

92IW 002

011724

October 6th, 1975.

Noranda Exploration Company, Limited,
P. O. Box 2380,
Vancouver, B. C.
V6B 3T5

Dear Sirs:

Re: Elk 17-24, 26, 33, 35, 37, 39 mineral
claims - Vancouver Mining Division

Thank you for your letter dated October 1st, 1975,
and the information submitted pursuant to Section 52 of the
Mineral Act with respect to the above noted mineral claims.

Yours very truly,

R. Rutherford,
Deputy Chief Gold Commissioner.

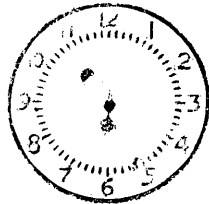
*bc

Noranda Exploration Company, Limited
 (no personal liability)
 P.O. Box 2380,
 Vancouver, B.C.
 V6B 3T5

noranda

1050 Davie Street
 Phone (604) 684-9246
 Telex 04-51331

OCT 3 '75 AM



October 1, 1975

**DEPT. OF MINES
 AND PETROLEUM RESOURCES**

The Honourable Leo T. Nimsick
 Minister of Mines and Petroleum Resources
 Parliament Buildings
 Victoria, B.C.

11062

Re: Elk 17-24, 26,33,35,37,39 mineral
 claims, Vancouver Mining Division

Dear Sir

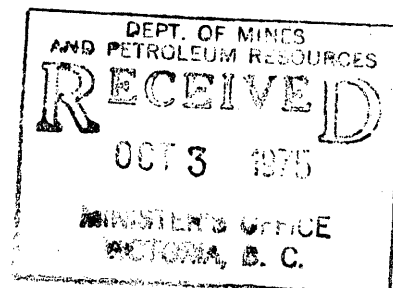
Pursuant to Section 52 subsection 2 (b) of the Mineral Act,
 enclosed please find a report on the above forfeited mineral claims.

Yours truly

W. W. Young
 W. W. Young
 Coordinator

Encl:
 WWY/do

REFERRED TO	DATE	INITIAL
D.M.		
ADM (M)		
ADM (O)		
ADM (P)		
C.G.C.		
C.P.R.	10/10	L
DCGC		
G.C.		
ACCTS.		
GEOL.		
INSP.		
M. REV.		
M. DEV.		
FILE NO.		
FILING CLERK		188



REPORT TO MINISTER OF MINES AND PETROLEUM RESOURCES

PURSUANT TO SECTION 52 SUBSECTION 2 (b)

Claim Names: ELK 17-24, 26, 33, 35, 37, 39

Record Numbers: 11015-22, 11024, 11031, 11033, 11035, 11037

Mining Division: Vancouver

Date of Forfeiture: June 17, 1975

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	<u>x</u>	—	<u>x</u>	—	—	—
GEOPHYSICAL	<u>x</u>	—	—	—	<u>see</u>	—
GEOCHEMICAL	<u>x</u>	—	—	—	<u>below</u>	<u>13,217</u>
SURFACE	—	—	—	—	—	—
AIRBORNE	—	—	—	—	—	—
LINE PREPARATION	—	—	—	—	—	—
DIAMOND DRILLING	<u>x</u>	—	<u>x</u>	—	—	<u>10,014</u>
ROAD WORK	—	—	—	—	—	—
RECLAMATION	—	—	—	—	—	—
Geochemical-geophysical assessment reports filed 4/21/66, 6/17/68, 6/17/70 Cost was approximately \$13,217.00						—
TOTAL						<u><u>24,231</u></u>

REPORT TO MINISTER OF MINES AND PETROLEUM RESOURCES

PURSUANT TO SECTION 52 SUBSECTION 2 (b)

Claim Names: *ELK 17-24, 26, 33, 35, 37, 39*

Record Numbers: *11 015, -22, 11 024, 11 031, 11 033, 11 035, 11 037*

Mining Division: *Vancouver*

Date of Forfeiture: *June 17/1975*

EXPLORATION AND DEVELOPMENT DONE:

	YES	NO	REPORT ATTACHED	MAP ATTACHED	ASSESSMENT REPORT FILED	COST
PROSPECTING	—	—	—	—	—	—
GEOLOGICAL	✓	—	✓	—	—	—
GEOPHYSICAL	✓	—	—	—	<i>see</i>	—
GEOCHEMICAL	✓	—	—	—	<i>below</i>	<i>13,217</i>
SURFACE	—	—	—	—	—	—
AIRBORNE	—	—	—	—	—	—
LINE PREPARATION	—	—	—	—	—	—
DIAMOND DRILLING	✓	—	✓	—	—	<i>10,014</i>
ROAD WORK	—	—	—	—	—	—
RECLAMATION	—	—	—	—	—	—

*assessment
Geochem-geophysical reports filed.
4/21/66, 6/17/68, 6/17/70
cost was approximately
\$ 13,217.*

TOTAL

29,231

NORANDA EXPLORATION CO. LTD.

ELK PROPERTY

92J/3

Grab Samples by W. Osborne

SAMPLE REPORT

DATE Sept. 26, 1968

SAMPLE NO.	PLACE	LOCATION	WIDTH		PER CENT			TYPE	SAMPLED
			Au.	Ag.	Pb.	Zn.	Cu.	No.	
08284	New Jersey Fitzsimmons Cr. Property.	Highly sheared, sericitized grano- zinc's diorite with high grade copper (chal- copyrite.	0.01	1.0	Trace	0.2	4.27		0.04
			Au.	Ag.			Cu.	No.	
08285	Elk Group	Partly sheared granodiorite with weak sericitization. Cp.-mal.-py. in a few tight fractures.	0.01	0.10			0.26		0.005
08286	Elk Group	Highly sheared, sericitized andesite-basalt with minor malachite.	Trace				0.03		0.005
08287	Elk Group	Rhyolite with no evident mineralization	Trace				0.02		0.01
08288	Elk Group	Highly sheared, moderately to well sericitized granodiorite Epidote present. Minor pyrite	Trace				0.02		0.005
08289	Elk Group	Sericitized sheared granodiorite with some epidote. Minor pyrite	Trace				0.03		0.005
08290	Elk Group	Moderately sericitized sheared grano- diorite with some epidote veining. Weak to moderate pyrite.	Trace				0.02		0.01
08291	Elk Group	Weak to moderately sericitized sheared granodiorite with a drill red stain which is probably second- ary hematite. Minor pyrite.	Trace				0.02		0.01

NORANDA EXPLORATION CO. LTD.

ELK GROUP

92J/3E

SAMPLE REPORT

DATE Aug. 31, 1968

SAMPLE No.	PLACE	LOCATION	WIDTH			PER CENT	TYPE	SAMPLED BY
			Ag.	Au.	Cu.			
D8282	Elk Group	Highly sheared, sericitized where 25W Quartz-monzonite(?) with line crosses ² 1.5% pyrite and minor main cr. copper.	0.1	Trace	0.09	Grab	W. Osborne	
D8283	Same as above	Same as above with three 5mm. wide epidote veinlets.	0.1	Trace	0.03	Grab	W. Osborne	

INTRODUCTION:

The Elk Group, consisting of seventeen claims held by Noranda, is located three miles southwest of Alta Lake and northwest of the Squamish-Pemberton Highway. Terrain on the property is generally steep, and outcrop is plentiful. Much of the area has been logged, but that to the northwest is covered mainly by mature trees with heavy brush in places.

The purpose of this examination was to map geology across a copper soil anomaly on the northwestern part of the claims. Since old grid lines were virtually impossible to follow, only strips along parts of two recently cut I.P. lines (15W and 25W) and a strip along a logging road (5W) were mapped. In addition, some reconnaissance geology was done on part of the southern part of the claims.

GENERAL GEOLOGY:

The geology of the Elk Group consists of Late-Paleozoic and/or Early-Mesozoic metavolcanics and minor metasediments cut by probable Jurassic and Cretaceous granitic intrusives. Rhyolite dikes also are found in the area.

