



42L05SW0012 2.7663 JUNIOR LAKE

010

REPORT ON
GEOCHEMICAL EXPENDITURES
ON THE
TORONTO LAKE CLAIM GROUP
TORONTO LAKE AREA
THUNDER BAY MINING DIVISION
ONTARIO

FOR

QUEBEC COBALT AND EXPLORATION LIMITED

BY

CAROLYN HORNER B.Sc.

H. E. NEAL & ASSOCIATES LTD.

TORONTO - CANADA

December 1984

RECEIVED

JAN 17 1985

MINING LANDS SECTION



42L05SW0012 2.7663 JUNIOR LAKE

010C

TABLE OF CONTENTS

	<u>Page</u>
1.0 SUMMARY	1
2.0 INTRODUCTION	2
3.0 THE PROPERTY	2
4.0 LOCATION AND ACCESS	2
5.0 PREVIOUS WORK	3
6.0 GENERAL GEOLOGY	3
7.0 GEOCHEMICAL SURVEY	6
7.1 Rock Sampling	6
7.2 Soil Sampling	9
7.3 Humus Sampling	9
8.0 CONCLUSIONS	13
APPENDIX A - Assay Results	
APPENDIX B - Expenditure Receipts	
<u>MAPS</u>	
Key Map	
Property Map	
Location Map	
Geology and Geochemistry maps - 3 at scale of 1" to 400'	
(in back pocket)	
Sheets D, E and F.	

1.0 SUMMARY:

A geochemical survey was carried out by H.E. Neal & Associates Ltd. in the summer of 1984. A total of 165 rock samples, 118 soil samples and 10 humus samples were collected from the Toronto Lake claim group held by Quebec Cobalt and Exploration Limited. All of these samples were sent to X-Ray Assay Laboratories in Toronto and analyzed for gold. In addition, the soil samples were analyzed for Mo, Ba and Hg and the humus samples were analyzed for Mo and Ba.

Seventy rock sample pulps were sent to Bondar-Clegg Laboratories in Ottawa for whole rock analysis and analysis for Cu, Pb, Zn, As and Sb.

The sampling program indicated two main areas of interest that warrant further work. These are Turtle Island and the sediments on the north shore of the western part of Toronto Lake, north of the campsite.

The assay results are given in Appendix A. There are three maps (scale 1" to 400') showing geology and geochemical sample locations which accompany this report.

2.0 INTRODUCTION:

In the summer of 1984 a five member crew collected rock, soil and humus samples on the Toronto Lake claim group held by Quebec Cobalt and Exploration Limited. The purpose of this sampling program was to conduct a reconnaissance survey to test for gold mineralization in the area. The work was conducted by H.E. Neal & Associates Ltd. personnel.

3.0 THE PROPERTY:

The Toronto Lake claim group consists of 94 contiguous claims in the Toronto Lake Area, Thunder Bay Mining Division, Ontario. These claims are held by Quebec Cobalt and Exploration Limited.

4.0 LOCATION AND ACCESS:

The claims are located northeast of Lake Nipigon, approximately 15 miles north of Auden, Ontario.

Access was by float plane to Toronto and Joy Lakes from Kyro's Airways base in Jellicoe, Ontario. An Otter was used for camp moves and a Cessna 185 was used for weekly service flights. The distance from the float plane base to the property is approximately 50 miles.

ONTARIO

QUE.

TORONTO LAKE PROJECT
CLAIMS

THUNDER BAY

SAULT
STE MARIE

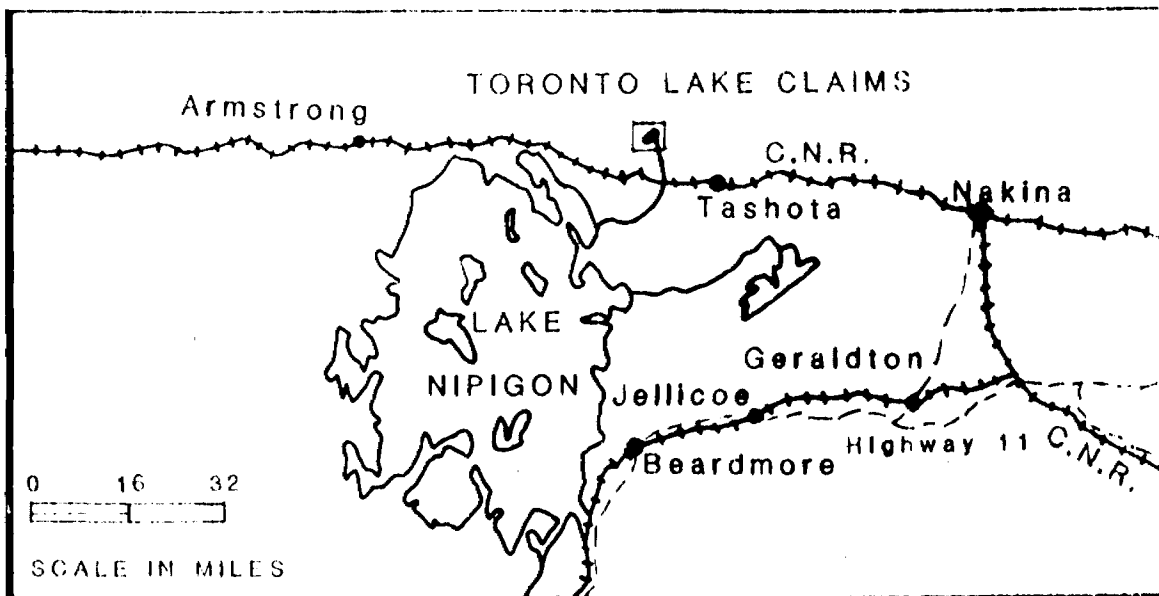
TORONTO
HAMILTON

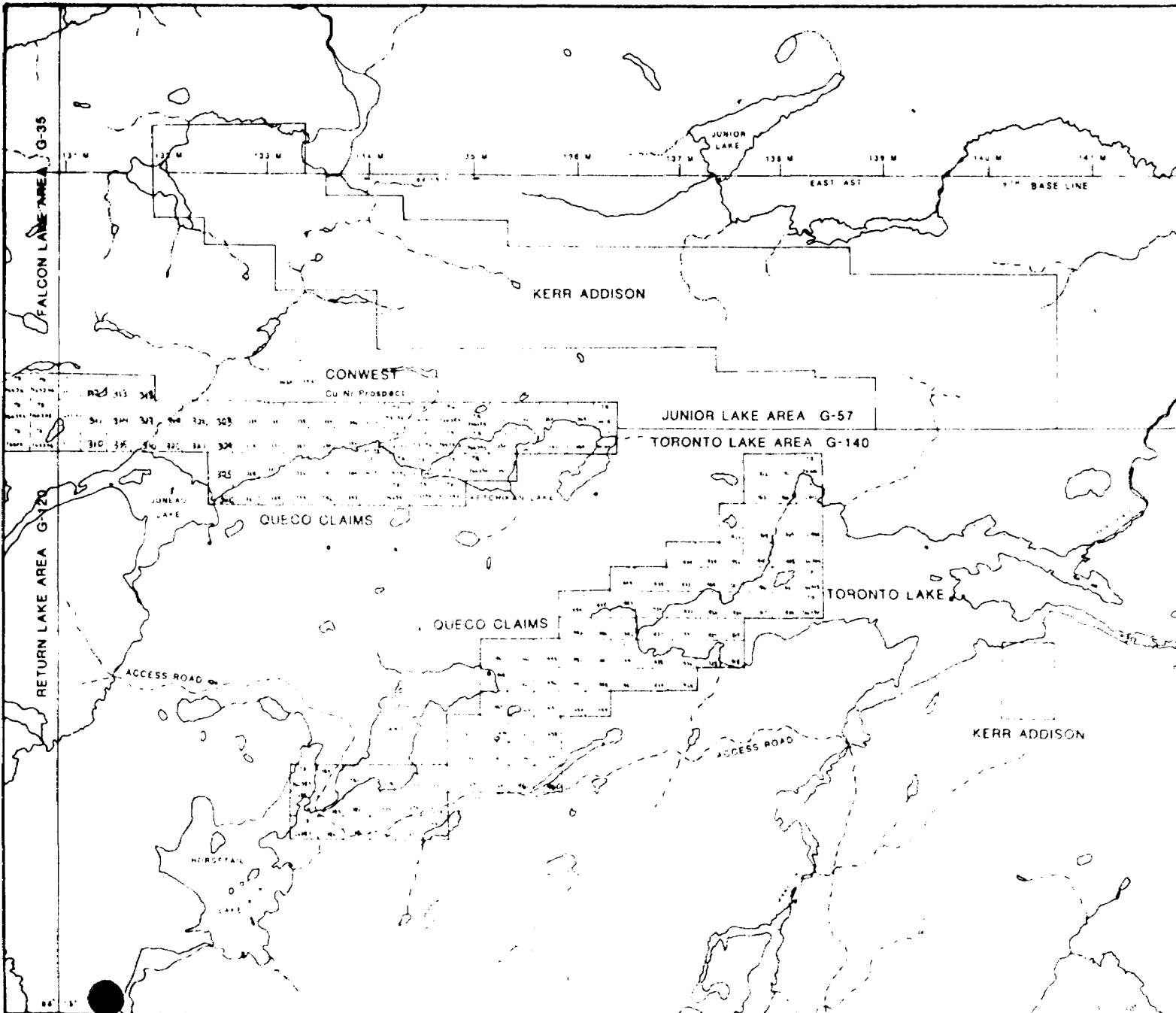
KEY MAP



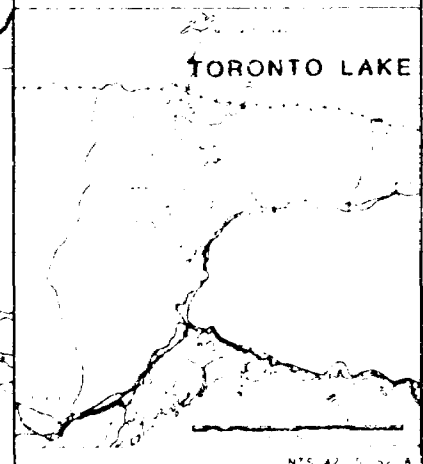
HEINZ & ASSOCIATES, INC.

LOCATION MAP





KEY MAP



**QUEBEC COBALT
AND EXPLORATION LIMITED**

TORONTO LAKE PROJECT

PROPERTY MAP

SCALE IN FEET

THE NEAL AND ASSOCIATES LTD.

5.0 PREVIOUS WORK:

- 1953 - Kennco Exploration (Canada) Limited did ground magnetometer and electromagnetic surveys.
- ? - Zmudzinski and Despard geological survey.
- 1955 - N.A. Timmins Explorations (Ontario) Limited did a ground magnetometer survey and drilled 4 holes totalling 2958 feet.
- 1959 - Panther International Mining Company Limited did an airborne magnetometer survey and 1438 feet of drilling.
- 1967 - Canadian Dyno Mines Ltd. performed ground magnetometer and electromagnetic surveys.
- 1969 - International Mogul Mines Limited and North Coldstream Mines Limited drilled 6 holes for a total of 1644 feet.
- 1977 - Rickaby Mines Limited (McAdam Mining Corporation Limited) performed a ground magnetometer survey.

6.0 GENERAL GEOLOGY:

Bedrock exposed in the area is Precambrian in age. The oldest rocks are Archean volcanic and sedimentary rocks including some iron formation. These rocks trend in an easterly and northeasterly direction. They have been isoclinally folded, intensely metamorphosed and intruded by large masses of granitic rocks and by dikes of porphyry and pegmatite. Basic eruptives, which are both pre-granite and post-granite in age, cross-cut

the volcanic and sedimentary rocks. The pre-granitic basic rocks have undergone regional metamorphism. Possibly they represent a late intrusive phase of the Archean volcanism. The post-granitic basic rocks are relatively unaltered Keweenawan diabases. They occur as steeply dipping dikes and as flat or gently dipping sheets.

Pleistocene geology in the area consists mainly of glacial till with boulders, gravel, sand, silt and clay also present. A northwest trending esker is present at the west end of Ketchikan Lake.

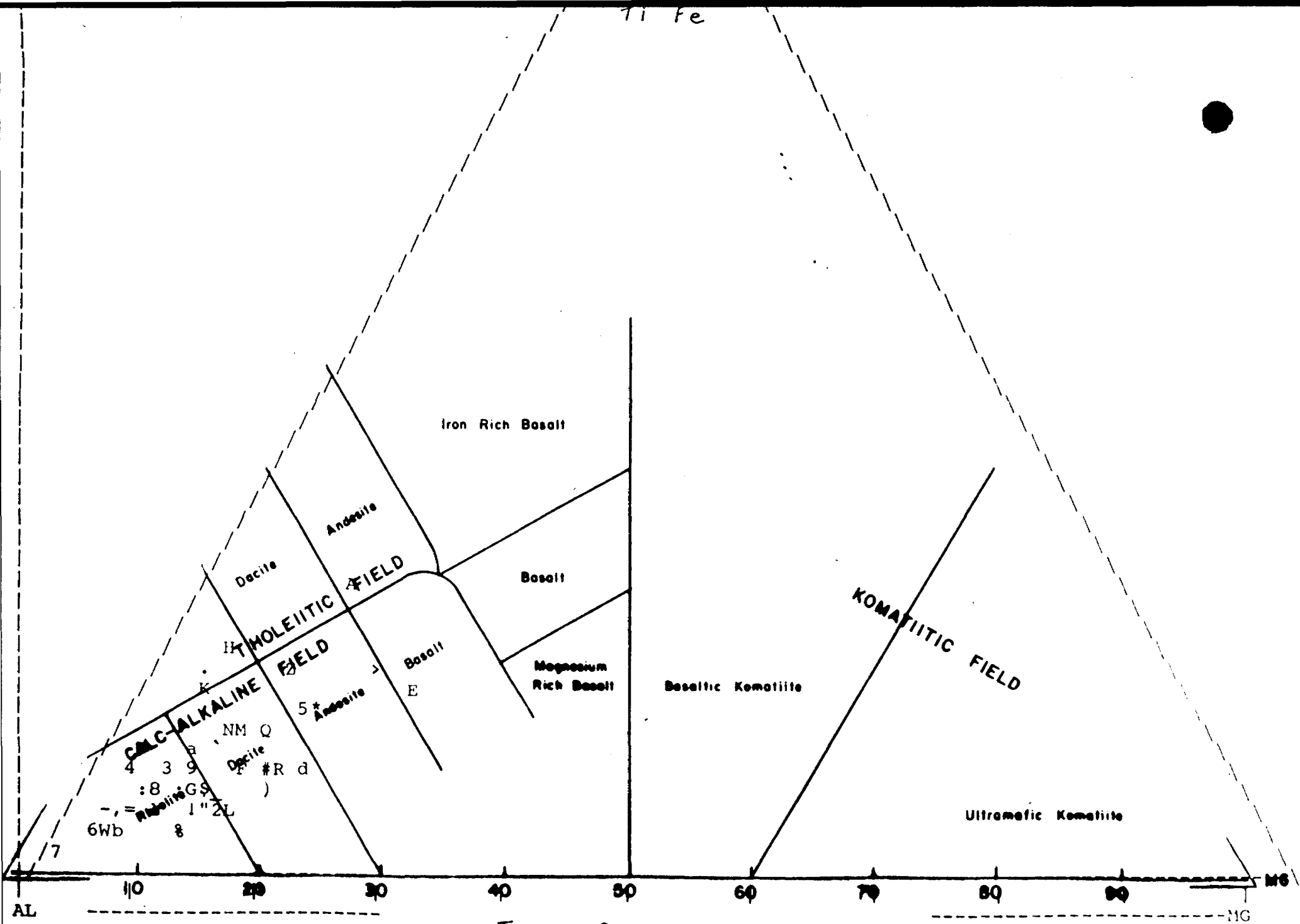
7.0 GEOCHEMICAL SURVEY:

7.1 Rock Sampling

The 165 rock samples were collected mainly from sediment outcrops but also from quartz veins and outcrops containing significant sulphides. These were all sent to X-Ray Assay Laboratories in Toronto for gold analysis. Seventy of the rock sample pulps were sent to Bondar-Clegg Laboratories in Ottawa for whole rock, copper, lead, zinc, arsenic and antimony analyses. All assay results are shown in Appendix A.

The whole rock analysis data were plotted on a Jensen Cation Plot (Figures 1 and 2). These results show that most of the samples fall within the calc-alkaline rhyolite and dacite fields. The five samples containing anomalous gold mineralization plot within the calc-alkaline field. Four samples are in the rhyolite and dacite fields and one sample plots within the calc-alkaline andesite field. Thirteen percent of the samples plotted in the tholeiitic field. One sample plotted in the komatiitic field.

