54	4	< 2	0.2	290	2.3	
9	93.5		18	60	4	< 2	0.2	260	2.2	
110	94		20	58	4	< 2	0.2	240	2.1	
1	94.5		22	52	4	< 2	0.2	400	1.7	
2	95		12	56	4	< 2	0.2	260	2.0	
3	95.5		10	54	8	< 2	0.2	310	2.4	
4	96		14	58	8	< 2	0.2	360	2.6	
5	96.5		10	78	12	< 2	0.2	480	3.1	
6	97		18	58	6	2	0.2	260	2.7	
7	97.5		12	100	10	2	0.2	510	3.1	
8	98		20	60	8	< 2	0.2	240	2.9	
9	98.5		10	100	12	< 2	0.2	350	2.8	
120	67E - 99N		18	62	8	< 2	0.2	320	2.6	

NORANDA EXPLORATION CO. LTD.

LOCATION CASSIAR CREEK YUKON | PROJECT 912 #8-5 | SHEET 5

MATERIAL SOIL | SAMPLE Nos.

COLLECTOR K.G. | DATE RECEIVED JULY / 27 / 81

ANALYST R.F. | DATE ANALYSED JULY / 30 / 81

REMARKS Cu, Zn, Pb, Mo, Ag, Mn in ppm
Fe in %
(0.2g / 2ml $HClO_4$ · HNO_3 → 5ml)

T.T. No.	SAMPLE No.	1	2 Cu	3 Zn	4 Pb	5 Mo	6 Ag	7 Mn	8 Fe (%)	G.C.I. NUMBER
121	56E - 99.5N		12	66	10	< 2	0.2	310	2.6	
2	100N - 59.5E		24	52	6	< 2	0.2	290	2.5	
3	55		16	48	4	< 2	0.2	240	2.1	
4	55.5		22	50	4	< 2	0.2	260	2.5	
5	56		10	46	8	2	0.2	240	2.8	
6	56.5		10	110	14	< 2	0.2	640	3.9	
7	57		22	68	8	< 2	0.2	260	2.8	
8	57.5		8	54	8	2	0.2	240	2.9	
9	58		12	50	8	< 2	0.2	230	2.4	
130	58.5		14	44	6	< 2	0.2	170	2.4	
1	59		10	44	6	< 2	0.2	170	2.0	
2	100N - 59.5E		16	46	4	< 2	0.2	180	2.1	
3	50E - 83.5N		10	52	10	2	0.2	290	2.4	
4	84		20	28	2	2	0.2	610	0.9	
5	84.5		10	64	8	2	0.2	730	2.6	
6	85		12	56	6	< 2	0.2	250	2.7	
7	85.5		16	100	10	< 2	0.2	310	3.0	
8	86		12	66	6	< 2	0.2	630	2.5	
9	86.5		10	54	8	< 2	0.2	700	2.2	
140	87		14	58	6	< 2	0.2	360	3.2	
1	87.5		12	46	6	< 2	0.2	250	2.2	
2	88		12	46	6	< 2	0.2	330	2.2	
3	88.5		12	64	8	< 2	0.2	290	2.4	
4	89		12	48	4	< 2	0.2	260	2.7	
5	89.5		12	68	4	< 2	0.2	410	2.6	
6	90		12	66	2	< 2	0.2	310	2.7	
7	90.5		16	62	8	< 2	0.2	270	3.2	
8	91		14	64	10	< 2	0.2	400	3.1	
9	50E - 91.5N		12	60	8	< 2	0.2	290	3.2	
150	[illegible]		20	110	20	10	2.0	440	2.2	

NORANDA EXPLORATION CO. LTD.

LOCATION Cassiar Creek (Yukon) | PROJECT 912 #8-5 | SHEET 6

MATERIAL Soil | SAMPLE Nos. | COLLECTOR K. G. | DATE RECEIVED July/27/81 | ANALYST R.F. | DATE ANALYSED July/30/81

REMARKS Cu, Zn, Pb, Mo, Ag, Mn in ppm; Fe in %.

(0.2g / 2 ml $HClO_4$ - HNO_3 → 5 ml)

T.T. No.	SAMPLE No.	1	2 Cu	3 Zn	4 Pb	5 Mo	6 Ag	7 Mn	8 Fe (%)	G.C.I. NUMBER
1	Check NL-1		18	110	24	10	1.8	—	2.1	
2	50E-92N		14	44	6	< 2	0.2	210	2.1	
3	92.5		14	44	6	< 2	0.2	220	2.2	
4	93		12	50	6	< 2	0.2	260	2.6	
5	93.5		12	48	6	< 2	0.2	220	2.3	
6	94		16	54	6	< 2	0.2	250	2.3	
7	94.5		24	70	8	< 2	0.2	370	2.5	
8	95		20	64	8	< 2	0.2	380	2.6	
9	95.5		22	70	6	< 2	0.2	340	2.6	
10	50E-96N		24	66	6	< 2	0.2	330	2.6	
1	65E-83.5N		12	40	8	< 2	0.2	210	2.5	
2	84		10	48	8	< 2	0.2	260	2.7	
3	84.5		10	40	8	< 2	0.2	200	2.9	
4	85		8	34	8	< 2	0.2	170	2.2	
5	85.5		8	36	8	< 2	0.2	190	2.5	
6	86		14	62	10	< 2	0.2	310	3.1	
7	86.5		12	68	8	< 2	0.2	300	2.9	
8	87		8	40	10	< 2	0.2	170	1.7	
9	87.5		12	44	6	< 2	0.2	210	2.2	
20	88		18	54	6	< 2	0.2	270	2.3	
1	88.5		14	52	4	< 2	0.2	250	2.2	
2	89		12	48	6	< 2	0.2	210	2.2	
3	89.5		8	60	8	< 2	0.2	320	2.5	
4	90		8	66	10	< 2	0.2	270	3.0	
5	90.5		16	88	16	< 2	0.2	410	3.0	
6	91		12	48	6	< 2	0.2	190	2.3	
7	91.5		8	54	6	< 2	0.2	270	2.4	
8	92		10	50	8	< 2	0.2	200	2.3	
9	92.5		14	60	6	< 2	0.2	310	2.5	
30	65E-93N		12	56	8	< 2	0.2	310	2.6	

NORANDA EXPLORATION CO. LTD.

LOCATION Cassiar Creek (Yukon) | PROJECT 912 #8-5 | SHEET 7

MATERIAL Soil | SAMPLE Nos.

COLLECTOR K.G. | DATE RECEIVED July /27/81

ANALYST R.F. | DATE ANALYSED July /30/81

REMARKS Cu, Zn, Pb, Mo Ag, Mn in ppm; Fe in %.

