

ASSESSMENT REPORT

DRILLING

PHOENIX 1 GROUP

GREENWOOD MINING DIVISION

FILMED

N.T.S. 82E/E

Lat. 49°06.1' Long. 118°33.4'

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

15,058

John Keating  
Project Geologist  
Owner(s) Noranda Exploration Company, Limited  
(No Personal Liability)  
Kettle River Resources Limited  
August 1 - August 12, 1985

Operator: Noranda Exploration Company, Limited

MINISTRY OF ENERGY, MINES  
AND PETROLEUM RESOURCES

Rec'd SEP 4 1986

SUBJECT \_\_\_\_\_

FILE \_\_\_\_\_

VANCOUVER, B.C.

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1. INTRODUCTION

The Phoenix 1 Group of mineral claims, comprising of 88 units, is jointly owned by Noranda Exploration Company, Limited (No Personal Liability) (51% interest), situated at 1050 Davie Street, Vancouver, B.C and Kettle River Resources, Ltd. (49% interest) of Greenwood B.C. Noranda is currently operating the property.

Between August 1st and August 12, 1985, the following 18 hole Vibracor Vibratory drill programme was undertaken in order to test the gold potential of the old Phoenix tailings.

2. LOCATION AND ACCESS

The Phoenix 1 Group of claims cover an area some 5 to 12 km east of Greenwood B.C. at longitude 118°33'W and latitude 49°06'N, within the Greenwood Mining Division, on N.T.S. mapsheet 82E/2E.

The old Phoenix tailings are centrally situated within the claim group and can be easily accessed by taking the Phoenix mine (Twin Creek) road for some 10 km east of Greenwood B.C.

3. TOPOGRAPHY AND VEGETATION

The Phoenix 1 Group is situated in gentle to relatively rolling hilly terrain, with a maximum elevation of 5183 ft (Knob Hill) and a minimum elevation of 3200 ft (headwaters of Fisherman Creek).

Southern slopes are often open with sparse spruce, where as, northern slopes and creeks tend to be dense with a second growth of cedar, spruce and alders.



4. CLAIM INFORMATION

PHOENIX 1 GROUP OF CLAIMS

TABLE 1

<u>Claim Name</u>	<u>Owner</u>	<u>Record Number</u>	<u>Record Date</u>
Woodstock	NORANDA EXPLORATION	L2627 (C.G.)	July 2/86
May	COMPANY, LIMITED	L2629 (C.G.)	"
Denver	(No Personal Liability)	L2875 (C.G.)	"
Little Dalles	"	L2628 (C.G.)	"
Log Cabin Fr.	"	L3299 (C.G.)	"
Rob Roy	"	L1556 (C.G.)	"
Pilot	"	L3297 (C.G.)	"
Dexter Fr.	"	L3298 (C.G.)	"
Four Paw	"	L3550 (C.G.)	"
Garfield	"	L1264 (C.G.)	"
Surprise Fr.	"	L2384 (C.G.)	"
Sylvester-K	"	L2385 (C.G.)	"
Coy 1	"	20521	Sept. 21/91
Coy 2	"	20522	"
Coy 3	"	20523	"
Coy 4 Fr.	"	20524	Sept. 21/90
Coy 5 Fr.	"	20525	"
Coy 6	"	22080	Sept. 22/90
Coy 7	"	22081	"
Coy 8 Fr.	"	22082	"
Grey Eagle	"	L793 (C.G.)	July 2/86
Knob Hill	"	L590 (C.G.)	"
War Eagle	"	L678 (C.G.)	"
Missing Link	"	L979 (C.G.)	"
Wendy 13	"	18055	Oct. 26/89
Wendy 15	"	18057	"
Val 3 Fr.	"	18075	Aug. 23/88
Bank of England	"	L1235 (C.G.)	July 2/86
Rawhioe	"	L892 (C.G.)	"
Val 1	"	16010	Feb. 20/80
Val 2 Fr.	"	16011 (C.G.)	July 2/86
Yellow Jacket	"	11327 (C.G.)	July 2/86
Pac 60 *	"	36625	June 20/86
Pac 16	"	18349	Sept. 8/90
Pac 15	"	18348	"
Pac No. 9 Fr.	"	18259	June 20/89
Pac 1	"	16130	Aug. 3/90
Pac 2	"	16131	"
Pac 13	"	18346	Sept. 8/90
Pac 14	"	18347	"
Pac #10	"	18260	June 21/89
Pac 35	"	21927	Aug. 12/90
Pac 36	"	21928	"

