

ASSESSMENT REPORT  
DIAMOND DRILLING REPORT

on the

PAT: 32, 33, 48, 60, 100, 300 and 1100

MINERAL CLAIMS

located in the Revelstoke Mining Division

found on maps 82M/9W & 10E

Owned By

NORANDA EXPLORATION COMPANY, LIMITED  
(NO PERSONAL LIABILITY)

By

B.B. Hughes

April 1978

**PART 1  
OF 2.**

MINERAL RESOURCES BRANCH ASSESSMENT REPORT <b>6696</b> NO. _____
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TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
LOCATION AND ACCESS	1
CLAIMS AND OWNERSHIP	1
DIAMOND DRILLING	2
DISCUSSION	2

APPENDICES

APPENDIX 1	Statement of Qualifications
APPENDIX 2	Diamond Drilling
APPENDIX 3	Cost Statements

LIST OF FIGURES

FIGURE 1	Location Map 1:250,000
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LIST OF DRAWINGS

DRAWING 1	Grid, Claim and Diamond Drill Hole Plan 1:5,000
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## INTRODUCTION

The mineral claims referred to in this report are located in the Selkirk Mountains of Southern British Columbia, 70.4 km north of the town of Revelstoke.

A diamond drill program was completed on the Pat claims to test for possible economic mineral concentrations along strike from the known Goldstream ore body. The drilling was done during the period August 24 to October 8, 1977.

Drilling was done by Herb Allen Diamond Drilling of Merritt, B.C. and all core logging was done by G. Gibson and B.B. Hughes, Noranda Exploration Company, Limited personnel.

## LOCATION AND ACCESS

The Pat mineral claims which are part of the Goldstream Property are located on NTS map sheet 82M/9W at co-ordinates 51°37'N and 118°25'W. The claims are situated adjacent to the Goldstream River 12.8km upstream from its confluence with the Columbia River.

Access is via 13 km of logging road east from the B.C. Department of Highways Maintenance yard located at Mile 50 on the Revelstoke - Mica Creek Highway. Figure 1.

The Goldstream Valley in the area of the Pat claims is a typical U-shaped valley with floor elevations from 600 to 650 meters ASL and with valley walls rising steeply to 2400 to 2700 meters ASL on the ridges.

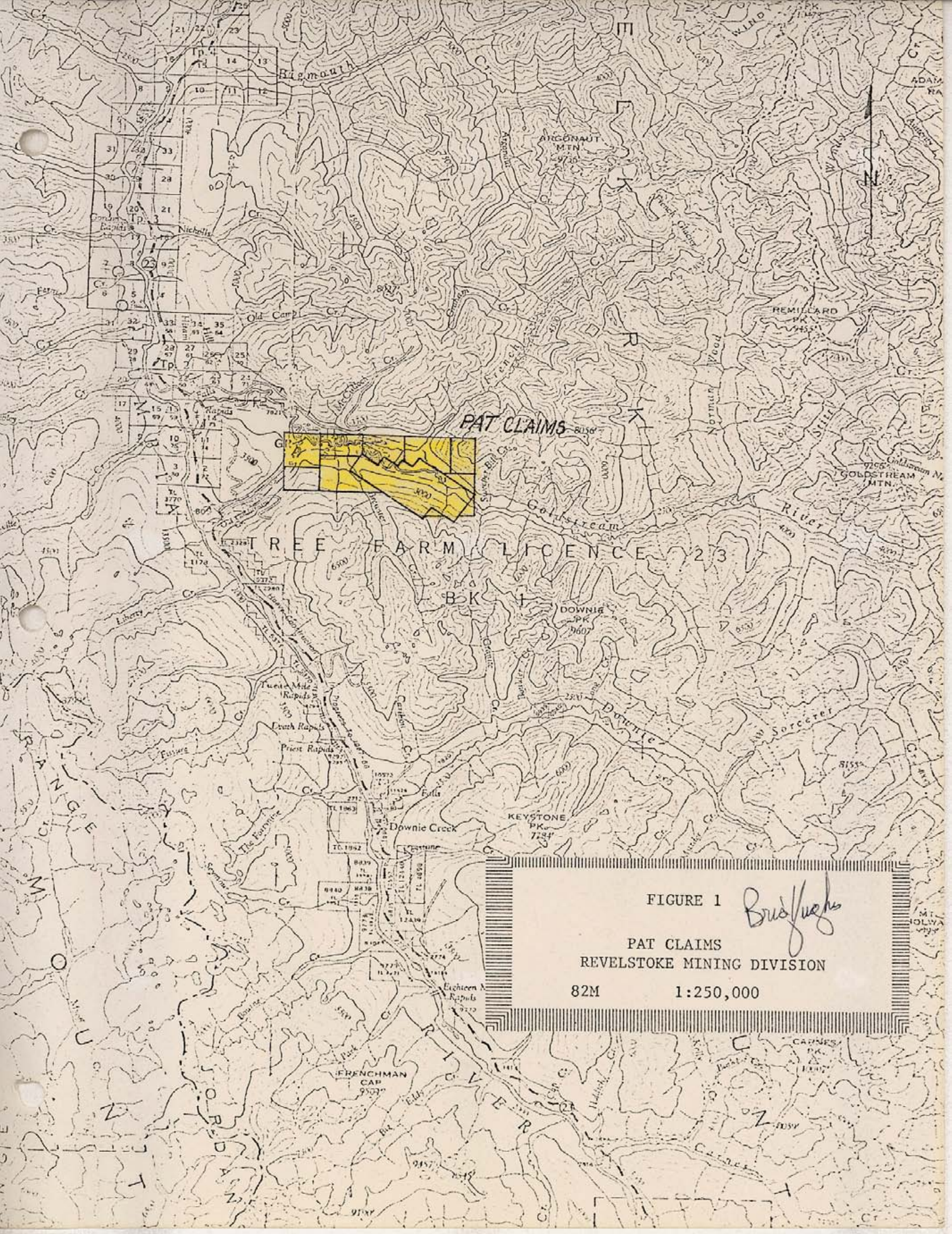
A rainforest vegetation is present in the Goldstream Valley with large timber and heavy underbrush.

Up to 40% of the claim area has been logged and since started to revegetate making traversing rather difficult.

## CLAIMS AND OWNERSHIP

The Pat claims that were drilled during September of 1977 are all owned by Noranda Exploration Company, Limited of 1050 Davie Street, Vancouver. All claims listed are recorded in the Revelstoke Mining Division.

<u>Claim Name</u>	<u>Record Number</u>	<u>Number of Units</u>	<u>Record Date</u>
Pat 32	11412		Sept.
Pat 33	11413		"
Pat 48	11500		"
Pat 60	11546		Jan.
Pat 100	5	20	July



PAT CLAIMS 8150'

TREE FARM LICENCE 23

BK 1

FIGURE 1

*Bridgman*

PAT CLAIMS  
REVELSTOKE MINING DIVISION

82M 1:250,000

<u>Claim Name</u>	<u>Record Number</u>	<u>Number of Units</u>	<u>Record Date</u>
Pat 300	13	20	Aug.
Pat 1100	29	12	Oct.

Pat mineral claims 32, 33, 48 and 60 were staked under the old two post staking laws and the Pat mineral claims 100, 300 and 1100 were staked under the new four post regulations. See Drawing 1.

#### DIAMOND DRILLING

Drilling was done under contract to Herb Allen Diamond Drilling of Merritt, B.C. using a Longyear Model #24 Diesel powered diamond drill. Core from all holes was AQ.

Drill sites were prepared under contract by T & G Contracting of Revelstoke for 45 hours using an International TD-20 crawler tractor. Moves between sites and setting up the drill was done with a John Deere Model #450 crawler tractor belonging to Herb Allen Drilling.

From August 30, 1977 to October 8, 1977 940.61 meters of drilling was done in nine holes. The following table shows how much drilling was done on each claim.

<u>Claim Name</u>	<u>Diamond Drill Hole Number</u>	<u>Meters Drilled</u>
Pat 32	NG - 55	150.67
Pat 33	NG - 57	92.41
Pat 48	NG - 52	91.71
Pat 60	NG - 56	139.10
Pat 100	NG - 58	93.94
	NG - 59	54.90
Pat 300	NG - 53	85.60
	NG - 54	80.70
Pat 1100	NG - 60	<u>151.58m</u>
		940.61 total

All core has been put in core boxes, labelled and stored in covered core racks at the Goldstream Mining Camp located in the center of the property where the lower logging road crosses Brewster Creek.

#### DISCUSSION

Drilling along strike with the Goldstream ore body during 1977 did intersect the favorable package of rocks across the property. However, no massive sulfide intersection were encountered and therefore no sample assays were taken.

Drilling also served to investigate favorable areas for mineralization where future mining facilities may eventually be constructed.

*B.B. Hughes*

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B.B. Hughes  
Geologist  
Noranda Exploration Company, Limited

APPENDIX 1

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, Brian B. Hughes of the City of Vancouver, Province of British Columbia, do certify that:

1. I have been employed as a geologist by Noranda Exploration Company, Limited since April 1976.
2. I am a graduate of the University of British Columbia with a Bachelor of Science Degree in Geology (1974).
3. I am a member of the Canadian Institute of Mining and Metallurgy.