(0.2g/2 ml $HClO_4 \cdot HNO_3$ → 5 ml)

T.T. No.	SAMPLE No.	1	2 Cu	3 Zn	4 Pb	5 Mo	6 Ag	7 Mn	8 Fe (%)	G.C.I. NUMBER
31	65 E - 93.5 N		12	50	6	< 2	0.2	300	2.2	
2	94		8	48	8	< 2	0.2	250	2.2	
3	94.5		12	64	10	< 2	0.2	260	2.6	
4	95		14	68	8	< 2	0.2	560	2.8	
5	95.5		10	58	8	< 2	0.2	270	2.5	
6	96		10	50	8	< 2	0.2	240	2.3	
7	96.5		12	62	8	< 2	0.2	500	2.6	
8	97		12	60	8	< 2	0.2	290	2.8	
9	97.5		18	62	12	2	0.2	310	3.6	
40	65 E - 98 N		12	50	10	< 2	0.2	220	2.7	
1	75 E - 73 N		20	48	8	2	0.2	150	2.3	
2	73.5		18	62	6	< 2	0.2	200	3.2	
3	74		10	52	10	< 2	0.2	240	2.6	
4	74.5		22	60	8	< 2	0.2	240	3.0	
5	75		18	64	16	< 2	0.2	1000	2.8	
6	75.5		10	48	8	< 2	0.2	210	2.4	
7	76		14	86	12	< 2	0.2	390	2.8	
8	76.5		10	58	10	2	0.2	750	2.5	
9	77		14	86	10	2	0.2	390	3.4	
50	77.5		18	64	10	< 2	0.2	290	2.8	
1	78		12	60	10	< 2	0.2	330	2.6	
2	78.5		12	52	8	2	0.2	240	2.8	
3	79		12	52	10	< 2	0.2	260	2.3	
4	79.5		12	62	8	< 2	0.2	380	2.9	
5	80		10	96	20	< 2	0.2	460	3.8	
6	80.5		14	68	10	2	0.2	300	2.8	
7	81		12	74	10	< 2	0.2	830	2.4	
8	81.5		12	42	12	2	0.2	690	2.0	
9	82		8	56	10	< 2	0.2	440	2.3	
60	75 E - 82.5 N		10	50	10	2	0.2	220	2.3	

NORANDA EXPLORATION CO. LTD.

LOCATION Cassiar Creek (Yukon) | PROJECT 912 #8-5 | SHEET 8

MATERIAL Soil | SAMPLE Nos.

COLLECTOR K. G. | DATE RECEIVED July/27/81

ANALYST R. F. | DATE ANALYSED July/30/81

REMARKS Cu, Zn, Pb, Mo, Ag, Mn in ppm; Fe in %.

(0.2 g / 2 ml $HClO_4$ · HNO_3 → 5 ml)

T.T. No.	SAMPLE No.	1	2 Cu	3 Zn	4 Pb	5 Mo	6 Ag	7 Mn	8 Fe (%)	G.C.I. NUMBER
61	83 N - 46 E		28	98	14	< 2	0.4	950	4.7	
2	46.5		12	58	10	< 2	0.2	300	2.6	
3	47		14	50	8	< 2	0.2	320	2.3	
4	47.5		10	54	12	< 2	0.2	560	2.3	
5	48		14	64	8	< 2	0.2	670	2.1	
6	48.5		14	56	8	< 2	0.2	240	2.0	
7	49		12	56	10	< 2	0.2	290	2.5	
8	49.5		12	60	12	< 2	0.2	250	2.5	
9	50		14	52	22	< 2	0.2	510	2.3	
70	50.5		12	72	12	< 2	0.2	340	2.6	
1	51		12	46	6	< 2	0.2	250	2.0	
2	51.5		10	42	6	< 2	0.2	200	1.9	
3	52		16	44	6	< 2	0.2	260	2.2	
4	52.5		10	62	8	< 2	0.2	300	3.2	
5	53.5		16	72	10	< 2	0.2	420	3.4	
6	54.5		16	58	10	< 2	0.2	300	2.7	
7	55		12	52	12	< 2	0.2	310	2.6	
8	55.5		18	60	10	< 2	0.2	370	2.7	
9	56		16	64	8	< 2	0.2	310	2.8	
80	56.5		10	52	8	< 2	0.2	290	2.5	
1	57		10	38	4	< 2	0.2	180	1.9	
2	57.5		16	44	6	< 2	0.2	220	2.0	
3	58		16	56	6	< 2	0.2	510	2.3	
4	58.5		12	46	4	< 2	0.2	230	2.2	
5	59		12	64	10	< 2	0.2	500	2.8	
6	59.5		14	60	10	< 2	0.2	270	2.9	
7	60		10	58	8	< 2	0.2	410	3.1	
8	60.5		12	36	6	< 2	0.2	130	1.9	
9	61		12	52	6	< 2	0.2	260	2.4	
90	83 N - 61.5 E		14	48	8	< 2	0.2	270	2.6	

NORANDA EXPLORATION CO. LTD.

LOCATION Cassiar Creek (Yukon) | PROJECT 912 #8-5 | SHEET 9

SAMPLE Nos.

MATERIAL Soil | COLLECTOR K. G. | DATE RECEIVED July /27/81

ANALYST R. F. | DATE ANALYSED July /30/81

REMARKS Cu, Zn, Pb, Mo, Ag, Mn in ppm; Fe in %.

(0.2g / 2 ml $HClO_4$ · HNO_3 → 5 ml)

T.T. No.	SAMPLE No.	1	2 Cu	3 Zn	4 Pb	5 Mo	6 Ag	7 Mn	8 Fe	G.C.I. NUMBER
91	83 N - 62 E		12	50	8	< 2	0.2	260	2.8	
2	62.5		12	50	14	< 2	0.2	250	2.3	
3	63		8	48	12	< 2	0.2	250	2.3	
4	63.5		16	58	8	< 2	0.2	360	2.4	
5	64		12	56	12	< 2	0.2	290	3.0	
6	64.5		8	64	12	< 2	0.2	320	2.9	
7	65		8	60	12	< 2	0.2	300	2.5	
8	65.5		12	64	12	< 2	0.2	350	2.7	
9	83 N - 66 E		12	44	10	< 2	0.2	230	2.2	
100	Check NL-1		18	110	28	12	1.8	—	2.3	
1	83 N - 66.5 E		14	44	8	< 2	0.2	210	2.6	
2	67		14	70	14	< 2	0.2	320	3.6	
3	67.5		12	56	8	< 2	0.2	420	2.6	
4	68		14	78	14	< 2	0.2	280	2.9	
5	68.5		12	70	16	< 2	0.2	290	3.4	
6	69		6	98	28	2	0.4	350	3.6	
7	69.5		12	68	18	< 2	0.2	350	2.8	
8	70		14	74	24	2	0.2	350	3.3	
9	70.5		18	54	10	< 2	0.2	300	2.6	
110	71		12	48	8	< 2	0.2	260	2.1	
1	71.5		14	46	10	< 2	0.2	230	2.1	
2	72		16	58	14	< 2	0.2	240	2.6	
3	72.5		18	46	6	< 2	0.2	260	2.1	
4	73		16	88	12	2	0.2	420	3.2	
5	73.5		20	72	18	< 2	0.2	360	3.1	
6	74		10	76	20	< 2	0.2	340	2.9	
7	74.5		10	50	14	< 2	0.2	250	2.2	
8	83 N - 75 E		14	58	12	< 2	0.2	430	2.8	
9	54 E - 83.5 N		16	52	6	< 2	0.2	280	2.3	
120	54 E - 84 N		16	44	6	< 2	0.2	200	2.2	

NORANDA EXPLORATION CO. LTD.