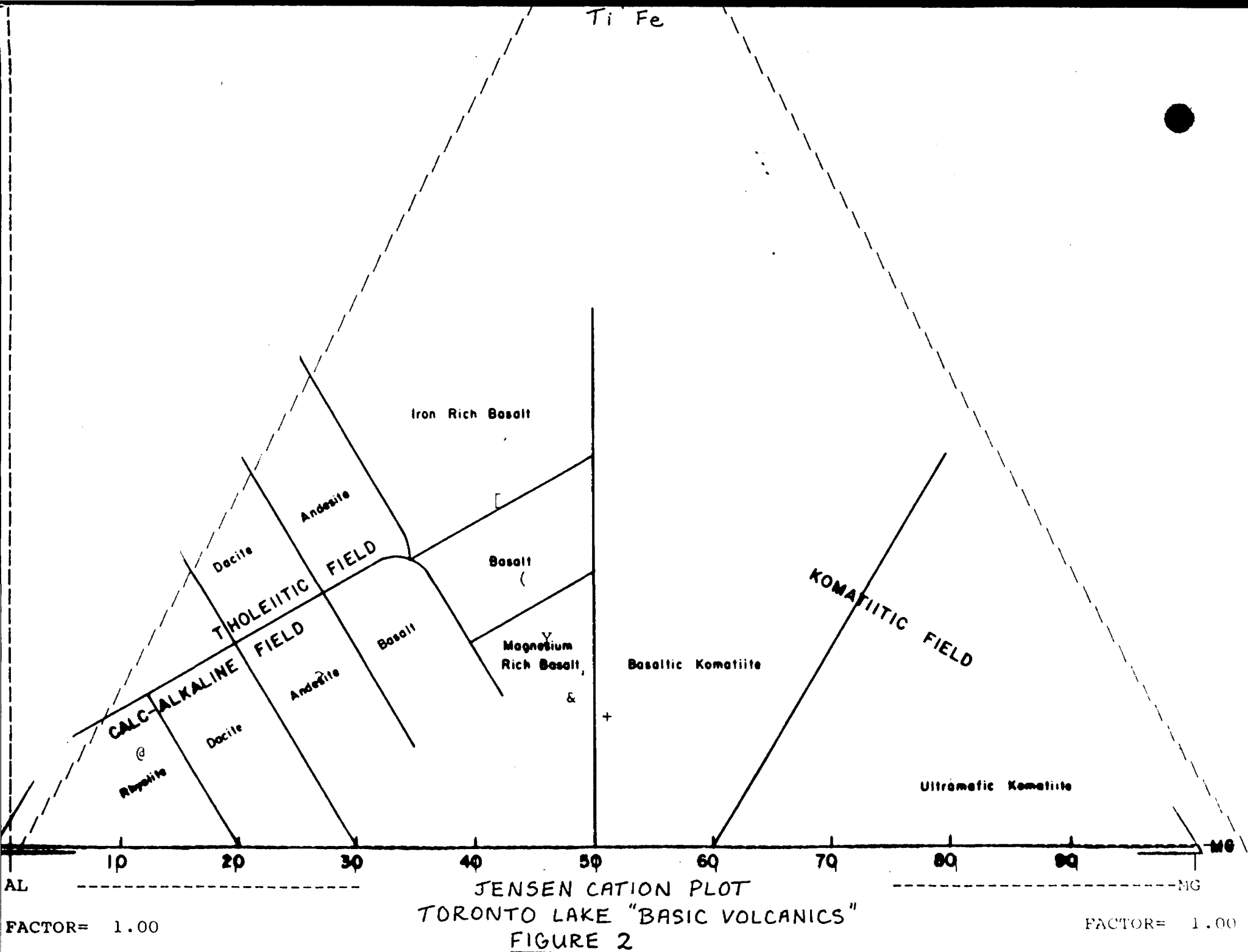
The assay results for Au, Cu, Pb, Zn, As and Sb are in Appendix A. The ranges of assay results for each element are shown in Table 2. A cumulative frequency diagram was plotted for each element in order to determine a threshold value. Assay results greater than or equal to the threshold were considered to be anomalous. The rock samples which



JENSEN CATION PLOT
 TORONTO LAKE "SEDIMENTS"
 FIGURE 1

FACTOR= 1.00

FACTOR= 1.00



contained any of the elements in anomalous amounts are listed in Table 3.

These results show that of the nine samples anomalous in gold, three are anomalous in arsenic, three are anomalous in zinc, one is anomalous in copper and one is anomalous in antimony. None were found to be anomalous in lead. Four of the anomalous gold samples were not analyzed for the other elements. All sample locations are shown on the accompanying maps (scale 1" to 400').

TABLE 1

TORONTO LAKE CLAIM GROUP

RANGE OF ASSAY VALUES

	ppb		ppm				ppb		
	Au	Cu	Pb	Zn	As	Sb	Mo	Ba	Hg
Rock	< 2	2	< 2	6	< 2	< 0.2			
	2900	2310	48	165	550	5.9			
Soil	< 2						< 1	200	< 10
	11						3	580	80
Humus	< 1						< 1	100	
	2						1	300	

TABLE 2

TORONTO LAKE CLAIM GROUP

ROCK SAMPLES

ANOMALOUS VALUES

See p 11

Sample #	ppb		≥11 Pb	ppm		
	≥10 Au	≥300 Cu		≥100 Zn	≥33 As	≥0.2 Sb
JYLS-2	12	NS	NS	NS	NS	NS
LTI-1	72	-	-	165	46	5.9
TI-2	-	-	12	-	193	-
F L1S-59	2900	NS	NS	NS	NS	NS
L1S-50	-	-	-	-	-	1.0
F L1S-22	-	646	-	-	-	-
✓ L1S-14	29	2310	-	109	-	-
✓ L1E- 4	320	NS	NS	NS	NS	NS
✓ L1E- 6	99	-	-	-	550	-
✓ L1E- 7	75	-	-	-	388	-
L1E- 9	24	NS	NS	NS	NS	NS
L1E-10	-	-	-	-	40	-
✓ L3E- 5	-	321	-	-	-	-
L6W- 2	-	-	12	-	-	-
L6W- 8	-	-	14	-	-	-
L8W- 5	-	-	48	-	-	-
L8W- 3	-	-	15	-	-	-
L3E-4S	11	-	-	102	-	-
L15E- 1	-	-	12	-	-	-
L15E- 6	-	-	-	103	-	-

NS - element not assayed for in this sample.

7.2 Soil Sampling

A total of 118 soil samples were collected from 16 sample lines as indicated on the maps accompanying this report. These lines are located over sediments in most cases. A pit was dug every 50 feet or 25 feet and the red-brown oxidized soil layer was sampled. All samples were sent to X-Ray Assay Laboratories in Toronto and analyzed for Au, Mo, Ba and Hg. The ranges of assay values obtained are shown in Table 1. All assay results are in Appendix A. The frequency of assay values was tabulated for each element in Table 3. The 95th percentile was arbitrarily chosen as the threshold point. The threshold values would be gold ≥ 6 ppb, mercury ≥ 41 ppb, molybdenum ≥ 3 ppm and barium ≥ 561 ppm. Soil samples which contain these elements in "anomalous" amounts are shown in Table 4. Only one sample contains more than one element in anomalous amounts. The rest of the samples contain one element in anomalous amounts.

TABLE 3

TORONTO LAKE CLAIM GROUP

SOIL SAMPLES

FREQUENCY OF ASSAY VALUES

(a) <u>Gold</u> ppb				(b) <u>Molybdenum</u> ppm			
<u>Interval</u>	<u>Frequency</u>	<u>Freq. %</u>	<u>Cumulative Freq. %</u>	<u>Interval</u>	<u>Frequency</u>	<u>Freq. %</u>	<u>Cumulative Freq. %</u>
1	85	72	100.2	<1	91	77.1	100
2	6	5.1	28.2	1	15	12.7	22.9
3	15	12.7	23.1	2	6	5.1	10.2
4	4	3.4	10.4	3	6	5.1	5.1
5	2	1.7	7.0		118		
6	2	1.7	5.3				
7	1	0.9	3.6				
8	1	0.9	2.7				
9	1	0.9	1.8				
10	0	0	0.9				
11	<u>1</u>	0.9	0.9				
	118						

(c) <u>Mercury</u> ppb				(d) <u>Barium</u> ppm			
<u>Interval</u>	<u>Frequency</u>	<u>Freq. %</u>	<u>Cumulative Freq. %</u>	<u>Interval</u>	<u>Frequency</u>	<u>Freq. %</u>	<u>Cumulative Freq. %</u>
0-10	50	42.4	100.1	200-240	2	1.7	100.3
11-20	33	28	57.7	241-280	1	0.9	98.6
21-30	12	10.2	29.7	281-320	1	0.9	97.7
31-40	16	13.6	19.5	321-360	12	10.2	96.8
41-50	3	2.5	5.9	361-400	14	11.9	86.6
51-60	3	2.5	3.4	401-440	16	13.6	74.7
61-70	0	0	0.9	441-480	27	22.9	61.1
71-80	<u>1</u>	0.9	0.9	481-520	27	22.9	38.2
	118			521-560	16	13.6	15.3
				561-600	<u>2</u>	1.7	1.7
					118		

TABLE 4

ANOMALOUS SOIL SAMPLES

<u>Soil Samples</u>	<u>ppb Au</u>	<u>ppm Mo</u>	<u>ppm Ba</u>	<u>ppb Hg</u>
L 5E - 22+70S	-	3	-	-
23+25S	-	3	-	50
23+50S	-	-	-	80
L11W - 21+00S	-	-	580	-
L6E(S)- 3+50N	-	-	-	50
2+90N	-	-	-	50
1+40N	-	-	-	60
L12E - 8+25N	-	3	-	-
7+00N	-	3	-	-
4+00N	-	3	-	-
2+50N	-	-	-	60
L15W - 0+50S	7	-	-	-
1+50S	9	-	-	-
2+15S	6	-	-	-
L37W - 6+50N	-	3	-	-
6+00N	-	-	-	60
L19W - 9+00S	6	-	-	-
9+50S	11	-	-	-
10+10S	-	-	580	-
L15W - 16+00N	8	-	-	-

7.3 Humus Sampling

A line of 10 humus samples were collected from L5E. Pits were dug and the Ao horizon at the base of the organic layer was sampled. Soil samples were also collected from these pits. These samples were analysed for Au, Mo and Ba by neutron activation. The results are in Appendix A and the range of values are shown in Table 1. The ranges are much less than those from the soil sample results.

8.0 CONCLUSIONS:

The rock sampling program indicated two areas with anomalous gold mineralization. These are Turtle Island and the sediments to the north of the campsite on Toronto Lake. Based on the analyses of the rock samples to date, it appears that arsenic, zinc and possibly copper and antimony may be useful pathfinder elements for gold in the Toronto Lake area.

The results of the whole rock analysis show that most of the rocks classified as sediments in the field were classified as calc-alkaline rhyolites and dacites on the Jensen Cation Plot. Four of the five anomalous gold samples plotted are associated with these rock types.

Most of the basic volcanics plotted as tholeiitic basalts. Further whole rock analysis is necessary to reach conclusions on the volcanic stratigraphy of the area.

Soil samples containing anomalous gold did not contain anomalous amounts of Mo, Ba, or Hg. This suggests that these elements are not indicative of gold mineralization in this environment. Soil samples collected over an outcrop found to be anomalous in gold by the rock sampling program did not contain any anomalous gold results.

One line of humus sampling does not give conclusive evidence for its potential in indicating gold mineralization in the Toronto Lake area. However, when compared to the soil samples collected from the same sample pits, the levels of the elements Au, Mo and Ba were generally lower in the humus.

Carolyn Horner

Carolyn Horner B.Sc.
H.E. Neal & Associates Ltd.

APPENDIX A

TORONTO LAKE CLAIM GROUP

ASSAY RESULTS

REPORT: 014-3517

PROJECT:

PAGE 1

SAMPLE NUMBER	ELEENIT UNITS	SiO2 PCT	TiO2 PCT	Al2O3 PCT	Fe2O3* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	TOTAL PCT	NOTES
L1E-5-01		74.49	0.15	12.44	1.87	0.01	1.29	0.79	3.48	1.99	0.16	1.00	97.66	
L1E-6-01		75.40	0.15	12.96	2.00	0.02	1.47	1.21	2.94	2.42	0.10	1.25	99.92	
L1E-7-01		74.26	0.17	12.35	2.65	0.03	1.87	1.26	2.13	2.95	0.09	1.25	99.01	
L1E-8-01		74.50	0.10	12.20	2.20	0.02	1.28	0.49	2.03	2.99	0.07	1.15	97.03	
L1E-10-01		75.20	0.11	12.10	1.41	0.02	1.22	0.70	3.13	2.32	0.11	1.00	97.32	
L1E-12-02		51.00	0.34	14.40	8.81	0.16	9.29	10.40	0.83	1.93	0.06	2.10	99.33	
L1E-13-02		50.40	0.34	13.80	8.99	0.17	9.00	9.02	0.62	3.14	0.09	1.95	97.51	
L1E-14-02		50.50	0.93	14.60	13.80	0.26	7.39	10.10	2.65	0.22	0.22	0.35	101.02	
L1E-15-01		77.30	0.12	11.60	2.16	0.02	1.84	0.60	3.00	1.97	0.11	0.85	99.57	
L1E-16-01		64.62	0.69	14.20	5.18	0.10	2.55	6.24	2.31	1.20	0.25	0.45	97.79	
L1E-17-02		49.70	0.27	11.20	8.08	0.15	10.40	11.70	2.33	0.61	0.20	0.40	98.04	
L1E-18-02		73.70	0.07	12.29	1.43	0.03	0.47	0.54	1.34	6.38	0.13	0.70	97.09	
L1E-19-02		70.00	0.07	11.88	1.37	0.02	0.36	0.50	3.00	3.44	0.12	0.65	99.40	
L1E-20-02		72.52	0.08	10.41	4.69	0.03	0.51	1.52	1.04	3.78	0.11	2.55	97.24	
L1E-21-02		67.00	0.51	16.34	2.22	0.04	1.85	2.04	3.35	2.23	0.11	1.50	97.19	
L1E-22-01		63.55	0.46	18.15	3.35	0.05	2.82	1.60	1.95	2.38	0.05	2.80	97.16	
L1E-23-01		70.70	0.32	16.20	2.07	0.03	1.15	1.49	3.31	3.11	0.15	1.95	100.48	
L1E-24-01		69.43	0.48	16.63	2.09	0.04	1.96	1.65	3.26	2.45	0.18	1.65	99.81	
L1E-25-01		70.70	0.29	14.60	3.23	0.06	0.91	2.92	3.49	3.04	0.13	1.75	101.11	
L1E-26-01		73.80	0.21	13.96	2.78	0.08	0.49	2.00	1.32	3.70	0.23	1.55	100.12	
L1E-27-01		79.60	0.14	8.78	3.52	0.13	1.46	2.34	0.59	1.85	0.23	0.90	99.54	
L1E-28-01		79.47	0.08	12.20	1.35	0.05	0.38	1.11	1.70	2.56	0.38	0.90	100.18	
L1E-29-01		71.10	0.27	16.50	0.57	0.01	0.31	0.86	7.16	1.43	0.08	0.55	98.85	
L1E-30-01		76.10	0.12	11.40	1.73	0.03	0.72	0.68	3.49	2.81	0.03	0.65	97.76	
L1E-31-01		67.60	0.39	15.80	2.93	0.04	1.25	2.83	4.29	3.12	0.28	0.70	99.23	
L1E-32-01		70.49	0.31	14.80	2.13	0.04	0.78	2.25	4.27	2.94	0.21	0.75	98.97	
L1E-33-01		70.54	0.25	13.24	2.46	0.05	1.14	2.00	1.77	4.04	0.39	1.20	97.08	
L1E-34-01		68.60	0.30	16.00	1.98	0.03	0.74	2.42	5.86	0.83	0.24	0.45	97.44	
L1E-35-01		69.00	0.27	16.30	1.97	0.04	0.85	1.86	4.31	2.59	0.23	1.30	98.72	
L1E-36-01		59.00	0.75	15.80	8.02	0.13	3.66	5.88	3.66	1.89	0.06	0.55	99.40	
L1E-37-02		60.20	0.74	17.84	7.14	0.08	3.54	1.09	2.46	3.14	0.15	2.10	98.49	
L1E-38-02		67.68	0.29	16.58	3.38	0.44	0.93	2.42	5.28	2.41	0.25	2.30	101.96	
L1E-39-01		54.77	1.89	17.74	12.34	0.35	2.90	4.10	3.06	2.19	0.53	0.55	100.42	
L1E-40-01		70.20	0.29	14.60	1.78	0.03	0.52	1.41	4.47	3.07	0.10	0.70	97.17	
L1E-41-01		70.00	0.28	15.00	2.04	0.03	0.67	1.67	4.96	2.14	0.12	0.35	97.26	
L1E-42-01		70.25	0.32	14.02	3.24	0.04	0.53	1.52	3.47	3.07	0.04	0.80	97.30	
L1E-43-01		74.30	0.13	11.20	1.96	0.04	1.70	2.30	1.85	2.47	<0.01	1.40	97.36	
L1E-44-01		65.00	0.28	12.32	6.14	0.10	3.68	3.26	3.08	2.88	0.40	1.95	99.09	
L1E-45-01		65.60	0.26	16.16	3.86	0.05	2.12	2.28	5.92	1.21	0.10	0.60	98.17	
L1E-46-01		71.90	0.33	14.50	2.41	0.02	1.34	0.61	2.87	5.87	0.17	0.90	100.92	