*Brian B. Hughes*

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Brian B. Hughes  
Geologist  
Noranda Exploration Company, Limited  
(No Personal Liability)

APPENDIX 2  
DIAMOND DRILLING

NORANDA EXPLORATION COMPANY, LIMITED

Collared		Completed		Core Size		Property			Project No		NTS No.		
AUG 30/77		SEPT 1/77		AQ		GOLDSTREAM			41		82M/9W		
FIELD COORDINATES						SURVEYED COORDINATES							
Lat.		Elev.		Dip		Lat.		Elev.		Dip		Sheet	
2250 N		2400' (740m) ASL		-55°								1 of 4	
Dep.		Depth		Bearing		Dep.		Depth		Bearing		Hole No.	
1800 E		91.71m		200° (true)								NG-52	
Footage	Rec'y	Graphic Log	Description				% Sulp.	Est. Grade	Sample No.	Lt.			
0 - 7.95	0		CASING - No Core										
7.95	60		<u>BANDED CHLORITIC PHYLLITE</u> Siliceous, banded on a 1 to 5mm scale @ 55° to CA				41						
			Alternating grey, white and dark greenish levels. Micaceous partings. PyIpo to 2% (diss.) along banding and in <1mm. discordant veinlots -9.78 to 11.62 - Core tube didn't lock - lost										
16.51			1.5m of core. -13.30 2cm. concordant Quartz-Pyrite vein										
16.51	100		<u>DARK BANDED PHYLLITE</u> Black (argillaceous), brown (biotite) and white (quartz) bands to 2mm in width @ 55° to C.A. PyIpo diss. along banding <1% calcareous				1						
			-16.97 5cm conc. Quartz-Pyrite-Calc Silicate veinlet										
17.12			Gradational contact to ....										
17.12	90		<u>BANDED CHLORITIC PHYLLITE</u> Compositional layering not as pronounced. White conc. quartz lenses within a vaguely banded med. gr. Quartz-Bio-Chl. Phyllite. Banding @ 55°-80° to CA 2% calcareous. PyIpo disseminated along layering. -22.01 to 23.54 Finer grained equivalent.				40.5						
23.54			-22.01 to 23.54 Finer grained equivalent.										
23.54	100		<u>AS ABOVE</u> except ... Fewer qtz. lenses. Fine grain size, Core				40.5						
26.29			badly broken along the layering. Banding @ 75° to 80° to CA. Dark grey colour <1% calcareous.										

DATE SEPTEMBER 4/77

LOGGED BY G. GIBSON

*B. Hughes*

NORANDA EXPLORATION COMPANY, LIMITED

Collared		Completed		Core Size		Property			Project No.		NTS No.		
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 2 of 4	
Lat.		Elev.		Dip		Lat.		Elev.		Dip		Hole No.	
Dep.		Depth		Bearing		Dep.		Depth		Bearing		NG-52	
Footage	Rec'y	Graphic Log	Description					% Sulp.	Est. Grade	Sample No.	Lt.		
26.29	90		<u>DARK BANDED (GRAPHITIC) PHYLLITE</u> Banding @ 60° to 90° to CA, alternating 85% black fine gr. argillaceous/graphitic and 15% white quartz ± carbonate levels. Up to 10% calcareous. Po to 2% along banding and in narrow disc. (5° to CA) quartz veinlets. Slippage (shearing) along banding common. Minor bed-delimited contortion. -28.12 to 28.27 zone at m.g. qtz. chl. Phyllite -28.83 to 29.04 conc. quartz vein -31.49 to 31.79 brecciated quartz vein					1					
45.85			-42.19 to 42.49 contorted zone with much quartz.										
45.85	85		<u>CALCAREOUS BANDED PHYLLITE</u> To 80% calcareous. Banded on 1mm. scale @75° to CA 80% grey calc. and 20% dark argillaceous/graphitic levels					40.5					
48.30													
48.30	100		<u>BANDED CHLORITIC PHYLLITE</u> White conc. qtz. lenses up to 3mm. in width in fine gr. banded qtz-chlorite Phyllite. <2% calc. Banding @ 80° to CA. Occasional talcose partings. -49.83 1mm. conc. qtz-pyrrhotite veinlet.					<0.5					
51.05													
51.05	100		<u>BANDED CHLORITE-CARBONATE PHYLLITE</u> Subordinate qtz. and talc. Calcareous levels to 10cm in width. Banded @ 80° to CA, M.g. grey-green. PylPo diss. along banding					0.5					
52.38													
52.38			<u>BANDED CHLORITIC PHYLLITE</u> White conc. qtz lenses to 3mm. in f. tem. gr. thinly banded grey green Quartz chlorite Phyllite. Massive chlorite levels to 1cm. <2% calcareous. Po in qtz. veins					0.5					
63.60													

*Bridges*

DATE SEPTEMBER 4/77

LOGGED BY G. GIBSON

NORANDA EXPLORATION COMPANY, LIMITED

Collared			Completed			Core Size			Property			Project No			NTS No.		
FIELD COORDINATES									SURVEYED COORDINATES						Sheet 3 of 4		
Lat.			Elev.			Dip			Lat.			Elev.			Dip		
Dep.			Depth			Bearing			Dep.			Depth			Bearing		
Footage	Rec'y	Graphic Log	Description						% Sulp.	Est. Grade	Sample No.	Lt.					
			and diss. along layering. Banding @ 80° to C.A. Very little contortion. Rare brown biotite. Talcose partings														
			-59.00 to 62.36 As above with up to 50% brown bio. and less chlorite.														
			-62.62 5cm. quartz-calc silicate veinlet Recurring contact to .....														
63.60	100		AS ABOVE except ..... To 30% brown biotite, to 7% calcareous. Banding @ 85° to 90° to C.A.						<1%								
			-67.80 to 70.60 <7% biotite, 80% chlorite, fewer qtz. lenses. @ 70.30 to 70.65 zone with qtz carbonate veining.														
			-73.00 to 75.10 70% chlorite <15% biotite finer grained. Biotite has porphyroblastic texture														
			Gradational contact to .....														
			AS ABOVE except ..... <5% biotite, very fine gr. Qtz - chlorite (to 80%) Phyllite						<1%								
			Talcose partings -78.10 to 79.30 Silicified zone, Hard. banding not as distinct.														
			-79.30 to 79.50 up to 25% brown biotite														
			-81.95 to 82.17 Quartz vein -82.17 to 86.18 Silicified, banding not as pronounced, hard, originally the same rock type however.														
			-87.97 Discordant qtz. veining to 2mm - brecciated in places. Broken core. 80% recovery														
			-89.85 to 90.05 Quartz breccia zone.														
			-91.32 Two 1cm. conc. quartz veins														

*Bruce Hughes*



NORANDA EXPLORATION COMPANY, LIMITED

Collared	SEPT 2/77	Completed	SEPT 4/77	Core Size	AG	Property	GOLDSTREAM	Project No	41	NTS No.	82M/9W	
FIELD COORDINATES						SURVEYED COORDINATES				Sheet 1 of 4		
Lat.	2500 N	Elev.	2150' (657m) ASL	Dip	-55°	Lat.		Elev.		Dip		
Dep.	2400 E	Depth	85.60m.	Bearing	200° (true)	Dep.		Depth		Bearing		
											Hole No.	NG-53

Footage	Rec'y	Graphic Log	Description	% Sulp.	Est. Grade	Sample No.	Lt.				
0 - 3.67	0		CASING - No core.								
3.67	90		<u>MICACEOUS (muscovite) QUARTZITE</u> Hard, grey-white, vaguely banded @ 65° to CA. 80% qtz, 20% white mica. Pyrite in disc (20° to CA) qtz. veins	<1							
4.90											
4.90	100		<u>DARK BANDED PHYLLITE</u> Banded on a <0.5mm to 1 cm. scale @ 80° to CA Alter- nating 10% qtz lenses (white), 50% finely matted biotite ± chlorite levels (brown) and 40% f.g. qtz mica levels. <2% calcareous. Po diss. to 1% along foliation. - 9.50 1mm. conc. Po veinlet -12.08 to 12.28 Chlorite Phyllite - 80% chl., 15% qtz., 5% biotite. -12.85 2mm. disc green calc-silicate (& amph) Po veinlet	<1							
13.25											
13.25	100		<u>BANDED CHLORITIC PHYLLITE</u> Green fig. chlorite levels, much f.g. qtz., up to 20% brown biotite. Some secondary silicification. Massive sections contain up to 82% chl., 15% qtz., with 3% Po	1.5							
15.50											
15.50	100		<u>DARK BANDED PHYLLITE</u> Alternating qtz. lenses (to 50%), discrete brown biotite levels (30%) and f.g. qtz - chlorite ± biotite aggregates (65%) Po. diss. to 1.5% along banding. Bands 80-90° to C.A. -16.20 to 17.73 gradual transition from above to f.g. banded chloritic phyllite with 3% mottled biotite.	1							
17.73											
17.73	55		<u>CONTORTED GRAPHITIC PHYLLITE</u> 90% argillaceous/graphitic material, 10% white qtz.	3							

