MAP NO.: 105F 9

ASSESSMENT REPORT
PROSPECTUS
CONFIDENTIAL X
OPEN FILE

DOCUMENT NO: 093160
MINING DISTRICT: WATSON LAKE
TYPE OF WORK: TRENCHING
SAMPLING

REPORT FILED UNDER: NORANDA

DATE PERFORMED: JULY 27 - AUG 6, 1993 **DATE FILED:** JAN 7, 1994

LOCATION: **LAT.:** 61°32'N **AREA:** KETZA RIVER

LONG.: 132°16'W **VALUE $:** 3,700

CLAIM NAME & NO.: KON 56 (YA70967), KON 58 (YA70969), KON 60 (YA70971), KON 97F (YA72106), KON 98F (YA72107), KON 133F (YA91388), KON 136F (YA91391), KON 137F (YA91392)

WORK DONE BY: JESSE DUKE ; NORANDA EXPLORATION COMPANY

WORK DONE FOR: NORANDA EXPLORATION

DATE TO GOOD STANDING:	

REMARKS: PROSPECTING AND HAND TRENCHING

Indian and Northern Affairs Canada | Affaires indiennes et du Nord Canada

M.R. file no.

R.M.M.R. file no.

Date forwarded 23 Dec 93.

TRANSMITTAL FORM

From ▶ Mining Recorder at: WATSON LAKE

To ▶ Regional Manager, Mineral Rights at Whitehorse, Y.T.

OFFICE OF THE REGIONAL MANAGER MINERAL RIGHTS JAN 7 1994 WHITEHORSE YUKON TERRITORY

For action are:

- ☐ NEW APPLICATION FOR PLACER LEASE TO PROSPECT — Name
- ☐ RENEWAL APPLICATION PLACER LEASE TO PROSPECT — Name — Lease no.
- ☐ AFFIDAVIT OF EXPENDITURE ON PLACER LEASE — Name — Lease no.
- ☐ SECURITY DEPOSIT
- ☐ FINANCIAL ABILITY
- ☐ ASSIGNMENT OF PLACER LEASE NO. — From — To
- ☐ GROUPING APPLICATION UNDER SEC. 52(2) PLACER MINING ACT. — Owner
- ☐ DIAMOND DRILL LOGS — Claims — Claim sheet no.
- ☑ QUARTZ ASSESSMENT REPORT — Claims: KON 136Fr, 137Fr, 305-339 — Claim sheet no.

Type of report: GC, Prospecting

Submitted by: Noranda Exploration Company Limited

Cls. work performed on: KON 58, 58, 60, 97Fr, 98Fr, 133Fr, 136Fr, 137Fr.

$ req. for ren. application: 3700.00

Signature

Date returned

REPLY ACTION

093160

Signature

802-6027-26 (6-86)

PROSPECTING, GEOCHEMICAL SAMPLING

AND TRENCHING REPORT

ON THE

093160

KON 56 - YA 70967
KON 58 - YA 70969
KON 60 - YA 70971
KON 97F - YA 72106
KON 98F - YA 72107
KON 133F - YA 91388
KON 136F - YA 91391
KON 137F - YA 91392

CLAIMS

WATSON LAKE MINING DISTRICT
(KETZA RIVER PROPERTY)
YUKON TERRITORY

N.T.S.: 105F/9

NOVEMBER, 1993

Lat. 61 32 18
Long. 132 14 18

NORANDA EXPLORATION COMPANY, LIMITED
(No Personal Liability)

AUTHOR: J. DUKE

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APPENDICES

TABLE AND FIGURES

EXECUTIVE SUMMARY

A brief field program was undertaken to examine the gold potential of the Shamrock Zone on the Ketza River Property. Prospecting, hand trenching and soil geochemistry indicate extensive gold-arsenic mineralization in numerous north-northeast trending structures in hornfelsed and sericite altered phyllite. A 4 metre chip sample from a hand trench returned 1700 ppm gold. Numerous grab samples of pyrite, pyrrhotite, arsenopyrite and chalcopyrite-bearing quartz veins returned high gold values (up to 19000 ppb Au). Additional prospecting and expansion of the soil geochemical coverage in the area is required to assess the bulk-tonnage potential of this target.

I. INTRODUCTION

This report describes a work program conducted on the Ketza River gold property by Noranda Exploration between July 27 and August 6, 1993.

1.1 Location and Access

The property is located 80 kilometres southwest of Ross River in south-central Yukon territory. Whitehorse is 360 km by all-weather road to the southwest.

1.2 Claim Status

The status of claims affected by assessment work outlined in this report is listed below:

CLAIM NAME	RECORD NUMBER	EXPIRATION DATE
KON 30	YA 70941	MARCH 21, 2004
KON 32	YA 70943	MARCH 21, 2004
KON 34	YA 70945	MARCH 21, 2004
KON 56	YA 70967	MARCH 21, 2002
KON 58	YA 70969	MARCH 21, 2002
KON 60	YA 70971	MARCH 21, 2002
KON 62	YA 70973	MARCH 21, 2002
KON 97F	YA 72106	OCTOBER 4, 1998
KON 98F	YA 72107	OCTOBER 4, 1998
KON 133F	YA 91388	AUGUST 15, 1997
KON 136F	YA 91391	AUGUST 15, 1994
KON 137F	YA 91392	AUGUST 15, 1994
KON 305-318	YB 34222 - YB 34235	AUGUST 23, 1994
KON 319-339	YB 34236 - YB 34256	AUGUST 23, 1994

II. WORK PROGRAM

Between July 27 and August 6, 1993, a crew of 3 was mobilized to the property. A program of prospecting, geochemical sampling and hand trenching was conducted in the Shamrock Zone, located approximately two kilometers north of the minesite.

The following personnel conducted the field program:

Kol Lovang, Prospector, of Vancouver, British Columbia

Jean Lovang, Assistant, of Vancouver, British Columbia

Carl Schultz, Geologist, of Thunder Bay, Ontario

A baseline was established using wood pickets and a total of 79 soil or talus fine samples were collected at 50 metre stations on lines 200 metres apart.

One four metre and one two metre hand trench was completed and sampled across an area of quartz scorodite float. In total 62 rock samples were collected.

All samples were shipped to Noranda's laboratory in Delta, British Columbia. Analysis for gold by atomic absorption and 27 other elements by I.C.P. was completed.

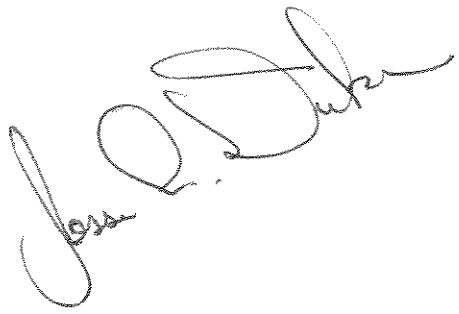
The results and sample descriptions are listed in the appendix. Rock sample locations are given in UTM coordinates. Soil locations are listed by local grid co-ordinates. Grid sample and claim locations can be found on Figure 3.

