

42C68SW0008 63.6159 JACOBSON

010

MINISTRY OF NORTHERN
DEVELOPMENT AND MINES

FEB 7 - 1991

INCENTIVES OFFICE

**SUMMARY REPORT ON THE
1990 DIAMOND DRILLING PROGRAM
CLINE LAKE PROPERTY**

**NORANDA EXPLORATION COMPANY, LIMITED
(no personal liability)**

October 1990
Timmins, Ontario

Robert F. Calhoun
Senior Project Geologist

OMIP 90-083

INTRODUCTION

During September 1990 Noranda Exploration Company, Limited (no personal liability) undertook a two hole drilling program on the Cline Lake property designed to further evaluate the potential of moderate grade wide mineralized intersections from previous drilling.

The two holes were completed for a total of 1758.5 feet (535.99m). This brings the property total to 50,073.2 feet (15,252.3m) since Norex became operator.

LOCATION, ACCESS, STATUS

The Cline Lake property is located in Jacobson Township in the Sault Ste. Marie Mining Division, approximately 50 kilometers northeast of Wawa and 15 kilometers east southeast of the town of Dubreuilville. Access is provided from Wawa via highway 17 (north 40 kilometers) and Highway 519 (east 30 km) to Dubreuilville and by all weather logging roads (20 kilometers east southeast) to the property.

On-property access is by the old mine road and a powerline, owned by Great Lakes Power, which bisects the property.

A boundary survey required to convert the claims to a mining lease was completed by MacDougall and Wilson (O.L.S.) of Sault Ste. Marie and awaits government approval. The lease has been identified as CLM 331.

DIAMOND DRILLING

A total of 1758.5 feet of drilling was completed in two holes, during the month of September 1990. The reader is referred to Appendix I for summary logs of each hole which provide intersected lithologies, collar locations and a complete list of assay results. For a complete description of lithologies refer to diamond drill logs located in attached pockets with drill sections.

The results of each hole are discussed below:

DDH CL-90-87

Location: 2900E, 400N
Dip: -63°
Azimuth: 00N

This diamond drill hole intersected a sequence of mafic volcanics, porphyry mafic volcanics and the mineralized target zone which has been disrupted by a diabase dyke (which may be relatively flat lying).

DDH CL-90-88

Location: 2600E, 365N
Dip: -65°
Azimuth: 00N

As in 90-87, this hole intersected the same sequence of mafic volcanics, porphyry, mafic volcanic, mineralized target zone and mafic volcanics. The mineralized zone again has been disrupted by a diabase dyke.

The 88-60 zone into which these holes were targeted has proven to be the most consistently mineralized zone located on the Cline property to date. The first hole 88-60 located the mineralization zone which when averaged returned a wide intercept grading 0.085/73 feet (core length). Based on this intercept two holes 90-85, 86 were drilled to intersect the zone down dip and along strike. Hole 90-85 returned 0.157 opt/49.2 (core length) and 90-86 - 0.121 opt/58 feet. The mineralized zone in these holes is a quartz veined, carbonated, sulfidized zone in mafic volcanics. Visible gold is contained in the quartz veining. With continued encouraging results a wide step-out program of two holes was designed to extend the zone across a strike length of 300 feet and further down dip 200 feet. It was felt that if the zone was to develop tonnage it would have to continue to these depths.

The first hole 90-87 intersected the mineralization at a depth of ~600 feet. Unfortunately the target has been disrupted by a diabase dyke. This dyke, from core angles, gives conflicting information on its dip. The dyke could either be subvertical or shallow. Although disrupted an intersection grading 0.127 opt/26.5 feet (core length) was penetrated. The mineralization is contained in mafic volcanics which have been carbonatized, with less quartz

veining than in holes 90-85, 86. Visible gold was located in a small quartz vein and in a siliceous, sulfidized section of the mafic volcanics.

