

ASSESSMENT REPORT
GEOLOGICAL AND GEOCHEMICAL SURVEY
ON THE
ME 1-4 MINERAL CLAIMS
N.T.S. 82F/8 & 9
49°30'N Lat. 116°17'W Long.
NELSON MINING DIVISION

GEOLOGICAL BRANCH
ASSESSMENT REPORT

12,934

John Keating
Noranda Exploration Company, Limited
(No Personal Liability)

August 7 - August 12, 1983

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1. INTRODUCTION

The ME 1-4 mineral claims, comprising 80 units, were staked in July of 1983 by Noranda Exploration Company, Limited (No Personal Liability). Staking was undertaken on the premise that the area was geologically similar in age and lithologies to that of the Sullivan Deposit at Kimberley, B.C.

Between August 7th. and August 12th. 1983 a reconnaissance geological mapping programme (scale 1:10,000) and geochemical survey (48 soil samples, 40 silt samples) were completed on the ME claims.

2. LOCATION AND ACCESS

The ME 1-4 mineral claims are located approximately 30 km southwest of Kimberley B.C. within N.T.S. map sheets 82F/8 and 9. The claims are centered on Long. 116°17'W and Latitude 49°30'N within the Nelson Mining Division. Road access to the eastern portion of the claims may be gained from Kimberley by taking the St. Mary Lake road to the east end of St. Mary Lake, then following the Hellroaring Creek road, south and west, onto the claim group.