DATE SEPTEMBER 7/77 LOGGED BY G. GIBSON *Brian Hughes*

NORANDA EXPLORATION COMPANY, LIMITED

Collared			Completed			Core Size			Property			Project No			NTS No.			
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 2 of 4						
Lat.		Elev.		Dip		Lat.		Elev.		Dip		Hole No.						
Dep.		Depth		Bearing		Dep.		Depth		Bearing		NG-53						
Footage	Rec'y	Graphic Log	Description						% Sulp.	Est. Grade	Sample No.	Lt.						
			Up to 5% Po., much shearing and folding (incompetent) To 2% calcareous. Occasional undeformed f.g. chl >>qtz. levels near top of section. Badly broken core. -18.90 to 18.95 to 30% Po in brecciated host.															
			-22.30 to 24.40 wide brecciated qtz. vein with Po blebs to 1cm. across															
			-25.38 2cm. qtz vein -27.32 5cm. complex quartz vein															
			-28.65 3cm. quartz vein -29.65 3cm. quartz - Pyrrhotite vein															
			-29.82 2cm. quartz vein -31.05 3cm. complex quartz vein															
			-31.97 2cm. quartz vein -32.30 to 36.68 very graphitic broken section															
			-37.20 to 37.30 complex quartz - pyrrhotite veining -39.05 to 39.95 several wide quartz veins															
42.05			-41.60 to 41.73 complex qtz Po veining															
42.05	100		AS ABOVE except..... Little to no contortion. Banding on $\leq$ 0.5mm. scale @ 85° to C.A. To 7-10% calcareous.															
44.80																		
44.80	100		BANDED ARGILLACEOUS LIMESTONE Grey, 10% dark v.f.g. material in $\leq$ 1mm. bands. 90% m.g. carbonate. Banding @ 90° to C.A. Cut by disc (0° & 30°) white calcite veinlets with up to 6mm. of offset.						41									
47.00			Microstrolitic textures developed by pressure - solution along banding. Po confined preferentially to argillaceous levels.															
47.00	100		BANDED CHLORITIC PHYLLITE Alternating f. to m. gr. 60-85% green chlorite qtz levels						41									

DATE SEPTEMBER 7/77

LOGGED BY

G. GIBSON

*Brian Hughes*

NORANDA EXPLORATION COMPANY, LIMITED

Collared		Completed		Core Size		Property		Project No.		NTS No.					
FIELD COORDINATES						SURVEYED COORDINATES									
Lat.		Elev.		Dip		Lat.		Elev.		Dip					
Dep.		Depth		Bearing		Dep.		Depth		Bearing					
Footage		Rec'y		Graphic Log		Description		% Sulp.		Est. Grade		Sample No.		Lt.	
						and 15 to 40% white qtz. lenses 5% biotite (and hb?) Rare diss. Po. Banded @ 70° to C.A. Talcose partings <1% Calc.									
						-50.05 to 50.50 As above except 30% mottled bio. -52.50 to 52.80 minor folding, 1cm. wave length									
						-53.70 3cm. zoned atz, calc-silicate veinlet -54.90 to 55.05 To 50% brown biotite									
						-56.50 to 56.70 To 30% brown biotite -58.00 to 59.40 gradual increase in interlayered biotite to 20%									
59.75															
59.75	100					<u>DARK BANDED PHYLLITE</u> Alternating f.g. greenish chlorite levels (40%)m.g. qtz. carbonate (30%) and discrete brown biotite levels (30%) Banding on <0.5 to 2mm. scale @ 80° to C.A.	<1								
						-60.70 to 61.40 Banded chloritic Phyllite <7% biotite. Minor disc. qtz. veining									
						-62.50 to 65.33 Folded and contorted some qtz. pockets. To 2% Po. Good recovery.									
						-65.70 to 66.86 Banded chloritic phyllite <7% bio., to 85% green chl., to 10% qtz. lenses banding 90° to C.A. Recurring lower contact.									
68.85															
68.85	100					<u>BANDED CHLORITIC PHYLLITE</u> Alternating 50 to 75% finely mottled chlorite, 5% qtz ± carbonate and to 10% mottled brown biotite. Banding 80-90° to C.A.	<1								
						-73.90 to 75.37 To 45% bio., to 20% calcareous -75.37 to 75.60 Micaceous limestone, 80% calc.									
76.20															
76.20	50					<u>AS ABOVE</u> except... 15 to 25% discrete brown biotite levels, <5% qtz. lenses	<1								

Sheet 3 of 4  
Note No. NG-53

*Brian Hughes*



NORANDA EXPLORATION COMPANY, LIMITED

Collared	Sept. 4/77	Completed	Sept. 6/77	Core Size	AQ	Property	GOLDSTREAM	Project No	41	NTS No.	82M/9W
FIELD COORDINATES						SURVEYED COORDINATES				Sheet 1 of 4	
Lat.	2500 N	Elev.	2150' (657m) ASL	Dip	-55°	Lat.		Elev.		Dip	
Dep.	2200 E	Depth	80.70m	Bearing	200° (true)	Dep.		Depth		Bearing	
						Hole No. NG-54					

Footage	Rec'y	Graphic Log	Description	% Sulp.	Est. Grade	Sample No.	Lt.				
0	0		CASING - No Core								
6.11	80		Broken Core Overburden: white massive qtz., dark banded calcareous phyllite, cobbles of hornblende granite								
7.64	100		<u>BANDED (Micaceous) QUARTZITE</u> Banding 80-90° to C.A. on a 1-2mm. scale 40% f.g. white qtz., 30% finely mottled micas (chlorite > bio.), 20% dark argillaceous material, 10% combined arg.-qtz-mica, fairly hard. Po diss. to 1% along banding. transitional contact to .....	< 1							
12.90			<u>BANDED CHLORITIC PHYLLITE</u> Alternating 50% f.g. qtz-chl., 50% f.g. dark pelitic material - Grey banded @ 90° to CA. Occasional qtz. lenses to 3 cm. interdigitating contact to .....	< 1							
15.28			<u>DARK BANDED (Graphitic) PHYLLITE</u> 40% m.g. quartz ± carbonate, 60% black argillaceous/graphitic, incompetent, minor shearing and contortion (bands average 60° to C.A.) Po to 3% - can be mobilized into fold closures -15.55 level of m.g. qtz-chl. phyllite, adjacent graphitic material -15.70 to 15.92 m.g. qtz-chl. phyllite, banding @ 60° to C.A. -19.75 to 20.40 m.g. qtz.-chl. Phyllite, qtz. eyes, poorly banded -21.40 to 21.90 V. graphitic, broken section, low recov.	2							

DATE SEPT. 9/77

LOGGED BY G. GIBSON

*Bruce Hughes*

NORANDA EXPLORATION COMPANY, LIMITED

Collared			Completed			Core Size			Property			Project No			NTS No.		
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 2 of 4					
Lat.		Elev.		Dip		Lat.		Elev.		Dip		Hole No.					
Dep.		Depth		Bearing		Dep.		Depth		Bearing		NG-54					
Footage	Rec'y	Graphic Log	Description						% Sulp.	Est. Grade	Sample No.	Lt.					
			-22.25 7cm. of quartz-chlorite phyllite														
			-25.90 3cm. qtz. pyrrhotite veinlet														
			-26.90 to 27.97 graphitic sec., broken core														
			-29.35 to 38.50 graphitic section, contortion and brecciation. Po to 4% Qtz veining @ 34.50 36.50 to 36.89, 37.53 and 38.26														
40.63			-38.50 to 40.63 Banding 79°-90° to C.A.														
40.63	100		AS ABOVE except..... To 50% calcareous, <5% graphitic, banding @ 80-90° to C.A. Po to 1.5% along foliation. Some disc. (5° to C.A.) carbonate veining.						1								
42.56			BANDED CHLORITIC PHYLLITE Alternating 15% qtz. lenses, 55% f.g. qtz-chlorite (green) levels and 30% finely matted chl. >> bio. Banded on <0.5 to 1mm. scale @ 80-90° to C.A. Po in qtz. lenses and						<1								
42.56	100		fine diss. along banding < 5% calcareous.														
46.18			BANDED (IMPURE) LIMESTONE wide (to 25cm.) bands of m.g. carbonate with subordinate interbands of argillaceous material and chl-bio-carbonate @ 90° to C.A.						<0.5								
46.18	100		BANDED CHLORITIC PHYLLITE Banding @ 80-90° to C.A. Sharp conformable contact with Limestone. Grey-green phyllite comprized of interbanded chlorite and qtz-chlorite on a 1-2mm. scale giving a light and dark green banding. <1% brown to gold coloured biotite commonly associated with concordant														
47.16			qtz. lenses.														
47.16	100		- minor 1-2 mm. calcite veins @ 5-10° to C.A. cutting foliation														