REPORT: 014-3517

PROJECT: PAGE 2

SAMPLE NUMBER	ELEMENT UNITS	SiO2 PCT	TiO2 PCT	Al2O3 PCT	Fe2O3* PCT	MnO PCT	MgO PCT	CaO PCT	Na2O PCT	K2O PCT	P2O5 PCT	LOI PCT	TOTAL PCT	NOTES
LS-22-01		69.20	0.46	13.20	6.16	0.06	0.82	1.30	3.28	3.36	0.10	2.05	99.98	
LS-23-01		76.30	0.18	12.10	1.45	0.01	0.68	0.44	4.12	1.85	0.04	0.70	97.88	
LS-22B-01		80.20	0.17	10.80	1.12	0.01	0.41	0.83	4.41	0.95	0.07	0.50	99.47	
LS-22A-01		72.00	0.63	13.80	4.63	0.04	0.84	0.45	0.89	4.42	0.23	2.20	100.13	
LS-24-01		76.00	0.11	12.40	1.98	0.02	1.58	0.70	2.02	2.97	0.02	1.00	98.80	
LS-36-01		65.40	0.30	16.10	4.86	0.04	1.80	3.19	3.39	2.94	0.14	1.55	99.71	
LS-43-01		66.10	0.55	16.60	4.45	0.06	1.60	1.07	6.36	2.00	0.09	0.75	99.62	
LS-44-01		68.80	0.31	16.30	2.26	0.03	0.80	1.27	4.49	2.73	0.11	1.30	98.41	
LS-50-01		70.70	0.33	16.50	1.90	0.03	0.82	0.94	1.68	3.35	0.14	2.75	99.14	
LS-52-01		64.30	0.47	15.70	4.77	0.08	2.16	2.00	2.73	3.67	0.14	1.55	97.57	
LS-55-01		67.20	0.33	16.00	3.93	0.10	2.51	2.34	3.46	2.91	0.17	0.80	99.74	
LS-56-01		64.30	0.51	16.60	3.60	0.07	2.62	2.36	2.41	1.62	0.09	2.90	97.08	
LT1-1-01		63.90	0.47	15.50	4.79	0.09	1.62	3.64	4.39	1.79	0.15	0.70	97.04	
TL-1-01		74.77	0.13	12.90	2.71	0.08	1.12	1.46	3.50	2.18	0.07	0.65	99.57	
TL-2-01		69.43	0.30	14.40	2.88	0.03	1.21	2.62	2.34	4.45	0.10	1.40	99.16	
TL-7-01		76.51	0.07	12.90	1.07	0.02	0.54	0.39	1.30	5.82	0.01	1.10	99.73	
TL-9-01		75.07	0.07	14.20	1.33	0.04	0.58	0.71	1.01	5.20	0.08	1.35	99.64	
L12W-3-02		49.60	0.76	14.00	11.20	0.18	8.03	10.50	2.47	1.11	0.10	1.50	99.45	
L12W-9A-01		65.00	0.46	15.70	7.17	0.23	2.04	1.99	1.36	3.52	0.17	1.55	99.19	
L12W-9B-02		47.80	0.96	14.70	19.50	0.89	6.11	8.73	0.74	1.02	0.23	0.80	101.48	
L11W-1-01		75.10	0.26	12.90	3.16	0.05	1.25	3.27	2.34	2.55	0.10	0.95	101.93	
L10W-7-01		67.31	0.29	16.00	2.52	0.04	0.89	1.88	5.14	2.10	0.08	1.20	97.45	
L9W-7-01		63.65	0.29	18.70	3.02	0.05	1.80	3.97	4.48	2.35	0.16	1.20	99.67	
L9W-5-01		73.28	0.21	12.90	2.03	0.02	1.53	1.23	1.84	2.69	0.12	1.90	97.75	
L7W-3-01		75.76	0.15	9.93	2.64	0.03	0.95	0.56	4.64	0.94	0.15	1.30	97.05	
TL2-1-01		71.20	0.35	13.30	3.43	0.05	1.00	1.22	4.59	2.07	0.12	0.95	98.27	
L8W-4-01		69.36	0.25	16.44	1.72	0.02	0.81	1.95	4.78	2.38	0.15	0.80	98.67	
L8W-3-01		62.06	0.61	19.26	2.72	0.07	1.25	4.18	5.57	1.43	0.16	0.95	98.26	
L8W-5-01		69.60	0.22	13.46	3.38	0.08	2.52	2.28	0.47	5.16	0.36	2.00	99.52	
L9E-1-01		79.00	0.14	11.14	1.22	0.03	0.59	1.64	1.67	3.04	0.27	1.05	99.79	

SAMPLE	AU PPB
435-1	<?
L1E-3	<?
L1E-4	320
L3E-1	<?
L3E-2	<?
TI-1	<?

SAMPLE	AU PPB
✓L3E-3-ROCK	4
✓L3E-4-ROCK	<2
✓L3E-5-ROCK	6
✓L3E-6-ROCK	<2
✓L4E-3-ROCK	<2
✓L4E-9-ROCK	<2
<L4E-10-ROCK	<2
✓L4E-11-ROCK	3
✓L1W-3-ROCK	<2
✓L2W-3-ROCK	<2
✓L2W-4-ROCK	<2
✓L2W-5-ROCK	<2
✓L6W-1-ROCK	<2
✓L6W-2-ROCK	<2
✓L6W-8-ROCK	8
✓L11W-1-ROCK	<2
✓L12W-1-ROCK	<2
✓L12W-2-ROCK	<2
✓L12W-3-ROCK	<2
✓L12W-9A-ROCK	<2
✓L12W-9B-ROCK	<2
✓L10BW-7-ROCK	<2
✓L10BW-12-ROCK	<2
✓TL-1-ROCK	<2
✓TL-2-ROCK	<2
✓TL-4-ROCK	<2
✓TL-7-ROCK	<2
✓TL-9-ROCK	<2
✓T1-2-ROCK	<2
✓T1-3-ROCK	<2
✓T1-4-ROCK	<2
✓T1-5-ROCK	<2

SAMPLE	AU PPB
✓BPN-1	<2
✓BSP-1	<2
✓BSP-2	<2
✓L5E-4	<2
✓L9E-1	<2
✓L15E-1	<2
✓L15E-2	<2
✓L15E-3	<2
✓L15E-6	<2
✓L4W-1	<2
✓L6W-5	<2
✓L7W-3	<2
✓L8W-3	<2
✓L8W-4	<2
✓L8W-5	<2
✓L9W-5	<2
✓L9W-7	<2
✓L2-1	<2

48

SAMPLE	AU PPB
JL12W-3-ROCK	6
JYLS-1-ROCK	<2
JYLS-2-ROCK	12
JYTL-1-ROCK	<2
L13W-1-ROCK	<2
L13W-4-ROCK	<2
L13W-5-ROCK	2
L13W-7-ROCK	2
L14W-1-ROCK	<2
L15W-1-ROCK	9
L15W-2-ROCK	2
L15W-4-ROCK	<2
L15W-5-ROCK	<2
L15W-9-ROCK	2
L16W-3-ROCK	3
L17W-1-ROCK	7
L17W-5-ROCK	<2
L17W-6-ROCK	4
L18W-2-ROCK	3
L19W-1-ROCK	<2
L28W-1-ROCK	<2
L28W-2-ROCK	<2
L30W-1-ROCK	<2
L30W-2-ROCK	7
L30W-3-ROCK	<2
L30W-4-ROCK	<2
L30W-6-ROCK	7
L30W-7-ROCK	<2
L30W-8-ROCK	2
L30W-9-ROCK	2
L31W-1-ROCK	<2
L31W-2-ROCK	<2
L31W-3-ROCK	3
L31W-5-ROCK	<2
L31W-6-ROCK	<2
L32W-1-ROCK	<2
L32W-2-ROCK	2
L32W-3-ROCK	4
L32W-4-ROCK	<2
L33W-1-ROCK	<2
L33W-2-ROCK	<2
L33W-5-ROCK	<2
L36W-2-ROCK	<2
L36W-3-ROCK	<2
L36W-5-ROCK	<2
L37W-1-ROCK	2
L37W-2-ROCK	<2
L37W-3-ROCK	<2
RD-1-ROCK	<2
RD-2-ROCK	<2

SAMPLE	AU PPB
RD-3-ROCK	<2
RD-4-ROCK	<2
RD-5-ROCK	3
RD-6-ROCK	5
✓ L3E-1152	<2
LS-22A	<2
LS-22B	<2
LS-24	<2
LS-35	<2
LS-36	<2
LS-38	<2
LS-43	<2
LS-46	<2
LS-50	<2
LS-52	<2
LS-55	<2
LS-56	<2
LS-59	2900
LT1-1	72
LIE-5	<2
LIE-6	99
LIE-7	75
LIE-8	3
LIE-9	24
LIE-10	<2
LIE-11	3
LIE-12	3
LIE-13	3

SAMPLE	AJ PPS
L0-2-ROCK	<2
L0-2B-ROCK	<2
L0-3-ROCK	<2
L0-4-ROCK	<2
L0-5-ROCK	<2
L1E-2S-ROCK	<2
L3E-2S-ROCK	<2
L3E-4S-ROCK	11
L3E-5S-ROCK	<2
L3E-6S-ROCK	<2
L3E-7S-ROCK	<2
L3E-8S-ROCK	<2
L3E-11S-ROCK	?
L3E-12S-ROCK	8
L4E-1S-ROCK	<2
L6E-1S-ROCK	<2
L6E-5S-ROCK	<2
L6E-6S-ROCK	<2
L12F-1-ROCK	<2
L13E-1-ROCK	<2
L13E-3-ROCK	<2
L13E-6-ROCK	<2
L13E-7-ROCK	<2
LS-13-ROCK	<2
LS-14-ROCK	29
LS-15-ROCK	<2
LS-18-ROCK	<2
LS-19-ROCK	<2
LS-20-ROCK	<2
LS-22-ROCK	<2
LS-23-ROCK	<2

SAMPLE	AU PPB	MO PPM	BA PPM	HG PPB
L5E-22+70S-SOIL	<2	3	460	40
L5E-23+00S-SOIL	<2	1	460	30
L5E-23+25S-SOIL	<2	3	540	50
L5E-23+50S-SOIL	<2	1	480	80
L5E-24+00S-SOIL	5	<1	420	40
L5E-24+30S-SOIL	<2	<1	380	20
L5E-24+60S-SOIL	<2	<1	380	<10
L5E-25+00S-SOIL	<2	1	360	40
L5E-25+75S-SOIL	<2	<1	440	10
L5E-26+00-SOIL	<2	2	400	20
NP-1-SOIL	<2	<1	240	10

SAMPL	AU PPB	MO PPM	BA PPM	HG PPB
L11W-19+90S-SOIL	<2	<1	200	<10
L11W-20+50S-SOIL	<2	<1	440	10
L11W-21+00S-SOIL	<2	<1	580	30
L11W-21+50S-SOIL	<2	<1	460	10
L11W-22+00S-SOIL	<2	<1	520	<10
L11W-22+80S-SOIL	4	<1	340	<10
L11W-23+25S-SOIL	<2	<1	380	<10
L11W-23+95S-SOIL	<2	<1	340	20
L11W-24+50S-SOIL	<2	<1	460	10
L11W-25+00S-SOIL	<2	<1	500	10
L6W-27+00S-SOIL	<2	<1	420	40
L6W-27+50S-SOIL	<2	<1	420	30
L6W-28+00S-SOIL	<2	<1	440	40
L6W-28+50S-SOIL	<2	<1	480	20
L6W-29+10S-SOIL	<2	<1	360	20
L6W-29+55S-SOIL	<2	<1	340	20
L6W-30+00S-SOIL	SMP MISS	SMP MISS	SMP MISS	SMP MISS
L6W-31+40S-SOIL	<2	<1	440	20
L6E(S)-6+00N-SOIL	<2	<1	420	30
L6E(S)-5+50N-SOIL	<2	<1	340	20
L6E(S)-5+00N-SOIL	<2	<1	340	40
L6E(S)-4+00N-SOIL	<2	<1	340	10
L6E(S)-3+50N-SOIL	<2	2	420	50
L6E(S)-2+90N-SOIL	<2	1	380	50
L6E(S)-2+50N-SOIL	<2	<1	380	20
L6E(S)-1+40N-SOIL	<2	<1	380	60
L6E(S)-0+00N-SOIL	<2	<1	460	10
L12E-9+00N-SOIL	<2	2	480	20
L12E-8+25N-SOIL	<2	3	500	10
L12E-7+00N-SOIL	<2	2	440	20
L12E-6+50N-SOIL	<2	1	420	20
L12E-5+50N-SOIL	<2	1	360	10
L12E-5+00N-SOIL	<2	1	460	10
L12E-4+50N-SOIL	<2	2	420	40
L12E-4+00N-SOIL	<2	3	460	30
L12E-3+50N-SOIL	<2	<1	480	10
L12E-3+00N-SOIL	<2	1	440	40
L12E-2+50N-SOIL	<2	1	460	60
L12E-2+00N-SOIL	<2	<1	460	20
L1E-24+50S-SOIL	3	<1	400	20
L1E-25+00S-SOIL	3	<1	460	20
L1E-25+50S-SOIL	5	<1	460	20
L1E-26+00S-SOIL	2	<1	540	10
L1E-26+50S-SOIL	<2	<1	520	40

SMP.MISS. - SAMPLE WAS NOT RECEIVED AT XRAL

SOIL

SAMPLE	AU PPB	MO PPM	BA PPM	HG PPB
L15W-12+90N	<2	<1	500	<10
L15W-0+00S	<2	<1	480	10
L15W-0+50S	7	<1	360	30
L15W-1+00S	<2	<1	300	20
L15W-1+50S	9	<1	480	30
L15W-2+15S	6	1	460	10
L15W-2+60S	2	<1	500	20
L15W-3+05S	<2	<1	500	20
L15W-3+50S	2	<1	400	10
L13W-4+80N	<2	<1	400	10
L13W-4+45N	<2	<1	500	10
L13W-4+00N	<2	<1	480	10
L13W-3+00N	<2	<1	480	10
L13W-2+25N	<2	<1	360	10

SAMPLE	AU PPB	MO PPM	BA PPM	HG PPB
L37W-7+50N	3	1	480	20
L37W-6+50N	<2	3	480	40
L37W-6+00N	3	2	380	60
L37W-5+50N	3	<1	440	40
L37W-5+00N	<2	<1	540	10
L37W-4+50N	2	<1	500	40
L37W-4+00N	<2	<1	540	10
L37W-3+50N	<2	<1	520	40
L36W-5+50N	<2	<1	500	20
L36W-5+00N	4	<1	560	20
L36W-4+50N	<2	<1	520	40
L36W-4+00N	3	1	500	30
L36W-3+50N	<2	<1	480	10
L36W-3+00N	3	<1	480	40
L36W-2+50N	<2	<1	500	10
L31W-3+50N	<2	1	520	20
L31W-3+00N	2	<1	520	20
L31W-2+50N	<2	<1	520	20
L31W-2+00N	<2	<1	520	30
L31W-1+50N	<2	<1	520	10
L31W-1+00N	2	2	460	20
L30W-18+50S	3 ¹	<1	520	<10
L30W-19+00S	<2	1	380	10
L30W-19+50S	3	<1	500	10
L30W-20+00S	3	<1	520	10
L19W-8+00S	<2	<1	520	20
L19W-8+50S	<2	<1	540	20
L19W-9+00S	6	<1	540	20
L19W-9+50S	11	<1	280	10
L19W-10+10S	<2	<1	580	<10
L19W-10+50S	<2	<1	520	20
L19W-11+00S	<2	<1	520	10
L19W-11+60S	3	<1	420	<10
L18W-10+30S	3	<1	400	30
L18W-10+70S	<2	<1	420	20
L18W-11+20S	<2	<1	480	40
L17W-30+50N	3	<1	480	<10
L17W-30+00N	3	1	340	20
L17W-29+50N	<2	<1	520	30
L17W-29+00N	<2	<1	540	<10
L17W-28+50N	<2	<1	540	30
L17W-28+00N	<2	<1	540	10
L17W-27+50N	<2	<1	540	20
L15W-16+50N	3	<1	400	10
L15W-16+00N	8	<1	560	10
L15W-15+50N	<2	<1	540	<10
L15W-15+00N	<2	<1	520	<10
L15W-14+50N	4	<1	560	<10
L15W-14+00N	<2	<1	540	<10
L15W-13+50N	4	<1	540	<10

SAMPLE	AU PPR	MG PPM	BA PPM
L5E-22+70S-HUMUS	1	1	300
L5E-23+00S-HUMUS	<1	<1	200
L5E-23+25S-HUMUS	<1	<1	200
L5E-23+50S-HUMUS	<1	<1	200
L5E-24+00S-HUMUS	<1	<1	300
L5E-24+30S-HUMUS	2	<1	200
L5E-24+60S-HUMUS	1	1	100
L5E-25+00S-HUMUS	<1	1	300
L5E-25+75S-HUMUS	<1	1	300
L5E-26+00-HUMUS	2	<1	300

APPENDIX B

EXPENDITURE RECEIPTS

TORONTO LAKE
EXPENDITURE SUMMARY

<u>Cheque #</u>	<u>Invoice</u>	
not available yet	Bondar - Clegg	1758.55
not available yet	Bondar - Clegg	889.00
5898	X-Ray Assay	<u>4453.58</u> only
		\$ 7,101.13

H. E. NEAL & ASSOCIATES LIMITED
124 ROXBOROUGH DRIVE
TORONTO, ONT. M4W 1X4

5898

Nov 12 1984

\$9127.07

PAY TO THE ORDER OF

X-Ray Agency Laboratory

Seven thousand, one hundred & twenty seven ⁰⁷/₁₀₀ DOLLARS

22 547,476,691

H. E. NEAL & ASSOCIATES LIMITED

55 Queen St. E. Suite 606

FOR #

~~2334450~~

THE ROYAL BANK OF CANADA
ST. CLAIR & ALVIN BRANCH
26 ST. CLAIR AVE. EAST
TORONTO, ONT.