The metavolcanic-sediment complex consists of mainly well sheared and altered andesite-basalt (068-9-4-1). Other rock includes dacite (068-9-5-1), minor chert and the possibility of tuff and siltstone. Severe shearing makes identification in some cases very difficult.

The intrusive rock was probably quartz-monzonite to granodiorite (068-8-28-1), but it is now so highly altered that it is difficult to identify. It is generally a well sheared, medium grained rock with mafics, biotite and some hornblende(?). In thin section under crossed-nicols the quartz appears granulated and many grains of the other minerals are elongated in the direction of foliation. This rock occurs as a series of roughly parallel dikes ranging thickness from a few to several hundred feet.

Some rhyolite (068-9-6-3), has intruded the volcanics and quartz-monzonite-granodiorite. These dikes vary in thickness from one to over one hundred feet.

ALTERATION:

Alteration is widespread and extreme in places. Types include; sericite, epidote, and chlorite.

The most conspicuous alteration-type is sericitization. It seems to favor feldspar and is most conspicuous in the quartz-monzonite-granodiorite (068-8-28-1)

and (H#2-73') but also occurs in the volcanics (068-9-3-1).

Epidote is found as discrete grains within much of the rock (H#2-73'), and in many tiny veinlets, and partial chloritization of mafics is fairly widespread. Clinozoisite and calcite also occur.

Quartz veins are seen in much of the rock and are locally intense. There are a number of types of quartz veins. These include quartz veins with blebs of partly to completely chloritized biotite (068-9-3-5), vuggy quartz veins (068-9-6-1) and normal quartz veins (068-9-28-5). Quartz in all three types is white and translucent. The quartz chlorite veins generally occurs in irregular blebs.

STRUCTURE:

The main structural feature is northwest-near vertical foliation in rocks of the area. These seem to be alternating zones of more and less intense foliation. Most geological contacts are parallel to sub-parallel to this foliation.

MINERALIZATION:

Mineralization consists of malachite, chalcopryrite, molybdenite and pyrite. Nine separate occurrences of malachite, chalcopryrite and/or molybdenite were found but only in very small amounts. Some of the copper mineralization does not coincide with the copper soil anomaly.

Malachite and chalcopryrite were seen mainly in quartz-monzonite-granodiorite with two occurrences in rhyolite and two occurrences in volcanic rock. They are in tight fractures (068-8-29-4); disseminated in more highly sheared area (068-8-29-4 - similar specimens gave assays of .09 and .03 copper), and in quartz veins (068-9-6-3) and (068-9-5-6).

Molybdenite was found as specks in rhyolite near quartz vein (068-9-6-3) and within a quartz vein in volcanics.

Pyrite occurs in most of the rock and ranges in estimated per cent from 0.1 to 1.8. The areas of higher pyrite concentration coincide roughly with I.P. anomalies.

NEW JERSEY ZINC PROPERTY:

New Jersey Zinc holds a copper property seven miles east-southeast of the Elk Group and on the northeast side of Whistler Mountain. This property has been worked intermittently since the summer of 1963. The geologist on the property, Said, gave a brief sketch of the geology: An eight hundred foot wide dike of granodiorite occurs in highly sheared sericite, chlorite and talc schists. This dike strikes east-west, dips 55° south and contains .15 to .3 copper. Within the dike, are a number

of well mineralized ($> 1\%$ copper) faults which strike east-west and dip 70° south. One fault strikes northwest and dips steeply southwest. Fragments of mineralized quartz-chlorite veins were found in some of these faults. The contact zones of the dike also contain considerable copper (up to 6%). The width of the above zones is not known.

Since drilling in rock on the New Jersey Property has proven to be extremely difficult, they are now ^{exploring} ~~explaining~~ the property mainly through tunnelling, consequently, it is believed that not too much is known about the vertical and lateral extent of mineralization. Significant molybdenite also is present on this property.

