ASSESSMENT REPORT

GEOLOGICAL/GEOCHEMICAL SURVEY ON THE

PINGSTON GROUP OF CLAIMS

N.T.S. 82K/5 & 12, 82L/8 & 9

SLOCAN MINING DIVISION

Latitude 50°30' Longitude 118°00'

D. Graham Gill (Project Geologist)
Noranda Exploration Company, Limited (no personal liability)
October, 1989

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I. INTRODUCTION

1. Location and Access

The Pingston group of claims is comprised of 75 units in the Slocan Mining Division on the corner of N.T.S. Mapsheets 82K/5 & 12 and 82L/8 & 9. The property is located on the western shore of Upper Arrow Lake and extends westward across Pingston Creek. The town of Revelstoke, B.C. is approximately 65 km to the north of the claims.

Access to the property is obtained via Highway #23 toward the Shelter Bay ferry and logging roads along the west shore of Upper Arrow Lake.

2. Topography and Physiography

This property lies on the eastern slopes of Mount Odin of the Monashee Range. It is drained in the eastern section by Pingston Creek. Steepness of the terrain ranges from moderate to steep. Maximum relief of the property is 2400 ft. with a maximum elevation of 3900 ft.

3. Previous Work

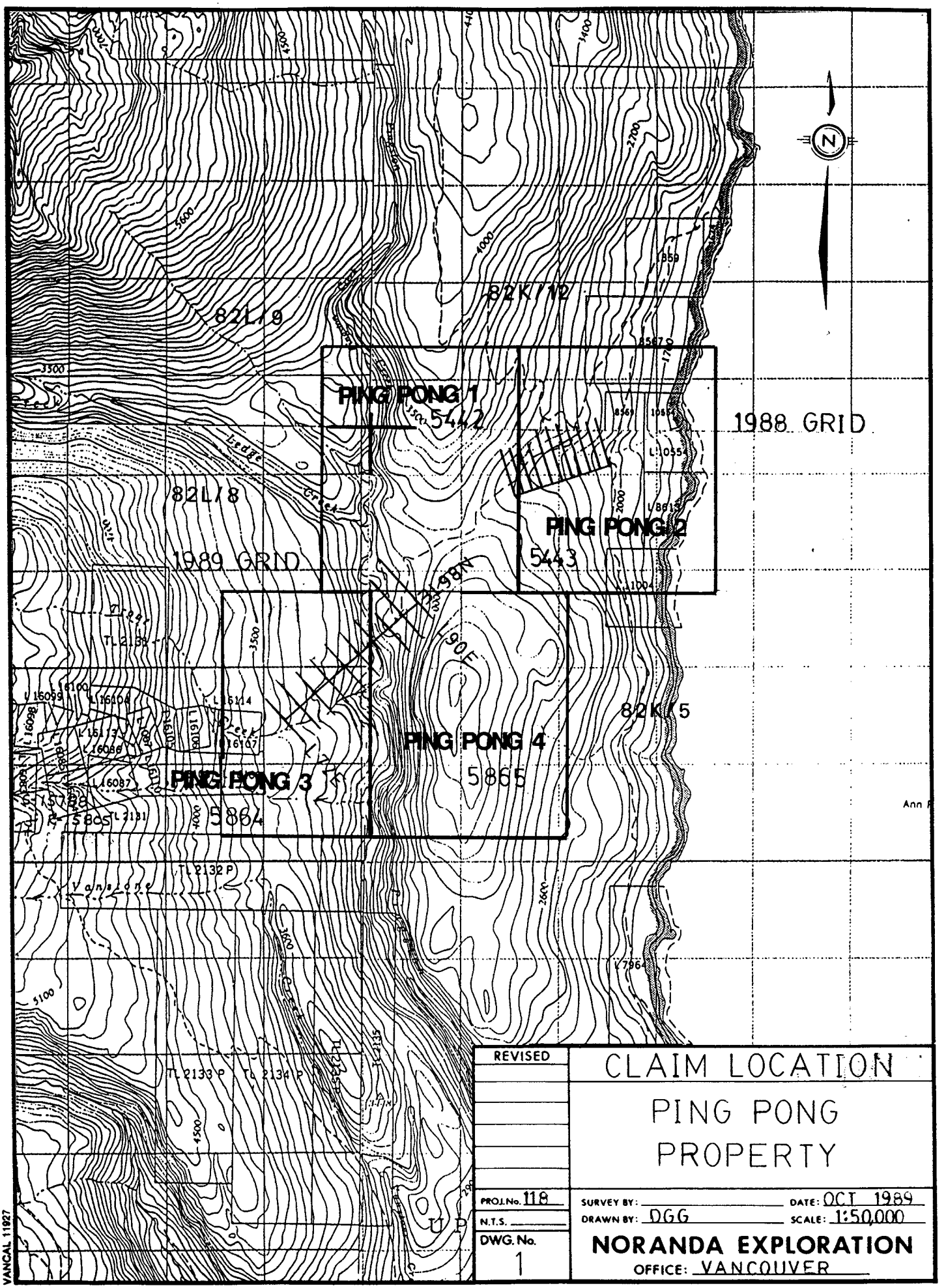
Sulfide mineralization has been known in this area since the 1890's although it was not until 1947 when Cominco began a large programme of exploration (including drilling) which continued until 1966. Since then there have been various other mining companies involved in exploring the ground adjacent to the Big Ledge deposit. Listed below is some of the more recently reported work:

1977: Metallgesellschaft performed reconnaissance mapping in the Pingston Creek area.

1980: Esperanza Explorations Ltd. conducted a programme of soil geochemistry and mapping east and west of Pingston Creek.

1981: Geochemical, geophysical and geological surveys were completed by Esperanza Explorations Ltd. on the June and Ledge claims.

1988: Noranda Exploration conducted a programme of soiling and mapping on the Ping Pong 1 & 2 mineral claims. Subsequently the Ping Pong 3 & 4 claims were staked.



REVISED	CLAIM LOCATION
	PING PONG PROPERTY
PROJ. No. 118	SURVEY BY: _____ DATE: OCT 1989
N.T.S. _____	DRAWN BY: DGG SCALE: 1:50,000
DWG. No. 1	**NORANDA EXPLORATION** OFFICE: VANCOUVER

VANCAL 11927

4. Owner - Operator

All of the 75 units comprising the Pingston group of claims are owned and operated by Noranda Exploration Company, Limited of 1050 Davie Street, Vancouver, B.C.

The following is a list of claims to which assessment work is being filed.

Claim Name	Owner	Record #	Units	Anniversary Date
Ping Pong 1	Noranda	5442	20	August 10, 1990
Ping Pong 2	Exploration	5443	20	August 10, 1990
Ping Pong 3	Co. Ltd.	5864	15	October 18, 1990
Ping Pong 4	1050 Davie St. Vancouver, B.C.	5865	20	October 18, 1990

5. Economic Potential

Due to similar stratigraphy and structure plus the proximity of the Pingston claim group to the Big Ledge deposit (6.5 million tonnes of 4-5% zinc) it is believed that this property has excellent potential for stratiform zinc mineralization.