Pac 38	"	21930	Aug. 12/90
Bobcat #1 *	"	19118	June 13/86
Bobcat #2 *	"	19119	"
Bobcat #3 *	"	19120	"
Bobcat #4 *	"	19121	"
Pac #12	"	18262	June 21/89
Pac #18	"	21715	"
Pac #20	"	21717	"
Pac #21	"	21718	"
Pac #22	"	21719	"
Pac #23	"	21720	"
Pac #24	"	21721	"
Pac #25	"	21722	"
Pac #26	"	21723	"
Pac #27	"	21724	"
Pac #28	"	21725	"
Pac #29	"	21726	"
Pac #30	"	21727	"
Pac #31	"	21728	"
Pac #32	"	21729	"
Pac #33	"	21925	Aug. 12/90
Pac #33 Fr.	"	21730	June 25/90
Pac #34 Fr.	"	21926	Aug. 12/90
Pac #34 Fr.	"	21731	June 25/90
Pac #35	"	21767	July 7/90
Pac #41	"	22144	Nov. 2/90
Pac #42	"	22145	"
Pac #43	"	22146	Nov. 2/89
Pac #44 Fr.	"	22147	"
Pac #45	"	22148	"
Pac #46	"	22149	"
Pac #47	"	22150	"
Pac #48	"	22151	"
Belmont Fr.	"	M220 (M.L.)	Oct. 26/86
Boston-Willamena- Stafford Fr.	"	M115 (M.L.)	Nov. 21/86
Pipe 5 Fr.	KETTLE RIVER RESOURCES LTD.	3170	"
Cracker Jack *	"	3098	June 6/86
Cracker Jack 1 Fr. *	"	3173	Aug. 23/90
Cracker Jack 2 Fr.	"	3174	"
Oronoco *	"	3096	June 8/86
Yukon Fr. *	"	3097	"
Pax Fr. *	"	3773	June 17/86
Little Burne Fr.	"	3186	Aug. 4/90
Wendy Fr.	"	3120	July 6/89
Val 4 Fr. *	"	3102	June 18/86

(M.L.) Mineral Lease

(C.G.) Crown Grant

Claim which assessment report is being applies to

## 5. DRILLING

### 5.1 Methodology

All holes were drilled vertically and positioned on a grid with the majority at 100 metre square centres.

Survey control consisted of a metric chained grid with a 0.4 km north-south base-line and variable length east-west wing-lines. Stations were placed at 25 metre intervals on the wing lines.

Drilling was done with a Vibracor Vibratory drill mounted on an all terrain vehicle. Which is owned and operated by Noranda Exploration Company, Limited's (No Personal Liability) Winnipeg Office at 4 - 2130 Notre Dame Avenue.

Procedure consisted of "N"-size drill rods being vibrated into the tailings with samples retrieved in 5 foot intervals. Each sample was then vibrated into a 24" X 36" plastic bag which are currently being stored at Kettle River Resources trailer in Greenwood B.C.

Mixing of each sample was done by hand on a clean sheet of plastic.

Due to the large nature of the samples only 1/4 of each was taken and geochemically analyzed at Rossbacher Laboratory Ltd. of 2225 South Springer Avenue, Burnaby B.C.

The exception to the above sampling method was the preliminary or test hole, TL-1-85, in which the 0-20 foot interval was collected as a single sample in one bag. This sample was mixed by hand and then quartered with each quarter being quartered again. Resulting in four equal size sample (81660-81663) which each represent 1/16 of the 0-20 foot interval.

All samples were analyzed for parts per million (ppm) Cu, Ag, Zn, and parts per billion (ppb) Au. Holes TL-10-85 through TL-18-85 and TL-1-85 were also analyzed for ppm Pb.

Duplicate 1/4 size cuttings were randomly taken as a check for sample homogeneity, which proved to be quite consistent as seen in Table 2.



TABLE 2

COMPARISON OF SAMPLE AND DUPLICATE ANALYSES

Hole Number	Interval (ft)	Cu (ppm)	Ag (ppm)	Zn (ppm)	Au (ppb)	Pb (ppm)
TL-5-85	40-45	1160	2.2	74	350	
Duplicate	40-45	1160	2.2	94	350	
TL-6-85	45-50	1420	2.4	80	270	
Duplicate	45-50	1420	2.4	86	300	
	65-70	1280	2.4	72	500	
Duplicate	65-70	1280	2.4	72	400	
TL-7-85	75-80	950	2.2	86	110	
Duplicate	75-80	890	2.2	82	150	
TL-8-85	55-60	910	2.0	70	220	
Duplicate	55-60	920	2.2	72	200	
TL-9-85	60-62	880	1.8	70	250	
Duplicate	60-62	720	1.6	64	210	
TL-12-85	25-30	750	1.4	62	120	6
Duplicate	25-30	750	2.4	60	140	4
TL-16-85	5-10	860	2.2	64	240	62
Duplicate	5-10	850	2.4	64	290	2
TL-18-85	40-45	1520	3.6	88	140	2
Duplicate	40-45	1580	4.0	90	150	2

5.2 SAMPLE PREPARATION

Samples were dried at approximately 80°C and then sieved with a -80 mesh nylon screen. The -80 mesh (0.18 mm) fraction is then used for geochemical analysis.