PER

Carole A. Neal

⑆0640 2000 3⑆

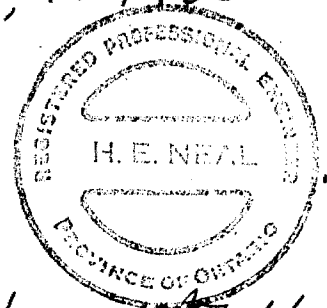
⑆10 294 6⑆

⑆00009 12707⑆

© CUSTOM CHEQUES OF CANADA

Bondar-Clegg Invoices 109744, 109750

Total \$2647.55 PAID



Certified Paid

H. E. Neal

PAID



BONDAR-OLEGG

H.E. NEAL & ASSOCIATES LIMITED
606-55 QUEEN ST. E.
TORONTO, ONTARIO
M5C 1R6

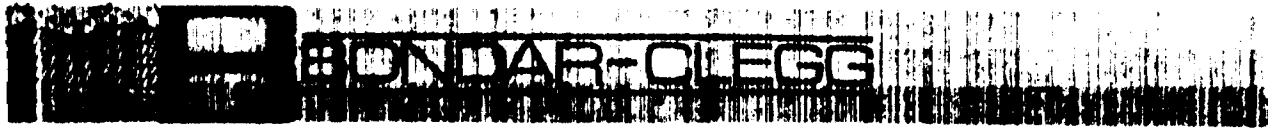
Invoice: 109744

Date: December 07, 1984

Report No: 014-3517

70 Analyses of Whole Rock Analysis at 25.00	1750.00	
Subtotal	1750.00	1750.00
Miscellaneous Charges		
Shipping Charges	8.55	
Subtotal	8.55	8.55
Invoice Total		\$1758.55

#5943



H.E. NEAL & ASSOCIATES LIMITED
606-55 QUEEN ST. E.
TORONTO, ONTARIO
M5C 1R6

Invoice: 109750
Date: December 07, 1984
Report No: 114-3517

70 Analyses of Copper	at	1.95	136.50	
70 Analyses of Lead	at	1.00	70.00	
70 Analyses of Zinc	at	1.00	70.00	
Subtotal			276.50	276.50
70 Analyses of Arsenic	at	3.50	245.00	
70 Analyses of ANTIMONY	at	5.25	367.50	
Subtotal			612.50	612.50
Invoice Total				\$889.00

#5943

X-RAY ASSAY LABORATORIES LIMITED

1885 LESLIE STREET • DON MILLS ONTARIO M3B 3J4 • (416) 445-5755

COPY TO:

NEAL & ASSOCIATES LIMITED
 ATTN: BUZZ NEAL
 85 QUEEN STREET EAST, SUITE 606
 TORONTO, ONTARIO
 M5C 1R6

SHIPPED TO:

M.E. NEAL & ASSOCIATES LIMITED
 ATTN: BUZZ NEAL
 85 QUEEN STREET EAST, SUITE 606
 TORONTO, ONTARIO
 M5C 1R6

CUSTOMER NO. 301

INVOICE NO.	INVOICE DATE	WORK ORDER NO.	DATE SHIPPED
22691	16-OCT-84	18159	13-SEP-84

TERMS NET 30 DAYS
 1.5% PER MONTH INTEREST ON ACCOUNT OVER 30 DAYS

CLIENT PROJECT NO.	TYPE OF SAMPLES SUBMITTED
	ROCK

QUANTITY	UNIT	WAY BILL NO.	ORIGIN
6 BOXES	GMS	T187347	

	DESCRIPTION METHOD	XRAY CODE	UNIT COST	AMOUNT
1. 226	MO. MIXED ACID DIGESTION	1, 7, 0, 0, 0, 0	2.30	519.80
2. 280	AU. PPB	2, 10, 7, 0, 0, 0	7.00	1960.00
3. 226	HG	5, 9, 0, 0, 0, 0	5.30	1197.80
4. 9	AU. MO. BA. BIOGEOCHEMISTRY, REGULAR DETECTION LIMIT	13, 2, 20, 0, 0, 0	8.50	76.50
5. 226	BA. SEMI-QUANT.	90, 5, 0, 0, 0, 0	5.50	1243.00
6. 54	ROCK, CRUSHING & MILLING (CHROME STEEL MILL)	99, 1, 0, 0, 0, 0	2.75	148.50
7. 226	SOIL, DRYING & SCREENING	99, 2, 0, 0, 0, 0	0.70	158.20
8. 9	HUMUS, DRYING & BLENDING	99, 2, 0, 0, 0, 0	0.70	6.30
			SUB-TOTAL	\$ 5310.10

*TORONTO LK.
 4453.58 only*

431

5898

SHIPPING CHARGES	CUSTOMER CHARGES	TAXES	MINIMUM CHARGES	DISCOUNTS
24.10				
				\$ 24.10

TOTAL IN CANADIAN FUNDS \$ 5334.20

ORIGINAL INVOICE



42L05SW0012 2.7663 JUNIOR LAKE

020

REPORT ON
GEOCHEMICAL EXPENDITURES
ON THE
KETCHIKAN LAKE CLAIM GROUP
TORONTO, JUNIOR, FALCON & RETURN LAKE AREAS
THUNDER BAY MINING DIVISION
ONTARIO
FOR
QUEBEC COBALT AND EXPLORATION LIMITED

BY

CAROLYN HORNER B.Sc.

H. E. NEAL & ASSOCIATES LTD.

TORONTO

-

CANADA

RECEIVED

JAN 17 1985

December 1984

MINING LANDS SECTION



42L05SW0012 2.7663 JUNIOR LAKE

020C

TABLE OF CONTENTS

	<u>Page</u>
1.0 SUMMARY	1
2.0 INTRODUCTION	1
3.0 THE PROPERTY	2
4.0 LOCATION AND ACCESS	2
5.0 LINECUTTING	3
6.0 PREVIOUS WORK	3
7.0 GENERAL GEOLOGY	4
8.0 GEOCHEMICAL SURVEY	6
8.1 Rock Sampling	6
8.2 Humus Sampling	7
9.0 CONCLUSIONS	8
Appendix A - Assay Results	
Appendix B - Expenditure Receipts	

MAPS:

Key Map

Property Map

Location Map

Geology and Geochemistry Maps - 3 at scale 1" to 400 ' (in back pocket)
Sheets A, B and C.

1.0 SUMMARY:

A geochemical survey was carried out by H.E. Neal & Associates Ltd. in the summer of 1984. A total of 217 rock samples and 9 humus samples were collected from the Ketchikan Lake claim group held by Quebec Cobalt and Exploration Limited. All of these samples were assayed for gold. The humus samples were also analyzed for molybdenum and barium. Thirteen of the rock samples had gold assays greater than 10 ppb which was considered to be anomalous. The best assay was 60 ppb Au. The humus sampling did not indicate anomalous gold mineralization.

2.0 INTRODUCTION:

During the summer of 1984 a five member crew collected rock and humus samples on the Ketchikan Lake claim group held by Quebec Cobalt and Exploration Limited. The purpose of the geochemical survey was to determine if there is any gold mineralization in the area.

3.0 THE PROPERTY:

The Ketchikan Lake claim group consists of 76 contiguous claims in the Toronto, Junior, Falcon and Return Lake Areas, Thunder Bay Mining Division, Ontario.

The claims were staked by Quebec Cobalt and Exploration Limited in May, 1983.

Ketchikan Lake Group

Toronto Lake Area	-	44
Junior Lake Area	-	26
Falcon Lake Area	-	4
Return Lake Area	-	<u>2</u>
		76

4.0 LOCATION AND ACCESS:

The claims are located northeast of Lake Nipigon, approximately 15 miles north of Auden, Ontario.

Access was by float plane to Juneau and Ketchikan Lakes from Kyro's Airways base in Jellicoe, Ontario. An Otter was used for camp moves and a Cessna 185 was used for weekly service flights. The distance from the float plane base to the property is approximately 50 miles.

ONTARIO

QUE.

TORONTO LAKE PROJECT
CLAIMS

THUNDER BAY

SAULT
STE MARIE

TORONTO
HAMILTON

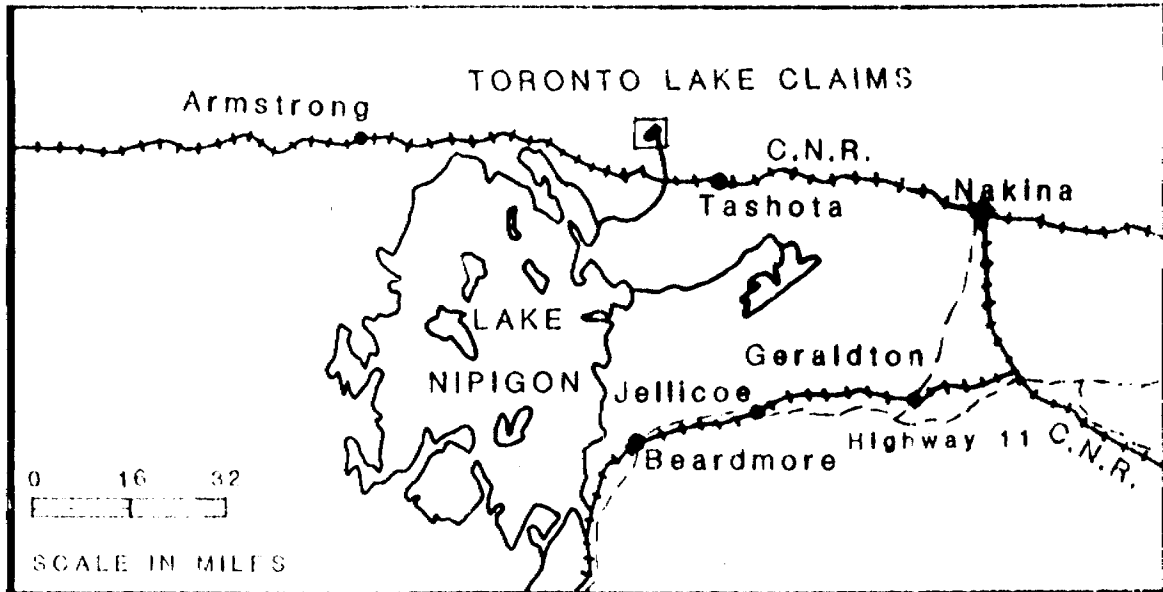
KEY MAP

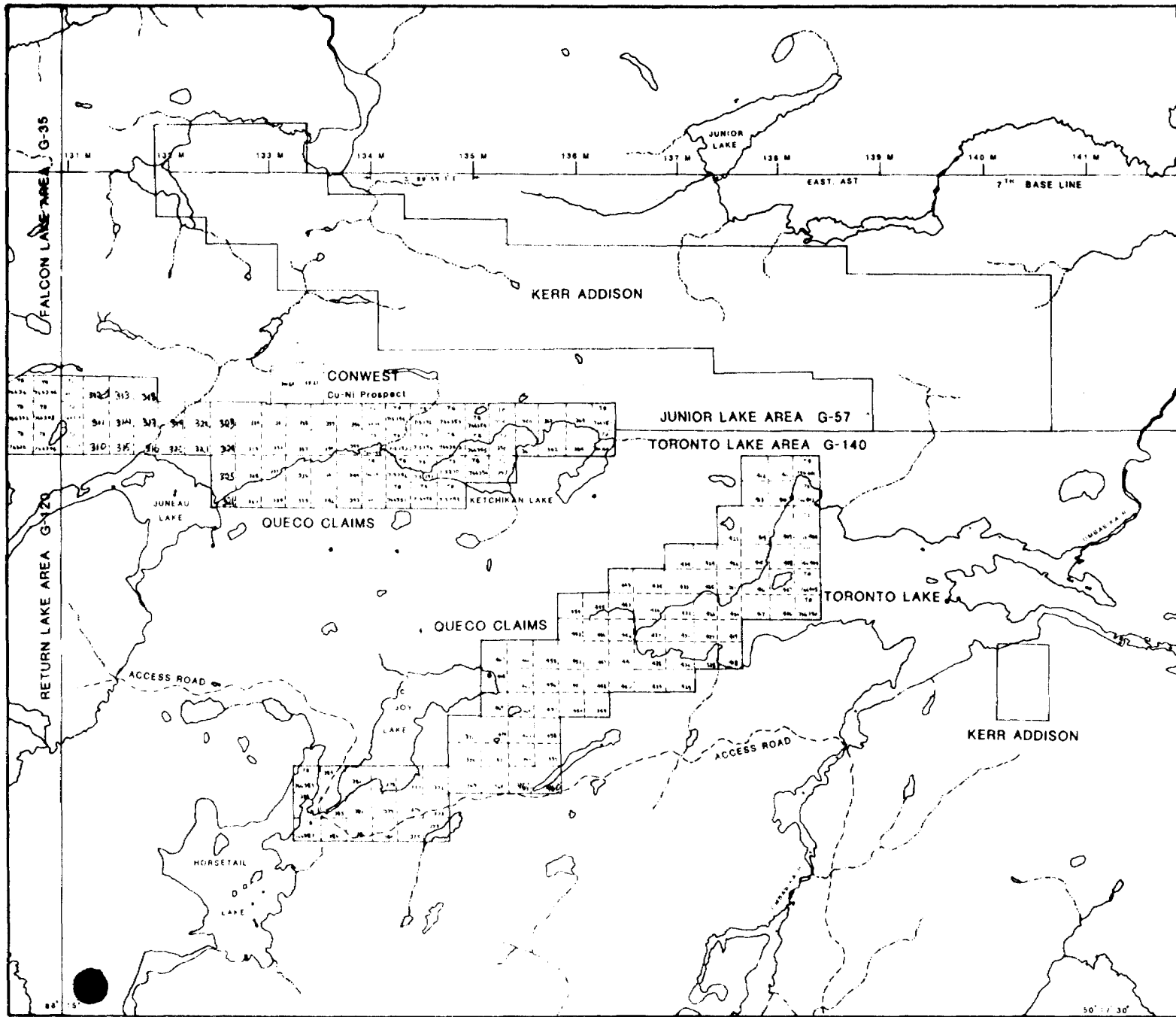
0 100 200 300
MILES

H. W. NEAL & ASSOCIATES LTD.

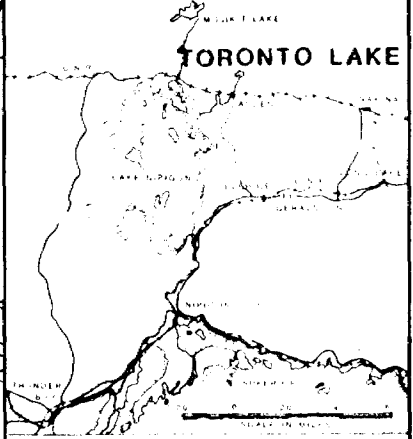


LOCATION MAP





KEY MAP



NTS 42L/5, 521/8

**QUEBEC COBALT
AND EXPLORATION LIMITED**

TORONTO LAKE PROJECT

PROPERTY MAP

SCALE IN FEET

H. E. NEAL AND ASSOCIATES LTD
TORONTO CANADA

DRAWN BY: [] DRAWING NO: [] DATE: []
APPROVED BY: []

50° 17' 30"

5.0 LINECUTTING:

Linecutting was done by a contractor in the Ketchikan Lake Claim group. A total of 8 miles of line was cut. These cut lines were used for control on the location of the pace and compass traverses. Pickets were placed at 100 foot intervals. A baseline and a tieline to the south were cut.

