GEOCHEMICAL REPORT
ON THE
MS-1, MS-2, MS-3 and MS-4
MINERAL CLAIMS

GATAGA RIVER AREA
LIARD MINING DIVISION
BRITISH COLUMBIA

Lat. 58°18'
Long. 126°13'
N.T.S. 94L/8

OWNED AND OPERATED BY
NORANDA EXPLORATION COMPANY, LIMITED
(No Personal Liability)

M.J. Savell

May, 1983

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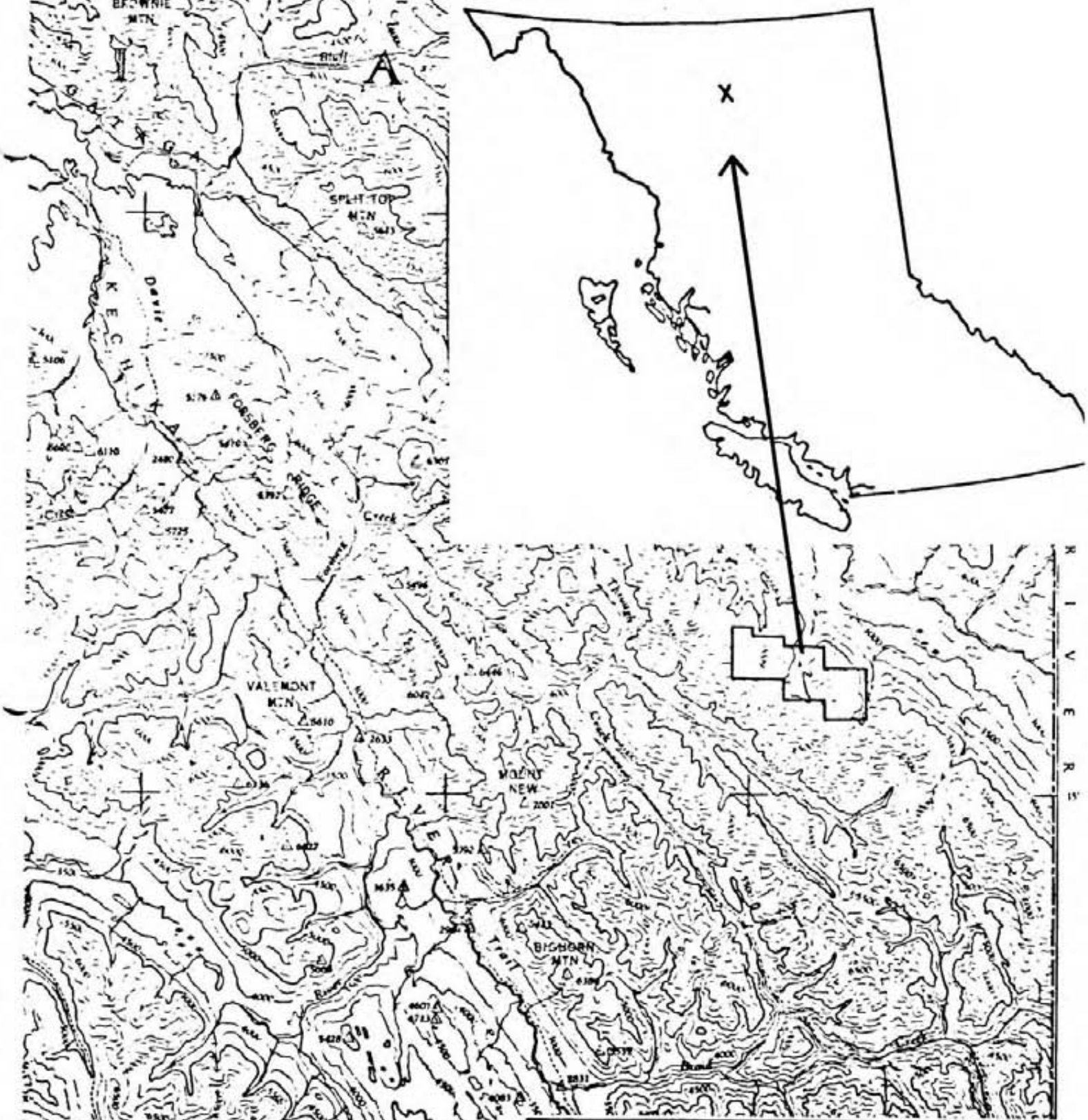
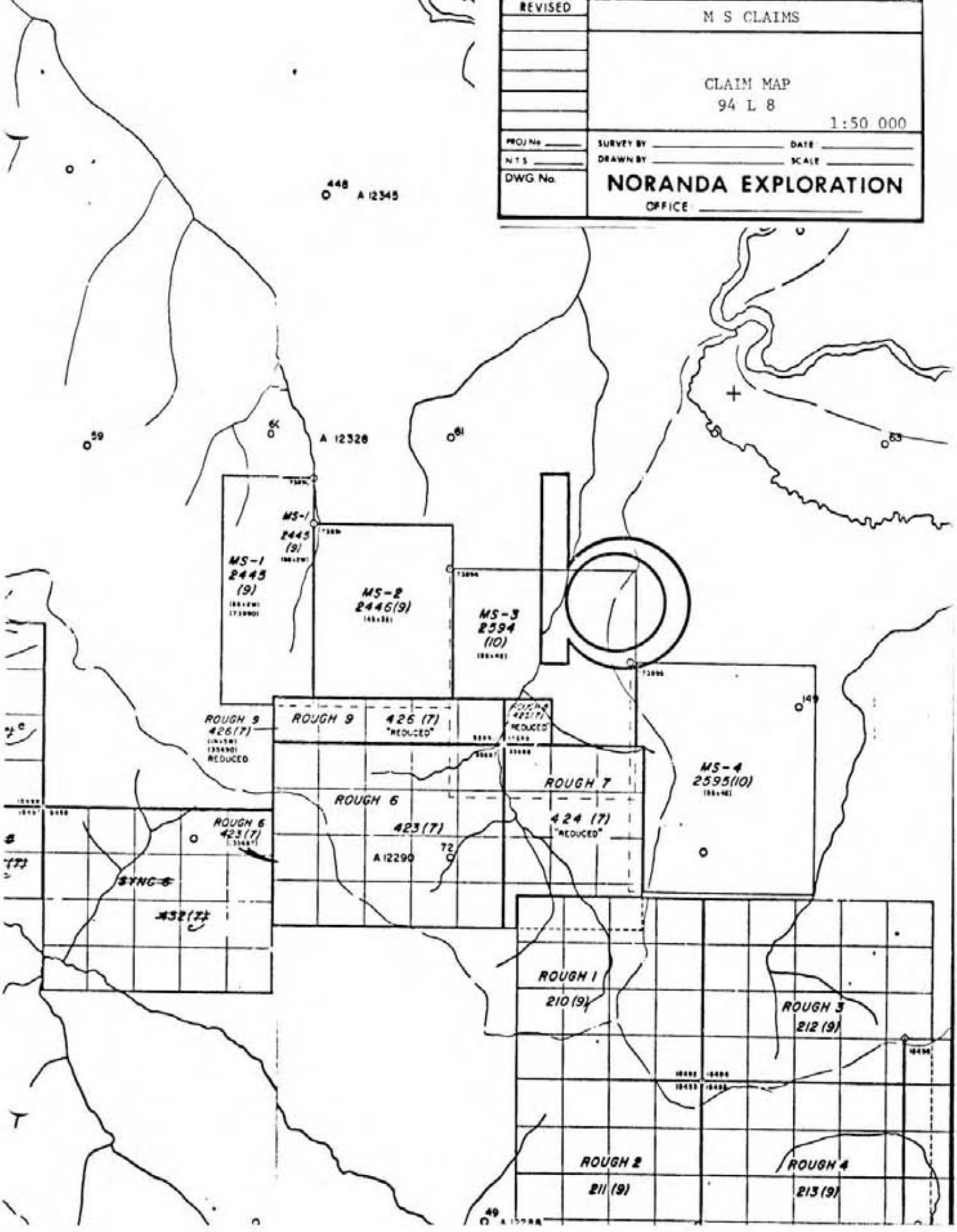