5.3 ANALYSIS

Ag, Cu, Pb and Zn: 0.200 grams of -80 mesh material is digested in concentrated perchloric acid and nitric acid (3:1) at reflux temperature for 5.0 hours. A Varian-Techtron Model AA-5 or AA-475 Atomic Absorption Spectrophotometer is then used to determine the parts per million (ppm) silver, copper, lead, zinc and molybdenum in each sample.

Au: 10.0 grams of -80 mesh material is digested with aqua regia (one part nitric acid and 3 parts hydrochloric acid). The resulting solution is subjected to MIBK (Methylisobutyl Ketone) extraction, which extract is analyzed for parts per billion (ppb) gold using a AA-475 Atomic Absorption Spectrophotometer.

#### 5.4 DISCUSSION OF RESULTS

Drill hole locations with their total length and gold geochemical analysis are plotted on Diagram 1.

Morphology of the tailings consists of two areas the dyke or berm and the pond which was completely dry on surface at the time of the drilling.

Both TL-6-85 and TL-12-85 bottomed in organic material which is believed to represent the subsurface or base of the tailings. All other holes did not intersect organics and are believed not to have reached tailing's subsurface.

Holes within the dyke or berm (TL-13, 16 & 17) were shallow as the material was too compacted and dry for drilling to depth.

Holes within the pond area generally descended through an initial 5-15 foot horizon of dry compacted fine material into a wet clay like or somewhat thixotropic substance for the remainder of the hole. This zonation gives the impression of there being lake of semifluid mud or clay overlain by a blanket or layer of compacted sand and silt.

Incomplete or short holes in the pond area were stopped by intersecting either an impermeable compacted layer of clay in the upper horizon or from the inability to retrieve a sample from the lower horizon due to suction created by the dense viscous material.

This suction causes the sample to be pulled back out of the rod as it is raised.

Geochemical analyses and sample intervals for each hole can be found in Appendix A. Statistical analyses per element for each hole and the combined holes are displayed in Appendix B.

Table 3 gives a summary of hole parameters as well as the arithmetic mean per element for each hole with a total and average for all holes.

TABLE 3

TABLE OF RESULTS (Duplicate samples are included in the statistics)

Drill Hole	Total Depth (ft)	# Samples	Arithmetic Mean of Geochem Analyses				
			Au (ppb)	Ag (ppm)	Cu (ppm)	Zn (ppm)	Pb (ppm)
TL-1-85	28	6	401.7	2.4	1196.7	106.7	8.0
TL-2-85	48	10	376.0	2.3	1164.0	133.8	
TL-3-85	40	8	436.3	2.3	1177.5	104.5	
TL-4-85	25	5	238.0	2.2	964.0	88.4	
TL-5-85	50	11	278.2	2.3	1052.6	78.9	
TL-6-85	70	16	269.4	2.2	1120.0	77.0	
TL-7-85	80	16	189.4	2.2	1065.9	80.4	
TL-8-85	60	13	252.3	2.1	1078.5	84.6	
TL-9-85	62	14	226.4	2.1	1142.1	80.8	
TL-10-85	20	4	212.5	3.2	940.0	104.5	20.5
TL-11-85	5	1	330.0	3.4	1220.0	70.0	6.0
TL-12-85	32	8	223.8	1.8	836.3	70.5	5.0
TL-13-85	10	2	425.0	1.9	920.0	69.0	2.0
TL-14-85	8	2	394.0	2.4	970.0	62.0	2.0
TL-15-85	23	5	138.0	3.0	1140.0	81.2	2.0
TL-16-85	15	4	245.0	2.2	835.0	63.0	17.0
TL-17-85	5	1	720.0	2.8	1480.0	64.0	2.0
TL-18-85	48	11	129.1	3.3	1290.0	84.9	2.0
<b>TOTAL/AVERAGE</b>	<b>629</b>	<b>137</b>	<b>304.8</b>	<b>2.4</b>	<b>1088.5</b>	<b>83.6</b>	<b>6.7</b>

As can be seen in Table 3, total as well as individual hole geochemical analyses for Au, Ag, Cu, Zn and Pb were low (i.e. subeconomic) with values being quite consistent throughout the holes.

There also appears to be no direct relationship between Au and any of the other elements.

Finally there appears to be no horizontal spatial relationship for Au, such as zoning, within the tailings as can be seen from the Au analyses plotted on the tailings plan map (Diagram 1).

6. SUMMARY AND RECOMMENDATIONS

Eighteen Vibracor Vibratory drill holes (TL-1-85 to TL-18-85) were drilled during August 1985, in order to test the old phoenix tailings gold potential.