Hole 90-88 also intersected the mineralized zone which although similar to 90-87 contained less sulfides, and was carbonatized over shorter sections. Again the diabase dyke was located within the targeted zone which would appear now to be a shallow dipping dyke. The target zone in this hole returned a grade of 0.054 opt/12.8 feet at the upper side of the zone with the lower end of the zone being disrupted by the diabase dyke. The target zone in this hole may also have bifurcated. If the dyke is indeed flat or shallow the continuation of the mineralized zone below the dyke is possible, and presents a good exploration target.

CONCLUSIONS AND RECOMMENDATIONS

Although sub-economic grades were returned for the intercepts located in holes 90-87/88 they did confirm the continuation of the mineralized zone a further 200 feet down dip. The presence of a diabase dyke, which has disrupted the zone, has had a negative affect on the total contained gold of the 88-60 zone. If this dyke is sub-horizontal the continuation below the dyke presents a good exploration target.

Further drilling on the 88-60 zone is recommended to determine if the zone continues and if economic grades can be delineated. Although this drilling only has a moderate success rating the total costs would be minimal in relations to the cost incurred to date.

The following two holes are recommended by the author to test the above:

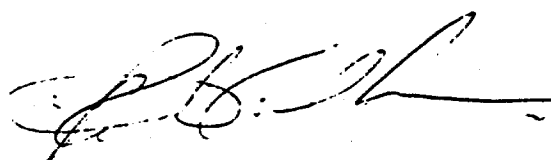
Hole A

Location: 2600E/400N
Azimuth: 00N
Dip: -74°
Length: 1100 ft.

Hole B

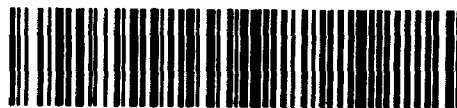
Location: 2900E/365N
Azimuth: 00N
Dip: -73°
Length: 1100 ft.

Respectfully submitted



Robert F. Calhoun
Senior Project Geologist

EX BORSURV *



42C085W0000 83.6159 JACOBSON

ASSAY LOG

PROPERTY: CLINE LAKE

HOLE NO.: 90-87

900

FROM	TO	WIDTH	Au oz/T
290.80	293.80	3.00	0.008
293.80	296.80	3.00	0.003
296.80	299.80	3.00	0.003
299.80	302.80	3.00	0.001
302.80	305.80	3.00	0.001
305.80	307.90	2.10	0.003
307.90	310.70	2.80	0.005
310.70	313.70	3.00	0.004
313.70	316.20	2.50	0.002
316.20	320.00	3.80	0.006
320.00	322.60	2.60	0.001
325.60	328.60	3.00	0.001
328.60	331.60	3.00	0.001
331.60	334.60	3.00	0.001
334.60	337.60	3.00	0.001
337.60	340.60	3.00	0.001
340.60	343.60	3.00	0.001
343.60	346.60	3.00	0.001
346.60	349.60	3.00	0.001
380.20	383.20	3.00	0.025
383.20	386.20	3.00	0.005
386.20	389.20	3.00	0.001
456.60	459.60	3.00	0.019
459.60	462.60	3.00	0.001
462.60	465.60	3.00	0.002
465.60	468.60	3.00	0.002
468.60	471.60	3.00	0.010
471.60	474.60	3.00	0.036
474.60	477.60	3.00	0.002
477.60	480.60	3.00	0.001
480.60	483.60	3.00	0.001
483.60	486.60	3.00	0.001
486.60	489.60	3.00	0.002
489.60	492.90	3.30	0.181
492.90	495.60	2.70	0.002
537.60	542.60	3.00	0.003
542.60	545.60	3.00	0.006
545.60	548.60	3.00	0.016
548.60	551.60	3.00	0.005
551.60	553.70	2.10	0.015
553.70	556.00	2.30	0.004
573.00	576.00	3.00	0.001
576.00	579.00	3.00	0.137
579.00	582.00	3.00	0.032
582.00	585.00	3.00	0.007
585.00	588.00	3.00	0.018
588.00	591.00	3.00	0.028
606.30	607.60	1.30	0.001
620.50	623.30	2.80	0.001
653.50	655.50	2.00	0.007