LOCATION Cassiar Creek (Yukon) | PROJECT 912 #8-5 | SHEET 10

MATERIAL Soil | SAMPLE Nos.

COLLECTOR K. G. | DATE RECEIVED July /27/81

ANALYST K. F. | DATE ANALYSED July /30/81

REMARKS Cu, Zn, Pb, Mo, Ag, Mn in ppm; Fe in %.

(0.2 g / 2 ml $HClO_4 \cdot HNO_3$ → 5 ml)

T.T. No.	SAMPLE No.	1	2 Cu	3 Zn	4 Pb	5 Mo	6 Ag	7 Mn	8 Fe	G.C.I. NUMBER
121	54 E-84.5 N		10	50	8	< 2	0.2	580	2.1	
2	85		12	72	8	< 2	0.2	440	2.6	
3	85.5		14	50	8	< 2	0.2	280	2.5	
4	86		10	68	16	2	0.2	450	3.3	
5	86.5		14	58	10	< 2	0.2	300	3.0	
6	87		8	54	10	< 2	0.2	190	2.2	
7	87.5		16	52	8	< 2	0.2	250	2.5	
8	88		12	64	10	< 2	0.2	400	3.0	
9	88.5		10	52	10	2	0.2	270	2.7	
130	89		10	50	8	< 2	0.2	250	2.4	
1	89.5		10	50	6	< 2	0.2	210	2.1	
2	90		6	52	6	< 2	0.2	210	2.0	
3	90.5		14	50	8	< 2	0.2	200	2.4	
4	91		14	48	8	2	0.2	190	2.4	
5	91.5		16	56	10	2	0.2	360	2.3	
6	92		12	94	14	< 2	0.2	390	3.2	
7	92.5		12	62	10	< 2	0.2	260	2.7	
8	93		14	64	20	< 2	0.2	280	3.6	
9	94		26	76	10	< 2	0.2	330	3.0	
140	95		16	64	6	< 2	0.2	260	2.3	
1	96		10	42	6	< 2	0.2	200	1.8	
2	96.5		12	54	8	< 2	0.2	320	2.4	
3	97		18	56	8	< 2	0.2	300	2.3	
4	97.5		20	64	8	< 2	0.2	260	2.9	
5	98		18	74	12	< 2	0.2	280	3.3	
6	98.5		14	66	10	< 2	0.2	310	2.5	
7	99		12	62	8	< 2	0.2	250	2.5	
8	99.5		16	40	6	< 2	0.2	210	2.2	
9	54 E-100 N		12	50	8	< 2	0.2	220	2.4	
150	Check NL-1		20	120	78	10	1.8	430	2.3	

NORANDA EXPLORATION CO. LTD.

LOCATION Cassiar Creek (Yukon) | PROJECT 912 #P-5 | SHEET 11

MATERIAL Soil | SAMPLE Nos. | COLLECTOR K. G. | DATE RECEIVED July /27/81

ANALYST R. F. | DATE ANALYSED July /30/81

REMARKS Cu, Zn, Pb, Mo, Ag, Mn in ppm; Fe in %.

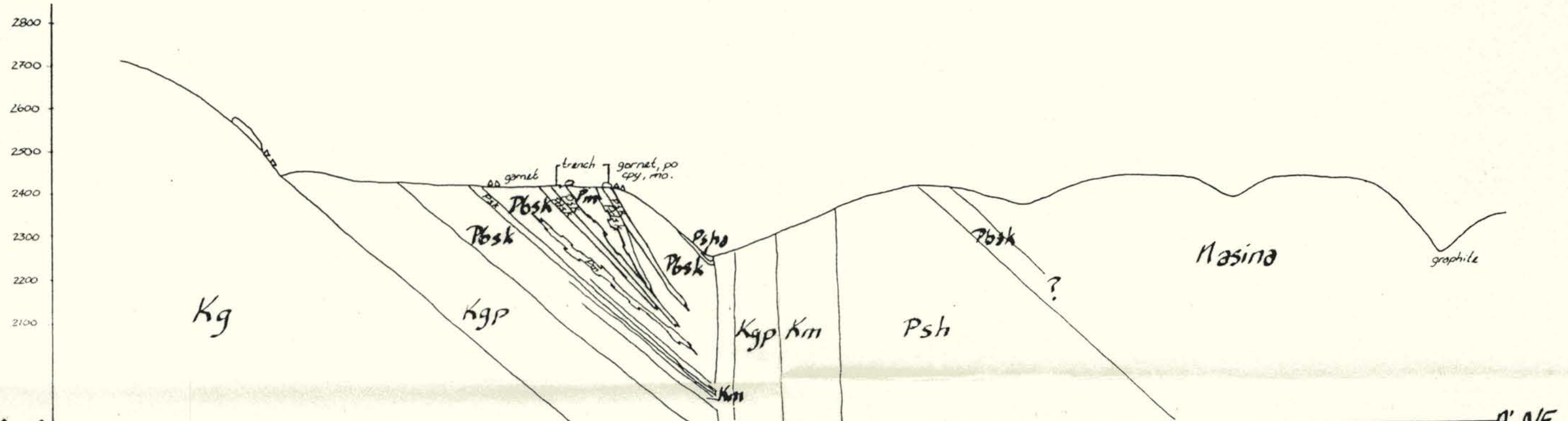
(0.2 g / 2 ml $HClO_4$ · HNO_3 → 5 ml)

T.T. No.	SAMPLE No.	1	2 Cu	3 Zn	4 Pb	5 Mo	6 Ag	7 Mn	8 Fe	G.C.I. NUMBER
151	54E - 100.5N		16	64	8	< 2	0.2	460	2.6	
2	101		12	48	10	< 2	0.2	210	2.5	
3	101.5		14	74	14	< 2	0.2	380	3.1	
4	102		24	66	8	< 2	0.2	270	2.6	
5	102.5		14	52	8	< 2	0.2	200	2.2	
6	103		14	76	14	< 2	0.2	360	3.0	
7	103.5		12	68	8	< 2	0.2	290	2.5	
8	104.5		28	58	6	< 2	0.2	420	2.4	
9	105		18	66	10	2	0.2	340	2.9	
160	105.5		26	56	6	< 2	0.2	390	2.8	
1	106		10	42	8	< 2	0.2	260	2.1	
2	106.5		12	44	6	< 2	0.2	300	2.1	
3	107		20	56	8	< 2	0.2	330	3.1	
4	107.5		22	60	4	< 2	0.2	400	3.1	
5	54E - 108N		30	88	10	< 2	0.2	370	3.0	
6	54E - 95.5N		14	66	8	< 2	0.2	310	2.7	
167	Check NL-1		20	120	80	12	1.8	470	2.2	
—	—		—	—	—	—	—	—	—	