Only two of the holes (TL-6-85 and TL-12-85) are believed to have reached the tailings base or subsurface. All other holes did not reach the tailings base as they were stopped short by either impermeable clay or inability to retrieve a sample due to down hole suction caused by dense viscous material.

Even though most holes were incomplete the majority of the tailings was tested and found to have subeconomic mineral potential for gold.

The only areas not fully tested by the drilling are the dyke or berm and the basal section of the tailings. The basal section was reached in two holes (TL-6-85, TL-12-85) increase in gold content.

If further testing is desired it is recommended that a reverse circulation drill be used.

APPENDIX A  
GEOCHEMICAL ANALYSES

Tailings

ROSSBACHER LABORATORY LTD.

2225 S. SPRINGER AVENUE  
BURNABY, B.C. V5B 3N1  
TEL : (604) 299 - 6910

CERTIFICATE OF ANALYSIS

TO : NORANDA EXPLORATION CO. LTD.  
1050 DAVIE STREET  
VANCOUVER B.C.

CERTIFICATE#: 85282  
INVOICE#: 5451  
DATE ENTERED: AUGUST 21, 1985  
FILE NAME: NOR85282  
PAGE #: 1

PROJECT: 428 8508-054

TYPE OF ANALYSIS: GEOCHEMICAL TL 85 #2-9 (JK)

PRE FX	SAMPLE NAME	PPM Cu	PPM Ag	PPM Zn	PPB Au	SAMPLE INTERVAL (ft)	Hole #
A	81501	1420	2.8	202	340	0-5	TL-2-85
A	81502	1000	2.2	110	260	5-10	
A	81503	1100	2.4	98	400	10-15	
A	81504	1280	2.4	478	480	15-20	
A	81505	1180	2.2	90	470	20-25	
A	81506	1080	2.0	72	390	25-30	
A	81507	1080	2.2	70	280	30-35	
A	81508	1040	2.4	70	340	35-40	
A	81509	1200	2.4	78	200	40-45	
A	81510	1260	2.0	70	600	45-50	
A	81511	1260	2.6	72	680	0-5	TL-3-85
A	81512	1080	2.2	76	250	5-10	
A	81513	1060	2.4	74	490	10-15	
A	81514	1460	2.6	70	440	15-20	
A	81515	1060	2.4	74	370	20-25	
A	81516	1000	2.0	70	360	25-30	
A	81517	1280	2.2	68	420	30-35	
A	81518	1220	2.2	332	480	35-40	
A	81519	750	1.8	80	270	0-5	TL-4-85
A	81520	1000	2.2	96	200	5-10	
A	81521	850	2.0	102	200	10-15	
A	81522	1200	2.4	76	270	15-20	
A	81523	1020	2.4	88	250	20-25	TL-5-85
A	81524	1260	2.2	76	410	0-5	
A	81525	940	2.6	88	90	5-10	
A	81526	980	2.4	92	180	10-15	TL-6-85
A	81527	1320	2.8	78	280	15-20	
A	81528	1140	2.4	78	260	20-25	
A	81529	900	2.2	72	350	25-30	
A	81530	950	2.0	72	310	30-35	
A	81531	1300	2.4	76	300	35-40	
A	81532	1160	2.2	74	350	40-45	TL-7-85
A	Duplicate 81533	1160	2.2	94	350	45-50	
A	81534	468	1.2	68	180	50-55	
A	81535	780	2.0	80	210	0-5	
A	81536	850	2.0	72	270	5-10	TL-8-85
A	81537	940	2.4	80	120	10-15	
A	81538	960	2.4	82	150	15-20	
A	81539	1460	2.8	76	240	20-25	
A	81540	1020	2.2	80	180	25-30	

CERTIFIED BY :

*[Signature]*

20/8/85 JK (NMC) WM DB DP

**ROSBACHER LABORATORY LTD.**

2225 S. SPRINGER AVENUE  
 BURNABY, B.C. V5B 3N1  
 TEL : (604) 299 - 6910

**CERTIFICATE OF ANALYSIS**

TO : NORANDA EXPLORATION CO. LTD.  
 1050 DAVIE STREET  
 VANCOUVER B.C.  
 PROJECT: 428 B508-054  
 TYPE OF ANALYSIS: GEOCHEMICAL