DATE SEPT 9/77 LOGGED BY G. GIBSON, B. HUGHES

NORANDA EXPLORATION COMPANY, LIMITED

Collared		Completed		Core Size		Property			Project No		NTS No.		
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 3 of 4	
Lat.		Elev.		Dip		Lat.		Elev.		Dip		Hole No.	
Dep.		Depth		Bearing		Dep.		Depth		Bearing		NG 54	
Footage	Rec'y	Graphic Log	Description					% Sulp.	Est. Grade	Sample No.	Lt.		
			-qtz intersection 48.62 to 48.90 -contorted foliation ± Po & Py specks 48.90 to 49.42										
			-qtz. intersection with some phyllite fragments and a 1 cm. massive clot of Po 49.52 to 49.68.										
52.38			-1% calcareous phyllite 51.20 to 51.40 Core breaks easily along foliations of chlorite.										
52.38 52.53	100		<u>QUARTZITE</u> Greenish coloured qtzite with chlorite-biotite foliations.										
52.53			<u>BANDED CHLORITIC PHYLLITE</u> As before except slightly more silica and slightly less										
55.74			chlorite. An increase in biotite to 2% which gives a lighter green and brown banded phyllite.										
55.74 57.89	100		<u>AS ABOVE</u> except carbonate banded up to 25% of rock										
57.89	100		<u>LIMESTONE</u> Chlorite-biotite ± qtz. banded grey Limestone. - contorted foliation @ 59.29 to 59.59 - minor Py & Po specks .5%.										
60.00			<u>SILICA RICH CHLORITE PHYLLITE TO QUARTZITE</u> Gradationally interbanded. Bands from 2 cm to 50cm of greenish Quartzite and chlorite qtz. schist - Quartz (white) intersection 56.30 to 56.40 with a small 5mm. mass of Po. - Biotite in this section 1%										
70.45			-Slightly more chloritic and broken core for the last 50 cm.										
70.45 70.95	100		<u>CALCAREOUS CHLORITE PHYLLITE</u> Up to 15% calcite										
70.95 71.60	100		<u>GREY BANDED LIMESTONE</u>										

DATE SEPT 9/77 LOGGED BY B. HUGHES



NORANDA EXPLORATION COMPANY, LIMITED

Collared	Completed SEPT 11/77	Core Size AQ	Property GOLDSTREAM	Project No 41	NTS No. 82M/9W
FIELD COORDINATES			SURVEYED COORDINATES		
Lat. 2425N	Elev. 703.63m	Dip -55°	Lat.	Elev.	Dip
Dep. 3600 E	Depth 150.67m	Bearing 200° TRUE	Dep.	Depth	Bearing
					Hole No. NG-55

Footage	Rec'y	Graphic Log	Description	% Sulp.	Est. Grade	Sample No.	Lt.				
0			CASING: GNEISSIC PEBBLES								
3.66											
3.66	98		<u>DARK BANDED GREY GREEN PHYLLITE:</u>								
			- Interbanded dark argillaceous, dark green chlorite, light green quartz chlorite and lensoidal white quartz on a scale of								
			1-3mm bands.								
			- foliation 80-90° to C.A.								
			- Concordant qtz lenses are <5% of rock								
			- Becoming a greenish quartzite (with mica foliations) locally								
			- minor sulfides; cubic py and smears of Po on foliations	<.5							
				Po							
			- 2 white qtz bands at 20° & 40° to C.A. at 10.35 to 10.45 and 10.60 to 10.70 respectively								
11.59			- Lost 1.2m of core at 3.62, block section								
11.59	85		AS ABOVE:								
			- plus minor amounts of brown to gold coloured biotite <<1%								
			- broken core for last meter of section								
			- slightly calcareous for last meter								
			as well as up to 1% Py								
14.64			- <.5% py over section	<.5							
				Py							
14.64			BLOCKY CORE-LOST 1.2 METERS								
15.84	0										

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NORANDA EXPLORATION COMPANY, LIMITED

Collared		Completed		Core Size		Property			Project No.		NTS No.			
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 2 of 5		
Lat.		Elev.		Dip		Lat.		Elev.		Dip		Hole No.		
Dep.		Depth		Bearing		Dep.		Depth		Bearing		NG-55		
Footage	Rec'y	Graphic Log	Description				% Sulp.	Est. Grade	Sample No.	Lt.				
15.84	70		<u>GRAPHITIC PHYLLITE:</u>											
			- Blocky core											
			- Generally foliation has a 80°-90° angle to C.A.				<2%							
			- Up to 70% graphite				Py							
			- Qtz lenses noted as in above section											
			- <5% interbanded carbonate											
			- Up to 2% pyrite with minor Po											
			- Several areas of contorted foliation in first 3 meter of section											
			- Slip surfaces parallel to foliation common											
22.36			- 15 cm of graphitic limestone at 21.80											
22.36	85		<u>DARK BANDED PHYLLITE TO DARK BANDED (SILICA RICH) QUARTZITE: (AS BEFORE)</u>											
			- Gradational and reoccurring contact between the dark banded											
			qtz chlorite phyllite and the silica rich dark banded and green											
			phase (qutzite)											
			- Minor graphitic partings											
			- <1% Po & Py											
			- 10cm Dirty Limestone at 23.60											
			- med. grained (1-2cm) chlorite biotite phyllite from 24.00 to 25.00											
			- 40 cm of white Qtz at 25.00 with several 1cm clots of Po & Py (minor Cpy)											
27.90			- 20 cm of graphitic phyllite at 27.70											
			- Blocky core throughout section											

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NORANDA EXPLORATION COMPANY, LIMITED

Collared		Completed		Core Size		Property			Project No		NTS No.			
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 3 of 5		
Lat.		Elev.		Dip		Lat.		Elev.		Dip		Hole No.		
Dep.		Depth		Bearing		Dep.		Depth		Bearing		NG-55		
Footage	Rec'y	Graphic Log	Description				% Sulp.	Est. Grade	Sample No.	Lt.				
27.90	95		<u>QUARTZ CHLORITE PHYLLITE:</u>				<.1%							
			- Similar to D.B.P. but only minor argillaceous banding				Py							
			- Grey to green banded phyllite				Po							
			- 15 cm gouge zone at 28.96											
			- Calcareous gouge matrix											
			- phyllite is often carbonate											
33.54			banded, minor Po in bands											
			- 15 cm Grey Banded Limestone at 31.90											
33.54	60		<u>GRAPHITIC PHYLLITE:</u>											
			- As before											
			- Contorted foliation											
39.30			- 1% Sulfides - mainly pyrite											
			- Blocky core											
39.30	55		<u>QUARTZ CHLORITE PHYLLITE:</u>				<<5%							
			- As before											
			- minor sulfides											
			- up to 1% calcareous											
			- Breccia like in several places											
47.30			- over section 43.00 to 47.00											
			- Gravelly recovery 42.00 to 47.30											
47.30	100		<u>BANDED GREY LIMESTONE:</u>											
49.20	100		<u>CHLORITE QUARTZ BIOTITE PHYLLITE:</u>											
			- As before + Biotite											
92.00			- Gradational to a greenish Banded quartzite locally											

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NORANDA EXPLORATION COMPANY, LIMITED

Collared		Completed		Core Size		Property			Project No.		NTS No.			
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 4 of 5		
Lat.		Elev.		Dip		Lat.		Elev.		Dip		Hole No.		
Dep.		Depth		Bearing		Dep.		Depth		Bearing		NG - 55		
Footage	Rec'y	Graphic Log	Description				% Sulp.	Est. Grade	Sample No.	Lt.				
			- Locally up to 5% biotite to give a brown banded phyllite				<1%							
			- 1 - 2% calcareous banding - minor Py & Po											
			- 25cm white Qtz. band at 67.50 with clots of cubic Py - several 30 - 40cm section of greenish quartzite at 7600 and 77.40.											
92.00														
92.00-100.00	100		<u>Green Banded Quartzite</u> - silica rich grey green chloritic phyllite											
100.00-150.00	100		<u>Grey Limestone:</u>											
150.00-			<u>Chlorite Quartz ± Biotite Phyllite</u> - As before				<.5% Po Py							
			- up to 1% biotite over first 70cm - Mainly grey green phyllite											
			- contorted foliation from 101.00 to 103.30 - <1% calcareous											
106.00			- Po smears & small masses at 105.00											
106.00-106.25			<u>Brecciated Gouge Section:</u> - Calcareous											
106.25-			<u>Chlorite Schist to Greenstone:</u> - mottled to fine grained texture - mottled area has relict feldspars? - possibly several garnets at 106.95											
			- Po - smears on foliations <.5% - foliation 80° - 90° to C.A.											
			- locally Qtz. & Carbonate bands from concordant to 10° to C.A.											