REVISED	M S CLAIMS
	INDEX MAP 94 L 8 1:250 000
PROJ No.	SURVEY BY: DATE:
N.T.S.	DRAWN BY: SCALE:
DWG. No.	**NORANDA EXPLORATION** OFFICE:


REVISED
M S CLAIMS
CLAIM MAP
94 L 8
1:50 000
PROJ No
N T S
DWG No.
SURVEY BY
DRAWN BY
DATE
SCALE
NORANDA EXPLORATION
OFFICE
A 12345
A 12328
A 12290
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(9)
MS-2
2446(9)
MS-3
2594
(10)
MS-4
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426(7)
REDUCED
ROUGH 6
423(7)
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"REDUCED"
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ROUGH 1
210(9)
ROUGH 3
212(9)
ROUGH 2
211(9)
ROUGH 4
213(9)

INTRODUCTION

This report describes the work carried out by Noranda Exploration Company, Limited (No Personal Liability) on the MS-1, MS-2, MS-3 and MS-4 mineral claims (Through Creek property), Liard Mining Division, during September 1982.

The claims were staked in July and September 1982 after follow-up work to a reconnaissance silt sampling programme produced high Pb and Zn geochemical soil anomalies in a geologic setting favourable for the occurrence of shale hosted Pb-Zn-Ag deposits.

HISTORY AND PREVIOUS WORK

During the past several years the area has been explored on a regional basis by several companies with programmes in the Devonian black clastic belt of the Selwyn Basin. However, no work has been recorded for the area covered by the MS claims.

To the south, the MS claims adjoin the Rough property owned by Kidd Creek Mines, which was staked in 1976 and 1977 to cover Pb-Zn mineralization near a limestone-shale contact.

The area has been mapped regionally by the G.S.C. and the results of their work are available as Map #42-1962 (1" = ¼ mile). More recent work, by D.G. MacIntyre, is available on the Geological Compilation and Mineral Occurrence Map, Driftpile Creek - Akie River area published by the B.C. Ministry of Energy, Mines and Petroleum Resources (preliminary Map 38, May 1980).

LOCATION AND ACCESS

The claims are located within the N.T.S. map area 94L/8, approximately halfway between the Gataga River and Through Creek. This is nearly 75 km south-southwest of the south end of Muncho Lake.