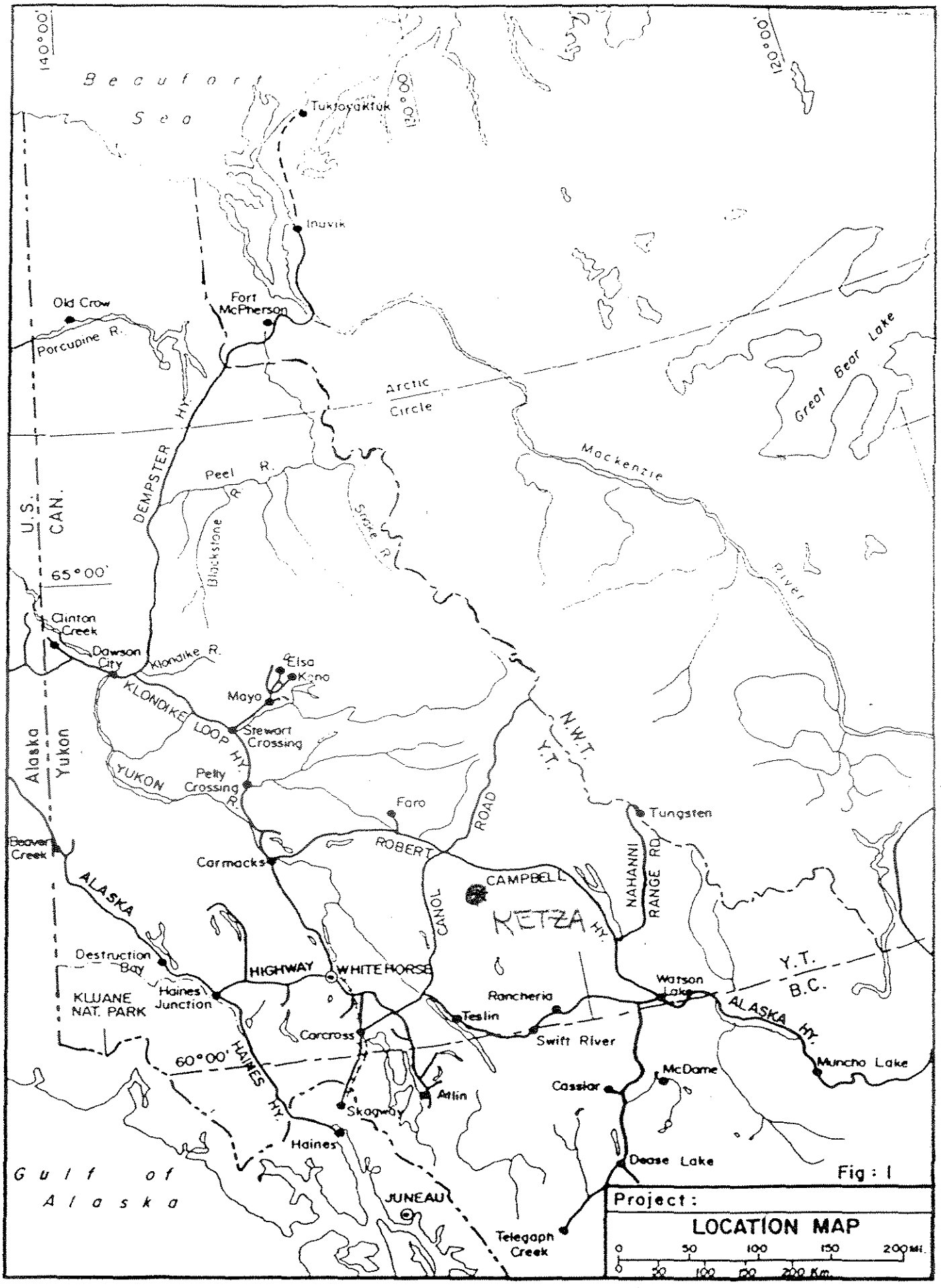
III. DISCUSSION OF RESULTS

The Shamrock Zone is underlain by Proterozoic phyllite. Hornfelsing and sericite alteration are common throughout the area. Numerous north-northwest trending quartz-pyrrhotite-pyrite-arsenopyrite-chalcopyrite-bearing veins host gold mineralization. Most samples of vein material returned anomalous gold values. Thirty-two of sixty-one rock samples collected returned values over 1000 ppb Au. Ten of these returned values over 5000 ppb Au. Most samples were of vein material in talus float.

IV. CONCLUSION AND RECOMMENDATIONS

Prospecting and soil (or talus fine) geochemistry in the Shamrock Zone confirm gold localized in numerous veins. The potential for mineralization within the host rock has not been assessed. Systematic surface sampling should be conducted to test possible bulk-tonnage potential. Existing geochemical coverage shows anomalous gold values open to the west. Additional coverage is required in that area.





VANCAL 11824


KETZA RIVER PROPERTY
1993 FIELD PROGRAM
CLAIM LOCATIONS
SCALE: 1:30,000
105 F/9
61°31'N
132°19'E
KON
KETZA
STAR
AMBROSE
OXO

BLOCK 1
GRID

644,000E
644,500E
645,000E
645,500E
646,000E
646,500E

MISERY CREEK

6,828,000N
6,827,500N
6,827,000N
6,826,500N
6,826,000N

TRENCH 1: 1535V
1.7gpt Au/4m.

TRENCH 2: 1535W
7.9 gpt Au/2m.

BLOCK IV
GRID

SHAMROCK
ZONE

KON 60
KON 133F
KON 58
KON 136F
KON 137F
KON 98F
KON 97F 3M ZONE

L12W L8W L6W L4W L2W L0 L2E L4E L9E

APPROX. RIDGELINE

BL 0 AZ 270°

MISERY II
GRID

CACHE CREEK

Exploration Camp

BASELINE: 0E.0N = 645270E,6269000N

SYMBOLS

- Rock sample locations
- Old drill hole locations/ areas of old drilling
- Road
- Stream

093160

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. L. DUKE
GEOSCIENTIST

0 250 500 750 1000M.

DWG 493

REVISED	KETZA RIVER AREA
	SAMPLE LOCATION MAP
	SHAMROCK ZONE & AREA
PROJ.No. 354	SURVEY BY: JD — DATE: DEC.3/93
N.T.S. 105F/9	DRAWN BY: GM — SCALE: 1:10,000
DWG No. 3	NORANDA EXPLORATION
	OFFICE: VANCOUVER

APPENDIX I

STATEMENT OF COSTS

NORANDA EXPLORATION COMPANY, LIMITED
STATEMENT OF COSTS

PROJECT: KETZA RIVER DATE: NOVEMBER 1993

TYPE OF REPORT:

a) Wages:

No. of Mandays	36 mandays	
Rate per Manday	$250.00/manday	
Dates From	July 27 - August 6, 1993	
Total Wages	36 mdays x $250.00/mday	$ 9,000.00

b) Food & Accommodations:

No. of Mandays	36 mandays	
Rate per Manday	$50.00/manday	
Dates From	July 27 - Augusts 6, 1993	
Total Costs	36 mdays x $50.00/mday	$ 1,800.00

c) Transportation: 2 trucks @ 0.25/km & gas

No. of Mandays	36 mandays	
Rate per Manday	$16.67/manday	
Dates From	July 27 - August 6, 1993	
Total Costs	26 mdays x $16.67/mday	$ 600.00

d) Instrument Rental:

Type of Instrument:
No. of Mandays :
Rate per Manday:
Dates From :
Total Costs :

Type of Instrument:
No. of Mandays :
Rate per Manday:
Dates From :
Total Costs :

e) Analysis: $ 2,820.00
(See attached schedule)

f) Cost of preparation of Report: $ 1,000.00
Author : J. Duke
Drafting: G. Martin/R. Fenton
Typing : M. Kondrup

g) Other:

Contractor

TOTAL COST $15,220.00

h) Unit Costs for Field
No. of Mandays: 36 mandays
No. of Units : 36
Unit Costs : $422.78
Total Cost : 36 x $422.78 $15,220.00

NORANDA EXPLORATION COMPANY, LIMITED
(CORDILLERA DIVISION)

DETAILS OF ANALYSES COSTS

PROJECT: Ketza River

ELEMENT	NO. OF DETERMINATIONS	COST PER DETERMINATION	TOTAL COSTS
ICP + Au	141 samples	$20.00/sample	$2,820.00

APPENDIX II

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, Jesse L. Duke, of Whitehorse, Yukon certify that:

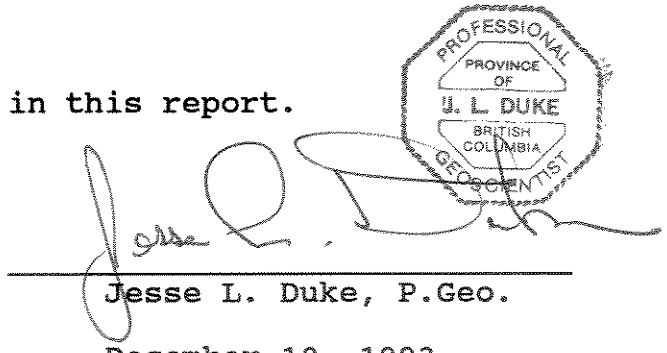
1) I am a graduate of the University of Alaska with a Bachelor of Science degree in Geology.

2) I have been employed by Noranda Exploration since 1988.

3) I am a Fellow of the Geological Association of Canada.

4) I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia.

5) I reviewed the work described in this report.



Jesse L. Duke, P.Geo.

