

014608

REPORT TO MINISTER OF MINES AND PETROLEUM RESOURCES

PURSUANT TO SECTION 52 SUBSECTION 2 (b)

Claim Names: LOON 1-16, Fu-Hu 10-14, 29-30, 41-44, STP 25-26,

Record Numbers: 43451-66, 53168-72, 53187-88, 53199-202, 54116-17

Mining Division: CARIBOO

Date of Forfeiture: September 5, 1974 : August 12, 1974

Handwritten notes:
A 55
P 78
1633
1752
2615

EXPLORATION AND DEVELOPMENT DONE:

	<u>YES</u>	<u>NO</u>	<u>REPORT ATTACHED</u>	<u>MAP ATTACHED</u>	<u>ASSESSMENT REPORT FILED</u>	<u>COST</u>
PROSPECTING						
GEOLOGICAL	X		X	X		\$838.00
GEOPHYSICAL	X				Sept 8/70 & Sept 5/69	4,735.00
GEOCHEMICAL	X				*	4,053.00
SURFACE	X					361.00
AIRBORNE (TOPO)	X					574.00
LINE PREPARATION	X					3,043.00
DIAMOND DRILLING	X		X		Sept 27/70 & Aug 12/71	23,221.00
ROAD WORK	X				Nov 28/69	8,987.00
RECLAMATION						
TOTAL						<u><u>\$45,812.00</u></u>

* Sept 5/68
Sept 8/70
Sept 9/69

Handwritten signature and numbers:
~~check 8015, 8160, 13136~~

GEOLOGICAL REPORT ON THE
WILLOW CREEK PROPERTY - 93G/16E

INTRODUCTION:

Noranda exploration Company, Limited holds sixteen claims just north of Willow (Taspai) Creek, which is about twenty-five miles east of Prince George, B.C. The area of interest is on a small, moderately steep mountain, covered mainly by mature trees. The south and east parts are covered by Devil's Club in places. Outcrop is moderately plentiful to the west but becomes scanty to the east.

The purpose of the examination was to investigate two copper-zinc soil anomalies. The soil grid was used for control in mapping.

GENERAL GEOLOGY:

Geology in the Willow Creek Area consists of meta-sediments and meta-volcanics to the west and possible Jurassic-or-later porphyritic quartz monzonite to the east.

Rock of the Slide Mountain Group (Mississippian or younger) includes argillite, chert, andesite-basalt, probable tuff, minor breccia and minor conglomerate. Dark grey argillite (069-6-26-5) is closely associated with dark grey chert and the two are grouped on the map. Two varieties of andesite-basalt occur. One is variegated purple, green-grey and grey (069-7-2-3), and the other is green-grey to dark-grey (069-7-1-2). In a few places the grey variety approaches diorite in composition. Pillow structure is well-developed in many outcrops of this rock.

Much of the rock of the Slide Mountain Group is aphanitic (069-6-27-7). Where pillow structures are not evident the rock could be tuff or meta-sediment. For convenience in mapping they were grouped with the grey andesite-basalt. Some breccia (069-6-26-1) and minor chert-pebble conglomerate (069-6-27-5) were also found.

The porphyritic quartz-monzonite is normally dark grey in color (069-6-27-1), but on a weathered surface phenocrysts of quartz and K-feldspar stand out in the lighter groundmass.

A few fragments of feldspar-quartz schist (069-6-28-3) occur in the eastern part of the mapped area. Because of the large size and breakable nature of some of the fragments, it is possible that they are fairly close to their original source. Fragments of rock from soil holes on the anomalous part of line 24N consist mainly of types similar to those of the Slide Mountain Group described above. A few fragments of breccia float (069-6-30-5) also occur.

ALTERATION:

Clinozoisite, chlorite, epidote, calcite and quartz occur as alteration products of other minerals and/or in veins. Clinozoisite is a major alteration product in much of the volcanic rock of the area. Large percentages of this mineral were seen in thin sections from 069-6-30-3 and 069-7-1-5. The exact limits and control of clinozoisite alteration are not known. Chloritization also occurs in these rocks.

Veinlets of epidote, chlorite, quartz, calcite and various combinations of the same occur in the Slide Mountain rock. Epidote and calcite are most common, and especially strong veining, which locally approaches a stockwork, is found in parts of the variegated basalt (069-6-26-4 and 069-7-2-3).

