

ASSESSMENT REPORT FOR DIAMOND DRILLING
ON THE SOUTH NAHANNI 1 MINERAL CLAIM

(Quartz Lake Property)



60°31'N

95 D-12

127°56'W

NORANDA EXPLORATION COMPANY LIMITED
(No Personal Liability)

090703
G. Macdonald

December 15, 1980



ASSESSMENT REPORT FOR DIAMOND DRILLING
ON THE SOUTH NAHANN

This report has been examined by the
Geological Evaluation Unit and is recom-
mended to the Commissioner to be consider-
ed as representation work in the amount of

\$ 500.00

[Signature]

Resident Geologist or
Resident Mining Engineer

Considered as representation work under
Section 53 (4) Yukon Quartz Mining Act.

Commissioner of Yukon Territory

NORANDA EXPLORATION COMPANY LIMITED
(No Personal Liability)

TABLE OF CONTENTS

Introduction:

Figure 1: Location Map

Figure 2: Claim Map

Drill Logs:

Appendix:

Statement of Qualifications

Statement of Costs

Claim Ownership List

T I T L E

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Introduction

The claims referred to in this report are registered as indicated in the Appendix. Diamond Drilling was done by Noranda Exploration Company Limited. (No Personal Liability) on the following claim:

SN 1 - 57465

This claim is part of the South Nahanni (SN) Dorothy, M, QTZ, STRAT, WH13 Fr and PIC 1-3 Fr claim block known as the McMillan or Quartz Lake Property. The property is located approximately 45 air miles Northeast of Watson Lake, Yukon. Access in 1980 was by helicopter and/or ski-equipped fixed wing aircraft from Watson Lake.

Three BQ diamond drill holes (#132, #137, #140) were completed for a total length of 1054 feet between April 24, 1980 and May 18, 1980. This program was designed to test stratigraphy and geophysical targets north of the "Main Zone" mineralization.

Drill equipment (a diesel-powered Hydra-Wink drill) was supplied by Drilcor Industries of Richmond, B.C. as contractor.

Drill core is stored on the property on leased claim SN 5.

Drilling was supervised by D. Pegg, R. McIntyre, R. Rogers, G. Macdonald and G. Dirom. All are employees of Noranda.

Drill Logs

The following drill logs summarize the results of the program.

Submitted by:



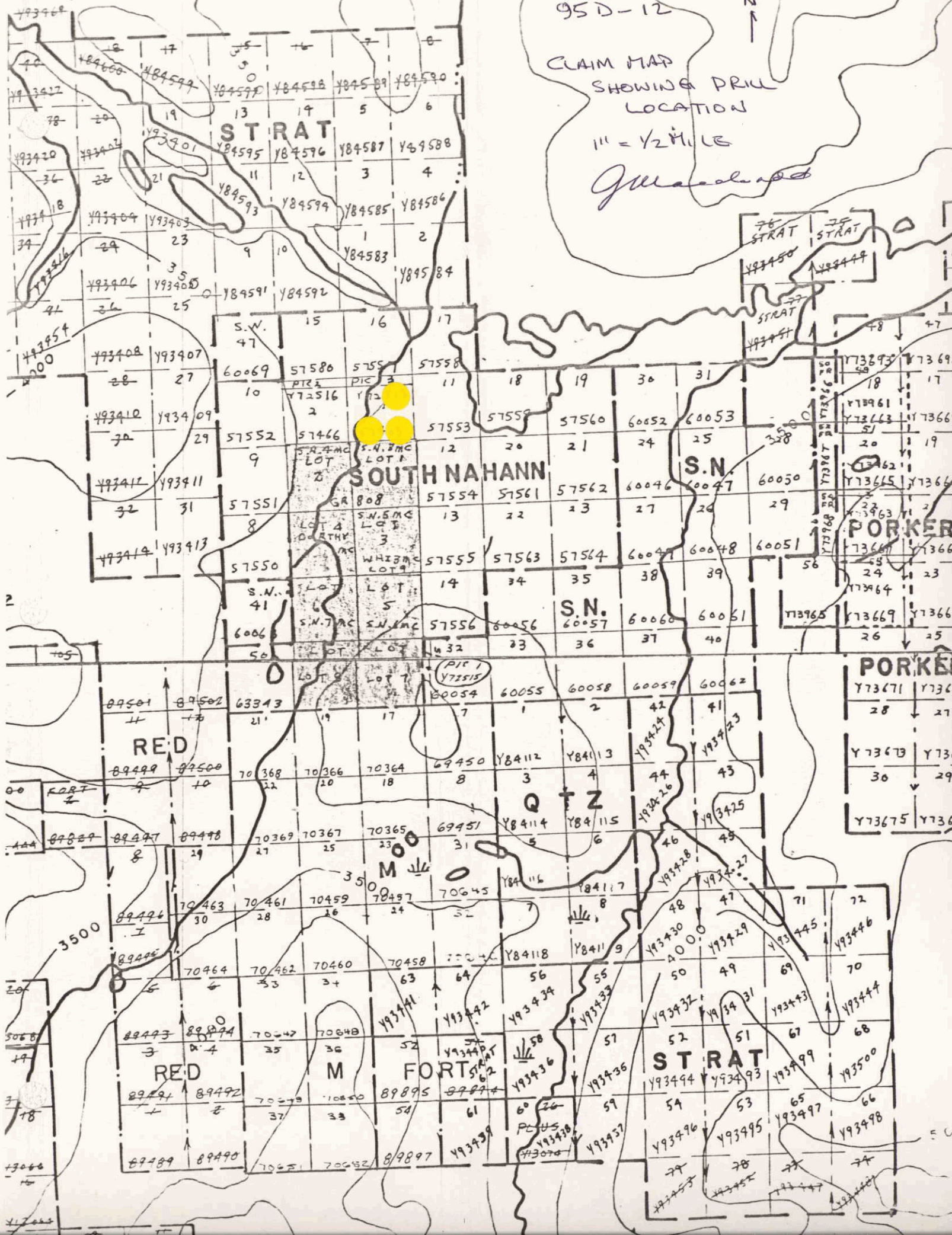
G. Macdonald
District Geologist

December 15, 1980

N
↑

$$I'' = \frac{1}{2} \dot{H}_1 \text{ LB}$$

Guadalupe



NORANDA EXPLORATION COMPANY, LIMITED

Collared 24/4/80			Completed 10/5/80		Core Size BQ		Property QUARTZ LAKE, Y.T.				Project No 942		NTS No. 95D	
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 1 of 3		
St. 60+00N		Elev.		Dip -90°		Lat. 103,129.0		Elev. (3520)		Dip		Hole No.		
Sp. 8+00E		Depth 352		Bearing		Dep. 100,758.0		Depth		Bearing		132		
Footage	Rec'y	Graphic Log	Description				% Sulp.	Est. Grade	Sample No.	Lt.				
77.0		OVV	overburden, sand, gravel, some glacial granodiorite						P6090		212-217			
97.2	90		<u>argillite</u> , navy grey, highly fractured with quartz filling, black-green argillite partings, occasional				5		91		217-222			
			1/16" pyrite in fractures or bedding. Bedded at 75° to core axis.											
106.5	60		<u>quartzite</u> , mottled dark grey, some bull quartz veining broken rock, no visible sulphides						92		222-227			
113.2	80		<u>argillite</u> , pale grey, black-grey partings, very broken rock						93		227-232			
113.5	90		<u>quartzite</u> , mottled light grey, then 2" of sheared grey argillite						94		232-237			
150.0	95		<u>argillite</u> , banded at 85° to core axis. Interbedded green/black, occasional pyrite rusty in fractures				5		95		237-242			
			cutting bedding. Feathery black parting at 139.5											
158.0	95+		<u>argillite</u> as above, discontinuous pods of pyrite 1/8" thick // banding				5		96		242-247			
161.0	95		<u>quartzite</u> , massive with green argillaceous fractures at 40° to core axis						97		257-262			
162.0	90		<u>brecciation</u> , green argillite and quartzite grey. Pyrite disseminated throughout				10		98					
177.0	90		green argillite as before, some banded pyrite				5		99		292-297			
192	20		6" of purple quartz, the purple and grey banded argillite						P6100		297-302			
198	90		<u>argillite</u> distinctive brick red and mottled yellow/grey banded, contorted, white clay partings some disseminated				5		01		302-307			
			pyrite											