December 10, 1993

APPENDIX III

SAMPLE RESULTS AND DESCRIPTIONS

NORANDA EXPLORATION COMPANY, LIMITED 0017

LAB NOREX PROJECT NO. 354 PROPERTY Kelza River N.T.S. 105 F

CERT. NO. GRID REFERENCE : UTM Co-ordinates DATE Aug. 7, 93

SAMPLE REPORT

SAMPLE #	DESCRIPTION	TYPE	WIDTH	ASSAYS Au	ASSAYS As	ASSAYS Ag	CO-ORDINATES		SAMPLER
A	Quartz with Apy			1100 ppb	>10%		45740E	26860N	
B	Brecciated matter? Some quartz. Apy.			480	75000 ppm		45840E	26840N	
C	Quartz with some Cpy, Mal.			200	5393		44850E	26760N	
D	Quartz. Heavy Apy.			300	2524	22.0	45830E	26880N	
E	Massive Apy			13000	>10%		47400E	27300N	
F	Almost massive min.. Apy & Py.			2700	>10%	36.8 ppm	45050E	27670N	
G	Massive Apy			2000	>10%	34.0	45080E	27690N	
H	~~Quartz with Apy~~ Massive Apy.			2400	>10%	60.0	45100E	27670N	
I	Quartz with Apy. ~~Some Py~~			270	26000		45130E	27660N	
J	Quartz ~~stringers in light colored rock~~. Apy & Py			40	17000		45250E	27710N	
K	Quartz ~~with~~ stringers in ~~Apy~~ light-colored rock. Apy & Py			130	16000		45280E	27690N	
L	Quartz with Apy.			30	11000		45330E	27690N	
M	Brecciated matter. Some quartz. Apy + (Tourmaline)			50	16000		45420E	27870N	
N	Quartz - Apy & Py.			840	76000	76.0	45470E	27870N	
O	Light-colored rock. Some py & apy.			50	2142		45530E	27850N	
P	Chloritic rock? Apy.			5600	>10%		45750E	27720N	
Q	Quartz-Stringer in slate. Apy.			20	1172		45810E	27720N	
R	Apy in quartz. Some chloritic material?			320	26000		45890E	27700N	
S	Quartz with Apy.			420	16000		45890E	27670N	
T	~~Chloritic rock~~. Apy & py in Quartz			20	18000		45910E	27650N	
U	~~Quartz~~ Chloritic ~~with Apy~~. Apy & Py			2300	>10%	64.8	45930E	27630N	
V	Quartz with Apy.			530	62000		45830E	27670N	
W	Quartz with Apy.			2200	>10%	34.0	45830E	27640N	

NORANDA EXPLORATION COMPANY, LIMITED 0018

White - Office
Field

LAB NOREX PROJECT NO. 354 PROPERTY Kekza River N.T.S. 105-F

CERT. NO. GRID REFERENCE UTM COORDINATES DATE

SAMPLE REPORT

SAMPLE #	DESCRIPTION	TYPE	WIDTH	ASSAYS			CO-ORDINATES		SAMPLER
				Au-ppb	As-ppm	Ag-ppm			
A	Quartz (Chlorite) with Apy			3500	>10%		45840E	27600N	
B	Quartz. Good Apy.			320	>10%		45880E	27610N	
C	Quartz. Minor Apy.			5	1426		45960E	27620N	
D	Quartz (within slate) Good Apy.			90	37000		46000E	27600N	
E	Quartz. Good Apy.			940	>10%	20.8	46150E	27580N	
F	Massive Apy with some py.			2200	>10%		47960E	27330N	
G	Schistose rock. Cpy & mal.			260	611	20.4	44740E	27570N	
H	Quartz with good Apy			30	9462		44800E	27580N	
I	Light colored rock with quartz Apy Bpy stringers.			2000	55000		44860E	27570N	
J	Quartz (boulder) with Py, Apy, Po & Cpy			15	5016				
K	Quartz with some Apy			70	7195				
L	Quartz with Apy & py			2900	60000		44150E	27390N	
M	Quartz with Apy, some pyrite			1500	31000		44290E	27500N	
N	Quartz with Apy & py			300	28000		44420E	27520N	
O	Quartz (boulder) with Bo, Apy, Py & Cpy			450	17000		44600E	27720N	
P	Quartz with Apy			5	3047		44580E	27700N	
Q	Quartz with some Apy			750	3643		44560E	27670N	
R	Light colored rock. Stringer Py, Py, Sph on fract.			10	393		44730E	27750N	
S	Quartz with Apy, minor py.			70	17000		44800E	27720N	
T	Quartz (boulder) Po, Apy, Py & Cpy			70	31000		44970E	27670N	
U	Quartz with pyrite			20	980		45010E	27660N	
V									
W									

White - Office
Yellow - Field

1535

NORANDA EXPLORATION COMPANY, LIMITED

LAB NOREX PROJECT NO. 354 PROPERTY Ketza R N.T.S. ______

CERT. NO. ______ GRID REFERENCE SHAMROCK ZONE · 1993 Grid Ref. DATE 7/31/93

SAMPLE REPORT

SAMPLE #	DESCRIPTION	TYPE	WIDTH	ASSAYS (30 element I.C.P. + Au) Au 5 ppb	As 70 ppm	Local CO-ORDINATES		SAMPLER
A	Carb stringer zone - siderite, occ Qz stringers, carb str, tr Py	Grab	—			9+50W	0+80S	C.Schulze
B	Brecc Q vein in sil phyllites, 25-30% Asp, 2-3% Py			3200	>10%	6+70W	3+30N	
C	Brecc Q vein, with 70-80% Py+Po, 5% Asp, 2-3% Cpy			5400	1984	6+50W	3+30N	
D	Similar to 1535-C			19000	51000	"	"	
E	Similar fabric to 1535-C, 2-3% Cpy			1600	15000	6+48W	3+30N	
F	≥20% Qz, 50% Po, 25% Py (as locally massive bbls)			5300	12000	6+45W	3+32N	
G	Qz vein, brecciated, float, vuggy.			2600	>10%	6+50W	3+37N	
H	Qz veins in sil lstone(?) wk sugary, ser, 5-6% Asp			890	26000	1+30W	1+50N	
I	Similar fabric to 1535-H			190	27000	1+30W	1+50N	
J	Qz vein + sil argillite, 30-35% Asp, 3-5% Py			140	>10%	2+50E	3+00N	
K	Sil wrock to J, fract, asp+Py in fract, 6-7% Asp in sample			100	15000	2+50E	2+97N	
L	Float: Q vein, brecc, 40% Asp, strong scorodite alt			9600	>10%	2+80E	3+50N	
M	Float: Q. Vein, brecc, 20% Asp, mod scorodite alt.			1340	>10%	7+00E	4+00N	
N	Float: Qz-fspar vein, ≥40% Asp, yellow alt			760	>10%	9+00E	2+00N	
O	Float: Qz vein, brecc, 20-25% Asp, arg alt. of fspar			5200	>10%	8+60E	1+40N	
P	Qz-fspar vein, float, 35-40% Asp, strong scorodite.			840	>10%	8+60E	1+25N	
Q	Float: Asp bearing brecc qz scorodite vein: 25-30% Asp			1700	>10%	7+70E	0+80N	
R	Float: Proximal: Qz-vein, wk sugary, 2% Galena			5	289	7+30E	0+50N	
S	Qz-fspar veins, 40% Asp, strong scorodite			1030	>10%	6+60E	2+00N	
T	Similar to 1535-S, 35% Asp			1000	>10%	6+60E	2+10N	
U	Float: Brecc arg alt, Q.V, strong scorodite, 8-10% Asp			4700	>10%	5+30E	2+30N	
V	Qz-scorodite vein, almost sand, strong arg alt	Chip	4m	1700	>10%	4+20E	3+50N	
W	Qz-scorodite vein, almost sand, 15% Asp, strong scorodite, arg.	Chip	2m	7900	>10%	3+80E	3+70N	

NORANDA EXPLORATION COMPANY, LIMITED 1536

White - Office
Yellow - Field

LAB NOREX PROJECT NO. 354 PROPERTY KETZA RIVER N.T.S.