II. SUMMARY OF WORK DONE

1. Linecutting

A total of 7.925 line km of slashed and metrically chained grid was cut in order to establish control for geological mapping and future exploration surveys. The grid consisted of a 1.8 km long baseline with winglines spaced 200 m apart ranging in length from 0.425 to 0.8 km.

2. Geochemical Survey

A total of 229 soils and 12 rocks were collected. Soils were analyzed for Zn, Pb and Ag, while rocks were analyzed for 30 elements plus Au using ICP.

3. Geological Survey

Geological mapping at a scale of 1:2,500 was conducted along 7.9 km of grid line. In all, mapping covered an area of approximately 1.08 square kilometres.

4. Claims Worked

All work done during the report period was done on the Ping Pong 1, 3 and 4 claims.

III. DETAILED TECHNICAL DATA

1. Geochemical Survey

i) Purpose

A total of 229 soils and 12 rocks were taken on the 1989 Ping Pong grid in order to delineate the zinc bearing stratigraphy.

ii) Techniques

Soil sampling of the "B" soil horizon was completed along the winglines of the grid at a sample interval of 25 m. Sampling was done with the aid of a shovel or maddock to a depth of 15-30 cm and subsequently placed in brown 3½" x 6 1/8" open-ended Kraft envelopes for shipping and storage.

Rock specimens were collected as grab samples from various locations on the property wherever mineralization, alteration or a favourable representative rock type was encountered.

Samples were sent either to Noranda's geochemical laboratory at 1050 Davie Street, Vancouver, B.C. or to Acme Analytical Laboratories at 852 East Hastings Street, Vancouver, B.C.

Refer to Appendix I for a flow sheet of analytical techniques. Appendix II is a list of all samples taken with associated results.

iii) Discussion of Results

Geochemical results and descriptions are listed in Appendix II. Drawings 2, 3 and 4 show contoured results of Zn, Pb and Ag respectively.

Zinc:

All samples taken were analyzed for zinc. Values returned for soils ranged from a low of 24 ppm to a high of 2700 ppm. First, second and third order contour intervals were calculated to be 300, 600 and 1000 ppm respectively.

Referring to Drawing #2 it is apparent that two northeasterly trending zinc anomalies exist. The first is located between Line 72E, 96+25N and Line 78E, 97+25N to the northwest of the southern portion of the exposed massive sulfide lense (see Drawing #5). Soils collected directly over the showing on Line 78E and those taken on Line 80E did not return anomalous results. Depth of overburden, sampling technique or the presence of an un-exposed, richer portion of the sulfide zone located to the northwest (uphill) of the soil anomaly may explain this discrepancy.

The second zinc anomaly is located to the southeast of the latter between Lines 74E and 80E. No outcrop is exposed in this area. This anomaly may be explained by another un-exposed sulfide horizon within the Ledge Member or by the change in flow of ground water where the slope of the hill changes from moderate to shallow resulting in an enrichment of metal content.

Lead:

All soil samples were analyzed for lead. Results ranged from between 2 and 2500 ppm. Drawing #3 shows the contoured values for lead at the 50, 100 and 150 ppm levels and reveals that one large anomaly (coincident with the more southeasterly zinc anomaly) is located between Line 76E, 95+25N and Line 78E, 95+50N. Once again it is not clear whether this anomaly is due to an un-exposed sulfide zone or to a combination of ground water flow and a change in slope.

One spot high of 2500 ppm which is also coincident with the highest zinc value returned is located on Line 78E, 97+25N.

Silver:

All soil samples were analyzed for silver returning values between a low of 0.1 ppm and a high of 0.8 ppm. Contour levels (Drawing #4) have been determined to be 0.6 and 0.8 ppm. Only one lense shaped anomaly was revealed by this survey and lies between Line 76E, 97+50N and Line 78E, 97+25N partially coincident with the more northwesterly zinc anomaly and located slightly northwest of the exposed sulfide zone.

Of the 12 rock samples collected the highest values for zinc, lead and silver were 40,054 ppm, 20,186 ppm and 75.8 ppm respectively. All of these and other high values returned were from the highly gossaned, oxidized pyrrhotite/pyrite rich sulfide zone. Refer to Drawing #5 for rock sample locations.

2. Geological Survey

i) Purpose

A total of 7 mandays were spent mapping the 1989 Ping Pong grid (see Drawing #5) at a scale of 1:2,500 over 7.925 line km of grid. The survey was conducted in order to delineate a major flexure in the zinc-bearing stratigraphy (Ledge Member) suggested by regional geology. Such a flexure associated with a stratiform zinc deposit may produce larger and possibly higher grade tonnage.

ii) Regional Geology

This property is located within a thick heterogenous assemblage of metasedimentary rocks in the southeastern part of the Thor-Odin gneiss done along the eastern boundary of the Shuswap Metamorphic Complex. These rocks have been metamorphosed up to sillimanite facies, tightly folded and injected with granitic pegmatites.

iii) Property Geology

Due to the thickness of the overburden on this grid very little outcrop exposure was observed. The dominant rock type is described as a combination of quartz-biotite phyllites, quartz-biotite ± muscovite schist, graphitic feldspar-quartz phyllites and quartz-feldspar-biotite schists and gneisses. These rock types (Unit 3 - Drawing #5) have been grouped together as the Ledge Member. This unit can be generally described as fine grained, white to light grey weathering to limonite and clay and exhibiting a weak to moderate foliation. As described above the composition is quite variable. The more felsic units reveal a phyllitic foliation with strong partings into tablets 10-15 cm thick. The more mafic units usually display a higher grade of schistosity with incipient gneissic banding. Garnets are observed in all rock types. This unit appears to be tightly folded around a roughly NE-SW axial plane dipping moderately to the southeast. Quartz augens and pegmatite stringers of quartz-feldspar composition (Unit 4) are often seen within the Ledge Member.

Between Lines 76E and 80E an exposed zone of conformable, friable, highly oxidized, black, orange, rusty and white weathered sulfides (Unit 5) occurs for a distance of 200 m. Original sulfide content (pyrrhotite/pyrite) appears to be in excess of 30% hosting small bands and disseminations of sphalerite and lesser galena and chalcopyrite.

On Line 76E, 97+25N a massive sulfide boulder embedded in a highly gossaned till exists suggesting the continuation of the sulfide zone to the southwest.

No large flexure of the stratigraphy was observed during this survey due to overburden although a definite change in strike was noted between rocks to the southwest of Pingston Creek (NE-SW) and those to the northeast of the creek (N-S). This suggests that a fold axis or possibly a fault zone exists in the vicinity of Pingston Creek.

