

APPENDIX IV

DRILL LOGS

GEOLOGICAL BRANCH
ASSESSMENT REPORT

18,800

Part 2 of 3

NORANDA EXPLORATION COMPANY, LIMITED
(no personal liability)

TODD CREEK DRILLING
N.T.S. 104 A/04

LIST OF ABBREVIATIONS

chl	chlorite
si	silica
ser	sericite
hem	hematite
hbl	hornblende
qtz	quartz
cc	calcite
fs	feldspar
K	potassium
py	pyrite
cpy	chalcopyrite
dissem	disseminated
bx	breccia
deg	degrees
CA	core axis
f/m	fractures per meter

CORE STORED ON SITE

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-87-1

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		100.00	-45.00

LATITUDE : 9831.600
 DEPARTURE: 9982.500
 ELEVATION: 1050.000
 DIP AT COLLAR: -45.00 DEG
 AZIMUTH : 100.00 DEG
 TOTAL DEPTH : 48.20

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-87-1

DATE LOGGED: 9/09/87
 LOGGED BY : RJB

MAJOR			SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	
0.00	27.17	1		0.00	1.22	OVB	OVERBURDEN HORNBLLENDE-FELDSPAR PORPHYRY: 78% Recovery Light to medium green-grey-purple, fine to medium grained, pervasively chl+/-si-ser-hem-cc altered, chl has replaced all hbl-fs grains; locally moderately to strongly silic. and bleaching; local cc-qtz bx vein zones sub-parallel to CA; local .1-1cm qtz-cc-hem+/-cpy veins, locally offset by cc-qtz bx; local dissem grains and patches of soec. hem to 2mm; 1-2% qtz veining. Structure: 1cm Qtz-cc-hem v., 2.11/35 deg Cc-qtz bx zone, 3.66/0 deg 2mm Qtz-hem v., 5.55/65 deg 1mm Qtz-cc-hem-cpy v., 6.62/70 deg Trace Sulphides.
				1.22	8.81	1c	
				8.81	12.54	1c	HORNBLLENDE-FELDSPAR PORPHYRY: 95% Recovery As for 1.22-8.81 m; strong qtz-hem-cc-cpy veining, veins locally show crustiform banding of qtz-hem-cc, trace to .2% cpy, 25-30% qtz veining. Structure: Qtz-hem-cc-cpy veins; 8.81-8.84m/45 deg, 9.18-9.28m/70 deg, 9.39-9.44m/55 deg, 12.36-12.38m/50 deg, 12.52-12.54m/70 deg.

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
								Qtz-hem-cc-cpy Stockwork; 9.5-9.73m/65 deg 9.89-10.23m/50 deg, 10.67-10.8m/65 deg, 11.16-11.68m/40-60 deg, 11.71-11.84m/70 deg.
				12.54	14.99	1c		1-2% Sulphides. HORNBLende-FELDSPAR PORPHYRY: 96% Recovery As for 1.22-8.81m; 1-2% quartz veining. Structure: Qtz-hem-ser-cpy veins; 13.61-13.64m/60 deg Trace Sulphides.
				14.99	18.12	1b		HORNBLende-FELDSPAR PORPHYRY: 99% Recovery As for 1.22-8.81m; pale purple-brown, intense hairline fractures with strong ser-qtz-chl alteration, local .1-2 cm qtz-hem-cpy veins, 3-4% qtz veining. Structure: Qtz-ser-hem-cpy veins; 16.00-16.03m/70 deg 16.08-16.10m/60 deg, 16.15-16.17m/60 deg, 16.51-16.54m/70 deg Trace Sulphides.
				18.12	27.17	1b		HORNBLende-FELDSPAR PORPHYRY: 100% Recovery As for 1.22-8.81m; pale to medium green; locally silicified; local strongly fractured with sericite on fractures; local irregular qtz-cc bx veining sub- parallel to CA; 8-10% qtz veining. Structure: Qtz-hem-cc-ser-cpy veins;

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
27.17	32.30	6		27.17	32.30	6		18.23-18.25m/85 deg, 20.69-20.81m/45 deg, 21.07-21.13m/55 deg, 23.63-23.66m/60 deg, 24.06-24.10m/75 deg, 24.11-24.13m/55 deg, 24.50-24.52m/60 deg, 26.53-26.60m/60 deg, 26.68-26.72m/50 deg. Trace Sulphides. HORNBLENDE-FELDSPAR PORPHYRY-QUARTZ BRECCIA: 99% Recovery Light green-grey-yellow; intensely frac- tured and ser-chl altered, fragments subround to subangular, sericite surrounds fragments, chl has replaced the hbl-fs grains and occurs on fractures; local moderate to strong silic., abundance of qtz bx fragments increase toward bottom; trace-.2% cpy in qtz bx zones and in irregular .1-3 cm qtz-ser+/-hem v., approx 8-10% qtz veining. Structure; Lower Shear Contact: 32.3m/65 deg Qtz-hem-ser-cpy v., 27.27-27.30m/65 deg Trace to .2% Sulphides.
32.30	48.20	2		32.30	38.87	2b		ANDESITE: 95% Recovery Pale green with local maroon-grey sections fine to medium grained, intense ser-chl+/- si alteration; local maroon-grey fragments to 2 cm; local irregular qtz-cc+/-hem-cpy patches, (1% qtz vein. Structure:

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				38.87	48.20	2		Qtz-hem-cpy v., 33.73-33.79m/55 deg Lower Contact, 38.87m/70 deg Trace Sulphides. ANDESITE: 97% Recovery Dark maroon-grey; abundant subhedral fs. pheno's to 3mm; abundant irregular qtz patches to 3mm; locally 2-3% dissem. fine grained spec. hem; approx 1% qtz veining. Structure: Qtz-cc-cpy bx v., 41.47-41.59m/50 deg Qtz-and-chl-cpy bx v., 47.68-47.69m/45 deg. Trace Sulphides. END OF HOLE.

ASSAY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

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DRILL HOLE NUMBER : NTC-87-1

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
16001	1.22	4.22	3.00	0.07	0.01
16002	4.22	7.22	3.00	0.07	0.01
16003	7.22	8.81	1.59	0.07	0.01
16004	8.81	10.24	1.43	0.72	0.08
16005	10.24	11.87	1.63	0.45	0.03
16006	11.87	12.54	0.67	0.07	0.01
16007	12.54	14.04	1.50	0.07	0.01
16008	14.04	14.99	0.95	0.07	0.01
16009	14.99	16.49	1.50	0.07	0.03
16010	16.49	18.12	1.63	0.10	0.01
16011	18.12	19.62	1.50	0.24	0.01
16012	19.62	21.12	1.50	0.07	0.03
16013	21.12	22.62	1.50	0.07	0.02
16014	22.62	24.12	1.50	0.07	0.01
16015	24.12	25.62	1.50	0.10	0.06
16016	25.62	27.17	1.55	0.17	0.01
16017	27.17	28.67	1.50	0.07	0.11
16018	28.67	30.17	1.50	0.17	0.05
16019	30.17	31.67	1.50	0.41	0.13
16020	31.67	32.30	0.63	0.45	0.10
16021	32.30	33.80	1.50	0.07	0.02
16022	33.80	35.30	1.50	0.07	0.01
16023	35.30	36.80	1.50	0.07	0.01
16024	36.80	38.87	2.07	0.07	0.01
16025	38.87	40.37	1.50	0.07	0.01
16026	40.37	41.60	1.23	0.72	0.20
16027	41.60	43.10	1.50	0.07	0.01
16028	43.10	44.60	1.50	0.07	0.01
16029	44.60	46.10	1.50	0.07	0.01
16030	46.10	48.20	2.10	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-87-2

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		100.00	-45.00

LATITUDE : 9967.400
 DEPARTURE : 9976.300
 ELEVATION : 1060.000
 DIP AT COLLAR : -45.00 DEG
 AZIMUTH : 100.00 DEG
 TOTAL DEPTH : 45.72

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO. : NTC-87-2

DATE LOGGED : 11/09/87
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	28.84	1		0.00	2.74	OVB		OVERBURDEN HORNBLENDE-FELDSPAR PORPHYRY: 83% Recovery Pale green-brown to medium brown; moderate to strong chl-ser+/-si alteration, pale green sections are strong sericite altered moderate to strong silic; local .2-10 cm Qtz-hem-ser-coy v. and bx v., local irregular Qtz-cc bx zones; approx 2% Qtz veining. Structure: Qtz-hem-coy v., 5.16-5.21m/75 deg. Hem-volc-ser bx., 7.72-7.79m/75 deg. Qtz-hem-ser-coy bx., 8.33-8.35m/45 deg. 10.28-10.38m/65 deg, 12.35-12.37m/70 deg. Trace Sulphides.
				2.74	14.54	1c		
				14.54	17.82	1b		HORNBLENDE-FELDSPAR PORPHYRY: 99% Recovery Bleached, pale green-brown; strong chl-ser si alteration, chl after hbl-fs, moderate to strong silic.; strong bx with ser-Qtz filling fractures, local volc-Qtz-hem-ser +/-coy bx zones to 23 cm wide, 10-12% Qtz veining. Structure: Qtz-hem-ser-coy v., 14.98-14.99m/75 deg, 15.11-15.14m/65 deg, 15.84-16.34m/55 deg, 17.68-17.69m/50 deg.

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				17.82	21.56	1c		Trace Sulphides. HORNBLende-FELDSPAR PORPHYRY: 93% Recovery Pale green-brown to medium brown; locally bleached-ser zones; strong qtz-hem-cpy+/- ser v. and bx v., 12-15% qtz veining. Structure: Qtz-cc bx v., 18.11-18.20m/40 deg Qtz-hem, 18.49-18.54m/50 deg, 19.02-19.03m/40 deg, 19.27-19.39m/60 deg, 20.10-20.13m/70 deg, 20.16-20.17m/85 deg. .1-.5% Sulphides.
				21.56	28.84	1c		HORNBLende-FELDSPAR PORPHYRY: 98% Recovery Pale green-grey-brown; fine grained; strong ser-chl alteration, local weak silic; local fracture zones with qtz-hem-cc+/-cpy filling the fractures, 15% qtz veining. Structure: Qtz-hem-ser-cpy v., 21.62-21.67m/55 deg, 22.69-22.71m/50 deg, 23.68-23.74m/50 deg, 26.28-26.52m/70 deg, 26.76-26.77m/60 deg, 28.56-28.57m/60 deg. Trace to .2% Sulphides.
28.84	35.10	6		28.84	35.10	6		MIXED QUARTZ-HEMATITE-HORNBLende-FELDSPAR PORPHYRY BRECCIA: 99% Recovery Pale green-brown; intense ser-chl-si alteration, fragments <.1-5 cm, subangular to subround; local bright red qtz-hem

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
35.10	45.72	2		35.10	36.10	2b		fragments; dissem cpy throughout with higher conc. in qtz bx zones. 50-60% qtz-bx material; bottom 20 cm has a flow-bx texture, .1-.5% cpy. Structure: Qtz-ser-hem-cpy bx v., 29.72-30.14m/65 deg 30.76-30.79m/65 deg, 33.25-34.47m/55-65 deg. Shear Contact/Foliation, 35.10m/75 deg. .1-.5% Sulphides ANDESITE: 99% Recovery Fine grained, pale green, intensely ser-chl altered; irregular 1-2mm qtz-hem veinlets and chl seams; top 5 cm is flow banded with abundant fine grained dissem py+/-cpy and local qtz-hem fragments; bottom 10 cm is a volc-qtz+/-hem-cpy bx., 1-2% qtz veining. Structure: Volc-qtz-hem-cpy bx v., 36.0-36.1m/45 deg Trace Sulphides. ANDESITE: 93% Recovery Fine to medium grained, dark grey-maroon to medium green; subhedral to euhedral fs pheno's to 2mm; local fine grained dissem spec. hem.; local patches of chl-ser alteration; abundant irregular qtz patches to 5mm. Sulphides Nil
				36.10	45.72	2		

ASSAY RECORD
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
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DRILL HOLE NUMBER : NTC-87-2

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
16031	2.74	5.50	2.76	0.82	0.10
16032	5.50	7.00	1.50	0.07	0.09
16033	7.00	8.50	1.50	0.07	0.05
16034	8.50	10.00	1.50	0.07	0.03
16035	10.00	10.50	0.50	0.82	0.03
16036	10.50	12.00	1.50	0.07	0.04
16037	12.00	13.50	1.50	0.07	0.01
16038	13.50	14.54	1.04	0.07	0.02
16039	14.54	16.04	1.50	0.45	0.03
16040	16.04	17.82	1.78	0.17	0.01
16041	17.82	18.82	1.00	0.31	0.03
16042	18.82	19.82	1.00	0.86	0.06
16043	19.82	20.82	1.00	0.34	0.08
16044	20.82	21.56	0.74	0.10	0.01
16045	21.56	22.56	1.00	0.51	0.04
16046	22.56	23.56	1.00	0.24	0.01
16047	23.56	24.56	1.00	0.24	0.02
16048	24.56	25.56	1.00	0.17	0.01
16049	25.56	26.56	1.00	0.55	0.01
16050	26.56	27.56	1.00	0.17	0.01
16051	27.56	28.84	1.28	0.10	0.01
16052	28.84	29.70	0.86	0.99	0.32
16053	29.70	30.20	0.50	4.42	0.38
16054	30.20	31.20	1.00	0.27	0.03
16055	31.20	32.20	1.00	0.31	0.04
16056	32.20	33.10	0.90	0.24	0.14
16057	33.10	34.60	1.50	4.59	0.24
16058	34.60	35.10	0.50	2.64	0.28
16059	35.10	36.10	1.00	0.48	0.05
16060	36.10	37.60	1.50	0.07	0.01
16061	37.60	39.10	1.50	0.07	0.01

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DRILL HOLE NUMBER : NTC-87-2

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
16062	39.10	40.60	1.50	0.07	0.01
16063	40.60	42.10	1.50	0.07	0.01
16064	42.10	43.60	1.50	0.07	0.01
16065	43.60	45.72	2.12	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-87-3

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		100.00	-65.00
51.00	A	100.00	-65.00

LATITUDE : 9967.400
 DEPARTURE: 9976.300
 ELEVATION: 1060.000
 DIP AT COLLAR: -65.00 DEG
 AZIMUTH : 100.00 DEG
 TOTAL DEPTH : 51.21

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO. : NTC-87-3

DATE LOGGED: 13/09/87
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	31.56	1		0.00	1.22	OVB		OVERBURDEN HORNBLENDE-FELDSPAR PORPHYRY: 97% Recovery Pale green to medium brown; cn-ser+/-si altered, section is marked by alternating brown and pale green bleached zones; local str. hairline fractures with qtz-cc-ser; local irregular qtz-cc bx zones; qtz-hem +/-ser-cpy veins occur throughout, with stronger stringer zones from 3.57-8.55m, 10.96-13.87m, 17.41-19.50m, veins predominantly occur in pale green bleached zones, 3-5% qtz veining overall. Structure: Qtz-cc-ser-hem-cpy v., 3.57-3.91m/40 deg, 5.69-5.73m/60 deg, 8.53-8.65m/45 deg, 10.46-10.48m/45 deg, 11.05-11.16m/45 deg, 13.86-13.87m/50 deg, 17.41-17.46m/45 deg, 19.23-19.25m/50 deg, 19.35-19.42m/45 deg. Trace Sulphides.
				1.22	21.30	1c		
				21.30	31.56	1b		HORNBLENDE-FELDSPAR PORPHYRY: 100% Recovery Pale green-light brown, bleached; strong ser-chl-si alteration; local irregular cc-qtz bx patches; local .1-12cm qtz-hem-ser-cpy v. throughout, 21.30-25.30m is strongly fractured with 18-20% qtz-hem-cpy v. and qtz-hem stockwork, 8-10% qtz

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
31.56	40.32	6		31.56	40.32	6		veining overall. Structure: Qtz-hem-ser-cpy v., 21.77-21.87m/45 deg, 21.91-21.97m/45 deg, 22.02-22.06m/50 deg, 22.46-22.53m/60 deg, 22.71-22.83m/45 deg Trace-.5% Sulphides. QUARTZ & HORNBLLENDE-FELDSPÄR PORPHYRY BRECCIA: 99% Recovery Pale green, strongly ser-si-chl altered, chl altered hbl-fs grains to 2mm, strongly fractured-bx; fragments to 5 cm; abundant irregular Qtz-ser-hem-cpy stockwork v. and local si flooding; local Qtz-cc v. and bx, several Qtz-hem-cpy-ser bx v. to 72 cm; fractures are locally strongly weathered- oxidized; fault gouge at 39.00-39.03m. Structure: Qtz-ser-hem-cpy bx v., 32.40-32.77m/55 deg 39.60-40.32m/50 deg Contact: 40.32m/50 deg .1-.3% Sulphides.
40.32	51.21	2		40.32	42.06	2b		ANDESITE: 94% Recovery Pale green, very fine grained; intense ser-chl alteration, local hairline frac- tures with ser-chl; several .2-2 cm Qtz- hem v., one py stringer to 2mm wide. Structure: Qtz-hem-cpy bx v., 41.84-41.86m/25 deg ANDESITE:
				42.06	51.21	2		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
								98% Recovery Dark grey-maroon, fine grained matrix; bimodal Fs grains, .5-2mm phenos and .1-1mm grains in matrix; trace-1% fine grained disseminations in matrix and in chl altered fs pheno's; local bright red hem rich patches proximal to areas of hairline qtz-cc v. (60 deg to CA); locally frag- mental; local silic sections where strongly fractured. Structure: Qtz-hem-cpy v., 49.23-49.24m/35 deg END OF HOLE.

ASSAY RECORD
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DRILL HOLE NUMBER : NTC-87-3

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
16066	1.22	2.50	1.28	0.07	0.01
16067	2.50	3.50	1.00	0.07	0.01
16068	3.50	4.00	0.50	0.82	0.06
16069	4.00	5.50	1.50	0.14	0.01
16070	5.50	7.00	1.50	0.07	0.02
16071	7.00	8.50	1.50	0.07	0.01
16072	8.50	9.00	0.50	0.45	0.04
16073	9.00	10.50	1.50	0.07	0.02
16074	10.50	11.50	1.00	0.34	0.06
16075	11.50	12.50	1.00	0.07	0.02
16076	12.50	14.00	1.50	0.10	0.02
16077	14.00	15.50	1.50	0.07	0.01
16078	15.50	17.00	1.50	0.07	0.01
16079	17.00	18.10	1.10	0.72	0.01
16080	18.10	19.10	1.00	0.07	0.01
16081	19.10	19.60	0.50	0.51	0.02
16082	19.60	21.30	1.70	0.07	0.01
16083	21.30	22.30	1.00	3.12	0.11
16084	22.30	23.30	1.00	1.03	0.12
16085	23.30	24.30	1.00	0.17	0.01
16086	24.30	25.30	1.00	0.14	0.01
16087	25.30	26.80	1.50	0.07	0.01
16088	26.80	28.30	1.50	0.07	0.01
16089	28.30	29.80	1.50	0.07	0.01
16090	29.80	31.56	1.76	0.07	0.01
16091	31.56	32.80	1.24	0.07	0.10
16092	32.80	34.00	1.20	0.07	0.02
16093	34.00	35.00	1.00	0.07	0.01
16094	35.00	36.00	1.00	0.65	0.04
16095	36.00	37.00	1.00	0.21	0.02
16096	37.00	38.00	1.00	0.07	0.01

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N.T.S. 104 A/04

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DRILL HOLE NUMBER : NTC-87-3

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
16097	38.00	39.00	1.00	0.07	0.01
16098	39.00	39.60	0.60	0.07	0.01
16099	39.60	40.32	0.72	5.86	0.40
16100	40.32	42.06	1.74	0.10	0.03
16101	42.06	45.06	3.00	0.10	0.01
16102	45.06	48.06	3.00	0.07	0.01
16103	48.06	51.21	3.15	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-87-4

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		100.00	-45.00
56.70	A	100.00	-45.00

LATITUDE : 9927.500
 DEPARTURE: 9964.600
 ELEVATION: 1060.000
 DIP AT COLLAR: -45.00 DEG
 AZIMUTH : 100.00 DEG
 TOTAL DEPTH : 58.52

D I A M O N D D R I L L L O G
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO. : NTC-87-4

DATE LOGGED: 17/09/87
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	37.47	1		0.00	0.30	OVB		OVERBURDEN
				0.30	6.00	1c		HORNBLLENDE-FELDSPAR PORPHYRY: 77% Recovery Fine to medium grained, pale to medium green; strongly chl-ser-si alteration; chl after hbl-fs grains, local hairline fractures with ser; hbs-fs grains locally show a weak flow alignment; local irregular Qtz-cc patches; matrix is locally pale brown, (K alteration?) fractures are locally strongly weathered; 1-2% Qtz veining. Structure: Flow Contact, 0.44m/70 deg Qtz-cc-hem-cpy-py v., 5.68-5.76m/60 deg. Trace Sulphides.
				6.00	8.25	1b		HORNBLLENDE-FELDSPAR PORPHYRY: 92% Recovery Medium grained, pale green-brown; strongly chl-ser-k? alteration, intense weathering along fractures, local hairline fractures with ser; local cc-Qtz bx patches. Structure: Weathered fractures /40 deg Trace Sulphides.
				8.25	18.67	1c		HORNBLLENDE-FELDSPAR PORPHYRY: 97% Recovery Fine-medium grained, medium to dark green,

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				18.67	25.60	1b		chl after hbl-fs grains; very fine grained chl in matrix; moderate to strongly silic; local hairline Qtz-cc v.; local flow alignment of hbl grains; 3-5% Qtz v; 3-5% cpy, 1-2% py in veins at 11.36m. Structure: Qtz-chl-hem-cpy-py v., 11.36-11.63m/65 deg Trace Sulphides.
				25.60	37.47	1c		HORNBLLENDE-FELDSPAR PORPHYRY: 86% Recovery Fine grained, pale grey-green, bleached moderate to strong silic., chl-ser after hbl-fs grains, Qtz veining in local strongly weathered fractures 30 deg to CA; local narrow Qtz-cc v., (1% Qtz veining). Trace Sulphides. HORNBLLENDE-FELDSPAR PORPHYRY: 89% Recovery Medium to coarse grained, silic. fs phenos to 5mm, hbl phenos to 2mm, grey-green-brown, locally bleached; strongly si-chl and locally ser altered, 30.25-32.70m is strongly weathered and fractured Qtz v. zone with local cpy-py-mal, ser-musc-chl on fractures; dark green chl dyke at 27.98 has irregular Qtz-cc-hem patches to 5mm, 8-10% Qtz veining. Structure: Dark green chl dyke, 27.98-28.06m/90 deg. Qtz-hem-cpy-bx v., 29.52-29.59m/70 deg, 33.97-34.02m/55 deg, 34.10-34.11m/70 deg.

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
37.47	43.53	6		37.47	43.53	6		Cc-cpy v., 50% cpy, 35.42-35.45m/75 deg. Banded qtz-hem-cpy-py v., 15% cpy, 5% py, 35.47-35.51m/80 deg Trace-.5% Sulphides. MIXED QUARTZ-HORNBLLENDE-FELDSPAR PORPHYRY BRECCIA ZONE: 96% Recovery Pale green-grey; strongly chl-ser-si alteration, strongly fract-bx with numerous pale yellow-white to white qtz- hem-cpy v and bx v. to 80 cm; dissem cpy in v and bx matrix; trace py; 30-35% v. material. .1-.3% cpy. Structure: Qtz-hem-cpy v, bx v., 37.47-43.53m/65-75 deg. .1-.5% Sulphides. HORNBLLENDE-FELDSPAR PORPHYRY: 97% Recovery Light green, bleached, strongly silic with 3-5% milky-grey qtz-cpy v. to 2 cm, locally strongly fractured with ser on fractures, chl-ser-si altered, local fractures are strongly weathered, bottom 26 cm is a silic qtz-hem-volc bx with trace dissem cpy. Structure; Qtz-hem-volc bx, 47.71m/50 deg Grey qtz-cpy v., 44.81-44.83m/75 deg, 46.53-46.55m/45 deg. Trace Sulphides.
43.53	47.71	1		43.53	47.71	1b		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
47.71	58.52	2		47.71	51.46	2		ANDESITE: 95% Recovery Maroon-grey, fine grained, fragmental at top, grading into massive flow; local irregular qtz-cc patches to 1 cm; local hairline qtz-cc v., <1% qtz v.; strongly weathered fractures. Trace Sulphides.
				51.46	58.52	2b		ANDESITE: 92% Recovery Massive, fine grained, light yellow-green; strong ser-chl alteration, local maroon-grey patches; strongly weathered rusty fractures; local hairline qtz-cc v. to 2mm Structure: Weathered fractures /25 deg Trace Sulphides. END OF HOLE.

ASSAY RECORD
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-87-4

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
16104	0.30	2.50	2.20	0.07	0.01
16105	2.50	4.00	1.50	0.07	0.02
16106	4.00	5.50	1.50	0.07	0.01
16107	5.50	6.00	0.50	0.10	0.06
16108	6.00	8.25	2.25	0.07	0.01
16109	8.25	9.75	1.50	0.07	0.01
16110	9.75	11.15	1.40	0.07	0.01
16111	11.15	11.65	0.50	1.71	0.35
16112	11.65	12.65	1.00	0.07	0.01
16113	12.65	14.15	1.50	0.07	0.01
16114	14.15	15.65	1.50	0.07	0.01
16115	15.65	17.15	1.50	0.07	0.01
16116	17.15	18.67	1.52	0.07	0.01
16117	18.67	20.17	1.50	0.07	0.01
16118	20.17	21.67	1.50	0.07	0.01
16119	21.67	23.17	1.50	0.07	0.01
16120	23.17	24.67	1.50	0.07	0.01
16121	24.67	25.60	0.93	0.07	0.01
16122	25.60	27.10	1.50	0.07	0.02
16123	27.10	28.60	1.50	0.07	0.01
16124	28.60	29.40	0.80	0.07	0.01
16125	29.40	30.20	0.80	0.27	0.08
16126	30.20	31.20	1.00	0.21	0.07
16127	31.20	32.70	1.50	0.21	0.20
16128	32.70	33.70	1.00	0.07	0.05
16129	33.70	34.70	1.00	0.07	0.05
16130	34.70	35.20	0.50	0.07	0.09
16131	35.20	35.70	0.50	0.34	0.72
16132	35.70	36.70	1.00	0.07	0.38
16133	36.70	37.47	0.77	0.10	0.05
16134	37.47	39.00	1.53	1.34	0.14

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DRILL HOLE NUMBER : NTC-87-4

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
16135	39.00	40.00	1.00	0.48	0.04
16136	40.00	41.00	1.00	0.27	0.01
16137	41.00	42.00	1.00	0.17	0.01
16138	42.00	43.00	1.00	0.07	0.01
16139	43.00	43.53	0.53	1.41	0.06
16140	43.53	45.00	1.47	0.07	0.02
16141	45.00	46.50	1.50	0.07	0.02
16142	46.50	47.71	1.21	0.10	0.02
16143	47.71	49.71	2.00	0.07	0.01
16144	49.71	51.46	1.75	0.07	0.01
16145	51.46	53.96	2.50	0.07	0.01
16146	53.96	56.46	2.50	0.10	0.01
16147	56.46	58.52	2.06	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
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DRILL HOLE NUMBER : NTC-87-5

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		100.00	-65.00
66.00	A	100.00	-65.00

LATITUDE : 9927.500
 DEPARTURE: 9964.000
 ELEVATION: 1060.000
 DIP AT COLLAR: -65.00 DEG
 AZIMUTH : 100.00 DEG
 TOTAL DEPTH : 66.45

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO. : NTC-87-5

DATE LOGGED: 19/09/87
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	43.77	1		0.00	0.30	OVB		OVERBURDEN
				0.30	2.62	1b		HORNBLLENDE-FELDSPAR PORPHYRY: Pale green-brown, bleached; medium to coarse grained, strongly chl-ser+/-si altered, local qtz-cc+/-cpy v., locally fractured and silic., strongly weathered on fractures, (1% qtz veining. Trace Sulphides.
				2.62	7.32	1c		HORNBLLENDE-FELDSPAR PORPHYRY: 99% Recovery Medium green-grey, medium to coarse grained, flow banding strong chl-K?+/-ser-si altered, chl after hbl-fs grains to 3mm local light grey bleached sections; strong weathering on fractures; (1% qtz veining. Structure: Flow Banding, / 55 deg Qtz-hem-cpy bx v., 5.28m/60 deg Trace Sulphides.
				7.32	9.32	1b		HORNBLLENDE-FELDSPAR PORPHYRY: 99% Recovery Light grey, medium grained, bleached, strongly weathered on fractures, local qtz-hem v., qtz-cc v., strongly chl-si altered; local bx; 1-2% qtz veining. Trace Sulphides.
				9.32	16.61	1c		HORNBLLENDE-FELDSPAR PORPHYRY: 100% Recovery

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
								Fine to medium grained, flow banded, local hairline qtz-cc v. +/- cpy-hem, strongly chl altered, 3-5% qtz v., 2-3% cpy in the two qtz-chl-hem-cpy bx veins. Structure: Qtz-chl-hem-cpy bx v., 14.17-14.34m/45 deg 15.13-15.22m/60 deg Trace Sulphides. HORNBLENDE-FELDSPAR PORPHYRY: 99% Recovery Pale green-grey, fine grained, strongly si-ser+/-chl altered, local qtz-hem+/-cpy patches and narrow veins, strongly fractured, strongly weathered on fractures, 1-2% qtz veining. Structure: Contact 18.26m/40 deg Trace Sulphides. HORNBLENDE-FELDSPAR PORPHYRY: 99% Recovery Medium brown-green, fine to coarse grained chl+/-ser-si altered; abundant hairline qtz-cc v. and bx v., local narrow bx zones local slickensides on weathered fractures, 1-2% qtz veining. HORNBLENDE-FELDSPAR PORPHYRY: 97% Recovery Medium green-brown, fine to coarse grained local fragments, chl-si-ser-K? altered; local abundant hairline fractures with ser local 1-5 cm qtz-chl v.; chl after hbl-fs
				16.61	18.26	1b		
				18.26	30.39	1c		
				30.39	43.77	1c		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
								grains to 3mm, local dissem spec hem grains; local qtz-cc bx v. and irregular patches; abundant, .1-10 cm qtz-hem-cpy v. and bx v., 5-7% qtz veining.
								Structure: Qtz-chl v., 30.99-31.09m/40 deg. Qtz-hem-cpy-py v., 31.70-31.77m/55 deg, 37.01-37.04m/50 deg, 38.97-39.08m/75 deg, 38.79-38.81m/65 deg, 39.71-39.73m/50 deg, 39.91-39.98m/50 deg, 43.51-43.53m/55 deg.
43.77	57.09	6		43.77	55.36	6		Trace-.1% Sulphides. QUARTZ-HORNBLende-FELDSPAR PORPHYRY BRECCIA ZONE: 94% Recovery Pale green-grey, chl-ser+/-si altered int. fract-bx with ser+/-qtz-chl on fractures; abundant qtz-hem-cc+/-cpy-py v., bx v., irregular patches, locally with up to 15% cpy. (NOTE: approx .2-.3 m of core "ground up" due to core tube mismatch) Structure: Qtz-hem-cpy-py bx v., 43.77-44.08m/50 deg, 44.27-44.30m/45 deg, 44.63-44.67m/65 deg, 51.70-51.74m/60 deg, 51.84-51.88m/55 deg, 52.14-52.20m/40 deg, 52.85-52.92m/70 deg.
								.1-.5% Sulphides. QUARTZ VEIN: 98% Recovery Banded on outer margins, bx in center; upper 20 cm appears to be mylonite?, minor
				55.36	57.09	6		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
57.09	66.45	2		57.09	66.45	2b		cc-ser; local red qtz fragments and hem patches, cpy-py as irregular bands and dissem grains, approx 5-7% cpy, sharp contacts. Structure: Upper Contact 55.36m/45 deg Lower Contact 57.09m/40 deg 5-7% Sulphides. ANDESITE: Pale green-grey; fine grained, upper 40 cm is a coarse fragmental, fragments to 5 cm; local qtz bx fragments and trace dissem cpy-py in the top 1 meter, trace-.5% dissem red hem grains; chl-ser altered; local hairline to 1 cm qtz-cc v., some qtz veins are grey-opaque; local fragmental patches throughout. END OF HOLE.

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DRILL HOLE NUMBER : NTC-87-5

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
16148	0.30	2.62	2.32	0.07	0.01
16149	2.62	5.12	2.50	0.07	0.01
16150	5.12	7.32	2.20	0.07	0.01
16151	7.32	9.32	2.00	0.14	0.01
16152	9.32	10.82	1.50	0.07	0.01
16153	10.82	12.32	1.50	0.07	0.03
16154	12.32	14.17	1.85	0.07	0.02
16155	14.17	15.37	1.20	1.47	0.09
16156	15.37	16.61	1.24	0.07	0.01
16157	16.61	18.26	1.65	0.07	0.01
16158	18.26	20.26	2.00	0.07	0.01
16159	20.26	22.26	2.00	0.07	0.01
16160	22.26	24.26	2.00	0.07	0.01
16161	24.26	26.26	2.00	0.07	0.01
16162	26.26	28.26	2.00	0.07	0.01
16163	28.26	30.39	2.13	0.07	0.01
16164	30.39	31.89	1.50	0.55	0.02
16165	31.89	33.39	1.50	0.07	0.01
16166	33.39	34.89	1.50	0.07	0.02
16167	34.89	36.39	1.50	0.07	0.01
16168	36.39	37.89	1.50	0.45	0.06
16169	37.89	39.39	1.50	0.65	0.05
16170	39.39	40.89	1.50	0.75	0.12
16171	40.89	42.39	1.50	0.07	0.01
16172	42.39	43.77	1.38	0.17	0.37
16173	43.77	44.27	0.50	5.97	0.68
16174	44.27	44.77	0.50	0.41	0.48
16175	44.77	45.77	1.00	0.17	0.04
16176	45.77	46.77	1.00	0.27	0.03
16177	46.77	47.77	1.00	0.93	0.03
16178	47.77	48.77	1.00	0.10	0.01

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DRILL HOLE NUMBER : NTC-87-5

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
16179	48.77	49.77	1.00	0.21	0.03
16180	49.77	50.77	1.00	0.45	0.04
16181	50.77	51.77	1.00	0.07	0.03
16182	51.77	52.77	1.00	0.17	0.06
16183	52.77	53.77	1.00	0.07	0.08
16184	53.77	55.36	1.59	0.07	0.02
16185	55.36	57.09	1.73	11.93	1.50
16186	57.09	58.59	1.50	0.07	0.02
16187	58.59	60.09	1.50	0.02	0.05
16188	60.09	61.59	1.50	0.07	0.01
16189	61.59	63.09	1.50	0.07	0.01
16190	63.09	64.59	1.50	0.07	0.01
16191	64.59	66.45	1.86	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
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DRILL HOLE NUMBER : NTC-87-6

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		100.00	-45.00
65.00	A	100.00	-45.00

LATITUDE : 9959.000
 DEPARTURE: 9967.000
 ELEVATION: 1060.000
 DIP AT COLLAR: -45.00 DEG
 AZIMUTH : 100.00 DEG
 TOTAL DEPTH : 66.45

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-87-6

DATE LOGGED: 24/09/87
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	43.66	1		0.00	6.87	1c		HORNBLLENDE-FELDSPAR PORPHYRY: 80% Recovery Grey-green-brown, coarse grained fs phenos to 5mm altered to chl, hbl grains to 2mm with ser rims, chl-si-ser altered; strongly weathered on fracture local hair-line qtz-cc veins, (1% qtz veining). Trace Sulphides.
				6.87	7.81	1b		HORNBLLENDE-FELDSPAR PORPHYRY: 99% Recovery Bleached, si-chl-ser altered, local qtz-hem-cpy v. to 3 cm, strongly fractured with ser on fractures, approx 10% qtz veining. Trace Sulphides.
				7.81	29.86	1c		HORNBLLENDE-FELDSPAR PORPHYRY: 97% Recovery As for 0.0-6.87m, locally bleached, locally strongly fractured and weathered, increased bleaching, fractures and qtz-cc v. towards bottom. Trace Sulphides.
				29.86	43.66	1b		HORNBLLENDE-FELDSPAR PORPHYRY: 98% Recovery Pale green-grey, bleached, moderate to strongly silic, chl-ser altered, chl after hbl-fs grains to 2mm; numerous irregular qtz-cc v. and bx patches, abundant hair-

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
43.66	51.34	6		43.66	51.34	6		line to 5 cm py+/-qtz v., local irregular py aggreg. in fracture areas; incr. py v. toward bottom; matrix locally pink-brown, K alteration?, qtz-cc v. decreases toward bottom. 37.49-43.66m, mixed qtz-hem and py stringer zone, approx 5% barren qtz-cc v., approx 1-2% qtz-hem+/-cpy-py v., trace cpy Structure: Py Stringers, /65-75 deg Qtz-hem-cpy-py v., 37.49-37.59m/65 deg, 39.22-39.23m/65 deg. Qtz-py v., 39.49-39.54m/50 deg 3-5% Sulphides. QUARTZ BRECCIA VEIN ZONE: HORNBLENDE-FELDSPAR PORPHYRY: 93% Recovery Pale green-brown, chl-ser-si altered, locally strongly fractured, approx. 50-60% qtz-hem-cpy-py bx v., 1-3% cpy, 1-3% py, intensely weathered and fractured; top of bx v. at 49.60m is semi-mylonite, abundant rolled qtz fragments in a foliated granular matrix. Structure: Qtz-cc-hem-cpy-py bx v., 43.66-43.87m/55 deg, 44.52-44.90m/65 deg, 48.83-49.26m/55 deg, 49.60-50.10m/65 deg. 2-6% Sulphides. HORNBLENDE-FELDSPAR PORPHYRY: 100% Recovery
51.34	66.45	1		51.34	66.45	1c		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
								Grey-green, medium grained, chl-si-ser altered, top 2m is strongly silic; chl after hbl-fs grains to 2mm; abundant qtz-cc bx veins throughout (approx 8-10%) local strongly weathered fractures; trace py. Trace Sulphides. END OF HOLE.

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DRILL HOLE NUMBER : NTC-87-6

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
16192	0.00	3.00	3.00	0.15	0.03
16193	3.00	4.50	1.50	0.07	0.01
16194	4.50	6.00	1.50	0.07	0.01
16195	6.00	6.87	0.87	0.07	0.01
16196	6.87	7.81	0.94	0.10	0.15
16197	7.81	9.31	1.50	0.07	0.01
16198	9.31	10.81	1.50	0.07	0.01
16199	10.81	12.31	1.50	0.07	0.01
16200	12.31	13.81	1.50	0.07	0.01
16201	13.81	15.31	1.50	0.07	0.01
16202	15.31	16.81	1.50	0.07	0.01
16203	16.81	18.31	1.50	0.07	0.01
16204	18.31	19.81	1.50	0.07	0.01
16205	19.81	21.31	1.50	0.07	0.01
16206	21.31	23.81	2.50	0.07	0.01
16207	23.81	25.31	1.50	0.07	0.01
16208	25.31	26.81	1.50	0.07	0.01
16209	26.81	28.31	1.50	0.07	0.01
16210	28.31	29.86	1.55	0.07	0.01
16211	29.86	31.36	1.50	0.07	0.01
16212	31.36	32.86	1.50	0.07	0.01
16213	32.86	34.36	1.50	0.07	0.01
16214	34.36	35.86	1.50	0.07	0.01
16215	35.86	37.36	1.50	0.07	0.01
16216	37.36	38.36	1.00	0.07	0.01
16217	38.36	39.36	1.00	0.07	0.05
16218	39.36	40.36	1.00	0.07	0.01
16219	40.36	41.36	1.00	0.07	0.01
16220	41.36	42.36	1.00	0.07	0.01
16221	42.36	43.66	1.30	0.07	0.01
16222	43.66	44.46	0.80	2.23	0.37

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DRILL HOLE NUMBER : NTC-87-6

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
16223	44.46	45.56	1.10	0.31	0.19
16224	45.56	46.56	1.00	0.41	0.08
16225	46.56	47.56	1.00	0.10	0.03
16226	47.56	48.83	1.27	0.10	0.02
16227	48.83	49.60	0.77	0.82	0.04
16228	49.60	50.10	0.50	3.53	0.34
16229	50.10	51.34	1.24	0.07	0.04
16230	51.34	52.84	1.50	0.07	0.01
16231	52.84	54.34	1.50	0.07	0.01
16232	54.34	55.84	1.50	0.07	0.01
16233	55.84	57.34	1.50	0.07	0.01
16234	57.34	58.84	1.50	0.07	0.01
16235	58.84	60.34	1.50	0.07	0.01
16236	60.34	61.84	1.50	0.13	0.01
16237	61.84	63.34	1.50	0.07	0.01
16238	63.34	64.84	1.50	0.07	0.01
16239	64.84	66.45	1.61	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-87-7

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		100.00	-65.00
75.00	A	100.00	-65.00

LATITUDE : 9959.000
 DEPARTURE: 9966.300
 ELEVATION: 1060.000
 DIP AT COLLAR: -65.00 DEG
 AZIMUTH : 100.00 DEG
 TOTAL DEPTH : 75.59

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-87-7

DATE LOGGED: 28/09/87
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	53.44	1		0.00	7.68	1c		HORNBLLENDE-FELDSPAR PROPHYRY: 87% Recovery Coarse grained, hbl-fs grains to 5mm, altered to chl; siliceous, chl+/-ser altered, local hairline to 2mm fractures with qtz+/-cc filling; local fractures moderately weathered, local qtz-hem+/-cpy bx v. occur in narrow bleached si-chl-ser altered zones; 2-3% qtz-hem v. Structure: Qtz-hem bx v., 3.09-3.22m/55 deg Trace Sulphides.
				7.68	11.97	1b		HORNBLLENDE-FELDSPAR PORPHYRY: 100% Recovery Bleached, silic, chl-ser altered; abundant qtz-hem-cpy-py and qtz-py-cpy v. from .1-4 cm, approx 5-7% qtz veining, .1-.2% cpy, 1% py. Structure: Qtz-hem-cpy-py bx v., 8.26-8.30m/45 deg, 9.05-9.06m/45 deg, 9.41-9.43m/55 deg. Trace to 1% Sulphides.
				11.97	22.71	1c		HORNBLLENDE-FELDSPAR PORPHYRY: 99% Recovery As for 0-7.68m; local narrow bleached zones surround .1-1 cm qtz-py v.; hbl grains to 2mm weakly to moderately chl-ser altered; <1% qtz veining.