6.0 PREVIOUS WORK:

- 1953 - Kennco Exploration (Canada) Limited did ground magnetometer and electromagnetic surveys.
- ? - Zmudzinski and Despard geological survey.
- 1955 - N.A. Timmins Explorations (Ontario) Limited did a ground magnetometer survey and drilled 4 holes totalling 2958 feet.
- 1959 - Panther International Mining Company Limited did an airborne magnetometer survey and 1438 feet of drilling.
- 1967 - Canadian Dyno Mines Ltd. performed ground magnetometer and electromagnetic surveys.
- 1969 - International Mogul Mines Limited and North Coldstream Mines Limited drilled 6 holes for a total of 1644 feet.
- 1977 - Rickaby Mines Limited (McAdam Mining Corporation Limited) performed a ground magnetometer survey.

7.0 GENERAL GEOLOGY:

Bedrock exposed in the area is Precambrian in age. The oldest rocks are Archean volcanic and sedimentary rocks including some iron formation. These rocks trend in an easterly and northeasterly direction. They have been isoclinally folded, intensely metamorphosed and intruded by large masses of granitic rocks and by dikes of porphyry and pegmatite. Basic eruptives, which are both pre-granite and post-granite in age, cross-cut the volcanic and sedimentary rocks. The pre-granitic basic rocks have undergone regional metamorphism. Possibly they represent a late intrusive phase of the Archean volcanism. The post-granitic basic rocks are relatively unaltered Keweenawan diabases. They occur as steeply dipping dikes and as flat or gently dipping sheets.

Pleistocene geology in the area consists mainly of glacial till with boulders, gravel, sand, silt and clay also present. A northwest trending esker is present at the west end of Ketchikan Lake.

TABLE OF FORMATIONS

CENOZOIC:

RECENT AND PLEISTOCENE:

Glacial drift, gravel, sand, silt, clay

Unconformity

PRECAMBRIAN

PROTEROZOIC:

KEWEENAWAN:

Diabase, porphyritic diabase

Intrusive Contact

ARCHEAN:

ACID (GRANITIC) ROCKS:

Granite (gneiss), porphyritic granite
(gneiss), migmatite, pegmatite,
quartz porphyry, feldspar porphyry,
quartz-feldspar porphyry.

Intrusive Contact

BASIC AND ULTRABASIC ROCKS:

Metagabbro, metapyroxenite,
anorthosite, anorthositic
metagabbro, serpentinite, basic
dike rocks.

Intrusive Contact

MARSHALL LAKE GROUP:

Metasediments: biotite gneiss,
biotite-quartz-feldspar gneiss,
quartzite, conglomerate, iron
formation.

Metavolcanics: massive amphibolite,
schistose amphibolite, pillow lava,
metadiabase, tuff, agglomerate.

8.0 GEOCHEMICAL SURVEY:

8.1 Rock Sampling

A total of 217 rock samples were collected from the Ketchikan Lake claim group. All of these samples were sent to X-Ray Assay Laboratories and analyzed for gold by fire assay D.C.P.

Twenty-two of these samples were diamond drill core from the 1969 drilling done on the property by International Mogul Mines Limited and North Coldstream Mines Limited. The core is from holes drilled on claims TB766339, TB766346 and TB766347.

Core Samples with assays > 10 ppb Au.

S1/128-143	22 ppb
S1/143-153	16 ppb
S2/115-130	40 ppb
69-8/282-290	12 ppb

Thirty-one rock samples were collected from five trenches previously blasted in 1969 by International Mogul Mines Limited. These samples contained abundant fine grained disseminated to massive sulphides and in some cases abundant magnetite was also present. Two of these samples had gold assays above 10 ppb, sample # K1-2 28 ppb and JL50E-11 23 ppb.

The remaining 164 rock samples were collected from outcrops. Most of the samples are of sediments but some are of other rock types containing sulphides and quartz veins.

Assays better than 10 ppb gold

<u>Sample #</u>	<u>Rock type</u>	<u>Au ppb</u>	<u>Claim #</u>
JL50E-10	basic volcanic	12	TB715795
KLS-4	sediment	11	TB766352
JL BD-1	basic volcanic	22	TB766363
JL 31E-2	quartz vein	60	TB766332
JL 31E-3	basic volcanic	38	TB766332
JL 20E-2	sediment	39	TB766319
JL 5E-1	quartz vein	40	TB766306

8.2 Humus Sampling

Nine humus samples were collected on a line between claim numbers TB766341 and TB766344. These samples were sent to X-Ray Assay Laboratories and analyzed for gold, barium and molybdenum by neutron activation. The samples were taken across an unexposed basic volcanic-sedimentary contact. The values obtained for the three elements are very low. Gold values were 2-3 ppb, Mo was <0.5 to 0.5 ppm and Ba was <100 to 200 ppm.

9.0 CONCLUSIONS:

The best gold values are scattered across the Ketchikan Lake claim group and therefore do not appear to outline a specific area of gold mineralization. The anomalous (>10 ppb Au) gold values are not restricted to any one rock type on the property. Many but not all of the samples with anomalous gold values contained sulphides. There were numerous samples containing sulphides which contained less than 10 ppb gold.

The line of humus samples did not indicate the presence of anomalous gold, molybdenum or barium concentrations.

Carolyn Horner

Carolyn Horner B.Sc.
H.E. Neal & Associates Ltd.

APPENDIX A

KETCHIKAN LAKE CLAIM GROUP

ASSAY RESULTS

SAMPLE	AU PPR
69-21	<?
JBLW-3	<?
JBLW-4	<?
JBLW-5	<?
JBLW-6	<?
JBLW-7	<?
JBLW-8	<?
JBLW-9	<?
JL0-2	<?
JL1-1	<?
JL3-1	<?
JL3-3	<?
JL9-2	<?
JL9-4	<?
JL15-2	<?
JL17-1	4
JL19-2	3
JL27-2	37
JL4E-1	<?
JL5E-1	4)
JL5E-2	<?
JL25E-2	<?
JL27E-1	<?
JL27E-3	<?
JL27E-4	<?
JL27E-5	7
JL28E-1	<?
JL30E-1	<?
JL30E-2	<?
JL31E-1	3
JL31E-2	50
JL31E-3	38
JL32E-1	<?
S1/143-153	16
S1/153-178	3
S1/178-193	3
S1/193-203	<?
S1/208-223	<?
S2/42-62	<?
S2/62-77	<?
S2/77-90	<?
S2/90-105	<?
S2/105-120	<?
S2/115-130	40
S2/130-145	3
S1/117-123	3
S1/128-143	27

SAMPLE	AU PPB
JL15E-2	<2
JL25E-1	<2
JL39E-2	9
JL42E-1	SMP MISS
JL42-1	<2
S2/145-160	3
S3/196-220	<2
S3/270-285	<2
S3/285-293	9
69-8/131-156	2
69-8/247-263	<2
69-8/282-290	12

SMP.MISS. - SAMPLE WAS NOT RECEIVED AT XRAL

SAMPLE	AU PPB
JL44-5	<2
JL45-5	<2
JL46-2	4
JL46-5	<2
JL46-10	<2
JL46-14	<2
JL46-148	<2
JL46-15	<2
JL46-16	<2
JL46-18	<2
JL48-3	<2
JL48-7	<2
JL49-1	<2
JL49-3	<2
JL49-4	<2
JL49-5	<2
JL49-6	<2
JL49-7	<2
JL50-1	<2
JL50-2	<2
JL50-3	<2
JL50-6	<2
JL50-7	<2
JL50-8	<2
JL50-11	23
JL50-12	<2
JL51-1	<2
JL51-4	<2
JL51-5	<2
JL51-6	<2
JL51-7	<2
JL51-8	<2
JL51-9	<2
JL52-3	<2
JL71-1	<2
JL71-2	<2
JL71-5	<2

SAMPLE	AU PPB
K2-4	<2
K3-1	<2
K3-2	6
K3-3	5
K3-4	4
K3-5	6
K3-6	4
K3-7	<2
K3-8	<2
K4-1	<2
K4-2	<2
K4-3	<2
K4-4	<7
K4-5	3
K4-6	2
K4-7	<2
K4-8	2
K4-9	<2
KLS-2	<2
KLS-4	11
KLS-5	9
KLS-6	<2
KLS-7	<2
KLS-8	<2
KLS-9	<2
KLS-10	<2
KLS-11	<2
KLS-14	<2
KLS-18	3
KLS-19	<2
KLS-20	<2

SAMPLE	AU PPB
JL46-100	3
JL46-101	3
JL46-102	3
JL46-103	<2
JL46-104	<2
JL49-100	5
JL49-101	4
JL49-102	2
JL49-103	<2
JL49-104	<2
JL49-105	<2
JL49-106	2
JL49-107	<2
JL49-108	7
JL49-109	<2
JL49-110	<2
JL49-111	<2
JL49-112	<2
JL49-113	<2
JL49-114	<2
JL51E-153	<2
JL58-4	<2
JL64E-1	<2
JL64E-2	<2
JL64E-3	<2
JL64E-4	<2
JL64E-5	<2
JL66E-1	<2
JL66E-2	<2
JL66E-3	<2
JL66E-4	<2
JL66E-5	<2
JL66E-7	<2
JL71AF-1S	6
JL71AF-1+70S	<2
JLBD-1	22
JLBD-2	4
K2-5	<2
K5-1	<2
K5-2	3
K5-3	3

SAMPLE	AU PPB	MO PPM	BA PPM
JL39-24+00N-HUMUS	3	<0.5	100
JL39-23+50N-HUMUS	3	<0.5	100
JL39-23+00N-HUMUS	2	<0.5	100
JL39-22+50N-HUMUS	3	<0.5	200
JL39-22+00N-HUMUS	3	0.5	100
JL39-21+50N-HUMUS	2	<0.5	100
JL39-21+00N-HUMUS	2	0.5	100
JL39-20+50N-HUMUS	2	<0.5	<100
JL39-20+00N-HUMUS	3	<0.5	<100

APPENDIX B

EXPENDITURE RECEIPTS

KETCHIKAN LAKE EXPENDITURE SUMMARY

<u>Cheque #</u>	<u>Invoice</u>	
5902	Swift Sure Cargo	288.90
5822	X-Ray Assay	495.00
5620	X-Ray Assay	609.50
5822	X-Ray Assay	799.35
5898	X-Ray Assay	145.80 only
5620	X-Ray Assay	191.40 only
		\$ 2,529.95

H. E. NEAL & ASSOCIATES LIMITED
124 ROXBOROUGH DRIVE
TORONTO, ONT. M4W 1X4

5620

5 Sept 1987

PAY TO THE ORDER OF

X-Ray Assay Laboratories

\$ 2185.15

Two thousand one hundred & eighty five

15/100 DOLLARS

FOR 22027
21838, 21867, 21942
THE ROYAL BANK OF CANADA
ST. CLAIR & ALVIN BRANCH
26 ST. CLAIR AVE. EAST
TORONTO, ONT.

H. E. NEAL & ASSOCIATES LIMITED

PER *Charlotte A. Neal*

⑆0640 2⑆00 3⑆

1 10⑆ 294⑆ 6⑆

⑆0000 2185 15⑆

H. E. NEAL & ASSOCIATES LIMITED
124 ROXBOROUGH DRIVE
TORONTO, ONT. M4W 1X4

5822

Sept 25 1987

PAY TO THE ORDER OF

X-Ray Assay Laboratories

\$ 1294.35

One thousand two hundred & ninety four

35/100 DOLLARS

FOR #'s 22138, 22316
THE ROYAL BANK OF CANADA
ST. CLAIR & ALVIN BRANCH
26 ST. CLAIR AVE. EAST
TORONTO, ONT.

H. E. NEAL & ASSOCIATES LIMITED

PER *Charlotte A. Neal*

⑆0640 2⑆00 3⑆

1 10⑆ 294⑆ 35⑆

⑆0000 1294 35⑆

H. E. NEAL & ASSOCIATES LIMITED
124 ROXBOROUGH DRIVE
TORONTO, ONT. M4W 1X4

5898

Nov 12 1987

PAY TO THE ORDER OF

X-Ray Assay Laboratories

\$ 9177.67

Nine thousand one hundred & seventy seven

67/100 DOLLARS

FOR # 235475, 476, 671
235495
THE ROYAL BANK OF CANADA
ST. CLAIR & ALVIN BRANCH
26 ST. CLAIR AVE. EAST
TORONTO, ONT.

H. E. NEAL & ASSOCIATES LIMITED

55 Queen St. E. Toronto Ont.

PER *Charlotte A. Neal*

H. E. NEAL & ASSOCIATES LIMITED
124 ROXBOROUGH DRIVE
TORONTO, ONT. M4W 1X4

5902

PAY TO THE
ORDER OF

Trust Fund

72012-1981

Five hundred and eighty eight and 70/100

\$ 258.76

DOLLARS

FOR

C.A. 2114/RB/0000

H. E. NEAL & ASSOCIATES LIMITED

THE ROYAL BANK OF CANADA
ST. CLAIR & ALVIN BRANCH
28 ST. CLAIR AVE. EAST
TORONTO, ONT.

PER

Charles H. Neal

⑆0640 2000 3⑆

⑆10 294 6⑆

⑆00000 28890⑆

ROYAL BANK OF CANADA

Swift Sure

QUIN H. SERVICE LTD
SERVICO DE COURRIER LITE

CARGO INVOICE CA 2114

FACTURE FRET

101 ROYAL WINDSOR DRIVE
DUMFRIES ONTARIO L6J 4Z2

Administration
(416) 845-9150 TX - 06-982-76
All Canada / Toll Free
L'interurbain sans frais partout au Canada
1-800-268-5068

DATE **October 1984**

TERMS NET ON RECEIPT OF INVOICE
2% INTEREST CHARGE WILL APPLY
AFTER 30 DAYS
TERMS PAYMENT NET 30 DAYS
2% INTEREST CHARGE WILL APPLY
AFTER 30 DAYS

H.W. NEAL,
55 QUEEN STREET EAST, SUITE 606,
TORONTO, ONTARIO

RB A000

ATTN: B. NEAL

INVOICE NO.	ACCOUNT NO.	TOTAL	LAST DATE	TOTAL DUES	AMOUNT PAID	AMOUNT DUE	
4110	1125908	288.90					
						TOTAL SHIPPING CHARGES TRAIS DE LIVRAISON	288.90
						ADMINISTRATION CHARGE FOR MENUSAI SERVICES SERVICES DE BUREAU DE GESTION POUR MENUSAI CHARGES D'ADMINISTRATION	
						TOTAL THIS INVOICE TOTAL DE CETTE FACTURE	288.90

45907

431

X-RAY ASSAY LABORATORIES

LIMITED

1885 LESLIE STREET • DON MILLS ONTARIO M3B 3J4 • (416) 445-5755

COPY TO:

6031111E L. 11/18
 R. 11/18
 N. 11/18

INDUSTRIAL ASSOCIATES LIMITED
 1111 LESLIE ST.
 DON MILLS ONTARIO
 M3B 3J4

INVOICE NO	CUSTOMER NO	DATE
22346	301	18-SEP-84
		17939

TERMS NET 30 DAYS
 1.5% PER MONTH INTEREST ON ACCOUNT OVER 30 DAYS

QUANTITY	UNIT	DESCRIPTION	PRICE	TOTAL
		ROCK		
		SMALL FRY	14969	

QTY	DESCRIPTION	UNIT PRICE	TOTAL
50	AJ.PFD	2.10, 7.00, 0.00, 0.00	350.00
50	ROCK, CRUSHING & MILLING (CHROME STEEL MILL)	99.10, 1.00, 0.00, 0.00	137.50
SUB-TOTAL			\$ 487.50