IV. CONCLUSIONS AND RECOMMENDATIONS

Zinc and lead mineralization has been found in a conformable massive sulfide zone striking NE-SW and dipping moderately to the southeast within a larger package of quartz-feldspar-biotite phyllites, schists and gneisses known as the Ledge Member.

Soil geochemistry reveals one zinc-silver anomaly coincident with the sulfide zone and open to the southwest. Another zinc-lead soil anomaly exists along the southeast ends of Lines 76E and 78E.

Recommended is a programme of further soil sampling to close off the open anomalies, mag surveys to trace the sulfide zone across areas of extensive overburden, detailed mapping of Pingston Creek in order to establish the reason for change in strike of the stratigraphy (i.e. fold vs. fault) and trenching of the known sulfide zone to determine width, grade and contact relationships.

REFERENCES

Richardson, J. (1981): Assessment Report #9651 on the Ledge 1-8 and June 1-9 Mineral Claims.

Cairnes, C.E. and Gunning, H.C., (1928): Canada Department of Mines Summary Report, 1928, Part "A", pages 109-118.

Jones, A.G. : Geological Survey of Canada Memoir 296.

Rayner, G.H., and Holland, R., (1980): Assessment Report #8415 on the June and Ledge Mineral Claims.

Levin, P., (1977 : Assessment Report #6307 on the Casey Claims.

Gill, D.G., (1988) : Assessment Report on the Pingston Group of Claims.

APPENDIX I

ANALYTICAL TECHNIQUES

ANALYTICAL METHOD DESCRIPTIONS FOR GEOCHEMICAL ASSESSMENT REPORTS

The methods listed are presently applied to analyse geological materials by the Noranda Geochemical Laboratory at Vancouver.

Preparation of Samples:

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

Rock specimens are pulverized to -120 mesh (0.13 mm). Heavy mineral fractions (panned samples * from constant volume), are analysed in its entirety, when it is to be determined for gold without further sample preparation.

Analysis of Samples:

Decomposition of a 0.200 g sample is done with concentrated perchloric and nitric acid (3:1), digested for 5 hours at reflux temperature. Pulps of rock or core are weighed out at 0.4 g and chemical quantities are doubled relative to the above noted method for digestion.

The concentrations of Ag, Cd, Co, Cu, Fe, Mn, Mo, Ni, Pb, V and Zn can be determined directly from the digest (dissolution) with a conventional atomic absorption spectrometric procedure. A Varian-Techtron, Model AA-5 or Model AA-475 is used to measure elemental concentrations.

Elements Requiring Specific Decomposition Method:

Antimony - Sb: 0.2 g sample is attacked with 3.3 ml of 6% tartaric acid, 1.5 ml conc. hydrochloric acid and 0.5 ml of conc. nitric acid, then heated in a water bath for 3 hours at 95°C. Sb is determined directly from the dissolution with an AA-475 equipped with electrodeless discharge lamp (EDL).

Arsenic - As: 0.2 - 0.3 g sample is digested with 1.5 ml of perchloric 70% and 0.5 ml of conc. nitric acid. A Varian AA-475 equipped with an As-EDL is used to measure arsenic content in the digest.

Barium - Ba: 0.1 g sample digested overnight with conc. perchloric, nitric and hydrofluoric acid; Potassium chloride added to prevent ionization. Atomic absorption using a nitrous oxide-acetylene flame determines Ba from the aqueous solution.

Bismuth - Bi: 0.2 - 0.3 g is digested with 2.0 ml of perchloric 70% and 1.0 ml of conc. nitric acid. Bismuth is determined directly from the digest with an AA-475 complete with EDL.

Gold - Au: 10.0 g sample is digested with aqua regia (1 part nitric and 3 parts hydrochloric acid). Gold is extracted with MIBK from the aqueous solution. AA is used to determine Au.

Magnesium - Mg: 0.05 - 0.10 g sample is digested with 4 ml perchloric/nitric acid (3:1). An aliquot is taken to reduce the concentration to within the range of atomic absorption. The AA-475 with the use of a nitrous oxide flame determines Mg from the aqueous solution.

Tungsten - W: 1.0 g sample sintered with a carbonate flux and thereafter leached with water. The leachate is treated with potassium thiocyanate. The yellow tungsten thiocyanate is extracted into tri-n-butyl phosphate. This permits colourimetric comparison with standards to measure tungsten concentration.

Uranium - U: An aliquot from a perchloric-nitric decomposition, usually from the multi-element digestion, is buffered. The aqueous solution is exposed to laser light, and the luminescence of the uranyl ion is quantitatively measured on the UA-3 (Scintrex).

N.B.: If additional elemental determinations are required on panned samples, state this at the time of sample submission. Requests after gold determinations would be futile.

LOWEST VALUES REPORTED IN PPM:

Ag - 0.2	Mn - 20	Zn - 1	Au - 0.01
Cd - 0.2	Mo - 1	Sb - 1	W - 2
Co - 1	Ni - 1	As - 1	U - 0.1
Cu - 1	Pb - 1	Ba - 10	
Fe - 100	V - 10	Bi - 1	

ANALYTICAL METHOD DESCRIPTION FOR ICP BY ACME ANALYTICAL LABORATORIES LTD.

A .500 gram sample is digested with 3 ml of $HCl-HNO_3-H_2O$ (3:1:2) at 95°C for one hour and is diluted to 10 ml with water. This leach is partial for Mn, Fe, Sr, Ca, P, La, Cr, Mg, Ba, Ti, B, W and limited for Na, K and Al. Au detection limit by ICP is 3 ppm. Au* analysis by acid leach/AA from 10 gm sample.

APPENDIX II

GEOCHEMICAL RESULTS

NORANDA VANCOUVER LABORATORY

PROPERTY/LOCATION: PING PONG — CODE : 8908-033

[redacted]ject No. :118 — Sheet:1 of 5 — Date rec'd:AUG04
Material :229 SOILS — Geol.:R.M.C. — Date compl:AUG25
Remarks :

Values in PPM, except where noted.