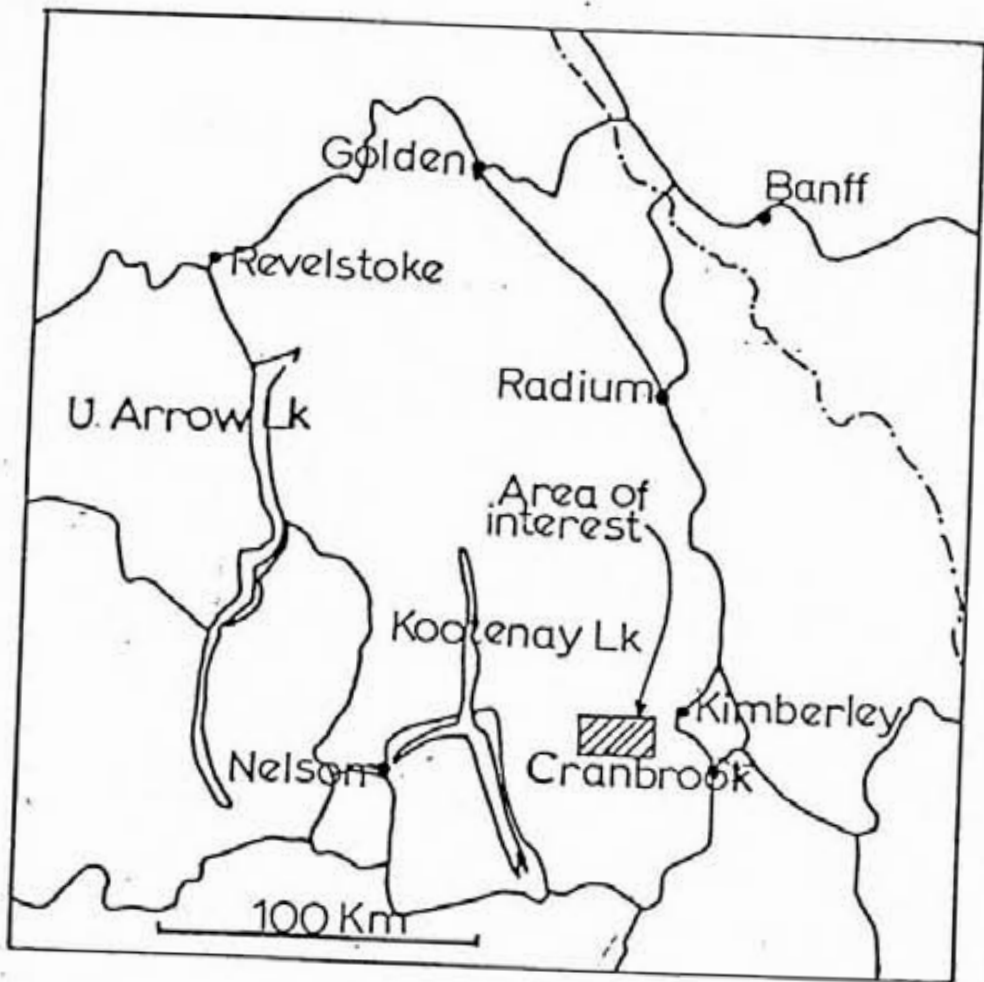
3. TOPOGRAPHY

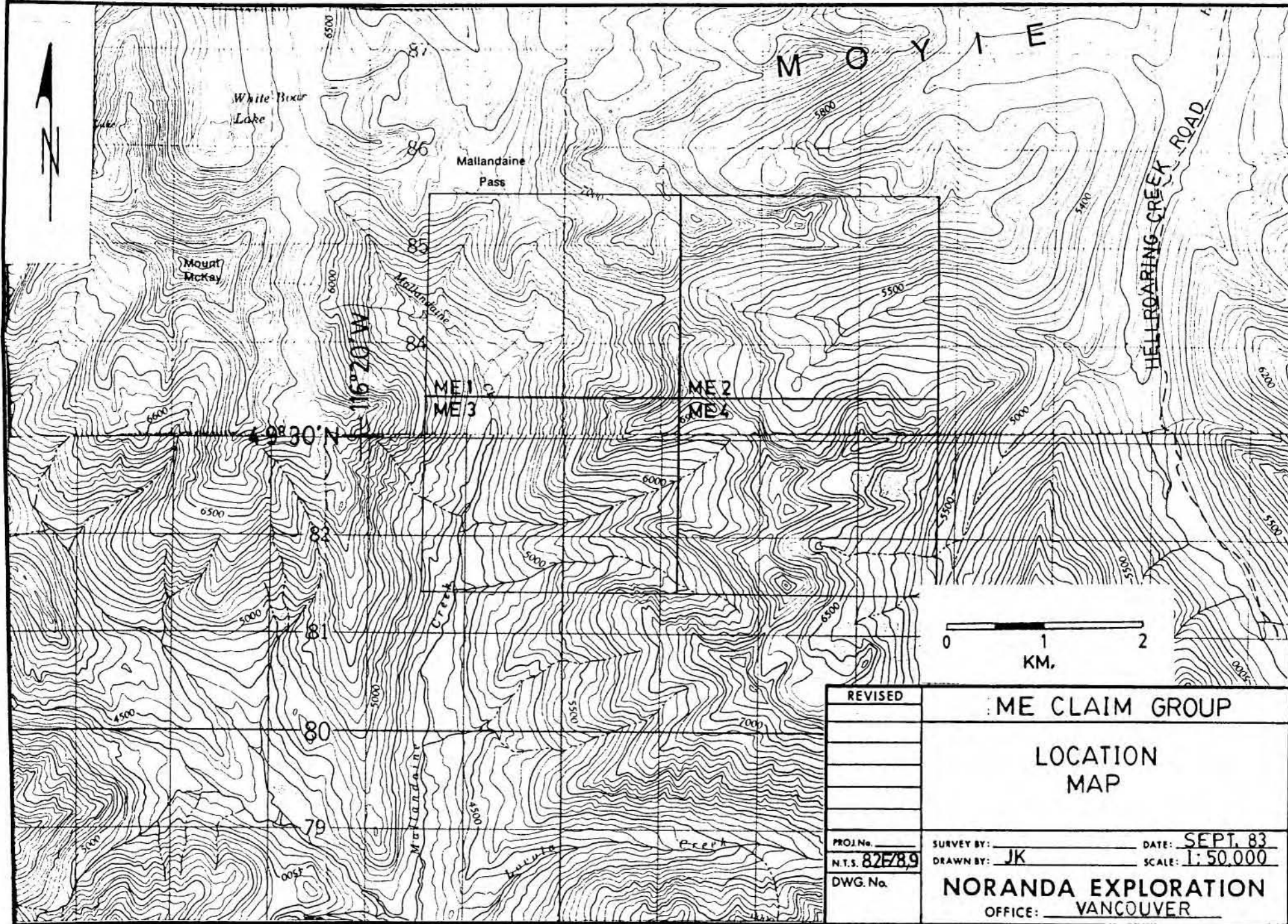
The Mt. Evans area, located within the Purcell Mountains is typified by very rugged terrain. Maximum relief on the claim group is about 1,350 m. Valley floors are characterized by extensive amounts of overburden with outcrop primarily restricted to those areas with elevations in excess of 1,800 m.

4. CLAIMS AND OWNERSHIP

The ME 1-4 mineral claims were recorded by Noranda Exploration Company, Limited in July, 1983 and are owned in part by Noranda Exploration Company, Limited (No Personal Liability) and Granges Exploration AB.