N
3000
2500
2000
garnet
hem, garnet
hematite
garnet
garnet, diop ?
py
Pss
Psg
Pbsk
Pdsk
Pm
Psbq
Psbm
Km
po
Kg
Kgp
Nasina Series
Nasina
pegmatite
bx
hem
Psha
Psh
Psk
py, garnet
mariposite ?
cal.
graphite
garn
cpy
moly
azurite
cc
woll.?
090928
REVISED
CASSIAR CREEK PROPERTY
GEOLOGY
PROJ. No. 912
N.T.S. 116-C-8
DWG. No. 1
SURVEY BY: K.Grapes, P. Whiting
DATE: Oct. 1981
DRAWN BY: K.J.G.
SCALE: 1:10,000
NORANDA EXPLORATION
OFFICE: WHITEHORSE

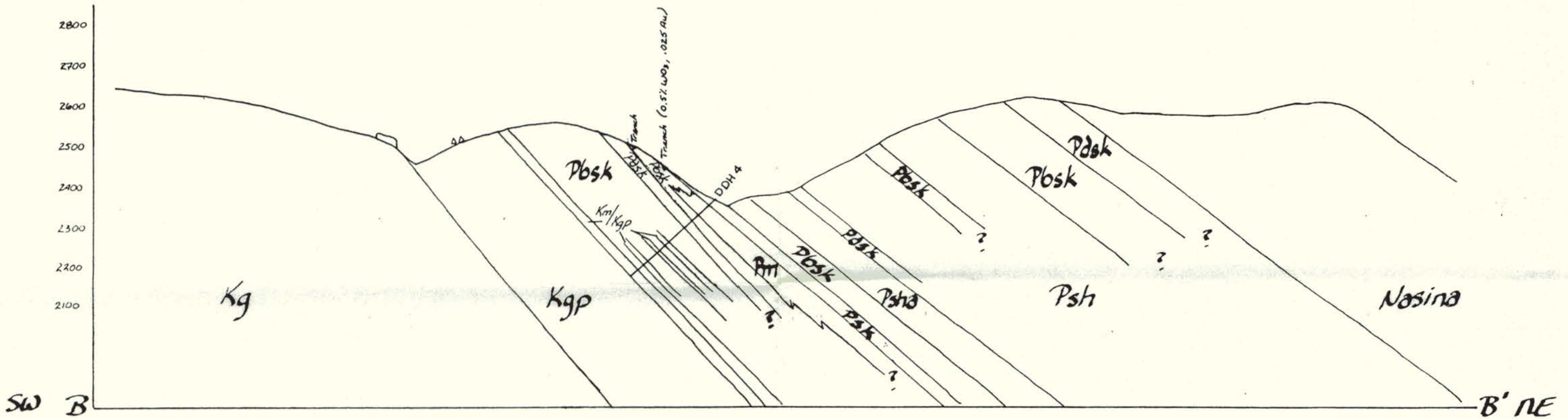
090928

REVISED	CASSIAR CREEK PROPERTY
	PIONJAR CREEK GEOLOGY
PROJ. No. 912	SURVEY BY: K.Grapes, P. Whiting DATE: October, 1981
N.T.S. 116-C-8	DRAWN BY: K.J.G SCALE: 1:5,000
DWG. No. 2	**NORANDA EXPLORATION**
	OFFICE: WHITEHORSE



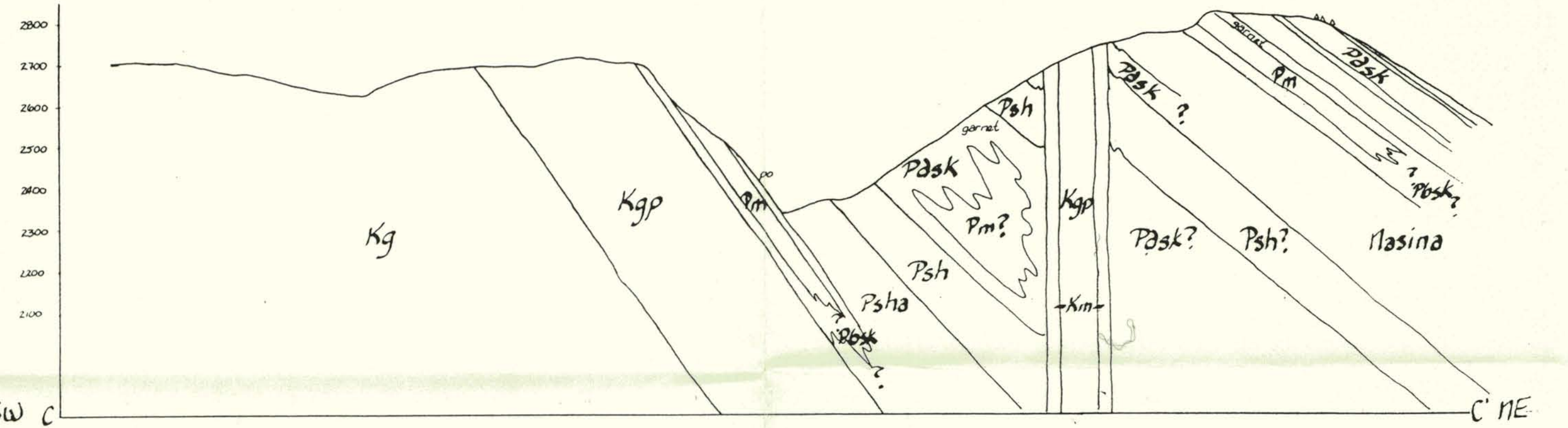
090928

REVISED	Cassiar Creek Property
	Pionjar Creek Cross-sections scale. horizontal - 1:5,000 vertical - 1cm=30m
PROJ. No. 912	SURVEY BY: K. Grapes DATE: Oct. 1981
N.T.S. 110-C-8	DRAWN BY: K.J.G. SCALE:
DWG. No. 3a.	NORANDA EXPLORATION OFFICE: Whitehorse



090928

REVISED	Cassiar Creek Property
	Pionjar Creek Cross-sections
PROJ. No. 912	SURVEY BY: K. Grapes DATE: Oct. 1981
N.T.S. 110-C-8	DRAWN BY: K.J.G. SCALE: horizontal 1:5,000 vertical 1cm=30m
DWG. No. 30.	NORANDA EXPLORATION
	OFFICE: Whitehorse