Moderate to strong quartz veining with local stockworks is found in much of the porphyritic quartz-monzonite.

STRUCTURE:

Details of the structure of the rock in the area is lacking. On the basis of four measurements of the attitude of bedding from argillite, the rock of the Slide Mountain Group in the southern part of the area strikes west-north-west and dips moderately south. It is not known whether this is true throughout. The eastern contact of the quartz-monzonite appears to strike

north-northwest, but the size and shape of the intrusive as well as the exact location of its eastern contact can not be determined because of a lack of outcrop. Slickensides were observed in much of the rock but attitudes seemed diverse and a serious study of them was not attempted.

Two sets of quartz veins prevail in the southern and larger of two clusters of quartz-monzonite outcrops. The attitude of these sets are generally northeast-moderately-steep-northwest and east-northeast-steep-north.

MINERALIZATION:

Pyrrhotite, pyrite, malachite and minor chalcopyrite were seen in the mapped area. Pyrrhotite is the most common iron sulfide. Estimated percentage of iron sulfide in most of the Slide Mountain rock is 0.1 to 0.3 with no well-defined trend. One outcrop at 8N-15E has 0.8%. Since this is the closest outcrop of Slide Mountain rock found to the intrusive, it could indicate an increase in iron sulfide content near the contact.

Small amounts of copper were found in a number of locations. Most occurs as malachite within variegated basalt (069-7-1-5 and 2-3) in the southwest part of the area. Minor chalcopyrite was found with pyrrhotite within the grey andesite-basalt (069-7-1-3). Also minor chalcopyrite was seen in rock from soil hole 24N-20E. A few fragments in soil hole 24N-18E contains a black mineral with a reddish to yellowish brown streak. This is probably martite. An assay will be run on one of these fragments to test for copper.

There is much evidence of leaching of sulfides from both porphyritic quartz-monzonite (069-6-28-1) and (28-2) and Slide Mountain rock (069-7-2-4) in the mapped area. The evidence consists of limonite of various shades of color and voids along veins and fractures. Leaching of sulfides could account for a lack of copper mineralization near the principle anomaly. Much pyrolu-site is found in rock of the area.

CONCLUSIONS AND RECOMMENDATIONS:

Copper in small amounts was found in outcrops within the smaller of two anomalous copper-zinc-areas. No outcrop was seen within the area of the northeast anomaly, but minor chalcopyrite occurs in a fragment from soil hole 24N-20E. Assays are being run on a number of rocks from outcrops and fragments within both anomalies. Leaching seems a big factor in the area and should be kept in mind when examining the assay results.

The principle anomaly to the northeast has not been satisfactorily explained by this examination. There are three possible explanations for it. First, copper mineralization in rock fragments from soil holes was not observed in outcrop. Assays on rock from the soil holes should in part check this possibility. Second, copper has been leached from the fragments in the soil holes, but remains in the soil. Third, seepage from rock below has brought copper to the soil near the surface where it has been released from solution. There is much water coming out of the area as evidenced by many small creeks and a profusion of Devil's Club. Further work must be completed to test whether one of the last two possibilities is correct. The geology of this area is favourable in that it is near the contact between the Slide Mountain Group and porphyritic quartz-monzonite. A profusion of quartz veins in some parts of the quartz-monzonite makes it more interesting. Also to be mentioned is an E.M. anomaly which seems to run along the contact south of the anomaly.

More geochem. and I.P. are now planned for the area. Trenching may be feasible across the principle anomaly on the 24N line since angular fragments there could indicate shallow bedrock. Trenching along the E.M. anomaly appears less likely to uncover bedrock. In conclusion the area may contain economic mineralization.