CERT. NO. GRID REFERENCE SHAMROCK ZONE - 1993 Grid Ref. DATE Aug 1/93

SAMPLE REPORT

SAMPLE #	DESCRIPTION	TYPE	WIDTH	ASSAYS 30 element ICP + Au				CO-ORDINATES		SAMPLER
				Ag ppb	As ppm	Au ppb	Ag ppm			
A	Qz-fspar breccia, 30% dissem Asp; Float	Grab		240	9500	+22	8	3+80 N	3+00 E	cischolic
B	Q.V, breccia (vein); 25% Asp, 30% scorolite, tr Py			940	8000			2+70 E	3+50 N	
C	Brec QV; 60% Arseno(!) strong scor alt, tr Py			7700	>10%			2+60 E	3+10 N	
D	Mass. Arseno, probably vein, 3-4% Py, minor Qz			4300	>10%			2+30 E	3+30 N	
E	Qz vein + silicified phyllites, Asp stringers - 8-10% Asp.			680	6000			1+90 E	2+70 N	
F										
G										
H										
I										
J										
K										
L										
M										
N										
O										
P										
Q										
R										
S										
T										
U										
V										
W										

NORANDA DELTA LABORATORY

Geochemical Analysis

Project Name & No.: KETZA RIVER – 354 **Geol.:** C.S. **Date received:** AUG. 06 **LAB CODE:** 9308–009

Material: 28 Rx **Sheet:** 1 of 1 **Date completed:** AUG. 26

Remarks: * Sample screened @ –35 MESH (0.5 mm)

¤ Organic, Δ Humus, S Sulfide

Au – 10.0 g sample digested with aqua–regia and determined by A.A. (D.L. 5 PPB)

ICP – 0.2 g sample digested with 3 ml $HClO_4/HNO_3$ (4:1) at 203 °C for 4 hours diluted to 10 ml with water. Leeman PS3000 ICP determined elemental contents.

N.B. The major oxide elements and Ba, Be, Ce, La, Li, Ga are rarely dissolved completely from geological materials with this acid dissolution method.

T.T. No.	SAMPLE No.	Au ppb	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	La ppm	Li ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sr ppm	Ti %	V ppm	Zn ppm
201	1535 – A	5	0.2	0.16	70	14	0.7	5	15.25	0.2	99	11	52	26	3.58	0.08	15	11	8.04	1421	4	0.05	4	0.03	2	42	0.01	37	13
202	B	3200	3.2	0.15	>10%	9	0.2	161	0.06	0.2	113	112	181	701	16.77	0.07	60	1	0.04	74	5	0.01	28	0.05	66	1	0.01	5	14
203	C s!	5400	0.4	0.04	1984	1	0.2	64	0.04	0.2	14	6	26	526	17.40	0.01	10	1	0.04	100	1	0.01	10	0.02	2	1	0.01	2	15
205	D s!	19000	1.2	0.04	51000	1	0.2	327	0.01	0.2	38	179	131	2273	12.41	0.01	21	1	0.02	120	1	0.01	72	0.02	2	1	0.01	2	12
207	E s!	1600	0.4	0.13	15000	1	0.2	223	0.01	0.2	45	22	109	784	11.96	0.05	26	1	0.02	186	1	0.01	7	0.02	2	1	0.01	2	11
208	F s!	5300	0.8	0.05	12000	2	0.2	64	0.01	0.2	35	53	212	1140	19.70	0.02	22	1	0.02	78	10	0.01	43	0.04	2	1	0.01	5	16
210	G s!	2600	0.4	0.34	>10%	17	0.2	94	0.01	0.2	99	52	114	149	15.44	0.16	53	1	0.03	90	4	0.01	4	0.04	2	1	0.01	4	14
211	H	890	0.2	3.61	26000	159	0.7	22	0.01	0.2	71	9	108	112	2.77	1.74	43	8	0.19	51	3	0.03	5	0.05	2	5	0.03	29	7
212	I	190	1.2	3.55	27000	150	0.5	20	0.01	0.2	113	8	109	208	2.93	1.74	60	7	0.26	26	7	0.03	6	0.05	32	4	0.03	22	5
213	J	140	0.8	0.61	>10%	36	0.2	30	0.01	0.2	44	156	163	100	13.42	0.28	25	2	0.04	39	6	0.01	19	0.07	8	1	0.01	9	13
214	K	100	0.8	1.32	15000	75	0.2	19	0.01	0.2	49	15	228	29	2.43	0.53	27	3	0.11	29	10	0.03	5	0.04	10	8	0.03	10	4
215	L s!	9600	0.8	0.07	>10%	3	0.2	56	0.06	0.2	41	8	67	98	17.30	0.03	24	1	0.02	45	3	0.01	1	0.05	36	1	0.01	5	16
216	M s!	1340	0.8	1.00	>10%	32	0.2	729	0.01	0.2	31	240	79	573	14.02	0.45	20	2	0.06	35	4	0.01	51	0.09	8	1	0.01	11	11
217	N s!	760	24.0	0.11	>10%	10	0.2	452	0.01	0.2	87	73	98	200	13.96	0.04	48	1	0.02	36	6	0.01	6	0.05	1796	5	0.01	4	37
218	O	5200	14.8	0.27	>10%	12	0.2	217	0.01	0.2	5	12	56	693	17.06	0.07	5	2	0.03	61	6	0.01	1	0.05	25	1	0.01	10	58
219	P s	840	12.4	0.30	>10%	12	0.2	607	0.01	0.2	5	75	109	152	16.46	0.10	4	1	0.02	39	3	0.01	1	0.05	115	1	0.01	6	16
220	Q s!	1700	2.0	0.06	>10%	1	0.2	373	0.01	0.2	5	35	30	1802	15.65	0.01	3	1	0.01	60	3	0.01	1	0.06	2	1	0.01	6	32
221	R	5	8.0	0.31	289	29	0.4	11	7.62	3.0	83	9	164	37	1.09	0.13	15	7	0.26	572	7	0.03	7	0.03	6194	96	0.01	19	607
222	S	1030	2.0	0.20	>10%	21	0.2	2824	0.03	0.2	7	49	75	662	19.36	0.08	8	1	0.03	53	5	0.01	7	0.03	84	1	0.01	6	18
223	T	1000	3.2	0.17	>10%	25	0.2	1284	0.01	0.2	9	31	164	286	14.14	0.08	9	1	0.02	42	6	0.01	2	0.03	64	1	0.01	5	12
224	U s	4700	2.0	0.10	>10%	4	0.2	781	0.01	0.2	5	81	25	316	18.60	0.04	4	1	0.02	45	4	0.01	1	0.03	14	1	0.01	7	31
225	V	1700	1.2	0.87	>10%	78	0.2	204	0.01	0.2	9	14	105	46	11.98	0.41	8	1	0.06	67	8	0.01	1	0.04	24	3	0.01	12	16
226	1535 – W	7900	6.4	0.06	>10%	6	0.2	1129	0.01	0.2	5	36	10	63	17.60	0.03	4	1	0.02	43	4	0.02	1	0.02	196	1	0.01	4	17
227	1536 – A	2400	228.0	0.70	95000	36	0.2	1046	0.01	0.2	11	124	200	57	8.91	0.31	10	1	0.04	50	11	0.02	5	0.02	6948	5	0.01	8	48
228	B	940	1.2	0.24	80000	12	0.2	22	0.01	0.2	8	53	185	48	6.97	0.10	5	1	0.02	30	9	0.02	7	0.03	22	1	0.01	5	9
229	C	7700	2.4	0.05	>10%	3	0.2	1077	0.01	0.2	5	341	56	48	23.49	0.02	8	1	0.02	50	9	0.01	3	0.04	129	1	0.01	5	21
230	D	4300	1.2	0.13	>10%	7	0.2	580	0.01	0.2	28	352	128	467	17.25	0.04	20	1	0.02	47	3	0.01	1	0.03	24	1	0.01	5	22
231	1536 – E	680	0.8	3.28	60000	174	0.7	92	0.02	0.2	52	82	69	72	7.62	1.51	30	8	0.14	49	7	0.02	6	0.04	18	7	0.03	25	12

30/08 GP

NORANDA DELTA LABORATORY
Geochemical Analysis

Project Name & No.: KEIZA RIVER – 354 | **Geol.:** J.D. | **Date received:** AUG. 12 | **LAB CODE:** 9308–023
Material: 57 Soils & 44 Rx | **Sheet:** 1 of 3 | **Date completed:** AUG. 30
Remarks: • Sample screened @ –35 MESH (0.5 mm)
¤ Organic, Δ Humus, S Sulfide

Au – 10.0 g sample digested with aqua–regia and determined by A.A. (D.L. 5 PPB)

ICP – 0.2 g sample digested with 3 ml $HClO_4/HNO_3$ (4:1) at 203 °C for 4 hours diluted to 10 ml with water. Leeman PS3000 ICP determined elemental contents.

N.B. The major oxide elements and Ba, Be, Ce, La, Li, Ga are rarely dissolved completely from geological materials with this acid dissolution method.