SSAY 120

ROPER: CLINE LAKE

OLE No.: 90-87

=====

FROM	TO	WIDTH	Au oz/T
660.40	663.40	3.00	0.001
663.40	666.40	3.00	0.320
666.40	669.60	3.20	0.014
669.60	672.00	2.40	0.028
672.00	675.00	3.00	0.208
675.00	677.00	2.00	0.338
677.00	679.60	2.60	0.048
679.60	681.80	2.20	0.041
681.80	684.80	3.00	0.158
684.80	687.30	2.50	0.073
687.30	689.90	2.60	0.044
720.40	723.40	3.00	0.004
723.40	726.40	3.00	0.021
726.40	729.00	2.60	0.003
733.90	737.40	3.50	0.010
745.70	746.70	1.00	0.001
748.60	750.60	2.00	0.005
762.00	764.70	2.70	0.020
764.70	767.40	2.70	0.002
769.50	772.50	3.00	0.004

AVERAGED ASSAY INTERVALS
 ROPER: CLINE LAKE
 IOLE No: 90-87

Core1 (26.50 d.t. Core Angle: 90 26.50 t.t.)

FROM: 663.40

0.127 Au oz/t

TO: 689.90

EASTINGS: 2882.64

NORTHINGS: 685.29

ELEVATION: 489.54

EASTINGS: 2881.84

NORTHINGS: 698.67

ELEVATION: 466.68

ASSAY LOG

Page 1 of 2

PROJECT: CLINE LAKE

HOLE NO.: 90-88

FROM	TO	WIDTH	Au oz/t
78.00	81.00	3.00	0.001
81.00	84.00	3.00	0.002
84.00	87.00	3.00	0.004
87.00	90.00	3.00	0.001
90.00	93.00	3.00	0.004
93.00	96.00	3.00	0.003
96.00	99.00	3.00	0.004
99.00	102.50	3.50	0.156
102.50	105.50	3.00	0.007
105.50	108.50	3.00	0.002
108.50	111.50	3.00	0.010
111.50	114.50	3.00	0.006
114.50	117.50	3.00	0.114
117.50	120.50	3.00	0.016
120.50	122.80	2.30	0.001
170.00	172.00	2.00	0.001
242.80	245.80	3.00	0.004
245.80	248.30	2.50	0.014
251.70	253.70	2.00	0.002
256.30	260.30	4.00	0.001
418.00	421.00	3.00	0.001
421.00	424.00	3.00	0.064
424.00	427.00	3.00	0.004
427.00	430.00	3.00	0.003
430.00	433.00	3.00	0.004
433.00	436.10	3.10	0.001
436.10	439.00	2.90	0.001
439.00	440.20	1.20	0.003
440.20	441.70	1.50	0.002
441.70	444.70	3.00	0.006
444.70	447.70	3.00	0.004
447.70	450.70	3.00	0.001
450.70	453.80	3.10	0.001
453.80	455.80	2.00	0.016
455.80	457.60	1.80	0.004
457.60	461.20	3.60	0.003
461.20	462.20	1.00	0.006
520.90	523.90	3.00	0.001
523.90	525.10	1.20	0.183
525.10	528.10	3.00	0.001
555.00	558.00	3.00	0.001
559.00	559.00	1.00	0.100
559.00	562.00	3.00	0.001
575.50	578.50	3.00	0.001
578.50	580.00	1.50	0.286
580.00	583.00	3.00	0.001
619.50	622.90	3.40	0.002
629.80	632.80	3.00	0.001
632.80	635.30	2.50	0.016
635.30	637.70	2.40	0.004