W.W. Osborne

Geologist

July 18, 1969

SAMPLE REPORT

DATE July 9, 1969

Grab Samples

SAMPLE NO.	PLACE	LOCATION	Au	Ag	Cu	Mo	Pb	Zn
L-6522	Taken from soil hole at 24N-18E	A highly fractured (bx ?), very fine moss-green rk. Probably And. Fractures filled with bio. rich material. Carb. vlt. Black metallic mineral with brown orange streak.	Tr	Tr	0.03	Tr	Tr	0.03
L-6523	Frag. under stump at ON-1+20W	Fine greenish grey rk. Strong veining by qtz. epi. & cal. Some pyrr.	Tr	Tr	0.01	Tr	Tr	Tr
L-6524	Taken from soil hole 24N-20E	Fine lt. grey rk. (And. ?) w. small veins of bio. chl. Two specks of chalco.	0.01	Tr	0.01	Tr	Tr	0.01
L-6525	Taken from soil hole 24N-18E	Bas.-And. bio. Hf. Minor py.	0.02	Tr	0.03	Tr	Tr	0.01
L-6526	From large otcp. at O+50E - I+50S	Grey Bas.-And. w .4 pyrr. Minor cpy.	Tr	Tr	0.01	Tr	Tr	0.01
L-6527	From otcp. at 3+80N -2W	Variiegated purple-grey-green grey Bas. Carb. vlt. Some bio. in fractures. Tiny acicular Xls of tremolite (?) in rk.	Tr	Tr	0.08	Tr	Tr	0.02

SEYMOUR LABORATORY LTD.

147 Riverside Drive, North Vancouver, B.C. Tel. (604) 929-2228

No. 374

CERTIFICATE OF ANALYSIS

Millon Creek

TO NORANDA EXPLORATION CO.
1050 DAVIE ST.
VANCOUVER 5, B.C.

TYPE OF SAMPLES ROCK

No. of SAMPLES 6

FILE No. 374 Our Inv. 1133

SAMPLE No.	OZ. PER TON GOLD	OZ. PER TON SILVER	% Cu	% Mo	% Pb	% Zn			
L-6522	tr	tr	0.035	tr	0.002	0.026			
L-6523	tr	tr	0.010	tr	0.004	0.005			
L-6524	0.01	tr	0.010	tr	tr	0.010			
L-6525	0.02	tr	0.030	0.001	tr	0.014			
L-6526	tr	tr	0.015	0.001	tr	0.009			
L-6527	tr	tr	0.080	0.001	0.022	0.025			

J. Chatter

PROVINCIAL ASSAYER

DATE JULY 25, 1969

NORANDA EXPLORATION CO. LTD.

Property:

WILLOW

Project No.:

34

Hole No.

NW-2

Sheet No.

1

Lat. 8 N

Elev.

Dip -45°

Collared Oct. 13

Core Size

Dep. 28 E

Depth 367'

Bearing 250°

Completed Oct. 17

Logged by:

G. Belik

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Crest Assays			
							Lt.	Au	Ag	Cu
60-70	95	Qtz.felds.porphry; sections of brecciated porphyry with a dense matrix.		Minor py. Qtz. and qtz.-carbonate veins.	<.2					
70-80	90	Same		Same	<.2					
80-90	95	Same		Same	<.2					
90-100	95	Same		Same	<.2	M 7204	10	Tr	Tr	Tr
100-110	> 95	Same		Same	<.2					
110-120	> 95	Same		Same	<.2					
120-130	> 95	Same		Same	<.2					
130-140	> 95	Same		Same	<.2					

NORANDA EXPLORATION CO. LTD.

Property: WILLOW
 Project No.: 34

Hole No. NW-2
 Sheet No. 2
 Core Size
 Logged by: G. Belik

Lat. _____ Elev. _____ Dip _____ Collared _____
 Dep. _____ Depth _____ Bearing _____ Completed _____

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Crest Assays			
							Lt.	Au	Ag	Cu
140-150	>95	Same		Same	<.2					
150-160	>95	Same		Same	<.2					
160-170	>95	Same		Same	<.2					
170-180	>95	Same		Same	<.2					
180-190	>95	Same		Same	<.2					
190-200	>95	Same		Same	<.2					
200-210	>95	Same		Same	<.2					
*210-220	>95	Same		Same	<.2	M 7205	10	Tr	0.5	Tr

NORANDA EXPLORATION CO. LTD.

Property: WILLOW
 Project No.: 34

Hole No. NW-2
 Sheet No. 3
 Core Size
 Logged by: G. Belik

Lat. _____ Elev. _____ Dip _____ Collared _____
 Dep. _____ Depth _____ Bearing _____ Completed _____

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Crest Assays				
							Lt.				
220-230	> 95	Same		Same	.1						
230-240	> 95	Same		Same	.1						
240-250	> 95	Same		Same	.1						
250-260	> 95	Same		Same	.1						
260-270	> 95	Same		Same	.1						
270-280	> 95	Same		Same	.1						
280-290	> 95	Same		Same	.1						
290-300	> 95	Same		Same	.1						

NORANDA EXPLORATION CO. LTD.