CERTIFICATE#: 85282  
 INVOICE#: 5451  
 DATE ENTERED: AUGUST 21, 1985  
 FILE NAME: NOR85282  
 PAGE # : 2

PRE IX	SAMPLE NAME	PPM Cu	PPM Ag	PPM Zn	PPB Au	SAMPLE INTERNAL	HOLE #
A	81541	910	2.0	76	200	30-35	7L-6-25
A	81542	1060	1.8	74	360	35-40	
A	81543	1040	2.2	76	200	40-45	
A	81544	1420	2.4	80	270	45-50	
A	81545	1180	2.0	76	260	50-55	
A	81546	1240	2.2	76	320	55-60	
A	81547	1080	2.0	74	330	60-65	
A	81548	1280	2.2	72	500	65-70	
A	Duplicate 81549	1280	2.4	72	400	70-75	
A	Duplicate 81550	1420	2.4	86	300	75-80	
A	81551	900	2.2	72	330	80-85	7L-5-25
A	81552	940	2.0	72	260	85-90	
A	81553	1140	2.6	86	150	90-95	
A	81554	1000	2.4	82	160	95-100	
A	81555	1280	2.4	78	240	100-105	
A	81556	1100	2.2	76	150	105-110	
A	81557	890	2.2	82	120	110-115	
A	81558	1040	2.2	84	120	115-120	
A	81559	1060	2.2	88	230	120-125	
A	81560	1140	2.2	78	210	125-130	
A	81561	1060	2.0	74	260	130-135	7L-5-25
A	81562	1180	2.2	76	200	135-140	
A	81563	1020	2.2	76	220	140-145	
A	81564	1200	2.4	82	170	145-150	
A	81565	1240	2.4	92	140	150-155	
A	81566	950	2.2	86	110	155-160	
A	Duplicate 81567	980	2.2	82	150	160-165	
A	81568	800	1.8	92	220	165-170	
A	81569	1360	2.4	94	380	170-175	
A	81570	960	1.8	78	220	175-180	
A	81571	1280	2.4	74	300	180-185	7L-5-25
A	81572	1260	2.2	120	210	185-190	
A	81573	1200	2.4	110	270	190-195	
A	81574	1260	2.2	90	250	195-200	
A	81575	970	2.0	78	340	200-205	
A	81576	1060	1.8	74	200	205-210	
A	81577	1140	2.0	76	230	210-215	
A	81578	900	2.2	72	240	215-220	
A	81579	910	2.0	70	220	220-225	
A	Duplicate 81580	920	2.2	72	200	225-230	

CERTIFIED BY :

*P. Rosbacher*

**ROSSBACHER LABORATORY LTD.**

2225 S. SPRINGER AVENUE  
 BURNABY, B.C. V5B 3N1  
 TEL : (604) 299 - 6910

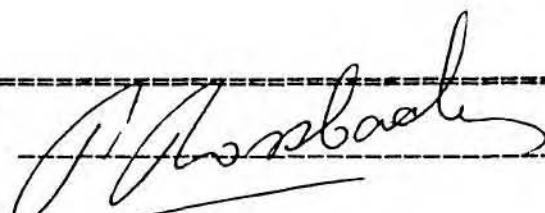
**CERTIFICATE OF ANALYSIS**

CLIENT: NORANDA EXPLORATION CO. LTD.  
 1050 DAVIE STREET  
 VANCOUVER B.C.  
 PROJECT: 428 8508-054  
 TYPE OF ANALYSIS: GEOCHEMICAL

CERTIFICATE#: 85282  
 INVOICE#: 5451  
 DATE ENTERED: AUGUST 21, 1985  
 FILE NAME: NOR85282  
 PAGE # : 3

PRE FIX	SAMPLE NAME	PPM Cu	PPM Ag	PPM Zn	PPB Au	SAMPLE INTERVAL (A)	HOLE #
A	81581	1040	2.0	78	200	0 - 5'	76-9-65
A	81582	1040	2.2	78	220	5 - 10'	
A	81583	1200	2.4	106	250	10 - 15'	
A	81584	910	1.6	78	240	15 - 20'	
A	81585	1280	2.2	90	350	20 - 25'	
A	81586	1000	2.0	78	220	25 - 30'	
A	81587	1080	2.4	82	270	30 - 35'	
A	81588	960	2.2	82	150	35 - 40'	
A	81589	1040	2.0	78	240	40 - 45'	
A	81590	1960	2.8	84	200	45 - 50'	
A	81591	1380	2.4	78	220	50 - 55'	
A	81592	1500	2.2	82	150	55 - 60'	
A	81593	880	1.8	70	250	60 - 65'	
A	Duplicate 81594	720	1.6	64	210	60 - 65'	

CERTIFIED BY :





**ROSSBACHER LABORATORY LTD.**

2225 S. SPRINGER AVENUE  
 BURNABY, B.C. V5B 3N1  
 TEL : (604) 299 - 6910

**CERTIFICATE OF ANALYSIS**

CLIENT: NORANDA EXPLORATION CO. LTD.  
 1050 DAVIE STREET  
 VANCOUVER B.C.