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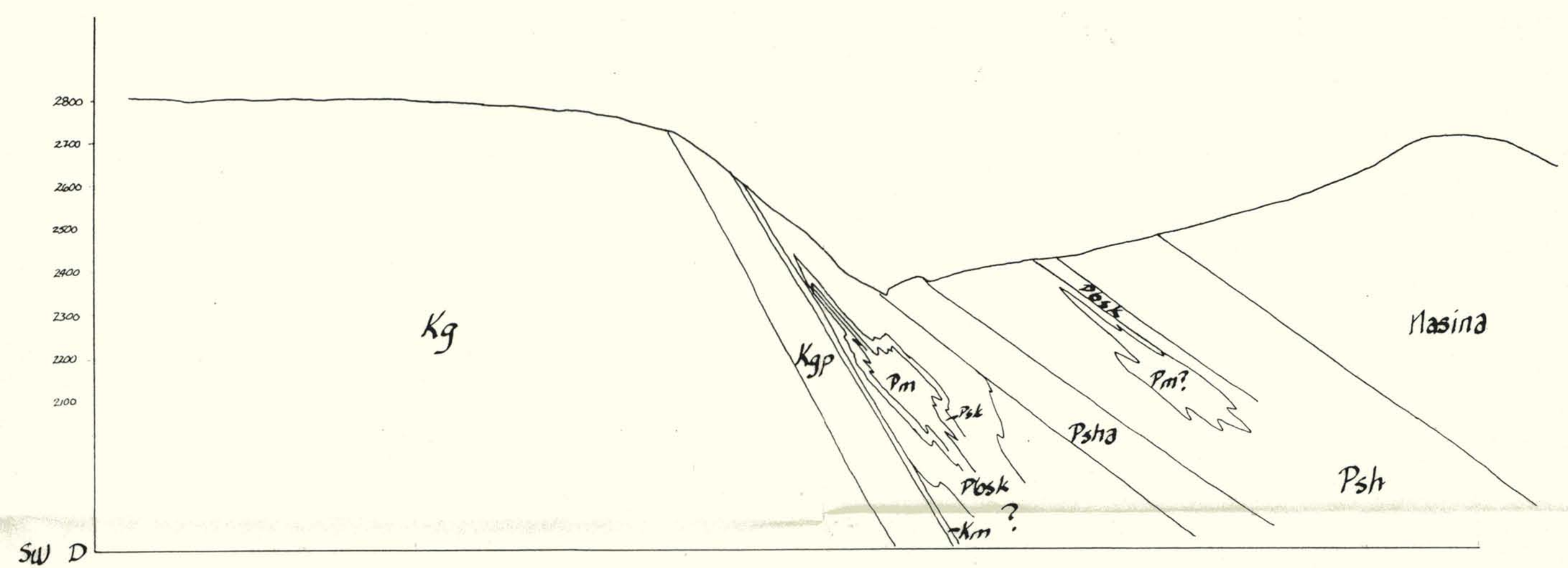
REVISED	Cassiar Creek Property
	Pionjar Creek Cross-sections
PROJ. No. 912	SURVEY BY: K. Grapes DATE: Oct. 1981
N.T.S. 110-C-8	DRAWN BY: B.J.G. SCALE: horizontal 1:5000 vertical 1cm=30m
DWG. No. 3C	NORANDA EXPLORATION
	OFFICE: Whitehorse



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REVISED	Cassiar Creek Property
	Pionjar Creek Cross-sections
PROJ. No. 912	SURVEY BY: K. Grapes DATE: Oct. 1981
N.T.S. 110-C-8	DRAWN BY: K.J.G. SCALE: horizontal 1:5,000 vertical 1cm=30m
DWG. No. 3d	NORANDA EXPLORATION
	OFFICE: Whitehorse

N

2000
2000
1500
2000
1000
1500
1000
2000
1500
1000
2500
3000
2500
2500
2500
Rhyolite
Dtr
Ql
Kg
Kgp
Kgp
Kgp
Kgp
Dtr
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Dtr
Dtr
Kgp
Kgp
Kgp
Kgp
Rhy
Ql
Dtr
Kgp
Rhyolite
Kg
Dtr
Pbsk
Psk
Km
Km
Kg
Pss
Kg
Kg
Kg
Kg
Rhyolite
Dtr
Ql
Dtr
Kg
Nasina Series
Yukon River

REVISED	CASSIAR CREEK PROPERTY
	SOUTH EAST GRID
	GEOLOGY
PROJ. No. 912	SURVEY BY: K.Grapes, P.Whiting DATE: October, 1981
N.T.S. 116-C-8	DRAWN BY: K.J.G SCALE: 1:10,000
DWG. No. 4	NORANDA EXPLORATION
	OFFICE: WHITEHORSE