CONCLUSION AND RECOMMENDATIONS:

The geochem. anomaly correlates roughly with quartz-monzonite-granodiorite and to a certain degree with rhyolite. Minor widely scattered mineralization exists in this rock. W. Rainboth reports that some of this rock sent in for assay contained 300-400 ppm. Cu. Further assays of similar rock will be run. If confirmed, the trace amounts of copper could account for the anomaly.

Before writing off this property, however, a number of critical questions should be considered. Assuming a concentration of 300-400 ppm. Cu. in the rock; do conditions exist to allow a significantly larger accumulation of copper in the soils as was found during Mining Corps. geochem. survey there? Perhaps, some of the copper to account for this anomaly has been weathered, but three X-ray drill holes, 85 to 100 feet deep, failed to show a significant increase in copper with depth. Even assuming that possible trace amounts of copper in this intrusive do cause the anomaly, could not proper conditions have existed for a higher concentration of copper and possibly molybdenum somewhere in or around this intrusive? A case in point is found on New Jersey Zinc Property where substantial concentrations of copper are apparently related to granodiorite which may be similar in origin to that on the Elk. Other unanswered questions involve the limits and control of sericite alteration and the connection of the rhyolite dikes. These questions were not answered in the present examination.

More work should be done to answer the above questions. This work should include line cutting, geochem. and 200-foot-to-the-inch geological mapping over higher parts of the geochem. anomaly. Geochem. should be repeated to confirm some of the higher parts of the geochem. anomaly and to allow close co-ordination with geology. I.P. has been shown to be useful in the Alta Lake Area for locating sulfides

The best area to start this work appears to be in the southern boundary of the claims where the highest soil readings occur. For protection, an additional row of claims should be staked there.

Also, it is recommended that regional silting be done in Callahan Creek to the west to check for an extension of the anomaly in this direction.

A final word should be said on exploration and its implications in the Alta Lake Area as effects public reaction. The Elk Property as well as the Fitzsimmons Creek Property both occur within a few miles of Whistler Mountain, a new ski development and Canada's proposed site for the 1976 Winter Olympics. Because of the popularity of the area, much of the surrounding land is being developed and settled. This makes exploration with the purpose of developing a mine in the area a touchy issue as regards pollution, etc., with possible adverse public reaction. To now, the presence of New Jersey Zinc has created little concern. With time public opinion will only harden. It is, therefore, important that Noranda complete the necessary work in the area as soon as possible.

Willis W. Osborne,
Exploration Geologist

September 25, 1968

Geology of the Elk Property

INTRODUCTION:

The Elk Group is located three miles southwest of Alta Lake and is northwest of the Squamish-Pemberton highway on the southern slope of Mt. Sproatt. It consists of seventeen claims held by Noranda. The terrain is moderately steep to steep, and outcrop is plentiful in most places although it is somewhat scanty to the southwest. The original cover of mature trees has been logged in many places, especially on the southern half of the property. Heavy alder occurs on some of the property.

The property was visited in September 1968 to map geology across copper soil anomalies. Old grid lines were impossible to follow, and one hundred foot strips only along parts of lines ON, 15N and 25N were mapped. Some reconnaissance geology also was done.

In 1969, new lines were cut and a geological survey was conducted along one hundred-foot wide strips centered on lines in the southern half of the property. This report covers the geology done in both 1968 and 1969 and will supplement the 1968 report.

GENERAL GEOLOGY:

The geology of the Elk Group consists of Late-Paleozoic and/or Early Mesozoic metavolcanics cut by intrusive bodies of two ages. One is probably Jurassic-Cretaceous in age. Rhyolite dikes also are found in the area.

The metavolcanic complex consists mainly of porphyritic andesite-basalt (068-9-4-1) and dacite (068-9-5-1). Minor chert and possible tuff and siltstone also occur.