Access to the property was made by helicopter from Driftpile Creek, 20 km to the south. Access to the airstrip at Driftpile Creek was made by single-engined Otter aircraft from Watson Lake, Yukon.

PHYSIOGRAPHY

The property lies within the Muskwa Range of the northern Rocky Mountains. The physiography is typified by fairly short but steep northerly trending ridges and valleys that cut the more typical northwest trend of the surrounding ranges and valleys. This northwest trend reflects the structural strike of the underlying sedimentary rocks. Local relief is about 800 metres with a maximum elevation of about 2000 metres.

Treeline is at approximately 1600 metres on the south facing slopes. Vegetation consists mainly of small spruce, juniper and bushes typical of a high altitude envioronment. Grasses and alpine flowers cover the higher elevations. The uppermost ridges exhibit no soil cover, and are flanked by talus.

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CLAIMS AND OWNERSHIP

The property consists of the following claims:

Claim	# Units	Record No.	Record Date	Owner
MS-1	10	2445	Sept 9, 1982	Noranda Exploration Company, Limited (No Personal Liability)
MS-2	12	2446	" "	" "
MS-3	20	2594	Oct 21, 1082	" "
MS-4	20	2595	" "	" "

GRID PREPARATION

For control purposes, a grid was laid out. A compass controlled, slope corrected, chain saw cut base line was run on a bearing of 120° for a length of 2 kilometres and designated 100+00N. Hip-chained grid lines totaling 22.325 km, were run at 200 metre spacings at 030° north and south of the baseline. One-half metre high wooden pickets marked with the grid designation were placed every 25 metres on the base and grid lines, and samples collected at 50 metre intervals.

The preliminary 1:5,000 topographic base map used in this report was prepared from a published 1:250,000 scale topographic map.

GEOCHEMISTRY

1. Sampling

A total of 471 soil samples (including 10 duplicates) were collected on the grid described above. The "B" soil horizon was sampled by digging a small hole with a grub hoe. Samples were placed in "Hi Wet Strength Kraft 3½" x 6 1/8" Open End" paper envelopes on which the grid designation was marked.

The samples were later analyzed for Pb, Zn, Ag, Cu, Mo, Fe and Mn in the geochem lab of Noranda Exploration Company, Limited at 1050 Davie Street, Vancouver, B.C.

2. Analytical Method

The samples are first dried in a drying cabinet for a period of 24 - 48 hours. They are then screened and sifted to obtain a -80 mesh fraction.

To determine the amount of total extractable Pb, Zn, Ag, Cu, Mo, Fe and Mn in each sample, the following procedure is employed:

> A small amount of the -80 mesh material, 0.200 grams, is digested in 2 ml of $HClO_5$ and 0.5 ml of HNO_3 for approximately four 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 ascertain the content, in parts per million, of each element.

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3. Results and Discussion

The results of the above analyses are shown on figures 3 - 9 (in pocket). The table below gives a summary of the statistical parameters:

	Pb	Zn	Ag	Cu	Mo	Fe	Mn
# of Analyses	471	471	471	471	471	471	471
Lowest Value	4	48	.2	6	2	.5	20
Highest Value	2400	9000	9.8	300	200	13.0	2900
Mean (log)	55.4	364	.74	36.4	17.4	2.1	172
Stand dev (log)	.450	.297	.396	.246	.375	.174	.279
Mean (arith)	111	473	1.12	43.5	25.4	2.28	216
Stand dev (arith)	215	547	1.36	32.0	26.1	1.06	213

(All values in ppm except Fe in percent).

Pb - Values are unusually high, reflecting an abnormally large background in the shales, which are the dominant lithology on the property. Two major anomalies, each over 1400 ppm Pb are present.

The first has values ranging from 1400 to 2400 ppm and stretches from 102+00E, 98+25N to 106+00E, 99+00N on a trend roughly parallel to the base line (120°). The second is a spot value of 1700 ppm at 108+00E, 98+00N. Both anomalies are significant and may reflect Pb mineralization in the underlying shales.

Zn - These values are also quite high, but results are more erratic and widespread than Pb. Two major anomalous zones are present. The first stretches from 104+00E, 101+50N to 110+00E, 100+50N and contains values ranging from 1000 to 9000 ppm. The second is more irregular in shape, going from 100+00E, 95-98+00N to 102+00E, 93+25N and stretching over to 110+00E, 95+00N. Results range from 1000 to 3000 ppm. Overall these zones are not coincident with the Pb values, reflecting the higher mobility of Zn.

Ag - Values over 2 ppm, which are considered threshold, are erratic and widespread. One large zone with values from 2 to &2 ppm occurs from 102+00E, 95+75N to 112+00E, 95+00N and is coincident with one of the Zn anomalies. Two smaller zones occur from 94+00E, 99+00N to 98+00E, 97+00N and 106+00E, 103+50N to 110+00E, 104+50N, but are not associated with other elements and may be due to localized elevated background values.

Cu - These values are generally low, except for a few scattered locations over 100 ppm and two long, narrow zones showing good coincidence with Pb values. The first stretches from 100+00E, 101+00N to 110+00E, 100+50N and contains values up to 300 ppm. The second stretches from 102+00E, 94+25N to 112+00E, 94+50N and contains values up to 200 ppm. These results may reflect either a high Cu background or minor Cu mineralization, in a Pb mineralized zone in the shales.