99 09 28

VANCAL - 8323

Unit C

Kg

Kgp

Ppsk

Km

garn

garn

Po

Psk

Dtr

Dtr

Sgt

YUKON RIVER

2000

2500

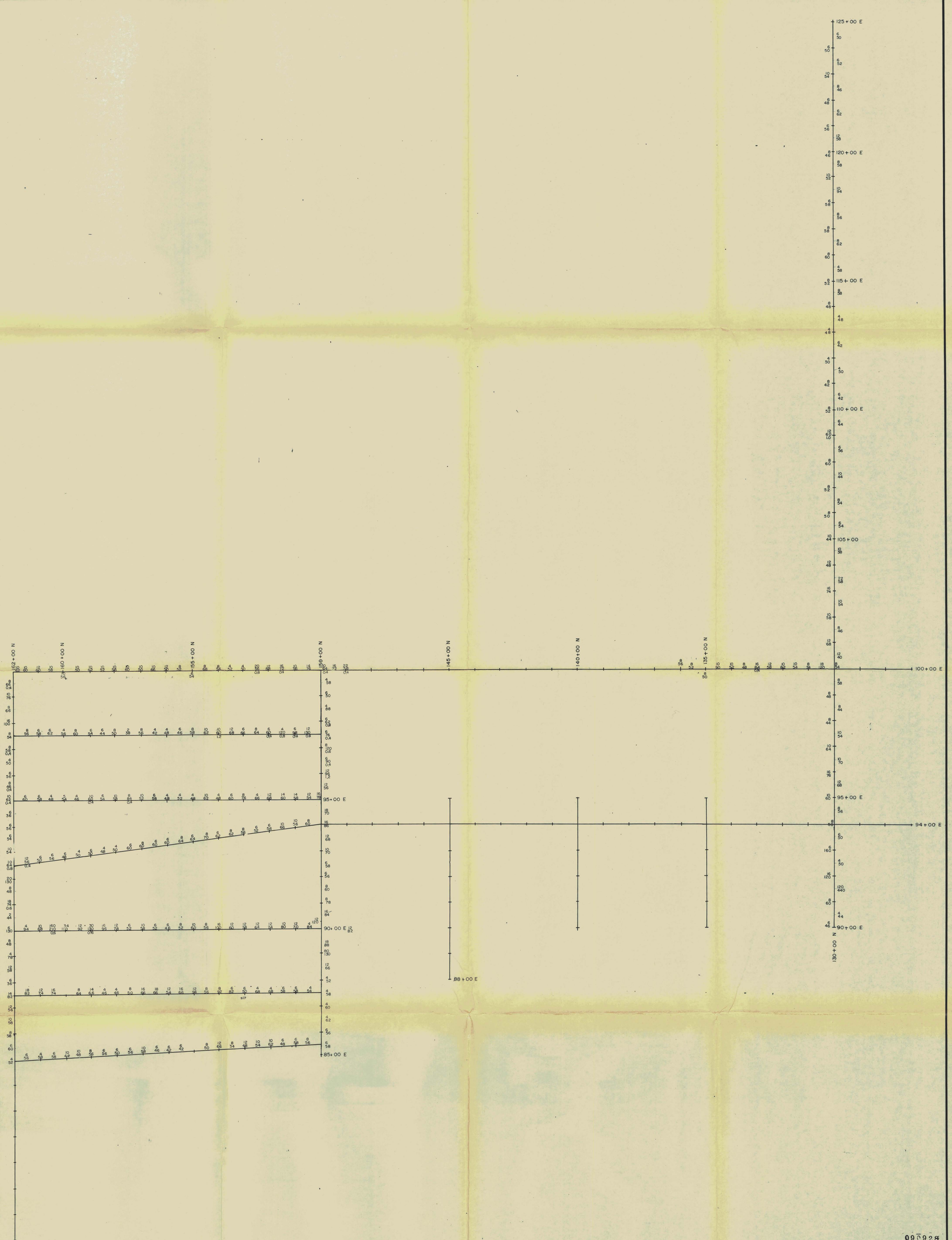
3000

1500

1000

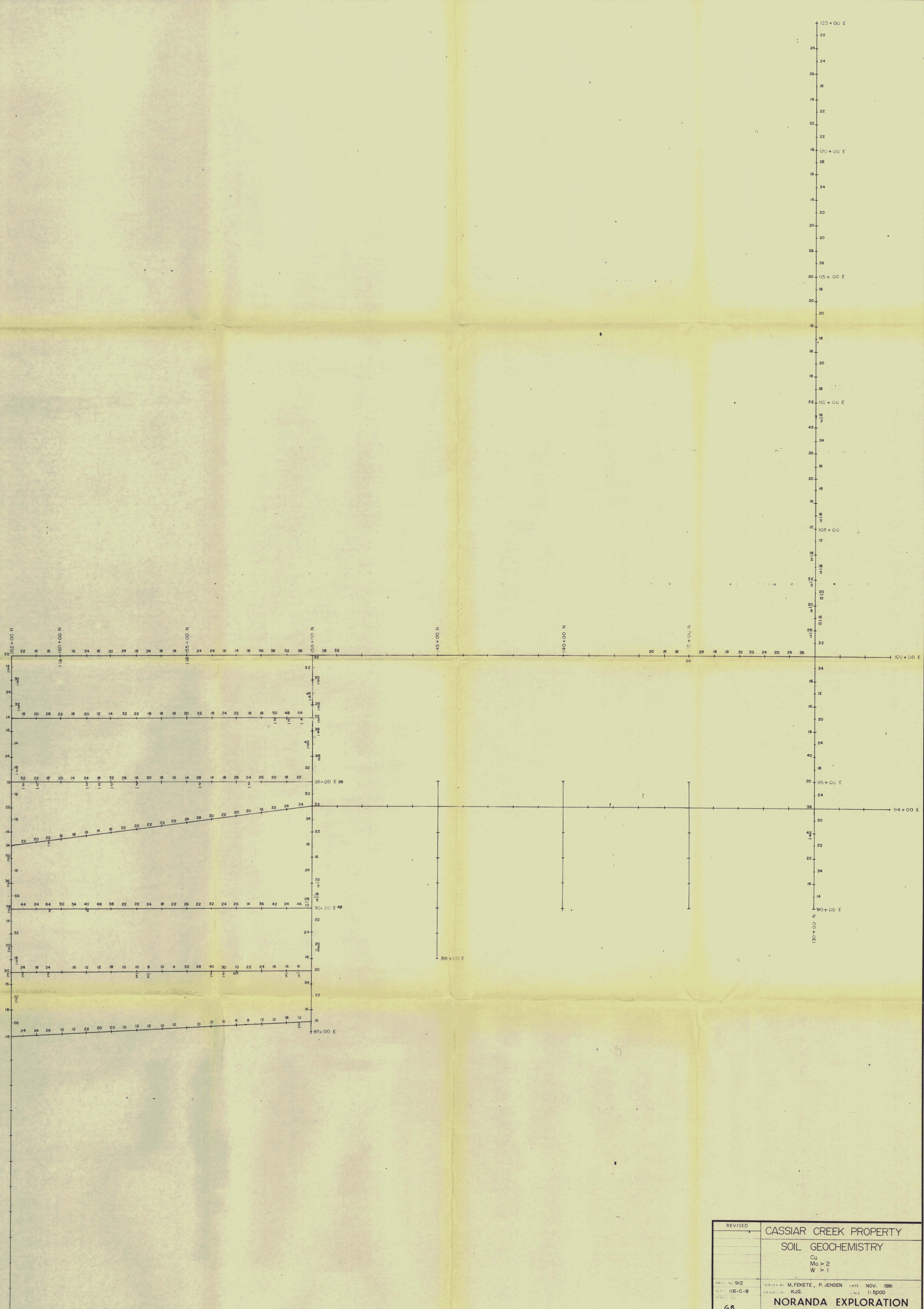
090928

REVISED Nov. 1981	CASSIAR CREEK PROPERTY
	GEOLOGY
PROJ. No. 912	SURVEY BY: K Grapes P Whiting DATE: APRIL 1980
N.T.S. 116 C/8	DRAWN BY: K.J.G. SCALE: ~~1:5000~~ 1:10,000
DWG. No. 5	NORANDA EXPLORATION
	OFFICE:



090928

REVISED	CASSIAR CREEK PROPERTY
	SOIL GEOCHEMISTRY Pb Zn Ag > 0.2
PROJ. No. 912	SURVEY BY: M FEKETE P JENSEN DATE: NOV 1981
N.T.S. 116 C 8	DRAWN BY: KJG SCALE: 1 5000
DWG. No. 6A	**NORANDA EXPLORATION** OFFICE: WHITEHORSE



REVISED	CASSIAR CREEK PROPERTY
	SOIL GEOCHEMISTRY Cu Mo > 2 W > 1
PROJ. No. 912 N.T.S. 116-C-8 DWG. No. 68	SURVEY BY M. FEKETE, P. JENSEN DATE NOV. 1981 DRAWN BY K.J.G. SCALE 1:5000 **NORANDA EXPLORATION** OFFICE Whitehorse