T. No.	SAMPLE No.	Zn	Pb	Ag
2	72E-9500N	210	22	0.5
3	9525	210	22	0.4
4	9550	174	22	0.3
5	9575	290	20	0.3
6	9600	202	10	0.1
7	9625	1500	12	0.5
8	9650	120	6	0.2
9	9675	52	6	0.2
10	9700	140	10	0.3
11	9725	122	12	0.2
12	9750	254	6	0.2
13	9775	160	14	0.2
14	9800	164	10	0.5
15	9825	96	18	0.3
16	9850	104	16	0.2
17	9875	156	24	0.3
18	9900	116	8	0.2
[redacted]	9925	140	12	0.4
[redacted]	9950	58	4	0.1
21	9975	80	6	0.1
22	10000	60	4	0.1
23	10025	68	10	0.3
24	10050	122	4	0.2
25	10075	70	8	0.3
26	72E-10100N	68	8	0.1
27	74E-9500N	234	16	0.2
28	9525	350	18	0.3
29	9550	360	18	0.3
30	9575	96	6	0.1
31	9600	190	6	0.2
32	9625	238	6	0.2
33	9650	380	16	0.1
34	9675	370	16	0.1
35	9700	160	8	0.2
36	9725	154	10	0.1
37	9750	130	10	0.2
38	9775	128	10	0.2
39	9800	136	12	0.5
40	9825	134	12	0.5
41	9850	120	18	0.5
42	9875	136	12	0.4
43	9900	138	12	0.5
44	9925	84	8	0.2
[redacted]	9950	146	8	0.3
[redacted]	9975	62	10	0.1
47	10000	86	12	0.2
48	10025	82	10	0.1
49	74E-10050N	76	8	0.2

30 Aug GC RK AP

T.T. No.	SAMPLE No.	Zn	Pb	Ag
50	74E-10075N	122	8	0.1
5[illegible]	74E-10100N	130	8	0.2
5[illegible]	76E-9500N	2100	178	0.3
53	9525	2500	92	0.2
54	9550	1800	168	0.2
55	9575	1500	88	0.1
56	9600	108	12	0.3
57	9625	110	12	0.4
58	9650	110	12	0.4
59	9675	102	10	0.2
60	9700	400	22	0.2
61	9725	190	28	0.6
62	9750	180	30	0.7
63	9775	96	18	0.6
64	9800	96	8	0.2
65	9825	120	8	0.2
66	9850	50	8	0.2
67	9875	56	8	0.2
68	9900	110	10	0.4
69	9925	114	12	0.4
70	9950	148	38	0.5
71	9975	170	4	0.3
72	10000	84	16	0.5
73	10025	84	14	0.5
74	10050	96	18	0.5
75	10075	88	18	0.5
7[illegible]	76E-10100N	90	18	0.5
[illegible]	78E-9500N	2100	88	0.3
78	9525	2000	86	0.4
79	9550	1900	80	0.3
80	9575	2000	82	0.3
81	9600	970	66	0.3
82	9625	240	10	0.1
83	9650	250	14	0.1
84	9675	230	10	0.1
85	9700	290	32	0.6
86	9725	2700	2500	0.8
87	9750	470	20	0.3
88	9775	430	16	0.3
89	9800	300	14	0.2
90	9825	106	10	0.1
91	9850	106	10	0.2
92	9875	58	8	0.2
93	9900	76	8	0.1
94	9925	82	12	0.1
95	9950	86	10	0.3
96	9975	60	12	0.1
97	10000	62	10	0.3
98	78E-10100N	72	8	0.3
99	80E-9500N	250	6	0.2
101	9525	410	28	0.3
102	9550	100	8	0.1
1[illegible]	9575	42	4	0.1
10[illegible]	9600	30	4	0.1
105	9625	32	6	0.2
106	9650	72	8	0.2
107	80E-9675N	76	10	0.1

T.T. No.	SAMPLE No.	Zn	Pb	Ag
108	80E-9700N	80	4	0.1
109	9725	70	16	0.3
110	9750	68	8	0.2
111	9775	58	8	0.2
112	9800	104	10	0.2
113	9825	102	10	0.2
114	9850	158	22	0.2
115	9875	86	10	0.2
116	9925	94	8	0.2
117	9950	70	6	0.2
118	9975	46	4	0.1
119	10000	40	6	0.1
120	10025	48	6	0.2
121	10050	42	4	0.1
122	80E-10075N	82	6	0.1
123	82E-9500N	104	10	0.2
124	9525	32	4	0.1
125	9550	24	4	0.1
126	9575	82	10	0.1
127	9600	64	12	0.1
128	9625	52	12	0.1
129	9650	114	12	0.2
130	9675	100	10	0.1
131	9700	112	8	0.2
132	9725	98	6	0.5
133	9750	94	16	0.2
134	9775	82	8	0.2
135	9800	90	14	0.1
136	9825	64	8	0.1
137	9850	110	8	0.1
138	9875	126	4	0.1
139	9900	106	16	0.2
140	9925	108	6	0.1
141	9950	70	10	0.1
142	9975	82	8	0.1
143	10000	84	6	0.1
144	10025	42	14	0.4
145	10050	56	12	0.1
146	10075	80	10	0.1
147	82E-10100N	58	6	0.1
148	84E-9675	56	8	0.1
149	9700	36	10	0.1
2	9725	76	14	0.3
3	9750	42	4	0.1
4	9775	66	8	0.1
5	9825	150	8	0.1
6	9850	114	6	0.1
7	9875	156	6	0.1
8	9900	146	10	0.2
9	9925	218	6	0.1
10	9950	106	6	0.2
11	9975	88	18	0.1
12	10000	90	6	0.2
13	10025	102	18	0.3
14	10050	204	36	0.2
15	10075	126	14	0.2
16	84E-10100N	168	14	0.1

T. T. No.	SAMPLE No.	Zn	Pb	Ag
17	86E-9500N	246	14	0.4
[illegible]	9525	300	40	0.3
[illegible]	9550	210	12	0.3
20	9575	182	26	0.1
21	9600	98	14	0.2
22	9625	70	14	0.2
23	9650	62	12	0.3
24	9675	110	10	0.3
25	9700	50	6	0.2
26	9725	40	2	0.2
27	9750	50	2	0.2
28	9775	46	8	0.2
29	9800	96	10	0.3
30	9825	112	10	0.3
31	9850	118	12	0.1
32	9875	48	6	0.1
33	9900	50	30	0.1
34	9925	68	14	0.1
35	9950	56	22	0.3
36	9975	60	18	0.3
37	86E-10000N	60	42	0.3
38	88E-9575	220	28	0.1
39	9600	180	22	0.1
40	9625	170	22	0.2
41	9650	194	20	0.1
42	9675	196	26	0.1
[illegible]	9700	130	14	0.1
[illegible]	9725	122	14	0.2
45	9750	80	14	0.2
46	9775	122	12	0.2
47	9800	58	12	0.2
48	9825	72	12	0.2
49	9850	72	12	0.2
50	9875	68	18	0.3
51	9900	100	10	0.3
52	9925	56	12	0.2
53	9950	88	14	0.2
54	9975	70	10	0.2
55	10025	56	12	0.3
56	10050	58	14	0.3
57	10075	44	6	0.1
58	10100	28	12	0.1
59	88E-10125N	42	10	0.3
60	90E-9625N	228	16	0.3
61	9650	206	12	0.1
62	9675	98	10	0.2
63	9700	160	36	0.1
64	9725	282	20	0.3
65	9750	266	16	0.1
66	9775	184	16	0.2
67	9800	264	16	0.3
68	9825	194	16	0.3
[illegible]	9850	162	10	0.1
[illegible]	9875	134	10	0.1
71	9900	86	8	0.2
72	9925	56	12	0.2
73	90E-9950N	74	16	0.2