431

15822

7.50		\$ 7.50
		\$ 495.00

DUPLICATE

X-RAY ASSAY LABORATORIES LIMITED

1885 LESLIE STREET • DON MILLS ONTARIO M3B 2J4 • (416) 445-5755
COPY TO:

H. E. NEAL & ASSOCIATES LIMITED
ATTN: IUIZZ NEAL
55 QUEEN STREET EAST, SUITE 606
TORONTO, ONTARIO
M5C 1R6

(2)

SAME

CUSTOMER NO. 391

H. E. NEAL & ASSOCIATES LIMITED
ATTN: IUIZZ NEAL
55 QUEEN STREET EAST, SUITE 606
TORONTO, ONTARIO
M5C 1R6

21838	03-AUG-84	17513	23-JUL-84
TERMS NET 30 DAYS 1.5% PER MONTH INTEREST ON ACCOUNT OVER 30 DAYS			

ROCK	12816
SMALL FRY	

QTY	DESCRIPTION	UNIT PRICE	TOTAL PRICE
62	40.000	2.10, 7.00, 0.00, 0.00	434.00
62	ROCK CRUSHING & MILLING (CHROME STEEL MILL)	99.10, 0.00, 0.00, 0.00	170.50
SUB-TOTAL			\$ 604.50
CHARGE			\$ 5.00
TOTAL			\$ 609.50

430
Total
2,185.15

#5620

ORIGINAL INVOICE

(Handwritten mark)

1016

X-RAY ASSAY LABORATORIES LIMITED

1885 LESLIE STREET • DON MILLS ONTARIO M3B 3J4 • (416) 445-5755

COPY TO:

H. E. NEAL & ASSOCIATES LIMITED
 ATTN: BUZZ NEAL
 55 QUEEN STREET EAST, SUITE 606
 TORONTO, ONTARIO
 M5C 1R6

SAME

H. E. NEAL & ASSOCIATES LIMITED
 ATTN: BUZZ NEAL
 55 QUEEN STREET EAST, SUITE 606
 TORONTO, ONTARIO
 M5C 1R6

INVOICE NO.	INVOICE DATE	ACCOUNT NO.	DATE DUE
22135	29-AUG-84	17802	15-AUG-84

CUSTOMER NO. 301

TERMS NET 30 DAYS
 1.5% PER MONTH INTEREST ON ACCOUNT OVER 30 DAYS

ROCK

TAXES	SMALL FRY	14492
-------	-----------	-------

QTY	DESCRIPTION	UNIT PRICE	TOTAL
51	(N) FPB	2,10, 7, 0, 0, 0	7.00
51	ROCK, CRUSHING & MILLING (CHROME STEEL MILL)	99, 1, 0, 0, 0, 0	2.75
SUB-TOTAL			\$ 799.75

431

\$5822

9.40			\$ 9.40
			\$ 799.35

INVOICE

X-RAY ASSAY LABORATORIES LIMITED

1885 LESLIE STREET • DON MILLS ONTARIO M3B 3J4 • (416) 445-5755
COPY TO:

A. E. NEAL & ASSOCIATES LIMITED
1770 BERT NEAL
85 GREEN STREET EAST, SUITE 606
TORONTO, ONTARIO
M5C 1R6

SHIPPED TO:

A. E. NEAL & ASSOCIATES LIMITED
1770 BERT NEAL
85 GREEN STREET EAST, SUITE 606
TORONTO, ONTARIO
M5C 1R6

CUSTOMER NO. 301

INVOICE NO.	INVOICE DATE	WORK ORDER NO.	DATE
22691	16-OCT-84	18159	13-SEP-8

TERMS

TERMS NET 30 DAYS
1.5% PER MONTH INTEREST ON ACCOUNT OVER 30 DAYS

CLIENT PRODUCT NO.	TYPE OF SAMPLES SUBMITTED	WAY BILL NO.	SHIPMENT NO.
	ROCK	T187347	

QTY	DESCRIPTION	UNIT PRICE	AMOUNT	TOTAL
1	NO. 100			
1	NO. 100			
1	NO. 226			
1	9			
1	NO. 226			
1	94			
1	NO. 226			
1	9			
	NO. 100 ACID DIGESTION	1, 7, 0, 0, 0, 0	2.30	519.00
	NO. 100 AL.P.P.	2, 10, 7, 0, 0, 0	7.00	1960.00
	NO. 226 NO.	5, 9, 0, 0, 0, 0	5.30	1197.80
	NO. 9 AL. NO. 94 BIOGEOCHEMISTRY, REGULAR DETECTION LIMIT	13, 2, 20, 0, 0, 0	8.50	76.50
	NO. 226 BA. SEMI-QUANT.	90, 5, 0, 0, 0, 0	5.50	1243.00
	NO. 94 ROCK, CRUSHING & MILLING (CHROME STEEL MILL)	99, 1, 0, 0, 0, 0	2.75	148.50
	NO. 226 SOIL, DRYING & SCREENING	99, 2, 0, 0, 0, 0	0.70	158.20
	NO. 9 HUMUS, DRYING & BLENDING	99, 2, 0, 0, 0, 0	0.70	6.30
		<i>Ketchikan L. Humus</i>	<u>145.80</u>	<i>only</i>
		<i>431</i>	<i>5878</i>	
			SUB-TOTAL	\$ 5310.10

24.10	CUSTOMER BROKERAGE	TAXES	MINIMUM CHARGES	\$ 24.10
			TOTAL	\$ 5334.20

ORIGINAL INVOICE

CANADIAN UNIT

MASSAS LABORATORIES

UNITED LTD.
2880 BURNHAMTHORPE STREET • DON MILLS ONTARIO, M3B 3J4 • (416) 445-5765
COPY TO:

2027					
PAY TO THE ORDER OF ACCOUNT OPEN 30 DAY					
1338					

KETCHIKAN
TORONTO, ONT.
LAKE

191.40
174.35

431

360.75

5.00

365.75



42L05SW0012 2.7663 JUNIOR LAKE

900

Mining Lands Section

File No 27663

Control Sheet

TYPE OF SURVEY GEOPHYSICAL
 GEOLOGICAL
 GEOCHEMICAL
 EXPENDITURE

MINING LANDS COMMENTS:

Lgd. *L.D.*

Dennis King
 Signature of Assessor

Jan. 18/85
 Date

1985 01 24

Your File: 630,631
Our File: 2.7663

Mining Recorder
Ministry of Natural Resources
P.O. Box 5000
Thunder Bay, Ontario
P7C 5G6

Dear Madam:

RE: Assaying submitted under Section 77(19)
of the Mining Act RSO 1980, on Mining
Claims TB 715793, et al, in the Area
of Junior Lake and Toronto Lake

The enclosed statement of assessment work credits
for assaying expenditures has been approved as of
the above date.

Please inform the recorded holder of these mining
claims and so indicate on your records.

Yours sincerely,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: (416)965-4888

D. Kinvig:mc

cc: Quebec Cobalt & Exploration Limited
Suite 401
357 Bay Street
Toronto, Ontario
M5E 2T7

cc: Resident Geologist
Thunder Bay, Ontario

cc: H.E. Neal & Associates Ltd
Suite 606
55 Queen Street East
Toronto, Ontario
M5C 1R6

Encl.

Recorded Holder **QUEBEC COBALT AND EXPLORATION LIMITED**

Township or Area **JUNIOR LAKE AND TORONTO LAKE AREAS**

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed																																												
Geophysical Electromagnetic _____ days Magnetometer _____ days Radiometric _____ days Induced polarization _____ days Other _____ days Section 77 (19) See "Mining Claims Assessed" column Geological _____ days Geochemical _____ days <input type="checkbox"/> Man days <input type="checkbox"/> Airborne <input type="checkbox"/> Special provision <input type="checkbox"/> Ground <input type="checkbox"/> Credits have been reduced because of partial coverage of claims. <input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	<p>\$9631.08 SPENT ON ASSAYING SAMPLES TAKEN FROM MINING CLAIMS:</p> <table border="0"> <tr> <td>TB 715793 to 800 inclusive</td> <td>TB 766375 to 81 incl.</td> </tr> <tr> <td>766301</td> <td>766384</td> </tr> <tr> <td>766303</td> <td>766386</td> </tr> <tr> <td>766308</td> <td>766402</td> </tr> <tr> <td>766311</td> <td>766405</td> </tr> <tr> <td>766317 to 20 inclusive</td> <td>766407</td> </tr> <tr> <td>766324</td> <td>766409 to 11 incl.</td> </tr> <tr> <td>766328</td> <td>766416</td> </tr> <tr> <td>766331 to 33 inclusive</td> <td>766418</td> </tr> <tr> <td>766341</td> <td>766420</td> </tr> <tr> <td>766344</td> <td>766422</td> </tr> <tr> <td>766350 to 53 inclusive</td> <td>766425-26</td> </tr> <tr> <td>766355</td> <td>766428 to 30 incl.</td> </tr> <tr> <td>766358 to 63 inclusive</td> <td>766432-33</td> </tr> <tr> <td>766365-66</td> <td>766436-37</td> </tr> <tr> <td></td> <td>766440-41</td> </tr> <tr> <td></td> <td>766443</td> </tr> <tr> <td></td> <td>766445 to 48 incl.</td> </tr> <tr> <td></td> <td>766450 to 53 incl.</td> </tr> <tr> <td></td> <td>766456 to 59 incl.</td> </tr> <tr> <td></td> <td>766463 to 65 incl.</td> </tr> <tr> <td></td> <td>766470</td> </tr> </table> <p>642.1 DAYS CREDIT ALLOWED WHICH MAY BE GROUPED IN ACCORDANCE WITH SECTION 76(6) OF THE MINING ACT.</p>	TB 715793 to 800 inclusive	TB 766375 to 81 incl.	766301	766384	766303	766386	766308	766402	766311	766405	766317 to 20 inclusive	766407	766324	766409 to 11 incl.	766328	766416	766331 to 33 inclusive	766418	766341	766420	766344	766422	766350 to 53 inclusive	766425-26	766355	766428 to 30 incl.	766358 to 63 inclusive	766432-33	766365-66	766436-37		766440-41		766443		766445 to 48 incl.		766450 to 53 incl.		766456 to 59 incl.		766463 to 65 incl.		766470
TB 715793 to 800 inclusive	TB 766375 to 81 incl.																																												
766301	766384																																												
766303	766386																																												
766308	766402																																												
766311	766405																																												
766317 to 20 inclusive	766407																																												
766324	766409 to 11 incl.																																												
766328	766416																																												
766331 to 33 inclusive	766418																																												
766341	766420																																												
766344	766422																																												
766350 to 53 inclusive	766425-26																																												
766355	766428 to 30 incl.																																												
766358 to 63 inclusive	766432-33																																												
766365-66	766436-37																																												
	766440-41																																												
	766443																																												
	766445 to 48 incl.																																												
	766450 to 53 incl.																																												
	766456 to 59 incl.																																												
	766463 to 65 incl.																																												
	766470																																												

Special credits under section 77 (16) for the following mining claims

No credits have been allowed for the following mining claims

not sufficiently covered by the survey Insufficient technical data filed



Report of Work
(Geophysical, Geological,
Geochemical and Expenditures)

27663
#631

Jan 27 1984
Land Management

- Instructions: - Please type or print.
- If number of mining claims traversed exceeds space on this form, attach a list.
Note: - Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
- Do not use shaded areas below.

July: 715797 Mining Act

Type of Survey(s) *ROCK, ~~SOIL~~ and HUMUS SAMPLING* (SECTION 77(19) ASSAY)

Claim Holder(s) *QUEBEC COBALT + EXPLORATION LIMITED*

Address *401-357 BAY ST, TORONTO, ONTARIO M5E 2T7*

Survey Company *H.E. NEAL + ASSOCIATES LTD.* Date of Survey (from & to) *01 06 84 31 12 84* Total Miles of line Cut

Name and Address of Author (of Geo-Technical report) *CAROLYN HORNER* % *H.E. NEAL + ASSOC. LTD.*
606-55 QUEEN ST. E., TORONTO, ONTARIO M5C 1R6

Township or Area *TUNICOR LAKE AREA (S7) FALCON LAKE AREA, RETURN LAKE AREA TORONTO LAKE AREA G-146*

Prospector's Licence No. *T1450*

Credits Requested per Each Claim in Columns at right

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	
	- Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Man Days Complete reverse side and enter total(s) here <i>RECEIVED</i> <i>DEC 27 1984</i> <i>MINING LANDS SECTION</i>	Geophysical	Days per Claim
	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Airborne Credits Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	Days per Claim
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
TB	715797	2			
	715800	18			
	766308	2.7			
	766309	2			
	766316	10			
	766326	6			
	766352	4			
	766355	20			
	766356	20			
	766357	20			
	766358	20			
	766359	2			
	766360	6			
	766361	18			
	766362	4			
	766363	4			
	766366	10			

Expenditures (excludes power stripping)

Type of Work Performed *ROCK, ~~SOIL~~ + HUMUS SAMPLING*

Performed on Claim(s) *See attached list*

Calculation of Expenditure Days Credits

Total Expenditures *\$2529.95* ÷ Total Days Credits *15* = *168.7*

Instructions
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

Total number of mining claims covered by this report of work. *17*

For Office Use Only

Recorded *168.7* Date Approved as Recorded *Nov. 28, 1984* *Audrey M. Haines*

Date *Nov 26 1984* Recorded Holder or Agent (Signature) *Carolyn Horner*

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying *Carolyn Horner, H.E. Neal + Associates Ltd, 606-55 Queen St. E., Toronto, Ont. M5C 1R6*

Date Certified *Nov 26 84* Certified by (Signature) *Carolyn Horner*

See work statement.

Work Performed on Claims:

TB 766 402
766 405
766 407
766 409
766 410
766 416
766 418
766 420
766 422
766 426
766 428
766 429
766 430
766 432
766 433
766 436
766 440
766 441
766 443
766 446
766 447
766 448
766 450
766 451
766 453
766 456

THUNDER BAY
MINING DIVISION
RECEIVED

NOV 28 1984

AM 7|8|9|10|11|12|1|2|3|4|5|6 PM

▲

Assessment Work Breakdown

Man Days are based on eight (8) hour Technical or Line-cutting days. Technical days include work performed by consultants, draftsmen, etc..

Type of Survey												
Technical Days	X	7	=	Technical Days Credits	+	Line-cutting Days	=	Total Credits	+	No. of Claims	=	Days per Claim
<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>

Type of Survey												
Technical Days	X	7	=	Technical Days Credits	+	Line-cutting Days	=	Total Credits	+	No. of Claims	=	Days per Claim
<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>

Type of Survey												
Technical Days	X	7	=	Technical Days Credits	+	Line-cutting Days	=	Total Credits	+	No. of Claims	=	Days per Claim
<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>

Type of Survey												
Technical Days	X	7	=	Technical Days Credits	+	Line-cutting Days	=	Total Credits	+	No. of Claims	=	Days per Claim
<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>

THUNDER
 MINING CORPORATION
 NOV 28 1984
 7 39/10/11/12/13/4/5/6 PM



Report of Work
(Geophysical, Geological,
Geochemical and Expenditures)

Instructions: - Please type or print.
- If number of mining claims traversed exceeds space on this form, attach a list.
Note: - Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
- Do not use shaded areas below.