REVISED OCT. 1981	CASSIAR CREEK PROPERTY
	SOUTH EAST GRID GEOCHEMISTRY Pb Zn Ag > 0.2 ppm
PROJ No 912 NTS 116 C/8 DWG No 7A	SURVEY BY M. Fekete DATE APRIL 1980 DRAWN BY K.J.G. SCALE ~~1:5,000~~ 1:10,000 NORANDA EXPLORATION OFFICE WHITEHORSE

090928

REVISED
OCT. 1981

CASSIAR CREEK PROPERTY

SOUTH EAST GRID GEOCHEMISTRY

Cu
Mo > 2 ppm
W > 1 ppm

PROJ. No. 912
N.T.S. 116 C/8
DWG. No. 78

SURVEY BY: M. Fekete DATE: APRIL 1980
DRAWN BY: K.J.G. SCALE: ~~1"=5,000~~ 1:10,000

NORANDA EXPLORATION

OFFICE: WHITEHORSE

South East

REVISED
November 1981

CASSIAR CREEK PROPERTY

REGIONAL GEOCHEMISTRY

Cu Pb Zn Ag ppm

— silt sample
x soil sample
△ pan sample
G GSC survey results

PROJ. No. 912
N.T.S. 116 C/8
DWG. No. 8

SURVEY BY:
DRAWN BY: J.V.
DATE: FEB. 1980
SCALE: 1:10000

NORANDA EXPLORATION

OFFICE: VANCOUVER WHITEHORSE

090928

REVISED
OCT 1981

CASSIAR CREEK PROPERTY

GEOCHEMISTRY

ppm
Cu
Zn
Pb
Mo
W
Ag

– silt sample
x soil sample
△ pan sample

PROJ. No. 912
N.T.S. 116 C/8
DWG. No. 9

SURVEY BY: ..... DATE: May, 1981
DRAWN BY: S.N. K.J.G. SCALE: 1:10,000

NORANDA EXPLORATION

OFFICE ~~VANCOUVER, B.C.~~ WHITEHORSE

YUKON RIVER

090928

REVISED	CASSIAR CREEK PROPERTY
November 1981	**REGIONAL GEOCHEMISTRY**
	Cu, Zn, Pb, Mo, W, Ag ppm — silt sample; x soil sample; △ pan sample; G GSC survey results
PROJ No. 912	SURVEY BY: DATE: APRIL 1980
N.T.S. 116 C/8	DRAWN BY: SCALE: ~~1:5000~~ 1:10,000
DWG. No. 10A	**NORANDA EXPLORATION**
	OFFICE: WHITEHORSE