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02/5/80

NORANDA EXPLORATION COMPANY, LIMITED

Collared			Completed		Core Size		Property			Project No			NTS No.		
FIELD COORDINATES							SURVEYED COORDINATES						Sheet 2 of 3		
Lat.			Elev.		Dip		Lat.		Elev.		Dip		Hole No.		
Dep.			Depth		Bearing		Dep.		Depth		Bearing		132		
Footage	Rec'y	Graphic Log	Description					% Sulp.	Est. Grade	Sample No.	Lt.				
215.0	90		<u>argillite</u> , highly sheared, pyritic pink and grey-green 1" massive pyrite at 213.8					10		P6102		307-312			
216.0	95		massive pyrite					90		03		312-317			
										04		317-322			
216.5	90		<u>argillite</u> , orange-grey, sheared, pyrite in fractures					10							
217.0	95		massive pyrite					90							
227.0	90		<u>argillite</u> , brecciation of brick red argillite and pyrite					20							
232.0	90		interbedded pink argillite and grey quartzite, sheared and convoluted 14" massive pyrite at 228.8					20							
239.0	95		<u>argillite</u> , pink with fracture filling of sphalerite throughout, 1/16" thick green argillite partings. Some					20							
			quartzite pods.												
254.2	95		<u>argillite</u> , very sheared, green interbedded with black sphalerite + galena in fractures 1/8", and pyrite					20							
			surrounding quartzite clastics throughout. Pyrite increases to the bottom of this section. Sharp 60° to												
			core axis contact with:												
278.0	95		<u>Black Thrust</u> black argillite + quartzite mylonitic, quartzite pebbles in fine grained argillite matrix.					10							
			Disseminated pyrite throughout												
287.5	95		<u>(Thrust)</u> section of green argillite brecciation, very pebbly quartzite throughout.												

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NORANDA EXPLORATION COMPANY, LIMITED

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NORANDA EXPLORATION COMPANY, LIMITED

Driilled 10/5/80			Completed 14/5/80		Core Size B.Q.	Property QUARTZ LAKE, YUKON			Project No 942		NTS No. 95D			
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 1 of 3		
Lat. 60+00N			Elev. 3854		Dip -90	Lat. 103,148		Elev. (3532)		Dip		Hole No. 137		
Dep. 15+00E			Depth 352		Bearing -	Dep. 101,513		Depth		Bearing				
Footage	Rec'y	Graphic Log	Description				% Sulp.	Est. Grade	Sample No.	Lt.				
27.0			Overburden											
37.2	60		sulphide zone of rusty tan to ochre argillite, quartz veins 1/8". Jarosite boxwork after pyrite				T							
39.5	90		<u>argillite</u> , green with pyrite in convoluted laminae at $\bar{x}$ 30° to core axis. Some pink argillite, generally marginal sulphides											
63.5	80		<u>argillite</u> , grey-green, dominantly rusty fracture, generally 30° to core axis banding in top 5 ft. of section, then Δ to $\sim$ 65-70° to core axis. Bands for duration of section, after zone of argillite pebbles											
72.5	60		<u>argillite</u> , sheared light green + white, minor siderite generally just a creamy mush of silt											
92.0	80		<u>argillite</u> , light grey to green, black graphite partings show slicken sides at 45° to core axis. Minor pods of grey to pink quartzite throughout, banding dominantly at 50° to core axis pyrite disseminated in fractures				T							
16.5	95		<u>argillite</u> , pasty green, with occasional pods of quartzite or grey argillite defining bands at $\bar{x}$ 85° to core axis. Occasional partings of chrome green argillite with trace graphite. No visible sulphides											
39.5	95		<u>argillite</u> , dominantly pasty green as above, with black argillite bands and graphite partings. Some fracture filling by quartz 1/8" thick, banding 65° to core axis to 75° to core axis.											
40.9	95		<u>argillite</u> , creamy grey with graphitic laminae, graded to top + bottom lithologies											

