

1982 ASSESSMENT REPORT
GEOCHEMISTRY, GEOPHYSICS AND
GEOLOGY ON THE SOUP (1-11) MINERAL CLAIMS

OMINECA MINING DIVISION

94D/8E 56°27'N 126°03'W

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

10,743

Owner: Vital Resources Ltd.
Operator: Noranda Exploration Company, Limited
(No Personal Liability)

Michael W. Leahey
November, 1982

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SUMMARY AND CONCLUSIONS

Detailed geochemistry, rock analyses, and a grid magnetometer survey along with prospecting and geology have been undertaken on the Soup (1-11) mineral claims.

Strongly anomalous soil values in gold and copper are related to magnetic gossan zones and fracture controlled mineralization above the gossans.

Enhanced gold geochem anomalies occur because of the residual soil and elluvial transport of gold in the steep scree and talus slopes of the claim block.

The potential exists for porphyry copper style mineralization at depth.

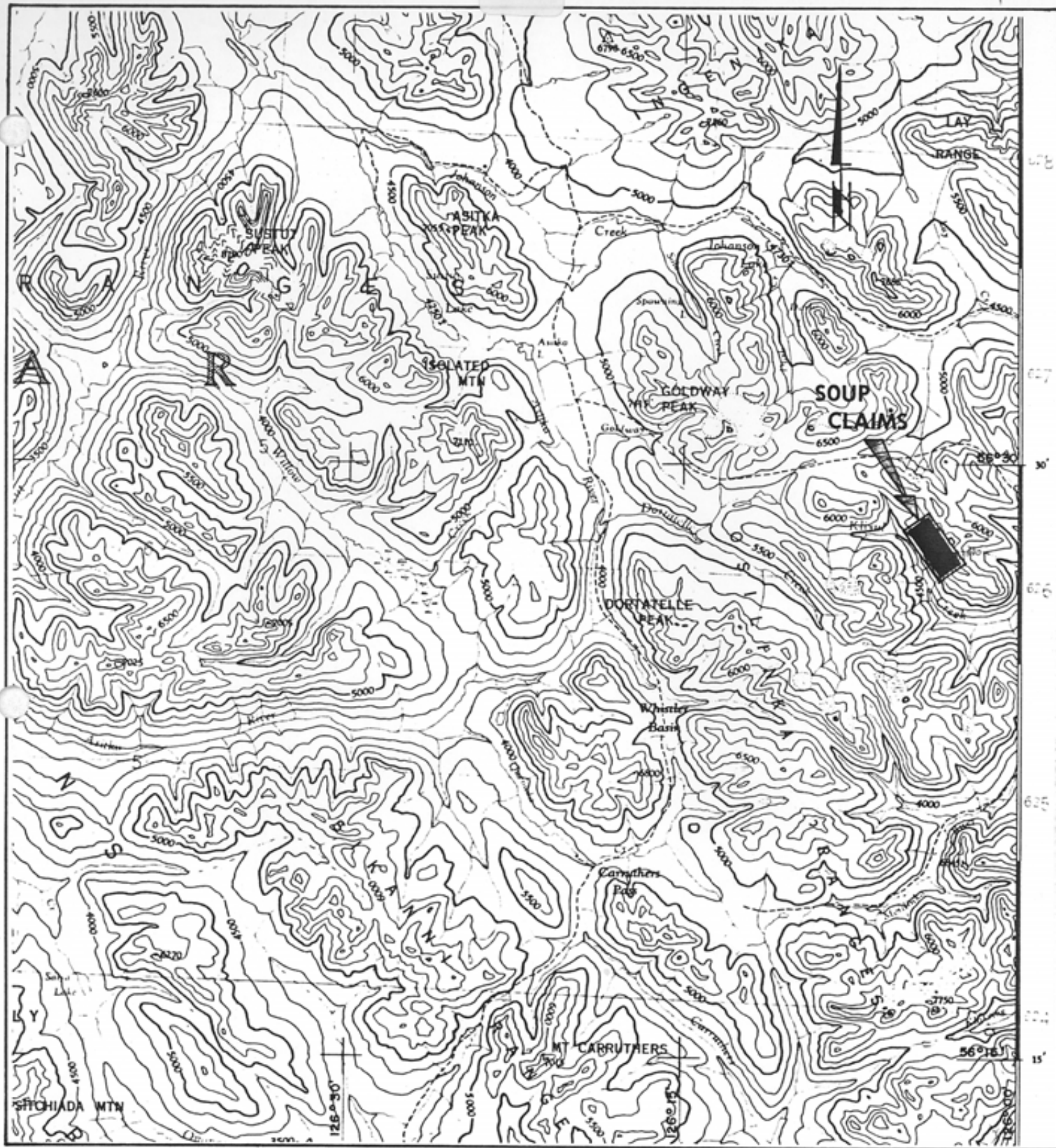
1. INTRODUCTION

The Soup 1-11 (Fig. 1) gold, copper prospect is situated in the Osilinka Range of the Omineca Mountains. Previous owners of the claim group have tested magnetic skarn/gossan for chalcopyrite and gold mineralization.