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				22.71	28.47	1b		Trace Sulphides. HORNBLLENDE-FELDSPAR PORPHYRY: 91% Recovery Bleached, strongly weathered, pale green-grey-brown; silic, chl-ser altered; strongly fractured, local irregular qtz-chl v. to 1 cm, local qtz+/-py-cpy v. to 2 cm, 2-3% qtz veining; limonite after hbl-fs and on fractures in weathered zones Trace to 1% Sulphides.
				28.47	34.66	1c		HORNBLLENDE-FELDSPAR PORPHYRY: 99% Recovery As for 11.97-22.71m; 1% qtz locally strongly fractured. Structure: Flow Banding /50 deg
				34.66	53.44	1b		Trace Sulphides. HORNBLLENDE-FELDSPAR PORPHYRY: 100% Recovery Bleached, pale green-grey, moderate to very silic, chl-ser altered, chl after hbl-fs grains to 5mm; locally abundant pale yellow qtz-cc bx v. parallel to sub-parallel to CA, locally contains qtz-hem v. fragments; .1-9 cm qtz-hem+/-py-cpy and qtz-py+/-cpy v. throughout, v. increasing toward bottom local fragmental sections, fragments to 5 cm; unit becomes more silic and massive toward bottom, 2-3% qtz-hem v, 3-5% qtz-py v., trace-.1% cpy. Structure:

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
53.44	53.96	6		53.44	53.96	6		Qtz-py-hem v., 42.81-42.85m/50 deg. Cpy-py-qtz-hem v., 44.43-44.46m/45 deg, 44.94-44.95m/50 deg. Qtz-py v., 46.09-46.18m/35 deg, 47.46-47.47m/25 deg Qtz-py-cpy Stringers, /45-50 deg. 3-5% Sulphides. QUARTZ BRECCIA VEIN: 100% Recovery White-pink, strongly fractured, 5-7% py, 1-2% cpy. Structure: Qtz bx v., 53.44-53.96m/55 deg 6-9% Sulphides. HORNBLENDE-FELDSPAR PORPHYRY: 98% Recovery Medium grained, pale green, moderate to very silic, chl-si altered; locally strongly fractured with qtz-ser on frac- tures; local strongly weathered fractures; irregular qtz-hem+/-cpy-py veining throughout, 5-7% qtz-hem veining. Trace to .5% Sulphides. QUARTZ BRECCIA VEIN: 98% Recovery Intense bx and re-silic, matrix is pale yellow-grey fine grained quartz with subang-subround qtz-hem-cpy fragments to 2 cm; local grey banded zones appear to be semi-mylonite, grey color due to very fine grained sulph?, 1-2% cpy, trace-2% py as
53.96	60.98	1		53.96	60.98	1c		
60.98	62.48	6		60.98	62.48	6		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
62.48	72.52	1		62.48	72.52	1c		dissem grains and small patches. Structure: Upper Contact, 60.98m/35 deg. Lower Contact, 62.48m/65 deg. 3-5% Sulphides. HORNBLENDE-FELDSPAR PORPHYRY: 100% Recovery Medium-coarse grained, medium green-grey, hbl-fs phenos altered to chl+/-ser, weakly to moderately silic; locally abundant hairline fractures with Qtz-ser; locally trace-1% fine grained dissem, spec hem grains, local Qtz-cc bx v. to 43 cm wide, bottom of unit is marked by a 43 cm wide Qtz-cc-hbl-fs porph. bx v., bx contains local pink Qtz fragments which had been previously bx and re-cemented, <1% Qtz-hem veining. Structure: Qtz-hem bx v., 65.82-65.83m Qtz-cc-volc bx v., 72.09-72.52m/65 deg ANDESITE: 100% Recovery Fine grained, grey maroon shear with local pale green-grey ser altered zones, frag- mental at top of unit, top 40 cm is intensely ser-chl altered; local Qtz-cc v. to 10 cm. Structure: Shear, 74.29m/60 deg Qtz-cc v., 74.29-74.39m/60 deg
72.52	75.59	2		72.52	75.59	2		

ASSAY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
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DRILL HOLE NUMBER : NTC-87-7

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
16240	0.00	2.00	2.00	0.07	0.01
16241	2.00	3.50	1.50	0.58	0.01
16242	3.50	5.00	1.50	0.07	0.01
16243	5.00	6.50	1.50	0.07	0.01
16244	6.50	7.68	1.18	0.07	0.01
16245	7.68	8.68	1.00	0.10	0.01
16246	8.68	9.68	1.00	0.26	0.13
16247	9.68	10.68	1.00	0.07	0.06
16248	10.68	11.97	1.29	0.07	0.02
16249	11.97	13.47	1.50	0.07	0.01
16250	13.47	14.97	1.50	0.07	0.01
20051	14.97	16.47	1.50	0.07	0.01
20052	16.47	17.97	1.50	0.07	0.01
20053	17.97	19.47	1.50	0.07	0.01
20054	19.47	20.97	1.50	0.07	0.01
20055	20.97	22.71	1.74	0.07	0.01
20056	22.71	24.21	1.50	0.09	0.02
20057	24.21	25.71	1.50	0.07	0.01
20058	25.71	27.21	1.50	0.07	0.01
20059	27.21	28.47	1.26	0.07	0.01
20060	28.47	29.97	1.50	0.07	0.01
20061	29.97	31.47	1.50	0.07	0.01
20062	31.47	32.97	1.50	0.07	0.01
20063	32.97	34.66	1.69	0.07	0.01
20064	34.66	36.16	1.50	0.07	0.01
20065	36.16	37.66	1.50	0.07	0.01
20066	37.66	39.16	1.50	0.07	0.01
20067	39.16	40.66	1.50	0.07	0.01
20068	40.66	42.16	1.50	0.07	0.01
20069	42.16	43.66	1.50	0.10	0.03
20070	43.66	45.16	1.50	0.07	0.10

ASSAY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N. T. S. 104 A/04

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DRILL HOLE NUMBER : NTC-87-7

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
20071	45.16	46.66	1.50	0.07	0.05
20072	46.66	48.16	1.50	0.07	0.04
20073	48.16	49.66	1.50	0.07	0.01
20074	49.66	51.16	1.50	0.07	0.01
20075	51.16	52.66	1.50	0.07	0.01
20076	52.66	53.44	0.78	0.14	0.01
20077	53.44	54.04	0.60	7.89	0.38
20078	54.04	55.04	1.00	0.10	0.01
20079	55.04	56.04	1.00	0.21	0.02
20080	56.04	57.04	1.00	0.51	0.04
20081	57.04	58.04	1.00	0.10	0.01
20082	58.04	59.04	1.00	0.07	0.01
20083	59.04	60.04	1.00	0.10	0.05
20084	60.04	60.98	0.94	0.21	0.10
20085	60.98	62.48	1.50	4.01	0.23
20086	62.48	64.00	1.52	0.07	0.01
20087	64.00	65.50	1.50	0.07	0.01
20088	65.50	67.00	1.50	0.07	0.01
20089	67.00	68.50	1.50	0.10	0.01
20090	68.50	70.00	1.50	0.07	0.01
20091	70.00	71.50	1.50	0.07	0.01
20092	71.50	72.52	1.02	0.07	0.01
20093	72.52	74.02	1.50	0.07	0.01
20094	74.02	75.59	1.57	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-87-8

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		100.00	-45.00
75.00	A	100.00	-45.00

LATITUDE : 9996.200
 DEPARTURE: 9960.000
 ELEVATION: 1125.000
 DIP AT COLLAR: -45.00 DEG
 AZIMUTH : 100.00 DEG
 TOTAL DEPTH : 75.59

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO. : NTC-87-8

DATE LOGGED: 2/10/87
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	58.92	1		0.00	10.52	1c		HORNBLLENDE-FELDSPAR PORPHYRY: 89% Recovery Medium-dark green, very fine to coarse grained, local coarse grained fragments in fine grained sections; moderate to very silic, strong chl alteration of hbl phenos grain size grades from fine to coarse to fine from top to bottom; local hairline qtz-cc v; bottom 1.5m is strongly fractured and weathered. Nil Sulphides.
				10.52	14.63	1b		HORNBLLENDE-FELDSPAR PORPHYRY: 100% Recovery Bleached, pale green-grey, silic, fine to medium grained; intense ser+/-chl alteration of hbl-fs grains locally creates speckled-mottled texture; local intense hairline fractures with ser-qtz; local hairline to 5mm hem+/-qtz v., trace qtz-py v. to .5mm; trace fine grained dissem py; matrix is a pale brown-green-grey mixture of si-ser-ch. Trace Sulphides.
				14.63	39.59	1c		HORNBLLENDE-FELDSPAR PORPHYRY: 100% Recovery Pale grey-green to dark green-brown, numerous narrow bleached sections as for 10.52-14.63m; dark sections are coarse

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
58.92	64.26	6		58.92	64.26	6		<p>97% Recovery Bleached, silic, light grey-brown, si-ser +/-chl altered, local speckley texture due to ser after hbl-fs grains; intense fractures with hairline to 1 cm pale yellow-white Qtz-ser v; matrix is light brown to grey si-ser; local chl grains after hbl-fs .1-1 cm py+/-qtz-hem-cpy v. throughout, increase in hem content toward bottom; bottom of unit has irregular red hem patches; local fractures strongly weathered; 1-2% py, trace cpy. Structure: Qtz-hem-cpy-py bx v., 47.45-47.55m/65 deg. Py Veins, 60-70 deg. 1-2% Sulphides QUARTZ BRECCIA VEIN: 100% Recovery Multiple phases of bx and banding; Qtz varies from white to pale yellow to pink to maroon; local massive white Qtz with delicate red hem+/-chl-cpy banding; bottom 1.25 m is int. bx. Qtz fragments to 5 cm in a pale yellow granular Qtz matrix, cpy occurs as dissem grains and patches to 5mm throughout, py predominately assoc. with coarser cpy patches, 1-2% cpy, 1% py; local blocks of hbs-fs porph to 10 cm within the vein(s); vein is locally cut by cc-Qtz v. to 6 cm. Structure:</p>

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
64.26	75.59	1		64.26	75.59	1c		Upper Contact, 58.92m/45 deg Banding, 55-65 deg Lower Contact, 64.26m/65 deg 3-4% Sulphides HORNBLLENDE-FELDSPAR PORPHYRY: 100% Recovery Pale grey-green, fine to medium grained with local coarse grained fragments to 10 cm, hbl-fs grains altered to chl-ser, matrix is moderate to very silic, soec hem occurs as very fine dissem grains, locally 1-2% and decr toward bottom, local hair- line to 1 cm qtz-cc-v., trace qtz-hem v., trace qtz-py-coy v; local hairline frac- tures with qtz-ser, local fractures strongly weathered. Trace Sulphides. END OF HOLE.

ASSAY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
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DRILL HOLE NUMBER : NTC-87-8

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
20095	0.00	2.50	2.50	0.07	0.01
20096	2.50	4.00	1.50	0.07	0.01
20097	4.00	5.50	1.50	0.07	0.01
20098	5.50	7.00	1.50	0.07	0.01
20099	7.00	8.50	1.50	0.07	0.01
20100	8.50	10.52	2.02	0.07	0.01
20101	10.52	12.02	1.50	0.07	0.01
20102	12.02	13.52	1.50	0.07	0.01
20103	13.52	14.63	1.11	0.07	0.01
20104	14.63	16.13	1.50	0.07	0.01
20105	16.13	17.63	1.50	0.07	0.01
20106	17.63	19.13	1.50	0.07	0.01
20107	19.13	20.63	1.50	0.07	0.01
20108	20.63	22.13	1.50	0.07	0.01
20109	22.13	23.63	1.50	0.07	0.01
20110	23.63	25.13	1.50	0.07	0.01
20111	25.13	26.63	1.50	0.07	0.01
20112	26.63	28.13	1.50	0.07	0.01
20113	28.13	31.13	3.00	0.07	0.01
20115	31.13	32.63	1.50	0.07	0.01
20116	32.63	34.13	1.50	0.11	0.01
20117	34.13	35.63	1.50	0.07	0.01
20118	35.63	37.13	1.50	0.07	0.01
20119	37.13	38.63	1.50	0.07	0.01
20120	38.63	39.59	0.96	0.07	0.01
20121	39.59	41.09	1.50	0.08	0.05
20122	41.09	42.49	1.40	0.07	0.04
20123	42.49	43.99	1.50	0.07	0.01
20124	43.99	45.49	1.50	0.07	0.01
20125	45.49	46.11	0.62	0.07	0.01
20126	46.11	47.11	1.00	0.07	0.01

ASSAY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

PAGE: 2

DRILL HOLE NUMBER : NTC-87-8

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
20127	47.11	48.11	1.00	0.07	0.07
20128	48.11	49.11	1.00	0.07	0.01
20129	49.11	50.11	1.00	0.07	0.05
20130	50.11	51.11	1.00	0.07	0.05
20131	51.11	52.11	1.00	0.07	0.03
20132	52.11	53.11	1.00	0.07	0.04
20133	53.11	54.11	1.00	0.07	0.13
20134	54.11	55.11	1.00	0.07	0.01
20135	55.11	56.11	1.00	0.07	0.01
20136	56.11	57.11	1.00	0.07	0.04
20137	57.11	58.11	1.00	0.07	0.01
20138	58.11	58.92	0.81	1.13	0.02
20139	58.92	59.92	1.00	7.30	0.26
20140	59.92	60.92	1.00	11.69	0.48
20141	60.92	61.92	1.00	10.05	0.31
20142	61.92	62.92	1.00	5.38	0.09
20143	62.92	64.26	1.34	5.07	0.20
20144	64.26	65.76	1.50	0.07	0.01
20145	65.76	67.26	1.50	0.07	0.01
20146	67.26	68.76	1.50	0.07	0.01
20147	68.76	70.26	1.50	0.07	0.01
20148	70.26	71.76	1.50	0.07	0.01
20149	71.76	73.26	1.50	0.07	0.01
20150	73.26	75.59	2.33	0.07	0.01

SURVEY RECORD .
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-87-9

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		100.00	-65.00
45.70	A	100.00	-65.00
92.96	A	100.00	-65.00

LATITUDE : 9996.200
 DEPARTURE: 9959.300
 ELEVATION: 1125.000
 DIP AT COLLAR: -65.00 DEG
 AZIMUTH : 100.00 DEG
 TOTAL DEPTH : 92.96

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-87-9

DATE LOGGED: 8/10/87
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	70.97	1		0.00	7.21	1c		HORNBLLENDE-FELDSPAR PORPHYRY: 90% Recovery Medium to dark green, very fine to coarse grained, local coarse grained fragments in fine grained sections, moderate to very silic; strong chl alteration of hbl and/or fs phenos; local hairline qtz-cc v. Nil Sulphides.
				7.21	11.27	1b		HORNBLLENDE-FELDSPAR PORPHYRY: 100% Recovery Bleached, medium-pale green-grey, fine to coarse grained, fs phenos to 5mm; silic, chl-ser altered; local qtz-ser fractured v, local fractures int. weathered, weathered zone from 6.62-8.50m has local narrow qtz+/-py-cpy v. Trace Sulphides.
				11.27	24.69	1c		HORNBLLENDE-FELDSPAR PORPHYRY: 99% Recovery Dark green-brown to pale grey-green; medium to coarse grained; local narrow bleached silic zones with speckled-mottled textures; dark sections have 1-3% dissem spec hem grains to 1mm and are chl-ser-si altered; local qtz-hem v to 2 cm; local qtz-cc v to 4 cm and local qtz-chl v to 2 cm; locally intense hairline fractures with qtz-ser.

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				24.69	29.17	1b		Trace Sulphides. HORNBLLENDE-FELDSPAR PORPHYRY: 98% Recovery Bleached, silic, pale green-brown with local dark green-brown sections; int. hairline fractures and qtz-cc-ser v., with local hem; matrix is pale green-brown with abundant pale yellow ser after fs and chl after hbl, local fine grained chl fragments to 3 cm, trace dissem py-cpy. Structure: Qtz-hem bx v., 28.80-28.97m/60 deg
				29.17	38.47	1c		Trace Sulphides. HORNBLLENDE-FELDSPAR PORPHYRY: 93% Recovery Dark green-brown to pale grey-brown; coarse grained; numerous narrow bleached silic sections, locally with hairline to 1mm qtz-py-cpy v., dark sections contain 1-3% dissem spec hem grains to 2mm, locally int. hairline fractures with qtz-ser; locally flow banded; locally strongly weathered and fractured. Structure: Flow Banding 55-60 deg
				38.47	41.53	1b		Trace Sulphides. HORNBLLENDE-FELDSPAR PORPHYRY: 99% Recovery Bleached, silic, ser-chl altered, medium to coarse grained; ser after fs locally produces a speckled texture, matrix is a

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
								pale grey-brown si-ser; local qtz-hem-py v. from .1-3 cm, trace cpy.
								Structure: Flow Banding /50 deg Trace Sulphides.
				41.54	45.17	1c		HORNBLLENDE-FELDSPAR PORPHYRY: 100% Recovery As for 29.17-38.47m
								Trace Sulphides.
				47.17	47.78	1b		HORNBLLENDE-FELDSPAR PORPHYRY: 85% Recovery As for 38.47-41.53m
								Trace Sulphides.
				47.78	48.91	1c		HORNBLLENDE-FELDSPAR PORPHYRY: 85% Recovery As for 29.17-38.47m
								Structure: Qtz-cc-hem-py-cpy v., 48.38-48.40m/45 deg
				48.91	52.10	1b		Trace Sulphides. HORNBLLENDE-FELDSPAR PORPHYRY: 98% Recovery As for 38.47-41.53m; abundant qtz-cc-hem-py-cpy v. to 5 cm, approx 1% cpy, 1-2% py.
								Structure: Cpy-qtz-cc-hem-py v, 48.92-48.94m/70 deg, 49.34-49.39m/65 deg, 50.50-50.52m/30 deg.
								2-3% Sulphides.
				52.10	64.45	1c		HORNBLLENDE-FELDSPAR PORPHYRY: 98% Recovery As for 29.17-38.47m.
								Trace Sulphides.

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				64.45	65.90	1b		HORNBLENDE-FELDSPAR PORPHYRY: 98% Recovery Pale grey-green, bleached, silic; top 36cm is a qtz-cc bx zone, rest of unit is cut by numerous irreg yellow-white qtz bx v. to 3 cm, approx 10-15% v. Trace Sulphides.
				65.90	70.97	1b		HORNBLENDE-FELDSPAR PORPHYRY: 100% Recovery As for 29.17-38.47m; slightly more bleach- ed and altered, 1% py as 1-8mm v. and local dissem grains, trace cpy. Structure: Py v., /55-70 deg 1-2% Sulphides.
70.97	75.16	6		70.97	75.16	6		QUARTZ BRECCIA VEIN ZONE: 98% Recovery 70.97-71.47m - 25% fine grained py bands, 10-15% qtz-bx v.; zone has been int. sheared, py is ground up and there are numerous rolled qtz fragments. 71.47-75.16m - qtz bx v and si flooded hbl-fs porph, 15% qtz-hem-cpy-py banded and bx v., approx 75% si flooded, ser altered hbl-fs porph, si flooded zone has a pale yellow matted texture, 10% hbl-fs porph fragments; dissem and irreg v. of cpy-py to 2 cm throughout; irreg maroon- red hem v. throughout. Structure: Qtz-cpy-py-hem bx v., 70.97-71.06m/65 deg,

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
75.16	78.29	1		75.16	78.29	1c		71.88-71.90m/50 deg. Banding, /35 deg 5-7% Sulphides. HORNBLENDE-FELDSPAR PORPHYRY: 99% Recovery Pale grey-green, fine grained, int. bleached, silic, ser-chl altered, upper 25 cm and lower 100 cm are int. fractured and silic.; .2-7 cm irreg, qtz-hem-py-cpy v. throughout, local .1-.5% py, local qtz- chl v. Trace to 1% Sulphides.
78.29	80.90	6		78.29	80.90	6		MIXED QUARTZ & VOLCANIC BRECCIA ZONE: 100% Recovery Pale yellow-white-red qtz-bx zone from 78.29-78.84m, grades into mixed qtz-porph bx, the mixed bx consists of 1-22 cm volc fragments with interstitial white to red qtz fragments and fine grained pale yellow si, 20-30% qtz-bx fragments, local dissem cpy-py in the si matrix and qtz fragments. Structure: Upper Contact, 78.29m/40 deg Banding, 78.84m/45 deg Lower Contact, 80.90m/50 deg Trace to 1% Sulphides.
80.90	92.96	1		80.90	92.96	1c		HORNBLENDE-FELDSPAR PORPHYRY: 92% Recovery Fine to coarse grained, pale green-grey moderate to very silic, locally bleached; fs are locally a pale pink-brown (K-spar?)

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
								trace qtz-hem-cpy v to 2mm; trace qtz-py-cpy v to 2mm; local qtz-cc v. to 1 cm, locally 1-2% fine grained dissem spec hem. Trace Sulphides. END OF HOLE

ASSAY RECORD
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DRILL HOLE NUMBER : NTC-87-9

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
20151	0.00	1.50	1.50	0.07	0.01
20152	1.50	3.00	1.50	0.10	0.01
20153	3.00	4.50	1.50	0.07	0.01
20154	4.50	6.00	1.50	0.07	0.01
20155	6.00	7.21	1.21	0.07	0.01
20156	7.21	8.71	1.50	0.07	0.01
20157	8.71	10.21	1.50	0.07	0.01
20158	10.21	11.27	1.06	0.07	0.02
20159	11.27	12.77	1.50	0.07	0.01
20160	12.77	14.27	1.50	0.44	0.01
20161	14.27	15.77	1.50	0.07	0.01
20162	15.77	17.27	1.50	0.07	0.01
20163	17.27	18.77	1.50	0.07	0.01
20164	18.77	20.27	1.50	0.07	0.01
20165	20.27	21.77	1.50	0.07	0.01
20166	21.77	23.27	1.50	0.07	0.01
20167	23.27	24.69	1.42	0.07	0.01
20168	24.69	26.19	1.50	0.07	0.02
20169	26.19	27.69	1.50	0.07	0.01
20170	27.69	29.17	1.48	1.35	0.01
20171	29.17	30.67	1.50	0.07	0.02
20172	30.67	32.17	1.50	0.07	0.01
20173	32.17	33.67	1.50	0.07	0.01
20174	33.67	35.17	1.50	0.07	0.01
20175	35.17	36.67	1.50	0.07	0.01
20176	36.67	38.47	1.80	0.07	0.01
20177	38.47	39.57	1.10	0.07	0.01
20178	39.57	41.53	1.96	0.09	0.02
20179	41.53	43.03	1.50	0.07	0.01
20180	43.03	45.17	2.14	0.07	0.01
20181	45.17	47.78	2.61	0.07	0.01

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 TODD CREEK DRILLING
 N. T. S. 104 A/04

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DRILL HOLE NUMBER : NTC-87-9

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
20182	47.78	48.91	1.13	0.07	0.01
20183	48.91	49.91	1.00	0.19	0.58
20184	49.91	50.91	1.00	0.07	0.02
20185	50.91	52.10	1.19	0.07	0.01
20186	52.10	53.60	1.50	0.07	0.01
20187	53.60	55.10	1.50	0.07	0.01
20188	55.10	56.60	1.50	0.07	0.01
20189	56.60	58.10	1.50	0.11	0.01
20190	58.10	59.60	1.50	0.07	0.01
20191	59.60	61.10	1.50	0.07	0.01
20192	61.10	62.60	1.50	0.07	0.01
20193	62.60	64.45	1.85	0.07	0.01
20194	64.45	65.90	1.45	0.07	0.01
20195	65.90	66.90	1.00	0.07	0.01
20196	66.90	67.90	1.00	0.07	0.01
20197	67.90	68.90	1.00	0.07	0.01
20198	68.90	69.90	1.00	0.07	0.01
20199	69.90	70.97	1.07	0.07	0.05
20200	70.97	71.47	0.50	1.71	0.11
20201	71.47	72.47	1.00	6.21	0.97
20202	72.47	73.47	1.00	1.61	0.50
20203	73.47	74.47	1.00	0.38	0.10
20204	74.47	75.16	0.69	5.49	0.28
20205	75.16	76.16	1.00	0.21	0.03
20206	76.16	77.16	1.00	0.27	0.07
20207	77.16	78.29	1.13	0.10	0.07
20208	78.29	79.09	0.80	8.16	0.57
20209	79.09	80.09	1.00	0.72	0.10
20210	80.09	80.90	0.81	1.89	0.18
20211	80.90	82.40	1.50	0.07	0.01
20212	82.40	83.90	1.50	0.07	0.04

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DRILL HOLE NUMBER : NTC-87-9

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
20213	83.90	85.40	1.50	0.07	0.01
20214	85.40	86.90	1.50	0.07	0.01
20215	86.90	88.40	1.50	0.07	0.02
20216	88.40	89.90	1.50	0.07	0.01
20217	89.90	91.40	1.50	0.07	0.01
20218	91.40	92.96	1.56	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-10A

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		100.00	-45.00
50.00	A	100.00	-43.00

LATITUDE : 10021.000
 DEPARTURE: 9985.200
 ELEVATION: 1120.000
 DIP AT COLLAR: -45.00 DEG
 AZIMUTH : 100.00 DEG
 TOTAL DEPTH : 50.90

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-10A

DATE LOGGED: 20/06/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	34.70	1		0.00	0.45	1b		FELDSPAR PORPHYRY: (100% recovery) Light green-brown, mod. ser-chl-qtz altered, locally very siliceous, abundant hairline fractures with pale yellow ser., pale to med. green chl-ser after feldspar phenos; local 1-2mm py-qtz-cc+/- hem veins Structure: Qtz-py Veins .08/40 deg. Trace sulphides
				0.45	5.36	1c		FELDSPAR PORPHYRY: (74% recovery) Medium-dark green-brown with local pale green-brown sections; .1-1mm dissem hem grains throughout, anhedral feldspar pheno to 3mm are locally altered to pale green chl-ep, locally abundant hairline fract. with pale yellow ser. Trace sulphides
				5.36	9.08	1b		FELDSPAR PORPHYRY: (95% recovery) Light-medium green, strong ser-chl-qtz altered; locally abund. hairline fract. with pale yellow ser.; local dissem. .1-1mm hem grains; local hairline to 2cm qtz-hem-cpy veins. Structure: Qtz-hem-cpy veins 5.84/50 deg Trace Sulphides
				9.08	18.56	1b		FELDSPAR PORPHYRY: (94% recovery)

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
								Pale light brown, mod. to str. weathered; local hairline to 2cm vuggy quartz veins and patches; local bleached pale green- brown patches; three episodes of veining 1) qtz-hem-cpy, cut by 2) pale yellow carbonate, both 1 and 2 cut by qtz-chl veins. Structure: Qtz-hem-cpy veins 17.52/70 deg Trace sulphides. FELDSPAR PORPHYRY: (100% recovery) as for 0.00-0.45, incr. py-qtz-hem veining and epidote alteration toward bottom; locally has a weak banded fabric; local irreg. qtz-calcite bx patches. Structure: Qtz-hem-cpy veins, 19.02/50 deg, 20.18/70 deg, 26.18/55 deg. 1-2% sulphides. QUARTZ BRECCIA VEIN: (98% recovery) Grey, fragments to 2cm commonly have rounded corners, fine grained py occurs as bands and infilling; hem occurs within qtz frag. and as irreg. bands. Structure: Upper Contact, 34.70/80 deg; Lower Contact, 35.76/80 deg. 15% sulphides FELDSPAR PORPHYRY: (98% recovery) Pale green, feldspar pheno's to 2mm replaced by chl; abund. pale yellow-white
				18.56	34.70	1b		
34.70	35.76	6		34.70	35.76	6		
35.76	36.50	1		35.76	36.50	1c		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
36.50	41.40	6		36.50	41.40	6		qtz-cc-ser+/-hem veins, local abund. hairline fract. with sericite. Trace Sulphides. QUARTZ BRECCIA ZONE: (97% recovery) Grey-white to brown; py-cpy rich in top 1.4m, lower section in qtz bx with approx. 1% py-cpy; qtz frags vary from white to grey to red to banded red and white; trace cpy occurs within the banded frags, local minor frags of feldspar porphyry. Structure: Upper Contact, 36.50/55 deg; Lower Contact, 41.40/75 deg. 5% Sulphides. FELDSPAR PORPHYRY: (100% recovery) as for 35.76-36.50 m. FELDSPAR PORPHYRY: (100% recovery) as for 35.76-36.50 m, minor light grey banded quartz veins, strong epidote alteration toward bottom. FELDSPAR PORPHYRY: (98% recovery) Purple-brown; feldspar-hbl? grains to 3mm replaced by chl; dissem .1-1mm anhedral hem grains throughout; local irreg. cc patches to 2mm, local milky qtz veins to 5mm have bleached rims. END OF HOLE
41.40	50.90	1		41.40	42.57	1c		
				42.57	44.48	1c		
				44.48	50.90	1c		

ASSAY RECORD
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
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DRILL HOLE NUMBER : NTC-88-10A

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	AG (gmt)	CU (%)
36626	0.00	0.45	0.45	0.07	0.7	0.01
36627	5.36	6.86	1.50	0.07	0.7	0.02
36628	6.86	8.36	1.50	0.07	0.7	0.01
36629	8.36	9.08	0.72	0.07	0.7	0.01
36632	9.08	13.58	4.50	0.07	0.7	0.01
36633	13.58	15.08	1.50	0.07	0.7	0.01
36634	15.08	16.58	1.50	0.07	0.7	0.01
36635	16.58	18.56	1.98	0.07	0.7	0.01
36636	18.56	20.06	1.50	0.07	1.0	0.08
36637	20.06	21.56	1.50	0.07	0.7	0.01
36638	21.56	23.06	1.50	0.07	0.7	0.02
36639	23.06	24.56	1.50	0.07	0.7	0.01
36640	24.56	26.06	1.50	0.07	0.7	0.01
36641	26.06	27.56	1.50	0.07	0.7	0.08
36642	27.56	29.06	1.50	0.07	0.7	0.01
36643	29.06	30.56	1.50	0.07	0.7	0.01
36644	30.56	32.06	1.50	0.07	0.7	0.01
36645	32.06	33.56	1.50	0.07	0.7	0.09
36646	33.56	34.70	1.14	0.07	0.7	0.03
36647	34.70	35.76	1.06	0.07	0.7	0.01
36648	35.76	36.50	0.74	1.30	1.0	0.60
36649	36.50	37.50	1.00	5.79	2.1	0.27
36650	37.50	38.50	1.00	7.92	1.4	0.78
36651	38.50	39.50	1.00	3.70	1.4	0.34
36652	39.50	40.50	1.00	1.54	0.7	0.07
36653	40.50	41.40	0.90	4.49	0.7	0.26
36654	41.40	42.57	1.17	0.14	0.7	0.02
36655	42.57	44.48	1.91	0.07	0.7	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-11

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		100.00	-65.00
65.00		100.00	-65.00

LATITUDE : 10021.000
 DEPARTURE: 9985.200
 ELEVATION: 1120.000
 DIP AT COLLAR: -65.00 DEG
 AZIMUTH : 100.00 DEG
 TOTAL DEPTH : 66.14

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-11

DATE LOGGED: 21/06/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	46.50	1		0.00	1.52			CASING IN BROKEN BEDROCK FELDSPAR PORPHYRY: (91% recovery) Green-brown, feldspar phenos (and hbl?) altered to chl-ser, mod. to very siliceous local yellow carbonate-qtz bx veins, local qtz-chl veins to 1cm; .5-1% dissem. hem. grains; locally weakly magnetic. Trace Sulphides FELDSPAR PORPHYRY: (93% recovery) Pale green, str. chl-ser-qtz alteration, chl-ser after feldspar grains still distinct, locally weathered to pale brown; local rusty carbonate veins to 2cm, local 1-3mm qtz veins. Structure: Qtz-hem vein 8.14-8.30/45 deg. Trace Sulphides FELDSPAR PORPHYRY: (99% recovery) As for 1.52-5.60m; local monolithic frag- mental patches, frags to 5cm; locally weathered. Trace Sulphides. FELDSPAR PORPHYRY: (98% recovery) As for 5.60-11.60m; str. carbonate-chl-ser alteration, locally siliceous. Structure: Qtz-hem-cpy veins, 20.34-20.42/
				1.52	5.60	1c		
				5.60	11.60	1b		
				11.60	19.90	1c		
				19.90	22.40	1b		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				22.40	35.80	1c		55 deg; 22.26-22.29/50 deg. Tr. Sulphides FELDSPAR PORPHYRY: (96% recovery) As for 1.52-5.60m, local hairline to 2mm py-qtz-cc+/-hem-cpy veins, increasing number of veins toward bottom; local abund hairline fract with pale yellow ser. Structure: Qtz-hem-py-cpy veins, 31.90/ 35 deg; Py-qtz-hem veins, 40-60 deg. .5-1% Sulphides.
				35.80	46.50	1b		FELDSPAR PORPHYRY: (95% recovery) Pale green-brown with local darker brown patches; str. ser-chl-si alteration, hair- line to 3cm py-qtz+/-hem-cpy veins throughout; local intense hairline frac- turing with pale yellow ser; local irreg qtz-cc veins to 2cm; fract. are locally strongly weathered. Structure: Py-hem-qtz-cpy veins, 36.26/35 deg; 36.90/40 deg; 37.28/50 deg; 38.33/50 deg; 38.90/35 deg.
46.50	48.00	6		46.50	48.00	6		QUARTZ BRECCIA VEIN: (100% recovery) Grades from pyrite rich mylonite at the top to a coarse qtz-hem-cpy bx at the bottom, bottom contact is gradational; fractures are strongly weathered. Structure: Upper Contact 46.50/45 deg. 5% Sulphides.
48.00	55.20	1		48.00	55.20	1c		FELDSPAR PORPHYRY BRECCIA

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
55.20	55.60	6		55.20	55.60	6		(100% recovery) Pale green-grey; section is weak to intensely fractured with pale yellow si-ser filling fract.; areas of intense fract. contains angular red and banded qtz fragments and dissem. py-cpy; local si flooding; int. si-ser-chl alteration; fractures are weathered. .5% Sulphides. QUARTZ BRECCIA VEIN: (98% recovery) Upper part of vein consists of coarse ang. white, red and banded qtz fragments in a pale yellow silica matrix; dissem py-cpy occurs in the fragments and matrix, the lower part of the vein is banded white and purple qtz with dissem cpy-py. Structure: Upper Contact, 55.20/50 deg; Lower Contact, 55.60/25 deg. 15-1% Sulphides.
55.60	66.14	1		55.60	66.14	1c		FELDSPAR PORPHYRY: (99% recovery) Light green-grey; chl-ser altered; local fine grained dark green angular fragments to 3cm; very fine grained dissem. hem grains throughout; local 1-2mm cc patches; local qtz-hem-cpy veins to 2cm in upper part of section; local qtz-cc bx patches. Structure: Qtz-hem-cpy veins, 56.80/40 deg END OF HOLE.

ASSAY RECORD
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-11

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	AG (gmt)	CU (%)
36656	5.60	8.60	3.00	0.79	0.7	0.01
36658	8.60	11.60	3.00	0.07	0.7	0.01
36659	19.90	21.40	1.50	0.24	0.7	0.01
36660	21.40	22.40	1.00	0.24	1.0	0.07
36661	22.40	23.90	1.50	0.07	0.7	0.01
36662	23.90	25.40	1.50	0.07	0.7	0.01
36663	25.40	26.90	1.50	0.07	0.7	0.01
36664	26.90	28.40	1.50	0.07	0.7	0.01
36665	28.40	29.90	1.50	0.07	0.7	0.01
36666	29.90	31.40	1.50	0.07	0.7	0.01
36667	31.40	32.90	1.50	0.10	0.7	0.01
36668	32.90	34.40	1.50	0.07	0.7	0.01
36669	34.40	35.80	1.40	0.07	0.7	0.01
36670	35.80	37.30	1.50	0.10	0.7	0.02
36671	37.30	38.80	1.50	0.07	0.7	0.04
36672	38.80	40.30	1.50	0.07	0.7	0.02
36673	40.30	41.80	1.50	0.07	0.7	0.01
36674	41.80	43.30	1.50	0.07	0.7	0.01
36675	43.30	44.80	1.50	0.07	0.7	0.01
36676	44.80	46.50	1.70	0.07	2.7	0.02
36677	46.50	48.00	1.50	5.73	128.9	0.54
36678	48.00	49.50	1.50	0.79	1.0	0.09
36679	49.50	51.00	1.50	0.21	0.7	0.08
36680	51.00	52.50	1.50	0.14	0.7	0.02
36681	52.50	54.00	1.50	0.24	0.7	0.13
36682	54.00	55.20	1.20	0.48	0.7	0.12
36683	55.20	55.60	0.40	4.35	0.7	0.56
36684	55.60	57.10	1.50	0.07	0.7	0.01
36685	57.10	58.60	1.50	0.07	0.7	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-12

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00			-90.00

LATITUDE : 10021.000
 DEPARTURE: 9985.000
 ELEVATION: 1120.000 -
 DIP AT COLLAR: -90.00 DEG
 AZIMUTH : 999.99 DEG
 TOTAL DEPTH : 124.65

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-12

DATE LOGGED: 23/06/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	73.80	1		0.00	3.45	1c		FELDSPAR PORPHYRY: (57% Recovery) Medium green-brown; chl-ser after feldspar pheno's to 3mm, pheno's are anhedral; local irreg. dark green chl patches, minor to moderate hairline fracturing with pale yellow ser; lower contact is gradational, fine grained dissem hem grains throughout. Trace Sulphides.
				3.45	10.70	1b		FELDSPAR PORPHYRY: (97% recovery) Pale yellow-green-brown; locally weath. str. carbonate-ser-chl altered; locally silic, local cc+/- qtz vein to 3cm. Trace Sulphides.
				10.70	24.50	1c		FELDSPAR PORPHYRY: (98% recovery) As for 0.00-3.45m, local patches of predom chl alteration. Structure: Qtz-hem veins, 17.40/20 deg; 20.35/25 deg. Trace Sulphides
				24.50	47.20	1b		FELDSPAR PORPHYRY: (95% recovery) Pale yellow-green-brown, upper section is strongly fract. with pale yellow-white silica infilling, str. chl-ser-si+/-cc-ep alteration, local qtz-hem-cpy vein and stockwork to 36cm; local rusty-yellow

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
								ankerite-qtz bx veins with peripheral cc-si-ep alteration; local med. green- brown (less altered) sections; local weathered sections and fractures. 35.10-36.40 has 1-2% cpy; local hairline to 1mm py veinlets. Structure: Qtz-hem veins, 27.15-27.51/ 20 deg; Qtz-hem-cpy-py veins, 35.10-36.40/ 45-55 deg, 45.45-45.55/30 deg. .5-1% Sulphides FELDSPAR PORPHYRY: (97% recovery) As for 0.00-3.45m; local sub. angular dark green-black fine grained fragments to 2 cm trace hairline to 3mm py-hem veins. Trace Sulphides.
				47.20	54.65	1c		FELDSPAR PORPHYRY: (99% recovery) Pale yellow-green brown; mod-str ser-si- chl alteration; local 1-5mm py-hem veins; small light green fine grained dyke(?) with pale brown K-spar? alteration rims. .5% Sulphides
				54.65	57.15	1b		FELDSPAR PORPHYRY: (99% recovery) As for 47.20-54.65m, increasing size and number of hem-py veins. 1% Sulphides
				57.15	72.10	1c		FELDSPAR PORPHYRY: (100% recovery) Pale brown-green; str. hairline fracturing
				72.10	73.80	1b		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
73.80	74.35	6		73.80	74.35	6		with pale yellow si-ser filling, local pale yellow-pink silica bx patches to 3cm; qtz-hem-py-cpy veins to 3cm; local fine grained chl fragments to 10cm. 2-3% Sulphides.
								QUARTZ BRECCIA VEIN: (100% recovery) Pale yellow-pink si bx with approx. 15% angular feldspar porphyry fragments to 1cm; trace dissem. py. Structure: Si bx veins, 73.80/30 deg, 74.35/20 deg. Trace Sulphides.
74.35	76.85	1		74.35	76.85	1c		FELDSPAR PORPHYRY: (97% recovery) Light grey-green, hairline to 5cm wide pale yellow si veins and bx patches throughout, locally with hem veins; matrix is chl-ser-si altered; fine grained dissem hem throughout. Trace Sulphides.
								QUARTZ BRECCIA VEIN: (94% recovery) Pale yellow-grey; upper contact is pyrite-rich; bx matrix is predom pale yellow si+/-hem; py-cpy occurs as dissem grains and patches to 1cm in the matrix and in quartz fragments. Py along upper contact appears to be sheared, contacts are sharp. Structure: Upper Contact, 76.85/35 deg; Lower Contact, 79.00/20 deg.
76.85	79.00	6		76.85	79.00	6		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
79.00	97.80	1		79.00	80.85	1c		2-4% Sulphides (1-2% cpy) (1-2% py) FELDSPAR PORPHYRY BRECCIA: (99% recovery) Pale green-grey; intense si-chl-ser alteration with stockwork Qtz-hem+/-cpy veins; bx and fractures filled with pale yellow si; trace disseminated cpy-py. Trace-.5% Sulphides.
				80.85	97.80	1c		FELDSPAR PORPHYRY BRECCIA; (100% recovery) Pale grey-green; mod silic, str ser-chl alteration, local patches as for 79.00-80.85m; fractures and bx areas filled with pale yellow si; local hairline to 1mm py +/-cpy veins; local .1 to 7cm Qtz-hem-cpy veins; trace gn in Qtz-cc vein (#35731). Structure: Qtz-hem-cpy-py veins, 85.20-85.30/45 deg, 89.85/30 deg. Qtz-hem-py-cpy veins (stringers) 20-25 deg
97.80	99.80	6		97.80	99.80	6		Trace-.5% sulphides QUARTZ BRECCIA VEIN: (68% recovery) As for 76.85-79.00m.
99.80	107.75	1		99.80	107.75	1c		FELDSPAR PORPHYRY: (82% recovery) Pale green-brown, chl-ser+/-si altered, incr. ser alteration toward bottom; local hairline to 2mm Qtz+/-hem-cpy veins; local Qtz-cc veins; local hairline fractures with pale yellow si.