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Mo - Results are generally low except for a few scattered, spot values over 100 ppm.

Fe - This behaves similarly to Mo. The highest Fe values correspond well with the highest Mo values. However, they are not considered significant.

Mn - Generally low results, with a few scattered values over 1000 ppm, generally away from the Pb and Zn anomalies. This indicated that scavenging by Mn-hydrous oxides has not occurred and thus the Pb-Zn-Cu-Ag anomalies are genuine.

CONCLUSIONS AND RECOMMENDATIONS

It is considered that the geochemical anomalies outlined by the present soil survey may reflect undiscovered shale hosted Pb-Zn-Ag mineralization and thus further work is warranted. Of the elements analysed it is believed that Pb is the most reliable indicator of mineralization. However, effects of steep topography and post-Pleistocene alpine glaciation, such as soil slumping and scouring of soil horizons must be taken into account and any conclusions made concerning geochemistry must be carefully scrutinized. Further work to be done should include:

1. Detailed soil sampling (25 m intervals at 100 m spacings) over present Pb geochem anomalies, also extension of present grid to northwest and southeast.

2. Detailed geological mapping.

3. Ground electromagnetic survey over Pb geochem anomalies.

4. Trenching and/or diamond drilling.

APPENDIX 1

STATEMENT OF COSTS

NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COST

PROJECT THROUGH CREEK DATE May 1983

TYPE OF REPORT Geochem

a) Wages:

No. of Days	76		
Rate per Day	$ 120.64		
Dates From:	Sept 21 - Oct 6/82		
Total Wages	76	x $ 120.64	9,168.64

b) Food and Accomodation:

No of days	76		
Rate per day	$ 33.51		
Dates From:	Sept 21 - Oct 6/82		
Total Cost	76	x $ 33.51	2,546.76

c) Transportation:

No of days	76		
Rate per day	$ 228.61		
Dates From:	Sept 21 - Oct 6/82		
Total Cost	76	X $ 228.61	17,374.11

d) Instrument Rental:

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

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

f)	Analysis (See attached schedule)	2,402.10
g)	Cost of preparation of Report	
	Author	361.92
	Drafting	361.92
	Typing	361.92
h)	Other: Contractor	
	Total Cost	$32,577.37

e)	Unit costs for	Geochem	
	No of days	76	
	No of units	471 Samples	
	Unit costs	69.17 / Sample	
	Total Cost	471 × $69.17	$32,577.37

NORANDA EXPLORATION COMPANY, LIMITED

(WESTERN DIVISION)

DETAILS OF ANALYSES COSTS

PROJECT: THROUGH CREEK

ELEMENT	NO. OF DETERMINATIONS	COST PER DETERMINATION	TOTAL
Cu	471	1.50	706.50
Zn	471	.60	282.60
Ag	471	.60	282.60
Pb	471	.60	282.60
Mo	471	.60	282.60
Fe	471	.60	282.60
Mn	471	6.0	282.60
			$2,402.10

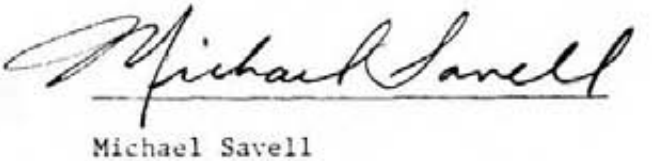
APPENDIX 2

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, Michael Savell of the City of Vancouver, Province of British Columbia, do cerify that:

1. I have been an employee of Noranda Exploration Company, Limited since May 1980.
2. I am a graduate of Dalhousie University with a Bachelor of Science degree in geology.