In 1981 Vital Resources Ltd. located a strong gold, copper anomaly of large areal extent. Between November 1981 and October 1982 Noranda Exploration conducted fieldwork on their property consisting of the collection and analysis of 410 soil samples and 161 rock samples, as well as prospecting, mapping and a magnetometer survey.

2. LOCATION

The Soup mineral claims are located 140 km north-northeast of Smithers. Access to the claims is by the Omineca Road, 300 km of secondary gravel road, north from Fort St. James to Johanson Lake. Northern Mountain Helicopter Ltd.



Scale 1:250,000

NORANDA EXPLORATION COMPANY, LIMITED

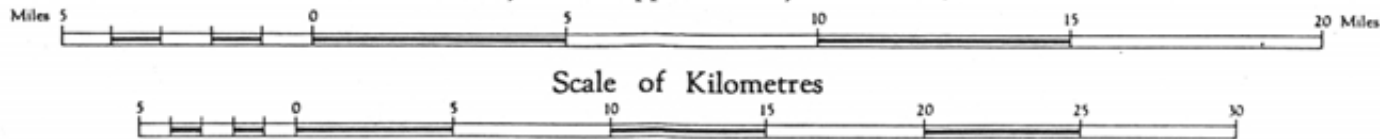
Vital Resources Ltd. - Soup Claims Option

Fig. 1

Location Map

94D/8

Scale 1:250,000 or approximately 1 Inch to 4 Miles





Scale 1 : 50,000

NORANDA EXPLORATION COMPANY, LIMITED

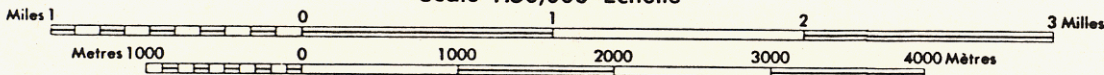
Vital Resources Ltd. Option

Soup (1-11) Mineral Claims Sketch

Fig. 2

94D/8

Scale 1:50,000 Échelle



maintains a base at Johanson Lake and is the only transportation from the lake the final 12 kilometer distance to the property. The Soup claims are midway between Johanson and Aiken Lakes.

3. CLAIM DATA

The Soup mineral claims (Fig. 2) totalling 11 two-post claims are owned by Vital Resources Ltd. A letter of intent to option the claims to Noranda Exploration Company, Limited (No Personal Liability) was signed in May 1982.

<u>Claim Name</u>	<u>Record No.</u>	<u>Recorded</u>	<u>Anniversary</u> (Filing Aug. 9/82)	<u>Anniversary</u> (Filing Nov. 9/82)
Soup 1	26941	August 7, 1964	August, 1984	August, 1991
Soup 2	26942	August 7, 1964	August, 1984	August, 1991
Soup 3	26943	August 7, 1964	August, 1984	August, 1991
Soup 4	26944	August 7, 1964	August, 1984	August, 1991
Soup 5	26945	August 7, 1964	August, 1984	August, 1991
Soup 6	26946	August 7, 1964	August, 1984	August, 1991
Soup 7	26947	August 7, 1964	August, 1984	August, 1991
Soup 8	26948	August 7, 1964	August, 1984	August, 1991
Soup 9	26949	August 7, 1964	August, 1984	August, 1991
Soup 10	26950	August 7, 1964	August, 1984	August, 1991
Soup 11 Fr	4206	August 15, 1982	August, 1984	August, 1991

The original Statement of Exploration and Development was filed August 9, 1982; a 1983 Statement of Exploration and Development is also enclosed.

4. EXPLORATION HISTORY

From a report by R.W. Stevenson the regional exploration history is up-dated. The Kliyul Creek area was probably prospected for placer gold when Manson Creek and McConnell Creek were operational.

Prospecting by Consolidated Mining & Smelting under the direction of Emil Bronlund, commenced around 1927. In 1930, C.M. & S. established a camp between Croydon and Porphyry Creeks, and undertook trenching and tunnel-

ling on two showings. The C.M. & S. camp was destroyed by a forest fire in 1938, and further work on the property was discontinued.

The Cominco showings were mapped by Douglas Lay of the B.C. Department of Mines in 1939. In 1944 and 1945, the McConnell Creek area was mapped by C.S. Lord (Memoir 251). In 1946 to 1948, the Aiken Lake area was mapped by E.F. Roots (Memoir 274).

Springer Sturgeon Gold Mines prospected the area from 1946 to 1948. Claims were staked on most of the gold-quartz showings, including the Shell claims, and the site of Kennco's Kli claim.

The Croydon property was staked in 1958 to cover the old C.M. & S. ground. The property was optioned to Rio Tinto Canada Exploration in 1963-64. They did geological and geophysical surveys and diamond drilling. Their geochemical work led to the discovery of a large low-grade body of molybdenite mineralization west of Porphyry Creek.

In 1964 R.M. Thompson and W.H. White staked the Soup claims on magnetite-chalcopyrite-gold mineralization east of Kliyul Creek. Kennco examined the claims in 1966. Falconbridge Nickel Mines Ltd. drilled four diamond drill holes totalling 100 feet in 1974. In 1977 B.P. Minerals did an eleven line chip sampling program across the magnetite gossans of the Soup claims.