The intrusive rocks include a fine- to medium-grained granodiorite (069-6-20-4 and -9-22-1), which in some places appears dioritic, and a medium- to coarse-grained quartz monzonite-granodiorite (068-8-28-1). Mafics in both types are highly altered biotite and hornblende. The fine- to medium-grained rock occurs in more discrete masses whereas the coarser rock is intimately mixed with the volcanics.

Rhyolite dikes (068-9-6-3) are in quartz monzonite-granodiorite and in volcanic rock. Although they are generally less than five feet in thickness, one is over one hundred feet wide.

ALTERATION:

Alteration is widespread and extreme in places on the Elk Group. Major types of alteration include epidote, chlorite and sericite. Quartz veins are widespread.

Epidote is found as discrete grains (DDH2 - 731) and in tiny veinlets in much of the rock of the area. It also occurs in small, rounded, fine-grained masses in some of the volcanic rock. Partial to complete chloritization of mafics is widespread. Clinozoisite and calcite also occur.

Sericite alteration was found in every type of rock on the property. Replacement by sericite seems to have favored feldspar and chlorite and is most conspicuous in quartz monzonite-granodiorite (068-8-28-1). Areas of moderate and strong sericite alteration were outlined on the southern half of the map. Two main zones were defined. One, to the southeast, is wide, continuous, and northwest-trending; the other, to the southwest, is weaker, irregular, and also northwest trending. Unfortunately, the sericite alteration was not observed as closely in the north as in the south, but the main zone is thought to weaken somewhat to the northwest.

Quartz veins occur in much of the rock and are locally intense. There are a number of types including: 1) quartz veins with blebs of partly to completely chloritized biotite (068-0-3-5), 2) vuggy quartz veins (068-9-6-1) and 3) normal quartz. Quartz in all three types is white to grey and translucent. Quartz-chlorite veins commonly occur as irregular blebs.

STRUCTURE:

The dominant structural feature is a northwest-trending nearly vertical foliation. This is most evident in highly sericitized zones which may have been faults. Most contacts are parallel to sub-parallel to the foliation and some of the rock units seem roughly lens like.

The relative age of the two types of intrusive rock is unknown. Both are foliated and altered. Because the finer granodiorite is not as well foliated or altered and is in fairly well-defined masses, it could be concluded that it is the younger of the two. On the other hand, because it is close in composition to dacite and andesite, it might also be considered to be a former volcanic vent and, thus, older than the coarser granodiorite.

MINERALIZATION:

Mineralization in the area consists of pyrite, malachite, chalcopyrite, molybdenite and minor bornite. Pyrite occurs in most of the rock and ranges in estimated percent from 0.1 to 5.0. Twenty-one separate, copper and/or, molybdenum occurrences were found in the mapped area, but all are very limited in extent.

Areas in the southern half of the mapped area where the percentage of pyrite in the rock was estimated to be from 0.5 to 1.0 and greater than 1.0 were outlined on the map. In general, pyrite zones coincide and are closely associated with those of moderate to strong sericitizations. In the northern half only areas with 1.0% or greater pyrite were outlined. The zones seem discontinuous and sporadic here.

Copper and molybdenum mineralization occurs mainly in granodiorite-quartz monzonite with two occurrences each in rhyolite and volcanic rock. In the granodiorite-quartz monzonite mineralization is along tight fractures (068-9-5-6), in or along quartz veins (069-6-20-3) and locally disseminated (068-8-29-4 - similar specimens assayed 0.09 and 0.03 Cu.). Mineralization also is found along fractures in granodiorite which have a fine silicification (?) along their sides (069-7-16-6 and 16-4). In rhyolite (068-9-6-3) and volcanic rock, the mineralization occurs predominantly in quartz veins.

Most mineralization on the Elk Property is in rock with moderate to strong sericitization that contains greater than an estimated 0.5 percent pyrite. Leaching of sulfides from rock in the area is evident (069-6-20-1).