T.T. No.	SAMPLE No.		Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	La ppm	Li ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sr ppm	Ti %	V ppm	Zn ppm
121	BL – 600E soil	50	0.2	5.55	1097	462	1.3	13	0.10	0.2	96	10	28	77	5.05	1.78	56	14	0.45	253	1	0.07	19	0.18	22	32	0.10	81	84
122	550	70	0.2	2.80	456	230	0.6	12	0.11	0.2	53	3	16	21	2.13	0.99	28	9	0.22	63	1	0.33	5	0.10	7	21	0.07	45	23
123	500	180	0.2	3.50	1287	458	0.7	103	0.09	0.2	83	4	20	27	2.93	1.40	46	9	0.19	90	3	0.05	7	0.10	7	32	0.06	67	26
124	450	350	0.4	3.03	565	241	0.7	19	0.21	0.2	135	5	23	34	3.27	1.10	76	10	0.28	129	1	0.04	8	0.08	2	28	0.10	66	25
125	BL –400E	240	0.2	2.98	414	242	0.7	8	0.34	0.2	140	7	37	39	3.44	0.93	76	12	0.43	174	1	0.04	13	0.08	2	35	0.15	74	39
126	BL –350E	15	0.2	3.53	338	283	0.9	5	0.31	0.2	137	9	34	49	3.76	1.11	76	14	0.55	211	1	0.05	15	0.08	2	35	0.14	72	38
127	300	160	0.2	5.61	513	340	1.4	11	0.09	0.2	140	14	18	67	3.90	2.30	79	9	0.30	127	1	0.07	12	0.07	2	23	0.07	64	20
128	250	120	0.2	3.01	926	283	0.8	10	0.39	0.2	113	18	37	22	3.42	0.93	60	12	0.44	313	1	0.13	23	0.10	8	35	0.15	67	46
129	200	130	0.4	3.90	2555	398	0.9	9	0.37	0.2	142	15	30	81	5.70	1.37	76	16	0.45	821	1	0.05	26	0.11	19	56	0.13	68	64
130	BL –150E	110	0.2	3.23	758	338	0.8	8	0.38	0.2	111	9	46	33	4.39	0.98	60	14	0.40	263	1	0.04	18	0.09	5	41	0.17	81	47
131	BL –100E	330	0.2	4.53	765	480	1.1	5	0.32	0.2	115	10	39	44	4.74	1.48	65	17	0.46	335	1	0.05	19	0.11	2	44	0.17	95	57
132	50E	260	0.2	4.08	247	423	0.9	5	0.29	0.2	97	15	35	37	4.28	1.14	54	17	0.50	462	1	0.04	24	0.11	2	36	0.16	82	53
133	000	210	0.2	4.61	939	365	1.0	5	0.18	0.2	120	27	23	100	4.77	1.81	65	10	0.31	235	1	0.05	33	0.12	5	40	0.11	68	40
134	50W	45	0.2	5.45	506	532	1.4	5	0.24	0.2	130	30	26	28	5.50	1.80	67	23	0.45	1351	1	0.06	35	0.19	22	35	0.12	76	86
135	BL – 100W	55	2.4	9.04	3411	863	2.1	17	0.13	0.2	57	13	23	36	4.82	3.36	30	36	0.41	505	1	0.10	20	0.26	21	76	0.10	101	60
136	BL – 150W	10	0.2	3.97	566	386	1.0	5	0.26	0.2	98	10	30	20	3.67	1.31	53	12	0.39	300	1	0.06	19	0.14	8	38	0.14	79	52
137	200	10	0.2	3.77	288	335	1.0	5	0.39	0.2	98	13	37	24	3.99	1.09	52	16	0.54	341	1	0.05	24	0.09	7	43	0.17	83	55
138	250	10	0.2	4.46	52	399	1.2	5	0.28	0.2	102	11	35	23	4.31	1.41	54	12	0.47	413	1	0.07	21	0.13	5	39	0.15	88	49
139	300	10	0.2	3.60	62	353	0.9	5	0.28	0.2	114	11	34	21	3.53	1.09	61	11	0.38	404	1	0.06	20	0.16	6	38	0.14	84	51
140	BL – 350W	5	0.2	4.23	59	381	1.1	5	0.45	0.2	112	17	38	19	3.90	1.25	58	17	0.52	469	1	0.06	26	0.13	9	44	0.14	83	53
141	BL – 400W	10	0.2	4.06	117	382	1.1	5	0.36	0.2	105	16	28	15	3.16	1.37	56	12	0.32	592	1	0.06	17	0.12	64	32	0.10	69	65
142	450	5	0.2	3.38	23	378	0.9	5	0.42	0.2	109	18	40	24	3.57	0.92	57	14	0.44	764	1	0.05	26	0.10	6	43	0.17	82	56
143	500	5	0.2	3.59	17	344	0.8	5	0.24	0.2	102	9	28	19	3.05	1.02	56	11	0.38	305	1	0.06	19	0.11	3	34	0.12	72	47
144	550	30	0.2	4.43	30	420	1.1	5	0.11	0.2	83	9	21	25	3.34	1.40	48	9	0.31	316	1	0.09	16	0.20	5	33	0.08	72	48
145	BL – 600W	10	0.2	6.23	6	449	1.7	5	0.24	0.2	158	26	28	40	5.21	1.71	83	27	0.90	792	2	0.14	43	0.11	15	65	0.09	84	73
146	BL – 650W	45	0.2	6.86	11	449	1.8	5	0.26	0.2	169	28	24	39	5.52	1.74	96	31	0.89	787	1	0.24	39	0.16	38	115	0.07	79	89
147	700	35	0.2	6.30	10	348	1.7	5	0.62	0.2	137	34	22	34	5.60	1.57	81	37	0.87	1706	2	0.19	42	0.15	24	94	0.06	68	65
148	750	30	0.2	6.91	6	344	2.0	5	0.52	0.2	299	51	23	61	5.51	1.54	175	37	1.10	1669	1	0.26	43	0.13	15	109	0.05	61	78
151	800	20	0.2	7.65	2	342	2.0	5	1.17	0.2	160	32	21	55	5.54	1.93	91	34	0.99	969	1	0.32	39	0.10	2	124	0.05	67	108
152	BL – 850W	20	0.8	3.55	198	268	0.9	5	6.48	0.6	98	23	17	41	4.34	1.36	51	8	2.03	1216	1	0.09	25	0.10	215	135	0.03	46	482
153	0 – 050N	170	0.2	4.60	494	379	1.1	5	0.09	0.2	122	18	18	53	4.04	1.64	68	10	0.23	165	1	0.06	26	0.15	9	25	0.09	66	38
154	2E – 050N	50	0.2	3.54	1921	367	1.1	5	0.38	0.2	139	22	32	40	5.18	0.94	77	18	0.45	759	1	0.04	33	0.12	38	57	0.15	70	95
155	2E – 100N	50	0.2	3.21	3496	352	0.8	16	0.46	0.2	129	16	32	36	4.26	0.87	72	16	0.51	340	1	0.04	25	0.10	6	44	0.16	75	93
156	2E – 100S	25	0.2	2.78	125	258	0.8	5	0.43	0.2	89	8	38	18	3.02	0.71	48	12	0.44	263	1	0.04	18	0.17	7	39	0.15	72	62
157	2E – 050S	25	0.2	2.25	109	258	0.5	5	0.18	0.2	54	9	20	15	2.76	0.68	28	7	0.23	1084	1	0.20	10	0.17	7	25	0.09	56	56