Claim Name	Record No.	No of Units	Record Date
ME 1	3446	20	July 29, 1983
ME 2	3447	20	July 29, 1983
ME 3	3448	20	July 29, 1983
ME 4	3449	20	July 29, 1983





REVISED	ME CLAIM GROUP	
	LOCATION MAP	
PROJ. No.	SURVEY BY: JK	DATE: SEPT. 83
N.T.S. 82E/8,9	DRAWN BY: JK	SCALE: 1:50,000
DWG. No.	NORANDA EXPLORATION	
	OFFICE: VANCOUVER	

5. SULLIVAN TYPE MODEL

The Sullivan ore body is a stratabound massive sulphide lead-zinc-silver deposit which is conformable with the contact of the (Proterozoic) Lower to Middle Aldridge Fm. sediments at the intersection of north-trending and east-trending primary basin structures.

Intense alteration (silicification and albitization) extends several hundreds of meters into the hanging wall sedimentary rocks of the orebody. Remobilized sulphide veins also cut the hanging wall stratigraphy; with their abundance decreasing with distance from the ore zone. These features, the hydrothermal alteration and remobilized sulphide veins form a recognizable alteration zone above the sulphide deposit.

Footwall rocks underlying the main sulphide body are cut by a funnel-shaped tourmalinite zone 1,400 by 950 m and extending downward more than 450 m below the orebody. Contacts between this tourmalinite and laterally unaltered footwall rocks are discordant although serrated in detail.

6. GEOCHEMICAL SURVEY

6.1. Introduction

Forty stream sediment and 48 soil samples were collected from the ME 1-4 claims. Analysis was done for parts per million copper, zinc, silver, molybdenum, and parts per billion gold at Noranda Exploration Company, Limited (No Personal Liability) laboratory at 1050 Davie Street, Vancouver, B.C.

6.2. Silt Sampling Methods

Silt samples were obtained by hand selecting a portion of the finest transported material available, preferably free of organic impurities, from accessible stream beds. The samples were placed in "Hi Wet Strength Kraft 3 1/2" x 6 1/8" Open End" envelopes and the sample numbers were marked on the envelopes with an indelible felt pen. The sample locations were recorded on 1:10,000 scale topographic map.

6.3. Soil Sampling Method

Soil samples were obtained by digging holes with a maddock to a depth of 15 - 30 cm where the visible B horizon whenever possible was exposed. Samples were then placed in a "Hi Wet Strength Kraft 3 1/2" x 6 1/8" Open End" envelopes with the sample number marked on the envelopes with an indelible felt pen. The sample locations were recorded on 1:10,000 scale topographic field maps.

6.4. Laboratory Analytical Methods

6.4.1 Preparation

The silt and soil samples were dried at approximately 80°C and then sieved with a -80 mesh nylon screen. The -80 mesh (0.18 mm) fraction is then used for geochemical analysis.

6.4.2 Analysis

Ag, Cu, Pb, Zn and Mo: 0.200 grams of -80 mesh material is digested in concentrated perchloric acid and nitric acid (3:1) at reflux temperature for 5.0 hours. A Varian-Techtron Model AA-5 or AA-475 Atomic Absorption Spectrophotometer is then used to determine the parts per million (ppm) silver, copper, lead, zinc and molybdenum in each sample.

Au: 10.0 grams of -80 mesh material is digested with aqua regia (one part nitric acid and 3 parts hydrochloric acid). The resulting solution is subjected to MIBK (Methylisobutyl Ketone) extraction, which extract is analyzed for parts per billion (ppb) gold using an AA-475 Atomic Absorption Spectrophotometer.

6.5. Presentation of Results

Geochemical (silt/soil) results for the ME 1-4 claims are presented in Appendix 1 and on Drawing 1 of this report. Drawing 1 is a 1:10,000 scale location plot of the sample numbers with their corresponding values of ppm Cu, Pb, Zn, Ag, Mo and ppb Au in tabular form.

6.6. Discussion of Results

Values for copper, zinc, lead, silver, molybdenum and gold fall within background levels for all silt samples on the ME claims. Fifteen of nineteen soil samples collected from a contour soil traverse on the ME 4 claims returned anomalous molybdenum values with one anomalous gold reading. These samples were taken west and south of a Mesozoic granodiorite plug. Values for the 19 samples (see map for location) are as follows:

<u>Sample</u>	<u>Mo (ppm)</u>	<u>Au (ppb)</u>
30276	2	10
77	<2	10
78	6	10
79	4	10
80	18	10
81	12	10
82	32	10
83	24	10
84	24	10
85	38	10
86	14	10
87	18	10
88	32	10
89	16	10
90	94	10
91	60	30
92	90	10
93	86	10
94	170	10

The average for soils and silts was < 2 ppm.