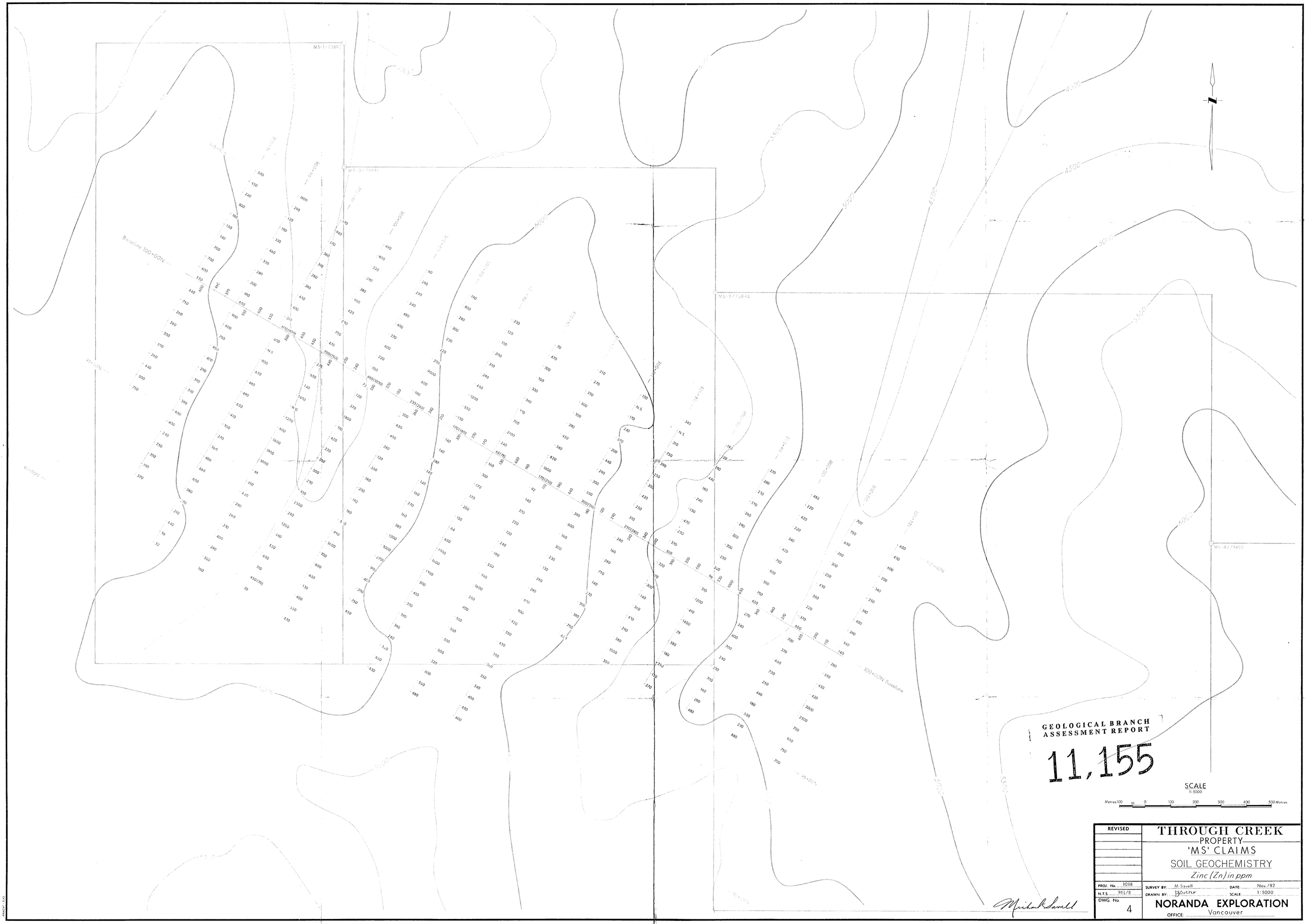


Michael Savell

Project Geologist

Noranda Exploration Company, Limited
(No Personal Liability)

REVISED	
	THROUGH CREEK PROPERTY 'MS' CLAIMS
	SOIL GEOCHEMISTRY *Lead (Pb) in ppm*
PROJ. No. 1018	SURVEY BY: M. Savell DATE: Nov. /82
N.T.S. 94 L/8	DRAWN BY: [illegible] SCALE: 1:5000
DWG. No. 3	NORANDA EXPLORATION OFFICE: Vancouver



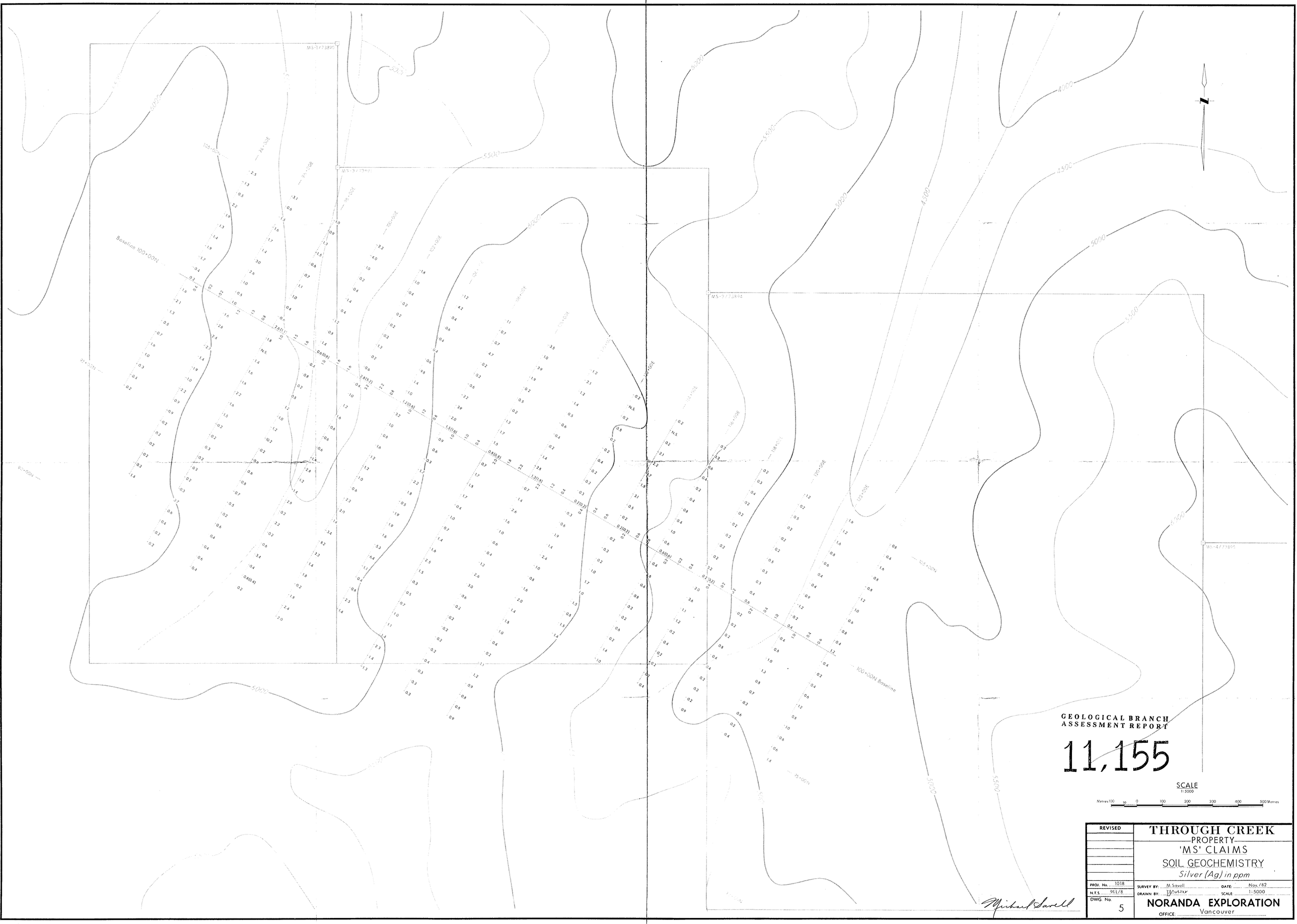
GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,155