T.T. No.	SAMPLE No.	Zn	Pb	Ag
74	90E-9975N	64	10	0.3
75	10000	80	12	0.2
[illegible]	10025	88	10	0.2
[illegible]	10050	70	10	0.3
78	10075	68	12	0.3
79	10100	76	10	0.2
80	10125	80	18	0.2
81	10150	20	4	0.2
82	10175	42	6	0.2
83	90E-10200N	80	12	0.3

Ping Pong (TF)

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-3156

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: SILT/ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: AUG 10 1989 DATE REPORT MAILED: Aug 16/89 SIGNED BY. C. Leong .D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS

NORANDA EXPLORATION CO. LTD. PROJECT 8908-050 118 File # 89-2820

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	AU* PPB
59801	232	17	7	38	.1	4	2	954	2.60	2	5	ND	1	92	1	2	2	10	1.40	.361	64	7	.13	26	.05	11	.52	.03	.06	1	1
59802	11	182	223	9810	2.3	19	13	251	21.73	12	5	ND	6	30	26	2	2	161	1.35	.580	16	25	1.12	13	.06	3	1.24	.01	.05	1	1
59803	17	93	3891	15709 ✓	3.0	10	5	141	7.96	19	5	ND	4	34	41	3	2	175	2.21	.658	22	21	.96	25	.05	15	1.11	.01	.19	2	1
59804	11	100	237	47054 ✓	.6	16	6	164	6.69	11	5	ND	5	58	137	2	2	141	2.71	.769	33	19	.29	13	.04	8	.94	.03	.05	3	2
59805	16	133	76	1984	.3	25	11	198	15.13	39	8	ND	33	23	5	2	2	231	.75	.453	40	47	.80	293	.03	5	1.97	.01	.15	1	2
59806	8	38	10939 ✓	4893	7.8	8	10	96	10.04	20	5	ND	3	11	10	2	3	60	.92	.356	4	9	.26	16	.03	2	.84	.01	.18	1	2
59807	4	6	19	62	.1	12	2	57	.76	2	5	ND	2	4	1	2	2	5	.08	.011	3	11	.05	23	.01	2	.15	.01	.03	1	1
59808	10	92	20186 ✓	12732 ✓	75.9 ✓	22	13	144	10.23	6	5	ND	4	102	44	61	2	101	3.57	1.013	27	15	.97	2	.02	15	1.07	.01	.26	1	12
59809	5	79	1744	20096 ✓	1.7	22	10	272	9.85	11	5	ND	6	21	55	2	2	28	1.12	.369	10	22	.50	26	.06	3	1.42	.01	.17	3	3
59810	9	56	449	304	.3	21	6	95	2.29	2	5	ND	2	45	1	2	3	67	1.24	.123	9	22	.22	63	.06	4	1.41	.11	.14	2	3
59811	2	109	40	353	.3	39	14	210	4.49	2	5	ND	3	671	2	2	2	20	5.90	.306	9	16	.33	46	.15	10	7.54	.21	.20	1	3
59812	2	11	13	42	.1	14	6	192	2.96	2	5	ND	4	3	1	2	2	30	.19	.083	12	30	.86	82	.16	7	1.64	.01	.74	1	1
STD C/AU-R	18	62	42	132	6.7	70	30	1002	4.21	42	19	7	38	49	18	15	17	59	.53	.093	39	52	.94	174	.07	35	2.04	.06	.13	12	490

- ASSAY REQUIRED FOR CORRECT RESULT -

9 Aug 89

NORANDA EXPLORATION COMPANY, LIMITED

N.T.S. 82 L/9

PROPERTY PING PONG

DATE AUG 6/89

ROCK SAMPLE REPORT

PROJECT 118

SAMPLE NO.	LOCATION & DESCRIPTION	% SULPHIDES	TYPE	WIDTH	G☐ A☐	G☐ A☐	G☐ A☐	G☐ A☐	G☐ A☐	G☐ A☐	G☐ A☐	SAMPLED BY
259801	quartz-biotite gneiss, heavily limonitic + manganese stained, minor clay alteration in small areas @ L86+00E & 100+10N	—	GRAB									T.E.
259802	Weathered sulphides, highly oxidized, Black, orange, rust & white, Few visible sulphides (py + Aspy) Original sulphide content (20-30%), possible ZnO_2 white powder L97N ~~40cm~~ 78+80E	2-5	chip	40cm								JJR/RM
259803	Sulphide Zone as 59802 but with 5% Galena L97N 79+70E	10%	chip	1m								JJR/RM
259804	Float (local) qtz-bio-phyllite 5-10% sulphides (ga+py) Rusty limonitic staining 97N 78+50E	5-10%	Grab	-								JJR/RM
259805	Float (local) Gossan Angular fragments of qtz/bio phyllite cemented L97N 79E	-	Grab									JJR/RM

NORANDA EXPLORATION COMPANY, LIMITED

N.T.S. 82 4/9

PROPERTY PING PONG

DATE AUG 6/89

ROCK SAMPLE REPORT

PROJECT: 118

SAMPLE NO.	LOCATION & DESCRIPTION	% SULPHIDES	TYPE	WIDTH	G☐ A☐	G☐ A☐	G☐ A☐	G☐ A☐	G☐ A☐	G☐ A☐	G☐ A☐	SAMPLED BY
259806	Pyritized quartz-biotite phyllite, 25% pyrite, 1% galena, <1% cpy	25	Grab	-								JJR/RM
	97N 77+40E											
259807	~~Zn~~ quartz vein, host qtz-biotite phyllite, above a 1 metre mable bed, <1% very fine pyrite, 34° 30°NW	<1%	Grab	-								JJR/RM
259808	Massive Sulphide, float, very near to source, 50% galena, 10% py 1% sphalerite locally 5% chalcopyrite, 25-30% silica, 76E, 97+25N	60-70%	chip	30cm								JJR/RM
259809	Heavily altered Gossan Zone in till bank, deep rusty orange, most sulphides weathered out, 5% galena, 1% sphalerite, near Source 76E 97+25N	5%	Grab									JJR/RM
R59810	quartz-biotite gneiss, limonitic, minor magnese stained, flakey galena + dissem-	<1%	GRAB	-								T.F.