The high Mo values are probably a reflection of a granodiorite stock cutting the Eager Fm. quartzites as the Mo values appear to increase towards the margin of the stock. While the granodiorite stock was not prospected in detail, no molybdenum was found in outcrop during the reconnaissance mapping.

7. GEOLOGICAL SURVEY

7.1 Introduction

Eighteen mandays were spent mapping the ME 1-4 mineral claims. All mapping was plotted on a 1:10,000 scale topographic field map and is presented on Drawing 2 (scale 1:10,000) of this report.

7.2 Geology

The majority of the ME 1-4 (3346-3349) claims are underlain by Paleozoic Cranbrook and Eager Fm sediments bounded to the east by Kithener Siyeh Fm. argillites and fault bounded on the north by Proterozoic Aldridge Fm. sedimentary rocks. The St. Mary fault a regional east-northeast trending structure cuts through the northern half of the ME 1 and 2 claims and separates Proterozoic strata to the north from the Paleozoic strata to the south.

The Cranbrook Fm. is a thick, massive to well bedded sequence of pyrite-pyrrhotite bearing quartzites and grits, generally striking north-south with moderate to steep dips to west or northwest. Both pyrite and pyrrhotite occur as fine disseminations throughout the formation and comprise up to 10% of the rock. The Cranbrook Fm. is commonly marked by a prominent gossan. Conformably overlying the Cranbrook Fm. and underlying much of the ME 1-3 claims are graphitic shales and argillites of the Eager Fm. These shales are typically black, fine grained, recessive and often contain up to 3% pyrite as discrete cubes. Graphite is invariably present and may comprise up to 60% of the rock.

The Cranbrook Fm. is cut by a small Mesozoic granodiorite stock on the ME 4 claim. Contact metamorphic effects peripheral to this medium grained intrusive appear to be minimal.

The oldest rocks on the property are those of the Aldridge Fm. These form a generally north-south trending folded sequence of metasedimentary rocks, which cover the north-west portion of the ME 1 claim and are bounded to the south by the St. Mary Fault.

The lowermost exposed unit (unit 1) is a thick sequence of massive to thickly bedded Middle Aldridge Fm. quartzite. This quartzite member is typically grey to white in colour and is often characterized by thin (1.0 - 2.0 cm) interbeds of graphitic argillite. Individual quartzite members appear to vary in thickness from several centimeters to over 1.0 m. Graded bedding and cross bedding were the only primary structures observed.

Conformable overlying unit 1 and gradational to it, is a medium grained, well bedded clean quartzite. This member (unit 1a) is distinguished

from the lowermost quartzite unit primarily by the lack of graphitic or argillitic partings. Unit 1a typically weathers a white to cream colour and displays excellent graded bedding and cross bedding. Unit 1a is thought to represent the uppermost member of the Middle Aldridge Fm.

Unit 1a is overlain by a thick sequence of very fine grained black shale often with a high graphite component. Individual beds are in the order of 0.5 cm. in thickness. This black shale (unit 2), often recessive is thought to represent the basal member of the Upper Aldridge Fm.

8. SUMMARY AND RECOMMENDATIONS

Reconnaissance geological and geochemical surveys were completed on the ME group of mineral claims which were staked on the assumption that the area was geologically similar in age and lithologies to that of the Sullivan type deposit (statabound massive sulphide lead, zinc and silver).

Geological mapping indicates the claims to be underlain primarily by Paleozoic and minor amounts of Proterozoic sedimentary rocks.

Rocks of the Aldridge Fm. which hosts the Sullivan deposit were found to exist in the northwest portion of the claims. These exposures appear to be part of the Middle to Upper members of the Aldridge Fm. and are therefore thought to be too high in the sedimentary pile to represent a Sullivan type environment, which is associated with the Lower to Middle Aldridge contact.

The geochemical survey produced anomalous molybdenum values in the Cranbrook Fm. quartzites near the periphery of a granodiorite stock on the ME 4 claim.

Further prospecting, detailed mapping and soil geochemistry is warranted for that area underlain and adjacent to the granodiorite stock.