SCALE
1:5000

Metres 100 50 0 100 200 300 400 500 Metres

REVISED	THROUGH CREEK PROPERTY 'MS' CLAIMS SOIL GEOCHEMISTRY Zinc (Zn) in ppm	
PROJ. No. 1018	SURVEY BY: M. Savell	DATE: Nov./82
N.T.S. 94L/8	DRAWN BY: Baxter	SCALE: 1:5000
DWG. No. 4	NORANDA EXPLORATION OFFICE: Vancouver	

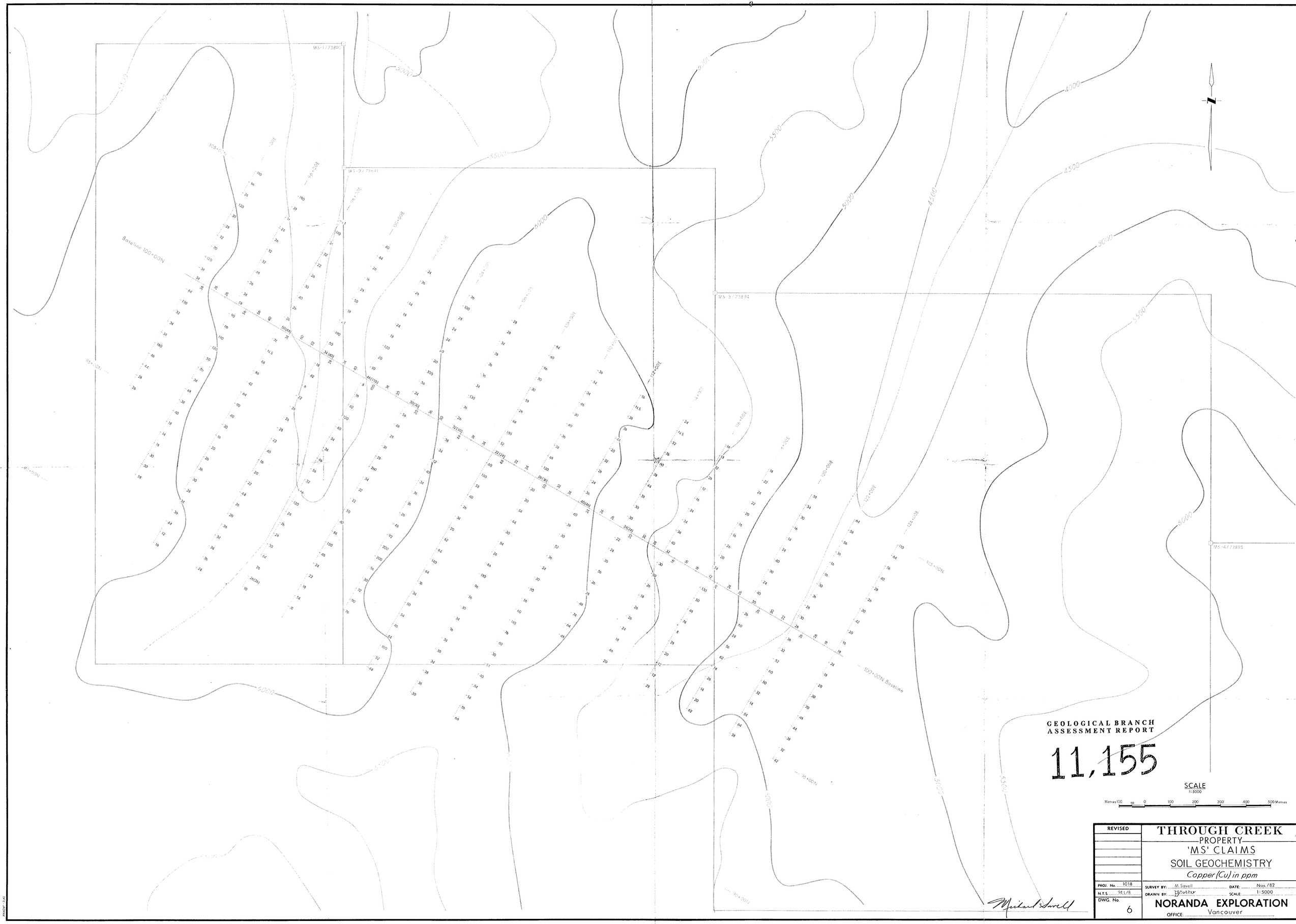


GEOLOGICAL BRANCH ASSESSMENT REPORT

11,155

REVISED	
	# THROUGH CREEK
	PROPERTY
	'MS' CLAIMS
	SOIL GEOCHEMISTRY
	Silver (Ag) in ppm
PROJ. No. 1018	SURVEY BY: M. Savell — DATE: Nov./82
N.T.S. 94 L/8	DRAWN BY: J. Arthur — SCALE: 1:5000
DWG. No. 5	**NORANDA EXPLORATION** OFFICE: Vancouver