CONCLUSIONS AND RECOMMENDATIONS:

Several favorable aspects of this property recommend it for further exploration. These include zones of strong sericitization and substantial pyrite within a favorable geologic silting of granitic intrusives in older volcanics. In addition other substantial mineralization has been found in the general area and is being actively explored by New Jersey Zinc and Noranda. An unfavorable aspect is the fact that although twenty-one showings were found during examination of the property, all were small in extent and widely scattered. The amount of copper removed by leaching is an unknown factor.

A geochem soil survey was run by Mining Corp. in 1964 (?). Although very high results were obtained from some samples the readings over anomalies were erratic and suggested the possibility that samples were not taken from the same horizon. In addition as deduced from the location of certain roads on maps of the two grids, the present one does not coincide with the original soil grid even though the grids were supposedly run on the same bearing from the same point. This makes proper location of soil samples at best very difficult and subject to doubt. For the reasons mentioned above a soil survey on the southern half of the grid is recommended.

Drilling should follow favorable results of a geochem survey.

Willis W. Osborne
Geologist
August 19, 1969

DWG. No. 1 - GEOLOGY
DWG. No. 2 - OVERLAY - To accompany Geological Map

(Alta Lake, B.C.)

NORANDA EXPLORATION CO. LTD.

Property:

ELK

Project No.:

1033

Hole No. DDH:NE-2

Sheet No. 2

Core Size BQ Wire Line

Logged by: D. E. P.

Lat.	Elev.	Dip	Collared	Dep.	Depth	Bearing	Completed	Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Assays				
								80-90	98+	Course sheared volcanics. Seric.chl./qtz. Minor epid.		Spotty py to increase pyrite. Formation @ 30°-40°.	8.0±						
								90-100	"	"		Poor pyrite	<<1.0						
								100-110		Lightly sheared volc. (tuff) little epid.; poor scatt. seric.		"	"						
								-120		Sheared (and.) volc. porph. Parts mod. epid. /no seric.		Sparse py.	1.0						
								-130		"		Very poor py	<<1.0						Some qtz.vns.
								-140		"		"	"						Vuggy parts.
								-150		"		"	"						
								-160		Lightly sheared and. to tuff.		Increase pyrite	1.0±						12 Inches qtz. @ 154

NORANDA EXPLORATION CO. LTD.

Property: ELK (Alta Lake, B.C.)
 Project No.:

Hole No. DDH:NE-2
 Sheet No. 3
 Core Size BQ W.L.
 Logged by: D.E.P.

Lat.	Elev.	Dip	Collared
Dep.	Depth	Bearing	Completed

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Assays				
160-170	98+	Lightly sheared and to (tuff?)		Increase pyrite	1.0+						
-180	"	" Inc. chl. epid.; minor seric.		Sparse py	1.0 -						
-190	"	"		"	1.0 =						
-200	"	"		"	"						
-210	"	"		"	"						
-220	"	"		"	"						
-230	"	"		"	"						Hematite shear @ 224. Blocky broken.
-240	"	"		"	"						

NORANDA EXPLORATION CO. LTD.

Property: ELK (Alta Lake, B.C.)
 Project No.: 1033

Hole No. DDH:NE-2
 Sheet No. 4
 Core Size BQ W.L.
 Logged by: D.E.P.

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

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Assays				
240-250	98	Lightly sheared volc. (and.to tuff?) Minor epid. chl.seric.		Poor py Formation @ 40°	1.0						
-260	"	"		" ccpy.bleb.@ 258 in qtz.	"						Much qtz.256-258
-270	"	" (Incr.epid.)		"	"						
-280	"	"		"	"						
-290		Sheared diorite few strgrs.w.epid.		No sulphides; structure @ 45°	—						
-300		Slight sheared dio. Chlorite.		Little or no sulphides; structure @ 45°	—						Continues to 302
-310		Chl.to sericitic schist /ser.chl.epid.calc.		Scatt.bnds.pyrite	1.0±						Large qtz.vns. 306 308;chl.in qtz.@ 305.
-320		"		"	"						Red bnds.(hematite @ 312.

NORANDA EXPLORATION CO. LTD.