In 1971 El Paso was in the area near the headwaters of Croydon Creek.

During 1981-1982 Teck and Getty Minerals have been continuing deep drilling on the Porphyry Creek molybdenum deposit.

In 1981 the Soup Claims were optioned to Vital Mines Ltd. who subsequently optioned the claim block to Noranda Exploration in 1982.

5. GEOCHEMICAL SURVEY

From baseline 50W a flagged grid with lines 300 meters apart and 25 meter stations was laid out in November 1981. A detailed soil grid with 100 meter line separation and 25 meter stations was incorporated into the original grid in the late summer of 1982. A total of 440 soil samples and 161 rock samples was collected from the grid.

5.1 Sampling and Analytical Results

Soil samples consisted of residual bedrock fragments, "C" horizon samples. The samples were placed in 4" x 6" envelopes and air dried in the field.

In the laboratory the -80 mesh size is separated and 0.2 grams of the fraction is digested in 2 milliliters of perchloric acid and 0.5 millilitres of nitric acid for approximately four hours. Subsequently each sample is diluted to five millilitres with demineralized water. The content of various elements in the soil is determined with the aid of a Varian Techtron Model AA5 atomic absorption spectrophotometer. All soil samples were analysed for copper, molybdenum, zinc, lead, silver, manganese and iron. Only the copper results were plotted for this report (Fig. 4).

For gold anomalous in soils, 10 grams of the -80 fraction was digested in aqua regia. After digestion a suitable aliquot of the solution was transferred to a volumetric flask to which an organic extractant, M.I.B.K. (methyl-iso-Butyl-Ketone), was added (5 ml) and shaken to concentrate the gold into the organic phase.

Determination of gold concentration in the organic phase was determined by atomic absorption and the results expressed in parts per billion (Fig. 3). All soil sample analysis was done at Noranda Exploration's laboratory in Vancouver under the direction of E. van Leeuwen.

All rock sample analysis was done by Rossbacher Laboratory of Vancouver and includes aqua regia digestion, M.I.B.K. solvent and atomic absorption determination (Fig. 5).

5.2 Discussion of Results

The gold in soil values ranges from 10 ppb to 9400 ppb. Anomalous threshold was taken at 200 ppb; there are eight areas with values over 1000 ppb. The shape of the anomalies is consistent and all occur north of the baseline.

Similarly the copper in soil values is high, ranging from 40 ppm to 11,000 ppm. Anomalous threshold was taken at 500 ppm; there are five anomalous areas with values greater than 2000 ppm.

Unfortunately the rock sample analysis from the source areas of the soil geochem is very low in gold. The best gold in the magnetite gossan was 0.174 oz/ton (9173) and 0.064 oz/ton (9166), and in vein was 0.046 oz/ton (9151).

6. GEOPHYSICAL SURVEY

6.1 Magnetometer Survey

A ground magnetic survey over five kilometers of the north grid lines was completed using a hand-held McPhar GP-81 proton magnetometer. Total magnetic field readings were regularly taken at 25 meter intervals; base stations were established at the intersection points of the base line and picket lines. Maximum time between re-readings of the base station was one and a half hours. All readings were corrected for diurnal variation.

6.2 Discussion of Results

The contoured results of the survey are plotted on Figure 6. Over the magnetite gossan the magnitude of readings was 1500 to 3000 gammas higher than the background readings. Elongate magnetite zones correspond well with the geochem anomalies. The large magnetic high center near the intersection of Soup 1, 2, 3, and 4 is the only area that does not have stringy anomalies directly coincident with it.

7. GEOLOGY

7.1 Regional and Property Geology

The Soup claims are underlain by andesitic lavas, augite porphyry flows and dykes, minor flow breccia and pyroclastics of the Upper Triassic Takla Group. The lavas are layered and strike 340° to 360° and dip 20° to 30° east. The volcanic units are sheared over narrow zones and are seen in many steep gulleys on the property.

Takla volcanics have been intruded by a quartz monzonite stock and related dykes believed to be of middle Cretaceous age (Woodswork) and by Cretaceous diorite stock under sills.

The magnetite pyrite gossan appears conformable and is offset by faults and buried by the rock glacier in the central part of the claim block. The magnetite gossan can be traced over the length of the claim block.

Immediately north of the claim group the strong gossan appears that is related to pyritic tuffs and not magnetic.

Excellent geology was done on the property by McTaggart in 1965 and forms the base map for the enclosed Figure 7 geology.

On checking the contours of the original it is determined that the elevations are low by 200 feet. The BL50W north of 38 + 50W starts swinging to the east and is approximately 100 meters east of its map location at the claim boundary.

If additional work is undertaken on the property an orthophoto map would be invaluable.

7.2 Mineralization

The host rock of six environments was tested for economic mineralization. The obvious source magnetite gossan did host low gold and some copper.

Narrow quartz and calcite veins were also tested. Euhedral chalcopryrite was often found in the veins, however the gold values were again low.