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
107.75	124.65	2		107.75	124.65	2		ANDESITE VOLCANIC BRECCIA: (97% Recovery) Brown-grey-purple, heterolithic angular to sub round fragments in a fine grained andesite(?) matrix; fragments to 5cm; fragments are pale green ser altered, grey purple and black; local very fine grained dark green massive flow sections; local irreg. cc veining and patches; matrix is increasingly ser altered toward top. END OF HOLE

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DRILL HOLE NUMBER : NTC-88-12

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	AG (gmt)	CU (%)
36686	19.80	20.30	0.50	0.62	0.7	0.02
36687	24.50	26.00	1.50	0.07	0.7	0.01
36688	26.00	27.15	1.15	0.07	0.7	0.01
36689	27.15	27.60	0.45	4.46	0.7	0.01
36690	27.60	29.10	1.50	0.07	0.7	0.01
36691	29.10	30.60	1.50	0.07	0.7	0.01
36692	30.60	32.10	1.50	0.07	0.7	0.01
36693	32.10	33.60	1.50	0.07	0.7	0.01
36694	33.60	35.10	1.50	0.07	0.7	0.02
36695	35.10	36.40	1.30	0.31	5.1	0.70
36696	36.40	37.90	1.50	0.10	0.7	0.09
36697	37.90	39.40	1.50	0.07	0.7	0.01
36698	39.40	40.90	1.50	0.07	0.7	0.01
36699	40.90	42.40	1.50	0.07	0.7	0.01
36700	42.40	43.90	1.50	0.07	2.4	0.02
36701	43.90	45.40	1.50	0.07	2.7	0.01
36702	45.40	47.20	1.80	0.07	1.0	0.01
36703	47.20	48.70	1.50	0.07	0.7	0.01
36704	54.65	56.15	1.50	0.14	1.0	0.04
36705	56.15	57.15	1.00	0.07	0.7	0.01
36706	59.85	61.35	1.50	0.07	0.7	0.01
36707	61.35	62.85	1.50	0.07	0.7	0.01
36708	62.85	64.35	1.50	0.07	0.7	0.01
36709	64.35	65.85	1.50	0.07	0.7	0.01
36710	65.85	67.35	1.50	0.07	0.7	0.01
36711	67.85	68.85	1.00	0.07	0.7	0.01
36712	68.85	70.35	1.50	0.07	0.7	0.01
36713	70.35	72.10	1.75	0.07	0.7	0.01
36714	72.10	73.80	1.70	0.27	0.7	0.08
36715	73.80	74.35	0.55	0.07	0.7	0.01
36716	74.35	75.85	1.50	0.07	0.7	0.01

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DRILL HOLE NUMBER : NTC-88-12

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	AG (gmt)	CU (%)
36717	75.85	76.85	1.00	1.58	0.7	0.19
36718	76.85	77.50	0.65	2.43	6.2	0.56
36719	77.50	79.00	1.50	5.21	1.0	0.87
36720	79.00	80.85	1.85	0.38	0.7	0.04
36721	80.85	82.35	1.50	0.14	0.7	0.01
36722	82.35	83.85	1.50	0.07	0.7	0.01
36723	83.85	85.35	1.50	0.41	0.7	0.06
36724	85.35	86.85	1.50	0.07	0.7	0.02
36725	86.85	88.35	1.50	0.07	0.7	0.01
36726	88.35	89.85	1.50	0.10	0.7	0.02
36727	89.85	91.35	1.50	0.14	2.1	0.02
36728	91.35	92.85	1.50	0.14	0.7	0.06
36729	92.85	94.35	1.50	0.07	0.7	0.10
36730	94.35	95.85	1.50	0.07	0.7	0.13
36731	95.85	97.35	1.50	0.07	0.7	0.01
36732	97.35	97.80	0.45	0.72	1.0	0.19
36733	97.80	99.80	2.00	4.22	10.6	0.78
36734	99.80	101.30	1.50	0.99	0.7	0.12
36735	101.30	102.80	1.50	0.21	2.1	0.02
36736	102.80	104.30	1.50	0.07	0.7	0.01
36737	104.30	105.80	1.50	0.07	0.7	0.01
36738	105.80	107.75	1.95	0.07	0.7	0.01

LATITUDE : 9996.200
 DEPARTURE: 9959.000
 ELEVATION: 1124.000
 DIP AT COLLAR: -90.00 DEG
 AZIMUTH : 999.99 DEG
 TOTAL DEPTH : 170.38

D I A M O N D D R I L L L O G
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
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HOLE NO. : NTC-88-13

DATE LOGGED: 24/06/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	135.25	1		0.00	7.30	1c		FELDSPAR PORPHYRY: (89% Recovery) Medium to dark green; subhedral white feldspar pheno's to 3mm, locally weakly ser. altered; trace to .5% dissem. spec. hem. throughout; local Qtz+/-cc veins to 2cm, chl altered matrix; casing 0.0-0.6m. Trace Sulphides.
				7.30	9.85	1b		FELDSPAR PORPHYRY: (98% Recovery) Pale green-grey, bleached, local pale brown weathered sections; locally strongly fractured with pale yellow si-ser filling; str. si-ser-chl alteration. Trace Sulphides.
				9.85	26.40	1c		FELDSPAR PORPHYRY: (95% Recovery) As for 0.00-7.30m; local bleached si-ser-chl altered sections. Trace Sulphides.
				26.40	43.90	1b		FELDSPAR PORPHYRY: 88% recovery As for 7.30-9.85m; trace py-cpy veins to 1mm; local si-flooding. Trace Sulphides.
				43.90	55.20	1c		FELDSPAR PORPHYRY: 95% recovery As for 0.00-7.30m; local flow? banding,

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				55.20	70.95	1b		local pale yellow qtz-cc bx patches. Structure: Banding/55 deg. FELDSPAR PORPHYRY: 96% recovery As for 7.30-9.85m; local sections contain up to 40% ser. altered feldspar pheno's, trace qtz-hem-cpy and qtz-py-cpy veins to 1cm, increased veining toward bottom. Structure: Qtz-hem bx veins 59.90/30 deg, Qtz-py-cpy veins 66.35/30 deg. FELDSPAR PORPHYRY: 99% recovery Dark green-brown with approx. 30% bleached pale green-brown sections; chl+/-si-ser altered matrix, chl+/-ser altered feldspar pheno's, bleached sections predom. occur surrounding qtz-hem+/-cpy-py veins, qtz-hem+/-cpy-py veins to 3cm; incr. veining toward bottom; local hairline fractures with pale yellow si-ser infilling; dark sections contain .5% dissem spec. hem grains to 1mm. Structure: Qtz-hem-cpy-py veins, 72.45/45 deg; Stringers 35-45 deg. Trace-.5% Sulphides FELDSPAR PORPHYRY: 96% recovery As for 7.30-9.85m; local intensely fract. with pale yellow si-ser filling; locally abund. qtz-hem-cpy veins, stockwork patches and bx patches; 2-3% veining.
				70.95	83.35	1c		
				83.35	95.25	1b		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				95.25	122.65	1c		Structure: Qtz-hem-cpy veins 83.75/40 deg 86.90/45 deg, 88.15-88.35/20 deg. Stringers 20-45 deg .5-1% Sulphides FELDSPAR PORPHYRY: 97% recovery As for 70.95-83.35m; local areas with lite pink Kspar pheno's to 3mm, local bleached sections are coincident with qtz-hem-cpy- py veins to 15cm. Structure: Qtz-hem-cpy-py veins 100.80-100.90/40 deg, 101.70-101.85/30 deg, 107.60/30 deg. Stringers 20-45 deg Qtz-hem-cpy-py veins 116.10-116.30/35 deg, 115.70/35 deg. .5-1% Sulphides FELDSPAR PORPHYRY: 94% recovery As for 83.35-95.25; irreg lower contact; qtz-hem-cpy-py veins to 3cm. Structure: Qtz-hem-cpy-py veins 20-40 deg .5% Sulphides QUARTZ BRECCIA VEIN: 93% recovery Pale yellow-grey; grey-pink-purple quartz fragments to 5cm, fine to coarse dissem cpy grains throughout, local very fine grained, sheared py-cpy bands with rolled qtz fragments, approx. 1-2% cpy, 4-5% py. Structure: Py-cpy bands 136.50/40 deg 5-7% Sulphides
				122.65	135.25	1b		
135.25	136.70	6		135.25	136.70	6		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
136.70	157.40	1		136.70	157.40	1b		FELDSPAR PORPHYRY: 99% recovery Pale green-brown, bleached, ser-si-chl altered; mod. to int. fractured, abund. qtz-hem-cpy-py veins and bx veins to 15cm; local si flooding; local pale yellow si-ser bx patches, approx. 3-5% veining, vein typically contains 1-2% cpy and 1-2% py Structure: Qtz-hem-cpy veins 10-70 deg range, avg 30-40 deg 1-2% Sulphides
157.40	158.00	6		157.40	158.00	6		QUARTZ BRECCIA VEIN: 100% recovery Light grey; 1mm to 3cm qtz shards and frags, local white-pink banded frags; fine to coarse grained cpy+/-py through out. Structure: Upper Contact 157.40/10 deg 1-2% Sulphides
158.00	159.95	1		158.00	159.95	1b		FELDSPAR PORPHYRY: 99% recovery As for 136.70-157.40m; incr. si flooding Structure: Qtz-hem-cpy-py veins 35-70 deg 1-2% Sulphides
159.95	161.65	6		159.95	161.65	6		QUARTZ BRECCIA VEIN: 94% recovery As for 135.25-136.80m; 1-2% cpy, 4-5% py. Structure: Upper Contact 159.95/25 deg, Lower Contact 161.65/45 deg. 5-7% Sulphides
161.65	170.38	2		161.65	162.35	2		ANDESITE:

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				162.35	170.38	2		100% recovery Pale yellow to pale purple; int. ser-si alteration, local 1cm Qtz-hem v., .5% dissem py, trace cpy, sharp lower contact Structure: Lower Contact 162.35/50 deg .5% Sulphides ANDESITE: 99% recovery Grey-purple to pale green; fine grained; local ser+/-chl altered sections; local monolithic fragmental sections, frags locally ser altered; very fine grained dissem. hem; local Qtz-cc veinlets to 2cm. Trace Sulphides. END OF HOLE

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SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	AG (gmt)	CU (%)
36739	26.40	29.40	3.00	0.07	0.7	0.01
36740	29.40	32.40	3.00	0.07	0.7	0.01
36741	32.40	35.40	3.00	0.07	0.7	0.01
36742	35.40	38.40	3.00	0.07	0.7	0.01
36743	38.40	41.40	3.00	0.07	0.7	0.01
36744	41.40	43.90	2.50	0.07	0.7	0.01
36745	55.20	58.20	3.00	0.07	0.7	0.01
36746	58.20	61.20	3.00	0.07	0.7	0.01
36747	61.20	64.20	3.00	0.07	0.7	0.01
36748	64.20	67.20	3.00	0.07	0.7	0.01
36749	67.20	70.20	3.00	0.07	0.7	0.01
36750	70.20	70.95	0.75	0.07	0.7	0.01
36751	70.95	72.45	1.50	0.17	0.7	0.01
36752	72.45	73.95	1.50	0.07	0.7	0.01
36753	73.95	75.45	1.50	0.07	0.7	0.01
36754	75.45	76.95	1.50	0.07	0.7	0.01
36755	76.95	78.45	1.50	0.07	0.7	0.01
36756	78.45	79.95	1.50	0.07	0.7	0.01
36757	79.95	81.45	1.50	0.07	0.7	0.01
36758	81.45	83.35	1.90	0.07	0.7	0.01
36759	83.35	84.85	1.50	0.24	0.7	0.14
36760	84.85	86.35	1.50	0.07	0.7	0.01
36761	86.35	87.85	1.50	0.07	0.7	0.02
36762	87.85	89.35	1.50	0.21	0.7	0.06
36763	89.35	90.85	1.50	0.07	0.7	0.01
36764	90.85	92.35	1.50	0.07	0.7	0.01
36765	92.35	93.85	1.50	0.07	0.7	0.01
36766	93.85	95.25	1.40	0.07	0.7	0.02
36767	95.25	96.75	1.50	0.07	0.7	0.01
36768	96.75	98.25	1.50	0.07	0.7	0.01
36769	98.25	99.75	1.50	0.07	0.7	0.01

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DRILL HOLE NUMBER : NTC-88-13

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	AG (gmt)	CU (%)
36770	99.75	100.80	1.05	0.07	0.7	0.01
36771	100.80	102.80	2.00	0.82	0.7	0.24
36772	102.80	104.30	1.50	0.07	0.7	0.01
36773	104.30	105.80	1.50	0.07	0.7	0.08
36774	105.80	107.30	1.50	0.07	0.7	0.01
36775	107.30	108.80	1.50	0.10	0.7	0.01
36776	108.80	110.30	1.50	0.17	0.7	0.02
36777	110.30	111.80	1.50	0.07	0.7	0.01
36778	111.80	113.30	1.50	0.07	0.7	0.01
36779	113.30	114.80	1.50	0.07	0.7	0.01
36780	114.80	116.30	1.50	0.34	0.7	0.56
36781	116.30	117.80	1.50	0.07	0.7	0.02
36782	117.80	119.30	1.50	0.07	0.7	0.01
36783	119.30	120.80	1.50	0.07	0.7	0.01
36784	120.80	122.65	1.85	0.07	0.7	0.01
36785	122.65	124.15	1.50	0.07	0.7	0.01
36786	124.15	125.65	1.50	0.07	0.7	0.01
36787	125.65	127.15	1.50	0.07	0.7	0.01
36788	127.15	128.65	1.50	0.07	0.7	0.01
36789	128.65	130.15	1.50	0.07	0.7	0.01
36790	130.15	131.65	1.50	0.07	0.7	0.01
36791	131.65	133.15	1.50	0.07	0.7	0.01
36792	133.15	134.65	1.50	0.10	0.7	0.11
36793	134.65	135.25	0.60	0.21	0.7	0.29
36794	135.25	136.70	1.45	9.15	2.4	1.16
36795	136.70	137.70	1.00	0.24	0.7	0.03
36796	137.70	138.70	1.00	0.10	0.7	0.06
36797	138.70	139.70	1.00	0.07	0.7	0.01
36798	139.70	140.70	1.00	0.14	0.7	0.12
36799	140.70	141.70	1.00	0.41	0.7	0.16
36800	141.70	142.70	1.00	0.07	0.7	0.01

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SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	AG (gmt)	CU (%)
36801	142.70	143.70	1.00	0.27	0.7	0.08
36802	143.70	144.70	1.00	0.07	0.7	0.02
36803	144.70	145.70	1.00	0.55	0.7	0.42
36804	145.70	146.70	1.00	0.07	0.7	0.08
36805	146.70	147.70	1.00	0.07	0.7	0.04
36806	147.70	148.70	1.00	0.07	0.7	0.01
36807	148.70	149.70	1.00	0.10	1.0	0.08
36809	150.70	151.70	1.00	0.07	0.7	0.02
36810	151.70	152.70	1.00	0.07	0.7	0.01
36811	152.70	153.70	1.00	0.07	0.7	0.09
36812	153.70	154.70	1.00	0.07	0.7	0.01
36813	154.70	155.70	1.00	0.48	0.7	0.03
36814	155.70	156.70	1.00	0.10	0.7	0.08
36815	156.70	157.40	0.70	0.14	0.7	0.14
36816	157.40	158.00	0.60	2.13	0.7	0.56
36817	158.00	159.00	1.00	0.34	0.7	0.09
36818	159.00	159.95	0.95	0.21	0.7	0.02
36819	159.95	161.65	1.70	9.36	3.4	1.30
36820	161.65	162.35	0.70	0.34	0.7	0.12

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
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DRILL HOLE NUMBER : NTC-88-14

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00			-90.00

LATITUDE : 9959.000
 DEPARTURE: 9967.000
 ELEVATION: 1105.000
 DIP AT COLLAR: -90.00 DEG
 AZIMUTH : 999.99 DEG
 TOTAL DEPTH : 111.25

D I A M O N D D R I L L L O G
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-14

DATE LOGGED: 24/06/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	95.40	1		0.00	4.80	1b		FELDSPAR PORPHYRY: 59% Recovery Pale green-grey, si-ser-chl altered, bleached, str, trace qtz-hem veins to 3mm Trace Sulphides
				4.80	13.40	1c		FELDSPAR PORPHYRY: 100% Recovery Dark green-brown; feldspar phenos to 3mm altered to chl+/-ser, local hairline fract with pale yellow qtz-ser filling.
				13.40	22.75	1b		FELDSPAR PORPHYRY: 92% Recovery As for 0.0-4.80m, increased qtz-hem-cpy veining, trace py veins; local light to dark brown-green less altered sections. Structure: Qtz-hem-cpy bx veinlets, 13.45-13.90m/25 degrees. Trace Sulphides.
				22.75	35.50	1c		FELDSPAR PORPHYRY: 99% Recovery As for 4.80-13.40m.
				35.50	65.50	1b		FELDSPAR PORPHYRY: 98% Recovery As for 0.0-4.80m, trace qtz-hem+/-cpy veinlets.
				65.50	68.10	1c		FELDSPAR PORPHYRY: 93% Recovery As for 4.80-13.40m

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				68.10	95.40	1b		FELDSPAR PORPHYRY: 93% Recovery As for 0.0-4.80m; abund. qtz-hem-cpy-py veinlets to 20cm, qtz breccia vein with 3-5% cpy at 81.0-81.25m. Structure: qtz-hem-cpy-py veinlets, 72.85/30 deg; 75.25/40 deg; 79.80/25 deg; 81.05-81.25/35 deg; 84.80/45 deg; 87.05/40 deg; 91.65/40 deg. .5 to 1% sulphides.
95.40	96.35	6		95.40	96.35	6		QUARTZ BRECCIA VEIN: 100% Recovery Pale yellow-grey, very fine grained bands of bx py, fine to coarse patches of cpy throughout; vein contains approx. 20% host rock gangue. Upper Contact: 95.40/40 deg Lower Contact: 96.35/25 deg
96.35	111.10	1		96.35	111.10	1b		FELDSPAR PORPHYRY: 93% Recovery As for 0.0-4.80m, abund qtz-hem-cpy+/-py veins and patches; str. silicification and local si flooding, local very fine grained dissem py. Structure: Qtz-hem-cpy-py veinlets, 98.60/30 deg; 101.70/45 deg; 102.30/45 deg
111.10	111.25	6		111.10	111.25	6		QUARTZ BRECCIA VEIN: 93% Recovery As for 95.40-96.35m. Upper Contact: 111.10/30 deg HOLE LOST DUE TO CAVING

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DRILL HOLE NUMBER : NTC-88-14

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
36853	89.10	90.60	1.50	0.10	0.06
36854	90.60	92.10	1.50	0.07	0.03
36855	92.10	93.60	1.50	0.10	0.02
36856	93.60	95.40	1.80	0.07	0.01
36857	95.40	96.35	0.95	3.02	0.61
36858	96.35	97.35	1.00	0.07	0.02
36859	97.35	98.35	1.00	0.82	0.27
36860	98.35	99.35	1.00	0.27	0.13
36861	99.35	100.35	1.00	0.07	0.06
36862	100.35	101.35	1.00	0.07	0.09
36863	101.35	102.35	1.00	0.10	0.13
36864	102.35	103.35	1.00	0.07	0.01
36865	103.35	104.35	1.00	0.07	0.01
36866	104.35	105.35	1.00	0.07	0.01
36867	105.35	106.35	1.00	0.07	0.01
36868	106.35	107.35	1.00	0.07	0.01
36869	107.35	108.35	1.00	0.07	0.07
36870	108.35	109.35	1.00	0.07	0.02
36871	109.35	110.35	1.00	0.21	0.01
36872	110.35	111.10	0.75	0.17	0.02
36873	111.10	111.25	0.15	7.65	0.97

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-15

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00			-90.00

LATITUDE : 9927.000
 DEPARTURE: 9964.000
 ELEVATION: 1090.000
 DIP AT COLLAR: -90.00 DEG
 AZIMUTH : 999.99 DEG
 TOTAL DEPTH : 125.88

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-15

DATE LOGGED: 24/06/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	80.70	1		0.00	12.60	1c		FELDSPAR PORPHYRY: 78% Recovery Medium to dark green, feldspar-hbl grains to 3mm altered to dark green chl., local hairline to 1cm Qtz-cc+/-chl veins, local bleached pale green si-ser-chl altered sections. Trace sulphides.
				12.60	15.60	1b		FELDSPAR PORPHYRY: 100% Recovery Pale green-brown, fine grained, si-ser-chl altered, abund. irreg. Qtz-hem-cpy veins and patches to 2cm, local veins brecciated Structure: Qtz-hem-cpy-py veinlets, 12.95/35 deg; 14.45/20 deg. 1% Sulphides
				15.60	24.80	1c		FELDSPAR PORPHYRY: 91% Recovery As for 0.0-12.60m, local hairline to 3mm Qtz-hem+/-cpy veins.
				24.80	33.65	1c		FELDSPAR PORPHYRY: 74% Recovery As for 0.0-12.60m, abund. Qtz-hem-cpy-py veinlets to 15cm, 3-5% veining. Structure: Qtz-hem-cpy-py veins 24.85-25.00/50 deg, 32.30/45 deg.
				33.65	43.30	1c		FELDSPAR PORPHYRY: 97% Recovery

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				43.30	48.00			As for 0.0-12.60m FELDSPAR PORPHYRY - SILICA BRECCIA 95% Recovery Dark green to pale yellow; strongly bx and flooded with pale yellow si+/-trace cpy; str. chl alteration, local dark green chl veins to 2cm, minor qtz-cc veining.
				48.00	59.45	1c		FELDSPAR PORPHYRY: 99% Recovery Medium to dark green-brown, chl+/-ser-si altered, locally abund., qtz-hem-cpy-py veinlets to 10cm. Structure: Qtz-hem-cpy-py veinlets, 52.30/35 deg; 52.45/35 deg; 54.05/35 deg; 56.15/35 deg.
				59.45	63.80	1b		FELDSPAR PORPHYRY: 91% Recovery As for 12.60-15.60m, trace qtz-hem veining banded, alternating pale green and brown bands to 1cm wide. Banding/55 deg; Trace Sulphides
				63.80	76.45	1c		FELDSPAR PORPHYRY 95% Recovery As for 48.00-59.45m, locally coarse grained, locally bleached pale green. Trace sulphides.
				76.45	80.70	1c		FELDSPAR PORPHYRY: 98% Recovery Pale pink-brown-green; coarse grained; .5-1% dissem. hem grains and lathes (after

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
80.70	81.50	6		80.70	81.50	6		hbl?), feldspar pheno's are pale green (chl) to pale pink (Kspar?); local hair-line to 5cm Qtz-hem-cpy-py veins. QUARTZ BRECCIA VEIN: 95% Recovery Clear to white to pink Qtz frags to 2cm in a pale yellow si matrix; local seams of fine grained py; abund. coarse patches of cpy, approx 3-5% cpy, 2-3% py. Upper Contact: 80.70/45 deg Lower Contact: 81.50/35 deg 5-8% sulphides
81.50	102.75	1		81.50	102.75	1b		FELDSPAR PORPHYRY: 97% Recovery Pale green-brown, bleached; si-ser-chl altered, local si flooding; weak to strong fracturing throughout with pale yellow si filling fractures. Structure: Qtz-hem-cpy+/-py veinlets, 25-45 deg; Trace Sulphides.
102.75	103.60	6		102.75	103.60	6		QUARTZ BRECCIA VEIN: 100% Recovery As for 80.70-81.50m but with 40-50% ser altered andesite? gangue fragments, .5% cpy, 2-3% py. Upper Contact: 102.75/25 deg; 2-3% Sulphides
103.60	125.88	2		103.60	106.40	2		ANDESITE: 95% Recovery Fine to medium grained, light-medium grey,

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				106.40	125.88	2		3-5% disseminations and patches of py throughout; locally silicified, qtz-hem-cpy-py veining to 2cm. 3-5% Sulphides ANDESITE 99% Recovery Fine to coarse grained feldspar-hbl porphyry; med. purple-grey to pale green; green sections are str. ser+/-chl altered. local irreg qtz-cc patches; trace disseminations. hem; local light grey andesite fragments to 5 cm END OF HOLE

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DRILL HOLE NUMBER : NTC-88-15

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
36874	12.60	15.60	3.00	0.60	0.05
36875	15.60	18.60	3.00	0.07	0.01
36926	18.60	21.60	3.00	0.07	0.02
36927	21.60	24.80	3.20	0.07	0.01
36928	24.80	26.30	1.50	2.24	0.19
36929	26.30	27.80	1.50	0.08	0.02
36930	27.80	29.30	1.50	0.14	0.02
36931	29.30	30.80	1.50	0.11	0.01
36932	30.80	32.30	1.50	0.07	0.01
36933	32.30	33.65	1.35	0.31	0.03
36934	43.30	44.80	1.50	0.15	0.05
36935	44.80	46.30	1.50	0.07	0.01
36936	46.30	48.00	1.70	0.07	0.01
36937	52.30	53.30	1.00	0.07	0.01
36938	53.30	54.30	1.00	0.10	0.10
36939	54.30	55.30	1.00	0.07	0.04
36940	55.30	56.15	0.85	0.07	0.03
36941	59.45	60.95	1.50	0.07	0.01
36942	60.95	62.45	1.50	0.07	0.01
36943	62.45	63.80	1.35	0.07	0.01
36944	63.80	65.30	1.50	0.07	0.01
36945	65.30	66.80	1.50	0.09	0.03
36946	66.80	68.30	1.50	0.09	0.04
36947	68.30	69.80	1.50	0.09	0.01
36948	69.80	71.30	1.50	0.09	0.01
36949	71.30	72.80	1.50	0.09	0.02
36950	72.80	74.30	1.50	0.09	0.09
36951	74.30	75.80	1.50	0.09	0.04
36952	75.80	76.45	0.65	0.07	0.02
36953	76.45	77.95	1.50	0.31	0.15
36954	77.95	79.45	1.50	0.07	0.02

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DRILL HOLE NUMBER : NTC-88-15

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
36955	79.45	80.70	1.25	0.31	0.11
36956	80.70	81.50	0.80	4.18	1.84
36957	81.50	83.00	1.50	0.07	0.04
36958	83.00	84.50	1.50	0.07	0.03
36959	84.50	86.00	1.50	0.07	0.01
36960	86.00	87.50	1.50	0.07	0.01
36961	87.50	90.50	3.00	0.07	0.01
36963	90.50	92.00	1.50	0.07	0.01
36964	92.00	93.50	1.50	0.07	0.03
36965	93.50	95.00	1.50	0.07	0.03
36966	95.00	96.50	1.50	0.07	0.03
36967	96.50	98.00	1.50	0.07	0.01
36968	98.00	99.50	1.50	0.07	0.01
36969	99.50	101.00	1.50	0.07	0.01
36970	101.00	102.75	1.75	1.17	0.03
36971	102.75	103.60	0.85	2.26	0.28
36972	103.60	105.10	1.50	0.14	0.05
36973	105.10	106.40	1.30	0.07	0.03

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-16

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00			-90.00

LATITUDE : 9867.400
 DEPARTURE: 9976.300
 ELEVATION: 1060.000
 DIP AT COLLAR: -90.00 DEG
 AZIMUTH : 999.99 DEG
 TOTAL DEPTH : 72.85

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-16

DATE LOGGED: 25/06/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	43.55	1		0.00	3.65	1c		FELDSPAR PORPHYRY: 50% Recovery Medium brown-green, chl+/-si altered, approx. 3% qtz-hem+/-cpy veining. Trace sulphides.
				3.65	12.35	1b		FELDSPAR PORPHYRY: 100% Recovery Pale green-brown, bleached, si-ser-chl altered, 5-7% qtz-hem-cpy+/-py veins and irreg. patches. Structure: Qtz-hem-cpy veinlets 4.90-5.25/40 deg; 8.65/35 deg; 10.30/30 deg
				12.35	21.75	1c		FELDSPAR PORPHYRY: 96% Recovery As for 0-3.65m Structure: Qtz-hem-cpy veinlets, 13.00/30 deg; 13.35/30 deg; 14.05/30 deg.
				21.75	43.55	1b		FELDSPAR PORPHYRY: 99% Recovery As for 3.65-12.35m; 5-7% qtz-hem-cpy veins bx veins and stockwork patches; locally strongly fract and/or bx with pale yellow si filling. Structure: Qtz-hem-cpy+/-py veinlets, 27.00-27.15/40 deg; 29.65-29.95/35 deg; 33.90/50 deg; 34.80/35 deg; 43.20/30 deg.
43.55	45.85	6		43.55	45.85	6		QUARTZ BRECCIA VEIN ZONE:

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
45.85	60.15	1		45.85	60.15	1b		99% Recovery Qtz-hem-cpy+/-py bx veins to 40cm, approx. 70% veining with 30% pale green-brown, si-chl-ser altered prophyry gangue; porphyry is locally strongly fractured with pale yellow si filling, approx. 2-3% cpy in veins. Upper contact: 43.55/30 deg Lower contact: 45.85/40 deg FELDSPAR PORPHYRY: 99% Recovery As for 21.75-43.55m; approx. 1% qtz-hem-cpy veining. Trace Sulphides
60.15	60.45	6		60.15	60.45	6		QUARTZ BRECCIA VEIN: 100% Recovery Pale pink-grey; white, pink, grey qtz frags to 1cm; .5-1% disseminated cpy-py; lower 10cm intensely sheared (mylonite?) Upper Contact: 60.15/35 deg Lower Contact: 60.45/35 deg 1% Sulphides.
60.45	61.80	2		60.45	61.80	2		ANDESITE: 99% Recovery Pale green-grey, fine grained, ser-chl+/- si altered, local qtz bx veins to 3cm. Structure: Qtz bx veinlets 60.85/45 deg; 61.45/45 deg. Trace sulphides
61.80	62.20	6		61.80	62.20	6		QUARTZ BRECCIA VEIN: 99% Recovery

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
62.20	72.85	2		62.20	65.35	2		Medium grey; red, white, pink, banded qtz fragments to 3cm; approx 1% dissem cpy+/- py. Upper Contact: 61.80/45 deg Lower Contact: 62.20/55 deg 1% sulphides ANDESITE: 98% Recovery Pale yellow-grey, ser-chl+/-si altered; local subangular to subround frags to 3cm; 62.90-63.20 is a sheared/brecciated pale yellow-pink fine grained bx zone. Structure: Si-hem bx, 62.90-63.20/35 deg, Qtz-hem-cpy veinlets, 64.25/20 deg, Qtz-hem-cpy bx veinlets, 67.85/45 deg, 63.70-63.80/?? ANDESITE: 98% Recovery Medium grey, fine grained chl-ser matrix, local ser altered feldspar pheno's to 2mm, local 2-10mm qtz-hem-cpy veining, becomes increasingly ser-chl altered toward bottom Structure: Qtz-hem-cpy veinlets 65.55/40 deg. Trace Sulphides. ANDESITE: 97% Recovery Grey-purple; fine to coarse grained feldspar-hbl porphyry; local weak ser alteration; local patches of pale red-brown alteration along hairline fractures; hbl
				65.35	67.85	2		
				67.85	72.85	2		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
								grains altered to chl, local dissem hem in matrix. Structure: Qtz-hem-cpy veinlets, 65.55/40 deg. Trace Sulphides. END OF HOLE

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DRILL HOLE NUMBER : NTC-88-16

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	AG (gmt)	CU (%)
36974	0.00	3.65	3.65	0.07	0.7	0.01
36975	3.65	5.25	1.60	0.38	0.7	0.04
36976	5.25	6.65	1.40	0.21	0.7	0.01
36977	6.65	8.15	1.50	0.07	0.7	0.01
36978	8.15	9.65	1.50	0.10	0.7	0.02
36979	9.65	11.15	1.50	0.07	0.7	0.03
36980	11.15	12.35	1.20	0.07	0.7	0.01
36981	12.35	13.85	1.50	0.07	0.7	0.04
36982	13.85	15.35	1.50	0.07	0.7	0.04
36983	15.35	16.85	1.50	0.07	0.7	0.02
36984	16.85	18.35	1.50	0.10	0.7	0.02
36985	18.35	19.85	1.50	0.07	0.7	0.01
36986	19.85	21.75	1.90	0.07	0.7	0.01
36987	21.75	23.25	1.50	0.10	0.7	0.03
36988	23.25	24.75	1.50	0.17	0.7	0.03
36989	24.75	26.25	1.50	0.24	0.7	0.01
36990	26.25	27.75	1.50	0.58	0.7	0.06
36991	27.75	29.25	1.50	0.27	0.7	0.03
36992	29.25	30.75	1.50	0.34	0.7	0.07
36993	30.75	32.25	1.50	0.07	0.7	0.02
36994	32.25	33.75	1.50	0.21	0.7	0.08
36995	33.75	35.25	1.50	0.21	0.7	0.03
36996	35.25	36.75	1.50	0.07	0.7	0.01
36997	36.75	38.25	1.50	0.07	0.7	0.01
36998	38.25	39.75	1.50	0.14	0.7	0.03
36999	39.75	41.25	1.50	0.07	0.7	0.01
37000	41.25	42.75	1.50	0.07	0.7	0.01
37001	42.75	43.55	0.80	0.07	0.7	0.02
37002	43.55	44.00	0.45	6.34	1.7	0.32
37003	44.00	44.80	0.80	0.48	0.7	0.03
37004	44.80	45.85	1.05	5.93	1.0	0.57

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DRILL HOLE NUMBER : NTC-88-16

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	AG (gmt)	CU (%)
37005	45.85	47.35	1.50	0.17	0.7	0.06
37006	47.35	48.85	1.50	0.07	0.7	0.02
37007	48.85	50.35	1.50	0.27	0.7	0.03
37008	50.35	51.85	1.50	0.07	0.7	0.02
37009	51.85	53.35	1.50	0.21	0.7	0.04
37010	53.35	54.85	1.50	0.07	0.7	0.02
37011	54.85	56.35	1.50	0.07	0.7	0.03
37012	56.35	57.85	1.50	0.07	0.7	0.04
37013	57.85	59.35	1.50	0.07	0.7	0.02
37014	59.35	60.15	0.80	0.07	0.7	0.01
37015	60.15	60.45	0.30	2.91	1.4	0.25
37016	60.45	61.80	1.35	0.38	0.7	0.05
37017	61.80	62.20	0.40	6.31	2.4	0.53
37018	62.20	63.70	1.50	0.14	0.7	0.01
37019	63.70	65.35	1.65	0.31	0.7	0.07
37020	65.35	66.85	1.50	0.07	0.7	0.03
37021	66.85	67.85	1.00	0.07	0.7	0.02

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-17

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		100.00	-45.00
73.00		100.00	-44.00

LATITUDE : 10075.000
 DEPARTURE: 9987.500
 ELEVATION: 1125.000
 DIP AT COLLAR: -45.00 DEG
 AZIMUTH : 100.00 DEG
 TOTAL DEPTH : 73.46

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-17

DATE LOGGED: 24/06/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	73.46	1		0.00	13.30	1b		FELDSPAR PORPHYRY: 78% Recovery Pale green-brown with dark brown sections; si-ser-chl altered; local qtz-cc bx veins and qtz-cc alteration; very fine grained dissem hem. throughout. Trace Sulphides.
				13.30	15.70	1c		FELDSPAR PORPHYRY: 94% Recovery Medium green-brown, chl+/-ser altered; dissem fine grained hem; local pale yellow qtz-cc veins to 1cm. Trace Sulphides.
				15.70	19.30	1c		FELDSPAR PORPHYRY: 99% Recovery As for 0.0-13.30m, intensely fractured and flooded with pale yellow si-cc veins. Trace sulphides.
				19.30	38.90	1c		FELDSPAR PORPHYRY: 100% Recovery Dark green, str. chl alteration; strongly fractured with pale yellow to rusty si-cc filling; local hairline to 10cm hem-qtz+/- cpy-py veins; fractures are locally strongly weathered. Local qtz-hem-chl- cpy-py stockwork patches, approx. 3-5% qtz-hem-cpy-py+/-chl veining, veins are commonly banded.