Property:

WILLOW

Hole No. NW-1

Project No.:

34

Sheet No. 1

Lat. 8 N

Elev.

Dip -45°

Collared Sept. 16

Core Size

Dep. 36 E

Depth 350'

Bearing 270

Completed Oct. 12

Logged by: G. Belik

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Crest Assays			
							Lt.	Au	Ag	
86-90	80	Greywacke with disrupted laminations of graphitic shale; large vns. of qtz. w. drusy cavities.		Minor py.	< .1					
90-100	90	Same		Same	< .1					
100-110	98	Greywacke & graphitic shale with small barren white qtz. vns. w. random orientations.		Laminations of very fine grained py in shale deformed in the same way as the shale; very minor cpy	.3	L 7142	10	Tr	0.1	
110-120	98	Same; evidence for brecciation		Same	.5					
120-130	98	Same; brecciation & shearing 50° to core.		Same	.3					
130-140	70	Same; prominent brecciation.		Minor py	.1					
140-150	80	Same; abundant black, shiny slickensided surfaces in the graphitic facies.		" "	.1					
150-160	95	Same with pods & lenses of qtz.-feldspar porphyry?		" "	.1					

NORANDA EXPLORATION CO. LTD.

Property:

WILLOW

Project No.:

34

Hole No. NW-1

Sheet No. 2

Lat.

Elev.

Dip

Collared

Core Size

Dep.

Depth

Bearing

Completed

Logged by: G. Belik

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Assays			
							Crest Lt.			
160-170	95	" "		" "	.1					
170-180	95	" "		" "	.1					
180-190	95	" "		" "	.1					
190-200	95	" "		" "	.1					
200-210	95	Same; porphyry? contains inclusions of shale		" "	.1					
210-220	95	Same; brecciation & deformation more pronounced around margins of porphyry? dykes.		" "	.1					
220-230	95	" "		" "	.1					
230-240	95	" "		" "	.1					

NORANDA EXPLORATION CO. LTD.

Property:

WILLOW

Project No.:

34

Hole No.	NW-1
Sheet No.	3
Core Size	
Logged by:	G. Belik

Lat.	Elev.	Dip	Collared	Core Size
Dep.	Depth	Bearing	Completed	Logged by: G. Belik

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Crest Assays			
							Lt.	Au	Ag	Cu
240-250	95	Same		Same	.1					
250-260	95	Same		Same	.1					
260-270	95	Same		Same	.1					
270-280	95	Same		Same	.1	M 7202	10	Tr	0.2	Tr
280-290	95	Same		Same	.1					
290-300	95	Same		Same	.1					
300-310	95	Same		Same	.1					
310-320	95	Same		Same	.1					

NORANDA EXPLORATION CO. LTD.

 Property: WILLOW

 Project No.: 34

 Hole No. NW-3

 Sheet No. 1

 Lat. 24 N

Elev.

 Dip -45°

 Collared Oct. 18

Core Size

 Dep. 20 E

 Depth 244'

 Bearing 245°

 Completed Oct. 28

 Logged by: G. Belik

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Crest Assays			
							Lt.	Au	Ag	Cu
Casing at 30' 20-30	70	Brecciated greywacke & Graphitic shale		Minor py	.1					
*30-40	70	Brecciated greywacke, graphitic shale & highly altered qtz.-felds. porphyry?		" "	.2	M 7207	10	TR	TR	TR
40-50	70	Altered qtz.-felds. porphyry.		" "	.1					
*50-60	30	Mainly pebbles of qtz.-felds. Porphyry altered Brecciated.		" "	.2	M 7208	10	TR	0.1	TR
60-70	30	Mainly pebbles of altered qtz.-felds.porph. brecciated		" "	.1					
*70-80	15	" "		" "	.1	M 7209	10	TR	0.1	TR
80-90	15	Same with prominent shearing		" "	.1					
90-100	70	Dominant brecciated & sheared greywacke & shale with some porphyry.		" "	.1					

NORANDA EXPLORATION CO. LTD.

Property:

WILLOW

Project No.:

34

Hole No.

NW-3

Sheet No.

2

Lat.

Elev.

Dip

Collared

Core Size

Dep.