Jan 27th
Land Management

#630

27643

Sub 766374

Mining Act

Type of Survey(s) ROCK, SOIL and HUMUS sampling	ASSAY (SECTION 77(14))	Township or Area TORONTO LAKE AREA
Claim Holder(s) QUEBEC COBALT & EXPLORATION LIMITED	AND	Prospector's Licence No. T1450
Address 401-357 BAY ST, TORONTO, ONTARIO M5E 2T7		
Survey Company H.E. NEAL & ASSOCIATES LTD.	Date of Survey (from & to) 01 Day 06 Mo. 84 Yr. 31 Day 12 Mo. 84 Yr.	Total Miles of line Cut
Name and Address of Author (of Geo-Technical report) CAROLYN HORNER c/o H.E. NEAL & ASSOC. 606-55 QUEEN ST. E., TORONTO, ONTARIO M5C 1R6		

Credits Requested per Each Claim in Columns at right

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	
	- Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Man Days	Geophysical	Days per Claim
Complete reverse side and enter total(s) here	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Airborne Credits	Geophysical	Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	- Electromagnetic	
	- Magnetometer	
	- Radiometric	

Mining Claims Traversed (List in numerical sequence)

Mining Claim			Mining Claim		
Prefix	Number	Expend. Days Cr.	Prefix	Number	Expend. Days Cr.
TB	766374	2	TB	766418	20
	766377	12		766419	20
	766378	8		766420	15
	766382	24		766421	2
	766383	15		766425	2
	766384	2		766426	20
	766385	2		766427	20
	766388	2		766428	10
	766389	20		766430	10
	766390	20		766431	20
	766401	5		766432	8
	766402	20		766436	2
	766403	20		766437	18
	766404	20		766438	10
	766405	20		766460	8
	766406	20		766464	4
	766407	15		766468	8
	766408	20			
	766409	12			
	766410	2			
	766415	2			
	766416	15			
	766417	20			

RECEIVED
DEC 27 1984
MINING LANDS SECTION

SEE WORK STATEMENT

Expenditures (excludes power stripping)

Type of Work Performed
ROCK, SOIL & HUMUS SAMPLING

Performed on Claim(s)
see attached list

Calculation of Expenditure Days Credits

Total Expenditures **\$ 7151.13** ÷ Total Days Credits **15** = **473.4**

Instructions
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

Total number of mining claims covered by this report of work. **40**

For Office Use Only

Recorded **473.4** Nov. 28, 1984
Date Approved as Recorded
Branch Director

Date **Nov 23/84** Recorded Holder or Agent (Signature) *Carolyn Horner*

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying
CAROLYN HORNER c/o H.E. NEAL & ASSOC. LTD. 606-55 QUEEN ST. E. TORONTO, ONTARIO M5C 1R6

Date Certified **Nov 23 84** Certified by (Signature) *Carolyn Horner*

Work Performed on Claims:

TB 715792
715793
715794
715795
715796
715797
715798
715799
715800

TB 766301
766303
766306
766308
766311
766317
766318
766319
766323
766324
766328
~~766329~~
766330
766331
766332
766333
766341
766343
766344
766350
766351
766352
766353
766355

TB 766358
766359
766360
766361
766362
766363
766365
766366

THUNDER BAY
MINING DIVISION
RECEIVED
NOV 28 1984
AM 7|8|9|10|11|12|1|2|3|4|5|6 PM

Assessment Work Breakdown

Man Days are based on eight (8) hour Technical or Line-cutting days. Technical days include work performed by consultants, draftsmen, etc..

Type of Survey												
Technical Days	X	7	=	Technical Days Credits	+	Line-cutting Days	=	Total Credits	+	No. of Claims	=	Days per Claim
<input style="width: 50px; height: 20px;" type="text"/>		<input style="width: 20px; height: 20px;" type="text" value="7"/>		<input style="width: 50px; height: 20px;" type="text"/>		<input style="width: 50px; height: 20px;" type="text"/>		<input style="width: 50px; height: 20px;" type="text"/>		<input style="width: 50px; height: 20px;" type="text"/>		<input style="width: 50px; height: 20px;" type="text"/>

Type of Survey												
Technical Days	X	7	=	Technical Days Credits	+	Line-cutting Days	=	Total Credits	+	No. of Claims	=	Days per Claim
<input style="width: 50px; height: 20px;" type="text"/>		<input style="width: 20px; height: 20px;" type="text" value="7"/>		<input style="width: 50px; height: 20px;" type="text"/>		<input style="width: 50px; height: 20px;" type="text"/>		<input style="width: 50px; height: 20px;" type="text"/>		<input style="width: 50px; height: 20px;" type="text"/>		<input style="width: 50px; height: 20px;" type="text"/>

Type of Survey												
Technical Days	X	7	=	Technical Days Credits	+	Line-cutting Days	=	Total Credits	+	No. of Claims	=	Days per Claim
<input style="width: 50px; height: 20px;" type="text"/>		<input style="width: 20px; height: 20px;" type="text" value="7"/>		<input style="width: 50px; height: 20px;" type="text"/>		<input style="width: 50px; height: 20px;" type="text"/>		<input style="width: 50px; height: 20px;" type="text"/>		<input style="width: 50px; height: 20px;" type="text"/>		<input style="width: 50px; height: 20px;" type="text"/>

Type of Survey												
Technical Days	X	7	=	Technical Days Credits	+	Line-cutting Days	=	Total Credits	+	No. of Claims	=	Days per Claim
<input style="width: 50px; height: 20px;" type="text"/>		<input style="width: 20px; height: 20px;" type="text" value="7"/>		<input style="width: 50px; height: 20px;" type="text"/>		<input style="width: 50px; height: 20px;" type="text"/>		<input style="width: 50px; height: 20px;" type="text"/>		<input style="width: 50px; height: 20px;" type="text"/>		<input style="width: 50px; height: 20px;" type="text"/>

THUNDER BAY
 MINING DIVISION
RECEIVED
 NOV 28 1984 PM
 AM 7/8/9/10/11/12/1/2/3/4/5/6

H. E. NEAL & ASSOCIATES LTD.

Mineral Consultants

Ste. 606, 55 Queen Street East, Toronto, Canada M5C 1R6 Telephone: (416) 368-0166

January 17, 1985

Ms. S.E. Yundt
Director Land Management Branch
Whitney Block, Rm. 6643
Queen's Park
TORONTO, Ontario
M7A 1W3

Dear Ms. Yundt:

Re: Quebec Cobalt and Exploration Limited

Enclosed please find the following property reports submitted for assessment work credits by H.E. Neal & Associates Ltd. on behalf of Quebec Cobalt and Exploration Limited.

- 2 copies - Report on Geochemical Expenditures on the Toronto Lake Claim Group, Toronto Lake Area, Thunder Bay Mining Division, Ontario. Three Geology & Geochemistry Maps, scale 1" to 400', accompany each report.
- 2 copies - Report on Geochemical Expenditures on the Ketchikan Lake Claim Group, Toronto, Junior, Falcon & Return Lake Areas, Thunder Bay Mining Division, Ontario. Three Geology & Geochemistry Maps, scale 1" to 400', accompany each report.

Respectfully submitted,

Carolyn Horner

Carolyn Horner B.Sc.

RECEIVED

JAN 17 1985

MINING LANDS SECTION

Work performed on claims:

TB 715792 0
715793 ✓
715794 ✓
715795 ✓
715796 ✓
715797 ✓
715798 ✓
715799 ✓
715800 ✓

TB 766301 ✓
766303 ✓
766305 766306 MD
766308 ✓
766311 ✓
766317 ✓
766318 ✓
766319 ✓
766320 ✓
766324 ✓
766328 ✓
766330

766330 0
766331 ✓
766332 ✓
766333 ✓
766341 ✓
766343 0
766344 ✓
766350 ✓
766351 ✓
766352 ✓
766353 ✓
766355 ✓

TB 766358 ✓
766359 ✓
766360 ✓
766361 ✓
766362 ✓
766363 ✓
766365 ✓
766366 ✓

766375
766376
766377
766378

766379 766380

766381

766384

766386

766463-65

766470

THUNDER BAY
MINING DIVISION
RECEIVED

NOV 28 1984

AM 7|8|9|10|11|12|1|2|3|4|5|6 PM

CHOIC
in col

Print name and postal address of person certifying

M. S. HOBBS, 20 Hill Street, New York, NY 10011-5501

Date Certified

Nov 28 1984

Certified by (Signature)

[Signature]

Work Performed on Claims:

- 766 402 ✓
- 766 405 ✓
- 766 407 ✓
- 766 409 ✓
- 766 410 ✓
- 766 411 ✓
- 766 416 ✓
- 766 418 ✓
- 766 420 ✓
- 766 422 ✓
- 766 425 ✓
- 766 426 ✓
- 766 428 ✓
- 766 429 ✓
- 766 430 ✓
- 766 432 ✓
- 766 433 ✓
- 766 436 ✓
- 766 440 ✓
- 766 441 ✓
- 766 443 ✓
- 766 445 ✓
- 766 446 ✓
- 766 447 ✓
- 766 448 ✓
- 766 450 ✓
- 766 451 ✓
- 766 452 ✓
- 766 453 ✓
- 766 456 ✓
- 766 457
- 766 458
- 766 459

766-715793 to 800 incl.
~~766301~~
~~766303~~
~~766308~~
~~766309~~

THUNDER BAY
 MINING DIVISION
RECEIVED
 NOV 28 1984
 AM 7|8|9|10|11|12|1|2|3|4|5|6 PM
 A.

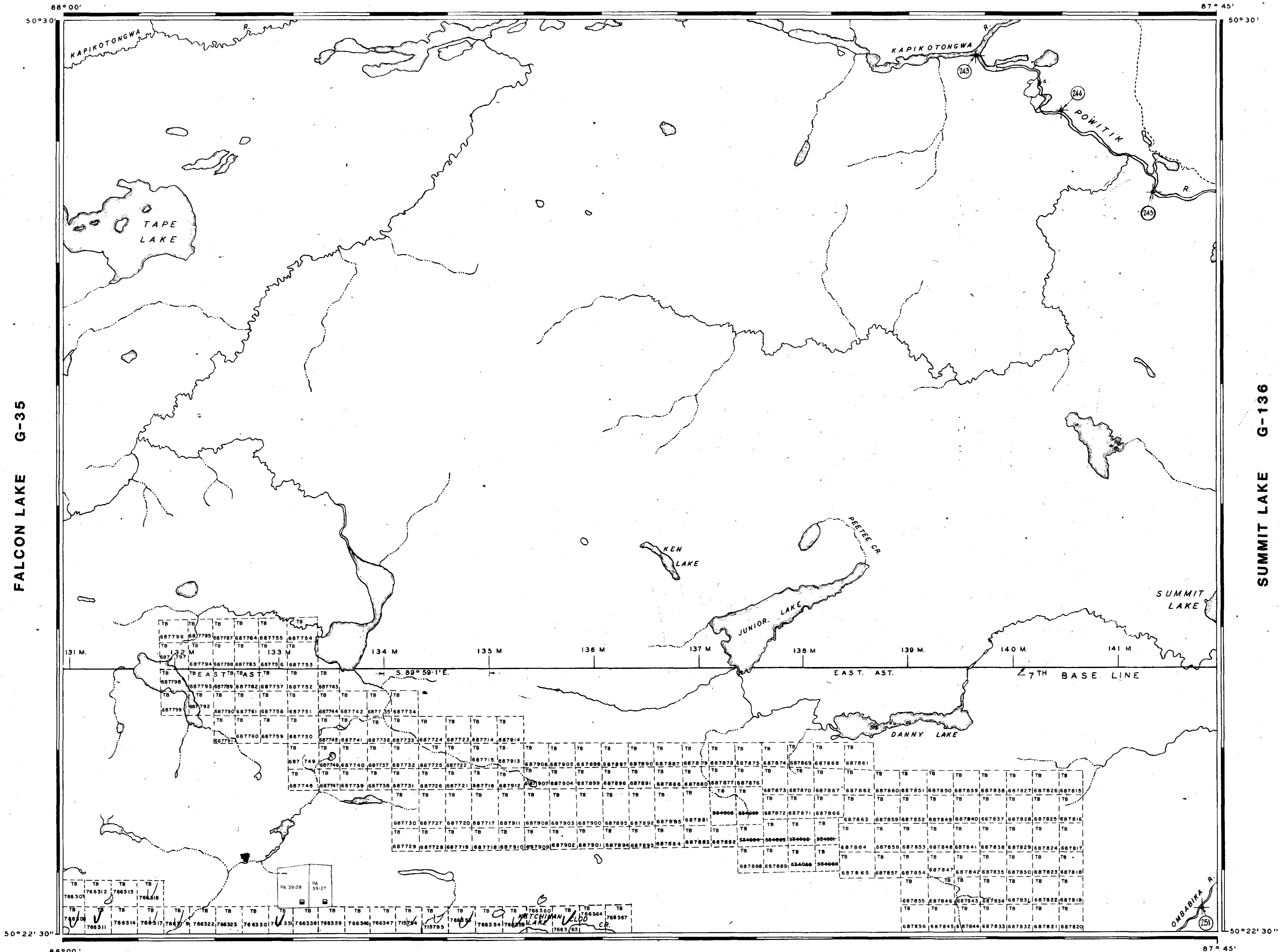
REFERENCES

CONTROL SURVEYS

Seventh Base Line by Beatty & Beatty O.L.S. 1926, Field Note Book No 2298. Traverse of Ogoki River, from Waboose Falls to Ombabika Sta.(C.N.R.) by Jas. S. Dobie. O.L.S. 1926.

Traverse of certain Waterways, survey by R.S. Kirkup O.L.S., 1941. Plan L10-26.

KAPIKOTONGWA RIVER G-61



FALCON LAKE G-35

SUMMIT LAKE G-136

TORONTO LAKE G-140

REFERENCES

TOPOGRAPHY

Lakes, Rivers, etc., From Forest Resources Inventory Sheet No 504874

LEGEND

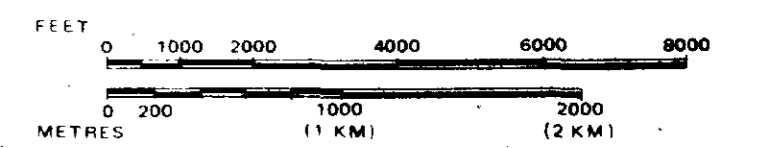
- HIGHWAY AND ROUTE No.
- OTHER ROADS
- TRAILS
- SURVEYED LINES:
 - TOWNSHIPS, BASE LINES, ETC.
 - LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES:
 - LOT LINES
 - PARCEL BOUNDARY
 - MINING CLAIMS ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION OR COMPOSITE PLAN
- RESERVATIONS
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES
- TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	
" SURFACE RIGHTS ONLY	
" MINING RIGHTS ONLY	
LEASE, SURFACE & MINING RIGHTS	
" SURFACE RIGHTS ONLY	
" MINING RIGHTS ONLY	
LICENCE OF OCCUPATION	
ORDER-IN-COUNCIL	
RESERVATION	
CANCELLED	
SAND & GRAVEL	

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 43, SUBSEC. 1.

SCALE: 1 INCH = 40 CHAINS



AREA

JUNIOR LAKE

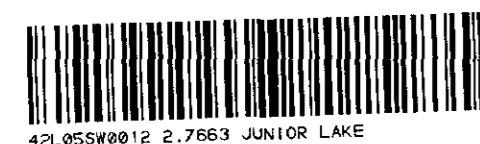
M.N.R. ADMINISTRATIVE DISTRICT
 NIPIGON
 MINING DIVISION
 THUNDER BAY
 LAND TITLES / REGISTRY DIVISION
 THUNDER BAY

Ministry of Natural Resources
 Land Management Branch
 Ontario

Date: JUNE 2nd 1981

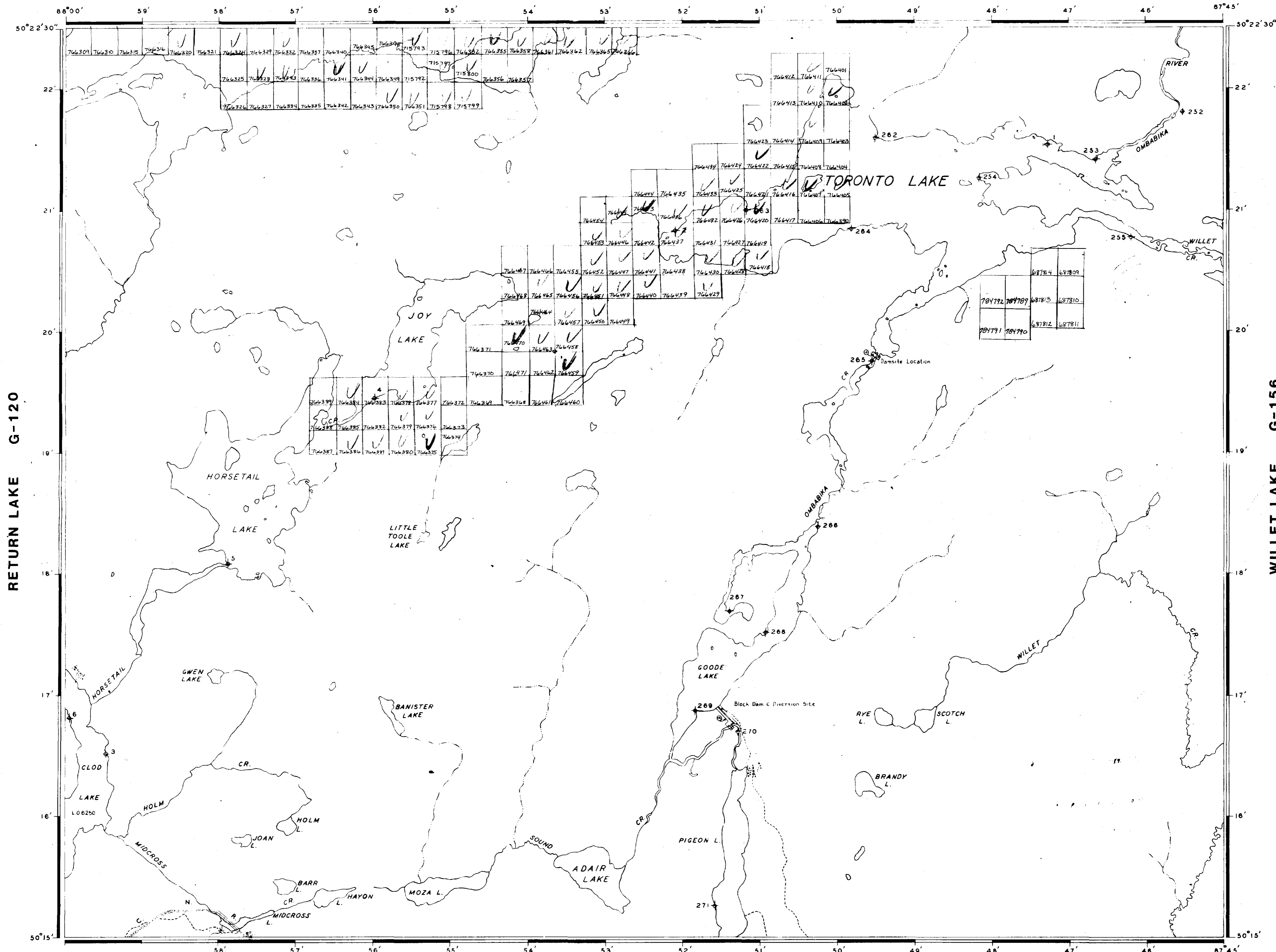
Number

G-57



42L9558012 2.763 JUNIOR LAKE

JUNIOR LAKE G-57



REFERENCES

TOPOGRAPHY
LAKES, RIVERS, ETC. FROM FOREST
RESOURCES INVENTORY SHEET No 503874

SURVEYS
TRAVERSE OF OGOKI RIVER BY JAMES S. DOBIE
O.L.S. 1928. PLAN NO. 51-17
CONTROL TRAVERSE SURVEYED BY R.S. KIRKUP, O.L.S.,
1942. PLAN No. L 10-26
C.N.R. BY W.J. MOORE O.L.S. 1916.
PLAN NO. M 2-20.