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				38.90	73.46	1c		Structure: Qtz-hem-cpy bx veins: 22.5/50 deg; 24.65-24.85/45 deg; 29.40-29.95/70 deg; 26.20-26.35/60 deg; 37.70-37.90/45 deg. .5-1% Sulphides. FELDSPAR PORPHYRY: 97% Recovery As for 13.30-15.70m, trace qtz-hem-cpy veining. END OF HOLE

ASSAY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

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DRILL HOLE NUMBER : NTC-88-17

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
37022	0.00	4.30	4.30	0.07	0.01
37023	4.30	7.30	3.00	0.07	0.01
37024	7.30	10.30	3.00	0.07	0.01
37025	10.30	13.30	3.00	0.07	0.01
37026	13.30	15.70	2.40	0.07	0.01
37027	15.70	17.70	2.00	0.07	0.01
37028	17.70	19.30	1.60	0.07	0.01
37029	19.30	20.80	1.50	0.07	0.01
37030	20.80	22.30	1.50	0.09	0.01
37031	22.30	23.80	1.50	0.31	0.01
37032	23.80	25.30	1.50	0.25	0.01
37033	25.30	26.80	1.50	1.75	0.35
37034	26.80	28.30	1.50	2.27	0.21
37035	28.30	30.00	1.70	1.83	0.13
37036	30.00	31.50	1.50	1.95	0.08
37037	31.50	33.00	1.50	0.19	0.02
37038	33.00	34.50	1.50	0.30	0.15
37039	34.50	36.00	1.50	0.48	0.05
37040	36.00	37.50	1.50	0.09	0.10
37041	37.50	38.90	1.40	0.59	0.12
37042	38.90	40.40	1.50	0.07	0.03
37043	40.40	43.40	3.00	0.07	0.01
37044	43.40	46.40	3.00	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
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DRILL HOLE NUMBER : NTC-88-18

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		100.00	-65.00
66.00	A	100.00	-63.00

LATITUDE : 10075.000
 DEPARTURE: 9987.500
 ELEVATION: 1125.000
 DIP AT COLLAR: -65.00 DEG
 AZIMUTH : 100.00 DEG
 TOTAL DEPTH : 66.75

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO. : NTC-88-18

DATE LOGGED: 24/06/88
 LOGGED BY : RJB

MAJOR			SUBUNIT			DESCRIPTION
From	To	Rock Code	From	To	Rock Code	
0.00	44.30	1	0.00	16.85	1b	FELDSPAR PORPHYRY: 84% Recovery Light to medium grey-brown-green; local pale green-grey bleached, sections chl+/- ser altered; local hairline to 10cm pale yellow Qtz-cc veins and bx zones; dissem. spec. hem throughout; local brown weathered sections. Trace Sulphides.
			16.85	22.20	1c	PORPHYRY-QUARTZ-CALCITE BRECCIA ZONE: 97% Recovery Pale yellow-green-brown; intensely bx; approx. 60% pale yellow Qtz-cc veins and bx zones; porphyry is chl-cc-ser altered. Trace Sulphides.
			22.20	27.80	1e	FELDSPAR PORPHYRY: 95% Recovery Dark green-grey; chl altered; locally abund. yellow-white Qtz-cc veins to 3cm. Trace Sulphides.
			27.80	32.90	1e	FELDSPAR PORPHYRY: 94% Recovery As for 22.20-27.90m; 1-2% Qtz-hem-cpy-py veining. Structure: Qtz-cpy-hem-py Veins 28.35/40 deg; 32.15/45 deg; 32.70/50 deg. 1% Sulphides.
			32.90	44.30	1c	PORPHYRY-QUARTZ-CALCITE-BRECCIA ZONE:

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
44.30	44.65	6		44.30	44.65	6		97% Recovery As for 16.85-22.20m; bx veins contain 1-2% qtz-hem+/-cpy-py fragments; local qtz-hem- cpy-py veins to 3cm. .5% Sulphides. QUARTZ BRECCIA VEIN: 97% Recovery Pale grey; white, pink, grey qtz frags to 3cm; disseminated cpy-py. Structure: Qtz bx Vein 44.30/45 deg; 44.65/45 deg. 2% Sulphides.
44.65	66.75	1		44.65	66.75	1c		FELDSPAR PORPHYRY: 99% Recovery Medium brown-green, chl+/-ser altered; local fine grained chl altered frags to 4cm; local hairline to 3cm qtz-cc veins and bx veins; disseminated spec hem throughout; local rusty weathered fractures. Trace sulphides. END OF HOLE

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DRILL HOLE NUMBER : NTC-88-18

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
37045	16.85	19.85	3.00	0.07	0.01
37046	19.85	22.20	2.35	0.07	0.01
37047	22.20	25.20	3.00	0.07	0.01
37048	25.20	27.80	2.60	0.13	0.02
37049	27.80	29.30	1.50	0.14	0.47
37050	29.30	30.80	1.50	0.12	0.04
37051	30.80	32.90	2.10	0.76	0.10
37052	32.90	34.40	1.50	0.17	0.01
37053	34.40	35.90	1.50	0.40	0.02
37054	35.90	37.40	1.50	0.48	0.04
37055	37.40	38.90	1.50	0.15	0.02
37056	38.90	40.40	1.50	0.28	0.02
37057	40.40	41.90	1.50	3.37	0.10
37058	41.90	43.40	1.50	1.63	0.08
37059	43.40	44.30	0.90	0.24	0.06
37060	44.30	44.65	0.35	5.42	0.62
37061	44.65	46.15	1.50	0.21	0.03
37062	46.15	49.15	3.00	0.07	0.02

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-19

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00			-90.00

LATITUDE : 10075.000
 DEPARTURE: 9987.500
 ELEVATION: 1125.000
 DIP AT COLLAR: -90.00 DEG
 AZIMUTH : 999.99 DEG
 TOTAL DEPTH : 109.42

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-19

DATE LOGGED: 24/06/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	59.50	1		0.00	9.60	1c		FELDSPAR PORPHYRY: 83% Recovery Medium brown-green; chl-ser altered; relic felds. pheno's are chl altered with ser rims; dissem spec hem throughout; local qtz-chl veins to 5mm.
				9.60	12.85	1b		FELDSPAR PORPHYRY: 96% Recovery Pale green-brown, bleached; si-ser-chl altered; local felds pheno's altered to pale brown Kspar?; local 1-2mm qtz veins.
				12.85	19.40	1c		FELDSPAR PORPHYRY: 98% Recovery As for 0.0-9.60m; local pale yellow si-cc veins to 1cm.
				19.40	23.00	1c		PORPHYRY-QUARTZ-CALCITE BRECCIA: 100% Recovery Approx. 40% yellow si-cc veins and bx patches; porphyry sections as for 0.0-9.60
				23.00	35.45	1c		FELDSPAR PORPHYRY: 98% Recovery As for 0.0-9.60m.
				35.45	41.45	1b		FELDSPAR PORPHYRY: 99% Recovery Pale green-pink-brown; chl-ser-Kspart+/-ep altered; felds pheno's altered to chl+/-ep locally strongly weathered.
				41.45	51.00	1b		PORPHYRY-QUARTZ-CALCITE BRECCIA:

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				51.00	59.50	1b		99% Recovery As for 19.40-23.00m in top of section, porphyry and veining become pink-brown toward the bottom, the porphyry also becomes increasingly ser-chl-Kspar altered FELDSPAR PORPHYRY: 100% Recovery Pale grey-brown, strongly bleached and si +/-chl-ser altered; abund. hairline to 1cm py+/-hem-cpy-qtz veins. Structure: Py-hem-cpy-qtz veins 54.50/15 deg. 2-3% Sulphides.
59.50	66.75	6		59.50	61.25	6		QUARTZ BRECCIA VEIN: 100% Recovery Pale yellow-pink-green; qtz frags to 5 cm; dissem py-cpy as fine to coarse grained patches throughout, 2-3% cpy, 2-3% py. Upper Contact: 59.50/30 deg Lower Contact: 61.25/45 deg 3-5% Sulphides.
				61.25	62.45	6		PORPHYRY-QUARTZ-BRECCIA STOCKWORK: 98% Recovery Pale grey-green; strong si +/- chl-ser altered, strong to intense fracturing, flooding with pale yellow quartz; irreg. qtz-hem-cpy-py veins and patches. 1-2% Sulphides.
				62.45	62.95	6		QUARTZ BRECCIA VEIN: 98% Recovery As for 59.50-61.25m. 1-2% Sulphides.

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				62.95	66.10	6		PORPHYRY-QUARTZ-BRECCIA STOCKWORK: 97% Recovery As for 61.25-62.45m. 2-3% Sulphides.
				66.10	66.75	6		QUARTZ BRECCIA VEIN: 91% Recovery As for 59.50-61.25m 2-3% Sulphides.
66.75	67.25	1		66.75	67.25	1c		FELDSPAR PORPHYRY: 95% Recovery Pale green, strong si-chl alteration Trace Sulphides.
67.25	69.10	6		67.25	69.10	6		QUARTZ BRECCIA VEIN: 98% Recovery Medium-dark green chlorite-rich matrix, white-pink-grey-green qtz frags to 4 cm; dissem fine to coarse grained py-cpy throughout, local 1mm to 2cm very fine grained py bands. Upper Contact: 67.25/40 deg Lower Contact: 69.10/45 deg 3-5% Sulphides
69.10	83.00	1		69.10	83.00	1c		FELDSPAR PORPHYRY QUARTZ VEIN STOCKWORK: 98% Recovery Pale-medium green; str. si-chl+/-Kspar alteration; approx 20% qtz-hem-cpy-py veining; veins are banded and/or brecciat- ed; local crustiform textures around porphyry fragments; veins to 20 cm wide. Structure: Qtz-hem-cpy-py veins, 69.35-69.55/35 deg; 69.65-69.80/40 deg.

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
83.00	85.25	6		83.00	85.25	6		2-3% Sulphides QUARTZ BRECCIA VEIN: 98% Recovery As for 59.50-61.25m; 3-5% cpy, trace to 1% py. Upper Contact: 83.00/25 deg Lower Contact: 85.25/60 deg
85.25	109.42	1		85.25	109.42	1c		5% Sulphides FELDSPAR PORPHYRY: 98% Recovery As for 66.75-67.25m Structure: Qtz-hem-cpy veins 85.80/30 deg 86.00/30 deg; 86.15/30 deg. .5% Sulphides. END OF HOLE

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DRILL HOLE NUMBER : NTC-88-19

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
37063	19.40	23.00	3.60	0.07	0.01
37064	35.45	38.45	3.00	0.07	0.01
37065	38.45	41.45	3.00	0.07	0.01
37066	41.45	44.45	3.00	0.07	0.01
37067	44.45	47.45	3.00	0.07	0.01
37068	47.45	51.00	3.55	0.07	0.01
37069	51.00	52.50	1.50	0.07	0.01
37070	52.50	54.00	1.50	0.07	0.01
37071	54.00	55.50	1.50	0.07	0.02
37072	55.50	57.00	1.50	0.07	0.01
37073	57.00	58.50	1.50	0.07	0.01
37074	58.50	59.50	1.00	0.07	0.01
37075	59.50	61.25	1.75	7.95	0.78
37076	61.25	62.45	1.20	0.14	0.06
37077	62.45	62.95	0.50	0.38	0.05
37078	62.95	64.45	1.50	0.21	0.02
37079	64.45	66.10	1.65	0.17	0.03
37080	66.10	66.75	0.65	2.47	0.51
37081	66.75	67.25	0.50	0.45	0.08
37082	67.25	69.10	1.85	5.35	0.47
37083	69.10	70.10	1.00	6.21	0.22
37084	70.10	71.10	1.00	0.14	0.02
37085	71.10	72.80	1.70	0.38	0.08
37086	72.80	73.10	0.30	5.07	0.60
37087	73.10	74.10	1.00	6.34	0.12
37088	74.10	75.10	1.00	4.77	0.17
37089	75.10	76.10	1.00	0.38	0.03
37090	76.10	77.10	1.00	0.69	0.08
37091	77.10	78.10	1.00	6.21	0.08
37092	78.10	79.10	1.00	9.29	0.30
37093	79.10	80.10	1.00	4.35	0.30

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DRILL HOLE NUMBER : NTC-88-19

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
37094	80.10	81.10	1.00	2.64	0.07
37095	81.10	82.10	1.00	2.33	0.03
37096	82.10	83.00	0.90	0.69	0.01
37097	83.00	84.00	1.00	9.26	0.98
37098	84.00	85.25	1.25	17.21	1.02
37099	85.25	86.25	1.00	1.13	0.12
37100	86.25	87.75	1.50	0.55	0.17
37101	87.75	89.25	1.50	1.27	0.64
37102	89.25	90.75	1.50	0.07	0.05
37103	90.75	92.25	1.50	0.07	0.02
37104	92.25	93.75	1.50	0.07	0.06
37105	93.75	95.25	1.50	0.07	0.03
37106	95.25	96.75	1.50	0.07	0.01
37107	96.75	98.25	1.50	1.17	0.02
37108	98.25	99.75	1.50	0.10	0.03
37109	99.75	101.25	1.50	0.07	0.07
37110	101.25	104.25	3.00	0.07	0.01
37111	104.25	107.25	3.00	0.07	0.01
37112	107.25	109.42	2.17	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
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DRILL HOLE NUMBER : NTC-88-26

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		100.00	-45.00
82.00	A	100.00	-43.00

LATITUDE : 10116.000
 DEPARTURE : 9975.000
 ELEVATION : 1139.000
 DIP AT COLLAR : -45.00 DEG
 AZIMUTH : 100.00 DEG
 TOTAL DEPTH : 82.30

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD.
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO. : NTC-88-26

DATE LOGGED: 9/07/88

LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	50.30	1		0.00	1.50	QVB		CASED BOULDER, BROKEN BEDROCK FELDSPAR PORPHYRY BRECCIA: 76% Recovery Pale grey-green, bleached; si-ser-chl+/-cc altered; 4.25-5.80m is a pale yellow qtz-cc breccia zone; locally strongly weathered; trace qtz-hem veins; local hairline to 3mm qtz+/-cc veins; breccia fragments to 3cm; black disseminated hem. in bottom 1 meter. Trace Sulphides.
				1.50	15.40	1b		
				15.40	33.85	1c		
				33.85	43.65	1e		FELDSPAR PORPHYRY: 88% Recovery Medium green-brown; medium grained; pale yellow-green ser-chl altered feldspar phenos to 3mm in a medium to dark brown aphanitic matrix; local fragmental patches fragments to 2cm; .5-1% disseminated specular hem. grains throughout; local weathered fractures and narrow bleached zones. 0% Sulphides.
								FELDSPAR PORPHYRY: 100% Recovery Dark green-brown, fine to medium grained; local fragmental sections, fragments are dark brown, to 8cm; feldspar grains and some of the matrix is altered to chl.; trace hairline qtz-cc veins. 0% Sulphides.

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				43.65	47.30	1b		FELDSPAR PORPHYRY: 97% Recovery Pale grey-brown; si-chl-ser altered, bleached, local less altered sections; .5-1% pyrite as .1-1mm veins and irregular patches; trace hairline pale pink qtz-hem veins. .5-1% Sulphides.
				47.30	50.30	1b		FELDSPAR PORPHYRY: 100% Recovery Medium to pale green-brown-pink, chl-K +/- si altered; 1-5mm feldspar phenos predominantly altered to chl., local alterations? or flow? banding; trace disseminated pyrite. Structure: Banding, 060 degrees Trace Sulphides.
50.30	52.70	6		50.30	52.70	6		QUARTZ BRECCIA VEIN: 96% Recovery Grey-green, angular grey, white, purple, green aphanitic and banded qtz fragments to 5cm; 10-15% very fine to coarse grained pyrite, 2-3% very fine to coarse grained cpy. Structure: Contact 50.30/70 deg, 52.70/60 deg. 15-20% Sulphides.
52.70	54.25	1		52.70	54.25	1c		FELDSPAR PORPHYRY: 95% Recovery Medium to dark green-grey; dark green chl

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
54.25	56.45	6		54.25	56.45	6		+/- ser altered matrix with local 1-3mm chl altered feldspar phenos; local Qtz-py-hem +/- cpy veins to 1cm wide. Trace Sulphides. QUARTZ BRECCIA VEIN: 100% Recovery As for 50.30-52.70m; 10-15% feldspar fragments. Structure: Contact 54.25/50 deg, 56.45/50 deg. 15% Sulphides. FELDSPAR PORPHYRY: 100% Recovery Pale to medium green-grey matrix with 2-3% dark green chl altered feldspar phenos to 3mm; local hairline to 10cm pale yellow Qtz veins and bx zones; 1-3% Qtz-hem +/- cpy veins to 8cm wide. Structure: Qtz-hem-cpy veins, 60.95-61.05/70 deg, 62.35/80 deg, 62.40/80 deg, 63.80/75 deg, 66.15/30 deg, 69.40/70 deg, 69.85/80 deg, 70.00/70 deg, 70.70/50 deg. FELDSPAR PORPHYRY: 100% Recovery Medium green-grey matrix with 3-5% dark green chl altered feldspar (and hbl?) phenos to 3mm; local hairline to 30cm yellow Qtz veins and breccia zones; trace Qtz-cpy +/- hem veining. Structure:
				56.45	70.75	1c		
56.45	82.30	1		70.75	82.30	1e		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
								Qtz-cpy veins 74.00/70 deg, 82.25/65 deg. END OF HOLE.

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DRILL HOLE NUMBER : NTC-88-26

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
2010	1.50	3.00	1.50	0.07	0.01
2011	3.00	4.50	1.50	0.07	0.01
2012	4.50	6.00	1.50	0.07	0.01
2013	6.00	7.50	1.50	0.07	0.01
2014	7.50	9.00	1.50	0.07	0.01
2015	9.00	10.50	1.50	0.07	0.01
2016	10.50	12.00	1.50	0.07	0.01
2017	12.00	13.50	1.50	0.07	0.01
2018	13.50	15.40	1.90	0.07	0.01
2019	15.40	18.40	3.00	0.07	0.01
2020	18.40	21.40	3.00	0.07	0.01
2021	21.40	24.40	3.00	0.07	0.01
2022	24.40	27.40	3.00	0.07	0.01
2023	27.40	30.40	3.00	0.07	0.01
2024	30.40	33.85	3.45	0.07	0.01
2025	33.85	36.85	3.00	0.07	0.01
2026	36.85	39.85	3.00	0.07	0.01
2027	39.85	41.85	2.00	0.07	0.01
2028	41.85	43.65	1.80	0.07	0.01
2029	43.65	45.65	2.00	0.07	0.01
2030	45.65	47.30	1.65	0.07	0.01
2031	47.30	48.80	1.50	0.07	0.01
2032	48.80	50.30	1.50	0.07	0.01
2033	50.30	52.70	2.40	8.06	1.03
2034	52.70	54.25	1.55	0.14	0.04
2035	54.25	56.45	2.20	4.11	0.93
2036	56.45	57.95	1.50	0.21	0.04
2037	57.95	59.45	1.50	0.07	0.08
2038	59.45	60.95	1.50	0.10	0.03
2039	60.95	62.45	1.50	0.65	0.13
2040	62.45	63.95	1.50	0.11	0.01

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TODD CREEK DRILLING
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DRILL HOLE NUMBER : NTC-88-26

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
2041	63.95	65.45	1.50	0.07	0.04
2042	65.45	66.95	1.50	0.07	0.10
2043	66.95	68.45	1.50	0.07	0.01
2044	68.45	69.95	1.50	0.07	0.02
2045	69.95	70.75	0.80	0.16	0.01
2046	70.75	73.75	3.00	0.07	0.01
2047	73.75	76.75	3.00	0.07	0.02
2048	76.75	79.75	3.00	0.07	0.01
2049	79.75	82.30	2.55	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-27

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		100.00	-65.00
97.00	A	100.00	-62.00

LATITUDE : 10116.000
 DEPARTURE: 9975.000
 ELEVATION: 1139.000
 DIP AT COLLAR: -65.00 DEG
 AZIMUTH : 100.00 DEG
 TOTAL DEPTH : 97.23

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO. : NTC-88-27

DATE LOGGED: 10/07/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	63.40	1		0.00	1.50	OVB		CASED BOULDERS, BROKEN BEDROCK FELDSPAR PORPHYRY: 92% Recovery Pale grey-green, bleached, feldspar phenos locally still distinct; si-ser-chl+/-cc altered; 5.0-8.0m is a pale yellow qtz-cc breccia zone, locally strongly weathered; trace qtz-hem veins; local hairline to 3mm qtz-cc veins. Trace Sulphides.
				1.50	19.50	1b		
				19.50	53.10	1c		
				53.10	54.75	1e		FELDSPAR PORPHYRY: 99% Recovery Medium green-brown; medium grained, pale yellow-green ser-chl altered feldspar phenos to 3mm in a medium to dark brown aphanitic matrix; local fragmental patches fragments to 2cm; .5-1% dissem specular hematite; local weathering along fractures local narrow bleached, ser-si-chl altered zones. Trace Sulphides.
								FELDSPAR PORPHYRY: 99% Recovery Dark green-brown, fine to medium grained with local fragmental sections, fragments are dark brown, to 8cm across; feldspar grains and matrix is chl altered; trace hairline to 5mm qtz-cc veins.

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				54.75	61.35	1b		Trace Sulphides. FELDSPAR PORPHYRY: 98% Recovery Pale grey-brown, bleached si-ser-chl altered with local chl-ser altered sections; feldspar phenos only vaguely visible in bleached sections, .5-1% pyrite as .1-1mm veins and irregular patches; trace qtz-hem veins.
				61.35	63.40	1b		Trace Sulphides. FELDSPAR PORPHYRY: 99% Recovery Medium to pale green-brown-pink, chl-K+/- si altered; 1-5mm feldspar phenos are altered to chl; distinct flow or alteration banding, bands to 2cm are alternating light and dark, si-ser altered or chl altered.
63.40	66.35	6		63.40	66.35	6		Trace Sulphides. QUARTZ BRECCIA VEIN: 100% Recovery Grey-green, angular grey, white, purple, green aphanitic and banded qtz fragments to 5cm, crustiform si-hem-cpy banding around fragments; 10-15% very fine to coarse grained pyrite, 1-3% fine to medium grained cpy. Structure: Banding/55 deg.
66.35	71.10	1		66.35	71.10	1c		FELDSPAR PORPHYRY: 99% Recovery Medium to dark green, locally strongly

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
71.10	71.65	6		71.10	71.65	6		fractured sections with qtz-hem-cpy+/-py veins to 5cm; si-chl altered, chl after feldspar phenos; local pale yellow si breccia zones. .5% Sulphides. QUARTZ BRECCIA: 99% Recovery Pale grey-pink-white qtz matrix and angular fragments. Structure: Contact 71.10/50 deg, 71.65/80 deg. 3-5% Sulphides.
71.65	97.23	1		71.65	82.90	1c		FELDSPAR PORPHYRY: 92% Recovery Pale to medium green-grey matrix with 2-3% dark green chl altered feldspar phenos to 3mm; local hairline to 5cm pale yellow qtz veins and breccia zones, 1% qtz-hem-cpy veining, veins to 3cm. Structure: Qtz-cpy-hem v., 74.10/50 deg, 79.70/55 deg Trace Sulphides.
				82.90	97.23	1c		FELDSPAR PORPHYRY: 96% Recovery Medium green-grey matrix with 3-5% dark green chl altered feldspar phenos to 3mm; local hairline to 30cm yellow qtz veins and breccia zoens; trace qtz-cpy-hem veins to 2cm. Structure: Qtz-cpy v., 94.25/55 deg

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
								Trace Sulphides. END OF HOLE.

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
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DRILL HOLE NUMBER : NTC-88-13

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00			-90.00

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
2050	0.00				
2051	5.00	5.00	5.00		
2052	6.50	6.50	1.50	0.07	0.01
2053	8.00	8.00	1.50	0.07	0.01
2054	9.50	9.50	1.50	0.07	0.01
2055	11.00	11.00	1.50	0.07	0.01
2056	12.50	12.50	1.50	0.07	0.01
2057	14.00	14.00	1.50	0.07	0.01
2058	15.50	15.50	1.50	0.07	0.01
2059	17.00	17.00	1.50	0.07	0.01
2060	18.50	18.50	1.50	0.07	0.01
2061	19.50	19.50	1.00	0.07	0.01
2062	22.50	22.50	3.00	0.07	0.01
2063	25.50	25.50	3.00	0.07	0.01
2064	28.50	28.50	3.00	0.07	0.01
2065	31.50	31.50	3.00	0.07	0.01
2066	34.50	34.50	3.00	0.07	0.01
2067	37.50	37.50	3.00	0.07	0.01
2068	40.50	40.50	3.00	0.07	0.01
2069	43.50	43.50	3.00	0.07	0.01
2070	46.50	46.50	3.00	0.07	0.01
2071	49.50	49.50	3.00	0.07	0.01
2072	52.50	52.50	3.00	0.07	0.01
2073	53.10	53.10	0.60	0.07	0.01
2074	54.75	54.75	1.65	0.07	0.01
2075	56.25	56.25	1.50	0.07	0.01
2076	57.75	57.75	1.50	0.07	0.01
2077	59.25	59.25	1.50	0.07	0.01
2078	60.75	60.75	1.50	0.07	0.01
2079	61.35	61.35	0.60	0.07	0.01
2080	63.40	63.40	2.05	0.07	0.01
		66.35	2.95	0.07	0.03
				6.34	1.05

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-28

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00			-90.00

LATITUDE : 10116.000
 DEPARTURE: 9975.000
 ELEVATION: 1139.000
 DIP AT COLLAR: -90.00 DEG
 AZIMUTH : 999.99 DEG
 TOTAL DEPTH : 155.14

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO. : NTC-88-28

DATE LOGGED: 12/10/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	114.95	1		0.00	1.50	OVB		CASED BOULDERS, BROKEN BEDROCK FELDSPAR PORPHYRY: 98% Recovery Pale grey-green, bleached; si-ser-chl altered; 4.65-10.0m is a qtz-cc bx zone; local strongly weathered fractures; trace qtz-hem veins to 1cm; local hairline to 1cm qtz-cc veins; trace fine grained hem. in less altered sections. Trace Sulphides. FELDSPAR PORPHYRY: 98% Recovery Medium green-brown medium grained, feldspar phenos to 3mm altered to pale yellow-green, feldspar grains show preferred orientation-banding 35-50 degrees to CA parallel to color alteration banding; color alteration banding consists of alternating 1-3cm bands of pale brown qtz-ser altered porphyry and dark green-brown chl altered porphyry. Structure: Banding/35-50 deg. Trace Sulphides. FELDSPAR PORPHYRY: 99% Recovery Pale green-brown, bleached with local ser altered feldspar "ghosts"; si-ser-chl-K altered; color banding 25-30 degrees to CA
				1.50	15.40	1b		
				15.40	96.10	1c		
				96.10	114.95	1b		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
114.95	115.20	6		114.95	115.20	6		bands are 2-5mm wide, brown and green-grey ;1mm to 3cm py-qtz+/-hem-cpy veins throughout, py content increases toward bottom; local pale grey si+/-py veins to 1cm; local fractures with qtz-py filling. Structure: Py-qtz bx 103.70-103.90/20 deg Py-qtz-hem v. 106.35/40 deg Py veins/ 20-40 deg Trace Sulphides. QUARTZ BRECCIA VEIN: 100% Recovery Dark grey, white-grey qtz fragments to 5mm appears to be strongly sheared; 2-3% cpy, 15-20% very fine grained pyrite. Structure: Contact 114.95/30 deg, 115.20/25 deg. 15-20% Sulphides.
115.20	155.14	1		115.20	139.65	1c		FELDSPAR PORPHYRY: 98% Recovery Pale green-grey, bleached, feldspar grains still distinct, chl+/-si-ser altered, feldspar grains altered to pale yellow- green chl-ser; less altered-bleached sections contain 1% dissem hem grains to 1mm; local qtz-cpy+/-hem-py (trace T?) veins to 3cm; locally abundant hairline fractures filled with pale yellow si. Structure: Qtz-cpy v., 119.35/50 deg, 122.15/40 deg, 124.80/40 deg, 131.65/20 deg,

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				139.65	155.14	1e		133.35-133.80/20-55 deg, 137.00/20 deg, 137.05/20 deg Trace Sulphides. FELDSPAR PORPHYRY: 99% Recovery Medium to dark green; ch+/-si-ser altered, feldspar phenos to 3mm altered to dark green chl; local pale green bleached sections; local qtz-hem-cpy veins to 3cm; local yellow-white si+/-cpy veins and/or breccia zones to 3cm. Structure: Qtz-cpy v., 141.70/45 deg, 142.35/30 deg, 148.55/25 deg, 145.25/35 deg, 148.55/20 deg, 152.20/25 deg. Trace Sulphides. END OF HOLE

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DRILL HOLE NUMBER : NTC-88-28

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
2097	1.50	4.50	3.00	0.07	0.01
2098	4.50	6.00	1.50	0.07	0.01
2099	6.00	7.50	1.50	0.08	0.01
2100	7.50	9.00	1.50	0.07	0.01
2101	9.00	10.50	1.50	0.07	0.01
2102	10.50	12.00	1.50	0.07	0.01
2103	12.00	13.50	1.50	0.07	0.01
2104	13.50	15.40	1.90	0.07	0.01
2105	15.40	18.40	3.00	0.07	0.01
2106	18.40	21.40	3.00	0.07	0.01
2107	21.40	24.40	3.00	0.07	0.01
2108	24.40	27.40	3.00	0.07	0.01
2109	27.40	30.40	3.00	0.07	0.01
2110	30.40	33.40	3.00	0.07	0.01
2111	33.40	36.40	3.00	0.07	0.01
2112	36.40	39.40	3.00	0.07	0.01
2113	39.40	42.40	3.00	0.07	0.01
2114	42.40	45.40	3.00	0.07	0.01
2115	45.40	48.40	3.00	0.07	0.01
2116	48.40	51.40	3.00	0.07	0.01
2117	51.40	54.40	3.00	0.07	0.01
2118	54.40	57.40	3.00	0.07	0.01
2119	57.40	60.40	3.00	0.07	0.01
2120	60.40	63.40	3.00	0.07	0.01
2121	63.40	66.40	3.00	0.07	0.01
2122	66.40	69.40	3.00	0.07	0.01
2123	69.40	72.40	3.00	0.07	0.01
2124	72.40	75.40	3.00	0.07	0.01
2125	75.40	78.40	3.00	0.07	0.01
2126	78.40	81.40	3.00	0.07	0.01
2127	81.40	84.40	3.00	0.07	0.01

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DRILL HOLE NUMBER : NTC-88-28

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
2128	84.40	87.40	3.00	0.07	0.01
2129	87.40	90.40	3.00	0.07	0.01
2130	90.40	93.40	3.00	0.07	0.01
2131	93.40	96.10	2.70	0.07	0.01
2132	96.10	97.60	1.50	0.10	0.01
2133	97.60	99.10	1.50	0.07	0.01
2134	99.10	100.60	1.50	0.07	0.01
2135	100.60	102.10	1.50	0.07	0.01
2136	102.10	103.60	1.50	0.07	0.01
2137	103.60	105.10	1.50	0.07	0.01
2138	105.10	106.60	1.50	0.07	0.02
2139	106.60	108.10	1.50	0.24	0.03
2140	108.10	109.60	1.50	0.07	0.01
2141	109.60	111.10	1.50	0.07	0.01
2142	111.10	112.60	1.50	0.10	0.03
2143	112.60	114.10	1.50	0.07	0.01
2144	114.10	114.95	0.85	0.07	0.09
2145	114.95	115.20	0.25	5.97	1.30
2146	115.20	116.70	1.50	0.10	0.01
2147	116.70	118.20	1.50	0.07	0.01
2148	118.20	119.70	1.50	0.07	0.01
2149	119.70	121.10	1.40	0.10	0.01
2150	121.20	122.70	1.50	0.10	0.01
2151	122.70	124.20	1.50	0.07	0.01
2152	124.20	125.70	1.50	0.07	0.01
2153	125.70	127.20	1.50	0.07	0.01
2154	127.20	128.70	1.50	0.07	0.01
2155	128.70	130.20	1.50	0.07	0.01
2156	130.20	131.70	1.50	0.21	0.07
2157	131.70	133.20	1.50	0.07	0.03
2158	133.20	134.70	1.50	0.14	0.06

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DRILL HOLE NUMBER : NTC-88-28

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
2159	134.70	136.20	1.50	0.07	0.01
2160	136.20	137.70	1.50	0.14	0.11
2161	137.70	139.65	1.95	0.07	0.04
2162	139.65	141.15	1.50	0.09	0.01
2163	141.15	142.65	1.50	0.09	0.13
2164	142.65	144.15	1.50	0.07	0.06
2165	144.15	145.65	1.50	0.16	0.08
2166	145.65	147.15	1.50	0.07	0.01
2167	147.15	148.65	1.50	0.17	0.02
2168	148.65	150.15	1.50	0.07	0.01
2169	150.15	151.65	1.50	0.07	0.01
2170	151.65	153.15	1.50	0.07	0.01
2171	153.15	155.14	1.99	0.07	0.02

SURVEY RECORD
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DRILL HOLE NUMBER : NTC-88-29

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		100.00	-45.00
105.00	A	100.00	-42.00

LATITUDE : 10153.000
 DEPARTURE: 9947.000
 ELEVATION: 1143.000
 DIP AT COLLAR: -45.00 DEG
 AZIMUTH : 100.00 DEG
 TOTAL DEPTH : 105.77

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO. : NTC-88-29

DATE LOGGED: 14/07/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	87.55	1		0.00	1.20	OVB		OVERBURDEN
				1.20	71.60	1c		FELDSPAR PORPHYRY: 98% Recovery Medium to pale green-brown, fine to medium grained; darker green sections contain .5 to 1% disseminated hematite grains; feldspar grains are altered to medium to dark green chl; strong Qtz-cc vein zone at 6.70-11.30m; trace Qtz-hem veins; fracture locally strongly weathered; local narrow bleached, si-ser-chl altered zones. Trace Sulphides.
				71.60	83.50	1c		FELDSPAR PORPHYRY: 100% Recovery Pale to medium green-brown; feldspar grains from .5 to 3mm; prominent banding throughout, bands are pale pink-brown to medium brown and pale to medium green and are 1 to 10mm wide; pale sections and bands are si-K-chl-ser altered and locally contain .5-1% disseminated hematite grains; local hairline to 5mm Qtz-cc veins. Structure: Banding/50-70 deg. Trace Sulphides.
				83.50	87.55	1b		FELDSPAR PORPHYRY: 100% Recovery Pale green-brown, feldspar grains to 4mm; si-ser-chl altered; faint banding as for

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
87.55	93.60	6		87.55	93.60	6		71.60-83.50m; .5% pyrite as hairline veins .5% Sulphides. QUARTZ BRECCIA-STOCKWORK ZONE: 100% Recovery Pale yellow-green to medium green; fine grained; si-ser-chl altered; local intense hairline fracturing with si-ser along fractures, approx 10% irregular qtz-hem- cpy veins, hem varies from silver to red; approx 15% qtz-bx veins to 85cm, approx .5-1% cpy. Structure: Qtz-bx vein, 92.75-93.60/50 deg, 87.55-87.60/60 deg. .5-1% Sulphides.
93.60	105.77	1		93.60	105.77	1c		FELDSPAR PORPHYRY: 99% Recovery Medium green-grey-brown matrix with .1-3 mm white to pale green-yellow feldspar grains; weak to moderate chl+/-ser altera- tion; .5-1% dissem specular hem; local chl altered hbl? grains; approx 1% qtz-hem+/- cpy veining; trace py-cpy veins, vein to 2cm; local feldspar grains are pale pink- brown, (K alteration?). Structure: Qtz-hem-cpy veins 93.8/85 deg, 99.0/85 deg 102.15/85 deg. Trace Sulphides. END OF HOLE

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DRILL HOLE NUMBER : NTC-88-29

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
2172	1.23	3.00	1.77	0.07	0.01
2173	3.00	6.00	3.00	0.07	0.01
2174	6.00	9.00	3.00	0.07	0.01
2175	9.00	12.00	3.00	0.07	0.01
2176	12.00	15.00	3.00	0.07	0.01
2177	15.00	18.00	3.00	0.07	0.01
2178	18.00	21.00	3.00	0.07	0.01
2179	21.00	24.00	3.00	0.07	0.01
2180	24.00	27.00	3.00	0.07	0.01
2181	27.00	30.00	3.00	0.07	0.01
2182	30.00	33.00	3.00	0.07	0.01
2183	33.00	36.00	3.00	0.07	0.01
2184	36.00	37.50	1.50	0.07	0.01
2185	37.50	39.00	1.50	0.07	0.01
2186	39.00	40.50	1.50	0.10	0.01
2187	40.50	42.00	1.50	0.07	0.01
2188	42.00	43.50	1.50	0.07	0.01
2189	43.50	45.00	1.50	0.07	0.01
2190	45.00	46.50	1.50	0.07	0.01
2191	46.50	48.00	1.50	0.07	0.01
2192	48.00	49.50	1.50	0.07	0.01
2193	49.50	51.00	1.50	0.07	0.01
2194	51.00	52.50	1.50	0.07	0.01
2195	52.50	54.00	1.50	0.07	0.01
2196	54.00	55.50	1.50	0.07	0.01
2197	55.50	57.00	1.50	0.07	0.01
2198	57.00	58.50	1.50	0.07	0.01
2199	58.50	60.00	1.50	0.07	0.01
2200	60.00	61.50	1.50	0.07	0.01
2201	61.50	63.00	1.50	0.07	0.01
2202	63.00	64.50	1.50	0.07	0.01

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DRILL HOLE NUMBER : NTC-88-29

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
2203	64.50	66.00	1.50	0.07	0.02
2204	66.00	67.50	1.50	0.07	0.01
2205	67.50	69.00	1.50	0.07	0.01
2206	69.00	70.50	1.50	0.07	0.03
2207	70.50	71.60	1.10	0.07	0.01
2208	71.60	73.10	1.50	0.07	0.01
2209	73.10	74.60	1.50	0.07	0.01
2210	74.60	76.10	1.50	0.07	0.01
2211	76.10	77.60	1.50	0.07	0.01
2212	77.60	79.10	1.50	0.07	0.01
2213	79.10	80.60	1.50	0.07	0.01
2214	80.60	82.10	1.50	0.07	0.01
2215	82.10	83.50	1.40	0.07	0.01
2216	83.50	85.00	1.50	0.07	0.01
2217	85.00	86.50	1.50	0.07	0.01
2218	86.50	87.55	1.05	0.07	0.01
2219	87.55	88.60	1.05	0.48	0.01
2220	88.60	89.60	1.00	0.45	0.08
2221	89.60	90.60	1.00	0.86	0.37
2222	90.60	91.60	1.00	1.20	0.05
2223	91.60	92.60	1.00	1.23	0.03
2224	92.60	93.60	1.00	3.50	0.41
2225	93.60	95.10	1.50	0.10	0.03
2226	95.10	96.60	1.50	0.07	0.02
2227	96.60	98.10	1.50	0.07	0.03
2228	98.10	99.60	1.50	0.14	0.03
2229	99.60	101.10	1.50	0.07	0.02
2230	101.10	102.60	1.50	0.07	0.01
2231	102.60	104.10	1.50	0.07	0.02
2232	104.10	105.77	1.67	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-30

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		103.00	-65.00
133.00	A	103.00	-63.00

LATITUDE : 10153.000
 DEPARTURE: 9947.000
 ELEVATION: 1143.000
 DIP AT COLLAR: -65.00 DEG
 AZIMUTH : 103.00 DEG
 TOTAL DEPTH : 133.81

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO. : NTC-88-30

DATE LOGGED: 13/07/88

LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	112.00	1		0.00	1.50	OVB		OVERBURDEN
				1.50	35.55	1c		FELDSPAR PORPHYRY: 96% Recovery As for NTC-88-29, 1.2-71.60m. Trace Sulphides.
				35.55	64.10	1c		FELDSPAR PORPHYRY: 94% Recovery As for NTC-88-29, 71.60-83.50m. Structure: Banding/55-70 deg. Trace Sulphides.
				64.10	68.30	1a		FELDSPAR PORPHYRY: 100% Recovery Light grey-green-pink, medium to coarse grained; pale pink-green-yellow feldspar grains and black hem grains give the section a "salt and pepper" appearance; local 1-4mm pink-brown bands; local bleached si-ser-chl altered sections; .5-1% hem grains to 1mm. Structure: Banding/60 deg Trace Sulphides.
				68.30	95.65	1c		FELDSPAR PORPHYRY: 98% Recovery As for 35.55-64.10m; increased fracturing in bleached sections; trace qtz-cc-py-cpy veins to 2mm. Structure: Banding/55-70 deg. Trace Sulphides.

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				95.65	98.90	1b		FELDSPAR PORPHYRY: 97% Recovery Pale green-brown, bleached; si-ser-chl altered, trace qtz-cc-py-cpy veins to 3mm, local qtz-cc veins to 1cm; feldspar phenos to 3mm are altered to green-pale yellow-green chl-ser. Trace Sulphides.
				98.90	101.15	1c		FELDSPAR PORPHYRY: 98% Recovery As for 68.30-95.65m
				101.15	112.00	1b		FELDSPAR PORPHYRY: 100% Recovery Pale brown-green, bleached; strong si-ser-chl+/-K alteration; 2-3% py as hairline to 3mm veins; local intense hairline fracturing with si+/-ser filling; feldspar phenos are altered to pale green-yellow chl-ser; matrix commonly has a pink-pale brown color (K alteration?); bleaching, fracturing and hem content increases toward the bottom.
112.00	112.85	6		112.00	112.85	6		Structure: Py veins 50-65 deg QUARTZ BRECCIA ZONE: 100% Recovery Two grey intensely brecciated-sheared semi-mylonite veins are separated by intensely si-ser-chl altered porphyry with py and qtz-hem-cpy-py veins; grey color of veins appears to be due to granulated sulphides approx 5% py, .5-1% cpy.