NORANDA EXPLORATION COMPANY, LIMITED

Dred			Completed		Core Size		Property			Project No			NTS No.		
FIELD COORDINATES							SURVEYED COORDINATES							Sheet 2 of 3	
			Elev.		Dip		Lat.		Elev.		Dip		Hole No.		
			Depth		Bearing		Dep.		Depth		Bearing		137		
Stage	Rec'y	Graphic Log	Description					% Sulp.	Est. Grade	Sample No.	Lt.				
52.0	95		argillite, pasty green as above, minor pyrite on graphitic fracture // to core axis												
55.0	95		argillite, pasty green, soft rock deformation indicated by load stringers, slumping → convoluted beds.												
			153.5 → 155.0 possible stromatolitic texture, ovoids up to 1" X 3/4" oblong												
79.5	90		argillite, banded pasty green and dark grey, slightly sheared at 169, quartz veinlets 1/8" stockwork at 171.5 for ~ 6"												
79.9	95		quartz, white, sheared, clean contacts with surrounding strata, some inclusions of green argillite												
88.5	90		argillite, banded dark grey + pasty green at 80° to core axis, 181-182 sheared + graphitic					5							
			192.5 - 194.5 sheared + pyritic. Minor 1/4" offset faults // to core axis												
15.0	90		dominantly argillite, pasty green, convoluted, more graphite than previous interval												
18.5	90		argillite, banded grey + black, sheared in places, no sulphides possibly first sign of Black Thrust. Graphitic partings												
59.5	90		Black Thrust, sheared, banded grey + black argillite + grey quartzite, at ~ 80° to core axis. Some pyrite laminae					5							
61.6	95		quartzite cobble brecciation with black + grey argillite matrix					5							
89.0	95		quartzite, grey and minor black argillite. Black Thrust, sheared					5							

NORANDA EXPLORATION COMPANY, LIMITED

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NORANDA EXPLORATION COMPANY, LIMITED

Drilled 4-5/80	Completed 18/5/80	Core Size B.Q.	Property QUARTZ LAKE, Y.C.	Project No 942	ATS No. 95D
FIELD COORDINATES			SURVEYED COORDINATES		
68+00N	Elev. 3430	Dip -90	Lat. 104,000	Elev. 3423	Dip
8+00E	Depth 350	Bearing	Dep. 100,782	Depth	Bearing
					Hole No. 140

Shotage	Rec'y	Graphic Log	Description	% Sulp.	Est. Grade	Sample No.	Lt.				
61.5		OVB	chips of white quartzite and grey argillite								
63.2	80		<u>quartzite</u> , grey pyritic, graphite partings								
92.0	50		rubble of quartzite as above and some green argillite, jarositic chips + pebbles probably represent								
126.2	80		<u>argillite</u> , pasty green, bedding // cleavage at 80° to core axis, laminae 1/16" or less								
127.0	80		sheared white zone of green argillite								
162.5	80		argillite, pasty green as above								
187.0	70		dominantly grey quartzite, with graphitic partings and some leached white argillite-clay partings								
198.0	90		<u>argillite</u> , as above, slightly darker green, more black argillite/graphitic partings								
199.2	80		<u>white quartzite</u> , sheared, probably original quartzite, rusty clay and quartz chips								
205.0	70		<u>argillite</u> , pasty green, sheared and altered white quartz veinlets at 45° to core axis								
223.2	70		interbanded grey quartzite and grey-black argillite, highly sheared, black ooze possibly altered pyrite.								
			Start of Black Thrust								
225.0	80		quartzite, grey, not as sheared as prior interval								
252.0	80		dominantly grey quartzite, some quartz veins cut bedding throughout, ~ 1/2" thick, grades into banded white-black								
			argillite at base								

NORANDA EXPLORATION COMPANY, LIMITED

Bored			Completed		Core Size		Property			Project No			NTS No.			
FIELD COORDINATES							SURVEYED COORDINATES							Sheet 2 of 2		
			Elev.		Dip		Lat.		Elev.		Dip		Hole No.			
			Depth		Bearing		Dep.		Depth		Bearing		140			
Stage	Rec'y	Graphic Log	Description					% Sulp.	Est. Grade	Sample No.	Lt.					
68.0	95		banded grey, white + black argillite, in "zebra" striped pattern, some pyrite pods // bedding at 80° to core axis					T								
70.0	?		black ooze, and some sand sized quartzite particles													
71.5	80		<u>argillite</u> , grey and black, minor conformable pyrite					T								
72.9	90		light grey quartzite, black argillite or graphitic partings													
05.8	95		dominantly black argillite, 85 to 75° to core axis bands quartz veinlets with fractures offset, some pods of													
			grey quartzite													
16.5	95		<u>grey quartzite</u> , interbanded with black argillite, 1/4" quartz veinlets throughout fractures at 40° & 75° to					T								
			core axis. Trace of pyrite													
26.5	95		<u>black argillite</u> , with massive white quartz veins cutting bedding, all fractures offset // to core axis, sheared													
			in places													
50.0	95		interbanded grey quartzite and grey to black argillite convoluted and sheared minor pyrite dissemination					T								

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[Handwritten signature]