DATE Sept. 14/77

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NORANDA EXPLORATION COMPANY, LIMITED

Collared			Completed			Core Size			Property			Project No			NTS No.				
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 5 of 5							
Lat.			Elev.			Dip			Lat.			Elev.			Dip				
Dep.			Depth			Bearing			Dep.			Depth			Bearing				
Footage	Rec'y	Graphic Log	Description									% Sulp.	Est. Grade	Sample No.	Lt.				
			- hairline (1mm) to 1cm bands - small amounts <<.1% of cpy assoc. with Po from 113.40 to 114.50, 110.50 to 119.75, and 138.50 to 138.60 - several Qtz. - carb band with diopside? masses.																
			- lost 30cm of core at 126.60 tube didn't lock. - blocky core																
			- white Qtz. band and contorted foliation at 148.84 to 149.00 with a 4cm section of 70% Po and <1% Cpy, (relict veining?)																
50.67			- blocky core 149.60 to 150.67 and end of wire line.																
			EOH @ 150.67																
			Casing in Hole																

DATE Sept. 14/77

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*Bruce Hughes*

NORANDA EXPLORATION COMPANY, LIMITED

Collared		Completed		Core Size		Property Goldstream			Project No 41		NTS No. 82M/9W			
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 1 of 6		
Lat. 2525N		Elev. 2550' (778m) ASL		Dip -55°		Lat.		Elev.		Dip		Hole No.		
Dep. 6200E		Depth 139.10M		Bearing 200° (true)		Dep.		Depth		Bearing		NG 56		
Footage	Rec'y	Graphic Log	Description				% Sulp.	Est. Grade	Sample No.	Lt.				
0-4.75	0		Casing - No core											
4.75-5.49	70		Casing Overburden broken core, cobbles of granite and dark banded phyllite.											
5.49-	95		<u>Dark banded Phyllite</u> Alternating 80% black argillaceous (±graphitic) material, 15% f. to m. gr. qtz.-carbonate bands and 5% to 1cm. qtz. lenses. Banding averages 80° to CA. but is contorted locally. Po diss. to 2% along banding - 700 0.5cm. disc. brecciated qtz. vein. - 720 to 7.40 zone of wide (2.5cm.) qtz. bands - 9.05 to 10.32 zone of wide (to 4cm.) conc. qtz. veining				1							
10.32														
10.32-	100		As above except.... to 30% finely interbanded f.g. brown biotite mats, 20% calcareous, <5% f.g. chlorite bands. Cut by narrow (1mm) qtz. veins @ ~20° to C.A. - 13.80 to 13.92 zone of wide (to 4cm) qtz. veining - 15.25 to 15.80 to 40% f.g. chlorite, fewer qtz. lenses - 19.10 4cm conc. qtz. vein				<1							
20.60														
20.60-	100		<u>Dark Banded Phyllite</u> Banding @ 85 - 90° to C.A. Alternating 5-7% to 4cm qtz (± calc-silicate) lenses, 10 - 30% white f.g. qtz. - carbonate levels, 45 - 75% f.g. interbanded brown biotite green chl. Po. rare diss. along banding. To 2mm disc. qtz. veins @ 0 - 30° to C.A. - 29.38 to 24.94 same but to 60% chl. > bio. Fewer qtz. lenses, <7% calcareous.				<0.5							

*Brian Hughes*

DATE Sept. 21/77

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NORANDA EXPLORATION COMPANY, LIMITED

Collared		Completed		Core Size		Property			Project No.		NTS No.			
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 2 of 6		
Lat.		Elev.		Dip		Lat.		Elev.		Dip		Hole No.		
Dep.		Depth		Bearing		Dep.		Depth		Bearing		NG - 56		
Footage	Rec'y	Graphic Log	Description				% Sulp.	Est. Grade	Sample No.	Lt.				
45.30			- 25.92 to 26.60 60% chl. bio. 10% calcareous - 29.03 to 29.13 80% calcareous. - 35.60 to 36.50 45% calcareous, permiable.											
45.30-	85		Dark Banded (Graphitic) Phyllite Contorted, ~85% black graphitic /argillaceous material,				5							
47.17			15% white qtz. ± calc-silicate - often brecciated. Pervasive Po to 7%. To 10% calcareous. Broken core.											
47.17-	95		Graphitic Garnet (Sulfide) Phyllite broke core - 47.17 to 47.62 15% red subhedral garnets, to 10% diss. Po., 75 - 80% black graphitic matrix. Slightly calcareous.				~20	Cu. 40.1						
			- 47.62 to 47.81 50% massive Po>> Cp, 50% black matrix - 47.81 to 48.19 to 20% banded Po in dark graphitic matrix. Banding & qtz. veining @ 45° to C.A.											
			- 48.19 to 48.63 60% massive Po>> Cp in black f.g. matrix. <1% vein controlled euhedral Pyrite. - 48.63 to 48.85 banded and diss. Po to 15% Banded (65° to C.A.) qtz. - carbonate - graphite matrix.											
			- 48.85 to 49.53 banded grey-green qtz. chl. sericite phyllite, non calcareous - 49.53 to 50.54 banded and coarsely diss. Po to 40% in qtz. - graphite, Garnets to 5%											
			- 50.54 to 51.48 banded (@50° to C.A.) sericitic phyllite, Po diss. to 3% - 51.48 to 51.60 70% massive Po>> Cp, ~0.5 - 1.0% Cu, black matrix.											
			- 51.60 to 54.29 35% banded Po>> Cp in sericitic phyllite, to 7% calcareous. - 54.29 to 54.77 60% massive Po>> Cp. black matrix.											

DATE Sept. 21/77

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NORANDA EXPLORATION COMPANY, LIMITED

Collared		Completed		Core Size		Property			Project No		NTS No.			
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 3 of 6		
Lat.		Elev.		Dip		Lat.		Elev.		Dip		Hole No.		
Dep.		Depth		Bearing		Dep.		Depth		Bearing		NG - 56		
Footage	Rec'y	Graphic Log	Description				% Sulp.	Est. Grade	Sample No.	Lt.				
54.77			to 10% qtz. Pyrite as rare <1mm disc. veinlets.											
54.77-			<u>Grey Green Sericitic Phyllite</u> F.g. quartz, sericite ± chlorite with m.g. qtz.-carbonate ( <10% calc.) Banded on <0.5 to 1mm scale @ 80 - 90 to C.A. Po diss along banding											
			- 55.35 to 55.70 contorted, brecciated, qtzitic matrix - 56.00 to 56.50 30% pale pink bands.											
57.25			arbitrary contact to.....											
57.25-			<u>Banded Chloritic Phyllite</u> 40% f.g. chlorite 40% brown biotite and 20% m.g. qtz. bands @ 80° to C.A. Very few qtz. lenses Po & Py to 1% along banding 5% calcareous.				<1							
61.99			- 59.80 to 60.09 qtzitic breccia zone with calcsilicate and chlorite. Broken core.											
61.99-			<u>Banded Limestone</u> M.g. pale grey, banded @ 90° to C.A. calcareous, 10% mottled brown biotite ± chlorite. - 62.55 to 62.65 level of banded chlorite biotite phyllite. Po to 1% - 64.50 stylitic (pressure solution) features. - 64.66 to 65.20 microfolding, Py along bedding surfaces				<0.5							
65.20														
65.20-			<u>Banded Calcareous Phyllite</u> Banded on a <0.5 to 2mm scale @ 85 - 90° to C.A. Alt- ernating 30 - 55% calcareous bands, 45 - 70% v.f.g. chl./bio. bands. Quartz lenses to 2cm.				<0.5							
69.97			- 67.28 to 68.00 banded LST., 80% calc., broken core - 68.87 to 69.52 as above but 70% calcareous.											

DATE Sept. 21/77

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*Brian Hughes*

NORANDA EXPLORATION COMPANY, LIMITED

Collared		Completed		Core Size		Property			Project No.		NTS No.			
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 4 of 61		
Lat.		Elev.		Dip		Lat.		Elev.		Dip		Hole No.		
Dep.		Depth		Bearing		Dep.		Depth		Bearing		NG 56		
Footage	Rec'y	Graphic Log	Description				% Sulp.	Est. Grade	Sample No.	Lt.				
69.97-			<u>Banded Limestone</u> Banded on a 0.5 to 2mm scale @ ~80° to C.A. alternating				20.5							
			50 - 60% m.g. pale grey carbonate and 40 - 50% v.f.g. dark micaceous (bio./chl.) bands - 71.00 to 71.14 minor folding.											
74.70														
74.70-	95		<u>Dark Banded Phyllite</u> F. to m. gr. banded on a <1mm scale @ 90° to C.A. A granular mixture of qtz. (20%) brown biotite (30 - 40%) and green chlorite (30 - 40%) Bands vary slightly in mineral proportions.				20.5							
			- 78.86 to 78.13 Broken core, 30% recovery (ground fragments of massive white quartz only) - 78.90 to 78.97 brecciated quartz vein.											
78.42			gradational contact to.....											
78.42-	100		As above except..... Slightly coarser grain size, >50% qtz., chl. ≈ bio., paler				0.5							
			overall colour (fewer f.g. dark bands), few qtz. lenses, less than 5% calcareous. Rare Po diss along banding - 79.85 coarsely diss silvery Py (?) over 3cm - 81.70 to 81.92 two brecciated qtz. veins. One with 10% Py 1 Fo.											
			- 81.92 to 84.65 as above except darker, finer grain size.											
90.10														
90.10-			<u>Dark Banded Phyllite</u> Alternating 5-10% white qtz. lenses to 4cm., 40% grey				20.5							
			v.f.g. bands, 20% m.g. qtz. - mica, 25 - 30% greenish f.g. chlorite mats. Bio to 5%, <5% calcareous. Banding											