CERTIFICATE#: 85312  
 INVOICE#: 5501  
 DATE ENTERED: AUGUST 30, 1985  
 FILE NAME: NOR85312  
 PAGE #: 1

PROJECT: 428 8508-085  
 TYPE OF ANALYSIS: GEOCHEMICAL

PRE FIX	SAMPLE NAME	PPM Cu	PPM Ag	PPM Zn	PPM Pb	PPB Au	SAMPLE INTERVAL (ft)	Hole #
A	81595	980	3.0	136	28	210	0-5'	71 10-2
A	81596	870	3.2	100	22	190	5-10'	
A	81597	1100	3.6	84	12	220	10-15'	
A	81598	810	3.0	98	20	230	15-20'	
		<del>770</del>	<del>3.0</del>	<del>70</del>	<del>6</del>	<del>330</del>		
A	81626	1220	3.4	70	6	330	0-5'	72
A	81627	1160	2.4	78	2	380	0-5'	
A	81628	940	2.2	72	10	280	5-10'	
A	81629	1060	2.0	74	4	470	10-15'	
A	81630	1180	2.2	72	4	200	15-20'	73
A	81631	750	1.4	64	4	190	20-25'	
A	81632	750	1.4	62	6	120	25-30'	
A	Duplicate 81633	750	2.4	60	4	140	25-30'	
A	81634	100	0.4	82	6	10	30-32'	
A	81635	840	1.8	72	2	430	0-5'	74
A	81636	1000	2.0	66	2	420	5-10'	
A	81637	920	2.0	60	2	350	0-5'	
A	81638	1020	2.8	64	2	440	5-8'	
A	81639	900	3.0	76	2	160	0-5'	75
A	81640	1400	3.2	74	2	150	5-10'	
A	81641	880	2.4	90	2	120	10-15'	
A	81642	1280	3.2	84	2	130	15-20'	
A	81643	1240	3.0	82	2	130	20-25'	76
A	81644	760	2.2	64	2	280	0-5'	
A	81645	860	2.2	64	62	240	5-10'	
A	Duplicate 81646	850	2.4	64	2	290	5-10'	
A	81647	870	1.8	60	2	170	10-15'	77
A	81648	1480	2.8	64	2	720	0-5'	
A	81649	1000	2.6	82	2	120	0-5'	
A	81650	1480	3.6	82	2	140	5-10'	
A	81651	1340	3.4	82	2	140	10-15'	78
A	81652	1040	2.8	78	2	140	15-20'	
A	81653	930	3.2	88	2	100	20-25'	
A	81654	1460	3.4	82	2	130	25-30'	
A	81655	1320	3.2	84	2	130	30-35'	79
A	81656	1240	3.4	84	2	120	35-40'	
A	81657	1520	3.6	88	2	140	40-45'	
A	Duplicate 81658	1580	4.0	90	2	150	45-50'	
A	81659	1280	3.4	94	2	110	50-55'	

19/85 (JK) DB WM DP

CERTIFIED BY : *R. Rossbach*

**ROSSBACHER LABORATORY LTD.**

2225 S. SPRINGER AVENUE  
 BURNABY, B.C. V5B 3N1  
 TEL : (604) 299 - 6910

**CERTIFICATE OF ANALYSIS**

TO : NORANDA EXPLORATION CO. LTD.  
 1050 DAVIE STREET  
 VANCOUVER B.C.  
 PROJECT: 428 8508-085  
 TYPE OF ANALYSIS: GEOCHEMICAL

CERTIFICATE#: 85312  
 INVOICE#: 5501  
 DATE ENTERED: AUGUST 30, 1985  
 FILE NAME: NOR85312  
 PAGE # : 2

PRE IX	SAMPLE NAME	PPM Cu	PPM Ag	PPM Zn	PPM Pb	PPB Au	REMARKS
A	B1660	1200	2.6	84	2	350	0.20-0.40 1/2 of 100% SAMPLE 20-25 20-28
A	B1661	1120	2.4	82	10	400	
A	B1662	1180	2.2	74	10	470	
A	B1663	1120	2.4	82	8	340	
A	B1664	1380	2.4	100	10	500	
A	B1665	1180	2.2	218	8	350	

CERTIFIED BY :

*A. Rossbach*

APPENDIX B  
STATISTICAL ANALYSES

STATISTICAL ANALYSIS  
FOR AU (PPB)

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Hole Number	Range	Arithmetic Mean	Median
TL-1-85	340.00 to 500.00	401.67	375.00
TL-2-85	200.00 to 600.00	376.00	365.00
TL-3-85	250.00 to 680.00	436.25	430.00
TL-4-85	200.00 to 270.00	238.00	250.00
TL-5-85	90.00 to 410.00	278.18	300.00
TL-6-85	120.00 to 500.00	269.38	265.00
TL-7-85	110.00 to 330.00	189.41	170.00
TL-8-85	200.00 to 380.00	252.31	230.00
TL-9-85	150.00 to 350.00	226.43	220.00
TL-10-85	190.00 to 230.00	212.50	215.00
TL-11-85	330.00	330.00	330.00
TL-12-85	10.00 to 470.00	223.75	195.00
TL-13-85	420.00 to 430.00	425.00	425.00
TL-14-85	350.00 to 440.00	395.00	395.00
TL-15-85	120.00 to 160.00	138.00	130.00
TL-16-85	170.00 to 290.00	245.00	260.00
TL-17-85	720.00	720.00	720.00
TL-18-85	100.00 to 150.00	129.09	130.00
TOTAL:	129.09 to 720.00	304.78	260.84