APPENDIX 1
GEOCHEMICAL SAMPLE RESULTS

NORANDA GEOCHEM LABORATORY

LOCATION MT EVANS PROJECT 1071 COLLECTOR D. Br. DATE RECEIVED _____ CODE _____ SHEET 2
 MATERIAL _____ DATE ANALYSED _____ ANALYST _____
 MARKS ME 1-4 CLAIMS

T. O.	SAMPLE NO.	ppm	ppm	ppm	ppm	ppm	ppb							
		Cu	Zn	Pb	Ag	Mo	Au							
	10947	36	120	26	.2	<2	10							
	10948	46	100	28	.2	<2	10							
	10949	20	180	24	.2	<2	10							
	10950	22	110	22	.2	<2	10							
	10776	34	130	32	.2	<2	10							
	20301	66	130	36	.2	<2	10							
	20302	32	92	22	.2	<2	10							
	20303	22	130	26	.2	<2	10							
	20304	35	150	30	.2	<2	15							
	20305	30	140	36	.2	14	10							
	20306	34	92	20	.2	<2	10							
	20307	30	110	32	.2	<2	10							
	20308	26	94	16	.2	<2	10							
	20309	24	88	34	.2	<2	10							
	20310	18	130	36	.2	<2	10							
	20311	30	110	40	.2	<2	10							
	20312	50	88	34	.2	<2	10							
	20313	18	110	32	.2	<2	10							
	20314	24	98	38	.2	<2	10							
	20315	26	120	48	.2	<2	10							
	20991	25	92	24	.4	<2	10							
	20992	30	94	24	.2	<2	10							

APPENDIX 2
STATEMENT OF COSTS

NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COST

PROJECT MT. EVANS - ME 1-4 CLAIMS DATE OCTOBER 1983
TYPE OF REPORT GEOLOGY & GEOCHEM

a) Wages:

No. of Days 21
Rate per Day \$117.88
Dates From: August 1-31, 1983
Total Wages 21 x \$ 117.88 2,475.46

b) Food and Accomodation:

No of days 21
Rate per day \$78.67
Dates From: August 1-31, 1983
Total Cost 21 x \$ 78.67 1,652.13

c) Transportation:

No of days 21
Rate per day \$62.57
Dates From: August 1-31, 1983
Total Cost 21 X \$ 62.57 1,313.89

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)	704.00
g) Cost of preparation of Report	
Author	117.88
Drafting	117.88
Typing	117.88
h) Other:	
Contractor	

Total Cost \$6,499.12

e) Unit costs for Geology	
No of days	18
No of units	
Unit costs	310.30 / DAY
Total Cost	18 x 310.30
	5,585.12

Unit costs for Geochem	
No. of Days	3
No. of Units	88 Samples
Unit Costs	10.38/Sample
Total Cost	88 X 10.38
	<u>913.70</u>
	<u>\$6,499.12</u>

NORANDA EXPLORATION COMPANY, LIMITED
(WESTERN DIVISION)

DETAILS OF ANALYSES COSTS

PROJECT: MT. EVANS - ME 1-4 CLAIMS

<u>ELEMENT</u>	<u>NO. OF DETERMINATIONS</u>	<u>COST PER DETERMINATION</u>	<u>TOTAL</u>
Cu	88	1.60	140.80
Pb	88	.60	52.80
Zn	88	.60	52.80
Mo	88	.60	52.80
Ag	88	.60	52.80
Au	88	4.00	<u>352.00</u>
			<u>\$704.00</u>

APPENDIX 3
STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, John Keating of the City of Vancouver, Province of British Columbia,
do hereby certify that:

I am a resident of British Columbia, residing at 1877 West 5th.
Avenue.

I am a graduate of Concordia University, Montreal, with a Bachelor
of Science Degree in Geology.

I am a member in good standing with the Canadian Institute of
Mining and Metallurgy.

I have been a temporary employee with Noranda Exploration Company,
Limited since May, 1979 and a permanent employee since March, 1983.