DATE Sept. 21/77

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G. Gibson

*Bruce [Signature]*

NORANDA EXPLORATION COMPANY, LIMITED

Collared		Completed		Core Size		Property			Project No		NTS No.		
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 5 of 6	
Lat.		Elev.		Dip		Lat.		Elev.		Dip		Hole No.	
Dep.		Depth		Bearing		Dep.		Depth		Bearing		NG 56	
Footage	Rec'y	Graphic Log	Description				% Sulp.	Est. Grade	Sample No.	Lt.			
101.17			@ 85-90° to C.A. Po sparingly diss. along banding.										
101.17-	100		- 91.50 to 93.03 50% recovery - core tube didn't lock										
			<u>Banded Limestone</u>										
			Banded on a <0.5 to 2mm scale @ 85 - 90° to C.A. 60-85%				<0.5						
			m.g. grey carbonate, 10 - 25% v.f.g. dark grey material										
			some f.g. chlorite. Po confined to non-calcareous levels										
			- 104.48 to 105.40 silicified section, some minor										
			folding, banding obscure.										
			- 107.00 to 107.60 silicified section										
			- 109.43 to 113.38 silicified section, fracturing										
113.38			@ 35° to 45° to C.A. 5cm of breccia @ 110.72										
			well banded below 111.10										
113.38-			<u>Banded Calcareous Phyllite</u>										
			30 - 60% m.g. white qtz. carbonate bands, 40-70% grey				<1						
			v.f.g. variably chloritic material (with up to 1% Po).										
			Banded @ 85 - 90° to C.A.										
114.43-	100		<u>Banded Micaceous Quartzite</u>										
			50% f. to m. gr. qtz., 30% qtz. > chlorite, biotite bands				<0.5						
			20% chl./bio. 1 mus. Banded @ 80 - 90° to C.A. <5%										
121.05			calcareous transitional contact to.....										
121.05-	100		<u>Siliceous Banded Phyllite</u>										
			Banded on a <0.5 to 3mm scale @ 90° to C.A. alternating										
			40% m.g. white qtz. - carbonate, 30% f. to m.gr. qtz./				<0.5						
			chl./bio. 20% f.g. chlorite and 10% f.gr. mottled										
			brown bio.										
			- 122.57 4cm quartz - pyrrhotite vein.										
125.10-			<u>As above</u>										
			Finer grained, more siliceous, less calcareous, sericitic										
			- 127.49 to 127.95 quartz-pyrrhotite vein.										
			- 128.65 to 128.75 As above with fine amphibole										

*Brian Hughes*

NORANDA EXPLORATION COMPANY, LIMITED

Collared		Completed		Core Size		Property			Project No.		NTS No.			
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 6 of 6		
Lat.		Elev.		Dip		Lat.		Elev.		Dip		Hole No.		
Dep.		Depth		Bearing		Dep.		Depth		Bearing		NG - 56		
Footage	Rec'y	Graphic Log	Description					% Sulp.	Est. Grade	Sample No.	Lt.			
			- needles along banding											
			- 128.75 to 128.93 Quartz Pyrrhotite vein.											
			- 130.75 to 131.15 Quartz vein											
			- 131.80 to 132.40 Quartz vein											
139.10			- 134.20 to 137.25 40% recovery. Core tube didn't lock.											
			E.O.H. 139.10m CASING LEFT IN HOLE											
			(Making Water)											

DATE Sept. 12/77

LOGGED BY G. Gibson

*Bridgely*

NORANDA EXPLORATION COMPANY, LIMITED

Coiled	Completed Sept. 19/77	Core Size AQ	Property GOLDSTREAM	Project No 41	NTS No.
FIELD COORDINATES			SURVEYED COORDINATES		
Lat. 2500 N	Elev. 663.38	Dip -55°	Lat.	Elev.	Dip
Dep. 3200 E	Depth 92.41 m	Bearing 200°	Dep.	Depth	Bearing
					Sheet 1 of 6
					Hole No. NG-57

Footage	Rec'y	Graphic Log	Description	% Sulph.	Est. Grade	Sample No.	Lt.				
0	20		CASING								
9.76			OVERBURDEN: Mixture of sand and boulders, boulders of fine to coarse grained granodiorite and one of grey green limestone, one pebble of chlorite schist.								
9.76			CHLORITE BIOTITE QTZ PHYLLITE: D.B.P.								
9.76	100		Interbanded chlorite biotite and qtz to give a light green to brown banded phyllite								
			- some dark argillaceous interbands								
			- non calcareous								
			- .5 to 1.5 cm QTZ bands and lenses common, ~5%, concordant								
			- foliation 80-90° to C.A.								
			- 4cm of broken granitic core at 10.80 & 12.10 (possible hole caving)								
			- minor folding at 15.89 and 19.64								
21.25			- small fold noses @ 90° to C.A.								
21.25	100		CHLORITE QTZ. PHYLLITE:								
			As above except <1% Biotite								
			- minor Po on foliation planes								
24.29			- 23.00 to 23.29 up to 4% Biotite								
24.29	30		GRAPHITIC SCHIST:	<2%							
			- Blocky broken core	po							
26.60			- Tube didn't lock and lost 1.5 m of core								

DATE SEPT 21/77

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NORANDA EXPLORATION COMPANY, LIMITED

Collared		Completed		Core Size		Property			Project No		NTS No.			
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 2 of 6		
Lat.		Elev.		Dip		Lat.		Elev.		Dip		Hole No.		
Dep.		Depth		Bearing		Dep.		Depth		Bearing		NG-57		
Footage	Rec'y	Graphic Log	Description				% Sulp.	Est. Grade	Sample No.	Lt.				
			- Banded Graphite and Qtz. - Contorted foliation and evidence of slip											
			- Slightly calcareous locally <2%											
			- Minor Po present <2%											
26.60	100		<u>CHLORITE SERICITE QTZ. SCHIST:</u>											
			- less phyllitic, more granular texture, good foliation not evident											
27.69			- light green with white grains (1-2mm) which are calcareous											
27.69	100		<u>GREY GREEN LIMESTONE:</u>											
			- As above but to 40% calcareous - same granular texture											
29.79			- 15cm white qtz band at 28.76											
29.79	60		<u>GRAPHITIC SCHIST:</u>				5%							
		py po	- Blocky broken core - Foliation generally 80° to C.A.				po							
			- Banded graphite and Qtz on a 1-5mm scale - Discordant Qtz and Calcite bands											
		po	1 to 3mm wide - 5-10mm Qtz bands and light											
			green bands from 32.12 to 32.92 and up to 5% banded cubic											
		po	py and masses of Po 32.92 to 33.57 slightly contorted banding & up to 5% Po											

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NORANDA EXPLORATION COMPANY, LIMITED

Collared		Completed		Core Size		Property			Project No		NTS No.			
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 3 of 6		
Lat.		Elev.		Dip		Lat.		Elev.		Dip		Hole No.		
Dep.		Depth		Bearing		Dep.		Depth		Bearing		NG-57		
Footage	Rec'y	Graphic Log	Description				% Sulp.	Est. Grade	Sample No.	Lt.				
			- Contorted section shows some shearing											
			- Becoming calcareous banded for last 60 cm of section											
			- No breccia zone noted - Lost 50 cm core at 31.72											
37.95	100		<u>GREY BANDED LIMESTONE:</u>											
40.20			- Graphitic partings noted & associated with minor Po											
40.20	100		<u>DARK BANDED PHYLLITE:</u>				2%							
			- Interbanded argillaceous (black), qtz-chlorite and minor carbonate				+ po - py							
			- some graphitic partings - Po & minor Py specs throughout											
41.50			section.											
41.50	100		<u>GREY BANDED LIMESTONE:</u>				<1%							
42.10			As before											
42.10	100		<u>DARK BANDED PHYLLITE:</u>				<1%							
43.60			- As before - 2 cm Breccia-like zone at 43.58											
43.60	100		<u>GREY BANDED LIMESTONE:</u>											
44.25			As before											
44.25	45		<u>CHLORITE QTZ PHYLLITE: (G.G.P.)</u>											
52.30			- Qtz lenses .5 to 1 cm wide - con & discordant white qtz bands											

DATE \_\_\_\_\_ LOGGED BY B. B. HUGHES

NORANDA EXPLORATION COMPANY, LIMITED

Collared		Completed		Core Size		Property			Project No		NTS No.			
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 4 of 6		
Lat.		Elev.		Dip		Lat.		Elev.		Dip		Hole No.		
Dep.		Depth		Bearing		Dep.		Depth		Bearing		NG-57		
Footage	Rec'y	Graphic Log	Description				% Sulp.	Est. Grade	Sample No.	Lt.				
			-Contorted banding from 44.75 to 44.95 - up to 5% biotite from 47.00 to 47.25											
			- 10cm white Qtz band at 48.19 with Po - 20cm white Qtz band at 49.71 with Po											
			- Lost 2.1m at 48.19m - Lost 1.0m at 51.85m											
			- Broken and Breccia-like core from 51.85 to 52.30											
52.30	60		<u>GREY BANDED LIMESTONE:</u>											
			- As before - Some grey green banding											
54.80			- Lost 1.0m at 53.37 - Banding at 70-80° to C.A.											
54.80	70		<u>CHLORITE QTZ PHYLLITE: G.G.P.</u>											
			- As before Gouge section from 56.50 to 56.80											
58.10			-Foliation 40° to C.A.											
58.10	100		<u>GREY BANDED LIMESTONE:</u>											
58.25			- As before											
58.25	100		<u>CHLORITE BIOTITE QTZ PHYLLITE:</u>											
			- As before											
59.79			- Coarse grained (2-3mm) - Foliation 50° to C.A.											