Michael Savell



REVISED	THROUGH CREEK PROPERTY 'MS' CLAIMS SOIL GEOCHEMISTRY Copper (Cu) in ppm
PROJ. No. 1018	SURVEY BY: M. Savell DATE: Nov. /82
N.T.S. 94 L/8	DRAWN BY: Hastor SCALE: 1:5000
DWG. No. 6	NORANDA EXPLORATION OFFICE: Vancouver

Michael Savell

GEOLOGICAL BRANCH
ASSESSMENT REPORT

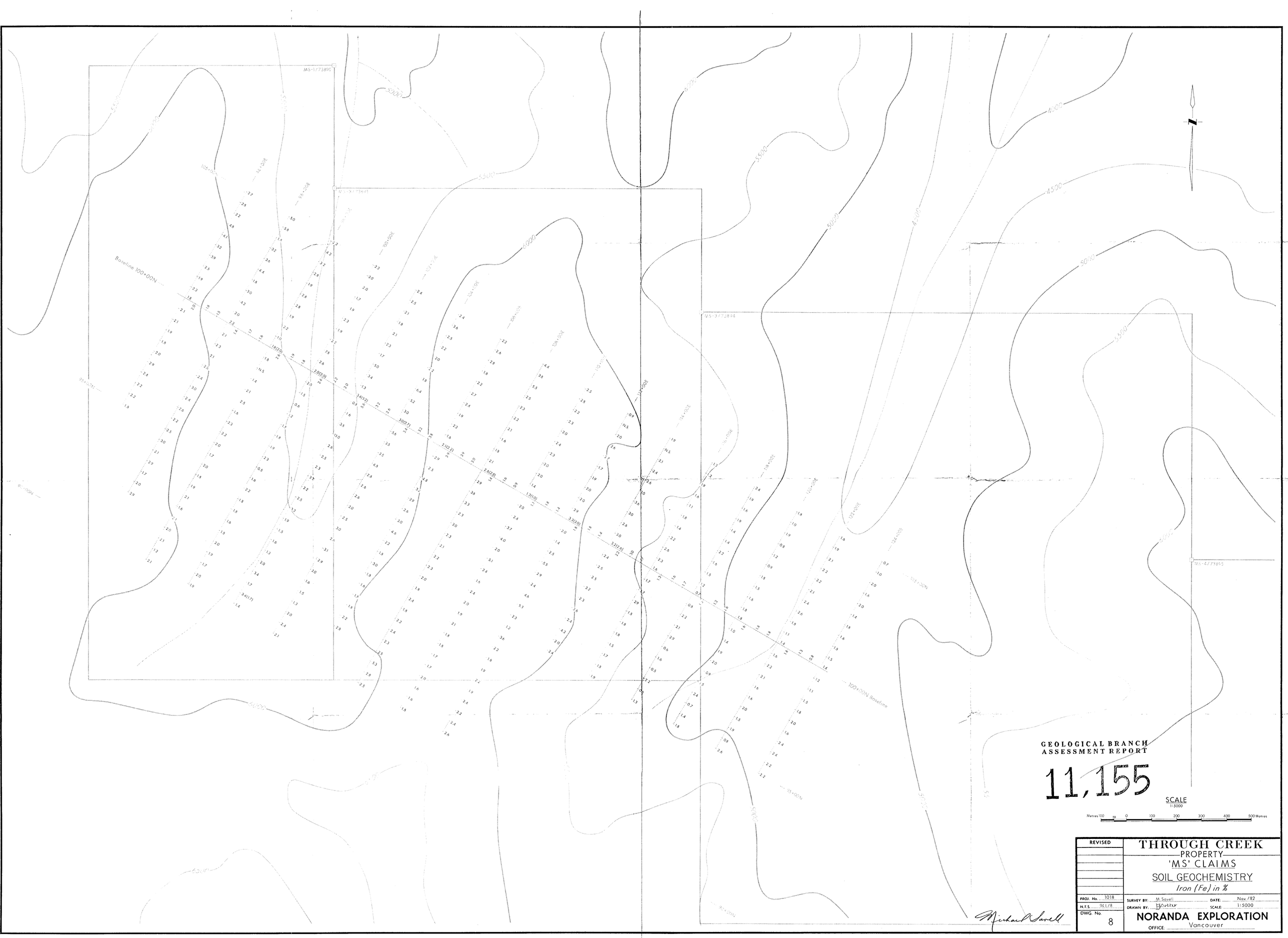
11,155

SCALE
1:5000

Metres 50 0 100 200 300 400 500 Metres

REVISED	THROUGH CREEK PROPERTY
	'MS' CLAIMS
	SOIL GEOCHEMISTRY
	Molybdenum (Mo) in ppm
PROJ. No. 1018	SURVEY BY: M. Savell DATE: Nov./82
N.T.S. 94I/8	DRAWN BY: Baxter SCALE: 1:5000
DWG. No. 7	NORANDA EXPLORATION
	OFFICE Vancouver