NORANDA EXPLORATION COMPANY, LIMITED

N.T.S. 82 L/9

PROPERTY PING PONG

DATE AUG 6/89

ROCK SAMPLE REPORT

PROJECT 118

AMPLE NO.	LOCATION & DESCRIPTION	% SULPHIDES	TYPE	WIDTH	G☐ A☐	G☐ A☐	G☐ A☐	G☐ A☐	G☐ A☐	G☐ A☐	G☐ A☐	SAMPLED BY
R59811	quartz - biotite gneiss, limonitic + purple stained pockets, pyrite (disseminated) with minor galena, off grid @ ~ L 85+75E ∆ 94+30 N	1%	GRAB	—								T.F
R59812	quartz - biotite - feldspar schist White, fine - medium grained, schistosity defined by the segregation of felsic and mafic components, L 78E ∆ 99+40 N	-	Grab	-								RM/JJR

APPENDIX III

STATEMENT OF COSTS

NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COSTS

PROJECT: PING PONG DATE: July 29-August 7, 1989

TYPE OF REPORT: Geological/Geochemical

a) Wages:

No. of Days 20 mandays

Rate per Day $ 137.14

Dates From: July 29-August 7, 1989

Total Wages 20 x $ 137.14 $2,742.80

b) Food & Accomodations:

No. of Days 10

Rate per Day $ 100.94

Dates From: July 29-August 7, 1989

Total Costs 10 x $ 100.94 $1,009.40

c) Transportation:

No. of Days 10

Rate per Day $ 68.53

Dates From: July 29-August 7, 1989

Total Costs 10 x $ 68.53 $ 685.30

d) Instrument Rental:

Type of Instrument

No. of Days

Rate per Day $

Dates From:

Total Costs x $

Type of Instrument

No. of Days

Rate per Day $

Dates From:

Total Costs x $

e) Analysis: $ 803.20
(See attached schedule)

f) Cost of preparation of Report

Author:	2 days x $150.00	$ 300.00
Drafting:	2 days x $150.00	$ 300.00
Typing:	1 day x $150.00	$ 150.00

g) Other:

Contractor

Total Cost $5,990.70

h) Unit costs for GEOLOGY

No. of Days 7 mandays

No. of Units

Unit costs $259.38 / manday

Total Cost 7x $259.38 $1,815.66

i) Unit Costs for GEOCHEM

No. of days: 6 mandays

No of Units: 241

Unit Costs : $9.79/sample

Total Cost : 241 x $9.79 $2,359.39

j) Unit Costs for LINECUTTING

No. of Days: 7 mandays

No. of Units: 7.925 km

Unit Cost $229.10 TOTAL COST: 7.925 x $229.10 $1,815.65

NORANDA EXPLORATION COMPANY, LIMITED

(WESTERN DIVISION)

DETAILS OF ANALYSES COSTS

PROJECT:

	ELEMENT	NO. OF DETERMINATIONS	COST PER DETERMINATION	TOTAL COSTS
SOILS:	Zn	229	1.60	366.40
	Pb	229	0.60	137.40
	Ag	229	0.60	137.40
ROCKS:	ICP (30 element plus geochem Au)	12	13.50	162.00

TOTAL COST: $803.20

APPENDIX IV

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS
****

I, D. Graham Gill of the city of Vancouver, Province of British Columbia, hereby certify that:

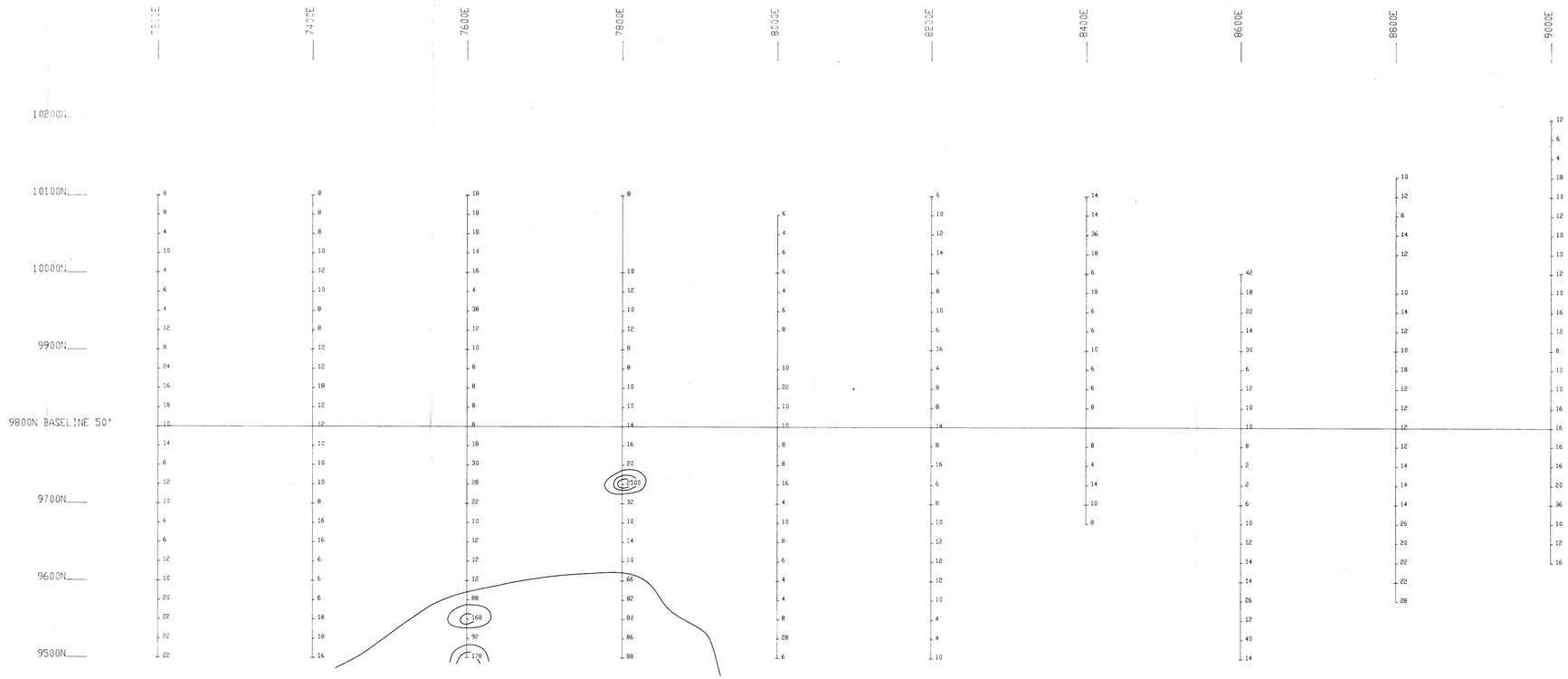
I am a geologist residing at #509 - 4676 Yew Street, Vancouver, B.C.

I have graduated from the University of British Columbia in 1983 with a BSc in geology.

I have worked in mineral exploration since 1979.

I have been a temporary employee with Noranda Exploration Company, Limited since May, 1979 and a permanent employee since November, 1987.