DATE \_\_\_\_\_

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NORANDA EXPLORATION COMPANY, LIMITED

Collared		Completed		Core Size		Property			Project No		NTS No.			
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 5 of 6		
Lat.		Elev.		Dip		Lat.		Elev.		Dip		Hole No.		
Dep.		Depth		Bearing		Dep.		Depth		Bearing		NG-57		
Footage	Rec'y	Graphic Log	Description				% Sulp.	Est. Grade	Sample No.	Lt.				
59.79	100		<u>GREY BANDED LIMESTONE:</u>											
			- As before - Some interbands of Chl. Biot. Qtz. Phyl.											
61.61			- Banding 70° to C.A.											
61.61	100		<u>QTZ CHLORITE SERICITE PHYLLITE:</u>											
			- Sericitic Foliations - Silica Rich sections grading to a											
62.61			green Qtzite											
62.61	100		<u>QUARTZ CHL PHYLL TO GREEN QTZITE:</u>											
			- As above except more silica - 60% Qtzite											
			- Gradational banding - Foliation 80-90° to C.A.											
			- Minor biotite locally - Sericitic foliations common											
			- Sericitic gouge zone from 68.10 to 68.50 5 cm discordant Qtz band at 70.95 with a mass of Po & minor Cpy (Mass: 1cm)											
71.40														
71.40	100		<u>BROWN QUARTZITE:</u>											
			- As above with biotite foliations - Hairline discordant calcite veins											
73.51 82.56	100		<u>CHLORITE, BIOTITE FOLIATED QTZITE:</u>											

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NORANDA EXPLORATION COMPANY, LIMITED

Collared	Completed	Core Size	Property	Project No.	NTS No.
FIELD COORDINATES			SURVEYED COORDINATES		
Lat.	Elev.	Dip	Lat.	Elev.	Dip
Dep.	Depth	Bearing	Dep.	Depth	Bearing

Sheet 6 of 6  
Hole No. NG-57

Footage	Rec'y	Graphic Log	Description	% Sulp.	Est. Grade	Sample No.	Lt.				
			- As above - (Silicified chlorite biotite phyllite)								
			- Concordant white qtz bands and lenses - DOTS (3-4mm) in Dia. of white  qtz common-like qtz eyes. - pink dots 1-2mm in dia. at 76.76								
82.56	100		<u>GREY BANDED LIMESTONE:</u>								
84.80			- First and last 15 cm coarse grained white calcite								
84.80	100		<u>SILICA RICH CHLORITE BIOTITE PHYLLITE:</u>								
87.74			- As before								
87.74	100		<u>CHLORITE BIOTITE SERICITE FOLIATED QUITZITE:</u>								
92.41			- As before								
			EOH 92.41 meters								
			CASING LEFT IN								

*Bruce Hughes*

NORANDA EXPLORATION COMPANY, LIMITED

Collared		Completed		Core Size AQ		Property Goldstream			Project No 41J		NTS No.			
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 1 of 4		
Lat. 20+00N		Elev. 701.5m		Dip -55°		Lat.		Elev.		Dip		Hole No.		
Dep. 4+00E		Depth 93.94m		Bearing 200°		Dep.		Depth		Bearing		NG - 58		
Footage	Rec'y	Graphic Log	Description				% Sulp.	Est. Grade	Sample No.	Lt.				
0-	50		Casing 0 - 20.13 - Boulders and gravel: boulder up to 30cm in dia. consisting of fine to coarse grained granodiorite to diorite and pebbles of chloritic phyllite to foliated dirty quartzites - 3 meters of clean sand directly overlying bedrock.											
19.82														
19.82-	100		Biotite Quartz Phyllite: - to 30% burgandy coloured biot. - small amount of chlorite <5% - Qtz. banded.											
20.07														
20.07-	90		Dark Banded Phyllite: - Banded argillaceous, Qtz. and minor chlorite phyllite - Qtz. lenses - <2% carbonate banded - to 3% Po along foliations - several sections with graphitic partings											
21.35			- 12cm white Qtz band at 20.80 - Foliation at 80° to C.A.											
21.35-	90		Graphitic Schist: - As above except up to 20% graphite				3%							
			- Limy banded - Foliation 80 - 90° to C.A.											
27.00			- Broken blocky core - Contorted banding for 5cm at 25.55											
27.00-	95		Graphitic Banded Limestone: - to 40% banded grey limestone - Thin seams and bands (<2mm) of Po plus minor Py - Qtz. lenses and bands				3%							
			- moderately contorted foliation 28.70 to 29.00m - Foliation 80-85° to C.A.											

DATE Sept. 30/77

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NORANDA EXPLORATION COMPANY, LIMITED

Collared		Completed		Core Size		Property			Project No.		NTS No.			
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 2 of 4		
Lat.		Elev.		Dip		Lat.		Elev.		Dip		Hole No.		
Dep.		Depth		Bearing		Dep.		Depth		Bearing		NG - 58		
Footage	Rec'y	Graphic Log	Description				% Sulp.	Est. Grade	Sample No.	Lt.				
			- Breccia - like zone 35.50 - 35.70				2%							
			- Py % increases and is > Po from 36.10 to 37.50				Py							
40.05			- Several white calcite bands (<2cm)											
			- 30cm Qtz. band at 38.50m				Po							
40.05-	100		<u>Graphitic Qtz. Schist:</u>				2%							
			- to 10% banded carbonate											
			- Foliation 70° to C.A.				Po							
			- Some minor contorted banded											
			- <2% Po											
			- Blocky and broken core common in first 3m of section											
48.89			- Some argillaceous banding											
48.89-			<u>Grey Limestone-Band</u>											
49.19														
49.19-	100		<u>Graphitic Dark Banded Phyllite</u>				2%							
			- Slightly less graphitic than before <10%				Po							
			- 20% carbonate banded				Py							
			- Qtz. banded											
56.00			- Po & Py <2%											
56.00-	100		As above:											
			- Except less calcareous (<5%)											
			- Slightly grey green colour											
			- Graphite 5%											
			- Sericitic foliations											
			- Locally a relict coarse grained texture											
62.94			- Argillaceous banded											
62.94-			<u>Graphitic Schist:</u>				1%							
			- Contorted foliation				Po							

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NORANDA EXPLORATION COMPANY, LIMITED

Collared		Completed		Core Size		Property			Project No		NTS No.			
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 3 of 4		
Lat.		Elev.		Dip		Lat.		Elev.		Dip		Hole No.		
Dep.		Depth		Bearing		Dep.		Depth		Bearing		NG - 58		
Footage	Rec'y	Graphic Log	Description				% Sulp.	Est. Grade	Sample No.	Lt.				
			- Graphitic slip surfaces common - Broken core											
			- Po < 1% - Lost 0.3m at 64.35											
67.60			- Lost 0.61m at 66.49											
67.60- 67.75	100		<u>Grey Limestone Band:</u>											
67.75- 68.47	85		<u>Graphitic Schist:</u> As before											
68.47- 69.55	35		Grey Limestone: Banded - Lost 0.61m at 69.38											
69.55			- First 15cm has a mottled texture & greenish colour and contains a 1cm band of cubic Py											
69.55	80		- <u>Graphitic Schist:</u> - as before											
71.48			- Blocky core											
71.48- 79.40	90		<u>Chlorite Qtz. Biotite Phyllite:</u> - Grey green phyllite - 3% biotite - First 1.2m dark banded phyllite - like											
			- Locally grading to a greenish quartzite - Qtz. banded											
			- No sulfides noted - foliation 90° to C.A.											
79.40			- Lost 0.61m at 72.48											
79.40- 79.60	100		<u>Grey Limestone Band</u>											

DATE Sept. 30/77 LOGGED BY B.B. Hughes



NORANDA EXPLORATION COMPANY, LIMITED

Collared Sept. 28/77	Completed Oct. 3/77	Core Size AQ	Property Goldstream	Project No 41	NTS No.
FIELD COORDINATES			SURVEYED COORDINATES		
Lat. 21+06N	Elev. 719.80m	Dip -55°	Lat.	Elev.	Dip
Dep. 00+60W	Depth 54.9m	Bearing 200°	Dep.	Depth	Bearing
			Sheet 1 of 1		
			Hole No. NG - 59		

Footage	Rec'y	Graphic Log	Description	% Sulp.	Est. Grade	Sample No.	Lt.				
0-15.25	0		<u>Black Organic Mud:</u> casing at times pushed down by hand								
15.25-18.30	0		<u>Sandy Section:</u> easy drilling								
18.30-42.09	<10		<u>Sand - Gravel - Boulders:</u> Fine to coarse grained intrusive boulder (to 25cm in dia.) and pebbles. 5% chloritic phyllite and foliated quartzite pebbles								
42.09-54.90	<10		<u>Poorly sorted sand</u> -poorly sorted grey sand -80% Qtz. and feldspar and 20% dark rock fragments -fine grained .5mm -some pebbles intersected -in places sand has a clay matrix and core recovered								
			EOH @ 54.9m								
			Cased to 36.6m Drill Ahead to 54.9m Casing Left in								