STATISTICAL ANALYSIS  
FOR CU (PPM)

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Hole Number	Range	Arithmetic Mean	Median
TL-1-85	1120.00 to 1380.00	1196.67	1180.00
TL-2-85	1000.00 to 1420.00	1164.00	1140.00
TL-3-85	1000.00 to 1460.00	1177.50	1150.00
TL-4-85	750.00 to 1200.00	964.00	1000.00
TL-5-85	468.00 to 1320.00	1052.55	1140.00
TL-6-85	780.00 to 1460.00	1120.00	1070.00
TL-7-85	890.00 to 1280.00	1065.88	1060.00
TL-8-85	800.00 to 1360.00	1078.46	1060.00
TL-9-85	720.00 to 1960.00	1142.14	1040.00
TL-10-85	810.00 to 1100.00	940.00	925.00
TL-11-85	1220.00	1220.00	1220.00
TL-12-85	100.00 to 1180.00	836.25	845.00
TL-13-85	840.00 to 1000.00	920.00	920.00
TL-14-85	920.00 to 1020.00	970.00	970.00
TL-15-85	880.00 to 1400.00	1140.00	1240.00
TL-16-85	760.00 to 870.00	835.00	855.00
TL-17-85	1480.00	1480.00	1480.00
TL-18-85	930.00 to 1580.00	1290.00	1320.00
TOTAL:	835.00 to 1480.00	1088.47	1099.23

STATISTICAL ANALYSIS  
FOR ZN (PPM)

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Hole Number	Range	Arithmetic Mean	Median
TL-1-85	74.00 to 218.00	106.67	83.00
TL-2-85	70.00 to 748.00	133.80	84.00
TL-3-85	68.00 to 332.00	104.50	73.00
TL-4-85	76.00 to 102.00	88.40	88.00
TL-5-85	68.00 to 94.00	78.91	76.00
TL-6-85	72.00 to 86.00	77.00	76.00
TL-7-85	72.00 to 92.00	80.35	82.00
TL-8-85	70.00 to 120.00	84.62	78.00
TL-9-85	64.00 to 106.00	80.57	78.00
TL-10-85	84.00 to 136.00	104.50	99.00
TL-11-85	70.00	70.00	70.00
TL-12-85	60.00 to 82.00	70.50	72.00
TL-13-85	66.00 to 72.00	69.00	69.00
TL-14-85	60.00 to 64.00	62.00	62.00
TL-15-85	74.00 to 90.00	81.20	82.00
TL-16-85	60.00 to 64.00	63.00	64.00
TL-17-85	64.00	64.00	64.00
TL-18-85	78.00 to 94.00	84.91	84.00
TOTAL:	62.00 to 138.00	83.55	80.46

STATISTICAL ANALYSIS  
FOR AG (PPM)

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Hole Number	Range	Arithmetic Mean	Median
TL-1-85	2.20 to 2.60	2.37	2.40
TL-2-85	2.00 to 2.80	2.30	2.30
TL-3-85	2.00 to 2.60	2.33	2.30
TL-4-85	1.80 to 2.40	2.16	2.20
TL-5-85	1.20 to 2.80	2.24	2.20
TL-6-85	1.80 to 2.80	2.21	2.20
TL-7-85	2.00 to 2.60	2.25	2.20
TL-8-85	1.80 to 2.40	2.11	2.20
TL-9-85	1.60 to 2.80	2.13	2.20
TL-10-85	3.00 to 3.60	3.20	3.10
TL-11-85	3.40	3.40	3.40
TL-12-85	0.40 to 2.40	1.80	2.10
TL-13-85	1.80 to 2.00	1.90	1.90
TL-14-85	2.00 to 2.80	2.40	2.40
TL-15-85	2.40 to 3.20	2.96	3.00
TL-16-85	1.80 to 2.40	2.15	2.20
TL-17-85	1.80	2.80	2.80
TL-18-85	2.60 to 4.00	3.33	3.40
TOTAL:	1.80 to 3.40	2.45	2.27

STATISTICAL ANALYSIS  
FOR PB (PPM)