090928

REVISED
DEC 80
November 1981

PROJ. No. 912

N.T.S. 116 C/8

DWG. No 10B

CASSIAR CREEK PROPERTY

REGIONAL GEOCHEMISTRY

Cu Pb Zn Mo W Ag ppm

— silt sample

x soil sample

△ pan sample

SURVEY BY: PV/GM/KJG DATE: APRIL 1980

DRAWN BY: SCALE: ~~1:5000~~ 1:10000

NORANDA EXPLORATION

OFFICE WHITEHORSE

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REVISED

CASSIAR CREEK PROPERTY

MAGNETOMETER SURVEY

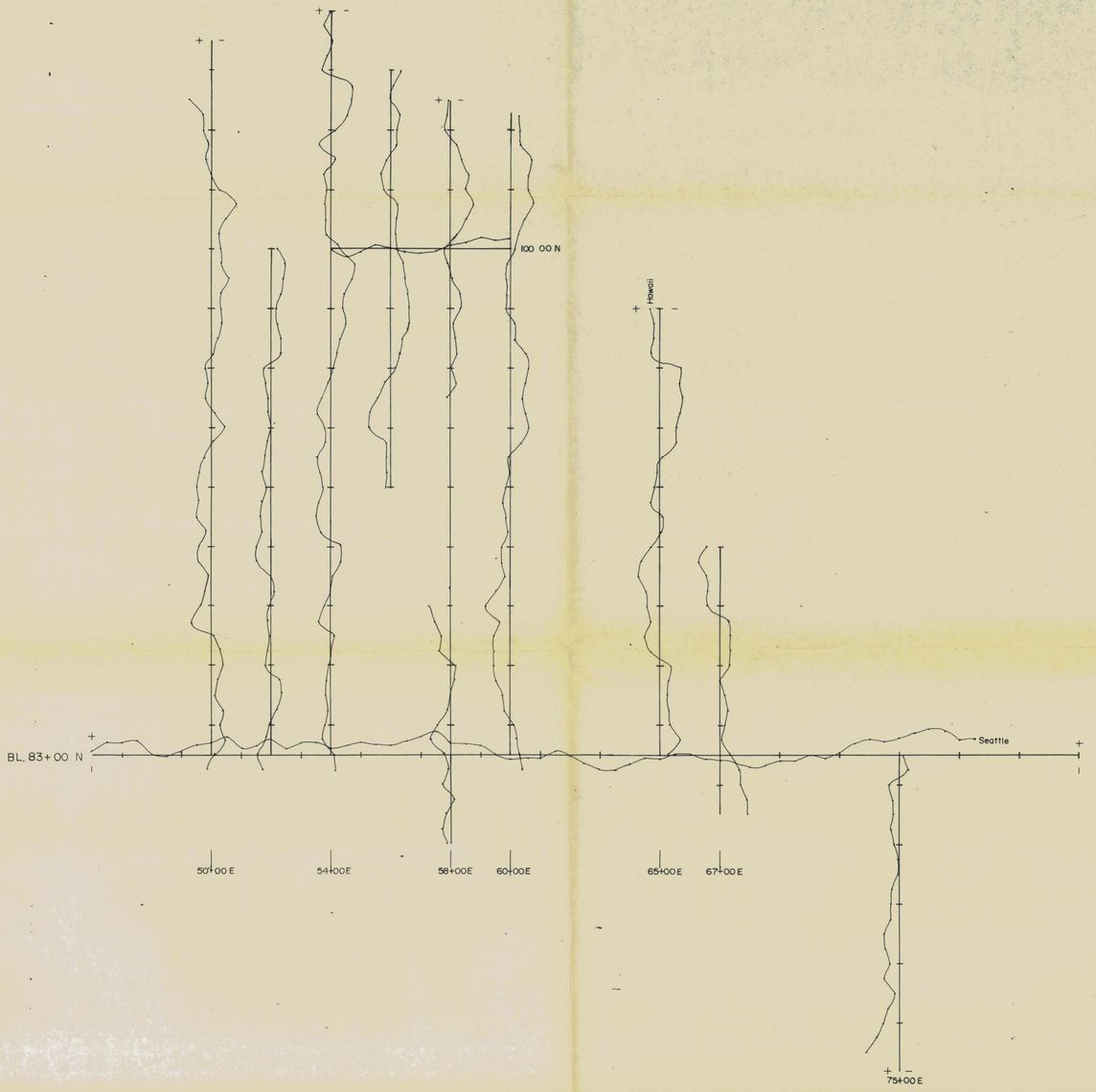
SOUTH GRID

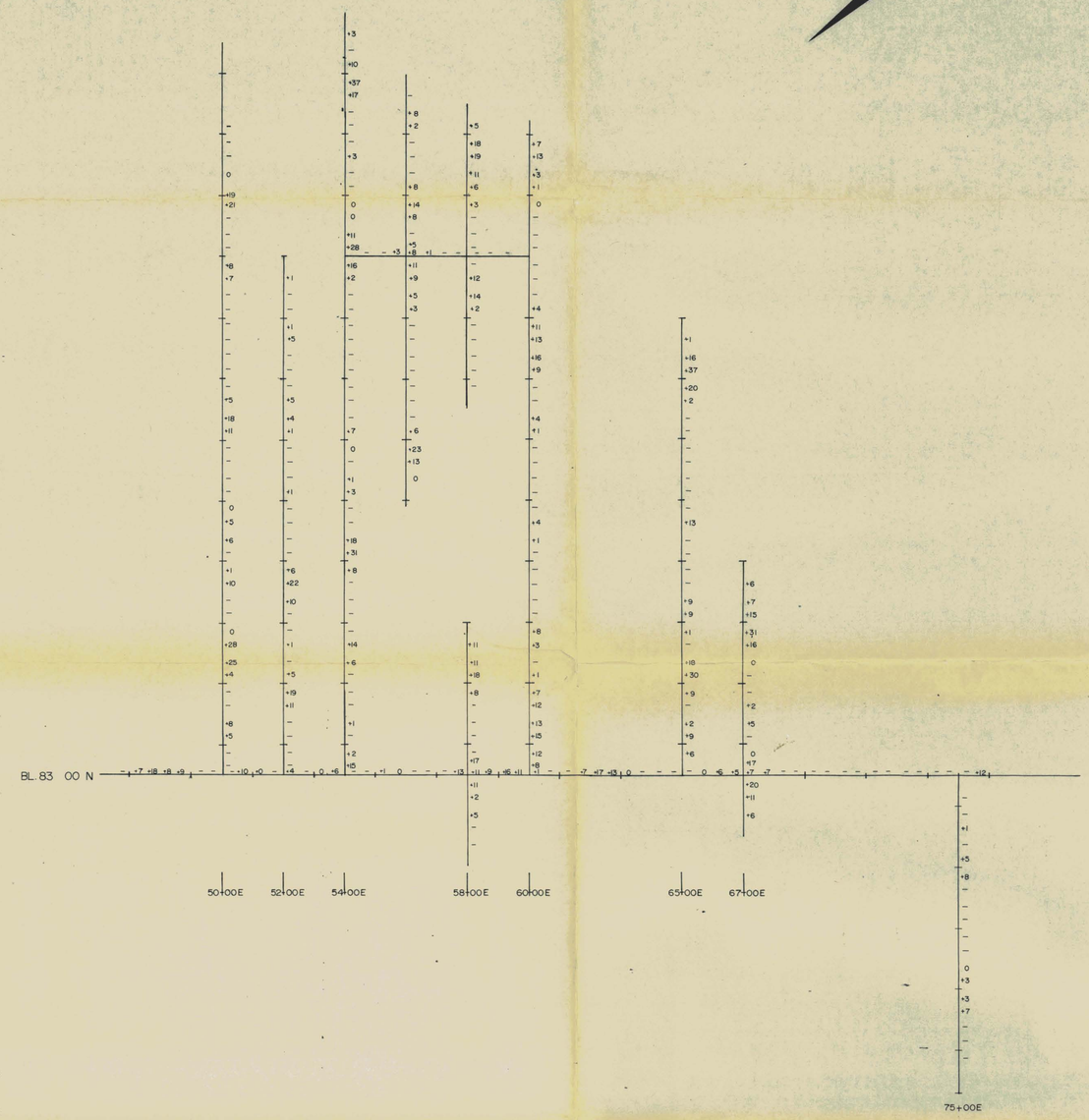
PROJ. No. 912
N.T.S. 116-C-8
DWG. No. 11

SURVEY BY: R. Kaatz DATE: July, 1981
DRAWN BY: RK/KG SCALE: 1in.=200m

NORANDA EXPLORATION

OFFICE:





090928

REVISED	CASSIAR CREEK PROPERTY
	VLF/ SURVEY
	SOUTH GRID
PROJ. No. 912	SURVEY BY: J. Moore DATE: Nov. 1981
N.T.S. 116-C-8	DRAWN BY: JM/KG SCALE: profile 1"=20m, 1"=20"
DWG. No. 12	NORANDA EXPLORATION
	OFFICE: WHITEHORSE

Dtr fine grained, dark grey – blue dike type rock; some with small rusty spots

Rhy rhyolite porphyry; Green's unit 25? phenocrysts of quartz, feldspar, (cpx, hbld); py in a few samples

Kg granodiorite – fresh looking may have large orthoclase phenocrysts – Qtz 70%, Plag 20%, Biot 3-10%. equigranular – medium grained, (hbld scheelite)

Kgp marginal granodiorite – contact; siliceous and/or aplitic, sometimes waxy, gneissic to schistose

Km predominantly quartz and feldspar – no mafics – may have muscovite; leached Kg, Kgp?

Pm grey and white marble; crystalline, coarsely recrystallized limestone, may be banded

Pbsk banded skarn; diopside skarn with bands of biotite, (phlogopite) intergrown; pyrrhotite in biotite or as blebs and veinlets; commonly siliceous; gradational with Pss; quartz/calcite veins absent to moderate

Pss siliceous schist; may develop quartz eyes, augen texture; some bands may be partially skarnified with moderate quartz and calcite veins

Psk garnet diopside skarn with accessory epidote, chlorite, calcite, (graphite wollastonite); mottled red and green, pyrrhotite generally present; garnet bright red/brown, massive granular; diopside as crystals up to 2mm; scheelite is absent to moderate as finely disseminated grains; cpy, py, moly.

Pdsk diopside skarn; green weathering (serpentine); quartz and calcite common as highly contorted veins and veinlets; pyrrhotite as disseminated blebs or veinlets; scheelite as crystals or aggregates

Psh fine grained rusty hornfels; grey black, rusty vugs (py, po); small feldspar crystals; homogeneous; (epidote)

Psha chlorite schist; some folding; occasional quartz eyes, garnets; cross cut by quartz veins

Psbq biotite, quartz schist

Pqm grey, green, mica quartzite

Psbm light grey and silvery weathering mica schist

Pgb fine grained quartz, biotite gneiss

Psg graphite schist; generally with biotite; to west graphite - muscovite - garnet schist; wavy foliation to tightly folded

Psmq quartz - muscovite - chlorite schist

Unit C dark weathering greenstone and banded amphibolite gneiss; minor chloritic quartz – mica schist; graphitic – quartz - mica schist; quartzite and limestone

Quartz veins

outcrop

angular boulders in situ

boulders

contact defined approximate

folding