Property: ELK (Alta Lake, B.C.)
 Project No.: 1033

Hole No. DDH:NE-2
 Sheet No. 5
 Core Size BQ W.L.
 Logged by: D.E.P.

Lat.	Elev.	Dip	Collared
Dep.	Depth	Bearing	Completed

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Assays					
320-330	98+	Schist/chl.ser.epid. calc.		Poor py	1.0±							Extremely broken
-340	"	"		Increase pyrite	2.0±							
-350	"	"		Increase seric. Pyrite	"							
-360	"	"		"	"							
-370	"	"		"	"							Epid.strgrs.@40°
-380	"	"		Pyrite;moly @380-2 sections ½inch slips moly.ccpy.	"							
-390	"	"		Pyrite	"							1 ft.qtz.vns. @39°
-400	"	"		"	"							

NORANDA EXPLORATION CO. LTD.

 Property: ELK (Alta Lake, B.C.)

 Project No.: 1033

 Hole No. DDH:NE-2

 Sheet No. 6

 Core Size BQ W.L.

 Logged by: D.E.P.

Lat.	Elev.	Dip	Collared
Dep.	Depth	Bearing	Completed

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Assays			
400-410	98+	Schist.chlor.to seric.		Scatt.pyrite	2.0±					
-420	"	" Short sect. and.418-420		"	"					
-430	"	Grey schist.silic.to seric.epid.qtz.vns.		" Slips with moly	"					
-440	"	Grey schist;less seric.		Scatt.py;5" section w. well min. min.moly @440	"					
-450	"	"		Scatt.py	"					
-460	"	Grey schist.more seric. chl.		"	"					
-470	"	Sericitic schist.		Scatt.poor py. Some moly & hematite slips.	1.0±					
-480	"	Grades to dk.green brn. sheared porphyritic and.		Sparse py;many fine hematite slips	<<1.0					

NORANDA EXPLORATION CO. LTD.

 Property: ELK PROPERTY

 Project No.: 1033

 Hole No. NE-1

 Sheet No. 1

 Core Size BQ

 Logged by: D. E. P.

 Lat. 10 & 00 S

Elev.

 Dip -45°

 Collared Oct. 22/1970

 Dep. 5 & 00 E

 Depth 501

 Bearing East

 Completed Nov. 1/1970

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Assays					
0-32		Overburden										Casing
32-40	100+	Course green schist Seric. epid.		Pyrite, ccpy, minor graphite slips. Shearing 30° to core.	< 2							< 0.1 Cu shearing to 42'
40-50	100	Massive andesite; dark green f.g. 42 →		No sulphides Occasionally light shearing @ 40°	0							Blocky, broken parts
50-60	100	"		"	0							"
70	100	"		"	0							"
-80	100	"		"	0							"
-90	100	"		"	0							"
-100	98	"		"	0							Andesite to 99.5

NORANDA EXPLORATION CO. LTD.

 Property: ELK

 Project No.: 1033

 Hole No. NE-1

 Sheet No. 2

 Core Size BQ

 Logged by: D.E.P.

Lat.	Elev.	Dip	Collared
Dep.	Depth	Bearing	Completed

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Assays					
100-110	99±	Light green coarse schist (Sh volc.) chl.ser. epid. qtz.		Pyrite Shearing @ 20°-30°.	2.0±							Blocky, broken
-120	"	Schist as above		Spotty py	"							"
-130	"	Lightly sheared m.g. diorite.		Poor	Nil							(Diorite 125-136) Compact
-140		Diorite to 136. Schist 136— Seric.silic.talc.		Diorite barren. Moderate fine pyrite in schist. Sheared @ 20°-30°.	2.0±							Blocky, broken
-150		Grey green schist. Seric.silic.; some epid.		"	"							"
-160		"		"	"							
-170		"		"	"							
-180		"		"	"							

NORANDA EXPLORATION CO. LTD.

Property: ELK
 Project No.: 1033

Hole No. NE-1
 Sheet No. 3
 Core Size BQ
 Logged by: D.E.P.