31/08 Fyl

T.T. No.	SAMPLE No.		Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	La ppm	Li ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sr ppm	Ti %	V ppm	Zn ppm
																												9308-023 Pg. 2 of 3
158	2W – 050N	180	0.2	4.10	614	401	1.1	5	0.21	0.2	106	14	26	39	4.38	1.34	58	10	0.29	425	1	0.06	24	0.17	19	38	0.11	81	61
159	50S	160	0.2	3.43	338	341	0.9	5	0.38	0.2	98	13	37	24	3.82	1.00	51	16	0.53	434	1	0.05	25	0.10	26	38	0.14	78	62
160	200S	30	0.2	2.26	127	230	0.5	5	0.15	0.2	47	7	20	16	2.46	0.64	24	8	0.25	323	1	0.29	9	0.14	3	23	0.09	53	42
161	250S	35	0.2	2.65	199	406	0.6	5	0.17	0.2	53	9	20	18	2.12	0.89	30	7	0.17	1177	1	0.11	10	0.24	6	32	0.07	56	69
162	2W – 300S	10	0.2	2.90	156	338	0.6	5	0.12	0.2	47	7	24	18	2.91	0.85	27	8	0.22	381	1	0.20	10	0.17	6	30	0.10	78	52
163	4E – 200N	35	1.4	4.63	947	336	1.1	5	0.20	0.2	118	18	26	60	4.69	1.45	68	15	0.54	342	1	0.07	25	0.10	2	33	0.11	68	41
164	150	55	0.2	3.58	591	262	0.9	30	0.27	0.2	142	14	26	90	4.25	1.10	79	12	0.49	173	1	0.05	17	0.10	2	31	0.12	63	35
165	100	1600	0.2	2.62	441	223	0.6	42	0.27	0.2	104	5	28	37	3.28	0.79	57	11	0.40	144	2	0.04	11	0.06	3	29	0.12	72	41
166	50N	340	0.2	4.16	998	323	1.0	52	0.21	0.2	120	6	23	51	3.99	1.61	69	13	0.40	191	4	0.05	8	0.11	6	33	0.12	79	34
167	4E – 50S	640	0.2	3.95	1473	287	1.0	16	0.20	0.2	171	11	25	45	3.93	1.46	94	11	0.43	126	1	0.05	12	0.08	2	31	0.11	67	33
168	4E – 100S	140	1.6	3.09	1117	255	0.7	59	0.31	0.2	150	10	28	39	3.51	0.95	82	15	0.53	163	1	0.04	14	0.07	31	33	0.13	66	42
169	4E – 150S	930	0.2	2.75	636	274	0.7	13	0.29	0.2	184	8	32	44	4.34	0.83	102	11	0.43	148	1	0.04	12	0.06	5	32	0.13	64	37
170	4W – 050S	65	1.8	3.76	1042	358	1.1	5	2.25	3.0	172	33	22	36	4.51	1.40	83	12	1.20	2542	1	0.05	26	0.11	687	46	0.07	57	529
171	100	5	0.4	3.77	295	305	1.1	5	1.90	0.4	220	85	18	18	4.03	1.56	108	11	1.03	1205	1	0.13	30	0.11	91	38	0.06	50	183
172	4W –150S	70	0.2	3.97	99	336	1.3	5	1.73	0.2	168	29	18	63	3.72	1.64	83	14	0.49	1466	1	0.06	24	0.14	6	32	0.05	46	58
173	4W –200S	25	0.2	4.17	135	369	1.0	5	0.17	0.2	96	16	20	15	3.10	1.42	52	14	0.32	680	1	0.22	15	0.12	14	29	0.09	62	66
174	250	30	0.2	3.28	103	346	0.8	5	0.30	0.2	83	8	27	14	2.75	1.11	45	10	0.27	321	1	0.05	14	0.13	11	33	0.12	69	62
175	300	110	0.2	4.98	4463	432	1.8	5	0.28	0.2	166	70	19	16	5.05	2.18	94	11	0.28	806	1	0.07	62	0.14	7	29	0.05	51	73
176	350	10	0.2	4.08	396	388	1.1	5	0.31	0.3	120	19	24	42	4.05	1.36	60	15	0.38	1307	1	0.08	24	0.14	58	34	0.11	69	159
177	4W – 400S	45	1.0	5.80	740	454	1.5	5	0.39	0.2	139	24	19	44	3.91	2.27	75	31	0.40	572	1	0.09	26	0.09	128	30	0.07	65	144
178	6E – 050N	1300	0.2	4.87	734	355	1.2	40	0.16	0.2	129	14	24	80	6.11	1.64	74	16	0.39	273	1	0.05	25	0.11	66	34	0.10	69	81
179	6E – 100N soil	5300	0.2	2.27	893	191	0.5	20	0.21	0.2	126	6	28	40	3.49	0.74	69	8	0.26	141	1	0.03	9	0.09	4	26	0.10	57	36
180	17 – A rx	1100	0.8	0.49	>10%	54	0.2	484	0.01	0.2	23	102	145	1541	9.86	0.20	13	2	0.04	39	5	0.01	24	0.09	15	2	0.01	10	11
181	B	480	2.4	0.24	75000	15	0.3	509	0.01	0.2	14	29	118	205	7.04	0.08	11	3	0.04	37	5	0.01	1	0.06	138	4	0.01	6	13
182	C	200	8.0	0.63	5393	45	0.2	47	0.61	0.2	15	10	178	11000	3.96	0.29	5	1	0.03	149	5	0.01	5	0.02	14	10	0.01	8	52
183	D	300	22.0	0.23	2524	16	0.2	62	0.01	0.6	5	2	291	114	0.91	0.09	4	2	0.01	30	12	0.01	3	0.02	2272	32	0.01	4	54
184	E	13000	5.2	0.17	>10%	13	0.2	1229	0.01	0.2	5	679	115	291	18.17	0.08	5	1	0.03	49	5	0.01	25	0.03	106	1	0.01	6	18
186	F	2700	36.8	0.02	>10%	2	0.2	1257	0.01	0.5	5	132	76	414	23.38	0.01	11	1	0.02	49	6	0.01	6	0.04	1392	1	0.01	5	22
188	G	2000	34.0	0.04	>10%	3	0.2	1117	0.01	0.2	10	74	81	287	23.57	0.02	13	1	0.03	58	6	0.01	4	0.04	1184	1	0.01	5	22
190	H	2400	60.0	0.02	>10%	1	0.2	1786	0.01	0.5	5	92	63	242	22.46	0.01	7	1	0.03	50	9	0.01	8	0.04	2223	1	0.01	6	21
191	I	270	6.0	0.14	26000	13	0.2	55	0.01	0.2	7	39	353	27	3.72	0.06	5	2	0.02	51	15	0.01	5	0.01	304	2	0.01	7	9
192	J	40	0.2	0.56	17000	46	0.2	60	0.01	0.2	5	32	338	57	3.16	0.25	5	1	0.03	44	16	0.01	11	0.01	30	3	0.01	9	6
193	K	130	0.2	3.04	16000	144	0.5	14	0.06	0.2	51	11	187	128	4.73	1.39	34	4	0.13	92	12	0.02	9	0.03	2	5	0.02	16	66
194	L	30	1.6	4.48	11000	255	0.7	80	0.02	0.2	36	8	79	59	3.29	2.06	24	7	0.17	49	7	0.04	2	0.03	77	12	0.05	28	40
195	M	50	0.2	1.67	16000	86	0.4	5	0.01	0.2	62	11	191	61	2.18	0.69	34	3	0.13	45	5	0.03	4	0.03	2	7	0.05	19	5
196	N	840	76.0	0.15	76000	13	0.2	796	0.01	0.2	5	1	227	140	7.09	0.07	4	1	0.02	55	11	0.01	1	0.02	1522	8	0.01	5	10
197	O	50	0.4	4.07	2142	252	0.8	5	0.05	0.2	33	3	85	67	2.56	1.86	20	6	0.24	49	4	0.04	4	0.04	2	10	0.04	17	6
198	P	5600	16.0	0.06	>10%	7	0.2	1081	0.01	0.2	5	59	47	55	19.44	0.03	6	1	0.02	42	5	0.01	1	0.03	262	1	0.01	5	18
201	Q	20	0.2	3.24	1172	186	0.7	7	0.02	0.2	41	4	159	32	3.76	1.15	24	13	0.43	122	6	0.05	6	0.04	2	8	0.04	30	21
202	R	320	0.2	0.07	26000	9	0.2	969	0.04	0.2	5	16	235	14	2.58	0.02	2	1	0.02	61	5	0.01	3	0.01	56	2	0.01	4	5
203	S	420	0.2	1.16	16000	86	0.3	47	0.03	0.2	62	4	267	78	2.59	0.53	34	3	0.07	38	7	0.02	8	0.02	8	5	0.01	11	47
204	T	20	0.2	0.07	18000	13	0.2	14	0.01	0.2	197	222	336	64	2.17	0.02	104	1	0.01	41	14	0.01	13	0.03	3	6	0.01	4	4
205	U S	2300	64.8	0.29	>10%	30	0.2	505	0.01	0.4	9	13	37	155	16.24	0.11	8	3	0.03	82	3	0.01	1	0.05	4947	3	0.01	6	122
206	V	530	1.6	0.02	62000	3	0.2	1258	0.01	0.2	5	50	281	24	5.82	0.01	2	1	0.01	184	13	0.01	4	0.01	70	1	0.01	3	6
207	17 – W rx	2200	34.0	0.05	>10%	5	0.2	1279	0.01	0.2	6	64	110	34	12.50	0.02	5	1	0.01	34	3	0.01	3	0.02	412	1	0.01	3	12