DATE Oct. 4/77

LOGGED BY B.B. Hughes

*B.B. Hughes*

NORANDA EXPLORATION COMPANY, LIMITED

Collared <u>Oct. 4/77</u>	Completed <u>Oct. 8/77</u>	Core Size <u>AQ</u>	Property <u>Goldstream</u>	Project No <u>41</u>	NTS No.
FIELD COORDINATES			SURVEYED COORDINATES		
Lat. <u>17+25N</u>	Elev. <u>716.75m</u>	Dip <u>-55°</u>	Lat.	Elev.	Dip
Dep. <u>8+00W</u>	Depth <u>151.58</u>	Bearing <u>200°</u>	Dep.	Depth	Bearing
					Sheet <u>1</u> of <u>4</u>
					Hole No. <u>NG - 60</u>

Footage	Rec'y	Graphic Log	Description	% Sulp.	Est. Grade	Sample No.	Lt.				
0- 3.66	0		Overburden: cased								
3.66-	65		<u>Graphitic Schist:</u> - interbanded graphite - argillaceous, calcareous and Qtz.	4% po							
			- Foliation generally 80-90° to C.A.								
			- Po up to 4%, minor cpy associated with some Po, minor Py.								
			- moderately contorted banding locally.								
			- silver - grey foliation planes (sericitic)								
			- lost 4.2m @ 13.00m								
			- carbonate banding to 15% of rock, locally to 30%								
14.50			- blocky core								
14.50-	70		As above: limy - carbonate banding to 50% of rock	5% po							
			- a graphitic limestone								
			- blocky broken core								
24.00			- slightly grey green colour noted in last 2m of section.								
24.00-	90		<u>Graphitic Schist:</u> - up to 70% graphitic - argillaceous								
			- <5% carbonate banded								
			- locally up to 15% Po								
			- overall approx. 8% Po								
			- minor cpy associated with Po <.5% ± Py								
			- broken core								
			- Qtz. banded								
			- slickensides noted ~ parallel to foliations								
27.84											
27.24-	75		<u>Dark Banded Phyllite:</u> - interbanded argillaceous, grey green and Qtz.	3%							

DATE Oct. 7/77

LOGGED BY B.B. Hughes

NORANDA EXPLORATION COMPANY, LIMITED

Collared		Completed		Core Size		Property			Project No.		NTS No.		
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 2 of 4	
Lat.		Elev.		Dip		Lat.		Elev.		Dip		Hole No.	
Dep.		Depth		Bearing		Dep.		Depth		Bearing		NG - 60	
Footage	Rec'y	Graphic Log	Description					% Sulp.	Est. Grade	Sample No.	Lt.		
			- Po - 3%										
			- 2cm discordant Qtz. band at 29.00 20° to C.A.										
29.89			- minor biotite										
			- lost 0.61 @ 29.28										
29.89-	100		<u>Grey Green Phyllite:</u>					<1%					
			- Qtz. chlorite phyllite					po					
			- Non - calcareous										
			- gradational from above DBP										
31.00			- foliation 90° to C.A.										
31.00-	95		<u>Dark Banded Phyllite:</u>					3%					
			- Interbanded argillaceous, grey green and carbonate					po					
			- to 3% Po, minor cpy .05%										
			- to 15% calcareous										
37.83-			- 20cm Qtz. band at 32.04m										
			- 10cm limestone band at 32.94										
37.83-	100		<u>Grey Green Phyllite:</u>										
			- interbanded chlorite, Qtz., minor biotite and										
			argillaceous bands					<1%					
			- 1% Po & 1% Py					po					
			- Foliation 80 - 90° to C.A.					py					
			- Biotite speckled texture										
44.13			- up to 10% dark banded for last meter of section										
44.13-	100		<u>Limy Dark Banded Phyllite:</u>					<5%					
			- minor Po <.5%										
			- to 30% calcareous banded contorted foliations from 49.20										
			to 51.60										
			- shearing parallel foliations										
			- interbanded chl - talc bands										

DATE Oct. 8/77

LOGGED BY B.B. Hughes

NORANDA EXPLORATION COMPANY, LIMITED

Collared		Completed		Core Size		Property			Project No		NTS No.			
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 3 of 4		
Lat.		Elev.		Dip		Lat.		Elev.		Dip		Hole No.		
Dep.		Depth		Bearing		Dep.		Depth		Bearing		NG - 60		
Footage	Rec'y	Graphic Log	Description				% Sulp.	Est. Grade	Sample No.	Lt.				
			- graphitic partings - locally up to 50% calcareous in last 10m of section											
63.76			- minor biotite - 40cm band of G.G.P. @ 59.07											
63.76-	100		<u>Limy Graphitic Schist:</u> - To 60% calcareous banded				2%							
			- graphitic partings common - Po & Py 2%											
			- Hole making water at 66.80 - lost 1.22 @ 68.-0											
			- lost 0.61 @ 69.08 - lost 0.61 @ 78.69											
86.00			- becoming a DBP with graphitic partings towards 86.00m											
86.00-			<u>Limy Dark Banded Phyllite:</u> - graphitic partings				3%							
			- gradational from above - foliation 80 - 90° to C.A.				o							
92.50			- 86.70 to 87.30 up to 60% calcareous - to 3% Po											
92.50-	100		<u>Limy Graphitic Schist:</u> - Gradational from above											
			- to 40% calcareous banded - 4% Po and Py as on foliation planes											
96.00			As above: - 25% calcareous banded				6%							
			- lost 0.30 at 109.10m - Po to 6%				Po							
			- Qtz. banded											

DATE Oct. 8/77 LOGGED BY B.B. Hughes

NORANDA EXPLORATION COMPANY, LIMITED

Collared		Completed		Core Size		Property			Project No		NTS No.			
FIELD COORDINATES						SURVEYED COORDINATES						Sheet 4 of 4		
Lat.		Elev.		Dip		Lat.		Elev.		Dip		Hole No.		
Dep.		Depth		Bearing		Dep.		Depth		Bearing		NG - 60		
Footage	Rec'y	Graphic Log	Description				% Sulp.	Est. Grade	Sample No.	Lt.				
			- slightly more pyrite starting at 109.40 to end of section											
			- angular masses and cubes 2-4mm in size, to 2% of total sulfides											
			- concordant white Qtz. band at 118.14											
			- minor contorted banding common											
			- foliation 80 - 90° to C.A.											
			- contorted banding to gouge - like 127.00 to 127.65											
			- discordant 2mm calcite bands 5° to C.A. from 128.00m to 133.20											
129.60-100			<u>Grey Green Phyllite:</u>				42%							
			- banded Qtz. chlorite phyllite				Po							
			- locally slightly dark banded											
			- 44% calcareous											
			- minor Po 2%											
			- some banding @ 40° to C.A. @ 148.60m											
			- minor biotite											
			- blocky core											
151.58			- silica rich to quartzite section in last 10m of section											
			EOH @ 151.58											
			Hole making water at 66.80 and deeper casing left in											

DATE Oct. 8/77

LOGGED BY

*B.B. Hughes*  
B. B. Hughes

APPENDIX 3  
COST STATEMENTS

NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COST

PROJECT Goldstream

DATE April 1978

TYPE OF REPORT Drilling

a) Wages:

No. of Days 80  
Rate per Day \$ 47.90  
Dates: from August 24 to October 8, 1977  
Total Wages 80 x \$ 47.90 3,832.00

b) Food and Accomodation:

No of days 80  
Rate per day \$ 12.37  
Dates: from August 24 to October 8, 1977  
Total Cost 80 x \$ 12.37 989.60

c) Transportation:

No of days 80  
Rate per day \$ 32.344  
Dates: from August 24 to October 8, 1977  
Total Cost 80 x \$ 32.344 2,587.25

d) Instrument Rental:

Type of Instrument  
No of days  
Rate per day \$  
Dates: from to  
Total Cost x \$

Type of Instrument  
No of days  
Rate per day \$  
Dates: from to  
Total Cost x \$

f) Analysis (See attached schedule)		
g) Cost of preparation of Report		
Author	95.80	
Drafting	650.00	
Typing	460.00	1,205.80
h) Other:		
H. Allen Diamond Drilling	33,543.60	
T & G Contracting - Cat work	2,310.75	
B.C. Tel	104.03	
Misc. camp & field supplies	81.37	
Supervision: R.C. Heim PhD, P. Eng. and G.E. Dirom P. Eng. 91	1,260.00	
		<u>37,299.75</u>

Total Cost 45,914.40

e) Unit costs for Diamond Drilling		
No of days	80	
No of units	940 m	
Unit costs	48.8451 / m	
Total Cost	48.8451 × 940	<u><u>45,914.40</u></u>



O 56 DIAMOND DRILL HOLE LOCATION

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**6696** *Subfile*  
NO. **PART 1**  
*OF 2*

TO ACCOMPANY DIAMOND DRILLING ASSESSMENT REPORT ON  
THE PAT 32, 33, 48, 60, 100, 300, AND 1100 MINERAL CLAIMS  
LOCATED IN THE REVELSTOKE M.D. BY B.B. HUGHES.  
DATED: APRIL 1978

SURVEYED BY S.C.L.S.

REVISED 3/78 BBH	GOLDSTREAM (BRIED-KING OPTION)
CLAIM, GRID AND DIAMOND DRILL HOLE PLAN	
PROJ. No.	SURVEY BY: DATE: MARCH 1978
PLT. 02M/9*	DRAWN BY: JAN V. VOORST SCALE: 1:10,000
FWG No.	<b>NORANDA EXPLORATION</b>
1	OFFICE VANCOUVER