NORANDA EXPLORATION COMPANY, LIMITED

N.T.S. 95D

PROPERTY QUARTZ LAKE

DATE May 1980

D. DRILL HOLE 132

SAMPLE REPORT

ALL MEASUREMENTS IN FEET

[illegible]

NORANDA EXPLORATION COMPANY, LIMITED

N.T.S. 95D

DATE June 1980

PROPERTY QUARTZ LAKE

D. DRILL HOLE 137

SAMPLE REPORT

ALL MEASUREMENTS IN FEET

[illegible]

NORANDA EXPLORATION COMPANY, LIMITED

N.T.S. 95D

PROPERTY QUARTZ LAKE

DATE May 1980

D. DRILL HOLE 140

SAMPLE REPORT

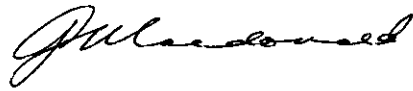
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A P P E N D I X

STATEMENT OF QUALIFICATIONS

I, GLEN MACDONALD, 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 May 1976.
2. I am a graduate of the University of British Columbia, with a Bachelor of Science degree in Geology.
3. I am a member of the Canadian Institute of Mining and Metallurgy.



G. Macdonald, Geologist,
Noranda Exploration Company Limited
(N.P.L.).

NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COST

PROJECT QUARTZ LAKE J.V.

DATE November 25, 1980

TYPE OF REPORT DRILLING

a) Wages:

No. of Days 274

Rate per Day \$45.5746

Dates From: March, April, May, June 1980

Total Wages 274 x \$ 45.574635 12,487.45

b) Food and Accomodation:

No of days 274

Rate per day \$23.09832

Dates From: March, April, May, June 1980

Total Cost 274 x \$ 23.09832 6,328.94

c) Transportation:

No of days 274

Rate per day \$151.057

Dates From: March, April, May, June 1980

Total Cost 274 X \$ 151.057 41,389.62

d) Instrument Rental: CAT

Type of Instrument Tractor & Winch

No of days 122

Rate per day \$76.681885

Dates From: March, April, May, June 1980

Total Cost 122 X \$ 76.681885 9,355.19

Type of Instrument

No of days

Rate per day \$

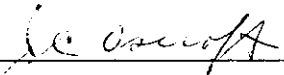
Dates From:

Total Cost X \$

f) Analysis (See attached schedule)	<u>3,151.00</u>
g) Cost of preparation of Report	
Author	455.75
Drafting	1,145.31
Typing	455.75
h) Other:	
Property & Recording Fees	190.00
Telecommunications	950.85
Contractors	187,351.17
Camp & Field Supplies	5,301.13
 Total Cost	 <u>268,562.16</u>

e) Unit costs for	
No of days	
No of units 1,875.33 meters	
Unit costs \$143.2079471 / meters	
Total Cost 1,875.33 x 143.207947	<u>268,562.16</u>

I certify that the
total cost of \$268,562.16
is correct


J.E. Oscroft - Br. Accountant

NORANDA EXPLORATION COMPANY, LIMITED
(WESTERN DIVISION)

DETAILS OF ANALYSES COSTS

PROJECT: QUARTZ LAKE J.V.

<u>ELEMENT</u>	<u>NO. OF DETERMINATIONS</u>	<u>COST PER DETERMINATION</u>	<u>TOTAL</u>
Ag	205	4.50	922.50
Pb	205	5.00	1,025.00
Zn	205	5.00	1,025.00
As	7	9.25	64.75
Sb	7	9.25	64.75
Au	7	5.50	38.50
Cu	7 Geochem Analysis	1.50	10.50

\$3,151.00

CLAIM REGISTRATION FOR FORM " D "

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STRAT 1-6	Noranda Exploration Company Limited (NPL)
STRAT 9-14	"
STRAT 19	"
STRAT 21	"
STRAT 23	"
STRAT 25	"
STRAT 27	"
STRAT 29	"
STRAT 31	"
STRAT 41-72	"

SOUTH NAHANNI (SN) 1-2	Liard River Mining Company Ltd.
SOUTH NAHANNI (SN) 8-29	"
SOUTH NAHANNI (SN) 32-41	"
SOUTH NAHANNI (SN) 47	"
SOUTH NAHANNI (SN) 50	"

QTZ 1-8	Noranda Exploration Company Limited (NPL)
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M 7,8	American Smelting and Refining Company
M 17-38	"

PIC 1Fr, 2Fr, 3Fr	"
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