ASSAY 03

PROPERTY: CLINE LAKE

HOLE No.: 90-89

```
=====
```

FROM	TO	WIDTH	Au oz/t
657.00	660.00	3.00	0.001
660.00	663.00	3.00	0.001
663.00	666.00	3.00	0.004
666.00	667.00	1.00	0.138
667.00	669.50	2.50	0.011
669.50	671.50	2.00	0.050
671.50	673.10	1.60	0.051
673.10	675.60	2.50	0.025
675.60	677.80	2.20	0.060
677.80	678.80	1.00	0.158
678.80	680.30	1.50	0.006
680.30	682.40	2.10	0.014
682.40	683.60	1.20	0.004
717.80	720.80	3.00	0.001
720.80	724.00	3.20	0.001
764.60	767.10	2.50	0.001
767.10	769.60	2.50	0.001
769.60	771.70	2.10	0.051
771.70	773.10	1.40	0.001
802.30	804.90	2.60	0.001
808.50	809.30	0.80	0.001

VERAGED ASSAY INTERVALS
 ROPER: CLINE LAKE
 OLE No: 90-88

. ore1 (12.80 d.t. Core Angle: 90 12.80 t.t.)

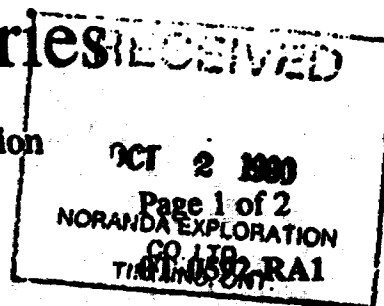
FROM: 666.00	EASTINGS: 2598.78
	NORTHINGS: 692.87
0.055 Au oz/t	ELEVATION: 461.88
TO: 678.80	EASTINGS: 2598.71
	NORTHINGS: 698.68
	ELEVATION: 450.47



Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation



Assay Certificate

Company: **NORANDA EXPLORATION**
Project: **# 291**
Attn: **BOB CALHOUN**

Date: **SEP-28-90**
Copy 1. 60 SHIRLEY ST. S. TIMMINS ONT.

We hereby certify the following Assay of 42 CORE samples submitted SEP-25-90 by .

CL 90-87

Sample Number	Au g/tonne	Au oz/ton	Au check g/tonne	Au check oz/ton
68401	0.06	.002		
68402	6.21	.181	6.65	.194
68403	0.07	.002		
68404	0.09	.003		
68405	0.20	.006		
68406	0.55	.016		
68407	0.16	.005		
68408	0.52	.015		
68409	0.12	.004		
68410	0.05	.001		
68411	4.71	.137	4.39	.128
68412	1.10	.032		
68413	0.25	.007		
68414	0.61	.018	0.62	.018
68415	0.97	.028		
68416	0.01	.001		
68417	0.01	.001		
68418	0.23	.007		
86677	0.27	.008		
86678	0.11	.003		
86679	0.09	.003	0.06	.002
86680	0.04	.001		
86681	0.03	.001		
86682	0.10	.003		
86683	0.16	.005		
86684	0.12	.004		
86685	0.07	.002		
86686	0.22	.006		
86687	0.05	.001		
86688	0.02	.001		

Certified by


G. Lebel / Manager

P.O. Box 10, Swastika, Ontario P0K 1T0
Telephone (705) 642-3244. FAX (705) 642-3300



Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

RECEIVED

OCT 2 1990

NORANDA EXPLORATION
CO. LTD.
TIMMINS, ONT.

OT-0595-RA1

Assay Certificate

Company: **NORANDA EXPL. CO. LTD.**
Project: **291**
Attn: **B. CALHOUN**

Date: **SEP-28-90**

Copy 1. P.O. BOX 1205, TIMMINS, ONT. P4N 7J5
2. FAX TO 268-9572

We hereby certify the following Assay of 20 CORE samples
submitted SEP-26-90 by B. CALHOUN.