Depth

Bearing

Completed

Logged by:

G. Belik

Footage

Rec'y

Rock Type/Alteration

 Graphic
Log

Mineralization/Structure

 %
Sulfides

 Sample
No.

Crest Assays

Lt. Au Ag Cu

*100-110

70

 Brecciated porphyry &
S.S. with some graphitic
material

 Minor py and bornite?
Numerous barren qtz. veins.

.2

M 7210

TR

TR

TR

110-120

95

 Non-brecciated qtz.-
felds.porph.(more equi-
granular than porphyritic)

 Minor Py
Qtz.veins (1/ft.)

.1

*120-130

95

" "

Minor Py and bornite?

.2

M 7211

TR

TR

TR

*130-140

85

Some shearing and brecciation.

" "

.2

M 7212

TR

0.1

TR

140-150

90

 Porphyry with patches
of brecciated greywacke
& graphitic shale

" "

.2

*150-160

90

 150-152: Porphyry
152-160: Dense, light
green banded mylonite

" "

.2

M 7213

TR

0.1

Tr

160-170

95

 Dense, light green mylonite;
breccia frags;
graphitic material

?

?

170-180

70

 Large breccia frags. of
light green mylonite
with sheared graphitic
shale w. S.S.

Py

.2

NORANDA EXPLORATION CO. LTD.

Property: WILLOW
 Project No.: 34

Hole No. NW-4
 Sheet No. 1
 Core Size
 Logged by: G. Belik

Lat. 23 & 70 N Elev. _____ Dip -45° Collared Oct. 28
 Dep. 18 E Depth 197' Bearing 250° Completed Nov. 2

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Crest Assays				
							Lt.	Au	Ag	Cu	Ni
10-20	80	Light green, dense mylonite; highly fractured w. abundant hematite & limonite.		Py, with minor bornite and cpy.	.3	M 7217	10	Tr	0.1	0.09	
20-30	85	Black, pyrite rich rk. w. highly altered andesite or porphyry.		Py, bornite, malachite w. minor cpy; abundant hematite & limonite; good mineralization from 16-20'.	2	M 7218	10	Tr	0.10	0.18	0.01
30-40	85	Brecciated dense, light green, andesitic rk. w. some phenos of felds.		Py; minor bornite; some native copper along fractures.	.5	M 7219	10	Tr	0.20	0.09	
40-50	95	Altered porphyry w. limonite stained fract. chlorite along fract. (slips)		Dissem. py, bornite, & very minor cpy; native Cu along fractures (.1%)	1	M 7220	10	Tr	0.20	0.06	0.01
50-60	95	" "		" "	.5	M 7221	10	Tr	0.20	0.04	
60-70	95	" "		" "	<.5	M 7222	10	Tr	0.30	0.04	
70-80	95	" "		" "	<.5	M 7223	10	Tr	0.20	0.05	
80-90	95	" "		" "	.3	M 7224	10	Tr	0.20	0.05	

NORANDA EXPLORATION CO. LTD.

Property: WILLOW
 Project No.: 34

Hole No. NW-4

Sheet No. 2

Lat. _____ Elev. _____ Dip _____ Collared _____

Core Size _____

Dep. _____ Depth _____ Bearing _____ Completed _____

Logged by: G. Belik

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Crest Assays				
							Lt.	Au	Ag	Cu	Ni
90-100	95	" "		" "	.3	M 7225	10	Tr	0.1	0.02	
100-110	95	" "		" "	.3	M 7226	10	Tr	0.2	0.02	
110-120	95	" "		" " No native Cu.	.3	M 7227	10	Tr	0.1	0.01	
120-130	95	" "		" "	.5	M 7228	10	Tr	0.2	0.01	
130-140	95	130-132:As above. 130-140:Dense, light green andesitic rock		130-132:Dissem.bornite > Py ≈ 1% 132-140:Minor py.	.4	M 7235	10	Tr	Tr	0.01	0.01
140-150	90	Graphitic siltstone & shale; brecciated & sheared.		Py	1.5	M 7229	10	Tr	0.3	0.01	
150-160	40	Mixture of brecciated graphitic siltstone, shale & qtz.felds.porphry.		Py	.5	M 7230	10	Tr	0.4	Tr	
160-170	70	Graphitic shale & porphry.		Py, Minor bornite.	.3	M 7231	10	Tr	0.3	Tr	