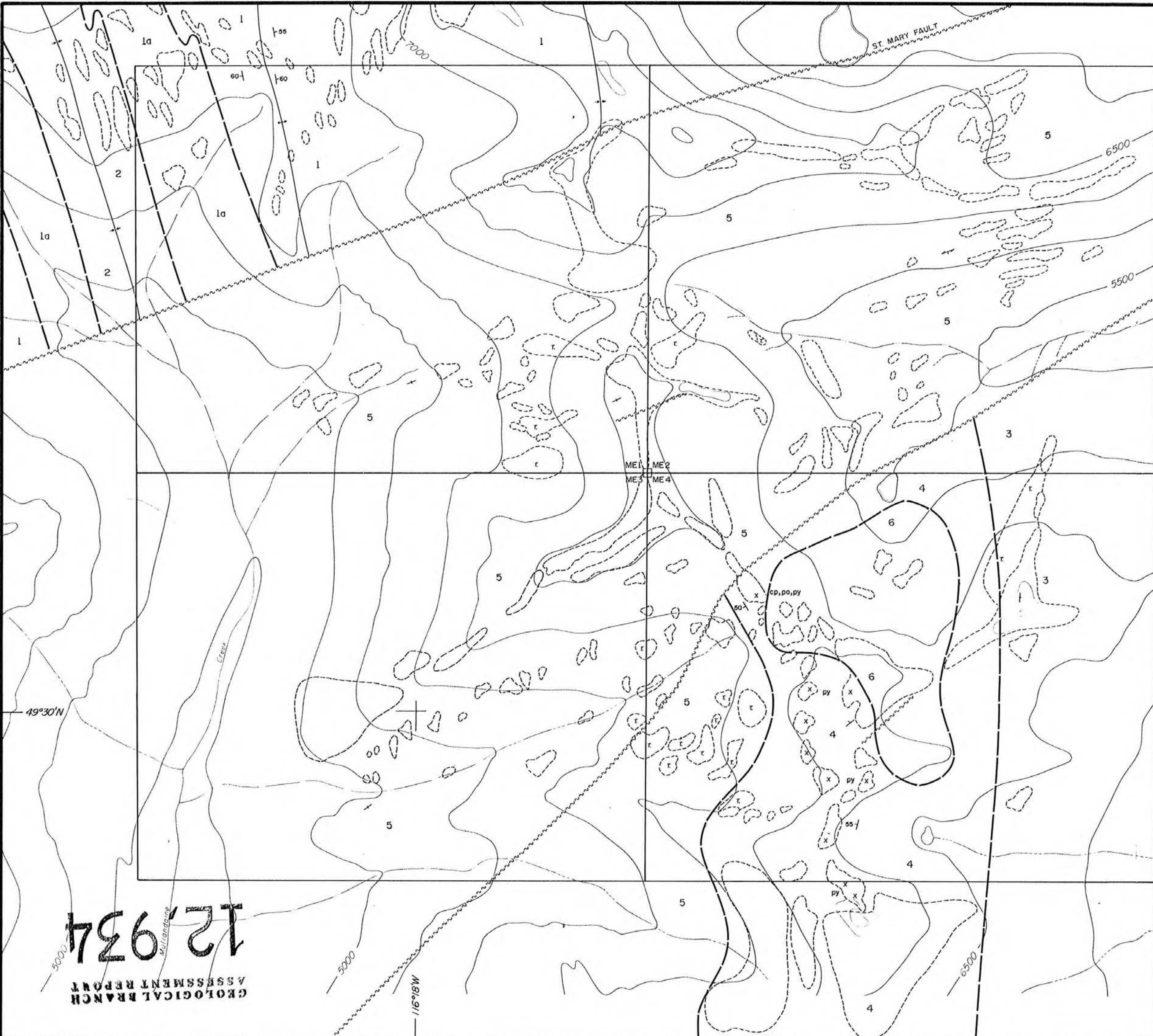


John Keating

Project Geologist

Noranda Exploration Company

Limited(No Personal Liability)



LEGEND

MESOZOIC

6 GRANODIORITE

PALEOZOIC

5 EAGER FORMATION, argillite

4 CRANBROOK FORMATION, quartzite

PROTEROZOIC

3 KITCHENER SIYEH FORMATION, argillite

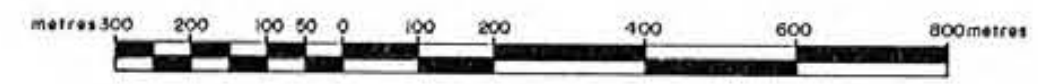
2 UPPER ALDRIDGE, siltstone, rusty argillite

1, la MIDDLE ALDRIDGE, quartzite 1., argillite, quartzite la.