T.T. No.	SAMPLE No.		Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	La ppm	Li ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sr ppm	Ti %	V ppm	Zn ppm
208	18 – A rx	3500	3.6	0.77	>10%	64	0.2	290	0.01	0.2	16	36	141	82	13.58	0.36	14	1	0.05	47	4	0.01	1	0.03	88	3	0.01	11	14
209	B S	320	0.4	0.50	>10%	24	0.2	328	0.01	0.2	9	22	79	3649	12.75	0.18	7	2	0.03	44	3	0.01	4	0.07	3	1	0.01	7	25
210	C	5	0.2	1.13	1426	55	0.2	5	0.01	0.2	26	3	190	24	1.25	0.48	12	2	0.05	36	3	0.02	3	0.01	2	4	0.02	12	4
211	D	90	0.8	1.65	37000	83	0.5	49	0.01	0.2	16	48	166	81	3.58	0.70	9	7	0.10	50	6	0.02	9	0.02	58	6	0.02	20	10
212	E	940	20.8	0.18	>10%	17	0.2	171	0.01	0.2	5	68	120	50	17.94	0.07	7	1	0.03	47	10	0.01	9	0.03	1548	2	0.01	8	22
214	F	2200	1.6	0.01	>10%	3	0.2	1690	0.01	0.2	5	428	51	116	23.97	0.01	7	1	0.03	53	7	0.01	12	0.04	49	1	0.01	7	19
216	G	260	20.4	1.23	611	104	0.4	11	4.33	2.0	63	175	88	33000	6.88	0.61	19	4	0.64	1401	8	0.03	64	0.04	4	99	0.01	19	166
217	H	30	0.2	0.79	9462	40	0.2	5	0.01	0.2	19	1	296	91	1.66	0.39	12	1	0.03	46	13	0.01	3	0.01	2	4	0.01	9	4
218	I	2000	6.4	5.33	55000	327	0.9	117	0.02	1.5	82	72	51	106	8.08	2.57	47	12	0.28	90	3	0.04	33	0.06	317	7	0.06	48	764
219	J	15	3.4	0.47	5016	23	0.2	5	0.03	0.2	19	12	200	556	9.13	0.13	11	3	0.10	182	6	0.01	7	0.02	155	2	0.01	8	48
221	K	70	1.2	0.03	7195	5	0.2	6	0.01	0.2	7	4	342	23	0.99	0.01	2	2	0.01	37	15	0.01	4	0.01	55	1	0.01	4	4
222	L	2900	0.2	0.15	60000	13	0.2	9	0.03	0.2	482	2	248	17	5.65	0.07	259	1	0.01	49	13	0.01	1	0.05	2	4	0.01	6	6
223	M	1500	3.6	2.25	31000	93	0.3	15	0.01	0.2	37	12	108	36	4.31	1.03	20	3	0.08	32	3	0.01	2	0.04	173	8	0.02	12	27
224	N	300	0.2	1.39	28000	72	0.2	34	0.01	0.2	17	2	231	67	4.74	0.65	10	3	0.06	57	12	0.01	1	0.02	2	3	0.02	13	63
225	O	450	2.4	0.77	17000	60	0.2	77	0.02	0.2	25	19	177	404	12.30	0.36	13	2	0.05	77	9	0.01	1	0.02	61	2	0.01	9	16
227	P	5	0.2	1.84	3047	132	0.3	15	0.09	0.2	126	4	115	52	1.62	0.88	63	3	0.09	64	5	0.02	4	0.03	2	5	0.03	15	11
228	Q	750	0.4	1.81	3643	119	0.3	20	0.01	0.2	38	2	211	10	1.44	0.85	19	3	0.08	48	13	0.02	4	0.01	30	4	0.03	18	12
229	R	10	5.8	3.33	393	184	0.5	5	0.04	19.1	59	7	59	51	3.98	1.40	32	9	0.17	395	5	0.02	11	0.08	2396	5	0.04	24	5476
230	S	70	3.8	0.79	17000	37	0.2	5	0.01	0.2	69	33	239	20	2.63	0.32	34	3	0.05	376	12	0.01	8	0.01	725	2	0.01	9	72
231	T	70	0.4	0.06	31000	10	0.2	38	0.04	0.2	137	99	220	981	13.86	0.02	75	1	0.05	100	11	0.01	4	0.03	2	2	0.01	7	24
233	18 – U rx	20	0.2	0.59	980	27	0.2	12	0.01	0.2	5	1	256	124	4.66	0.24	3	2	0.03	46	12	0.01	1	0.01	2	2	0.01	8	5

UTM CO-ORDINATES
KETZA RIVER
SHAMROCK ZONE AREA

1535A:	44390E	26790N
1535B:	44610E	27220N
1535C-G:	44630E	27220N
1535H,I:	45140E	27050N
1535J,K:	45530E	27200N
1535L:	45560E	27250N
1535M:	45960E	27320N
1535N:	46160E	27130N
1535O:	46130E	27080N
1535P:	46130E	27050N
1535Q:	46030E	27000N
1535R:	46000E	26960N
1535S:	45920E	27090N
1535T:	45940E	27090N
1535U:	45800E	27130N
1535V:	45680E	27250N
1535W:	45630E	27290N
1536A:	45570E	27280N
1536B:	45530E	27240N
1536C:	45560E	27220N
1536D:	45530E	27260N
1536E:	45440E	27200N
0017A:	45740E	26860N
0017B:	45840E	26840N
0017C:	44850E	26760N
0017D:	45830E	26880N
0017E:	47900E	27300N
0017F:	45050E	27670N
0017G:	45080E	27690N
0017H:	45100E	27670N
0017I:	45130E	27660N
0017J:	45250E	27710N
0017K:	45280E	27690N
0017L:	45330E	27690N
0017M:	45420E	27870N
0017N:	45470E	27870N
0017O:	45530E	27850N
0017P:	45750E	27720N
0017Q:	45810E	27720N
0017R:	45880E	27700N
0017S:	45870E	27670N
0017T:	45910E	27650N
0017U:	45930E	27630N
0017V:	45830E	27670N
0017W:	45830E	27640N

0018A:	45840E	27600N
0018B:	45880E	27610N
0018C:	45960E	27620N
0018D:	46000E	27600N
0018E:	46150E	27590N
0018F:	47960E	27330N
0018G:	44740E	27570N
0018H:	44800E	27580N
0018I:	44860E	27570N
0018L:	44150E	27390N
0018M:	44290E	27500N
0018N:	44420E	27570N
0018O:	44660E	27720N
0018P:	44680E	27700N
0018Q:	44560E	27670N
0018R:	44730E	27750N
0018S:	44800E	27720N
0018T:	44970E	27670N
0018U:	45010E	27660N

Sheet 1 of 1

N-CARIO District

57 SOILS

Lab Code 9308-023

RECORD OF SAMPLE TRANSMITTAL

NORANDA EXPLORATION COMPANY, LIMITED
P.O. BOX 2380
1050 DAVIE STREET
VANCOUVER, B.C.
V6B 3T5

Date Shipped: Aug. 9/93
Date Received: Aug 12
Shipped Via: BUS
No. of Cartons: 4
No. of Samples: 100
Geologist: COLE (J. DUKE)
Date: Aug. 9/93

MATERIAL:
[X] SOIL [ ] PAN
[ ] SILT [ ] CORE
[X] ROCK [ ] OTHER

Project 354 Kerr R. No.