Interesting copper values on fractures in augite porphyry in the form of malachite and azurite were found but the gold assays were again trace.

Disseminated pyrite in the augite porphyry, microdiorite sill (in BP L1 area), and within the barren siliceous pyrite (rhyolite) rock returned only very low values.

In addition there is an interesting amount of copper on the property and indications of a porphyry style of mineralization. The mineralization is probably at depth and this and the steep slopes preclude open-pit development of the area.

The "C" zone soil values are anomalous because of the bedrock concentration and the placering effect of the steep slope.

8. REFERENCES

Bates, C.D.S. (1977): Geochemical Report on the Soup Property, Soup Claims
1 to 10, 22 pp.

Gyr, T., Dawson, A.H. (1971): Soup Group, Kliyul Creek, Internal Report
of Falconbridge Nickel Mines Limited, 6 pp.

Lord, C.S. (1948): McConnell Creek Map-Area, B.C., G.S.C. Memoir 251.

Roots, E.F. (1954): Aiken Lake Map-Area, B.C., G.S.C. Memoir 274.

Sinclair, A.J. (1975): A Mineralographic Study of Surface and Drill Core
Specimens from the Soup Group of Claims, and its Importance to
Beneficiation, 17 pp.

(1976): Ground Magnetometer Profile, Soup Group of Claims,
15 pp.

APPENDIX I
STATEMENT OF COST

NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COST

PROJECT Klilyul Creek #1032

DATE October 29, 1982

TYPE OF REPORT Geology, Geophysics and Geochemistry

a) Wages:

No. of Days 107
Rate per Day \$ 61.29
Dates From: November 1981 - October 1982
Total Wages 107 x \$ 61.29 6,558.07

b) Food and Accomodation:

No of days 107
Rate per day \$34.88
Dates From: November 1981 - October 1982
Total Cost 107 x \$ 34.88 3,731.68

c) Transportation:

No of days 107
Rate per day \$106.85
Dates From: November 1981 - October 1982
Total Cost 107 X \$ 106.85 11,433.14

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)		1,845.00
g) Cost of preparation of Report		
Author		183.87
Drafting		169.94
Typing		183.87
h) Other:		
Camp & Field Supplies		1,274.88

Total Cost \$25,380.45

e) Unit costs for Geology		
No of days	107	
No of units		
Unit costs	103.88 /day	
Total Cost	107 × 130.88	14,004.38

Unit Costs for Geophysics		
No. of Units	5 Km	
Unit Costs	678.00/Km	
Total Cost	5 X 678.60	3,392.99

Unit Costs for Geochemistry		
No. of Units	410 Samples	
Units Costs	19.47/Sample	
Total Cost	410 X 19.47	<u>7,983.08</u>

Total Costs \$25,380.45

Costs for period November 1, 1981 - August 9, 1982

No. of Days	30	
Unit Costs	237.13/day	
Total Cost	30 X 237.13	7,113.90

Costs for period August 10, 1982 - October 31, 1982

No. of days	77	
Unit costs	237.23/day	
Total Costs	77 X 237.23	<u>18,266.55</u>

Total Costs		<u>\$25,380.45</u>
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NORANDA EXPLORATION COMPANY, LIMITED
(WESTERN DIVISION)

DETAILS OF ANALYSES COSTS

PROJECT: KLIYUL CREEK #1032

<u>ELEMENT</u>	<u>NO. OF DETERMINATIONS</u>	<u>COST PER DETERMINATION</u>	<u>TOTAL</u>
Au	410	1.50	615.00
Cu	410	.60	246.00
Au/Cu/Ag	161 rock samples		<u>984.00</u>
			<u>\$1,845.00</u>

APPENDIX II
STATEMENT OF QUALIFICATIONS

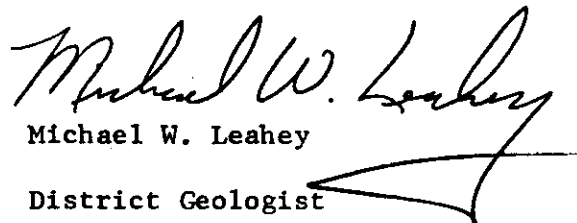
STATEMENT OF QUALIFICATIONS

I, Michael W. Leahey, of the town of Smithers, Province of British Columbia, do certify that:

1. I have been an employee of Noranda Exploration Company, Limited since May 1973.
2. I am a graduate of St. Francis Xavier University in Antigonish, N.S. with a Bachelor of Science Major in Geology (1973).