SYMBOLS

- Outcrop boundary
- Talus
- Strike and Dip
- Anticline
- Syncline
- Geological Contact
- Creek, intermittent creek
- Contour line
- Claim lines and LCP
- Fault
- py, cp, po Pyrite, Chalcopyrite, Pyrrhotite

SCALE
1cm=100m

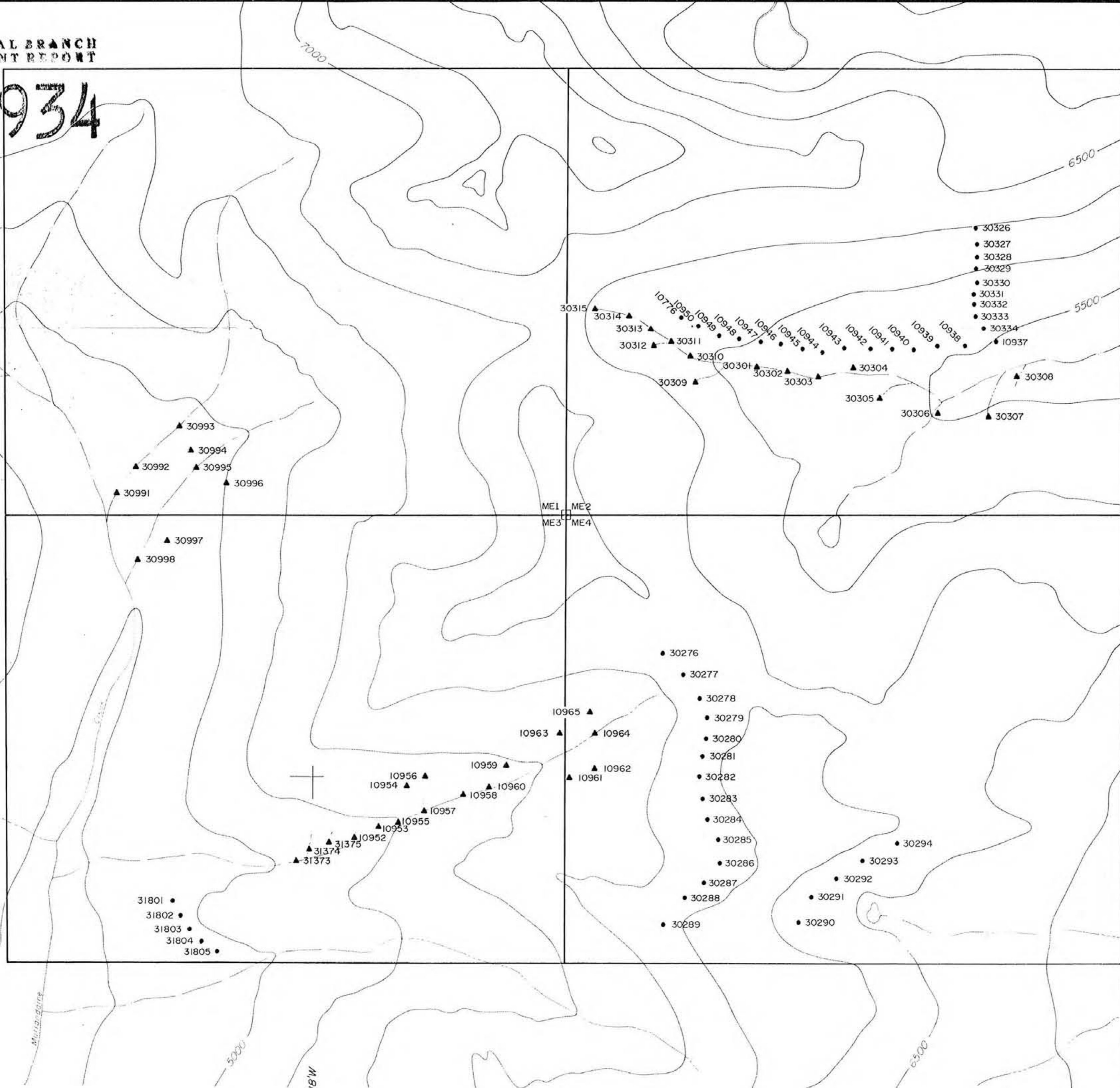


12 934
 GEOLOGICAL BRANCH
 ASSESSMENT REPORT
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REVISED	
PROJ. No. 23	
N.T.S. 82 F.8,9	
DWG. No.	2

MOUNT EVANS J.V.
 ME 1, ME 2, ME 3 and ME 4 Claims
 Geological Map
 SURVEY BY: RA, J.K., D.B., J.M., G.V. DATE: 83-09
 DRAWN BY: sksLllllll SCALE: 1:10 000
NORANDA EXPLORATION
 OFFICE: Vancouver