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

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Assays			
180-190	98±	181-184: Sheared dio. 184-190: Schist seric. silic.		Sparse pyrite (cubes) Py: f.g. diss. Shearing @ 30°.	2.0±					
190-200	"	Schist; seric. silic.		Fine sparse py; ccpy. in qtz. vns. @ 193; Sheared @ 30°.	"					10 inch qtz. vns. @ 193
200-210	"	Green schist to porphyritic seric. chlor.		Occasionally pyrite cubes	0					
210-220	"	Schist chl. seric.		Pyrite fine diss. Bleb ccpy in qtz. @ 217. Sheared @ 20°.	1					Few qtz. veins.
-230	"	"		Pyrite-sparse fine scatt. Sheared @ 20°.	<1.0					
-240	"	Scatt. chl. calc.		"	"					Scatt. fine cal strgrs.
-250	"	"		"	"					
-260	"	Epid. 252-6		"	"					

NORANDA EXPLORATION CO. LTD.

Property: ELK
 Project No.: 1033

Hole No. NE-1
 Sheet No. 4
 Core Size BQ
 Logged by: D.E.P.

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

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Assays				
260-270	99+	Chlor.seric.sch.to light sheared andesite Ser.chl.epid.		Sparse py. Shearing @ 30°.	>1.0						
-280	"	"		"	"						
-290	"	"		" Course py in qtz. @ 285.	<1.0						
-300	"	Ditto. Grades to porphyritic andesite lightly sheared.mod.seric.		Minor scatt.py related to qtz. epid.strgs. Shearing @25°-35°.	"						
-310	"	"		"	"						
-320		Ditto grades to seric. Chlor.schist.seric.chl. spotty epid.		"	"						
-330		"		"	"						Qtz.vns.with blebs chlorite.
-340		"		"	"						"

NORANDA EXPLORATION CO. LTD.

Property: ELK
 Project No.: 1033

Hole No. NE-1
 Sheet No. 5
 Core Size BQ
 Logged by: D.E.P.

Lat.	Elev.	Dip	Collared
Dep.	Depth	Bearing	Completed

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Assays				
340-350	99+	Grey white lightly sheared volc.(tuff?) Porphyritic parts. Epid. seric. bands sil.		Py	1.0						
-360	"	Grades to green sheared volcanics		Bands well min. pyrite @ 351-3 to weak py.	2.0						
-370	"	Grey to green schist. Porphyritic parts seric. sil.(qtz. vns.)		Weak py. Specks ccpy.	2.0						Qtz. vns. with chl. @ 365-6
-380	"	"		Py. Sheared @ 30°.	2.0						
-390	"	" Fair seric.		"	2.0						Blocky.
-400	"	"		"	3.0						"
-410	"	Grey schist to porphyritic to f.gr. andesite (409-410)		Weak py in diss. bands.	2.0						"
-420	"	Grey, green coarse schist locally porphyritic Fair seric. epid.		"	2.0						"

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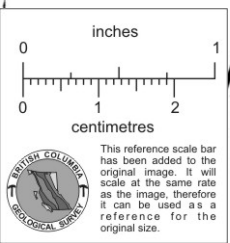
Property: ELK
 Project No.: 1033

Hole No. NE-1
 Sheet No. 6
 Core Size BQ
 Logged by: D.E.P.

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

Footage	Rec'y	Rock Type/Alteration	Graphic Log	Mineralization/Structure	% Sulfides	Sample No.	Assays				
420-430	100±	Grey schist mod.silic. good seric.		Less py; sheared @ 25°-35°.	1.0						Blocky
-440	"	"		"	"						"
-450	"	"		"	"						"
-460	"	Minor epid.		"	"						
-470	"	"		Moly in slips @ 469	"						
-480	"	"		Pyrite Shear @ 40°.							
-490	"	to green compact shear with epid.		"	2.0						
-501 END				"	"						

CASING PULLED



K PROPERTY

- LOCATION MAP

1" = 4 MILES

VANCOUVER M.D.

92 J/3 E