Dated at Smithers

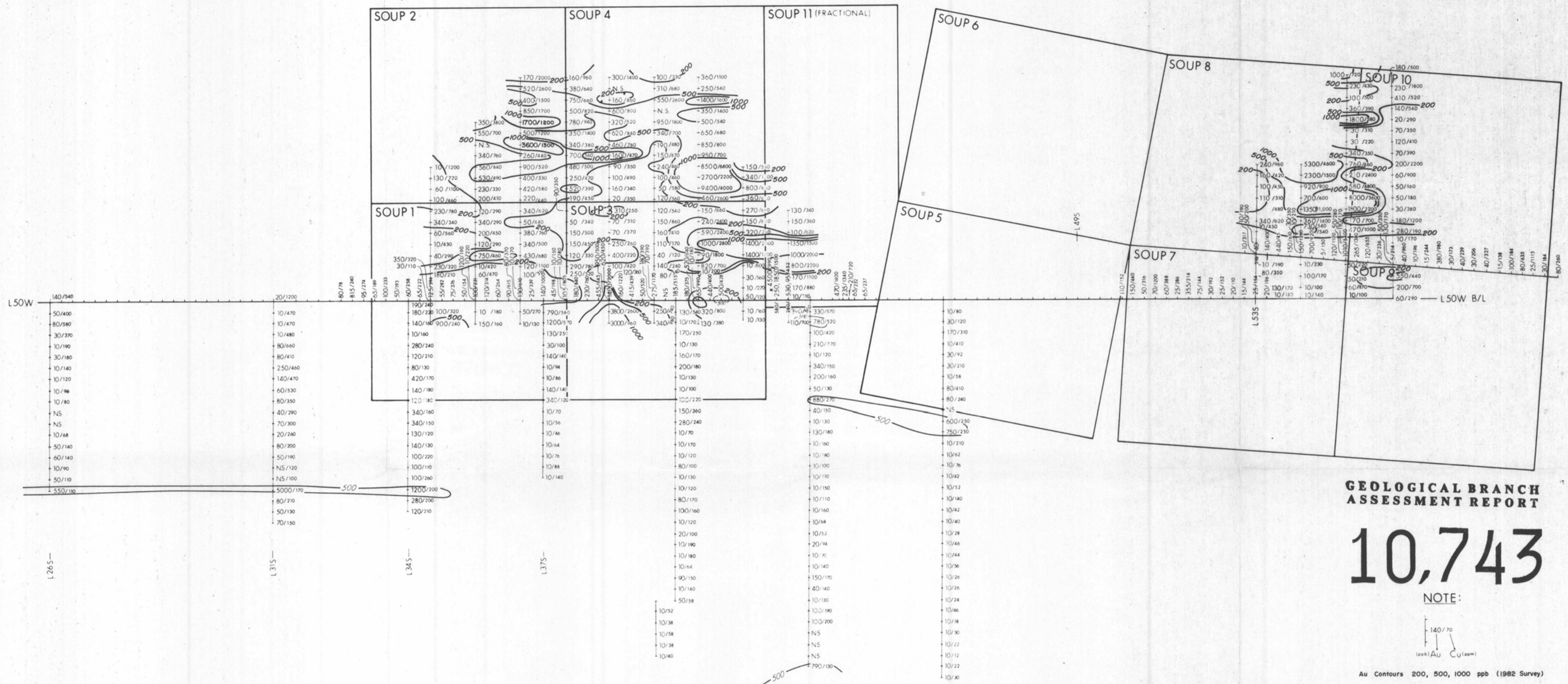
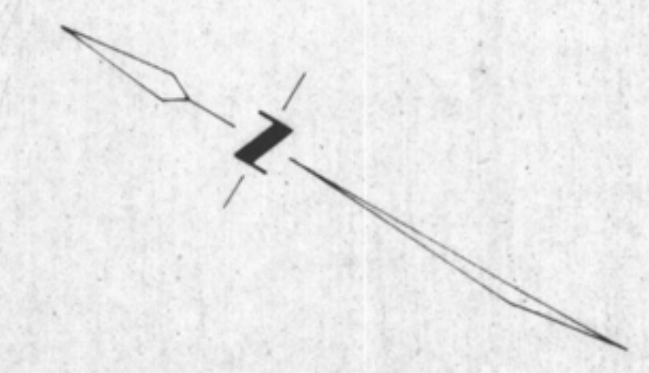
this 7th day of November, 1980


Michael W. Leahey

District Geologist

Noranda Exploration Company, Limited

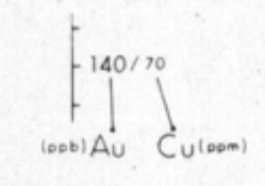
(No Personal Liability)



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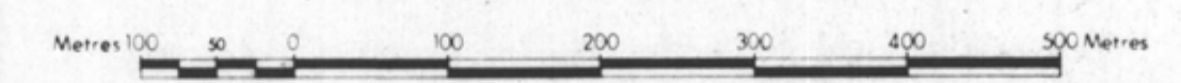
10,743

NOTE:

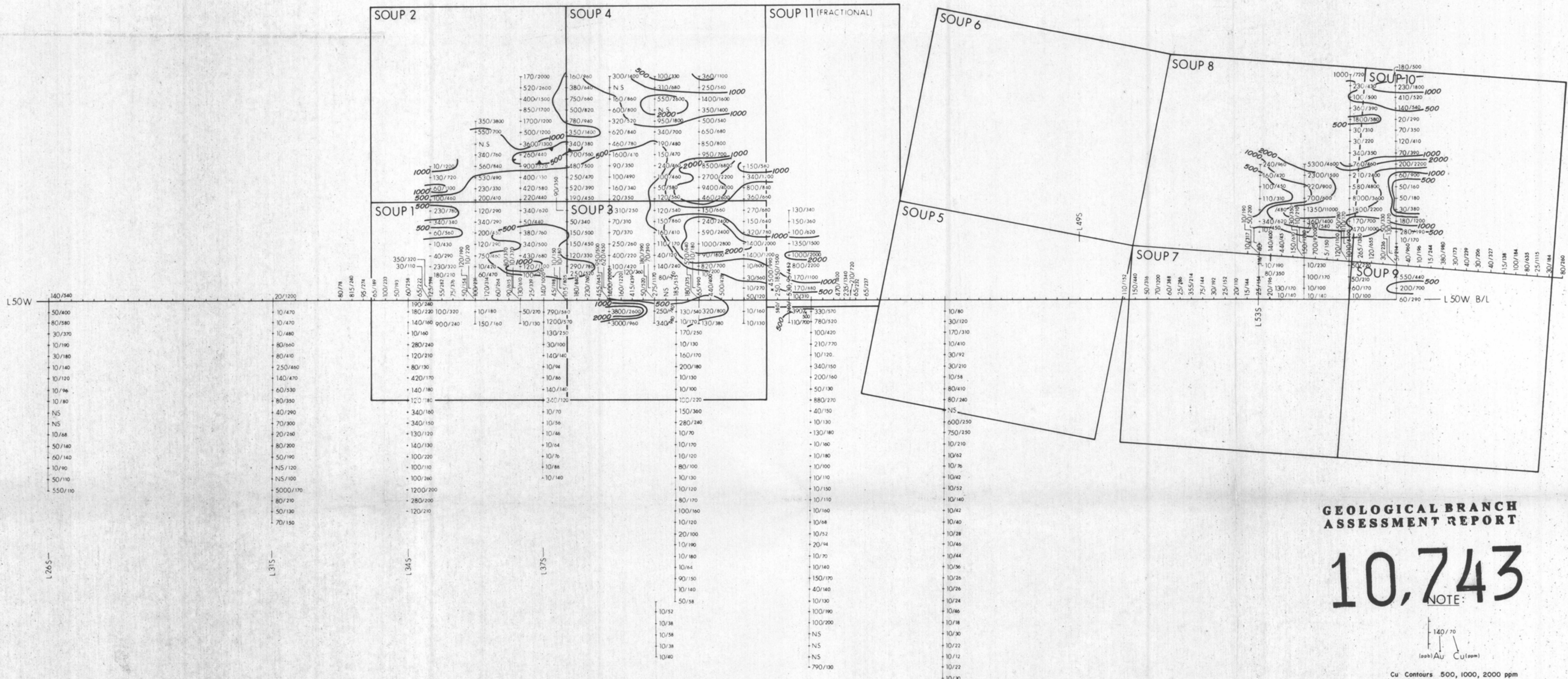
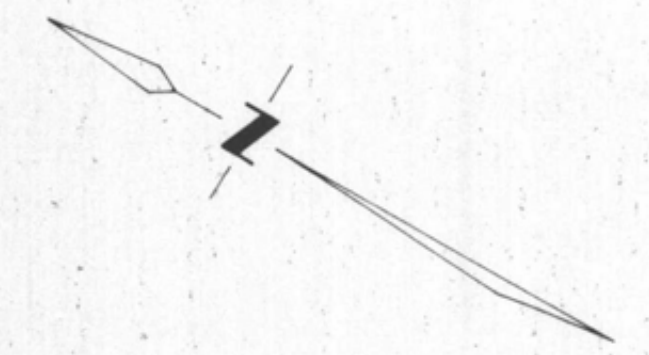


Au Contours 200, 500, 1000 ppb (1982 Survey)

SCALE

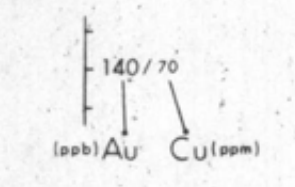


REVISED Sept./82	SOUP CLAIMS	
Nov./82 E.C. <i>Michael W. Leung</i> Nov. 5, 1982		
PROJ. No. 1034/82	SURVEY BY: M. Martin	DATE: Nov/81
N.T.S. 94D	DRAWN BY: <i>B. H. ...</i>	SCALE: 1/5000
DWG. No. FIG. 3	NORANDA EXPLORATION OFFICE Vancouver	



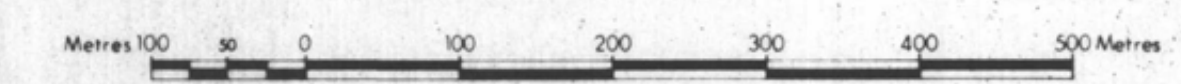
**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

10,743
NOTE:

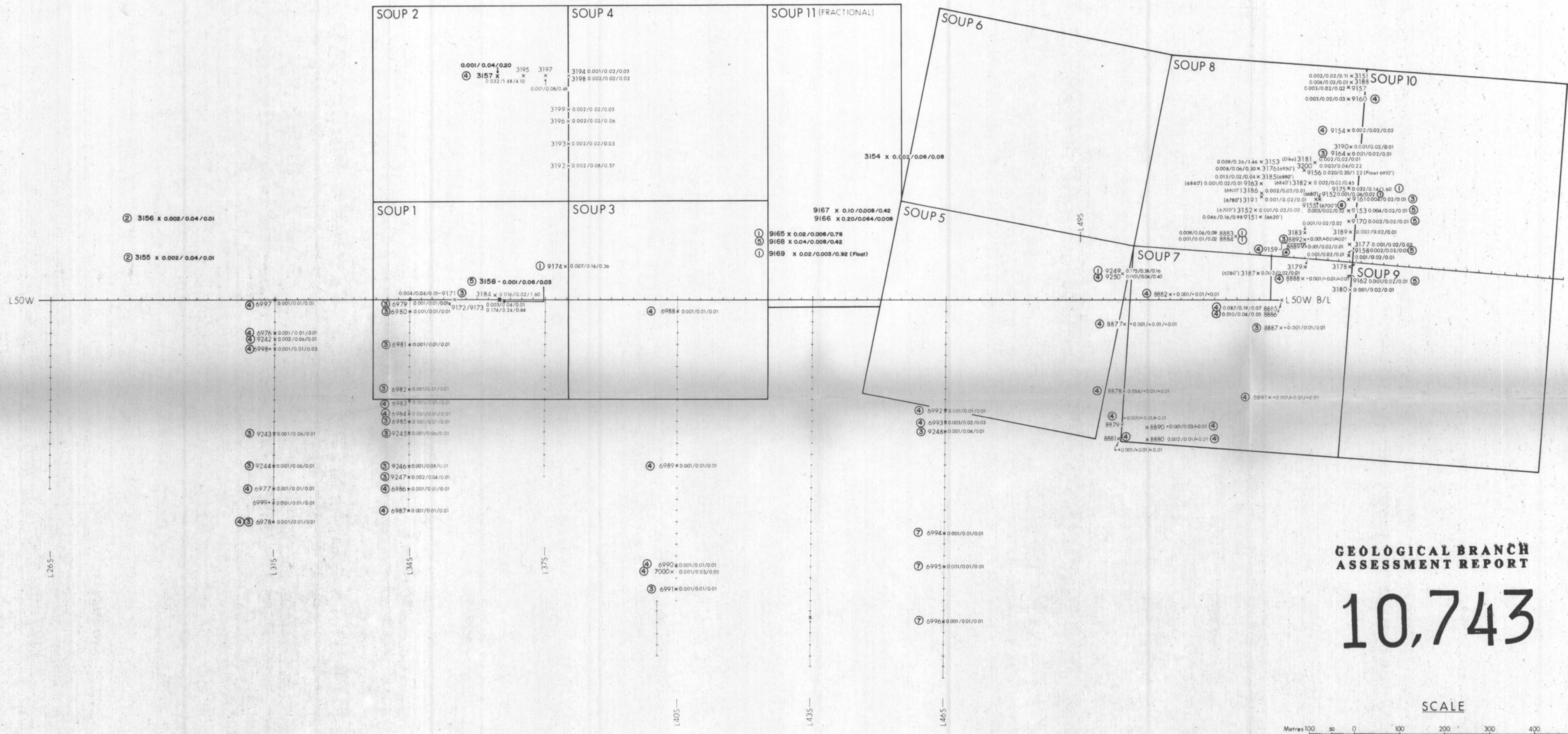
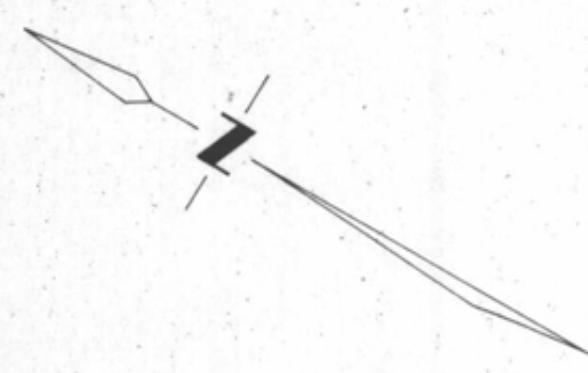


Cu Contours 500, 1000, 2000 ppm

SCALE



REVISED Sept / 82	SOUP CLAIMS	
Nov / 82 E.C. <i>M. W. L. Taylor</i> Nov. 1982		
PROJ. No. 1034 / 32	SOIL GEOCHEM	
N.T.S. 94D	Cu (ppm) CONTOURS	
DWG. No FIG. 4	SURVEY BY: M. Martin	DATE: Nov / 81
	DRAWN BY: <i>J. H. H.</i>	SCALE: 1/5000
	NORANDA EXPLORATION	
	OFFICE: Vancouver	