CL 90-87

Sample Number	Au g/tonne	Au oz/ton	Au check g/tonne	Au check oz/ton
68419	0.04	.001		
68420	10.97	.320	11.66	.340
68421	0.49	.014		
68422	0.96	.028		
68423	7.13	.208	7.06	.206
68424	11.59	.338	9.05	.264
68425	1.65	.048		
68426	1.42	.041		
68427	5.42	.158	6.03	.176
68428	2.67	.078		
68429	1.51	.044		
68430	0.12	.004		
68431	0.73	.021	0.61	.018
68432	0.11	.003		
68433	0.34	.010		
68434	0.05	.001		
68435	0.17	.005		
68436	0.68	.020	0.69	.020
68437	0.06	.002		
68438	0.12	.004		

Certified by

G. Lebel / Manager

P.O. Box 10, Swastika, Ontario P0K 1T0
Telephone (705) 642-3244 FAX (705) 642-3300



Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Page 2 of 2

Assay Certificate

OT-0592-RA1

Company: **NORANDA EXPLORATION**
Project: **# 291**
Attn: **BOB CALHOUN**

Date: **SEP-28-90**
Copy 1. 60 SHIRLEY ST. S. TIMMINS ONT.

We hereby certify the following Assay of 42 CORE samples
submitted SEP-25-90 by .

Sample Number	Au g/tonne	Au oz/ton	Au check g/tonne	Au check oz/ton
86689	0.02	.001		
86690	0.03	.001		
86691	0.65	.019	0.69	.020
86692	0.02	.001		
86693	0.08	.002		
86694	0.06	.002		
86695	0.35	.010		
86696	1.24	.036	1.37	.040
86697	0.08	.002		
86698	0.05	.001		
86699	0.03	.001		
86700	0.04	.001		

Certified by


G. Lebel / Manager

P.O. Box 10, Swastika, Ontario P0K 1T0
Telephone (705) 642-3244. FAX (705) 642-3300



Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

Page 1 of 2

0T-0615-RA1

Assay Certificate

Company: NORANDA EXPL. CO. LTD.
Project: 291
Attn: B. CALHOUN

OCT 10 1990

Date: OCT-04-90

Copy 1. P.O. BOX 1205, TIMMINS, ONT. P4N 7J5

NORANDA EXPLORATION 2. FAX TO 268-9572

CO. LTD.

TIMMINS, ONT.

We hereby certify the following Assay of 60 CORE samples submitted OCT-02-90 by .

CL 90-82

Sample Number	Au g/tonne	Au oz/ton	Au Check g/tonne	Au Check oz/ton
68501	0.03	.001		
68502	0.08	.002		
68503	0.12	.004		
68504	0.04	.001		
68505	0.12	.004		
68506	0.18	.005		
68507	0.14	.004		
68508	5.35	.156	6.86	.200
68509	0.25	.007		
68510	0.07	.002		
68511	0.34	.010		
68512	0.20	.006		
68513	3.90	.114	3.84	.112
68514	0.54	.016		
68515	0.05	.001		
68516	0.04	.001		
68517	0.15	.004		
68518	0.47	.014		
68519	0.08	.002		
68520	0.03	.001		
68521	0.03	.001		
68522	2.19	.064	2.26	.066
68523	0.15	.004		
68524	0.11	.003		
68525	0.12	.004		
68526	0.01	.001		
68527	0.04	.001	0.04	.001
68528	0.09	.003		
68529	0.08	.002		
68530	0.19	.006		

Certified by

G. Lebel / Manager

P.O. Box 10, Swastika, Ontario P0K 1T0

Telephone (705) 642-3244

FAX (705) 642-3300



Established 1928

Swastika Laboratories

A Division of Assayers Corporation Ltd.