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
112.85	133.81	1		112.85	128.05	1c		Structure: Qtz bx vein, 112.0-112.2/45 deg, 112.5-112.85/55 deg. 5-6% Sulphides. FELDSPAR PORPHYRY: 99% Recovery Medium to dark brown-green matrix with pale to dark green ch+/-ser altered feld- spar phenos; approx 1% yellow-white qtz and qtz breccia veins +/- hem-cpy-py to 4cm; trace pyrite veins to 1mm. Structure: Qtz-hem-cpy v., 119.47/45 deg, 121.93-121.97/40-50 deg, 122.9/65 deg, 127.65/55 deg. Trace Sulphides. FELDSPAR PORPHYRY: 99% Recovery Pale green-brown matrix, locally bleached, feldspar phenos are altered to pale green- yellow chl-ser, matrix is si-chl-ser altered; 1-2% qtz-cpy+/-hem-py veins; .5-1% pyrite as hairline veins. Structure: Qtz-cpy veins, 128.40/60 deg, 129.85/45 deg, 130.45/60 deg, 131.50/55 deg, 132.50/50 deg, 133.15/45 deg, 133.65/35 deg. .5% Sulphides. END OF HOLE.
				128.05	133.81	1b		

ASSAY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

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DRILL HOLE NUMBER : NTC-88-30

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
2233	1.50	3.00	1.50	0.07	0.01
2234	3.00	4.50	1.50	0.07	0.01
2235	4.50	6.00	1.50	0.07	0.03
2236	6.00	7.50	1.50	0.07	0.01
2237	7.50	9.00	1.50	0.07	0.01
2238	9.00	10.50	1.50	0.07	0.01
2239	10.50	12.00	1.50	0.07	0.01
2240	12.00	13.50	1.50	0.07	0.01
2241	13.50	15.00	1.50	0.07	0.01
2242	15.00	16.50	1.50	0.07	0.01
2243	16.50	18.00	1.50	0.07	0.01
2244	18.00	19.50	1.50	0.07	0.01
2245	19.50	21.00	1.50	0.07	0.01
2246	21.00	22.50	1.50	0.07	0.01
2247	22.50	24.00	1.50	0.07	0.01
2248	24.00	25.50	1.50	0.07	0.01
2249	25.50	27.00	1.50	0.07	0.01
2250	27.00	28.50	1.50	0.07	0.01
2276	28.50	30.00	1.50	0.07	0.01
2277	30.00	31.50	1.50	0.07	0.01
2278	31.50	33.00	1.50	0.07	0.01
2279	33.00	34.50	1.50	0.07	0.01
2280	34.50	35.55	1.05	0.07	0.01
2281	35.55	37.00	1.45	0.07	0.01
2282	37.00	38.50	1.50	0.07	0.01
2283	38.50	40.00	1.50	0.07	0.01
2284	40.00	41.50	1.50	0.07	0.01
2285	41.50	43.00	1.50	0.07	0.01
2286	43.00	44.50	1.50	0.07	0.01
2287	44.50	46.00	1.50	0.07	0.01
2288	46.00	47.50	1.50	0.07	0.01

ASSAY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N. T. S. 104 A/04

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DRILL HOLE NUMBER : NTC-88-30

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
2289	47.50	49.00	1.50	0.07	0.01
2290	49.00	50.50	1.50	0.07	0.01
2291	50.50	52.00	1.50	0.07	0.01
2292	52.00	53.50	1.50	0.07	0.01
2293	53.50	55.00	1.50	0.07	0.01
2294	55.00	56.50	1.50	0.07	0.01
2295	56.50	58.00	1.50	0.07	0.01
2296	58.00	59.50	1.50	0.07	0.01
2297	59.50	61.00	1.50	0.07	0.01
2298	61.00	62.50	1.50	0.07	0.01
2299	62.50	64.10	1.60	0.07	0.01
2300	64.10	65.60	1.50	0.07	0.01
2301	65.60	67.10	1.50	0.07	0.01
2302	67.10	68.30	1.20	0.07	0.01
2303	68.30	69.80	1.50	0.07	0.01
2304	69.80	71.30	1.50	0.07	0.01
2305	71.30	72.80	1.50	0.30	0.01
2306	72.80	74.30	1.50	0.07	0.03
2307	74.30	75.80	1.50	0.07	0.03
2308	75.80	77.30	1.50	0.07	0.01
2309	77.30	78.80	1.50	0.07	0.01
2310	78.80	80.30	1.50	0.07	0.01
2311	80.30	81.80	1.50	0.07	0.01
2312	81.80	83.30	1.50	0.07	0.01
2313	83.30	84.80	1.50	0.07	0.01
2314	84.80	86.30	1.50	0.07	0.01
2315	86.30	87.80	1.50	0.07	0.01
2316	87.80	89.30	1.50	0.07	0.01
2317	89.30	90.80	1.50	0.07	0.01
2318	90.80	92.30	1.50	0.07	0.01
2319	92.30	93.80	1.50	0.07	0.01

ASSAY RECORD
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

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DRILL HOLE NUMBER : NTC-88-30

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
2320	93.80	95.65	1.85	0.07	0.01
2321	95.65	97.25	1.60	0.07	0.04
2322	97.25	98.90	1.65	0.07	0.01
2323	98.90	99.90	1.00	0.07	0.07
2324	99.90	101.15	1.25	0.07	0.01
2325	101.15	102.15	1.00	0.07	0.01
2326	102.15	103.15	1.00	0.07	0.15
2327	103.15	104.15	1.00	0.07	0.01
2328	104.15	105.15	1.00	0.07	0.08
2329	105.15	106.15	1.00	0.07	0.04
2330	106.15	107.15	1.00	0.07	0.01
2331	107.15	108.15	1.00	0.07	0.19
2332	108.15	109.15	1.00	0.07	0.12
2333	109.15	110.15	1.00	0.07	0.01
2334	110.15	111.15	1.00	0.07	0.01
2335	111.15	112.00	0.85	0.07	0.01
2336	112.00	112.85	0.85	5.04	0.54
2337	112.85	114.00	1.15	0.07	0.10
2338	114.00	115.50	1.50	0.21	0.02
2339	115.50	117.00	1.50	0.24	0.02
2340	117.00	118.50	1.50	0.07	0.01
2341	118.50	120.00	1.50	0.07	0.01
2342	120.00	121.50	1.50	0.07	0.01
2343	121.50	123.00	1.50	0.31	0.04
2344	123.00	124.50	1.50	0.07	0.01
2345	124.50	126.00	1.50	0.07	0.01
2346	126.00	127.50	1.50	0.07	0.01
2347	127.50	128.05	0.55	0.07	0.01
2348	128.05	129.50	1.45	0.07	0.01
2349	129.50	131.00	1.50	0.07	0.01
2350	131.00	132.50	1.50	0.07	0.01

ASSAY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

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DRILL HOLE NUMBER : NTC-88-30

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
2351	132.50	133.81	1.31	0.07	0.08

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-31

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		100.00	-45.00
109.00	A	100.00	-44.00

LATITUDE : 10200.000
 DEPARTURE: 9967.800
 ELEVATION: 1148.000
 DIP AT COLLAR: -45.00 DEG
 AZIMUTH : 100.00 DEG
 TOTAL DEPTH : 109.42

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO. : NTC-88-31

DATE LOGGED: 26/08/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Intero. No.	From	To	Rock Code	Intero. No.	
0.00	81.45	1		0.00	1.85	OVB		CASING-OVERBURDEN Structure: 3-4 f/m Trace Sulphides.
				1.85	21.00	1c		FELDSPAR PORPHYRY: 98% Recovery Medium to pale green-grey chl-si+/-ser altered matrix with .1-3mm pale white-yellow to dark green anhedral feldspar phenos, feldspar grains are variably ser-chl altered; local sections contain 1% hem (after hb1?) grains to 1mm; local hairline to 2cm Qtz-cc veins; local trace disseminated pyrite in more intensely altered sections; local pale grey-brown Qtz-chl altered porphyry fragments to 5cm; fractures locally strongly weathered.
				21.00	26.35	1		FELDSPAR PORPHYRY: 96% Recovery Pale grey-brown siliceous matrix with 10% .1-5mm white anhedral to subhedral feldspar grains, and 2-3% .1-1mm hem grains (after hb1?); locally the feldspar grains are altered to dark green chl. Structure: 1 f/m Trace Sulphides.
				26.35	34.75	1c		FELDSPAR PORPHYRY: 100% Recovery Medium to dark grey-brown matrix with

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				34.75	39.60	1e		.1-3mm anhedral variably chl altered feldspar phenos; local hairline qtz-cc+/- hem veins; strongly bleached, qtz-chl-ser +/-py altered zone at 32.2-33.2m, trace cop on fractures. Structure: Flowband 34.50/50 deg Trace Sulphides. FELDSPAR PORPHYRY: 100% Recovery As for 21.00-26.35m; feldspar grains pre- dominantly altered to very pale green chl; increased epidote alteration toward the bottom. Structure: 2 f/m Trace Sulphides.
				39.60	44.10	1b		FELDSPAR PORPHYRY: 100% Recovery Bleached, pale grey-green, feldspar grains generally indistinct; qtz-chl-ser-py altered, locally fragmental, fragments also bleached and altered; local pale grey-white sections with 1-2% red hematite grains to 1mm; very fine grained dissem pyrite throughout; local hairline to 2cm qtz-cc+/-chl veins. .5% Sulphides.
				44.10	49.90	1c		FELDSPAR PORPHYRY: 100% Recovery Pale to medium green-brown chl-si+/-ser matrix with pale yellow to green ser-chl altered feldspar grains to 3mm; local

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				49.90	56.50	1b		irreg pale pink-brown to medium brown bands to 1cm; 2-3% hematite grains to 1mm (after hbl?); trace pyrite veins to 2mm. Structure: Banding/55 deg. Trace Sulphides. FELDSPAR PORPHYRY: 89% Recovery Bleached, orange-brown, strongly weathered and fractured; strong cc-ser+/-qtz altered abundant pale yellow cc-qtz veins to 15cm; trace dissem pyrite, local pyrite veins to 1cm. Structure: 8 f/m Qtz-cc-hem v., 50.85-51.00/40 deg Py vein, 56.10/40 deg Trace Sulphides
				56.50	58.10	1c		FELDSPAR PORPHYRY: 100% Recovery As for 34.75-39.60m. Trace Sulphides.
				58.10	59.95	1b		FELDSPAR PORPHYRY: 100% Recovery Bleached, pale grey-green; qtz-chl-ser altered; 3-5% pale green chl patches to 3mm and 1-2% pale yellow ser patches to 2mm throughout; abundant pale yellow hair-line qtz-ser veins; trace very fine grain-ed dissem pyrite; fractures are locally strongly weathered; qtz-porphyry bx patch at 59.30-59.40m. Structure: 5 f/m

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				59.95	64.70	1e		Trace Sulphides. FELDSPAR PORPHYRY: 100% Recovery As for 34.75-39.60m with local bleached, qtz-chl-ser altered sections to 40cm wide as for 58.10-59.95m, bleached sections contain local hairline pyrite veins; ser grains locally have a pale pink color; chl-hem-ser grains commonly have preferred orientation; local fractures strongly weathered. Structure: 5 f/m Banding/60 deg
				64.70	81.45	1b		Trace Sulphides. FELDSPAR PORPHYRY: 100% Recovery As for 58.10-59.95m, local intense ser fracture-veining, hairline to 10mm py+/- cpy veins throughout veining and qtz-ser alteration increasing toward bottom, chl alteration decreasing toward bottom, local hem-qtz-py+/-cpy veins to 3cm; trace silver-grey sulphides at 79.10 m. Structure: 2 f/m Py vein, 50-60 Deg Qtz-hem-py v., 75.40/55 deg.
81.45	82.35	6		81.45	82.35	6		1-2% Sulphides. QUARTZ BRECCIA VEIN: 100% Recovery Pale grey-green; semi-mylonite, qtz-py intensely fractured-ground up, local qtz

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
82.35	109.42	1		82.35	90.45	1b		fragments appear to have been rolled, qtz fragments to 1cm; approx 10% very fine grained pyrite, trace cpy; strong fabric parallel to the contacts. Structure: 3 f/m Contacts, 81.45/70 deg, 82.35/52 deg. 10% Sulphides. FELDSPAR PORPHYRY: 99% Recovery Mottled pale green-brown; strong qtz-ser-chl alteration, matrix is siliceous, pale brown, with intense hairline fracturing filled with pale yellow ser; approx 5-10% medium to pale green chl as irregular fine grained patches and 1-4mm grains (after feldspar?), these chl patches and grains commonly have intergrown ser and/or ser rims; approx 2-3% .1-3cm hem-qtz-py+/-cpy veins, veins are generally irregular stockwork patches, hem occurs as both specular and bright red; local hairline grey qtz veins and irregular silicified patches. Structure: 1 f/m Hem-qtz-py v., 45-70 deg 1% Sulphides. FELDSPAR PORPHYRY: As for 82.35-90.45m; fracturing, ser alteration, veining decreases with depth; trace hem-qtz-py+/-cpy veining; local irregular pink-brown patches
				90.45	109.42	1c		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
								(K-alteration?) within ser-fracture areas; chl alteration increases with depth, unit gradually becomes massive medium green-grey, siliceous, with 3-5% dark green chl grains to 5mm after feldspar and local .1 to 2mm hem grains (after hbl?); local .1-1cm pale yellow qtz veins; local fine grained round chl-ser altered fragments to 3cm. Structure: Hem-qtz-py v., 30-65 deg. Trace Sulphides. END OF HOLE.

ASSAY RECORD
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

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DRILL HOLE NUMBER : NTC-88-31

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
2352	1.85	4.85	3.00	0.07	0.01
2353	4.85	7.85	3.00	0.07	0.01
2354	7.95	10.85	3.00	0.07	0.01
2355	10.85	13.85	3.00	0.07	0.01
2356	13.85	16.85	3.00	0.07	0.01
2357	16.85	19.85	3.00	0.07	0.01
2358	19.85	21.00	1.15	0.07	0.01
2359	21.00	24.00	3.00	0.07	0.01
2360	24.00	26.35	2.35	0.07	0.01
2361	26.35	29.35	3.00	0.07	0.01
2362	29.35	32.20	2.85	0.07	0.01
2363	32.20	33.20	1.00	0.07	0.01
2364	33.20	34.75	1.55	0.07	0.01
2365	34.75	37.75	3.00	0.07	0.01
2366	37.75	39.60	1.85	0.07	0.01
2367	39.60	41.10	1.50	0.07	0.01
2368	41.10	42.60	1.50	0.07	0.01
2369	42.60	44.10	1.50	0.07	0.01
2370	44.10	47.10	3.00	0.07	0.01
2371	47.10	49.90	2.80	0.07	0.01
2372	49.90	51.40	1.50	0.07	0.01
2373	51.40	52.90	1.50	0.07	0.01
2374	52.90	54.40	1.50	0.07	0.01
2375	54.40	56.50	2.10	0.07	0.05
2376	56.50	58.10	1.60	0.07	0.01
2377	58.10	59.95	1.85	0.07	0.01
2378	59.95	61.45	1.50	0.07	0.01
2379	61.45	62.95	1.50	0.07	0.01
2380	62.95	64.70	1.75	0.07	0.01
2381	64.70	66.20	1.50	0.10	0.01
2382	66.20	67.70	1.50	0.07	0.01

ASSAY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

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DRILL HOLE NUMBER : NTC-68-31

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
2383	67.70	69.20	1.50	0.07	0.01
2384	69.20	70.70	1.50	0.07	0.01
2385	70.70	72.20	1.50	0.07	0.01
2386	72.20	73.70	1.50	0.07	0.02
2387	73.70	75.20	1.50	0.07	0.01
2388	75.20	76.70	1.50	0.07	0.02
2389	76.70	78.20	1.50	0.07	0.02
2390	78.20	79.70	1.50	0.07	0.02
2391	79.70	81.45	1.75	2.19	0.34
2392	81.45	82.35	0.90	0.17	0.03
2393	82.35	83.35	1.00	0.24	0.07
2394	83.35	84.35	1.00	0.07	0.02
2395	84.35	85.35	1.00	0.07	0.07
2396	85.35	86.35	1.00	0.10	0.03
2397	86.35	87.35	1.00	0.14	0.02
2398	87.35	88.35	1.00	0.07	0.02
2399	88.35	89.35	1.00	0.07	0.05
2400	89.35	90.45	1.10	0.07	0.01
2401	90.45	92.00	1.55	0.07	0.01
2402	92.00	93.50	1.50	0.07	0.01
2403	93.50	95.00	1.50	0.07	0.01
2404	95.00	96.50	1.50	0.07	0.01
2405	96.50	98.00	1.50	0.10	0.01
2406	98.00	99.50	1.50	0.14	0.01
2407	99.50	101.00	1.50	0.07	0.01
2408	101.00	102.50	1.50	0.07	0.01
2409	102.50	104.00	1.50	0.07	0.01
2410	104.00	105.50	1.50	0.07	0.01
2411	105.50	107.00	1.50	0.07	0.01
2412	107.00	109.42	2.42	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-32

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		100.00	-65.00
127.00	A	100.00	-62.00

LATITUDE : 10200.000
 DEPARTURE: 9967.500
 ELEVATION: 1148.000
 DIP AT COLLAR: -65.00 DEG
 AZIMUTH : 100.00 DEG
 TOTAL DEPTH : 127.44

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-32

DATE LOGGED: 27/08/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	127.44	1		0.00	1.50	OVB		CASING
				1.50	21.40	1c		FELDSPAR PORPHYRY: 97% Recovery As for NTC-88-31, 1.85-21.00m. Structure: 2 f/m Trace Sulphides.
				21.40	24.75	1		FELDSPAR PORPHYRY: 98% Recovery As for NTC-88-31, 21.00-26.35m.
				24.75	42.85	1c		FELDSPAR PORPHYRY: 99% Recovery Medium to dark grey green-brown siliceous matrix with 3-5% pale to dark green chl +/- ser grains and patches after feldspar to 5mm; local irregular hairline to 1cm cc-qtz veins; .5-1% dissem hematite (after hbl?) grains to 1mm. Structure: 4 f/m Qtz-Sulph. veins 36.85/60 deg Shear-gouge zone 34.60/60 deg
				42.85	46.80	1b		FELDSPAR PORPHYRY: 84% Recovery Pale green-grey, moderately siliceous matrix; mottled appearance; feldspar grains to 5mm are altered to pale green-yellow chl-ser; local pale grey siliceous tuff fragments; locally 1% .1-1mm hematite grains; unit is strongly fractured and

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				46.80	70.40	1c		weathered; local hairline to 5mm white to rusty qtz-cc veins; local pale brown siliceous patches to 5mm associated with areas of hematite grains. Structure: 10 f/m Trace Sulphides. FELDSPAR PORPHYRY: 99% Recovery Pale to medium green-brown siliceous matrix with 3-5% 1-5mm anhedral chl+/-ser altered feldspar grains, feldspar-chl grains locally show a preferred orienta- tion, darker sections contain .5-1% dissem hematite grains to 1mm; lighter more bleached sections have increased ser alteration and locally contain fine grain- ed dissem pyrite; local hairline to 5mm white qtz-cc veins; fractures are locally weathered. Structure: 2 f/m Banding 40-45 deg Trace Sulphides. FELDSPAR PORPHYRY: 98% Recovery Pale green-grey, bleached siliceous matrix si-ser+/-chl alteration; 1-5mm feldspar grains are altered to pale to dark green chl and/or ser, in local silicified sections the feldspar grains are indis- tinct; locally abundant hairline fractures filled with pale yellow-white si-ser;
				70.40	107.05	1b		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				107.05	127.44	1c		<p>local white qtz-cc veins to 2cm; trace qtz-hem-py bx veins to 3cm; very fine grained disseminated pyrite throughout, local hairline to 2mm pyrite veins; local fractures are rusty-weathered; increased si-ser alteration, py+/-cpy veining, hem-qtz-cpy veining toward the bottom, cpy was locally observed from 102.85-107.05m; from 103.95-104.75m is a zone of pyrite and bright red hematite bands to 1cm wide, this section contains 1-3mm subround to angular qtz grains in a matrix of pale yellow si-ser, sections appears to be intensely brecciated (semi-mylonite)</p> <p>Structure: 3 f/m Py Veins 35-70 deg Qtz-hem-py bx veins 73.40/50 deg Py-hem bands 103.95-104.75/40-45 deg 1-2% Sulphides</p> <p>FELDSPAR PORPHYRY: 100% Recovery</p> <p>Pale to medium green-grey-brown locally siliceous matrix with locally to 5% dark chl and/or ser grains to 5mm after feldspar; locally to 1% disseminated hematite grains to 1mm; local patches of very fine grained disseminated red hematite; locally abundant pale yellow to pink hairline to 2cm si+/-hem veins, some of these veins are brecciated; local hairline to 5mm white qtz-cc veins. trace qtz-hem+/-py-cpy veins to 1cm.</p>

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
								Structure: 4 f/m Qtz-hem veins 55-60 deg Trace Sulphides. END OF HOLE.

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DRILL HOLE NUMBER : NTC-88-32

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
2413	1.50	4.50	3.00	0.07	0.01
2414	4.50	7.50	3.00	0.07	0.01
2415	7.50	10.50	3.00	0.07	0.01
2416	10.50	13.50	3.00	0.07	0.01
2417	13.50	16.50	3.00	0.07	0.01
2418	16.50	19.50	3.00	0.07	0.01
2419	19.50	21.40	1.90	0.07	0.01
2420	21.40	24.75	3.35	0.07	0.01
2421	24.75	27.75	3.00	0.07	0.01
2422	27.75	30.75	3.00	0.07	0.01
2423	30.75	33.75	3.00	0.07	0.01
2424	33.75	36.75	3.00	0.07	0.01
2425	36.75	39.75	3.00	0.07	0.01
2426	39.75	42.85	3.10	0.07	0.01
2427	42.85	44.85	2.00	0.07	0.01
2428	44.85	46.80	1.95	0.07	0.01
2429	46.80	48.30	1.50	0.07	0.01
2430	48.30	49.80	1.50	0.07	0.01
2431	49.80	51.30	1.50	0.07	0.01
2432	51.30	52.80	1.50	0.07	0.01
2433	52.80	54.30	1.50	0.07	0.01
2434	54.30	55.80	1.50	0.10	0.01
2435	55.80	57.30	1.50	0.07	0.01
2436	57.30	58.80	1.50	0.07	0.01
2437	58.80	60.30	1.50	0.07	0.01
2438	60.30	61.80	1.50	0.07	0.01
2439	61.80	63.30	1.50	0.07	0.01
2440	63.30	64.80	1.50	0.07	0.01
2441	64.80	66.30	1.50	0.07	0.02
2442	66.30	67.80	1.50	0.07	0.01
2443	67.80	69.30	1.50	0.07	0.03

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DRILL HOLE NUMBER : NTC-88-32

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
2444	69.30	70.40	1.10	0.07	0.01
2445	70.40	71.90	1.50	0.07	0.01
2446	71.90	73.40	1.50	0.07	0.01
2447	73.40	74.90	1.50	0.10	0.01
2448	74.90	76.40	1.50	0.07	0.01
2449	76.40	77.90	1.50	0.07	0.01
2450	77.90	79.40	1.50	0.07	0.01
2451	79.40	80.90	1.50	0.07	0.01
2452	80.90	82.40	1.50	0.34	0.01
2453	82.40	83.90	1.50	0.07	0.01
2454	83.90	85.40	1.50	0.07	0.01
2455	85.40	86.90	1.50	0.07	0.01
2456	86.90	88.40	1.50	0.07	0.01
2457	88.40	89.90	1.50	0.07	0.01
2458	89.90	91.40	1.50	0.07	0.01
2459	91.40	92.90	1.50	0.07	0.01
2460	92.90	94.40	1.50	0.07	0.01
2461	94.40	95.90	1.50	0.07	0.01
2462	95.90	97.40	1.50	0.07	0.03
2463	97.40	98.90	1.50	0.07	0.05
2464	98.90	100.40	1.50	0.07	0.03
2465	100.40	101.90	1.50	0.10	0.01
2466	101.90	102.90	1.00	0.07	0.01
2467	102.90	103.90	1.00	0.14	0.08
2468	103.90	104.90	1.00	0.10	0.03
2469	104.90	105.90	1.00	0.75	0.06
2470	105.90	107.05	1.15	0.07	0.04
2471	107.05	108.50	1.45	0.07	0.01
2472	108.50	110.00	1.50	0.07	0.01
2473	110.00	111.50	1.50	0.86	0.04
2474	111.50	113.00	1.50	0.07	0.01

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DRILL HOLE NUMBER : NTC-88-32

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
2475	113.00	116.00	3.00	0.07	0.01
2476	116.00	119.00	3.00	0.07	0.01
2477	119.00	122.00	3.00	0.07	0.01
2478	122.00	125.00	3.00	0.07	0.02
2479	125.00	127.44	2.44	0.07	0.01

SURVEY RECORD
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TODD CREEK DRILLING
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DRILL HOLE NUMBER : NTC-88-33

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		100.00	-45.00
65.00	A	100.00	-43.00

LATITUDE : 10099.500
 DEPARTURE: 9983.500
 ELEVATION: 1137.000
 DIP AT COLLAR: -45.00 DEG
 AZIMUTH : 100.00 DEG
 TOTAL DEPTH : 65.23

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-33

DATE LOGGED: 28/08/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	40.25	1		0.00	1.85	OVB		CASING, OVERBURDEN FELDSPAR PORPHYRY 85% Recovery Pale, light green to buff-light brown, bleached; strong si-ser-cc-chl alteration; abundant irregular pale yellow-brown qtz +/-cc veins and breccia patches; ser occurs as .1-1mm dissem grains throughout the porphyry, chl occurs as very fine dissem grains and local .1-3mm grains after feldspar. Structure: 7 f/m Trace Sulphides
				1.85	7.10	1b		
				7.10	35.50	1c		
				35.50	40.25	1b		FELDSPAR PORPHYRY: 99% Recovery Medium to dark green-brown; feldspar grains to 5mm range from unaltered white to dark green chl altered, local chl altered grains have pale white ser rims; local pale yellow to white qtz-cc veins to 15cm, locally brecciated; hem occurs as .1-1mm dissem specular grains, and local wispy red dissem patches; local rusty yellow cc+/-qtz veins to 3cm; local rusty fractures and weathered sections. Structures: 4 f/m Trace Sulphides.

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
40.25	41.15	6		40.25	41.15	6		99% Recovery Mottled, pale green-pink-brown, chl-si-K altered; feldspar grains to 5mm altered to dark green chl; local bleached pale brown-pink zones to 10cm with hairline red hematite veins and pyrite veins; local fine grained disseminated pyrite, local hairline to 1cm white Qtz-cc veins; bleached zones are locally brecciated, fragments are subangular to 3mm. Structure: 1 f/m Py, hem veins 36.95/50 deg 1% Sulphides. QUARTZ BRECCIA VEIN: 100% Recovery Dark green-grey; fine grained si-py-chl matrix with white, grey, red subround to subangular Qtz fragments to 1cm; pyrite occurs as narrow fine grained bands and .1-3mm disseminated grains, cpy occurs as .1-5mm disseminated grains and patches; 7-8% py, 1-2% cpy; local irregular wisps and patches of bright hematite. Structure: Contacts 40.25/50 deg, 41.15/75 deg. Py bands 60 deg 10% Sulphides.
41.15	65.23	1		41.15	48.10	1c		FELDSPAR PORPHYRY: 100% Recovery Medium green si-chl matrix with 3-5% dark green chl altered feldspar grains to 5mm,

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				48.10	51.10	1c		local pale green-brown bleached sections; local irreg. qtz-hem+/-cpy-py patches and veins to 2cm, hematite is pink to red; cpy and py occur as dissem grains within the qtz-hem veins and the local bleached sections; 3-5% milky yellow-white qtz-cc veins to 3cm, these veins cross cut the qtz-hem veins; trace ser as local .1-1mm dissem grains. Structure: 1-2 f/m Qtz-hem-cpy veins 45.65/65 deg, 45.70/65 deg, 46.50/55 deg, 46.60/60 deg. Trace Sulphides. FELDSPAR PORPHYRY: 95% Recovery As for 41.15-48.10m, 25% qtz-hem-cpy-py- chl veinings, veins to 15cm, veins show crustiform banding around porphyry or qtz fragments, bands consist of white to red qtz, dark green chl; cpy-py occurs as dissem grains within the veins and locally within the porphyry; local yellow-white qtz+/-cc veins to 15cm contain angular qtz-hem vein and porphyry fragments. Structure: 2 f/m Qtz-hem-cpy-py veins 48.8-48.9/70 deg, 49.3-49.4/60 deg .5% Sulphides. FELDSPAR PORPHYRY: 98% recovery Medium to dark green, local green-brown
				51.10	65.23	1c		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
								sections, si-chl matrix with dark green chl altered feldspar grains and local white feldspar grains to 5mm; local green- brown sections contain 1-2% dissemin hem grains (after hbl?) to 1mm; local hairline to 2cm yellow qtz+/-cc veins; local rusty yellow cc+/-qtz veins; trace qtz-hem-cpy- py veins to 5cm; local slightly bleached with trace ser grains and hairline py veins. Structure: Qtz-hem-cpy-py veins, 54.40/55 deg, 53.70/80 deg, 61.85/80 deg. Trace Sulphides. END OF HOLE.

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DRILL HOLE NUMBER : NTC-88-33

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
2480	1.85	3.85	2.00	0.07	0.01
2481	3.85	5.85	2.00	0.07	0.01
2482	5.85	7.10	1.25	0.07	0.01
2483	7.10	10.10	3.00	0.07	0.01
2484	10.10	13.10	3.00	0.07	0.01
2485	13.10	16.10	3.00	0.07	0.01
2486	16.10	19.10	3.00	0.07	0.01
2487	19.10	22.10	3.00	0.07	0.01
2488	22.10	25.10	3.00	0.07	0.01
2489	25.10	28.10	3.00	0.07	0.01
2490	28.10	31.10	3.00	0.07	0.01
2491	31.10	34.10	3.00	0.07	0.01
2492	34.10	35.50	1.40	0.07	0.01
2493	35.50	37.00	1.50	0.07	0.01
2494	37.00	38.50	1.50	0.07	0.01
2495	38.50	40.25	1.75	0.07	0.01
2496	40.25	41.15	0.90	4.59	0.88
2497	41.15	42.65	1.50	0.14	0.04
2498	42.65	44.15	1.50	0.10	0.08
2499	44.15	45.65	1.50	0.17	0.05
2500	45.65	47.15	1.50	0.21	0.03
7776	47.15	48.10	0.95	0.07	0.01
7777	48.10	49.60	1.50	0.58	0.05
7778	49.60	51.10	1.50	0.89	0.09
7779	51.10	52.60	1.50	0.14	0.12
7780	52.60	54.10	1.50	0.07	0.07
7781	54.10	55.60	1.50	0.07	0.01
7782	55.60	57.10	1.50	0.07	0.01
7783	57.10	58.60	1.50	0.07	0.01
7784	58.60	60.10	1.50	0.07	0.01
7785	60.10	61.60	1.50	0.07	0.01

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DRILL HOLE NUMBER : NTC-88-33

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
7786	61.60	63.10	1.50	0.10	0.01
7787	63.10	65.23	2.13	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-34

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		100.00	-65.00
77.00	A	100.00	-61.00

LATITUDE : 10099.500
 DEPARTURE: 9983.500
 ELEVATION: 1137.000
 DIP AT COLLAR: -65.00 DEG
 AZIMUTH : 100.00 DEG
 TOTAL DEPTH : 77.72

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-34

DATE LOGGED: 29/08/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	49.30	1		0.00	3.95	0VB		CASING
				3.95	8.00	1b		FELDSPAR PORPHYRY: 100% Recovery Bleached, pale grey-green, locally strongly weathered to a rusty brown; ser+/-chl altered feldspar grains locally visible in less weathered sections; abundant rusty yellow cc-qtz oreocia veins to 50cm, veins contain angular si-ser+/-chl altered porphyry fragments; gradational lower contact. Structure 2 f/m Trace Sulphides.
				8.00	27.55	1c		FELDSPAR PORPHYRY: 98% Recovery Dark green-brown siliceous matrix with 5-10% variably chl altered feldspar grains to 5mm, feldspar grains are generally altered to pale to dark green chl, local less altered feldspar grains have chl only in the middle of the grain; local hairline to 25cm wide white-yellow qtz/-cc veins; local strongly weathered sections and fractures. Structure: 2 f/m Qtz-porph bx vein 12.90-13.15/15 deg.
				27.55	43.25	1c		FELDSPAR PORPHYRY: 100% Recovery

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				43.25	49.30	1b		As for 8.00-27.55m; approx 15-20% feldspar grains, approx 90% of feldspar grains are altered to pale yellow ser, approx 10% are altered to dark green chl; local hairline pyrite veins with 2-3 cm chl-si alteration rims, trace disseminated pyrite. Trace Sulphides. FELDSPAR PORPHYRY: 100% Recovery Mottled, pale to medium green-brown chl-si +/-Kspar? matrix with 2-3% dark green chl altered feldspar phenos to 5mm; local hairline to 1mm irreg py+/-cpy veins, local fine grained disseminated pyrite; local hairline to 1cm qtz-cc veins. Structure: 2 f/m 1% Sulphides.
49.30	50.90	6		49.30	50.90	6		QUARTZ BRECCIA VEIN: 100% Recovery Dark grey-green very fine grained si-chl-py matrix with 15-20% white, red, grey subround to subangular qtz fragments to 3cm; cpy-py occurs at fine to coarse grains to 5mm, approx 2% cpy; local red py-hem bands to 5mm toward the bottom. Structure: 7 f/m Contact, 49.30/50 deg, 50.90/50 deg. Py-hem bands, 50 deg 15% Sulphides.
50.90	51.85	1		50.90	51.85	1c		FELDSPAR PORPHYRY: 100% Recovery

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
51.85	52.65	6		51.85	52.65	6		Pale green-brown to dark green chl-si matrix with 10% dark green chl altered anhedral feldspar grains to 3mm; local irregular hairline py +/- red hematite veins. Structure: 1 f/m .5% Sulphides. QUARTZ BRECCIA VEIN: 100% Recovery As for 49.30-50.90m; 2-3% cpy, 7-8% py; local crustiform Qtz-chl-hem banding. Structure: 2 f/m Contact, 51.85/35 deg, 52.65/45 deg. 10% Sulphides. FELDSPAR PORPHYRY: 100% Recovery As for 50.90-51.35m; local Qtz-chl-cpy veins to 3cm. Structure: Qtz-chl-cpy veins, 53.20/60 deg, 53.37/55 deg. FELDSPAR PORPHYRY: 99% Recovery Bleached pale green-brown to medium green chl-si+/-Kspar? matrix with 2-5% dark green chl altered anhedral feldspar grains to 5mm, bleached sections contain .5-1% .1 + 1mm pale yellow ser grains; approx 15% Qtz-hem-cpy-chl-py veins to 10cm, veins are locally brecciated and have crustiform banding; 2-3% pale yellow Qtz-
52.65	77.72	1		52.65	53.90	1c		
				53.90	59.45	1c		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				59.45	77.72	1e ???		cc veins to 5cm, locally brecciated. Structure: 2 f/m Qtz-hem-cpy-chl veins, 52.25/40 deg, 55.70/60 deg, 56.10/55 deg, 56.75/60 deg, 57.75-57.85/35 deg, 58.60/65 deg, 59.15-59.25/55 det, 59.40/55 deg. .5-1% Sulphides. FELDSPAR PORPHYRY: 99% Recovery As for 53.90-59.45m; approx 1% qtz-hem-cpy veining, trace hairline py-qtz+/-cpy-hem veins; local strongly weathered sections and fractures, local less altered sections contain 1-2% dissem hematite grains to 1mm matrix gradually becomes darker with depth increased hematite grains with depth; local pale yellow qtz veins to 20cm. Structure: 3 f/m Qtz-cpy veins, 59.95/65 deg, 60.30/65 deg, 62.55/65 deg, 65.75/55 deg, 66.20/55 deg. Yel qtz vein, 71.20-71.40/55 deg. END OF HOLE.

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DRILL HOLE NUMBER : NTC-88-34

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
7788	3.95	6.00	2.05	0.07	0.01
7789	6.00	8.00	2.00	0.07	0.01
7790	8.00	11.00	3.00	0.07	0.01
7791	11.00	14.00	3.00	0.07	0.01
7792	14.00	17.00	3.00	0.07	0.01
7793	17.00	20.00	3.00	0.07	0.01
7794	20.00	23.00	3.00	0.07	0.01
7795	23.00	26.00	3.00	0.07	0.01
7796	26.00	27.55	1.55	0.07	0.01
7797	27.55	30.50	2.95	0.07	0.01
7798	30.50	33.50	3.00	0.07	0.01
7799	33.50	36.50	3.00	0.07	0.01
7800	36.50	39.50	3.00	0.07	0.01
7801	39.50	42.50	3.00	0.07	0.01
7802	42.50	43.25	0.75	0.07	0.01
7803	43.25	44.75	1.50	0.07	0.01
7804	44.75	46.25	1.50	0.07	0.01
7805	46.25	47.75	1.50	0.07	0.01
7806	47.75	49.30	1.55	0.10	0.02
7807	49.30	50.90	1.60	3.63	0.84
7808	50.90	51.85	0.95	0.07	0.02
7809	51.85	52.65	0.80	7.99	1.05
7810	52.65	53.90	1.25	0.86	0.27
7811	53.90	54.90	1.00	0.31	0.08
7812	54.90	55.90	1.00	1.71	0.07
7813	55.90	56.90	1.00	0.55	0.01
7814	56.90	57.90	1.00	1.06	0.11
7815	57.90	58.90	1.00	0.48	0.13
7816	58.90	59.45	0.55	1.61	0.38
7817	59.45	61.00	1.55	0.07	0.03
7818	61.00	62.50	1.50	0.07	0.01

ASSAY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

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DRILL HOLE NUMBER : NTC-88-34

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
7819	62.50	64.00	1.50	0.07	0.01
7820	64.00	65.50	1.50	0.07	0.02
7821	65.50	67.00	1.50	0.10	0.04
7822	67.00	68.50	1.50	0.07	0.01
7823	68.50	70.00	1.50	0.07	0.02
7824	70.00	71.50	1.50	0.51	0.05
7825	71.50	74.50	3.00	0.07	0.01
7826	74.50	77.72	3.22	0.07	0.02

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-35

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00			-90.00
113.00	A		-90.00

LATITUDE : 1099.500
 DEPARTURE: 9983.500
 ELEVATION: 1137.000
 DIP AT COLLAR: -90.00 DEG
 AZIMUTH : 999.99 DEG
 TOTAL DEPTH : 113.39

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-35

DATE LOGGED: 31/08/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	76.00	1		0.00	1.85	QVB		CASING
				1.85	10.50	1b		FELDSPAR PORPHYRY: 98% Recovery Pale green-grey bleached, local rusty brown weathered sections; si-ser-chl alteration; feldspar grains which are only locally distinct, are altered to pale yellow ser; local hairline to 1cm qtz+/-cc veins; trace dissem pyrite. Trace Sulphides.
				10.50	68.25	1c		FELDSPAR PORPHYRY: 98% Recovery Medium green brown siliceous matrix, locally mottled, with 5-10% feldspar grains to 5mm, the feldspar grains are altered to a pale to medium green chl and locally contain dissem pale yellow ser grains to .1mm and locally have ser rims; .5-1% fine grained dissem hematite grains to 1mm; locally abundant white to yellow qtz-cc veins to 60cm; 18.75-22.45m has 50% qtz-cc breccia veins, veins contain angular porphyry fragments to 3cm; contact are very irregular; local strongly weathered sections and fractured throughout, trace hairline pyrite veins. Structure: 3.5 f/m Trace Sulphides.