D. Graham Gill



GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,243

Contour Interval :
1st order - 50 ppm
2nd order - 100 ppm
3rd order - 150 ppm

50m 25m 0m 50m 100m

PING PONG

SOIL GEOCHEMICAL SURVEY
PPM Pb

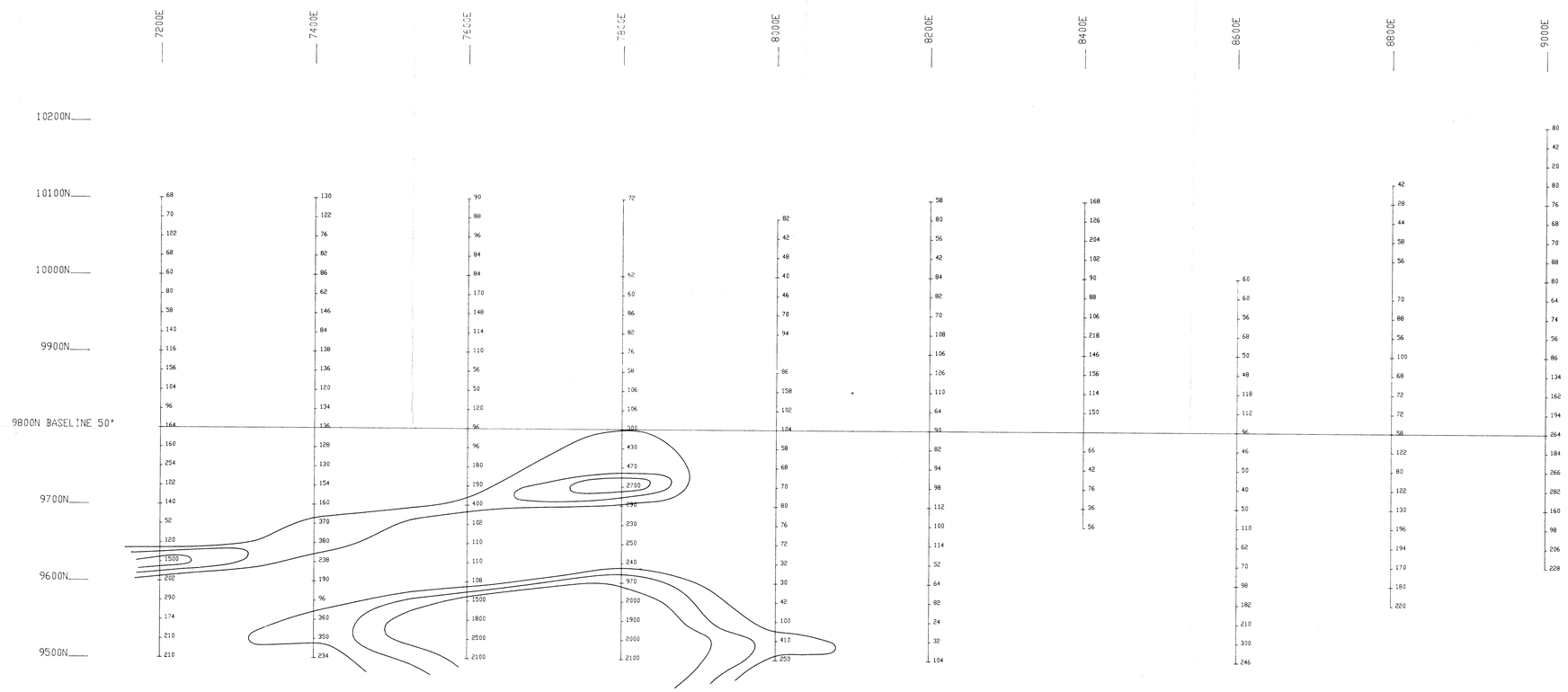
PROJECT: PING PONG PROJECT # : 118
BASELINE AZIMUTH : 50 Deg.

SCALE = 1: 2500 DATE : 1989 SURVEY
SURVEY BY : G GILL NTS : 082K05,12
FILE: C118PIN

3

NORANDA EXPLORATION

noranda
NORANDA EXPLORATION CO. LTD.



GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,243

Contour Interval :
1st order - 300ppm
2nd order - 600ppm
3rd order -1000ppm

50m 25m 0m 50m 100m

PING PONG

SOIL GEOCHEMICAL SURVEY
PPM Zn

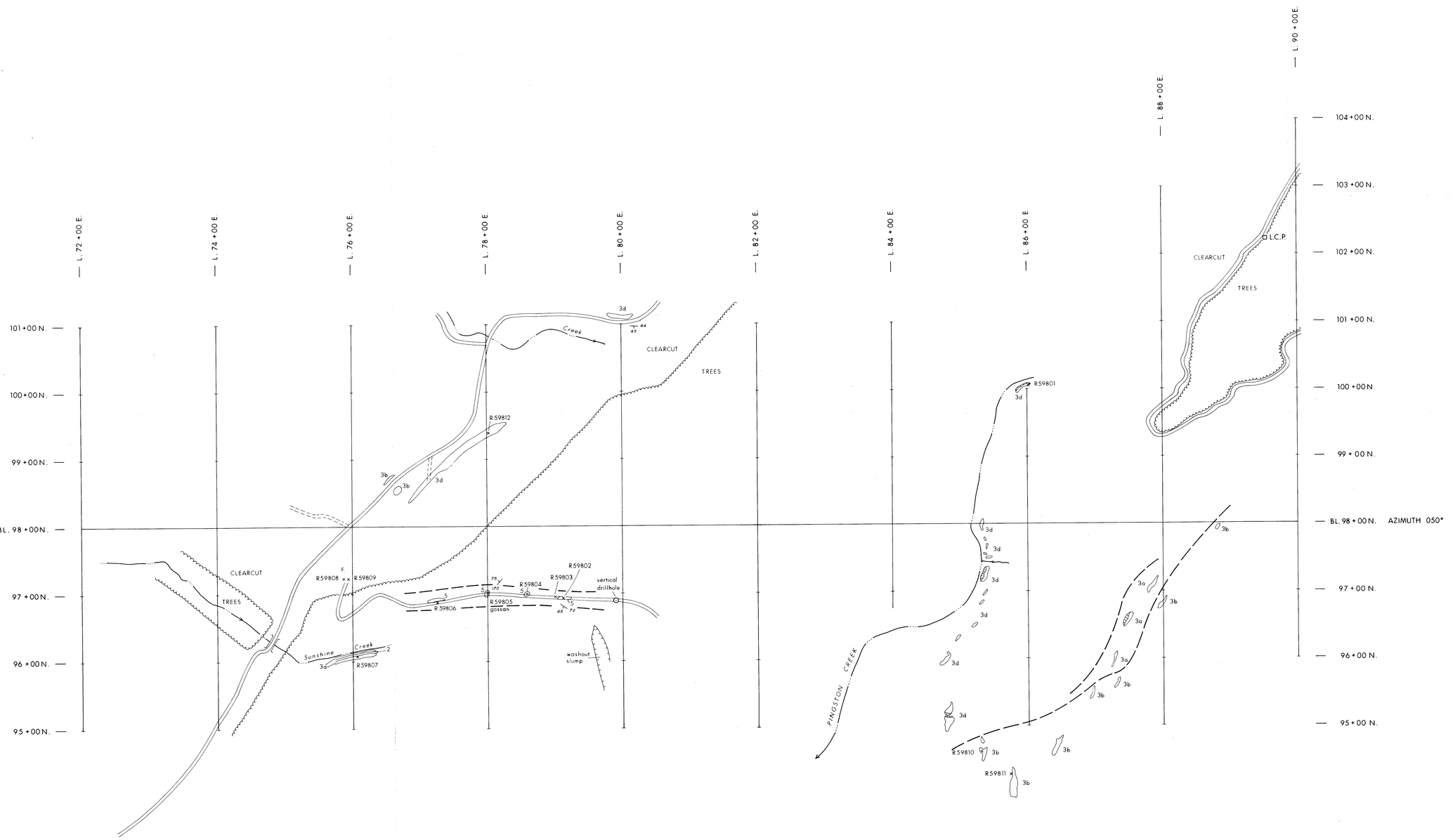
PROJECT: PING PONG PROJECT # : 118
BASELINE AZIMUTH : 50 Deg.