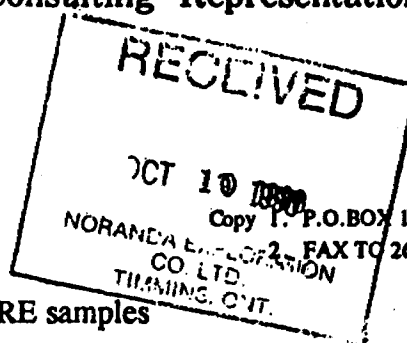
Assaying - Consulting - Representation

Page 2 of 2

0T-0615-RA1

Assay Certificate

Company: **NORANDA EXPL. CO. LTD.**
Project: **291**
Attn: **B. CALHOUN**



Date: **OCT-04-90**

Copy 1. P.O. BOX 1205, TIMMINS, ONT. P4N 7J5
Copy 2. FAX TO 268-9572

We hereby certify the following Assay of 60 CORE samples submitted OCT-02-90 by .

CL 90-88

Sample Number	Au g/tonne	Au oz/ton	Au Check g/tonne	Au Check oz/ton
68531	0.15	.004		
68532	0.05	.001		
68533	0.03	.001		
68534	0.56	.016		
68535	0.15	.004		
68536	0.10	.003		
68537	0.22	.006		
68538	6.27	.183	5.42	.158
68539	0.34	.010		
68540	9.79	.286	9.81	.286
68541	0.06	.002		
68542	0.01	.001		
68543	0.55	.016		
68544	0.14	.004		
68555	0.01	.001		
68556	0.03	.001		
68557	0.03	.001		
68558	0.02	.001		
68559	1.74	.051	1.58	.046
68560	0.01	.001		
68561	0.01	.001		
68562	0.01	.001		
68563	0.01	.001		
68564	0.01	.001		
68565	0.01	.001		
68566	0.01	.001		
68567	0.02	.001		
68568	0.85	.025	0.75	.022
68569	0.17	.005		
68570	0.03	.001		

Certified by

G. Lebel / Manager

P.O. Box 10, Swastika, Ontario P0K 1T0
Telephone (705) 642-3244 FAX (705) 642-3300



Established 1928

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

CL 90-88

OT-0613-RA1

Assay Certificate

Company: NORANDA EXPL. CO. LTD.
 Project: 291
 Area: B. CALHOUN

Date: OCT-02-90

Copy 1. P.O. BOX 1205, TIMMINS, ONT. P4N 1J5
 2. FAX TO 268-9572

We hereby certify the following Assay of 10 CORE samples
 submitted OCT-01-90 by .

Sample Number	Au		Au check	
	g/tonne	oz/ton	g/tonne	oz/ton
68545	4.59	.134	4.87	.142
68546	0.36	.011		
68547	1.71	.050		
68548	1.76	.051	1.88	.055
68549	0.86	.025		
68550	2.06	.060		
68551	5.42	.158	5.07	.148
68552	0.20	.006		
68553	0.49	.014		
68554	0.14	.004		

Certified by

G. Lebel / Manager



Established 1928

Swastika Laboratories

A Division of Assayers Corporation Ltd.

Assaying - Consulting - Representation

RECEIVED

OCT 22 1990

NORANDA EXPLORATION
OT-0658-R81
TIMMINS, ONT.

Assay Certificate

Company: NORANDA EXPLORATION

Project: BOB

Attn:

Copy 1. BOX 1205, TIMMINS P4N 7J5

2. FAX TO 268-9572

Date: OCT-17-90

We hereby certify the following Assay of 9 CORE samples
submitted OCT-15-90 by .

CL 90-88

Sample Number	Au g/tonne	Au oz/ton	Au check g/tonne	Au check oz/ton
68571	0.07	.002	0.07	.002
68572	0.02	.001		
68573	0.02	.001		
68574	0.03	.001		
68575	0.04	.001		
68576	0.03	.001		
68577	0.01	.001		
68578	0.04	.001		
68579	0.13	.004	0.11	.003

Certified by

G. Lebel / Manager

P.O. Box 10, Swastika, Ontario P0K 1T0

Telephone (705) 642-3244

FAX (705) 642-3300