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				68.25	76.00	1b		FELDSPAR PORPHYRY: 97% Recovery Pale pink-brown-green siliceous matrix, si-K-chl-ser altered, with local pale green to pale yellow chl and/or ser altered feldspar grains to 5mm; 1-2% py as hairline to 3mm irregular veins and dissem grains; local banded qtz-hem-chl-py +/-cpy veins to 1cm; local off-white qtz-cc bx veins to 25cm, veins contain angular porphyry fragments to 3cm; local rusty weathered fractures. Structure: 2.5 f/m Py veins, 20-40 deg Qtz-hem-chl-py veins, 75.90/20 deg. 1-2% Sulphides.
76.00	76.95	6		76.00	76.95	6		QUARTZ BRECCIA VEIN: 100% Recovery Light to dark green-grey, qtz-chl-hem-py-coy matrix and fragments to 4cm; 1-2% cpy as fine grained dissem grains, 3-5% pyrite as very fine grained dissem grains; local very fine grained dissem grains; local fragments show crustiform qtz-chl-hem banding; local rusty weathered fractures. Structure: 6 f/m Contact, 76.0/25 deg, 76.95/70 deg. 4-7% Sulphides.
76.95	79.25	1		76.95	79.25	1c		FELDSPAR PORPHYRY: 98% Recovery Pale green-brown siliceous matrix, si-chl

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
79.25	80.05	6		79.25	80.05	6		+/-K altered, with 2-3% dark green chl altered feldspar grains to 3mm and local .1-1mm ser grains; 25% qtz-chl-hem-cpy-py veins and irregular silicified patches to 15cm, veins commonly have crustiform qtz-chl-hem+/-cpy banding, approx .5% cpy; local rusty weathered fractures. Structure: Qtz-hem-cpy veins, 30-65 deg. 1-2% Sulphides. QUARTZ VEIN: 100% Recovery Pale grey-white-green; upper part of vein has finely banded qtz-chl, lower part of vein is brecciated; cpy-py occur as disseminated grains and patches to 2mm, 1-2% cpy; vein is cut by pale yellow qtz-cc veins to 20cm Structure: 1 f/m Contact, 79.25/40 deg 2-3% Sulphides. FELDSPAR PORPHYRY BRECCIA: 100% Recovery 10-15% dark green chl matrix with .1-5cm pale green si-chl altered angular porphyry fragments, feldspar grains to 3mm are altered to dark green chl; local qtz-hem-chl+/-cpy fragments, veins, silicified patches throughout, approx 10% veining; .1-.2% cpy as disseminated grains; .5-1% disseminated fine grained pyrite. .5-1% Sulphides.
80.05	81.20	1		80.05	81.20	1c		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
81.20	87.70	6		81.20	87.70	6		QUARTZ BRECCIA VEIN: 100% Recovery Pale to dark green-grey with local pink sections; qtz fragments are white-grey-green-pink to 5cm; local qtz-chl+/-cpy crustiform banding, cpy-py occurs as dissem grains and patches to 5mm, approx 1-2% cpy; approx 10% chl-si altered porphyry fragments to 5cm; fractures are rusty and weathered; zone is cut by local irreg yellow-white qtz-cc veins to 30cm, qtz-cc veins locally contain fragments of mineralized veins. Structure: 5 f/m Contact, 81.20/65 deg, 87.70/32 deg. Banding /40 deg. 2-3% Sulphides.
87.70	113.39	1		87.70	113.39	1c		FELDSPAR PORPHYRY: 100% Recovery Pale green-grey siliceous si-chl matrix locally with 2-3% dark green chl grains to 3mm after feldspar and .5-1% very fine grains of pale yellow ser; local hairline to 3cm irregular white qtz-cc veins; local white-grey qtz-cpy veins to 10cm; local qtz-cc-chl veins to 1cm. Structure: 2 f/m Qtz-cpy veins, 88.30/40 deg, 90.10-90.20/30 deg, 98.60-98.70/35 deg, 98.85-99.95/35 deg, 101.30/45 deg, 107.95/30 deg. Trace Sulphides

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DRILL HOLE NUMBER : NTC-88-35

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
7827	1.85	4.85	3.00	0.07	0.01
7828	4.85	7.85	3.00	0.07	0.01
7829	7.85	10.50	2.65	0.07	0.01
7830	10.50	13.50	3.00	0.07	0.01
7831	13.50	16.50	3.00	0.07	0.01
7832	16.50	19.50	3.00	0.07	0.01
7833	19.50	22.50	3.00	0.07	0.01
7834	22.50	25.50	3.00	0.07	0.01
7835	25.50	28.50	3.00	0.07	0.01
7836	28.50	31.50	3.00	0.07	0.01
7837	31.50	34.50	3.00	0.07	0.01
7838	34.50	37.50	3.00	0.07	0.01
7839	37.50	40.50	3.00	0.07	0.01
7840	40.50	43.50	3.00	0.07	0.01
7841	43.50	46.50	3.00	0.07	0.01
7842	46.50	49.50	3.00	0.07	0.01
7843	49.50	52.50	3.00	0.07	0.01
7844	52.50	55.50	3.00	0.07	0.01
7845	55.50	58.50	3.00	0.07	0.01
7846	58.50	61.50	3.00	0.07	0.01
7847	61.50	64.50	3.00	0.07	0.01
7848	64.50	67.50	3.00	0.07	0.01
7849	67.50	68.25	0.75	0.07	0.01
7850	68.25	69.75	1.50	0.07	0.02
7851	69.75	71.25	1.50	0.07	0.03
7852	71.25	72.75	1.50	0.07	0.02
7853	72.75	74.25	1.50	0.07	0.02
7854	74.25	76.00	1.75	0.07	0.04
7855	76.00	76.95	0.95	15.98	0.76
7856	76.95	78.05	1.10	8.47	0.36
7857	78.05	79.25	1.20	0.65	0.19

ASSAY RECORD
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TODD CREEK DRILLING
N.T.S. 104 A/04

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DRILL HOLE NUMBER : NTC-88-35

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
7858	79.25	80.05	0.80	19.58	0.74
7859	80.05	81.20	1.15	2.57	0.07
7860	81.20	82.20	1.00	11.55	0.78
7861	82.20	83.20	1.00	9.46	0.44
7862	83.20	84.20	1.00	10.70	0.35
7863	84.20	85.20	1.00	6.89	0.35
7864	85.20	86.20	1.00	5.73	0.59
7865	86.20	87.20	1.00	10.15	0.56
7866	87.20	87.70	0.50	4.94	0.31
7867	87.70	89.20	1.50	0.10	0.05
7868	89.20	90.70	1.50	0.07	0.03
7869	90.70	92.20	1.50	0.14	0.01
7870	92.20	95.20	3.00	0.07	0.01
7871	95.20	98.20	3.00	0.07	0.01
7872	98.20	99.20	1.00	0.72	0.23
7873	99.20	100.70	1.50	0.07	0.01
7874	100.70	102.20	1.50	0.17	0.03
7875	102.20	105.20	3.00	0.07	0.01
40851	105.20	108.20	3.00	0.38	0.02
40852	108.20	111.20	3.00	0.07	0.01
40853	111.20	113.39	2.19	0.07	0.01

LATITUDE : 10100.000
 DEPARTURE: 9952.000
 ELEVATION: 1131.000
 DIP AT COLLAR: -85.00 DEG
 AZIMUTH : 100.00 DEG
 TOTAL DEPTH : 97.00

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-36

DATE LOGGED: 2/09/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	97.00	1		0.00	1.85	OVB		CASING FELDSPAR PORPHYRY: 96% Recovery Pale grey-green si-chl-ser matrix with .1 to 3mm ser+/-chl altered anhedral feldspar grains, and locally speckled with .1-1mm hem grains; local less altered sections contain fresh white feldspars; locally where chl has replaced feldspar the chl grains have ser rims; the ser grains commonly give the unit a speckled appearance, the unit is locally strongly weathered and fractured; trace Qtz-spec hem veins to 1cm; local pale yellow-white Qtz-cc veins to 25cm; local Qtz-dark green chl veins to 3cm; local narrow sections with medium-dark brown siliceous matrix and 5-10% dark green chl altered feldspar grains to 5mm; local banding of light grey green and brown bands to 3mm; increased chl alteration of feldspar grains and matrix toward bottom. Structure: 4 f/m Color banding /45 deg. Trace Sulphides.
				1.85	72.90	1b		
				72.90	97.00	1c		FELDSPAR PORPHYRY: 98% Recovery Medium grey-brown siliceous matrix with

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
								5-10% pale to dark green anhedral chl grains after feldspar to 5mm; local chl grains have pale yellow ser rims or inclusions; 1-2% disseminated grains to 1mm throughout; locally abundant hairline to 1cm pale yellow qtz-cc veins; local narrow sections as for 1.85-72.90m with trace disseminated pyrite. Structure: 3 f/m Trace Sulphides. HOLE LOST DUE TO STUCK CORE BARREL AT 97.00 METERS.

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-37

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		100.00	-81.00
76.00	A	100.00	-80.00
138.00	A	100.00	-80.00

LATITUDE : 10100.000
 DEPARTURE: 9952.000
 ELEVATION: 1131.000
 DIP AT COLLAR: -81.00 DEG
 AZIMUTH : 100.00 DEG
 TOTAL DEPTH : 145.08

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-37

DATE LOGGED: 5/09/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	112.20	1		0.00	1.52	OVB		OVERBURDEN
				1.52	62.05	1b		FELDSPAR PORPHYRY: 96% Recovery As for NTC-88-36, 1.85-72.90m Structure: 4.5 f/m Qtz-hem v., 7.40/55 deg, 8.65/30 deg Trace Sulphides.
				62.05	64.50	1b		QUARTZ-CALCITE-PORPHYRY BRECCIA: 95% Recovery Pale yellow to pale brown, approx. 60% pale yellow-white Qtz-cc veins to 70cm; porphyry sections are intensely fractured and cut by numerous .1-1cm Qtz-cc veins, porphyry is altered to pale brown si-ser- cc+/-chl, feldspar grains are indistinct; zone of pale yellow-grey fault gouge at 64.25-64.45m. Structure: Fault gouge zone 64.25-64.45/25 deg Qtz-cc vein 62.05/38 deg 0% Sulphides
				64.50	104.65	1c		FELDSPAR PORPHYRY: 98% Recovery Pale to medium brown siliceous matrix with 5-10% .1-5mm anhedral feldspar grains, feldspar grains are variably altered to pale to dark green chl+/-pale yellow ser, local pale brown-green bleached sections

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				104.65	112.20	1b		with hairline pyrite veins; 1-2% dissem hem grains to 1mm throughout except for bleached sections; upper 6m of unit is strongly fractured and cut by numerous hairline to 1cm qtz-cc veins; local fractures are rusty and weathered, local fractures have chl-talc and/or cc coatings matrix becomes increasingly pale green-brown toward bottom. Structure: 4 f/m FELDSPAR PORPHYRY: 98% Recovery Bleached pale green-brown chl-ser+/-si-K matrix with local dissem .1-2mm ser grains and local dark green chl grains to 5mm; locally mottled pink-brown and green-brown sections, K-spar alteration?, these mottled sections locally have a crude banding, hairline to 2mm irregular py-hem +/-cpy veins throughout, veining increases toward bottom; local hairline to 1cm pale yellow qtz-cc veins; 109.30-109.48m is a grey qtz-py-cpy-hem breccia vein with 20% py, 2% cpy. Structure: 3.5 f/m Alteration banding /50 deg Py veins, 45-70 deg, mainly 55 deg Qtz-py-cpy bx v., 109.30-109.48/40 deg 1-2% Sulphides.
112.20	113.45	6		112.20	113.45	6		QUARTZ BRECCIA VEIN: 100% Recovery

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
113.45	116.35	1		113.45	116.35	1c		Pale to dark grey-green fine grained matrix with approx 20% white-grey-red sub-round qtz fragments to 3cm; py-cpy occurs as very fine to 2mm grains dissem throughout, 5% py, 2% cpy; matrix appears to be a mixture of si-chl-py; local si-chl altered porphyry fragments to 1cm, upper contact is strongly fractured. Structure: Contact 113.45/40 deg 5-7% Sulphides FELDSPAR PORPHYRY: 99% Recovery Mottled pale to medium green-grey with local pink-brown patches; matrix consists of si-chl with local porphyry fragments to 5cm; feldspar grains are altered to dark green chl; local irregular silicified patches and qtz-hem+/-cpy veins; local intense hairline fracturing with pale yellow ser-si on fractures; trace to .2% cpy as dissem grains in veins and silicified patches, qtz-cpy-hem bx vein at 115.38-115.44 m. Structure: 3 f/m Qtz-cpy bx v., 115.38-115.44/50 deg .1-.2% Sulphides.
116.35	118.30	6		116.35	118.30	6		QUARTZ VEIN: 100% Recovery White to pale grey qtz with local red-pink patches; vein is locally brecciated and banded, bands consist of white-grey qtz

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
118.30	145.08	1		118.30	145.08	1c		<p>with cpy+/-py; the vein has locally been cut and/or flooded and/or brecciated by pale yellow-white qtz-cc veins; approx 2% cpy as fine to coarse patches, trace to 1% dissem fine grained pyrite; local minor dark green chl in the matrix.</p> <p>Structure: Contact, 116.35/50 deg, 118.30/35 deg. 2-3% Sulphides. FELDSPAR PORPHYRY: 98% Recovery Pale green-grey-brown siliceous matrix with 5-10% chl-ser altered feldspar grains to 3mm; brown coloration (K?) and ser alteration appear to increase with depth to 144.0 m; locally intense hairline fracturing with pale yellow ser on fractures; local hairline to 8cm qtz-cpy +/- py-hem-grey sulph. veins, approx .5-1% qtz-cpy veining; local hairline to 5mm pale yellow qtz-cc veins, local irregular silicified patches +/- cpy-hem; local hairline py veins, increasing in number with depth to 144.0m; fractures are locally rusty and weathered; local .1+1mm hem grains in areas of weaker alteration; 144.0-145.08m matrix becomes darker brown, decreased ser alteration, 1-2% dissem hem grains.</p> <p>Structure: 2.5 f/m Qtz-cpy-py v., 126.50-126.58/30 deg,</p>

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
								132.10/25 deg, 132.55/30 deg, 133.20/35 deg, 133.45/30 deg, 136.06/30 deg, 136.65/20 deg. Trace Sulphides. END OF HOLE.

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DRILL HOLE NUMBER : NTC-88-37

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
40854	1.52	4.50	2.98	0.07	0.01
40855	4.50	7.50	3.00	0.07	0.01
40856	7.50	10.50	3.00	0.96	0.01
40857	10.50	13.50	3.00	0.07	0.01
40858	13.50	16.50	3.00	0.07	0.01
40859	16.50	19.50	3.00	0.07	0.01
40860	19.50	22.50	3.00	0.07	0.01
40861	22.50	25.50	3.00	0.07	0.01
40862	25.50	28.50	3.00	0.07	0.01
40863	28.50	31.50	3.00	0.07	0.01
40864	31.50	34.50	3.00	0.14	0.01
40865	34.50	37.50	3.00	0.07	0.01
40866	37.50	40.50	3.00	0.07	0.01
40867	40.50	43.50	3.00	0.07	0.01
40868	43.50	46.50	3.00	0.17	0.01
40869	46.50	49.50	3.00	0.07	0.01
40870	49.50	52.50	3.00	0.07	0.01
40871	52.50	55.50	3.00	0.07	0.01
40872	55.50	58.50	3.00	0.07	0.01
40873	58.50	61.50	3.00	0.07	0.01
40874	61.50	62.05	0.55	0.07	0.01
40875	62.05	64.50	2.45	0.07	0.01
40876	64.50	67.50	3.00	0.07	0.01
40877	67.50	70.50	3.00	0.07	0.01
40878	70.50	73.50	3.00	0.07	0.01
40879	73.50	76.50	3.00	0.07	0.01
40880	76.50	79.50	3.00	0.07	0.01
40881	79.50	82.50	3.00	0.07	0.01
40882	82.50	85.50	3.00	0.07	0.01
40883	85.50	88.50	3.00	0.07	0.01
40884	88.50	91.50	3.00	0.07	0.01

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DRILL HOLE NUMBER : NTC-88-37

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
40885	91.50	94.50	3.00	0.07	0.01
40886	94.50	97.50	3.00	0.07	0.01
40887	97.50	100.50	3.00	0.07	0.01
40888	100.50	103.50	3.00	0.07	0.01
40889	103.50	104.65	1.15	0.14	0.01
40890	104.65	108.50	3.85	0.07	0.01
40892	108.50	109.30	0.80	0.07	0.01
40893	109.30	109.80	0.50	3.36	0.15
40894	109.80	111.30	1.50	0.10	0.01
40895	111.30	112.20	0.90	0.72	0.09
40896	112.20	113.45	1.25	14.54	0.85
40897	113.45	114.95	1.50	1.65	0.04
40898	114.95	116.35	1.40	1.27	0.05
40899	116.35	118.30	1.95	7.65	0.49
40900	118.30	119.80	1.50	0.10	0.02
40951	119.80	121.30	1.50	0.07	0.01
40952	121.30	122.80	1.50	0.07	0.01
40953	122.80	124.30	1.50	0.07	0.01
40954	124.30	125.80	1.50	0.07	0.03
40955	125.80	127.30	1.50	0.24	0.07
40956	127.30	128.80	1.50	0.07	0.01
40957	128.80	130.30	1.50	0.07	0.01
40958	130.30	131.80	1.50	0.07	0.01
40959	131.80	133.50	1.70	0.41	0.13
40960	133.50	135.00	1.50	0.07	0.02
40961	135.00	136.50	1.50	0.07	0.03
40962	136.50	138.00	1.50	0.07	0.01
40963	138.00	139.50	1.50	0.07	0.02
40964	139.50	141.00	1.50	0.07	0.02
40965	141.00	142.50	1.50	0.07	0.03
40966	142.50	144.00	1.50	0.07	0.02

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NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

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DRILL HOLE NUMBER : NTC-88-37

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
40967	144.00	145.08	1.08	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-38

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		100.00	-85.00
79.30	A	100.00	-85.00
166.00	A	100.00	-85.00

LATITUDE : 10072.000
 DEPARTURE: 9949.000
 ELEVATION: 1132.500
 DIP AT COLLAR: -85.00 DEG
 AZIMUTH : 100.00 DEG
 TOTAL DEPTH : 166.73

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-38

DATE LOGGED: 8/09/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	151.40	1		0.00	6.70	OVB		OVERBURDEN
				6.70	18.15	1b		FELDSPAR PORPHYRY: 96% Recovery Pale green-grey very fine grained si-chl-ser matrix with 5-10% .1-5mm ser+/-chl altered anhedral feldspar grains, the altered feldspar grains generally blend in with the matrix; local hairline to 12cm grey-white qtz-cc veins and breccia zones, the breccia zones contain angular porphyry fragments to 2cm; trace hairline pyrite veins; trace qtz-cc-cpy veins; fractures are commonly rusty and strongly weathered. Structure: 5 f/m Qtz-cc-cpy v., 11.35/55 deg. Py veins /55 deg Trace Sulphides.
				18.15	25.90	1c		FELDSPAR PORPHYRY: 98% Recovery Pale green-brown at top to pale green-grey siliceous matrix at bottom; distinctly porphyritic section, anhedral feldspar grains to 3mm are ser+/-chl altered at the top grading to unaltered at the bottom, chl altered feldspars are dark green and have ser and/or unaltered rims; local hairline to 1cm qtz-cc veins; trace hairline py veins; trace qtz-py veins to 3mm;

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				25.90	44.10	1b		fractures are locally rusty. Structure: 1 f/m Qtz-cpy v., 22.57/35 deg FELDSPAR PORPHYRY: 92% Recovery As for 6.7-18.15m; increased ser alteration; slight increase in pyrite content. Mud seam 31.20-31.93 m. Structure: 4.5 f/m Py v., 45 deg
				44.10	49.25	1c		FELDSPAR PORPHYRY: 100% Recovery Medium to dark green-brown siliceous matrix with 5-10% variably chl-ser altered feldspar grains to 3mm; chl altered feldspar grains vary from pale to dark green and commonly contain minor ser; local pale bleached sections as for 25.90-44.10m; 1% dissemin hem grains to 2mm (after hbl?); approx 10% pale yellow-white Qtz-cc bx veins to 20cm; trace hairline pyrite veins. Structure: 1.5 f/m Trace Sulphides.
				49.25	59.40	1b		FELDSPAR PORPHYRY: 100% Recovery As for 6.70-18.15m. Structure: 4.5 f/m Trace Sulphides.
				59.40	133.75	1c		FELDSPAR PORPHYRY: 98% Recovery

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				133.75	148.45	1b		<p>Medium to dark brown-green siliceous matrix with approx 10% anhedral chl+/-ser altered feldspar grains to 5mm; the chl varies from pale to dark green; locally the feldspar grains show a preferred orientation or banding; local pale green-brown bleached sections as for 6.7-18.15m; 1-2% .1-1mm black hem grains throughout; local hairline to 30cm qtz-cc veins and breccia veins; increased qtz-cc veining in bottom 3.75m; trace hairline pyrite in bleached sections; fractures are commonly rusty and locally strongly weathered, increasingly fractured toward the bottom; locally the matrix, particularly where banding is evident, has a pink-red-brown color (K alteration?), this coloration is also locally observed in the more bleached -altered sections; trace qtz-hem veining to 1cm.</p> <p>Structure: 6 f/m Banding, 67.65/20 deg, 64.0/50 deg, 75.95-77.50/35 deg, 99.70-101.70/30 deg, 111.70-114.65/50 deg. Py v., /35 deg Trace Sulphides FELDSPAR PORPHYRY: 54% Recovery Pale green-brown to pink-brown siliceous matrix with local irregular pale to dark green chl grains after feldspar to 3mm;</p>

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				148.45	151.40	1c		<p>pink-brown coloration due to K alteration? local hairline to 1cm bright red hem-py veins and fragments; section is intensely fractured with local mud seams, fractures commonly have slickensides; intense pale yellow-white qtz-cc veining throughout. Structure: 30-40 f/m Fractures-Slickensides, 139.30/5 deg, 141.60/5 deg. Trace Sulphides. FELDSPAR PORPHYRY: 80% Recovery Pale to medium green siliceous matrix, locally intensely silicified; intense hairline fracturing-brecciation, fractures filled with pale yellow qtz-cc; local irregular dark green si-chl patches; .1-.2% cpy as dissem fine grains in matrix and local qtz-hem veins to 1cm; increased cpy toward bottom. Structure: 15 f/m .1-.2% Sulphides. ANDESITE: 90% Recovery Pale yellow-green to grey-purple; fine grained, intensely ser+/-chl altered, local .1-1mm chl grains after feldspar; local unaltered purple grey sections contain 3-5% .1-5mm anhedral to subhedral feldspar grains in a fine grained, pre-dominantly feldspar, matrix; toward the</p>
151.40	166.73	2		151.40	158.65	2d		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				158.65	166.73	2		bottom the ser altered sections become increasingly pink-brown in color; trace pyrite veins to 3mm; local qtz-cc veins to 5mm. Structure: Alteration Contacts /30 deg. ANDESITE: 99% Recovery Medium to dark grey-purple becoming increasingly red-purple toward bottom; 3-5% anhedral to subhedral white feldspar grains to 3mm in a fine grained matrix of feldspar and hornblende, local red coloration is due to fine grained hematite; locally abundant irregular qtz-cc patches and veins to 1cm; cc locally occurs as infilling in the matrix. Structure: 3 f/m END OF HOLE

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DRILL HOLE NUMBER : NTC-88-38

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
40968	6.70	9.70	3.00	0.07	0.01
40969	9.70	12.70	3.00	0.07	0.01
40970	12.70	15.70	3.00	0.07	0.01
40971	15.70	18.15	2.45	0.07	0.01
40972	18.15	21.15	3.00	0.07	0.01
40973	21.15	24.15	3.00	0.07	0.01
40974	24.15	25.90	1.75	0.07	0.01
40975	25.90	28.90	3.00	0.07	0.01
40976	28.90	31.90	3.00	0.07	0.01
40977	31.90	34.90	3.00	0.07	0.01
40978	34.90	37.90	3.00	0.07	0.01
40979	37.90	40.90	3.00	0.07	0.01
40980	40.90	44.10	3.20	0.07	0.01
40981	44.10	47.10	3.00	0.07	0.01
40982	47.10	49.25	2.15	0.07	0.01
40983	49.25	52.25	3.00	0.65	0.01
40984	52.25	55.25	3.00	0.07	0.01
40985	55.25	58.25	3.00	0.07	0.01
40986	58.25	59.40	1.15	0.07	0.01
40987	59.40	62.40	3.00	0.07	0.01
40988	62.40	65.40	3.00	0.07	0.01
40989	65.40	68.40	3.00	0.07	0.01
40990	68.40	71.40	3.00	0.07	0.01
40991	71.40	74.40	3.00	0.10	0.01
40992	74.40	77.40	3.00	0.07	0.01
40993	77.40	80.40	3.00	0.07	0.01
40994	80.40	83.40	3.00	0.07	0.01
40995	83.40	86.40	3.00	0.07	0.01
40996	86.40	89.40	3.00	0.07	0.01
40997	89.40	92.40	3.00	0.07	0.01
40998	92.40	95.40	3.00	0.07	0.01

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DRILL HOLE NUMBER : NTC-88-38

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
40999	95.40	98.40	3.00	0.07	0.01
41000	98.40	101.40	3.00	0.07	0.01
41001	101.40	104.40	3.00	0.07	0.01
41002	104.40	107.40	3.00	0.07	0.01
41003	107.40	110.40	3.00	0.07	0.01
41004	110.40	113.40	3.00	0.07	0.01
41005	113.40	116.40	3.00	0.07	0.01
41006	116.40	119.40	3.00	0.07	0.01
41007	119.40	122.40	3.00	0.07	0.01
41008	122.40	125.40	3.00	0.07	0.01
41009	125.40	128.40	3.00	0.07	0.01
41010	128.40	131.40	3.00	0.07	0.01
41011	131.40	134.75	3.35	0.07	0.01
41012	134.75	136.00	1.25	0.07	0.01
41013	136.00	137.50	1.50	0.07	0.01
41014	137.50	139.00	1.50	0.07	0.01
41015	139.00	140.50	1.50	0.24	0.03
41016	140.50	142.00	1.50	0.10	0.01
41017	142.00	143.50	1.50	0.34	0.01
41018	143.50	145.00	1.50	0.07	0.01
41019	145.00	146.50	1.50	0.07	0.01
41020	146.50	148.00	1.50	0.07	0.01
41021	148.00	148.45	0.45	0.48	0.01
41022	148.45	150.00	1.55	0.14	0.05
41023	150.00	151.40	1.40	2.02	0.20
41024	151.40	152.90	1.50	0.07	0.02
41025	152.90	154.40	1.50	0.07	0.01
41026	154.40	155.90	1.50	0.07	0.01
41027	155.90	157.40	1.50	0.07	0.02
41028	157.40	158.65	1.25	0.07	0.01
41029	158.65	161.65	3.00	0.07	0.01

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DRILL HOLE NUMBER : NTC-88-38

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
41030	161.65	164.65	3.00	0.07	0.01
41031	164.65	166.73	2.08	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
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DRILL HOLE NUMBER : NTC-88-39

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		100.00	-65.00
61.00	A	100.00	-64.00
129.00	A	100.00	-64.00

LATITUDE : 1044.000
 DEPARTURE: 9950.000
 ELEVATION: 1136.000
 DIP AT COLLAR: -65.00 DEG
 AZIMUTH : 100.00 DEG
 TOTAL DEPTH : 129.54

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO. : NTC-88-39

DATE LOGGED: 9/09/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	102.45	1		0.00	0.60	OVB		CASING FELDSPAR PORPHYRY: 90% Recovery Pale to medium green brown si-chl matrix with 2-3% dark green chl grains to 5mm after feldspar, minor pale yellow ser along grain boundaries and as dissem grains to 1mm; the browner parts of the matrix are generally more siliceous; trace hairline pyrite and/or hem veins; local hairline to 4cm qtz-cc veins. Structure: 3 f/m Trace Sulphides.
				0.60	5.00	1b		
				5.00	23.10	1c		FELDSPAR PORPHYRY: 97% Recovery Medium-dark green-brown siliceous matrix with local narrow sections as for 0.6-5.0; 5-10% anhedral chl-ser altered feldspar grains to 5mm, chl altered grains commonly have ser and/or fresh feldspar rims; 1-2% dissem hem (after hbl?) grains to 2mm throughout except bleached sections; bleached sections as for 0.6-5.0m, local contain trace dissem py+/-cpy and vein py; local hairline to 4cm qtz-cc +/- breccia veins; local fractures are rusty and weathered. Structure: 3 f/m

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				23.10	26.30	1b		Trace Sulphides. FELDSPAR PORPHYRY: As for 0.6-5.0m; slightly more py-hem veins. Structure: 7 f/m
				26.30	58.15	1c		Trace Sulphides. FELDSPAR PORPHYRY: 97% Recovery As for 5.0-23.10m; local very fine grained medium grey siliceous tuff? fragments toward bottom of section, fragments locally appear to be stretch. Structure: 5 f/m
				58.15	95.80	1c		Trace Sulphides. FELDSPAR PORPHYRY: 98% Recovery Mottled pale to medium brown-green siliceous matrix with 5-10% pale to dark green anhedral chl altered feldspar grains to 5mm; local 2 to 50cm wide sections are bleached to pale green-brown si-chl+ser-K, these sections commonly contain hairline to 5cm py+/-cpy and/or hem veins and have abundant hairline fractures, width and number of bleached sections increases toward bottom; local hairline to 30cm qtz-cc veins; fractures are commonly rusty and weathered; 1-2% .1-1mm hem grains throughout except bleached sections; locally the chl grains show a weak preferred orientation.

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				95.80	102.45	1b		Structure: 4 f/m Py-hem veins, 50-70 deg. Qtz-hem-cpy v., 85.85/35 deg. Trace Sulphides. FELDSPAR PORPHYRY: 100% Recovery Bleached pale pink-brown-green si-K matrix with 2-3% dark green chl and pale yellow ser altered feldspar grains, ser-K alteration increases toward bottom; intense hairline fracturing throughout, fractures and breccia areas are filled with pale yellow-pink si-hem +/- ser; abundant hairline to 5cm py-cpy-qtz-hem+-cc veins, local pale pink qtz-hem+/-py-cpy bx veins to 18cm; hem ranges from bright red to specular. Structure: 3 f/m Qtz-hem-py-cpy bx v., 95.85-95.90/60 deg, 97.35-97.40/35 deg, 101.3-101.5/35 deg. Py Veins, 5-60 deg 2-3% Sulphides. QUARTZ BRECCIA VEIN: 95% Recovery Pale yellow-pink-grey si matrix with abundant .1mm to 8cm grey, pink, green angular qtz fragments and local silicified porphyry fragments to 10cm; py-cpy occurs as dissem grains in the fragments and matrix and locally as semi-massive bands to 3cm, 2-3% cpy, 2-3% py.
102.45	103.80	6		102.45	103.80	6		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
103.80	121.10	1		103.80	111.80	1c		Structure: 5 f/m Contact, 102.45/60 deg, 103.8/50 deg. Banding /50 deg 5% Sulphides. FELDSPAR PORPHYRY: 95% Recovery Pale to medium green si-chl matrix with 3-5% dark chl grains to 3mm after feldspar and local .1-1mm pale yellow ser grains; local intense hairline fracturing with pale yellow si+/-ser flooding; local pale pink-brown wisps and irregular patches of K alteration; approx 10% qtz-hem+/-chl-py- cpy veining, veins to 14cm, veins are generally very irregular; local hairline to 10cm wide qtz-qtzbx veins, bx veins locally contain pink qtz fragments. Structure: 3 f/m Qtz-hem-cpy-py v., 104.55-104.70/45 deg, 111.45/45 deg. Qtz Stringers, 35-70 deg 1% Sulphides. FELDSPAR PORPHYRY: 98% Recovery As for 103.8-111.8, less siliceous; 10-15% pale yellow qtz-cc veins and breccia zones locally strongly fractured; increased ser alteration toward bottom, chl grains commonly have ser rims, 0% qtz-hem-cpy veining. Structure: 6 f/m
				111.80	121.10	1c		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
121.10	129.54	2		121.10	127.00	2		Trace Sulphides. ANDESITE: 95% Recovery Mottled green-grey, fine grained; top 1.5m is mottled pale brown-green, chl-K-ser altered breccia, white qtz and pale green-brown volcanic fragments to 3cm; rest of section is massive, fine grained, with local maroon andesite fragments to 20cm; locally 2-3% .1-3mm anhedral white feldspar grains; very fine grained chl altered hbl lathes throughout; local irregular fine grained dark green chl patches, local hairline to 1cm qtz-cc veins; appears to be a normal contact with the porphyry unit above. Structure: 3.5 f/m Trace Sulphides. ANDESITE: 100% Recovery Maroon, fine to medium grained, local irregular wispy, red hem patches, 2-3% hbl-feldspar grains to 3mm, hbl grains are altered to dark green chl; local fine grained, medium green subround andesite fragments to 5cm, local hairline to 2mm qtz-cc veins; fractures have dark green chl coatings and are locally rusty. 0% Sulphides. END OF HOLE.
				127.00	129.54	2		

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SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
41032	0.60	3.60	3.00	0.07	0.01
41033	3.60	5.00	1.40	0.07	0.01
41034	5.00	8.00	3.00	0.07	0.01
41035	8.00	11.00	3.00	0.07	0.01
41036	11.00	14.00	3.00	0.07	0.01
41037	14.00	17.00	3.00	0.07	0.01
41038	17.00	20.00	3.00	0.07	0.01
41039	20.00	23.10	3.10	0.07	0.01
41040	23.10	26.30	3.20	0.07	0.01
41041	26.30	29.30	3.00	0.07	0.01
41042	29.30	32.30	3.00	0.07	0.01
41043	32.30	35.30	3.00	0.07	0.01
41044	35.30	38.30	3.00	0.07	0.01
41045	38.30	41.30	3.00	0.07	0.01
41046	41.30	44.30	3.00	0.07	0.01
41047	44.30	47.30	3.00	0.07	0.01
41048	47.30	50.30	3.00	0.07	0.01
41049	50.30	53.30	3.00	0.07	0.01
41050	53.30	56.30	3.00	0.07	0.01
41051	56.30	58.15	1.85	0.07	0.01
41052	58.15	61.15	3.00	0.07	0.01
41053	61.15	64.15	3.00	0.07	0.01
41054	64.15	67.15	3.00	0.07	0.01
41055	67.15	70.15	3.00	0.07	0.01
41056	70.15	73.15	3.00	0.07	0.01
41057	73.15	76.15	3.00	0.07	0.01
41058	76.15	79.15	3.00	0.07	0.01
41059	79.15	82.15	3.00	0.07	0.01
41060	82.15	85.15	3.00	0.07	0.01
41061	85.15	88.15	3.00	0.14	0.01
41062	88.15	91.15	3.00	0.07	0.01

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NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
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DRILL HOLE NUMBER : NTC-88-39

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
41063	91.15	94.15	3.00	0.07	0.01
41064	94.15	95.80	1.65	0.07	0.01
41065	95.80	96.80	1.00	0.14	0.09
41066	96.80	97.80	1.00	0.24	0.10
41067	97.80	98.80	1.00	0.31	0.22
41068	98.80	99.80	1.00	0.07	0.02
41069	99.80	100.80	1.00	0.07	0.01
41070	100.80	101.80	1.00	0.27	0.01
41071	101.80	102.45	0.65	0.10	0.04
41072	102.45	103.80	1.35	5.62	0.67
41073	103.80	105.30	1.50	0.41	0.12
41074	105.30	106.80	1.50	0.14	0.07
41075	106.80	108.30	1.50	0.21	0.06
42901	108.30	109.80	1.50	0.10	0.04
42902	109.80	111.80	2.00	0.17	0.01
42903	111.80	114.80	3.00	0.07	0.01
42904	114.80	117.80	3.00	0.07	0.01
42905	117.80	121.10	3.30	0.07	0.01
42906	121.10	124.10	3.00	0.07	0.01
42907	124.10	127.00	2.90	0.07	0.01
42908	127.00	129.54	2.54	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD.
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-20

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		90.00	-45.00
109.00	A	90.00	-42.00

LATITUDE : 10010.000
 DEPARTURE: 10030.000
 ELEVATION: 997.000
 DIP AT COLLAR: -45.00 DEG
 AZIMUTH : 90.00 DEG
 TOTAL DEPTH : 109.73

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD.
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-20

DATE LOGGED: 24/06/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	109.73	2		0.00	11.30	5		ANDESITE: 82% Recovery Dark green; massive flows with local fragmental sections; very fine grained, magnetic, dyke? Trace Sulphides
				11.30	20.70	2FL		ANDESITE: 99% Recovery Medium-dark green; very fine-fine grained; massive flows with local fragmental sections; 2-3% fine grained dissem py, local irreg qtz-cc patches; chl altered. 2-3 % Sulphides.
				20.70	32.15	2FL		ANDESITE: 99% Recovery Dark green, fine grained, chl altered; 1-2% py as dissem grains and irreg patches 1-2% Sulphides.
				32.15	33.75	2FL		ANDESITE: 99% Recovery Dark green; very fine grained, trace qtz-hem veins. Trace Sulphides.
				33.75	63.95	2FL		ANDESITE: 99% Recovery As for 20.70-32.15m, local pale green sections with bright red dissem hem grains 2-3% sulphides.

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				63.95	66.15	2FL		ANDESITE: 100% Recovery Dark green, fine-medium grained; chl altered, fine grained disseminated py; local qtz andesite-cpy-py bx veins and zones to 55cm Lower Contact: 66.15/65 deg. 1-2% Sulphides.
				66.15	98.05	2FL		ANDESITE: 100% Recovery As for 20.70-32.15m; 3-5% qtz-cc+/-cpy-py veining; veins locally have crustiform textures. Qtz-cc-and-cpy veins: 72.30/55 deg; 72.50/60 deg; 74.80-75.05/60 deg; 74.35/60 deg; 75.95/30 deg; 78.55/40 deg; 78.70/40 deg; 82.10/40 deg.
				98.05	99.25	2TUFF		ANDESITE CRYSTAL TUFF: 99% Recovery Pale green; fine-medium grained; pyrox-hbl grains altered to chl; felds grains altered to ser; local qtz-hem patches with grey rims, vesicle fillings?; trace py assoc. with qtz-hem patches. Contact: 98.05/75 deg. Trace Sulphides.
				99.25	109.73	2FLBC		ANDESITE BRECCIA: 100% Recovery Medium-pale green, medium grained; flow breccia, frags to 10cm; matrix is chl-ser altered; frags are dark green-grey. Trace sulphides.

ASSAY RECORD
NORANDA EXPLORATION CO. LTD.
TODD CREEK DRILLING
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DRILL HOLE NUMBER : NTC-88-20

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
37113	11.30	14.30	3.00	0.07	0.01
37114	14.30	17.30	3.00	0.07	0.01
37115	17.30	20.70	3.40	0.07	0.01
37116	20.70	23.70	3.00	0.40	0.02
37117	23.70	26.70	3.00	0.07	0.01
37118	26.70	29.70	3.00	0.07	0.01
37119	29.70	32.15	2.45	0.07	0.01
37120	32.15	33.75	1.60	0.07	0.01
37121	33.75	36.75	3.00	0.07	0.01
37122	36.75	39.75	3.00	0.07	0.01
37123	39.75	42.75	3.00	0.07	0.01
37124	42.75	45.75	3.00	0.07	0.01
37125	45.75	48.75	3.00	0.14	0.04
37126	48.75	51.75	3.00	0.07	0.01
37127	51.75	54.75	3.00	0.07	0.02
37128	54.75	57.75	3.00	0.11	0.01
37129	57.75	60.75	3.00	0.07	0.01
37130	60.75	63.95	3.20	0.07	0.01
37131	63.95	64.95	1.00	0.18	0.04
37132	64.95	66.15	1.20	1.35	0.21
37133	66.15	67.65	1.50	0.07	0.01
37134	67.65	69.15	1.50	0.07	0.01
37135	69.15	70.65	1.50	0.07	0.01
37136	70.65	72.15	1.50	0.07	0.01
37137	72.15	73.65	1.50	0.33	0.13
37138	73.65	75.15	1.50	0.89	0.15
37139	75.15	76.65	1.50	0.07	0.01
37140	76.65	78.15	1.50	0.26	0.01
37141	78.15	79.65	1.50	1.13	0.11
37142	79.65	81.15	1.50	0.13	0.01
37143	81.15	82.65	1.50	0.10	0.03

ASSAY RECORD
NORANDA EXPLORATION CO. LTD.
TODD CREEK DRILLING
N.T.S. 104 A/04

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DRILL HOLE NUMBER : NTC-88-20

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
37144	82.65	85.65	3.00	0.10	0.01
37145	85.65	88.65	3.00	0.07	0.01
37146	88.65	91.65	3.00	0.07	0.01
37147	91.65	94.65	3.00	0.07	0.01
37148	94.65	98.05	3.40	0.07	0.02
37149	98.05	99.25	1.20	0.07	0.01
37150	99.25	102.25	3.00	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD.
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-21

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		90.00	-65.00
133.50	A	90.00	-63.00

LATITUDE : 10010.000
 DEPARTURE: 10030.000
 ELEVATION: 997.000
 DIP AT COLLAR: -65.00 DEG
 AZIMUTH : 90.00 DEG
 TOTAL DEPTH : 134.11

D I A M O N D D R I L L L O G
 NORANDA EXPLORATION CO. LTD.
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-21

DATE LOGGED: 24/06/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	7.50	5		0.00	7.50	5		ANDESITE: 96% Recovery Dark green; very fine grained massive flows; magnetic, possibly a dyke.
7.50	134.11	2		7.50	46.05	2		ANDESITE: 99% Recovery Medium to dark green, fine to medium grained; local fragmental sections; local qtz-cc veins to 1cm; trace hem veins to .5 mm, very fine grained dissem py throughout; local irreg qtz-cc patches. Flow Contact: 12.90/40 deg 1% Sulphides.
				46.05	51.35	2PORPH		ANDESITE: 100% Recovery Pale grey-green; fine to medium grained; chl-ser altered; locally fragmental; local irreg qtz-cc+/-py patches; dissem fine grained py throughout. 2-3% Sulphides.
				51.35	61.85	2		ANDESITE: 100% Recovery As for 7.50-46.05m, local hbl-porphyry sections; trace qtz-hem veins. 1-2% Sulphides.
				61.85	70.90	2FLBC		ANDESITE BRECCIA: 100% Recovery Flow breccia, pale green-grey; ser-chl-py

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				70.90	80.50	2		altered; 2-3% disseminated py; frags to 10cm; local hairline to 5mm Qtz-cc veinlets and irreg patches; increased py toward bottom. 3-5% sulphides.
								ANDESITE: 97% Recovery Dark green; fine grained, chl-py altered; 3-5% disseminated py as fine grains and irreg patches; local irreg Qtz-cc+/-hem veins and patches. Lower Contact: 80.50/15 deg 3-5% Sulphides.
				80.50	84.85	2FLBC		ANDESITE BRECCIA: 97% Recovery Dark green, fine to medium grained, flow breccia; chl-ser altered; angular frags to 4 cm; fine grained disseminated py throughout. 2-3% Sulphides.
				84.85	86.85	2		ANDESITE: 99% Recovery As for 70.90-80.50m, 3-5% Qtz-hem-py+/-cpy veining. Veins very irreg.
				86.85	101.45	2		ANDESITE: 98% Recovery As for 70.90-80.50m; trace py-cpy veining. Structure: Qtz-cc-py-cpy veins 99.30/40 deg 1-2% Sulphides
				101.45	103.30	2FLBC		ANDESITE FLOW BRECCIA: 99% Recovery Pale green-grey, chl-ser altered; frags to

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				103.30	134.11	2		2 cm; heterolithic volc. frags; 1-2% fine grained dissem. pyrite. 1-2% Sulphides. ANDESITE: 100% Recovery As for 7.50-46.05m. 1-2% Sulphides END OF HOLE.