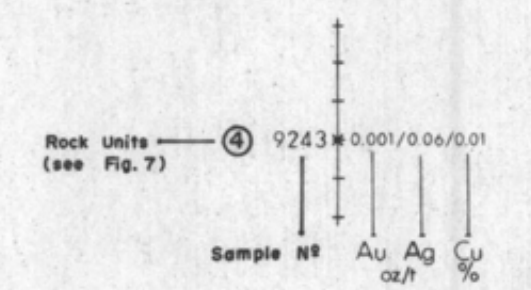


**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

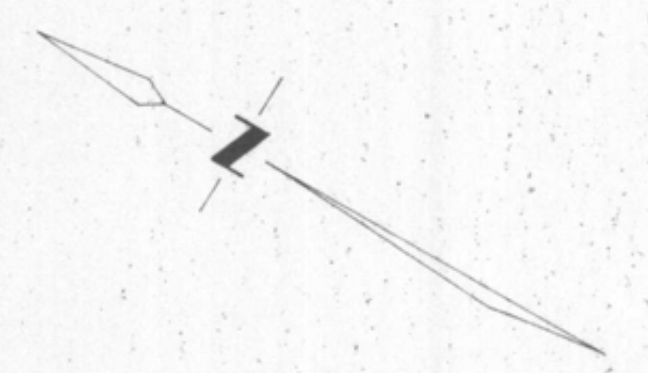
10,743



NOTE:



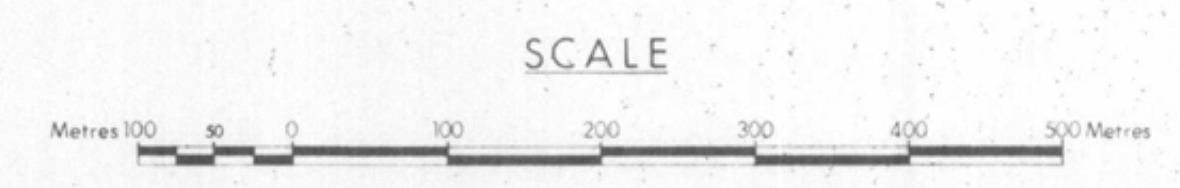
REVISED Sept. /82	SOUP CLAIMS	
	ROCK SAMPLES	
	Au, Ag & Cu	
PROJ. No. 1034 /32	SURVEY BY: M. Martin, P.C., D.H.	DATE: Nov./81
N.T.S. 94D	DRAWN BY: J. H. E.C.	SCALE: 1/5000
DWG. No. FIG. 5	NORANDA EXPLORATION	
	OFFICE: Vancouver	



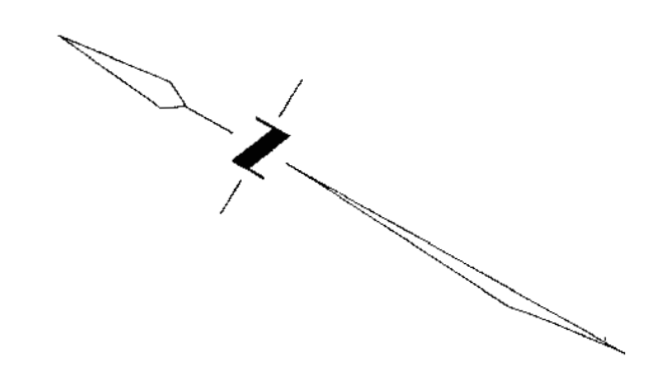
**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

10,743

Contours: 58,500, 60,000, 61,500



REVISED <i>Michael W. Loring</i> Nov 5, 1982	SOUP CLAIMS	
	MAGNETOMETER SURVEY	
	INSTRUMENT: McPhar GP - 81	
	DATUM: 58,000	
PROJ. No. 1032	SURVEY BY: M.S.	DATE: Nov/81
N.T.S. 94D	DRAWN BY: <i>Bathie, E.C.</i>	SCALE: 1/5000
DWG. No.	NORANDA EXPLORATION	
FIG. 6	OFFICE Vancouver	



**GEOLOGICAL BRANCH
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10,743

LEGEND

- 7 Quartz Monzonite
- 6 Diorite
- 5 Microdiorite Sill
- 4 Augite porphyry flows, minor flow breccias
- 3 Andesite, minor feldspar and augite porphyry flows, tuff.
- 2 Barren silicous, pyritic rock.
- 1 Massive magnetite with some chalcopyrite and/or derived indigenous limonite gossan.

SYMBOLS

- Contact - defined, approx., assumed
- Fault - defined, approx.
- Attitude, Dip unknown
- Outcrop areas
- Claim post
- Survey station (old)
- Chip sampling by B.P.
- Qv, Cv Quartz vein or Calcite vein
- F Fracture or Shear
- Mal Malachite
- Cu Chalcopyrite

SCALE



REVISED <i>M. L. R. C.</i> Nov 5, 1982	SOUP CLAIMS	
	GEOLOGY	
	(MODIFIED FROM K.C. MacTAGGART - 1965)	
PROJ. No. 1034/32	SURVEY BY: M.L. R.C., D.H.	DATE: Nov/82
N.T.S. 94D	DRAWN BY: <i>[Signature]</i> , E.C.	SCALE: 1/5000
DWG. No.	NORANDA EXPLORATION	
FIG. 7	OFFICE: Vancouver	