SAMPLE NOS./COORDS. FROM/LINE	TO/STATION	N.T.S. NOS.	G.C.I. NOS.	ADD ELEMENT	SAMPLE NOS./COORDS. FROM/LINE	TO/STATION	N.T.S. NOS.	G.C.I. NOS.	ADD ELEMENT
	Rock.								
17	A – 17 W				56 soils				
18	A – 18 V				44 RXS				
	Soil.								
✓ Baseline	6+00 E to 8+50 W								
✓ Line	6E 50N to 1+00 N								
✓ Line	4E to 2+00 N 2nd 1+50 S								
✓ Line	2E 50N to 1+00 N, extra 100S, 150S.					NC	354		
✓ Line	0 to 0+50 N					SOIL	9308-023		
✓ Line	2W to 0+50 N 2nd 3+00 S								
✓ Line	4 W 50S to 4+00S								

ANALYTICAL INSTRUCTIONS

ICP (30 Elem.) + Au + ____ [✓]

ICP (Whole Rock/Major Oxides) [ ]

SPECIAL INSTRUCTIONS OR REMARKS:

RESULTS TO: G. BIDWELL

34304

NORANDA EXPLORATION COMPANY, LIMITED

Sheet 1 of 1

N. Cordillera District

Lab Code 9308-009

28 Rx

RECORD OF SAMPLE TRANSMITTAL

NORANDA EXPLORATION COMPANY, LIMITED
P.O. BOX 2380
1050 DAVIE STREET
VANCOUVER, B.C.
V6B 3T5

MATERIAL:
- ☐ SOIL
- ☐ SILT
- ☒ ROCK

Project Betza River No. 354

Date Shipped: Aug 2/93
Date Received: Aug 6
Shipped Via: Greyhound
No. of Cartons: 2
No. of Samples: 28
Geologist: C. Schulze
Date: Aug 2/93

SAMPLE NOS./COORDS. FROM/LINE	SAMPLE NOS./COORDS. TO/STATION	N.T.S. NOS.	G.C.I. NOS.	ADD ELEMENT	SAMPLE NOS./COORDS. FROM/LINE	SAMPLE NOS./COORDS. TO/STATION	N.T.S. NOS.	G.C.I. NOS.	ADD ELEMENT
1535	A-W	23	samples						
1536	A-E	5	Samples						
		28							

ANALYTICAL INSTRUCTIONS

ALL SAMPLES: (Cu, Pb, Zn, Mo, Ag) ☐
(Cu, Pb, Zn, Mo, Ag) +___+___ ☐
(Cu, Pb, Zn, Mo, Ag) + AS NOTED ☐

SPECIAL INSTRUCTIONS OR REMARKS:

30 element I.C.P. + Au by A.A.

RESULTS TO: G. Bidwell
Norex - Vancouver

YUKON MINFILE
STANDARD REPORT
EXPLORATION AND GEOLOGICAL SERVICES DIVISION, DIAND
WHITEHORSE

NAME(S): Ketza (Peel, 3B, Boom)
MINFILE #: 105F 019
MAJOR COMMODITIES: Au
MINOR COMMODITIES: Cu,Ag,Pb
TECTONIC ELEMENT: Cassiar Platform
NTS MAP SHEET: 105 F 9
LATITUDE: 61°32'18"N
LONGITUDE: 132°16'10"W
DEPOSIT TYPE: Replacement, Vein
STATUS: Underground Past Producer

CLAIMS (PREVIOUS AND CURRENT)

PENGUIN, PIONEER, PEEL, BOOM, MOON, DAK, NY, TEE, BJ, TOP, KON

WORK HISTORY

Staked as Penguin, Pioneer, Peel, Boom & Moon cl (69364) in Sep/54 by Conwest EL and Central Patricia ML, which explored with surface trenching in 1955, 610 m of shallow packsack drilling in 1956, 1980 m of drilling in 1958 and 1959, and a single 335 m hole in 1960. The drilling proved up to 68 040 tonnes grading 12 g/t Au.

Fringe staking included Dak cl (69811) to the south in Oct/54 by Prospectors Airways CL on behalf of a syndicate including Noranda ML and Kerr Addision Gold ML; NY and Tee cl (75811) to the north and west in Jul/61 by G. Dickson, which were restaked as BJ, etc cl (79678) in Jul/62 by Giant Yellowknife ML; and Top cl (Y74240) in Sep/73 by G. Fairclough. Prospectors Airways drilled 3 packsack holes (52 m) on the Dak group in 1955.

The key claims were surveyed and taken to lease and the property was transferred to a private company, Ketza River ML and examined briefly in Aug/74 by Nordev Res L. Ketza River tied on Kon cl (YA56473) in Sep/80, explored them with mapping and sampling in 1981 and optioned the property to Pacific Trans-Ocean Res L (Pacific Copper ML) in 1983.

Pacific Trans-Ocean entered a joint venture with Canamax Res Inc. and to the end of 1987 explored with ground and airborne geophysical surveys, geochemical surveys, 20 000 m of drilling in 246 holes, 1600 m of drifting on three levels in the Peel & Ridge Zones, and metallurgical testing.

During 1987, nine additional zones (including Knoll, Break, Gully & QB Zones) were tested and a 320 tonne/day mill was built. Initial reserves (June 1987) were estimated at 390 000 tonnes of oxide ore grading 15.3 g/t Au and 390 000 tonnes sulphide ore grading 8.6 g/t Au. The oxide figure was later revised downward to 250 000 tonnes grading 12.5 g/t Au based on a correction to the specific gravity. Production began in Apr/88 after a capital expenditure of $27 million. Production in 1988 was 86 664 tonnes containing 635,349 g Au and 6 804 g Ag with gold recovery of 87%.

In May/89 the Kon cl were transferred to Canamax which conducted 3983.2 m of surface diamond drilling (mostly on the Gully, Tarn and Knoll Zones) later that year. Production in 1989 totalled 1 337 115 g Au, and a further 1 139 943 g Au was produced between January and September 1990. Much of the production came from underground workings at the Peel and Ridge Zone but approximately 40% was oxide ore grading 9.9 g/t Au which was mined from open pits at the Break and NU zones (one pit), the QB vein, and the uppermost Ridge, Tarn, Gully and Knoll zones. The mine was shut down in September, 1990, leaving proved, probable and possible oxide reserves of 16 400 tonnes grading 9.7 g/t Au, and 175 000 tonnes of probable sulphide reserves grading 11.3 g/t Au.

Canamax covered the north extension of the QB zone with more Kon cl (YB33222) in Aug/91. Hemlo Gold Mines Inc staked the Kon 19-20 cl (YB45994) in the same area in July/93. In Feb/92, Wheaton River Minerals Ltd announced an agreement to purchase the mine, mill and related properties on 24 Aug/92. Wheaton River Minerals Ltd performed geological mapping, prospecting and trenching on several Kon cl in Aug/93.

In Aug/93, Noranda performed prospecting, geochemical sampling and trenching on the Shamrock zone.

GEOLOGY

On the Ketza River property, gold occurs in sulphide and oxide replacement manto and chimney deposits hosted by Lower Cambrian limestone, and in quartz-sulphide fissure vein and stockwork systems. The mantos and chimneys occur in massive, archaeocyathid-bearing limestone on the south flank of the west-plunging Peel Creek anticline, and the vein and stockwork deposits occur in Lower Cambrian argillite and phyllite on its north limb.

Oxide ore was mined underground from the Peel zone (flat-lying manto) and the Ridge zone (vertical chimney deposit) between 1988 and 1990. The oxide ore consists of hydrous red ferric oxide (limonite and goethite) and variable amounts of fine clay mixed with quartz fragments. Fine grained free gold can be concentrated from the oxide ore by panning. The oxide material is mostly friable, although a harder, shiny hydrous iron oxide known as "hisingerite" occurs around higher grade ore containing more than 20 g/t Au. The highest grade material in the Peel zone was concentrated near the greenish mudstone which forms the hanging wall.

In the Ridge Zone, a relict pyrrhotite-chalcopyrite stockwork, now reduced to boxwork-textured oxide material, forms an envelope around a core of higher grade earthy-textured oxides.

Sulphide ore in the Peel zone consists of mainly of massive pyrrhotite with 5 to 10% arsenopyrite and 0.5 to 1% chalcopyrite. Pyrite is locally common, but galena and sphalerite are extremely rare. Free gold 0.5 to 25 microns across occurs with native bismuth and chalcopyrite along fractures and sulphide grain boundaries or as inclusions in pyrrhotite and pyrite. The gold content of the deposit is highest in the centre and coincides with a higher proportion of arsenopyrite in the massive sulphide. Contacts between the massive sulphide manto and the wall rocks are sharp and the wall rocks appear unaltered.

Exploration on the property located 19 additional mineralized zones, including 65 000 tonnes grading 8.9 g/t Au at the Gully and QB zones; 68 000 tonnes grading 13.0 g/t Au at the Break and Nu; zones, 79 190 g/t Au grading 14.4 g/t Au at the Lab zone; 15 000 tonnes grading 8.5 g/t Au at the Tarn zone and 5 500 tonnes grading 12.5 g/t Au at the Knoll zone. Oxide ore from the Break, Nu, Tarn, Ridge and Gully and the QB vein was mined in open pits in 1989 and 1990. Magnetometer and EM surveys were useful for locating sulphide deposits, but only prospecting and close-spaced soil geochemistry (gold only) was successful in locating oxide deposits.

In the Shamrock zone, a 4 metre chip sample from a hand trench excavated in 1993 returned 1700 ppm gold.

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