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DRILL HOLE NUMBER : NTC-88-21

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
37151	7.50	10.50	3.00	0.07	0.01
37152	10.50	13.50	3.00	0.07	0.01
37153	13.50	16.50	3.00	0.07	0.01
37154	16.50	19.50	3.00	0.07	0.01
37155	19.50	22.50	3.00	0.07	0.01
37156	22.50	25.50	3.00	0.07	0.01
37157	25.50	28.50	3.00	0.07	0.01
37158	28.50	31.50	3.00	0.07	0.01
37159	31.50	34.50	3.00	0.07	0.01
37160	34.50	37.50	3.00	0.07	0.01
37161	37.50	40.50	3.00	0.07	0.01
37162	40.50	43.50	3.00	0.07	0.01
37163	43.50	46.05	2.55	0.07	0.01
37164	46.05	49.05	3.00	0.07	0.01
37165	49.05	51.35	2.30	0.11	0.01
37166	51.35	54.35	3.00	0.07	0.01
37167	54.35	57.35	3.00	0.07	0.01
37168	57.35	60.35	3.00	0.07	0.01
37169	60.35	61.85	1.50	0.07	0.02
37170	61.85	64.85	3.00	0.07	0.01
37171	64.85	67.85	3.00	0.07	0.01
37172	67.85	69.90	2.05	0.07	0.01
37173	69.90	70.90	1.00	0.07	0.01
37174	70.90	73.90	3.00	0.49	0.01
37175	73.90	76.90	3.00	0.17	0.01
37176	76.90	80.50	3.60	0.07	0.01
37177	80.50	84.85	4.35	0.07	0.01
37178	84.85	86.85	2.00	0.38	0.01
37179	86.85	89.85	3.00	0.07	0.01
37180	89.85	92.85	3.00	0.07	0.01
37181	92.85	95.85	3.00	0.07	0.01

ASSAY RECORD
NORANDA EXPLORATION CO. LTD.
TODD CREEK DRILLING
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DRILL HOLE NUMBER : NTC-88-21

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
37182	95.85	98.85	3.00	0.08	0.01
37183	98.85	99.85	1.00	0.07	0.08
37184	99.85	101.45	1.60	0.07	0.01
37185	101.45	103.30	1.85	0.13	0.01
37186	103.30	106.30	3.00	0.07	0.01
37187	106.30	109.30	3.00	0.13	0.01
37188	109.30	112.30	3.00	0.16	0.01
37189	112.30	115.30	3.00	0.07	0.01
37190	115.30	118.30	3.00	0.07	0.01
37191	118.30	121.30	3.00	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD.
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-22

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		40.00	-45.00
80.00	A	40.00	-45.00

LATITUDE : 10021.000
 DEPARTURE: 9999.500
 ELEVATION: 1005.000
 DIP AT COLLAR: -45.00 DEG
 AZIMUTH : 40.00 DEG
 TOTAL DEPTH : 80.88

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD.
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-22

DATE LOGGED: 25/06/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	29.30	2		0.00	7.65	2		ANDESITE: 46% Recovery Medium green, chl altered; fine grained with local fragmental patches, frags to 5cm, monolithic, 1-2% fine grained disseminated py. 1-2% Sulphides.
				7.65	9.60	2		ANDESITE: 100% Recovery Light green-grey, fine to medium grained, flow banded, 1-2% fine grained disseminated py. Banding/50 deg. 1-2% Sulphides.
				9.60	10.25	2TUFF		ANDESITE TUFF: 100% Recovery Light grey to green. Banding/45 deg. 1-2% Sulphides.
				10.25	14.04	2		ANDESITE: 100% Recovery Pale grey; fine grained, chl-ser altered; abundant cc-qtz patches throughout, 2-3% fine grained disseminated py. 2-3% Sulphides.
				14.05	29.30	2		ANDESITE: 90% Recovery As for 0.0-7.65m, local hbl porphyry sections (box with 23.25-30.60m spilled)

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
29.30	50.25	3		29.30	41.95	3FLBC		1-2% sulphides. ANDESITE FLOW BRECCIA: 92% Recovery Dark green, fine grained, frags to 3 cm; abund qtz+/-cc-py-cpy veins, patches and fragments throughout; incr. sulphides toward bottom; local qtz-hem-cpy-py patches and bx veins; py-cpy occurs as fine to coarse grained patches throughout, approx 5% cpy, 5-7% py. Structure: Qtz-py veins 29.65-30.00/25 deg Lower Contact: 41.95/40 deg 10-12% Sulphides.
				41.95	48.50	3FLBC		ANDESITE FLOW BRECCIA: 98% Recovery Pale grey-green; fine grained matrix, heterolithic ang. frags to 5 cm, frags are andesite, pale green-pink tuff, chl-ser altered; dissem py throughout, trace cpy as dissem grains and .1-1 mm seams.
				48.50	50.25	3FLBC		1-2% Sulphides. ANDESITE FLOW BRECCIA: 96% Recovery As for 29.30-41.95m; approx 1% cpy, 1-2% py.
50.25	52.95	2		50.25	52.95	2		2-3% Sulphides. ANDESITE: 100% Recovery Medium grey, fine grained, local dark green chl frags to 1 cm, local hairline qtz-cc veins.

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
52.95	78.70	3		52.95	58.15	3FLBC		1-2% Sulphides. ANDESITE FLOW BRECCIA: 100% Recovery As for 41.95-48.50m; 1-2% py, trace cpy.
				58.15	61.15	3FLBC		1-2% Sulphides. ANDESITE FLOW BRECCIA: 96% Recovery As for 29.30-41.95m, .5-1% cpy, 1-2% py Qtz-hem-cpy-py veins 60.65-60.80/50 deg
				61.15	78.70	3FLBC		1-2% Sulphides. ANDESITE FLOW BRECCIA: 98% Recovery As for 41.95-48.50m; local grey qtz frags; matrix locally has pink hem. Qtz-cpy-py veins: 65.40/45 deg
78.70	80.77	5		78.70	80.77	5		1% Sulphides. FELDSPAR PORPHYRY DYKE: 100% Recovery Medium grey, .2-.6 cm feldspar pheno's in a very fine grained matrix; magnetic; weak chl+/-ser alteration. Contact: 78.70m/45 deg Trace Sulphides. END OF HOLE.

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 NORANDA EXPLORATION CO. LTD.
 TODD CREEK DRILLING
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DRILL HOLE NUMBER : NTC-88-22

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
37192	0.00	4.50	4.50	0.07	0.01
37193	4.50	7.65	3.15	0.07	0.01
37194	7.65	9.60	1.95	0.07	0.01
37195	9.60	10.25	0.65	0.07	0.01
37196	10.25	14.05	3.80	0.07	0.01
37197	14.05	17.05	3.00	0.07	0.01
37198	17.05	20.05	3.00	0.07	0.01
37199	20.05	23.05	3.00	0.07	0.01
37200	23.05	30.00	0.70	0.96	0.04
37201	30.00	31.00	1.00	3.46	1.05
37202	31.00	32.00	1.00	1.27	1.30
37203	32.00	33.00	1.00	1.34	0.79
37204	33.00	34.00	1.00	1.82	3.00
37205	34.00	35.00	1.00	0.62	0.34
37206	35.00	36.00	1.00	0.96	1.22
37207	36.00	37.00	1.00	4.18	2.16
37208	37.00	38.00	1.00	12.17	1.69
37209	38.00	39.00	1.00	7.78	1.34
37210	39.00	40.00	1.00	21.33	1.84
37211	40.00	41.00	1.00	16.25	2.17
37212	41.00	41.95	0.95	25.65	3.20
37213	41.95	43.50	1.55	0.93	0.18
37214	43.50	45.00	1.50	0.55	0.11
37215	45.00	46.50	1.50	0.21	0.15
37216	46.50	48.50	2.00	0.21	0.10
37217	48.50	50.25	1.75	1.13	0.69
37218	50.25	52.95	2.70	0.10	0.05
37219	52.95	54.50	1.55	0.24	0.06
37220	54.50	56.00	1.50	0.14	0.02
37221	56.00	57.50	1.50	0.07	0.01
37222	57.50	58.15	0.65	0.24	0.01

ASSAY RECORD
NORANDA EXPLORATION CO. LTD.
TODD CREEK DRILLING
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DRILL HOLE NUMBER : NTC-88-22

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
37223	58.15	59.65	1.50	2.09	0.41
37224	59.65	61.15	1.50	3.46	0.13
37225	61.15	64.15	3.00	0.21	0.02
37226	64.15	65.65	1.50	0.31	0.07
37227	65.65	68.65	3.00	0.07	0.01
37228	68.65	71.65	3.00	0.07	0.01
37229	71.65	74.65	3.00	0.07	0.01
37230	74.65	77.65	3.00	0.07	0.01
37231	77.65	78.70	1.05	0.21	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD.
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-23

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		90.00	-65.00

LATITUDE : 10021.000
 DEPARTURE: 10000.000
 ELEVATION: 1005.000
 DIP AT COLLAR: -65.00 DEG
 AZIMUTH : 90.00 DEG
 TOTAL DEPTH : 124.05

D I A M O N D D R I L L L O G
 NORANDA EXPLORATION CO. LTD.
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-23

DATE LOGGED: 26/06/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	42.15	2		0.00	7.80	2		ANDESITE: 78% Recovery Medium-dark green, fine grained, local hbl grains to 1mm; local homolithic fragments to 3cm; very fine grained dissem. pyrite throughout. 1-2% Sulphides.
				7.80	15.35	2		ANDESITE: 99% Recovery Medium grey; fine grained; ser-chl-cc altered; approx 10% cc as small irreg. patches; 2-3% dissem fine grained pyrite throughout. 2-3% Sulphides.
				15.35	42.15	2		ANDESITE: 100% Recovery Medium green-grey; fine grained, local hbl grains to 1mm; approx 2-3% 1-5mm irreg cc patches; 1-2% dissem fine grained pyrite. 1-2% Sulphides.
42.15	42.65	6		42.15	42.65	6		QUARTZ PYRITE VEIN: 100% Recovery White-light grey; very fine to fine grained pyrite; local chl-ser alteration and fragments. 2-3% Sulphides.
42.65	124.05	2		42.65	124.05	2		ANDESITE: 94% Recovery

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
								Dark green; fine grained, local hbl porphyry sections; local homolithic fragmental sections to 50cm; very fine to fine grained disseminated pyrite throughout; trace cpy-py veins to 3mm, local medium grey sections with 2-3% py, local medium green, very fine grained tuff sections to 15cm. 1-2% Sulphides. END OF HOLE.

ASSAY RECORD
 NORANDA EXPLORATION CO. LTD.
 TODD CREEK DRILLING
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DRILL HOLE NUMBER : NTC-88-23

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
37232	0.00	3.00	3.00	0.07	0.01
37233	3.00	6.00	3.00	0.07	0.01
37274	6.00	7.80	1.80	0.07	0.01
37235	7.80	10.80	3.00	0.07	0.01
37236	10.80	13.80	3.00	0.07	0.01
37237	13.80	15.35	1.55	0.07	0.01
37238	15.35	18.35	3.00	0.07	0.01
37239	18.35	21.35	3.00	0.07	0.01
37240	21.35	24.35	3.00	0.07	0.01
37241	24.35	27.35	3.00	0.07	0.01
37242	27.35	30.35	3.00	0.39	0.01
37243	30.35	33.35	3.00	0.08	0.01
37244	33.35	36.35	3.00	0.07	0.01
37245	36.35	39.35	3.00	0.12	0.01
37246	39.35	42.15	2.80	0.07	0.01
37247	42.15	42.65	0.50	0.07	0.01
37248	42.65	45.65	3.00	0.68	0.01
37249	45.65	48.65	3.00	0.07	0.03
37250	48.65	51.65	3.00	0.07	0.02
37251	51.65	54.65	3.00	0.07	0.01
37252	54.65	57.65	3.00	0.07	0.04
37253	57.65	60.65	3.00	0.07	0.01
37254	60.65	63.65	3.00	0.07	0.01
37255	63.65	66.65	3.00	0.07	0.01
37256	66.65	69.65	3.00	0.07	0.01
37257	69.65	72.65	3.00	0.07	0.07
37258	72.65	75.65	3.00	0.22	0.03
37259	75.65	78.65	3.00	0.07	0.01
37260	78.65	81.65	3.00	0.07	0.01
37261	81.65	84.65	3.00	0.07	0.01
37262	84.65	87.65	3.00	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD.
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-24

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		90.00	-45.00
84.00	A	90.00	-43.00

LATITUDE : 10007.000
 DEPARTURE: 9965.000
 ELEVATION: 1013.000
 DIP AT COLLAR: -45.00 DEG
 AZIMUTH : 90.00 DEG
 TOTAL DEPTH : 84.43

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD.
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-24

DATE LOGGED: 25/06/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	84.43	2		0.00	5.40	2FLBC		ANDESITE FLOW BRECCIA: 97% Recovery Dark green; homolithic andesite fragments and light red andesite fragments to 5cm; 1% cc amygdules; 1% very fine grained dissem pyrite. 1% Sulphides.
				5.40	20.00	2		ANDESITE: 95% Recovery Dark green-grey, fine grained, trace dissem pyrite; 2-3% cc in the matrix and as amygdules. Trace Sulphides.
				20.00	33.75	2		ANDESITE: 97% Recovery Medium grey, chl-ser altered, fine grained 2-3% fine grained dissem pyrite; 3-5% cc as veins, amygdules and dissem; local homolithic and heterolithic fragmental sections; heterolithic sections contain pale grey-green-brown volc. fragments. Structure: Banding/55 deg
				33.75	42.30	2		2-3% Sulphides. ANDESITE: 97% Recovery Dark green, fine grained, chl altered, local hbl porphyry sections, 1-2% fine grained dissem pyrite, local cc+/-qtz

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				42.30	48.30	2FLBC		veins to 1cm. 1-2% Sulphides. ANDESITE FLOW BRECCIA: 94% Recovery As for 0.0-5.40m, 60cm flow breccia at top of section, increased pyrite content and grain size; local Qtz+/-white or pink cc veins to 5cm.
				48.30	58.25	2		2-3% Sulphides. ANDESITE: 95% Recovery As for 5.40-20.00m 1-2% Sulphides
				58.25	63.70	2		ANDESITE: 96% Recovery As for 20.00-33.75m 1-2% Sulphides.
				63.70	84.43	2		ANDESITE: 99% Recovery Dark green; fine grained, chl altered; local .1-2cm cc-Qtz vein; local grey ser-chl-by altered patches as for 20.00-33.75m 2-3% fine grained disseminated pyrite. Structure: Banding/30-45 deg 2-3% Sulphides. END OF HOLE

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NORANDA EXPLORATION CO. LTD.
TODD CREEK DRILLING
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DRILL HOLE NUMBER : NTC-88-24

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
37272	0.00	5.40	5.40	0.07	0.01
37273	20.00	23.00	3.00	0.07	0.01
37274	23.00	26.00	3.00	0.07	0.01
37275	26.00	29.00	3.00	0.07	0.01
37276	29.00	32.00	3.00	0.07	0.01
37277	32.00	33.75	1.75	0.07	0.01
37278	33.75	36.75	3.00	0.07	0.01
37279	36.75	39.75	3.00	0.07	0.01
37280	39.75	42.30	2.55	0.07	0.01
37281	42.30	45.30	3.00	0.12	0.01
37282	45.30	48.30	3.00	0.09	0.01
37283	48.30	51.30	3.00	0.07	0.01
37284	51.30	54.30	3.00	0.09	0.01
37285	54.30	58.25	3.95	0.27	0.03
37286	58.25	61.25	3.00	0.07	0.01
37287	61.25	63.70	2.45	0.07	0.01
37288	63.70	66.70	3.00	0.07	0.01
37289	66.70	69.70	3.00	0.07	0.01
37290	69.70	72.70	3.00	0.07	0.01
37291	72.70	75.70	3.00	0.07	0.01
37292	75.70	78.70	3.00	0.07	0.01
37293	78.70	81.70	3.00	0.07	0.01
37294	81.70	84.43	2.73	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD.
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-25

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		90.00	-65.00
112.50	A	90.00	-63.00

LATITUDE : 10007.000
 DEPARTURE: 9965.000
 ELEVATION: 1013.000
 DIP AT COLLAR: -65.00 DEG
 AZIMUTH : 90.00 DEG
 TOTAL DEPTH : 113.39

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD.
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-25

DATE LOGGED: 25/06/88
 LOGGED BY : RJB

MAJOR			SUBUNIT				DESCRIPTION	
From	To	Rock Code	Interp. No.	From	To	Rock Code		Interp. No.
0.00	100.35	2		0.00	3.05	2FLBC		ANDESITE FLOW BRECCIA: 50% Recovery Dark green, homolithic andesite fragments and light red volcanic fragments to 5cm; 1% cc amygdules, 1% fine grained pyrite. 1% Sulphides.
				3.05	17.15	2		ANDESITE: 95% Recovery Dark green-grey, fine grained, trace disseminated pyrite, 2-3% cc in matrix and amygdules. Trace Sulphides.
				17.15	23.65	2FLBC		ANDESITE FLOW BRECCIA: 98% Recovery Medium grey; fine grained, chl-ser altered 3-4% fine grained disseminated pyrite, heterolithic fragmental sections with pale grey-green-brown volcanic fragments to 5cm. 3-4% Sulphides.
				23.65	46.00	2		ANDESITE: 100% Recovery Medium grey-brown; fine grained, local small fragmental patches as for 17.15-23.65m; 3-5% cc as disseminated grains and irregular patches, ser-chl-cc altered; 3-5% disseminated pyrite. 3-5% Sulphides.
				46.00	56.15	2		ANDESITE:

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
								99% Recovery Medium green-grey; fine grained; 5% 1mm hbl grains, local white and pink cc+/-qtz veins to 3cm, 1-2% fine grained dissem pyrite.
				56.15	62.80	2		1-2% Sulphides. ANDESITE:
								100% Recovery As for 23.65-46.00m
				62.80	79.15	2		2-3% Sulphides. ANDESITE:
								100% Recovery As for 46.00-56.15m.
				79.15	86.10	2		1-2% Sulphides ANDESITE:
								99% Recovery Dark green, fine-medium grained; chl altered; 3-5% dissem anhedral to subhedral pyrite, local dissem grains, patches and seams of cpy-py to 10cm; abundant cc+/-qtz chl veins and patches to 5cm.
								Structure: Py-cpy Bands 84.50-84.60/45 deg
				86.10	93.55	2		3-5% Sulphides. ANDESITE:
								98% Recovery As for 46.00-56.15m
				93.55	100.35	2		1-2% Sulphides. ANDESITE:
								99% Recovery As for 23.65-46.00m

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
100.35	101.05	5		100.35	101.05	5		3-5% Sulphides. DIORITE DYKE: 100% Recovery Light-medium grey, fine grained; feldspar phenos to 2mm; magnetic. Structure: Contact 100.35/35 deg; 101.05/55 deg Trace Sulphides.
101.05	113.39	2		101.05	103.20	2		ANDESITE: 100% Recovery As for 23.65-46.00m 3-5% Recovery
				103.20	113.39	2		ANDESITE: 99% Recovery As for 46.00-56.15m local sections as for 23.65-46.00m 2-3% Sulphides END OF HOLE.

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DRILL HOLE NUMBER : NTC-88-25

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
37295	0.00	3.05	3.05	0.07	0.01
37296	17.15	20.15	3.00	0.07	0.01
37297	20.15	23.65	3.50	0.07	0.01
37298	23.65	26.65	3.00	0.07	0.01
37299	26.65	29.65	3.00	0.07	0.01
37300	29.65	32.65	3.00	0.07	0.01
1976	32.65	35.65	3.00	0.07	0.01
1977	35.65	38.65	3.00	0.07	0.01
1978	38.65	41.65	3.00	0.07	0.01
1979	41.65	44.65	3.00	0.07	0.01
1980	44.65	46.00	1.35	0.07	0.01
1981	46.00	49.00	3.00	0.07	0.01
1982	49.00	52.00	3.00	0.07	0.01
1983	52.00	56.15	4.15	0.07	0.01
1984	56.15	59.15	3.00	0.07	0.01
1985	59.15	62.80	3.65	0.07	0.01
1986	62.80	65.80	3.00	0.07	0.01
1987	65.80	68.80	3.00	0.07	0.01
1988	68.80	71.80	3.00	0.07	0.01
1989	71.80	74.80	3.00	0.07	0.01
1990	74.80	77.80	3.00	0.07	0.01
1991	77.80	79.15	1.35	0.07	0.01
1992	79.15	80.15	1.00	0.07	0.01
1993	80.15	81.15	1.00	0.10	0.01
1994	81.15	82.15	1.00	0.71	0.43
1995	82.15	83.15	1.00	0.54	0.63
1996	83.15	84.15	1.00	0.07	0.01
1997	84.15	85.15	1.00	4.36	0.95
1998	85.15	86.10	0.95	1.22	0.20
1999	86.10	89.10	3.00	0.16	0.13
2000	89.10	92.10	3.00	0.07	0.01

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DRILL HOLE NUMBER : NTC-88-25

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
2001	92.10	93.55	1.45	0.07	0.01
2002	93.55	96.35	2.80	0.07	0.01
2003	96.35	99.35	3.00	0.07	0.01
2004	99.35	100.35	1.00	0.07	0.01
2005	101.05	103.20	2.15	0.07	0.01
2006	103.20	106.20	3.00	0.07	0.01
2007	106.20	109.20	3.00	0.07	0.01
2008	109.20	112.20	3.00	0.07	0.01
2009	112.20	113.39	1.19	0.10	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD.
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-40

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		220.00	-55.00
110.00	A	220.00	-51.00

LATITUDE : 10089.000
 DEPARTURE: 10002.000
 ELEVATION: 1005.000
 DIP AT COLLAR: -55.00 DEG
 AZIMUTH : 220.00 DEG
 TOTAL DEPTH : 135.00

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD.
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-40

DATE LOGGED: 12/09/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	26.30	3		0.00	3.65	OVB		OVERBURDEN
				3.65	26.30	3FLBC		ANDESITE-DACITE VOLCANIC BRECCIA: 79% Recovery Medium purple-grey-green fine grained chl +/- ser altered, locally siliceous matrix with local .1-2mm white feldspar grains and .1-1mm chl altered hbl grains; fragments are predominantly pale green chl-ser altered hbl-fs porphyry with local grey tuff and black argillite, fragments are subround to angular; local hairline to 1cm Qtz-cc veins; locally strongly fractured, fractures are often rusty, local fractures have dark green chl which is sheared. Trace Sulphides.
26.30	28.95	2		26.30	28.95	2		ANDESITE: 75% Recovery Dark grey-black, fine grained, matrix with 1-2% .1-.5mm white feldspar grains and local .1-1mm cc patches; local pale green to dark grey chl-ser altered andesite fragments; strongly fractured, fractures locally have smeared graphite coatings. Trace Sulphides.
28.95	35.45	3		28.95	35.45	3FLBC		ANDESITE-DACITE VOLCANIC BRECCIA: 92% Recovery Light green-grey; fragments consist of light green chl altered fine grained

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
								andesite, grey qtz, chl-ser altered dacite?, in a fine grained chl altered matrix with abund pale yellow cc as irreg blebs and patches, cc locally gives the unit a speckled appearance, 5-10% cc; local sections are altered to a pale grey qtz-cc-ser.
35.45	37.35	2		35.45	37.35	2		Trace Sulphides.
								ANDESITE: 99% Recovery Light to medium green chl+/-ser-cc matrix with 1-2% dark green chl patches after hbl to 3mm; local hairline to 5mm cc-qtz+/-hem veins.
37.35	68.80	3		37.35	51.50	3FLBC		ANDESITE-DACITE VOLCANIC BRECCIA: 99% Recovery As for 28.80-35.45m, matrix locally is maroon colored toward bottom.
								Trace Sulphides.
				51.50	59.05	3FLBC		ANDESITE VOLCANIC BRECCIA: 100% Recovery Dark green-grey fine grained chloritic matrix with locally abundant .1-2mm white feldspar grains and .1-5mm dark green chl grains after hbl; abundant heterolithic fragments throughout, fragments are volcanic, ranging in composition from pale grey siliceous to dark green chloritic andesite; fragments to 2cm are subround to subangular, lithologically the fragments appear to be similar to 28.80-35.45m. The

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
								section contains approx 15-20% qtz-cc-cpy py veins and crustiform stockwork zones, the matrix contains 2-3% very fine grained dissem py and local dissem cpy, 1% cpy, 2-3% py overall; the veins are commonly brecciated with banded qtz fragments isolated in the volcanic matrix, the veins locally contain bright red hematite. Structure: Qtz-cc-cpy veins 30-50 deg Qtz-cpy-py-hem bx veins 51.50-51.90/45 deg 5% Sulphides.
				59.05	68.80	3FLBC		ANDESITE VOLCANIC BRECCIA: 100% Recovery As for 51.50-59.05m, no cpy 2-3% Sulphides.
68.80	125.50	2		68.80	104.75	2		ANDESITE: 100% Recovery Medium to dark green-grey, fine grained, abundant .1-.5mm chl altered hbl grains; matrix is chl altered and contains abund. irreg patches of white cc: 2-3% dissem py as .1-2mm anhedral to subhedral grains, 84.60-87.35 contains 5% qtz-cc+/-cpy-py veining and py-cpy bands, proximal to the py-cpy bands the qtz veins are brecciated and contain red hematite. Structure: Py-cpy bands, 84.70/40 deg, 101.05/35 deg. 2% Sulphides.
				104.75	125.50	2		ANDESITE:

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
125.50	135.00	3		125.50	135.00	3FLBC		100% Recovery As for 68.80-104.75m, local hairline to 17cm cpy-py+/-cc-qtz veins, 3-5% dissem and vein pyrite, .5% cpy overall, cpy veins are generally very irregular. Structure: Cpy-py-cc-qtz veins 105.1/20 deg, 113.1/50 deg, 113.35/15 deg, 117.25/25 deg, 118.3-118.45/30 deg, 121.5-121.68/35 deg. 3-5% Sulphides. ANDESITE-DACITE VOLCANIC BRECCIA: 100% Recovery Medium grey, very fine grained matrix with 30-40% pale grey subround to subangular .1-3cm ser-carbonate altered fragments; matrix has abund. very fine grained dissem cc throughout, 5% fine grained dissem py throughout, unit is massive with very few fractures. 5% Sulphides END OF HOLE.

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NORANDA EXPLORATION CO. LTD.
TODD CREEK DRILLING
N.T.S. 104 A/04

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DRILL HOLE NUMBER : NTC-88-40

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
42909	3.65	6.65	3.00	0.07	0.01
42910	6.65	9.65	3.00	0.07	0.01
42911	9.65	12.65	3.00	0.07	0.01
42912	12.65	15.65	3.00	0.07	0.01
42913	15.65	18.65	3.00	0.07	0.01
42914	18.65	21.65	3.00	0.07	0.01
42915	21.65	24.65	3.00	0.07	0.01
42916	24.65	26.30	1.65	0.07	0.01
42917	26.30	28.95	2.65	0.07	0.01
42918	28.95	32.00	3.05	0.07	0.01
42919	32.00	35.45	3.45	0.07	0.01
42920	35.45	37.35	1.90	0.07	0.01
42921	37.35	40.35	3.00	0.07	0.01
42922	40.35	43.35	3.00	0.07	0.01
42923	43.35	46.35	3.00	0.07	0.01
42924	46.35	49.35	3.00	0.07	0.01
42925	49.35	51.50	2.15	0.07	0.01
42926	51.50	52.60	1.10	1.13	0.34
42927	52.60	53.60	1.00	0.41	0.65
42928	53.60	54.90	1.30	1.27	0.21
42929	54.90	55.70	0.80	2.64	0.26
42930	55.70	57.20	1.50	0.07	0.02
42931	57.20	58.35	1.15	0.07	0.03
42932	58.35	59.05	0.70	0.45	0.16
42933	59.05	60.50	1.45	0.14	0.02
42934	60.50	62.00	1.50	0.07	0.01
42935	62.00	63.50	1.50		
42936	63.50	65.00	1.50		
42937	65.00	66.50	1.50		
42938	66.50	68.80	2.30		
42939	68.80	71.80	3.00		

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 NORANDA EXPLORATION CO. LTD.
 TODD CREEK DRILLING
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DRILL HOLE NUMBER : NTC-88-40

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
42940	71.80	74.80	3.00		
42941	74.80	77.80	3.00		
42942	77.80	80.80	3.00		
42943	80.80	83.80	3.00	0.14	0.01
42944	83.80	84.60	0.80	0.17	0.01
42945	84.60	85.60	1.00	6.00	0.45
42946	85.60	86.60	1.00	1.89	0.06
42947	86.60	87.35	0.75	1.20	0.02
42948	87.35	89.00	1.65	1.95	0.01
42949	89.00	90.50	1.50	0.55	0.01
42950	90.50	92.00	1.50	0.14	0.02
42951	92.00	93.50	1.50	1.06	0.01
42952	93.50	95.00	1.50	0.41	0.01
42953	95.00	96.50	1.50	0.10	0.01
42954	96.50	98.00	1.50	0.38	0.01
42955	98.00	99.50	1.50	0.86	0.01
42956	99.50	102.50	3.00	0.17	0.04
42958	102.50	104.00	1.50	0.45	0.01
42959	104.00	104.75	0.75	0.07	0.01
42960	104.75	105.75	1.00	0.17	0.12
42961	105.75	107.00	1.25	0.07	0.01
42962	107.00	108.50	1.50	0.17	0.21
42963	108.50	110.00	1.50	0.07	0.01
42964	110.00	111.50	1.50	0.45	0.24
42965	111.50	113.00	1.50	0.10	0.07
42966	113.00	114.50	1.50	0.17	0.11
42967	114.50	116.00	1.50	0.14	0.01
42968	116.00	117.50	1.50	0.31	0.16
42969	117.50	118.50	1.00	1.17	0.47
42970	118.50	120.00	1.50	0.10	0.16
42971	120.00	121.00	1.00	0.07	0.39

ASSAY RECORD
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DRILL HOLE NUMBER : NTC-88-40

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
42972	121.00	122.00	1.00	1.51	3.46
42973	122.00	123.50	1.50	0.62	0.21
42974	123.50	124.50	1.00	0.14	0.12
42975	124.50	125.50	1.00	1.82	0.77
47826	125.50	127.00	1.50	0.24	0.03
47827	127.00	128.50	1.50	0.07	0.04
47828	128.50	130.00	1.50	0.07	0.01
47829	130.00	131.50	1.50	0.07	0.01
47830	131.50	133.00	1.50	0.07	0.01
47831	133.00	135.00	2.00	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD.
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-41

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		40.00	-65.00
61.00	A	40.00	-63.00
131.70	A	40.00	-64.00

LATITUDE : 10023.000
 DEPARTURE: 10075.000
 ELEVATION: 991.000
 DIP AT COLLAR: -65.00 DEG
 AZIMUTH : 40.00 DEG
 TOTAL DEPTH : 133.20

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD.
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-41

DATE LOGGED: 13/09/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	133.20	2		0.00	1.85	OVB		OVERBURDEN
				1.85	20.25	2		HORNBLLENDE PORPHYRY ANDESITE: 97% Recovery Medium to dark green-grey very fine grain- ed matrix with trace to 5% .1-5mm dark green chl altered hbl grains, 1-5% dissem fine grained pyrite, trace to 10% cc; py commonly forms irreg coarser grains proximal to cc patches, sections with abund cc have increased py content and appear mottled; trace hairline py-cpy-cc veins to 2mm, local .1-3mm anhedral white feldspar grains. Structure: Py-cpy-cc veins 3.90/05 deg 3-5% Sulphides.
				20.25	23.25	2		ANDESITE: 98% Recovery Medium grey; matrix is comprised of fine grained, mottled chl altered volcanic with 15-20% dissem, veins and patches of white, locally pink, cc and 5-7% fine grained dissem py. 5-7% Sulphides.
				23.25	54.00	2		HORNBLLENDE PORPHYRY ANDESITE: 98% Recovery As for 1.85-20.25m, less cc; local qtz-cc- chl-py bx veins to 17 cm.

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				54.00	70.75	2		Structure: Qtz-cc-py veins, 35.0-35.17/50 deg, 35.35-35.40/35 deg. 3-5% Sulphides. ANDESITE: 98% Recovery Dark green, fine grained, hbl grains to 1mm, matrix is predominantly altered to dark green chl; local pale green hbl porphyry fragments to 2cm; py-cpy occurs as fine dissem grains, coarse blebs, veins and massive bands to 3cm, heavier sulphide concentrations are usually assoc. with qtz -cc veins and/or patches or breccia zones. Upper contact is marked by a 30cm white- grey zone of multiple qtz-cc-py-cpy vein- ing; qtz veins locally have crustiform banding; approx 1-2% cpy, 8-10% py. Structure: Contact (qtz v.) 54.0/60 deg Py-cpy bands 55.3/40 deg, 55.40-55.47/50 deg 10% Sulphides. ANDESITE VOLCANIC FLOW BRECCIA: 97% Recovery Medium grey-green; section is moderately to strongly silicified, less silicified patches have abund. .1-5cm angular chl-py altered andesitic fragments, fragments are only locally distinct in the strongly silicified sections, silicified sections
				70.75	85.55	2FLBC		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				85.55	97.10	2		<p>contain 8-10% very fine grained py; trace .1 to 1mm pale yellow ser grains and fracture fillings; local round, opaque grey Qtz patches to 5mm; local hairline to 1cm Qtz+/-cc veins; upper contact is Qtz-carbonate altered, fragments and matrix are pale yellow-green.</p> <p>8-10% Sulphides.</p> <p>ANDESITE:</p> <p>99% Recovery</p> <p>Light green, fine grained with local grey fragmental sections to 75cm; andesite contains approx 1% .1 to 1mm dark green chl altered hbl grains and local dark green chl patches to 1cm; fragmental sections contain round to subangular dacite-andesite fragments to 5cm; andesite and fragmental locally contain spherical grey-green Qtz patches to 6mm (amygdules?) matrix is variably chl+/-ser altered.</p> <p>Trace Sulphides.</p> <p>HORNBLende-FELDSPAR PORPHYRY ANDESITE:</p> <p>100% Recovery</p> <p>Dark green-grey, very fine grained matrix with 3-5% .1 to 5mm subhedral to euhedral white feldspar grains and 2-3% .1 to 5mm subhedral dark green hbl grains; local dark green chl patches to 1cm; local hairline to 15cm Qtz-cc veins; unit is massive and competent, local fractures have dark green chl coatings.</p>
				97.10	133.20	2		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
								Trace Sulphides. END OF HOLE.

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DRILL HOLE NUMBER : NTC-88-41

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
47832	1.85	4.90	3.05	0.07	0.01
47833	4.90	7.90	3.00	0.07	0.01
47834	7.90	10.90	3.00	0.07	0.01
47835	10.90	13.90	3.00	0.07	0.01
47836	13.90	16.90	3.00	0.17	0.01
47837	16.90	20.25	3.35	0.07	0.01
47838	20.25	23.25	3.00	0.07	0.01
47839	23.25	26.30	3.05	0.07	0.01
47840	26.30	29.30	3.00	0.07	0.01
47841	29.30	32.30	3.00	0.07	0.01
47842	32.30	35.00	2.70	0.07	0.01
47843	35.00	36.00	1.00	0.17	0.01
47844	36.00	39.00	3.00	0.07	0.01
47845	39.00	42.00	3.00	0.07	0.01
47846	42.00	45.00	3.00	0.07	0.01
47847	45.00	48.00	3.00	0.07	0.01
47848	48.00	51.00	3.00	0.07	0.01
47849	51.00	54.00	3.00	0.07	0.01
47850	54.00	55.70	1.70	1.92	0.76
47851	55.70	56.70	1.00	0.58	0.15
47852	56.70	57.70	1.00	1.20	0.48
47853	57.70	59.20	1.50	0.07	0.06
47854	59.20	60.30	1.10	0.10	0.26
47855	60.30	62.00	1.70	3.43	0.73
47856	62.00	63.00	1.00	0.96	0.33
47857	63.00	64.50	1.50	0.79	0.08
47858	64.50	66.75	2.25	0.34	0.20
47860	66.75	69.00	2.25	0.17	0.07
47861	69.00	70.75	1.75	6.21	0.60
47862	70.75	72.25	1.50	0.24	0.02
47863	72.25	75.25	3.00	0.14	0.01

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DRILL HOLE NUMBER : NTC-88-41

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
47865	75.25	76.75	1.50	0.07	0.01
47866	76.75	78.25	1.50	0.07	0.01
47867	78.25	79.75	1.50	0.07	0.01
47868	79.75	81.25	1.50	0.07	0.01
47869	81.25	82.75	1.50	0.07	0.01
47870	82.75	84.25	1.50	0.07	0.01
47871	84.25	85.55	1.30	0.07	0.01
47872	85.55	88.60	3.05	0.07	0.01
47873	88.60	91.60	3.00	0.07	0.01
47874	91.60	94.60	3.00	0.07	0.01
47875	94.60	97.10	2.50	0.07	0.01
47876	97.10	100.10	3.00	0.07	0.01
47877	100.10	103.10	3.00	0.07	0.01
47878	103.10	106.10	3.00	0.07	0.01
47879	106.10	109.10	3.00	0.07	0.01
47880	109.10	112.10	3.00	0.07	0.01
47881	112.10	115.10	3.00	0.07	0.01
47882	115.10	118.10	3.00	0.07	0.01
47883	118.10	121.10	3.00	0.07	0.01
47884	121.10	124.10	3.00	0.07	0.01
47885	124.10	127.10	3.00	0.07	0.01
47886	127.10	130.10	3.00	0.07	0.01
47887	130.10	133.20	3.10	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD.
TODD CREEK DRILLING
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DRILL HOLE NUMBER : NTC-88-42

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		40.00	-45.00
100.00	A	40.00	-45.00

LATITUDE : 10023.000
 DEPARTURE: 10075.000
 ELEVATION: 991.000
 DIP AT COLLAR: -45.00 DEG
 AZIMUTH : 40.00 DEG
 TOTAL DEPTH : 100.28

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD.
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-42

DATE LOGGED: 14/09/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	74.80	2		0.00	3.05	OVB		OVERBURDEN
				3.05	6.70	2		HORNBLLENDE-PORPHYRY ANDESITE: 66% Recovery As for NTC-88-41, 1.85-20.25m 1-2% Sulphides.
				6.70	9.50	2		HORNBLLENDE-PORPHYRY ANDESITE: 90% Recovery As for NTC-88-41, 20.25-23.25m 5% Sulphides.
				9.50	11.85	2		HORNBLLENDE-PORPHYRY ANDESITE: 93% Recovery As for 3.05-6.70m 1-2% Sulphides.
				11.85	14.35	2		HORNBLLENDE-PORPHYRY ANDESITE: 96% Recovery As for 6.70-9.50m 5% Sulphides.
				14.35	42.75	2		HORNBLLENDE-PORPHYRY ANDESITE: 91% Recovery As for 3.05-6.70m 3-5% Sulphides.
				42.75	54.45	2		HORNBLLENDE-PORPHYRY ANDESITE: 95% Recovery Dark green, fine grained, locally 2-3% anhedral to subhedral hbl grains to 3mm; matrix and hbl pheno's are altered to medium to dark green chl.; local coarse grained hbl porphyry fragments to 5cm;

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				54.45	74.80	2		3-5% dissem fine to medium grained pyrite throughout, generally higher concentration of pyrite toward top; cpy occurs as local irreg veins, patches and dissem grains locally assoc. with qtz-cc patches, veins and vein fragments, .1-.2% cpy, 3-5% py; abund. hairline to 27cm qtz-cc+/-py-cpy veins; local qtz fragments to 1cm in the volcanic matrix. Structure: Flow band? 47.30/45 deg Qtz-py-cpy v. 51.24-51.51/70 deg, 54.35-54.45/60 deg. 5% Sulphides. HORNBLENDE-FELDSPAR-PORPHYRY ANDESITE: 98% Recovery As for NTC-88-41, 97.10-133.20m local irreg cc-qtz-purple hem patches to 10cm, patches locally have crustiform bands, 10-20cm qtz-hem-cpy veins at 59.30 partially ground up due to mismatch. Structure: Qtz-cc-cpy v. 67.10/60 deg, 59.05/75 deg. 1% Sulphides.
74.80	76.60	5		74.80	76.60	5		MAFIC DYKE: 95% Recovery Dark green, fine grained, local hbl phenos to 2mm; local hairline to 1cm cc-qtz+/-hem veins; trace pyrite; contacts with volcanics appear to be gradational, possibly coeval with the volcanics, weakly magnetic

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
76.60	100.28	2		76.60	100.28	2		Trace Sulphides. HORNBLEND-FELDSPAR-PORPHYRY ANDESITE: 99% Recovery As for 54.45-74.80m, local 5 to 40 cm pale brown-green carbonate altered sections, tr cpy in local cc+/-qtz patches, 5-10% cc as irreg patches (vesicules?) locally with light purple hem bands Trace Sulphides. END OF HOLE.