SCALE = 1: 2500 DATE : 1989 SURVEY
SURVEY BY : G GILL NTS : 082K05,12
FILE: C118PIN

2

NORANDA EXPLORATION

noranda
NORANDA EXPLORATION CO. LTD.



LEGEND

5 **SULPHIDE ZONE:** Massive pyrrhotite / pyrite rusty purple weathered surface

4 **PEGMATITE:** Medium to coarse grained feldspar quartz pegmatite

3 **LEDGE MEMBER:** Quartz - biotite phyllite (3a), Quartz - biotite schist + muscovite/serkite (3b), Graphitic feldspar – quartz phyllite (3c), Quartz - feldspar - biotite schist or gneiss (3d). May contain quartz augens and/or pegmatite stringers (Unit 4).

2 **MARBLE:** Fine grained, dense, grey to white marble

1 **AMPHIBOLITE:** Foliated, fine to medium grained hornblende and quartz appearing schistose to gneissic.

SYMBOLS

- Road
- Creek
- R 59876 Outcrop, Rock sample
- Geological contact
- 42 Bedding
- F. Float

GEOLOGICAL BRANCH ASSESSMENT REPORT

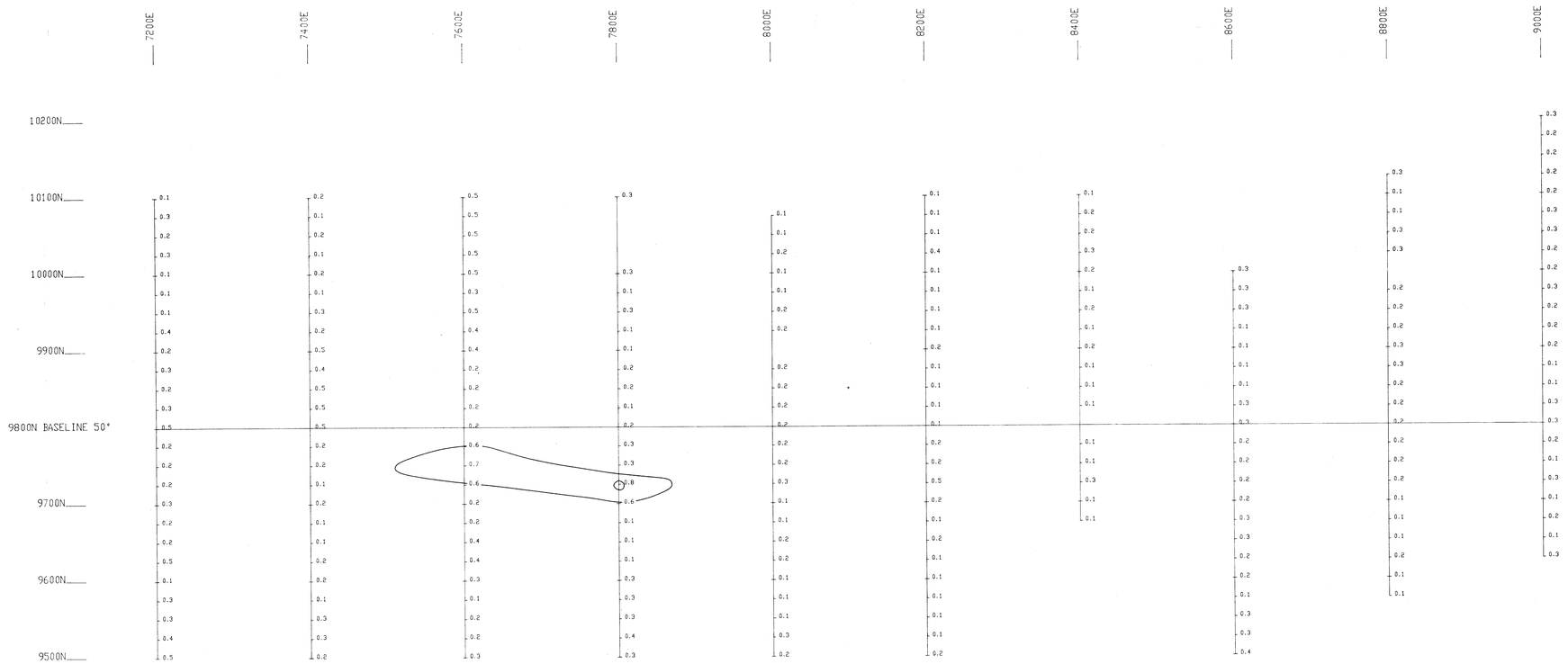
19,243

SCALE
1 : 2,500

Metres 50 25 0 50 100 150 200 Metres

REVISED	PING PONG
	GEOLOGY & ROCK SAMPLE LOCATIONS (1989 GRID)
PROJ. No. 118	SURVEY BY: G.G. DATE: October 1989
N.T.S. 82K/05,12	DRAWN BY: J. Serwin SCALE: 1:2,500
DWG. No. 5	NORANDA EXPLORATION OFFICE: VANCOUVER

GEL-149



GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,243

Contour Interval :

1st order - 0.6 ppm

2nd order - 0.8 ppm

50m 25m 0m 50m 100m

PING PONG

SOIL GEOCHEMICAL SURVEY

PPM Ag

PROJECT: PING PONG PROJECT # : 118

BASELINE AZIMUTH : 50 Deg.

SCALE = 1: 2500 DATE : 1989 SURVEY

SURVEY BY : G GILL NTS : 082K05,12

4 FILE: C118PIN

NORANDA EXPLORATION

noranda
NORANDA EXPLORATION CO. LTD.