Michael Savell



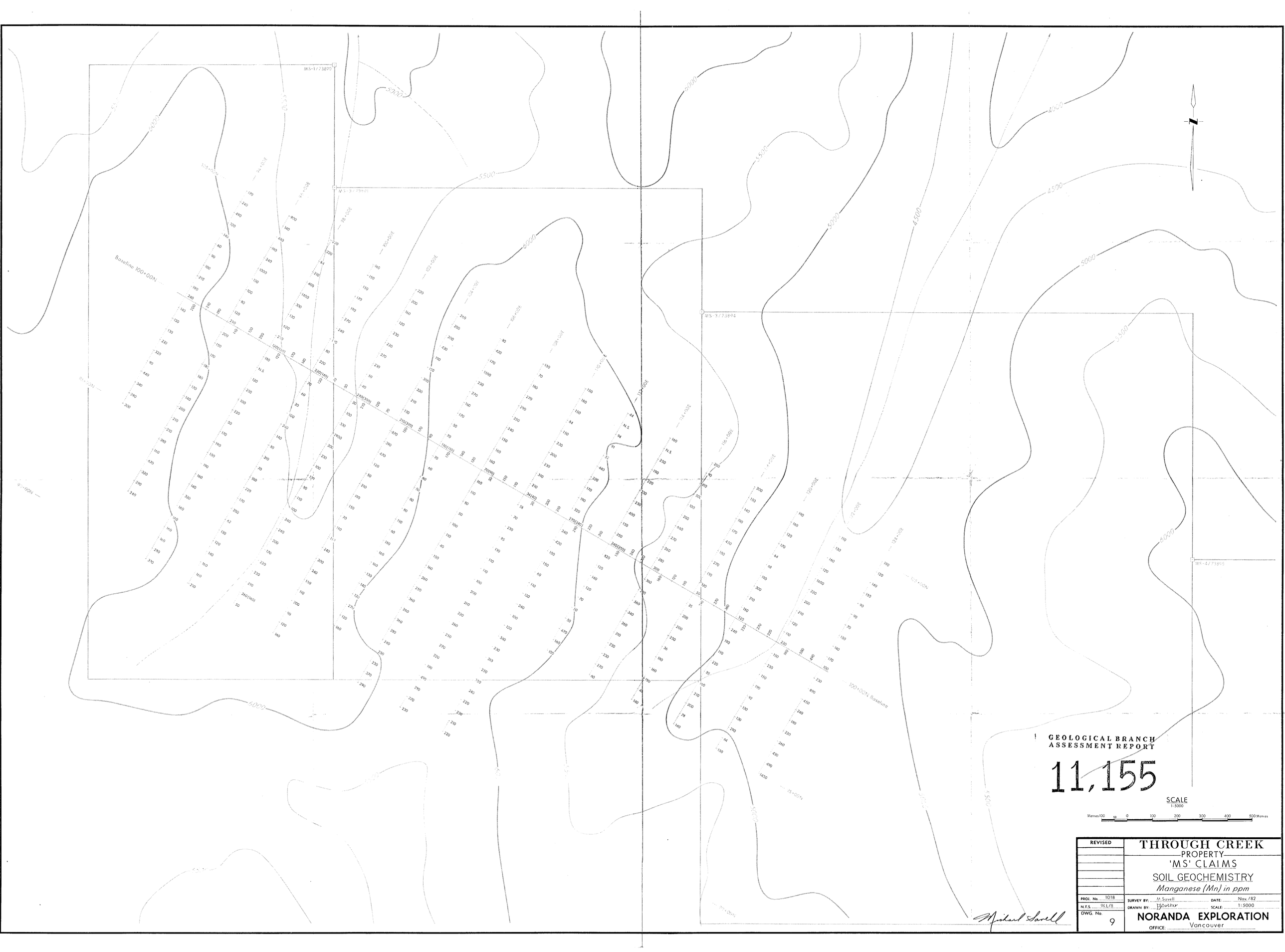
GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,155

SCALE
1:5000

Michael Savell

REVISED	
	THROUGH CREEK PROPERTY 'MS' CLAIMS SOIL GEOCHEMISTRY *Iron (Fe) in %*
PROJ. No. 1018	SURVEY BY: M. Savell DATE: Nov. /82
N.T.S. 94 L/8	DRAWN BY: B Arthur SCALE: 1:5000
DWG. No. 8	**NORANDA EXPLORATION** OFFICE: Vancouver



GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,155

REVISED	
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PROJ. No. 1018	SURVEY BY: M.Savell — DATE: Nov./82
N.T.S. 94 L/8	DRAWN BY: P.Arthur — SCALE: 1:5000
DWG. No. 9	**NORANDA EXPLORATION** OFFICE: Vancouver

Michael Savell