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DRILL HOLE NUMBER : NTC-88-42

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
47888	3.05	6.05	3.00	0.07	0.01
47889	6.05	6.70	0.65	0.07	0.01
47890	6.70	9.50	2.80	0.07	0.01
47891	9.50	11.85	2.35	0.07	0.01
47892	11.85	14.35	2.50	0.07	0.01
47893	14.35	17.35	3.00	0.07	0.01
47894	17.35	20.35	3.00	0.07	0.02
47895	20.35	23.35	3.00	0.07	0.01
47896	23.35	26.35	3.00	0.07	0.01
47897	26.35	29.35	3.00	0.07	0.01
47898	29.35	32.35	3.00	0.07	0.01
47899	32.35	35.35	3.00	0.07	0.01
47900	35.35	38.35	3.00	0.07	0.01
47901	38.35	41.35	3.00	0.07	0.01
47902	41.35	42.75	1.40	0.24	0.02
47903	42.75	43.75	1.00	0.10	0.02
47904	43.75	44.75	1.00	0.82	0.07
47905	44.75	45.75	1.00	1.10	0.04
47906	45.75	46.75	1.00	0.24	0.05
47907	46.75	47.75	1.00	0.93	0.18
47908	47.75	48.75	1.00	0.14	0.03
47909	48.75	49.75	1.00	0.07	0.01
47910	49.75	50.75	1.00	0.07	0.01
47911	50.75	51.75	1.00	0.86	0.12
47912	51.75	52.75	1.00	0.07	0.01
47913	52.75	53.75	1.00	0.07	0.03
47914	53.75	54.45	0.70	0.51	0.47
47915	54.45	57.45	3.00	0.07	0.01
47916	57.45	59.05	1.60	0.07	0.01
47917	59.05	60.05	1.00	0.48	0.16
47918	60.05	63.05	3.00	0.07	0.01

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DRILL HOLE NUMBER : NTC-88-42

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
47919	63.05	66.05	3.00	0.07	0.01
47920	66.05	67.10	1.05	0.07	0.15
47921	67.10	68.10	1.00	0.07	0.01
47922	68.10	71.10	3.00	0.07	0.02
47923	71.10	74.10	3.00	0.07	0.01
47924	74.10	74.80	0.70	0.07	0.01
47925	74.80	79.60	4.80	0.07	0.02
47927	79.60	82.60	3.00	0.07	0.01
47928	82.60	85.60	3.00	0.07	0.01
47929	85.60	88.60	3.00	0.07	0.01
47930	88.60	91.60	3.00	0.07	0.01
47931	91.60	94.60	3.00	0.07	0.01
47932	94.60	97.60	3.00	0.07	0.01
47933	97.60	100.28	2.68	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD.
TODD CREEK DRILLING
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DRILL HOLE NUMBER : NTC-88-43

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		40.00	-45.00
100.00	A	40.00	-43.00

LATITUDE : 10024.000
 DEPARTURE: 9923.000
 ELEVATION: 1028.000
 DIP AT COLLAR: -45.00 DEG
 AZIMUTH : 40.00 DEG
 TOTAL DEPTH : 100.28

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD.
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-43

DATE LOGGED: 15/09/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	69.85	2		0.00	6.15	OVB		OVERBURDEN
				6.15	14.20	2		ANDESITE: 83% Recovery Dark green, fine grained, local .1 to 2mm hbl phenos; approx 1% white cc+/-qtz patches and dissem grains; pyrite occurs as .1 to 2mm subhedral grains and local irreg. hairline to 3mm veins and patches to 1cm; trace cpy assoc with the pyrite patches.
				14.20	17.40	2		3-5% Sulphides. ANDESITE: 100% Recovery As for 6.15-14.20m, local veins, patches and dissem grains of cpy to 1cm; 16.9-17.4m had approx 5% cpy Structure: Cpy-cc v. 14.20/65 deg Flow Band 16.95/45 deg
				17.40	67.70	2		5% Sulphides. ANDESITE: 93% Recovery As for 6.15-14.20m, local hairline to 4cm qtz-cc-hem+/-py veins, 10cm mud seam at 44.65-44.75m. Structure: Qtz-cc-hem-py v 35-55 deg. 3-5% Sulphides.

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				67.70	69.85	2FLBC		ANDESITE AGGLOMERATE BRECCIA: 100% Recovery Green, fine grained chl altered matrix with locally 1-3% disseminated cc and 40% dark green very fine grained chl altered volcanic fragments to 6cm, fragments are surrounded by crustiform cc-hem+/-qtz bands, approx. 15% spec. hem; py occurs as fine to medium grains and local irregular patches. 3-5% Sulphides.
69.85	70.10	5		69.85	70.10	5SY		SYENITE DYKE: 100% Recovery Pale green-pink, approx 20-25% pale green chl altered subhedral to euhedral feldspar phenos to 3mm, approx 10% subhedral to euhedral pink K-spar phenos to 1.5cm; trace disseminated pyrite, trace dark green chl grains to 2mm. Trace Sulphides.
70.10	89.00	2		70.10	72.70	2FLBC		ANDESITE VOLCANIC FLOW BRECCIA: 99% Recovery As for 67.70-69.85m. 5% Sulphides.
				72.70	74.40	2		ANDESITE: As for 6.15-14.20m, local dark green chl-py bands to 1cm. Structure: chl-py bands 73.60/40 deg 3-5% Sulphides.
				74.40	75.95	2FLBC		ANDESITE VOLCANIC FLOW BRECCIA: 100% Recovery

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				75.95	78.25	2		Medium to dark green; matrix and fragments to 5cm, are predom. feldspar porphyry andesite, fragments are generally lighter green than the matrix, matrix is chl+/-ser altered, upper contact is carbonate altered and appears to be sheared; local grey qtz and pale green dacite? fragments toward top, local irreg cc patches and hairline veins. Structure: Shear Contact 74.40/35 deg Trace Sulphides. ANDESITE: 95% Recovery As for 6.15-14.20m, approx 20% irregular crustiform qtz-hem-cpy veins and stockwork local qtz vein fragments scattered in the matrix; trace pyrite in the volc. matrix. Structure: Qtz-hem-cpy-py v., 76.3/25 deg, 75.95/30 deg, 77.15/45 deg, 78.20/60 deg. 1-2% Sulphides.
				78.25	89.00	2		FELDSPAR-PORPHYRY ANDESITE: 99% Recovery Dark grey-green matrix with 2-3% .1 to 3mm white feldspar grains; local fragments of feldspar porphyry, grey tuff, dark green chl to 6cm. Trace very fine grained dissem pyrite; fragments increase in number and variety toward bottom, as well the matrix becomes increasingly mottled

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
89.00	100.28	3		89.00	100.28	3		and chl-ser+/-si altered. Structure: Flow Banding 80.0/45 deg 1% Sulphides FELDSPAR-PORPHYRY DACITE: 100% Recovery Medium to dark grey; mottled appearance; 5-10% white anhedral feldspar grains to 5mm, 1-5% pale opaque grey-white rounded qtz grains to 3mm, approx 5% angular volcanic fragments to 5cm, fragments are predominantly medium brown ser-py altered hbl porphyry or grey-brown silic. tuff; the unit is moderately to strongly silicified; 1% very fine grained dissem pyrite. 1% Sulphides. END OF HOLE.

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NORANDA EXPLORATION CO. LTD.
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DRILL HOLE NUMBER : NTC-88-43

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
47934	6.15	9.15	3.00	0.07	0.01
47935	9.15	12.15	3.00		
47936	12.15	14.20	2.05	0.07	0.02
47937	14.20	15.70	1.50	0.07	0.03
47938	15.70	16.90	1.20	0.69	0.27
47939	16.90	17.40	0.50		
47940	17.40	20.40	3.00	2.74	0.41
47941	20.40	23.40	3.00	0.10	0.01
47942	23.40	26.40	3.00	0.07	0.01
47943	26.40	29.40	3.00	0.07	0.01
47944	29.40	32.40	3.00	0.17	0.01
47945	32.40	35.40	3.00	0.07	0.01
47946	35.40	38.40	3.00	0.07	0.01
47947	38.40	41.40	3.00	0.07	0.01
47948	41.40	44.40	3.00	0.10	0.01
47949	44.40	47.40	3.00	0.07	0.01
47950	47.40	50.40	3.00	0.07	0.01
49501	50.40	53.40	3.00	0.07	0.01
49502	53.40	56.40	3.00	0.07	0.01
49503	56.40	59.40	3.00	0.07	0.01
49504	59.40	62.40	3.00	0.07	0.01
49505	62.40	65.40	3.00	0.07	0.01
49506	65.40	67.70	2.30	0.07	0.01
49507	67.70	69.85	2.15	0.96	0.01
49508	69.85	70.10	0.25	0.07	0.01
49509	70.10	71.60	1.50	0.27	0.01
49510	71.60	72.70	1.10	0.21	0.01
49511	72.70	74.40	1.70	0.34	0.03
49512	74.40	75.95	1.55	0.14	0.02
49513	75.95	77.45	1.50	0.89	0.24
49514	77.45	78.25	0.80	0.10	0.03

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DRILL HOLE NUMBER : NTC-88-43

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
49515	78.25	81.25	3.00	0.07	0.03
49516	81.25	84.25	3.00	0.07	0.01
49517	84.25	87.25	3.00	0.07	0.01
49518	87.25	89.00	1.75	0.07	0.02
49519	89.00	92.00	3.00	0.07	0.01
49520	92.00	95.00	3.00	0.07	0.01
49521	95.00	98.00	3.00	0.07	0.01
49522	98.00	100.28	2.28	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD.
TODD CREEK DRILLING
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DRILL HOLE NUMBER : NTC-88-44

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		40.00	-65.00
73.00	A	40.00	-63.00
148.50	A	40.00	-63.00

LATITUDE : 10024.000
 DEPARTURE: 9924.000
 ELEVATION: 1028.000
 DIP AT COLLAR: -65.00 DEG
 AZIMUTH : 40.00 DEG
 TOTAL DEPTH : 149.50

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD.
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO. : NTC-88-44

DATE LOGGED: 15/09/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	149.50	2		0.00	4.90	OVB		OVERBURDEN
				4.90	22.85	2		ANDESITE: 98% Recovery As for NTC-88-43, 6.15-14.20m; very fine grained dark grey mafic magnetic dyke at 8.90-9.60m, gradational contacts. 2-3% Sulphides.
				22.85	35.45	2		ANDESITE: 98% Recovery As for 4.90-22.85m, local irregular cc-qtz-py patches, veins, 3-5% dissem pyrite; trace dissem cpy, generally assoc. with pyrite, vein at 25.3-25.8 as for NTC-88-43, 16.9-17.4m. Structure: Qtz-cc-hem-cpy-py v., 25.3-25.8/30 deg 3-5% Sulphides.
				35.45	67.65	2		ANDESITE: 96% Recovery As for 4.90-22.85m, section at 43.40-43.90 has 10% qtz-hem-py veins, 15% py and trace cpy. 2-3% Sulphides.
				67.65	76.95	2FLBC		ANDESITE AGGLOMERATE: 94% Recovery Dark green chl altered fine grained matrix with 30-40% medium green fine grained andesite fragments to 5cm; 1% fine grained

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				76.95	149.50	2		dissem pyrite and local py-qtz-cc veins to 1cm; local irregular white cc vesicule fillings. 1% Sulphides. ANDESITE: 100% Recovery As for 4.9-22.85m, 1-2% py; pyrite decreases toward bottom; strong pale brown carbonate altered zone at 115.35-116.05m; from 123.75m to bottom, local grey-purple magn. mafic feldspar porphyry dykes to 2.2m, gradational contacts. Structure: Py-coy v., 77.6/45 deg. Py Bands 115.75/15 deg Dyke 124.75-126.95, 128.4-129.4. END OF HOLE.

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DRILL HOLE NUMBER : NTC-88-44

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
49523	4.90	7.90	3.00	0.07	0.01
49524	7.90	10.90	3.00	0.07	0.01
49525	10.90	13.90	3.00	0.07	0.01
49526	13.90	16.90	3.00	0.07	0.01
49527	16.90	19.90	3.00	0.07	0.03
49528	19.90	22.85	2.95	0.07	0.01
49529	22.85	23.90	1.05	0.10	0.09
49530	23.90	24.90	1.00	0.21	0.09
49531	24.90	25.80	0.90	2.09	0.67
49532	25.80	26.80	1.00	0.34	0.08
49533	26.80	28.30	1.50	0.79	0.03
49534	28.30	29.80	1.50	0.75	0.03
49535	29.80	31.30	1.50	0.07	0.01
49536	31.30	32.80	1.50	0.07	0.01
49537	32.80	34.45	1.65	0.17	0.02
49538	34.45	35.45	1.00	0.79	0.12
49539	35.45	38.50	3.05	0.07	0.01
49540	38.50	41.50	3.00	0.07	0.01
49541	41.50	43.40	1.90	0.07	0.01
49542	43.40	43.90	0.50	0.17	0.02
49543	43.90	46.90	3.00	0.07	0.01
49544	46.90	49.90	3.00	0.07	0.01
49545	49.90	52.90	3.00	0.07	0.01
49546	52.90	55.90	3.00	0.31	0.01
49547	55.90	58.90	3.00	0.07	0.01
49548	58.90	61.90	3.00	0.07	0.01
49549	61.90	64.90	3.00	0.14	0.01
49550	64.90	67.65	2.75	0.07	0.01
49601	67.65	70.70	3.05	0.07	0.01
49602	70.70	73.70	3.00	0.31	0.01
49603	73.70	76.95	3.25	0.07	0.01

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NORANDA EXPLORATION CO. LTD.
TODD CREEK DRILLING
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DRILL HOLE NUMBER : NTC-88-44

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
49604	76.95	78.00	1.05	0.27	0.03
49605	78.00	81.00	3.00	2.57	0.01
49606	81.00	84.00	3.00	0.07	0.01
49607	84.00	87.00	3.00	0.07	0.01
49608	87.00	90.00	3.00	0.07	0.01
49609	90.00	93.00	3.00	0.07	0.01
49610	93.00	96.00	3.00	0.07	0.01
49611	96.00	99.00	3.00	0.07	0.01
49612	99.00	102.00	3.00	0.10	0.01
49613	102.00	105.00	3.00	0.07	0.01
49614	105.00	108.00	3.00	0.07	0.01
49615	108.00	111.00	3.00	0.07	0.01
49616	111.00	114.00	3.00	0.41	0.01
49617	114.00	117.00	3.00	0.17	0.01

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NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
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DRILL HOLE NUMBER : NTC-88-45

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		90.00	-45.00
78.00	A	90.00	-45.00

LATITUDE : 20303.000
 DEPARTURE: 20466.000
 ELEVATION: 1212.000
 DIP AT COLLAR: -45.00 DEG
 AZIMUTH : 90.00 DEG
 TOTAL DEPTH : 78.94

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-45

DATE LOGGED: 10/09/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	7.45	5		0.00	2.15	OVB		OVERBURDEN
				2.15	7.45	5		MAFIC DYKE: 42% Recovery Fine grained, dark grey, magnetic, local hbl pheno's to 2mm, local feldspar pheno's to 3mm (subhedral-euhedral).
7.45	78.94	2		7.45	32.55	2b		ANDESITE: 100% Recovery Medium green-grey, fine grained, chl-si+/-ser altered matrix with local anhedral chl altered hbl pheno's to 2mm and locally abundant dark green chl patches to 5mm thick commonly contain disseminated pyrite; local mottled pale brown sections and patches (si-K? alteration?), local irreg. cc+/-red hem patches and veins to 2cm; 3-5% disseminated anhedral to subhedral pyrite grains to 2mm. Structure: Py v., 25.25-25.30/35 deg. Bx with si-py-cpy matrix, 29.65-29.85/40-45 deg to CA .1-.2% cpy
				32.55	37.90	2b		ANDESITE: 100% Recovery As for 7.45-32.55m; local qtz-cc-ba? +/-py-cpy veins to 5cm, trace disseminated cpy and hairline py veins; approx 5% disseminated py.

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				37.90	39.35	2b		ANDESITE: 99% Recovery As for 32.55-37.90m; strongly fractured-silicified, 25-30% pyrite as dissem grains and coarse patches, local semi-massive patches; 1-2% cpy dissem and as patches associated with pyrite.
				39.35	57.60	2c		ANDESITE: 100% Recovery Medium green fine grained, massive, local subhedral to euhedral feldspar pheno's to 5mm; local irregular qtz-cc-py-cpy veins to 2cm, local grey pyritic tuff bands to 8cm. Structure: Py tuff, 44.20-44.28/50 deg
				57.60	78.94	2b		ANDESITE: 100% Recovery As for 7.45-32.55; increased mottling-alteration; local banded py+/-cpy, section 57.6-59.1m is very mottled-altered with 10% py, trace cpy as dissem grains and bands to 2cm; local grey pyritic si-tuff bands and irregular patches to 8cm, local hairline to 5cm white to pink cc+/-qtz-py veins; local hairline to 2mm grey si-py veins. Structure: Py-si-cpy Banding, 57.60-59.10/35-50 deg Si-tuff-py, 66.25/35 deg END OF HOLE.

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DRILL HOLE NUMBER : NTC-88-45

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
49761	2.15	7.45	5.30	0.07	0.01
49762	7.45	10.45	3.00	0.10	0.01
49763	10.45	13.45	3.00	0.17	0.01
49764	13.45	16.45	3.00	0.07	0.01
49765	16.45	19.45	3.00	0.07	0.01
49766	19.45	22.45	3.00	0.07	0.05
49767	22.45	25.45	3.00	0.10	0.01
49768	25.45	28.45	3.00	0.21	0.01
49769	28.45	30.00	1.55	0.34	0.03
49770	30.00	31.50	1.50	0.14	0.01
49771	31.50	32.55	1.05	0.17	0.02
49772	32.55	34.00	1.45	0.75	0.06
49773	34.00	35.50	1.50	0.27	0.02
49774	35.50	37.00	1.50	0.51	0.04
49775	37.00	37.90	0.90	0.17	0.01
49776	37.90	39.35	1.45	6.72	0.68
49777	39.35	40.80	1.45	0.14	0.03
49778	40.80	42.30	1.50	0.21	0.01
49779	42.30	43.80	1.50	0.07	0.01
49780	43.80	45.30	1.50	0.17	0.03
49781	45.30	47.80	2.50	0.17	0.04
49782	47.80	49.30	1.50	0.27	0.01
49783	49.30	50.80	1.50	0.24	0.01
49784	50.80	52.30	1.50	0.07	0.01
49785	52.30	53.80	1.50	0.07	0.01
49786	53.80	55.30	1.50	0.51	0.13
49787	55.30	57.60	2.30	0.07	0.01
49788	57.60	59.10	1.50	0.31	0.03
49789	59.10	60.60	1.50	0.21	0.01
49790	60.60	62.10	1.50	0.62	0.01
49791	62.10	63.60	1.50	0.34	0.01

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DRILL HOLE NUMBER : NTC-88-45

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
49792	63.60	65.10	1.50	0.10	0.01
49793	65.10	66.60	1.50	0.27	0.01
49794	66.60	68.10	1.50	0.17	0.01
49795	68.10	69.60	1.50	0.14	0.01
49796	69.60	71.10	1.50	0.21	0.01
49797	71.10	72.60	1.50	0.07	0.01
49798	72.60	74.10	1.50	0.07	0.01
49799	74.10	75.60	1.50	0.07	0.01
49800	75.60	77.10	1.50	0.07	0.01
49801	77.10	78.94	1.84	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
N.T.S. 104 A/04

DRILL HOLE NUMBER : NTC-88-46

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		90.00	-60.00
106.00	A	90.00	-60.00

LATITUDE : 20303.000
 DEPARTURE: 20466.000
 ELEVATION: 1212.000
 DIP AT COLLAR: -60.00 DEG
 AZIMUTH : 90.00 DEG
 TOTAL DEPTH : 106.38

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-46

DATE LOGGED: 11/09/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	5.50	5		0.00	1.85	OVB		OVERBURDEN
				1.85	5.50	5		MAFIC DYKE: 53% Recovery As for NTC-88-45, 2.15-7.45m
5.50	106.38	2		5.50	38.00	2b		ANDESITE: 100% Recovery As for NTC-88-45, 7.45-32.55m; increased pyrite in more mottled-altered sections, Structure: Flow banding? 12.85/35 deg Fragmental section, 32.50-33.40/40, 45 deg Sharp Contact 3-5% py, trace cpy.
				38.00	50.50	2b		ANDESITE: 99% Recovery As for NTC-88-45, 7.45-32.55m, 8-10% py as dissem grains, veins to 5mm and coarse patches; cpy as local dissem grains- patches and veins to 2cm. Structure: Hairline v., /30 deg 2cm v., 44.20/60 deg Py bands /40-45 deg.
				50.50	51.75	2b		ANDESITE: 100% Recovery Dark grey-green very fine grained chl matrix with local volc-qtz-cc-py-cpy bx zones and cc-qtz veining; approx 20% fine

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				51.75	80.80	1b		to medium grained pyrite as dissem grains and patches; 1-2% cpy as dissem grains and patches to 1cm. Structure: Contacts, /30 deg ANDESITE: 100% Recovery As for NTC-88-45, 7.45-32.55m; locally abundant very fine grained grey pyritic si-tuff veins and patches, infills fractures and around fragments, local hairline to 7cm py-qtz+/-cpy-cc veins, local irregular pyrite patches. Structure: 5-7% py, trace cpy, less altered sections contains 1% py.
				80.80	95.80	2c		FELDSPAR PORPHYRY ANDESITE: 100% Recovery Medium to dark green fine grained chl altered matrix with 2-3% 3-5mm subhedral to euhedral pale green feldspar pheno's; local 1-2mm red hematite bands; locally abundant hairline to 10cm cc+/-qtz veins; local pale yellow cc altered sections, trace dissem pyrite, gradational contacts.
				95.80	106.38	2b		ANDESITE: 99% Recovery Medium grey, fine grained with local dark green chl patches (after feldspar) at the top; approx 5% fine grained dissem pyrite with local sections to 10%; foliated-

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
								sheared-cc-veined section at 104.3-105.2m, at 25 degrees. END OF HOLE.

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 TODD CREEK DRILLING
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DRILL HOLE NUMBER : NTC-88-46

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
49802	1.85	5.50	3.65	0.07	0.01
49803	5.50	7.00	1.50	0.07	0.01
49804	7.00	8.50	1.50	0.41	0.01
49805	8.50	10.00	1.50	1.37	0.01
49806	10.00	11.50	1.50	0.07	0.01
49807	11.50	13.00	1.50	0.24	0.01
49808	13.00	14.50	1.50	0.07	0.01
49809	14.50	16.00	1.50	0.07	0.01
49810	16.00	19.00	3.00	0.07	0.01
49811	19.00	22.00	3.00	0.10	0.01
49812	22.00	25.00	3.00	0.14	0.01
49813	25.00	28.00	3.00	0.31	0.03
49814	28.00	31.00	3.00	0.31	0.01
49815	31.00	32.50	1.50	0.24	0.01
49816	32.50	33.50	1.00	0.48	0.07
49817	33.50	35.00	1.50	0.34	0.01
49818	35.00	36.50	1.50	0.38	0.01
49819	36.50	38.00	1.50	0.10	0.01
49820	38.00	39.50	1.50	0.17	0.06
49821	39.50	41.00	1.50	0.24	0.11
49822	41.00	42.50	1.50	0.21	0.02
49823	42.50	44.00	1.50	0.14	0.02
49824	44.00	45.50	1.50	0.72	0.70
49825	45.50	47.00	1.50	0.24	0.03
25676	47.00	48.50	1.50	0.48	0.08
25677	48.50	50.50	2.00	0.24	0.03
25678	50.50	51.75	1.25	12.10	0.58
25679	51.75	53.25	1.50	0.24	0.01
25680	53.25	54.75	1.50	0.24	0.01
25681	54.75	56.25	1.50	0.21	0.01
25682	56.25	57.75	1.50	0.21	0.01

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DRILL HOLE NUMBER : NTC-88-46

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
25683	57.75	59.25	1.50	0.17	0.01
25684	59.25	60.75	1.50	0.14	0.01
25685	60.75	62.25	1.50	0.07	0.01
25686	62.25	63.75	1.50	0.34	0.01
25687	63.75	65.25	1.50	0.27	0.04
25688	65.25	66.75	1.50	0.14	0.01
25689	66.75	68.25	1.50	0.10	0.01
25690	68.25	69.75	1.50	0.10	0.01
25691	69.75	71.25	1.50	0.10	0.01
25692	71.25	72.75	1.50	0.14	0.04
25693	72.75	74.25	1.50	0.10	0.01
25694	74.25	77.25	3.00	0.07	0.01
25695	77.25	80.80	3.55	0.07	0.01
25696	80.80	84.80	4.00	0.07	0.01
25697	84.80	88.80	4.00	0.07	0.01
25698	88.80	92.80	4.00	0.07	0.01
25699	92.80	95.80	3.00	0.17	0.01
25700	95.80	98.80	3.00	0.10	0.01
5388	98.80	101.80	3.00	0.24	0.01
5389	101.80	103.30	1.50	0.07	0.01
5390	103.30	104.80	1.50	0.10	0.01
5391	104.80	106.38	1.58	0.07	0.01

SURVEY RECORD
NORANDA EXPLORATION CO. LTD
TODD CREEK DRILLING
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DRILL HOLE NUMBER : NTC-88-47

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		90.00	-45.00
75.00	A	90.00	-41.00

LATITUDE : 20218.000
 DEPARTURE: 20538.000
 ELEVATION: 1262.000
 DIP AT COLLAR: -45.00 DEG
 AZIMUTH : 90.00 DEG
 TOTAL DEPTH : 75.90

DIAMOND DRILL LOG
 NORANDA EXPLORATION CO. LTD
 TODD CREEK DRILLING
 N.T.S. 104 A/04

HOLE NO.: NTC-88-47

DATE LOGGED: 10/09/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	10.40	5		0.00	1.50	OVB		OVERBURDEN HORNBLENDE-FELDSPAR PORPHYRY DYKE: 78% Recovery Pale to medium green-green aphanitic matrix with 2-3% .1-2mm anhedral to subhedral chl altered hbl pheno's, 1% grey-white 1-5mm subhedral to euhedral feldspar pheno's; trace 1-3mm pyrite grains; local hairline to 1cm white Qtz-cc veins, trace bright red hematite grains and hairline veins.
				1.50	10.40	5		
10.40	15.80	2		10.40	15.80	2b		HORNBLENDE PORPHYRY ANDESITE: 100% Recovery Mottled, medium grey Qtz-chl+/-Kspar? matrix with 1-2% anhedral .1-2mm hbl grains; mottled appearance is due to irregular patches of pale brown Qtz-K? alteration; 3-5% .1-1mm pyrite grains dissem throughout; local irregular cc-Qtz patches to 1cm, local patches have a light purple tinge (hematite?).
15.80	18.15	5		15.80	18.15	5		HORNBLENDE PORPHYRY DYKE: 95% Recovery Light green aphanitic matrix with 5% 1-3mm x .5mm hbl lathes, hbl lathes show a preferred orientation, approx 50 degrees to CA, lower contact 32 deg to CA.
18.15	75.90	2		18.15	36.65	2b		HORNBLENDE PORPHYRY ANDESITE: 98% Recovery

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				36.65	37.65	2b		<p>As for 10.40-15.80m, increased K-si-ser alteration toward bottom, local hairline to 10mm py+/-cpy veins, local cc patches have trace cpy. 8-10% disseminated pyrite (subhedral-euhedral) to 1mm.</p> <p>Structure: Py-cpy v., 040 deg to CA HORNBLLENDE PORPHYRY ANDESITE: 100% Recovery</p>
				37.65	45.65	2b		<p>As for 10.40-15.80m, locally brecciated; approx 10% cpy as disseminated grains, patches and veins to 2cm, approx 10% pyrite as disseminated grains and veins to 2cm</p> <p>Structure: 45 deg to CA HORNBLLENDE PORPHYRY ANDESITE: 94% Recovery</p> <p>As for 10.40-15.80m, section becomes increasingly mottled and si-ser-K?-py altered toward bottom, original textures only locally visible, approx 5-10% pyrite predominantly as subhedral to euhedral disseminated grains, local 1-10mm pyrite bands; 39.40-42.30m has abundant grey-white cc-Ba veins to 65cm, approx 50% cc, 50% Ba. Ba-cc veins contain local grey Qtz-py+/-cpy bands. 42.04-43.30m has 10% py, 2% cpy, banded py-cpy with Qtz bx fragments to 1cm and bands of granulated very fine grained sulphides.</p> <p>Structure: Ba-cc v., 40.0/60 deg, 40.90-41.60/20, 40</p>

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				45.65	49.65	2b		deg. Qtz-cpy v., 39.05/50 deg Py-cpy-qtz bx v., 42.05-42.30/30,45 deg Mud seam at 42.32m HORNBLENDE PORPHYRY ANDESITE: 100% Recovery Alteration as for 37.65-45.65m, top 15cm is a qtz-py-cpy bx zone (35 deg to CA), qtz fragments to 1cm are rounded, section contains approx 30% grey-white qtz-cc veins and irregular patches to 50cm; approx 5% cpy as dissem grains and patches to 3cm predominantly associated with the qtz-cc veins, etc., locally dissem with pyrite in the volcanic matrix; 5-7% pyrite as .1-2mm dissem grains, hairline veins and irregular bands; section is locally strongly fractured with dark green chl filling the fractures.
				49.65	57.25	2c		ANDESITE: 100% Recovery Olive to dark green, fine grained, matrix and hbl grains are chl altered; locally abundant hairline fractures with dark green chl+/-cc filling, 2-3% pyrite as .1-2mm veins; fragmental section at 52.15-52.45m, matrix is a grey pyritic si-tuff- and. fragments to 1cm; unit is locally weakly sheared, sheared zones have increased dissem and veined pyrite; locally abundant white cc+/-qtz veins to

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				57.25	75.90	2bFLBC		2cm; trace qtz-cc-cpy-chl veins to 1cm. Structure: Shearing, 52.45/35 deg, 55.40/35 deg. Cc-qtz-cpy V., 49.80/75 deg, 51.0/60 deg ANDESITE FLOW BRECCIA: 100% Recovery Medium grey-green fine grained matrix with 15-20% .1-15cm subround to subangular fragments, fragments are pale brown-yellow ser-qtz-py altered at top, gradually becoming darker and more chloritic toward bottom; fs-hbl grains become coarser toward bottom; local bleached-mottled si-py-ser altered sections; 3-5% dissem and vein pyrite, veins to 5mm, trace cpy veins to 2mm; local hairline to 5mm white cc veins. END OF HOLE

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DRILL HOLE NUMBER : NTC-86-47

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
49618	1.50	4.50	3.00	0.07	0.01
49619	4.50	7.50	3.00	0.07	0.01
49620	7.50	10.40	2.90	0.07	0.01
49621	10.40	11.90	1.50	0.10	0.01
49622	11.90	13.40	1.50	0.07	0.02
49623	13.40	14.90	1.50	0.07	0.01
49624	14.90	15.80	0.90	0.07	0.01
49625	15.80	18.15	2.35	0.07	0.01
49651	18.15	19.70	1.55	0.27	0.15
49652	19.70	21.20	1.50	0.10	0.06
49653	21.20	22.70	1.50	0.07	0.01
49654	22.70	24.20	1.50	0.41	0.01
49655	24.20	25.70	1.50	0.07	0.01
49656	25.70	27.20	1.50	0.07	0.02
49657	27.20	28.70	1.50	0.07	0.03
49658	28.70	30.20	1.50	0.72	0.04
49659	30.20	31.70	1.50	0.07	0.01
49660	31.70	33.20	1.50	0.14	0.01
49661	33.20	34.70	1.50	0.14	0.01
49662	34.70	36.65	1.95	0.24	0.05
49663	36.65	37.65	1.00	24.14	3.79
49664	37.65	39.15	1.50	0.58	0.09
49665	39.15	40.90	1.75	0.17	0.12
49666	40.90	42.40	1.50		
49667	42.40	43.90	1.50	0.14	0.03
49668	43.90	45.65	1.75	0.10	0.03
49669	45.65	46.65	1.00	5.18	2.44
49670	46.65	47.65	1.00	3.50	3.72
49671	47.65	48.65	1.00	0.65	0.75
49672	48.65	49.65	1.00	0.21	0.20
49673	49.65	51.15	1.50	0.07	0.08

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DRILL HOLE NUMBER : NTC-88-47

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
49674	51.15	52.65	1.50	0.07	0.02
49675	52.65	54.15	1.50	0.07	0.03
49676	54.15	55.65	1.50	0.07	0.04
49677	55.65	57.25	1.60	0.10	0.14
49678	57.25	60.25	3.00	0.07	0.01
49679	60.25	63.25	3.00	0.07	0.03
49680	63.25	66.25	3.00	0.07	0.01
49681	66.25	69.25	3.00	0.07	0.01
49682	69.25	72.25	3.00	0.21	0.01
49683	72.25	75.90	3.65	0.07	0.01

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DRILL HOLE NUMBER : NTC-88-48

FOOTAGE	TEST TYPE	AZIMUTH	DIP
0.00		90.00	-60.00
106.00	A	90.00	-57.00

LATITUDE : 20218.000
 DEPARTURE: 20538.000
 ELEVATION: 1262.000
 DIP AT COLLAR: -60.00 DEG
 AZIMUTH : 90.00 DEG
 TOTAL DEPTH : 106.38

DIAMOND DRILL LOG
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HOLE NO.: NTC-88-48

DATE LOGGED: 10/09/88
 LOGGED BY : RJB

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
0.00	8.90	5		0.00	1.50	OVB		OVERBURDEN
				1.50	8.90	5		HORNBLLENDE-FELDSPAR PORPHYRY DYKE: 80% Recovery
8.90	18.35	2		8.90	18.35	2b		As for NTC-88-47, 1.50-10.40m HORNBLLENDE PORPHYRY ANDESITE: 100% Recovery
								As for NTC-88-47, 10.40-15.80m; increased cc in matrix; 5-7% very fine grained to 2mm pyrite grains; less mottled patches.
18.35	20.80	5		18.35	20.80	5		HORNBLLENDE-PORPHYRY DYKE: 94% Recovery
20.80	27.15	2		20.80	27.15	2b		As for NTC-88-47, 15.80-18.15m. HORNBLLENDE PORPHYRY ANDESITE: 95% Recovery
								As for NTC-88-47, 18.15-36.65m; 0 py veins trace cpy, 2-3% py
27.15	30.95	5		27.15	30.95	5		HORNBLLENDE-FELDSPAR PORPHYRY DYKE: 98% Recovery
								As for 1.50-8.90m, local hairline to 5mm qtz-py-chl veins with bright red hematite rims.
30.95	106.38	2		30.95	46.15	2b		HORNBLLENDE-PORPHYRY ANDESITE: As for 20.80-27.15m; upper contact is marked by a 15cm zone of banded py-qtz- cherty volcanic with trace cpy, (55 deg to CA) qtz is white to purple; 37.85-38.35 m section is foliated with local py+/-cpy

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				46.15	46.80	2c		bands to 2cm (45 deg to CA) Structure: Qtz-py-cpy-hem v., 43.20/35 deg HORNBLLENDE-PORPHYRY ANDESITE: 100% Recovery Medium to dark green fine grained chl altered matrix with approx 1% .1-1mm hbl grains; local hairline dark green chl veins; section from 46.65-46.80m is bx and contains banded py-coy; 2-3% coy, 5% py overall; local hairline to 5mm qtz-cpy-py veins. Structure: Qtz-coy-py v., 46.20/40 deg, 46.65-46.80/20-30 deg HORNBLLENDE-PORPHYRY ANDESITE: 99% Recovery Mottled grey-green, chl-py altered, strong fol-banding (30 deg to CA) throughout, section at 48.07-48.30 is a chl-py sch; fol is marked by py bands and local pale grey mottled si altered sections; increased fractures, qtz, cc-ba veining and py bands toward bottom, ba-cc veins to 3cm. Structure: Ba-cc v., 48.00-48.07/35 deg, 49.90/40 deg Py bands, 25-35 deg ANDESITE-QUARTZ BRECCIA: 100% Recovery Approx 50% white-grey qtz veins and frag-
				46.80	49.90	2b		
				49.90	50.90	2bBC		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				50.90	55.85	2b		ments to 4cm with approx 50% grey-brown chl-py+/-si altered volcanic material; 3-5% very fine grained pyrite in the volc. HORNBLENDE-PORPHYRY ANDESITE: 98% Recovery As for NTC-88-47, 49.65-57.25m, local chl altered and fragments to 5cm, fragments appear stretched parallel to foliation; trace qtz-cpy-py veins., trace dissem grains and hairline to 5mm bands. Structure: Shearing-fol-qtz-cpy v., 020 deg. ANDESITE: 98% Recovery Medium to dark green, fine grained, fs-hbl grains to 1mm, matrix is chl altered; approx 1% fine grained dissem pyrite; local grey pyritic si-tuff fragments and patches; approx 5% subangular andesite fragments toward bottom; local cpy-py veins to 1cm. Structure: Cpy-py v., 57.35/40 deg, 60.05/45 deg. ANDESITE: 100% Recovery Yellow-green to medium green-grey, matrix and andesite fragments are cc-chl altered, cc alteration decreases toward bottom, 1-3% dissem py, trace py veins to 5mm; local chl altered feldspar porphyry sections to 75cm, qtz+/-cc veins to 10cm,
				55.85	62.85	2c		
				62.85	77.95	2c		

MAJOR				SUBUNIT				DESCRIPTION
From	To	Rock Code	Interp. No.	From	To	Rock Code	Interp. No.	
				77.95	95.50	2b		gradational contacts with andesite contain no py, subhedral-euhedral feldspar pheno's to 5mm; dark green chl with slickensides on local fractures. ANDESITE: 99% Recovery Pale medium grey-green, very fine grained with local feldspar pheno's to 3mm, matrix is chl-py+/-si-cc altered; 3-5% dissem py with local py veins to 2cm; locally abundant yellow-white cc+/-qtz veins to 3cm; foliated-sheared section at 81.50- 82.15m with abundant cc+/-ba? veins and py bands. (40 deg to CA). ANDESITE FLOW BRECCIA: 100% Recovery As for NTC-88-47 bottom; moderately- strongly py-ser-cc+/-si-chl alteration, increases toward bottom; matrix and frag- ments are locally mottled pale brown-pink; fragments are andesitic, subangular, light to dark green, to 5cm; 3-5% dissem py, increases toward bottom; local hairline cc veins. END OF HOLE
				95.50	106.38	2bFLBC		

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DRILL HOLE NUMBER : NTC-88-48

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
49684	1.50	4.50	3.00	0.07	0.01
49685	4.50	7.50	3.00	0.07	0.01
49686	7.50	8.90	1.40	0.17	0.01
49687	8.90	10.40	1.50	0.41	0.04
49688	10.40	11.90	1.50	0.07	0.01
49689	11.90	13.40	1.50	0.07	0.02
49690	13.40	14.90	1.50	0.17	0.01
49691	14.90	16.40	1.50	0.58	0.16
49692	16.40	18.35	1.95	0.38	0.04
49693	18.35	20.80	2.45	0.10	0.01
49694	20.80	22.30	1.50	0.07	0.01
49695	22.30	23.80	1.50	0.10	0.01
49696	23.80	25.30	1.50	0.10	0.05
49697	25.30	27.15	1.85	0.07	0.03
49698	27.15	30.95	3.80	0.10	0.01
49699	30.95	32.50	1.55	0.86	0.12
49700	32.50	34.00	1.50	0.10	0.01
49701	34.00	35.50	1.50	0.07	0.01
49702	35.50	37.00	1.50	0.07	0.01
49703	37.00	38.50	1.50	0.14	0.01
49704	38.50	40.00	1.50	0.07	0.01
49705	40.00	41.50	1.50	0.45	0.01
49706	41.50	43.00	1.50	0.17	0.02
49707	43.00	44.50	1.50	4.66	0.05
49708	44.50	46.15	1.65	1.06	0.01
49709	46.15	46.80	0.65	9.84	0.54
49710	46.80	48.30	1.50	0.17	0.01
49711	48.30	49.90	1.60	0.31	0.03
49712	49.90	50.90	1.00	15.22	1.97
49713	50.90	52.50	1.60	0.14	0.06
49714	52.50	54.10	1.60	0.17	0.13

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DRILL HOLE NUMBER : NTC-88-48

SAMPLE NO.	FROM	TO	WIDTH	AU (gmt)	CU (%)
49715	54.10	55.85	1.75	0.27	0.10
49716	55.85	57.30	1.45	0.07	0.01
49717	57.30	58.80	1.50	0.14	0.02
49718	58.80	60.30	1.50	0.07	0.07
49719	60.30	61.80	1.50	0.07	0.02
49720	61.80	62.85	1.05	0.07	0.01
49721	62.85	65.85	3.00	0.07	0.01
49722	65.85	68.85	3.00	0.07	0.01
49723	68.85	71.85	3.00	0.07	0.01
49724	71.85	74.85	3.00	0.07	0.01
49725	74.85	77.95	3.10	0.07	0.01
49751	77.95	80.95	3.00	0.07	0.01
49752	80.95	83.95	3.00	0.07	0.01
49753	83.95	86.95	3.00	0.07	0.01
49754	86.95	89.95	3.00	0.07	0.01
49755	89.95	92.95	3.00	0.07	0.01
49756	92.95	95.50	2.55	0.07	0.01
49757	95.50	98.50	3.00	0.10	0.01
49758	98.50	101.50	3.00	0.07	0.01
49759	101.50	104.50	3.00	0.07	0.01
49760	104.50	106.38	1.88	0.07	0.01

APPENDIX V

I.P. INSTRUMENTATION

INSTRUMENTATION - I.P. SURVEY

The I.P. survey employed a Frequency Domain system manufactured by Phoenix Geophysics of Toronto, Ontario. The transmitter and generator have a capacity of 1.2 Kilowatts although this amount of power is rarely used. The survey parameters employed for this survey were as follows :

Dipole array	: Dipole-Dipole
Dipole length	: 25 meter
Separations	: n=4 on
Frequencies	: 0.25 and 4.0 Hertz
Parameters recorded	: Percent Frequency Effect (PFE) & Resistivity (ohm-meters)
I.P. transmitter	: Phoenix IPT-1 & MG-1
I.P. receiver	: Phoenix IPV-1

A fixed transmitter setup using up to four Tx dipoles on either side of the transmitter was used throughout the survey. The recorded resistivities indicate that EM coupling was negligible.

MISE A LA MASSE

The Mise a la Masse survey employed the same Induced Polarization equipment as described above. The electrode array was the standard layout of emplacing one transmitter electrode in contact with the mineralization, down the drill hole and establishing an 'infinity' transmitter electrode located some distance from the survey grid. The receiver employed a 25 meter dipole spread which recorded the potential at points across the survey grid.