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Hole Number	Range	Arithmetic Mean	Median
TL-1-85	2.00 to 10.00	8.00	9.00
TL-2-85	----	----	----
TL-3-85	----	----	----
TL-4-85	----	----	----
TL-5-85	----	----	----
TL-6-85	----	----	----
TL-7-85	----	----	----
TL-8-85	----	----	----
TL-9-85	----	----	----
TL-10-85	12.00 to 28.00	20.50	21.00
TL-11-85	6.00	6.00	6.00
TL-12-85	2.00 to 10.00	5.00	4.00
TL-13-85	2.00 to 2.00	2.00	2.00
TL-14-85	2.00 to 2.00	2.00	2.00
TL-15-85	2.00 to 2.00	2.00	2.00
TL-16-85	2.00 to 62.00	17.00	2.00
TL-17-85	2.00	2.00	2.00
TL-18-85	2.00 to 2.00	2.00	2.00
TOTAL:	2.00 to 20.50	6.65	3.50



APPENDIX C

STATEMENT OF COSTS

NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COST

PROJECT : PHOENIX 1

DATE

TYPE OF REPORT : DRILLING

a) Wages:

No. of Days 24 man days

Rate per Day \$ 95.50

Dates From: August 1 - August 12, 1985

Total Wages 24 x \$ 95.50 \$ 2,292.00

b) Food and Accomodation:

No of days 24

Rate per day \$ 63.28

Dates From: August 1 - August 12, 1985

Total Cost 24 x \$ 63.28 \$ 1,518.72

c) Transportation:

No of days 24

Rate per day \$ 19.12

Dates From: August 1 - August 12, 1985

Total Cost 24 X \$ 19.12 \$ 458.88

d) Instrument Rental:

Type of Instrument

No of days

Rate per day \$

Dates From:

Total Cost X \$

Type of Instrument

No of days

Rate per day \$

Dates From:

Total Cost X \$

f) Analysis (See attached schedule)		\$ 957.40
g) Cost of preparation of Report		
Author		\$ 191.00
Drafting		\$ 95.50
Typing		\$ 95.50
h) Other:		
Contractor : Noranda Exploration Company, Limited		
(No Personal Liability)		
Winnipeg Office		\$ 7,533.94
Total Cost		\$13,142.94
e) Unit costs for Drilling		
No of days 24		
No of units 191.72 m.		
Unit costs 68.55 / m.		
Total Cost 191.72 m x \$ 68.55		\$13,142.94
Grand Total		<u>\$13,142.94</u>



APPENDIX D  
STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, John Keating of the City of Vancouver, Province of British Columbia,  
do hereby certify that:

I am a resident of British Columbia, residing at 1877 West 5th.  
Avenue.

I am a graduate of Concordia University, Montreal, with a Bachelor  
of Science Degree in Geology.

I am a member in good standing with the Canadian Institute of  
Mining and Metallurgy.

I have been a temporary employee with Noranda Exploration Company,  
Limited since May, 1979 and a permanent employee since March, 1983.

A handwritten signature in cursive script, reading "John Keating", written over a horizontal line.

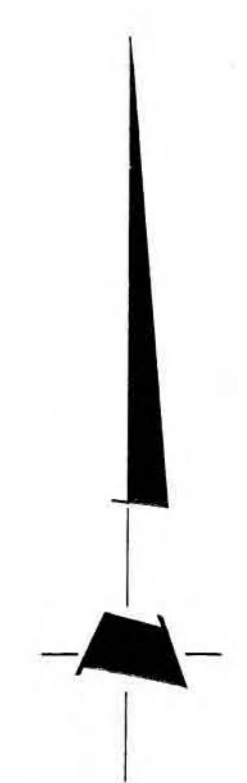
John Keating

Project Geologist

Noranda Exploration Company

Limited(No Personal Liability)

179+00E. 179+50E. 180+00E. 180+50E. 181+00E. 181+50E. 182+00E. 182+50E. 183+00E. 183+50E. 184+00E. 184+50E. 185+00E.



- LEGEND**
- DYKE or BERM
  - TREE OUTLINE
  - DRIED LAKE
  - OUTLINE of DRIED STREAM CHANNELS & FLOOD PLAINS
  - (27) TL-4-85 236.0  
Au in pob  
DRILL HOLE LOCATION - No. & (T.D. in Ft.)

GEOLOGICAL BRANCH  
DEPARTMENT REPORT  
SCALE 1:1000  
**15-058**

REVISED	<b>PHOENIX 1 GROUP</b>	
	PLOT OF VIBRATORY DRILL HOLES (1985) (OLD PHOENIX TAILINGS)	
PROJ. No. 1-28	SURVEY BY: J.K. & R.A.	DATE: Aug./86
N.T.S. 82E	DRAWN BY: <i>[Signature]</i>	SCALE: 1:1000
DWG. No.	<b>NORANDA EXPLORATION</b>	
	OFFICE: Vancouver	