12,934

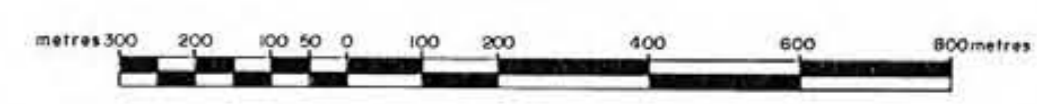


GEOCHEMICAL RESULTS

Sample No.	Cu ppm	Zn ppm	Pb ppm	Ag ppm	Mo ppm	Au ppb
SOILS						
10776	34	130	32	.2	.42	10
10937	34	120	30	.2	.42	10
10938	24	100	26	.2	.42	10
10939	44	350	52	.2	.42	10
10940	22	120	24	.2	.42	10
10941	28	150	22	.2	.42	10
10942	54	190	44	.2	.42	10
10943	70	140	88	.2	.42	10
10944	36	180	70	.2	.42	10
10945	32	130	36	.2	.42	10
10946	38	200	44	.2	.42	10
10947	36	120	26	.2	.42	10
10948	46	160	28	.2	.42	10
10949	20	180	24	.2	.42	10
10950	22	140	22	.2	.42	10
31801	12	72	18	.2	.42	-
31802	22	68	24	.2	.42	-
31803	20	70	16	.2	.42	-
31804	14	84	14	.2	.42	-
31805	24	78	22	.2	.42	-
30276	14	30	8	.2	.42	10
30277	18	24	6	.2	.42	10
30278	24	86	24	.2	.6	10
30279	14	34	12	.2	.4	10
30330	28	70	22	.2	.18	10
30331	28	76	12	.2	.12	10
30332	38	78	18	.2	.32	10
30333	62	90	12	.2	.24	10
30334	60	92	14	.2	.24	10
10937	100	84	8	.2	.38	10
30286	38	120	14	.2	.14	10
30287	30	60	8	.2	.18	10
30288	28	40	10	.2	.32	10
30289	22	38	14	.2	.16	10
30290	98	62	20	.2	.94	10
30291	100	66	22	.2	.60	30
30292	76	68	16	.2	.90	10
30293	70	50	14	.4	.86	10
30294	84	82	30	.2	.170	10
30326	40	90	32	.4	.42	-
30327	18	90	24	.2	.42	-
30328	18	110	28	.2	.42	-
30329	28	120	26	.4	.42	-
30330	22	120	32	.4	.42	-
30331	50	130	30	.4	.42	-
30332	62	100	44	.4	.42	-
30333	36	140	32	.4	.42	-
30334	20	86	16	.2	.42	-
SILTS						
10952	-	-	-	-	-	-
10953	28	110	26	.2	.42	10
10954	34	40	38	.2	.42	10
10955	30	130	34	.2	.2	10
10956	22	94	12	.2	.42	10
10957	28	140	30	.2	.4	15
10958	30	68	28	.2	.42	10
10959	26	110	30	.2	.42	10
10960	24	130	42	.2	.42	10
10961	40	60	30	.2	.42	10
10962	22	100	70	.2	.4	10
10963	24	130	94	.2	.4	10
10964	24	94	76	.2	.4	10
10965	24	120	70	.2	.4	10
30301	66	130	36	.2	.42	10
30302	32	92	22	.2	.42	10
30303	22	130	36	.2	.42	10
30304	38	150	30	.2	.42	15
30305	30	140	36	.2	.14	10
30306	34	92	20	.2	.42	10
30307	30	110	38	.2	.42	10
30308	76	94	16	.2	.42	10
30309	24	88	34	.2	.42	10
30310	18	130	36	.2	.42	10
30311	30	110	40	.2	.42	10
30312	50	88	34	.2	.42	10
30313	18	110	32	.2	.42	10
30314	24	98	38	.2	.42	10
30315	26	120	48	.2	.42	10
30991	28	92	24	.4	.42	10
30992	30	94	24	.2	.42	10
30993	24	130	16	.4	.42	10
30994	32	120	28	.4	.42	10
30995	36	90	26	.6	.42	10
30996	28	84	22	.4	.42	10
30997	42	190	20	.2	.42	10
30998	26	70	16	.2	.42	10
31373	22	110	40	.2	.42	-
31374	28	72	32	.2	.42	-
31375	20	72	48	.2	.42	-



SCALE
1cm=100m



REVISED	MOUNT EVANS J.V.	
	ME1, ME2, ME3 and ME4 Claims	
	Geochemical Sampling	
PROJ. No. 23	SURVEY BY: RA, J.K., D.B., J.M., G.V.	DATE: 83-09
N.T.S. - 82 F. 8, 9	DRAWN BY: J.K. Little	SCALE: 1:10,000
DWG. No.	NORANDA EXPLORATION	
	OFFICE: Vancouver	