FLOODING
ABITIBI POWER & PAPER CO. LTD. RESERVES
A RIGHT TO MAINTAIN THE LEVEL OF THE
WATERS OF CLOD LAKE TO THE HIGHWATER
MARK.
SEE L.O. 6250 FILE: 129866.

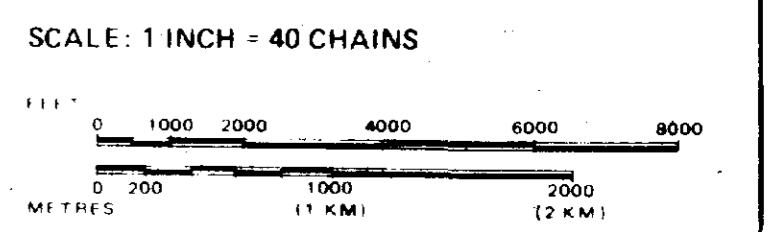
DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" SURFACE RIGHTS ONLY	○
" MINING RIGHTS ONLY	○
LEASE, SURFACE & MINING RIGHTS	■
" SURFACE RIGHTS ONLY	■
" MINING RIGHTS ONLY	■
LICENCE OF OCCUPATION	▽
ORDER-IN-COUNCIL	OC
RESERVATION	⊙
CANCELLED	⊙
SAND & GRAVEL	⊙

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6
1912. VESTED IN ORIGINAL PATENTEE BY THE PUBLIC
LANDS ACT R.S.O. 1970, CHAP. 380, SEC. 63, SUBSEC. 1

LEGEND

PAVED ROAD	▬▬▬▬▬▬
GRAVEL ROAD	▬▬▬▬▬▬
OTHER ROADS	▬▬▬▬▬▬
TRAIL OR PATH	▬▬▬▬▬▬
HIGHWAY ROUTE No.	▬▬▬▬▬▬
ELECTRIC POWER LINE	▬▬▬▬▬▬
TELEPHONE LINE	TTTTTTT
RAILROAD & RIGHT OF WAY	▬▬▬▬▬▬
RAPIDS, PORTAGE	▬▬▬▬▬▬
NON PERENNIAL STREAM	▬▬▬▬▬▬
EDGE OF CLEARING	▬▬▬▬▬▬
TREELESS MUSKEG OR MARSH	* * * * *
BRIDGE, BUILDINGS	▬▬▬▬▬▬
TRAVERSE POST	⊕



AREA
TORONTO LAKE
M.N.R. ADMINISTRATIVE DISTRICT
NIPIGON & *Leavelton*
MINING DIVISION
THUNDER BAY
LAND TITLES / REGISTRY DIVISION
THUNDER BAY

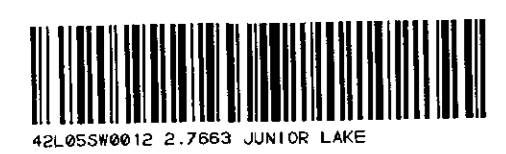
Ministry of Natural Resources
Ontario
Land Management Branch

Date: MAY 21st 1981
Number: **G-140**

RETURN LAKE G-120

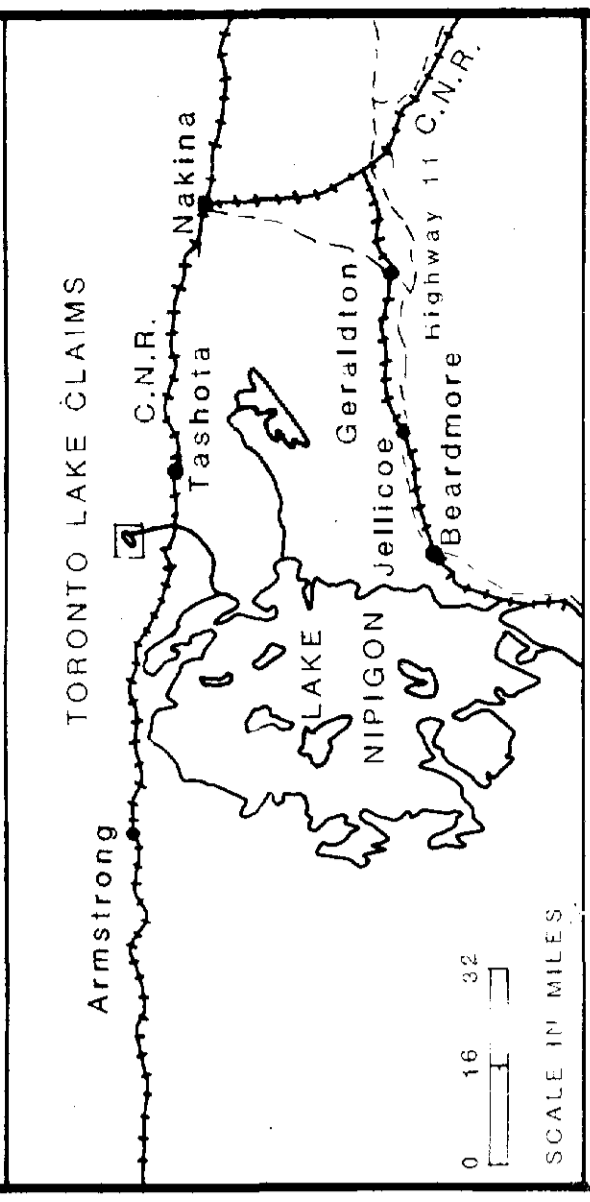
WILLET LAKE G-156

FRANK LAKE G-38





KEY MAP



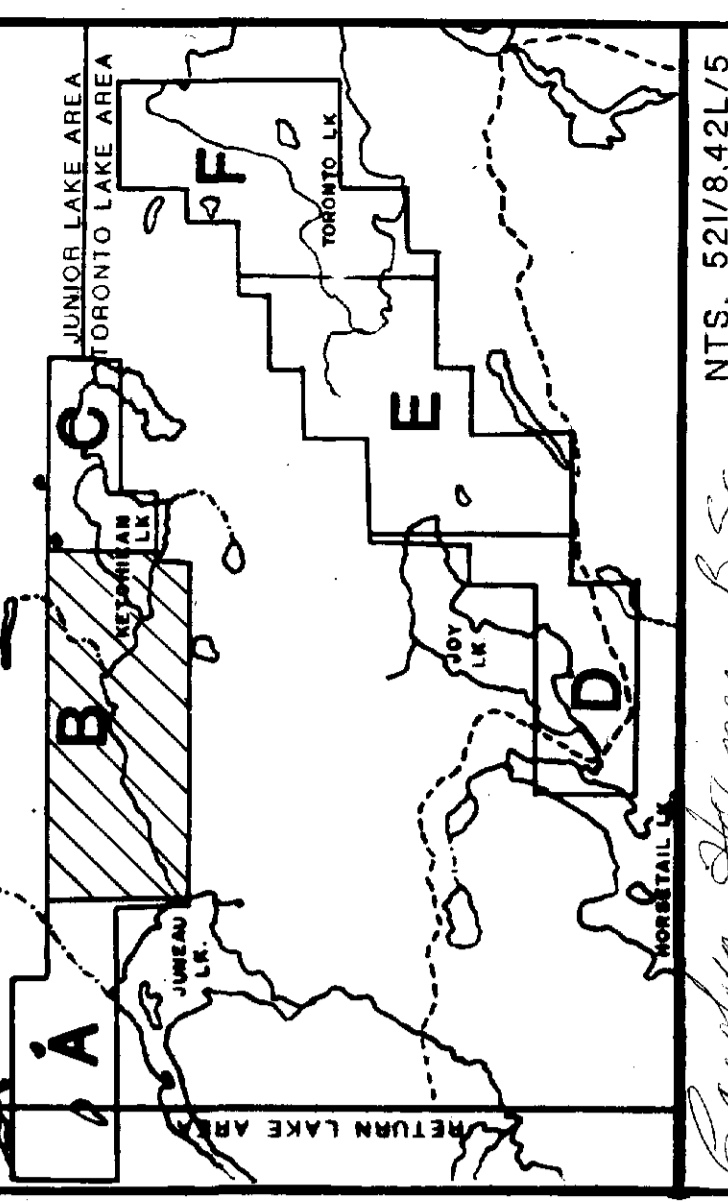
LEGEND

- 6 DIABASE
 - 6a) Diabase (b) Porphyritic diabase
- 5 GRANITIC ROCKS
 - 5a) Undifferentiated (b) Granite, granite gneiss
 - 5b) Porphyritic granite, porphyritic granite gneiss
 - 5c) Pegmatite
- 4 BASIC & ULTRABASIC INTRUSIVE ROCKS
 - 4a) Basalt, andesite, diorite, gabbro, monzonite
 - 4b) Sepsolite (c) Peridotite (d) Talc-chlorite schist
- 3 IRON FORMATION
- 2 METASEDIMENTS
 - 2a) Quartz-biotite gneiss, biotite-quartz-feldspar gneiss
 - 2b) Quartzite
 - 2c) Blue quartz augen-biotite-verdite schist or gneiss
 - 2d) Quartz-biotite schist
 - 2e) Biotite-quartz-garnet-feldspar schist
- 1 METAVOLCANICS
 - 1a) Undifferentiated (a) Massive amphibolite
 - 1b) Schistose amphibolite (c) Metadiabase

SYMBOLS

- Boundary of rock outcrop.
- x Small rock outcrop
- Geological boundary, defined, assumed.
- ↗ Schistosity: inclined dip, vertical dip, dip unknown.
- ↘ Onassosity: inclined dip, vertical dip, dip unknown.
- ↖ Jointing: inclined dip, vertical dip.
- ↔ Fault or shear zone (arrows indicate direction of drag-fold (arrow indicates direction of plunge)).
- ∧ Synclinal axis
- Claim post: located, not located
- ⋈ Swamp
- ↔ Creek with flow direction indicated.
- Road
- Trail
- ↘ Slope (arrow points downslope).
- Esker
- qv Quartz vein
- py Pyrite
- cp Chalcopyrite
- sph Sphalerite
- mag Magnetite
- gnt Garnet
- o Soil/Humus sample
- ▲ Rock sample

MAP SHEET LOCATION



NTS: 521/8/42L/3

QUEBEC COBALT AND EXPLORATION LIMITED

TORONTO LAKE PROJECT

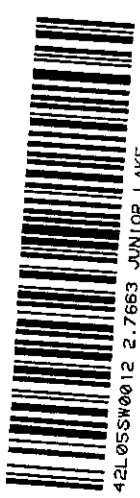
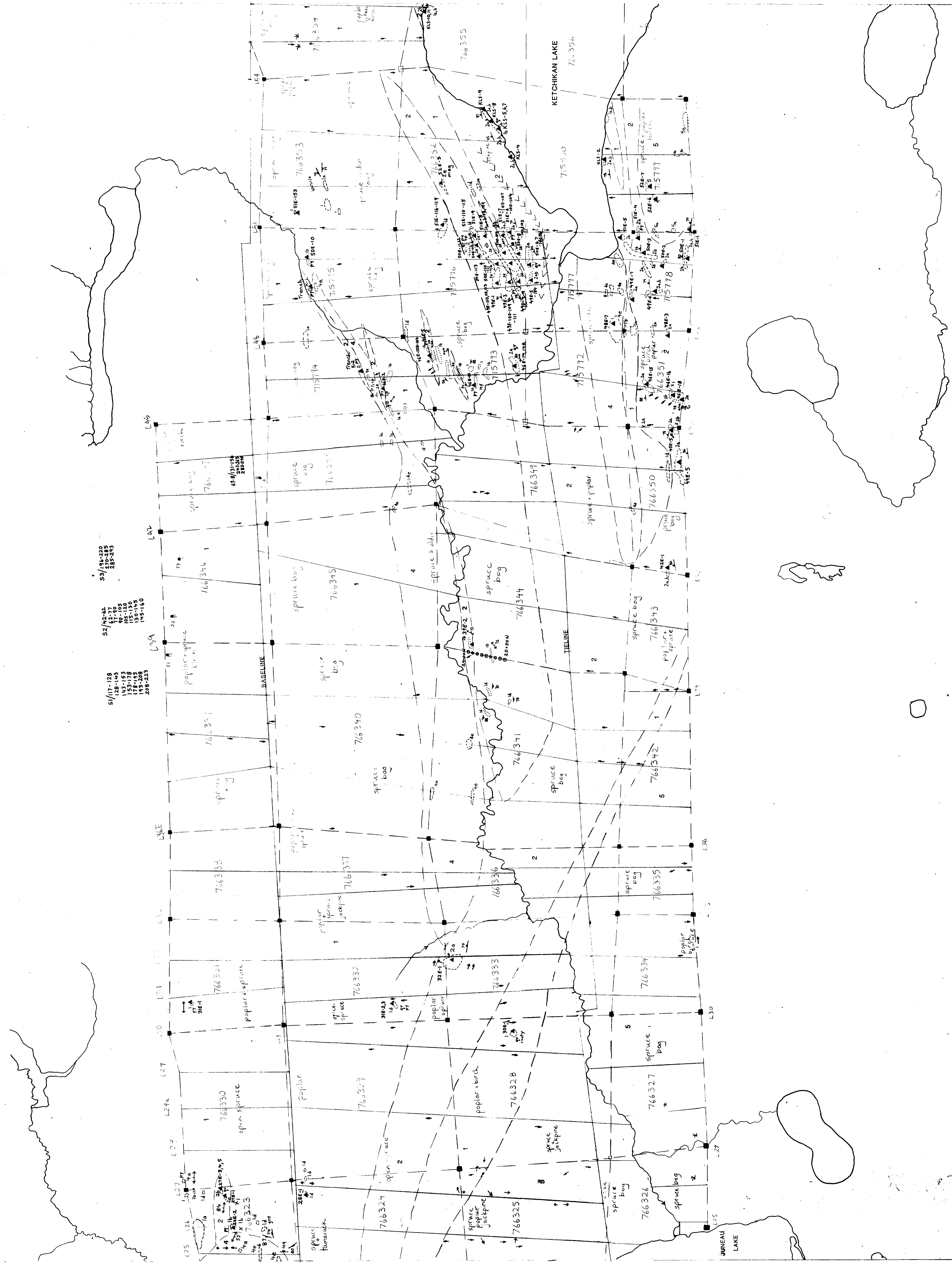
SHEET B

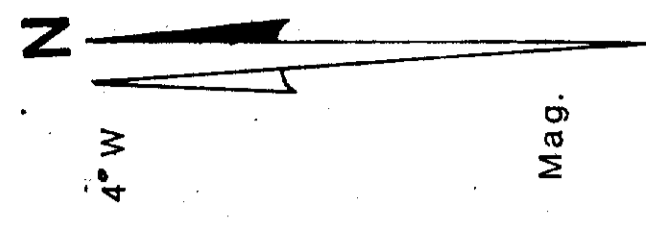
GEOLOGY & GEOCHEMISTRY

SCALE IN FEET

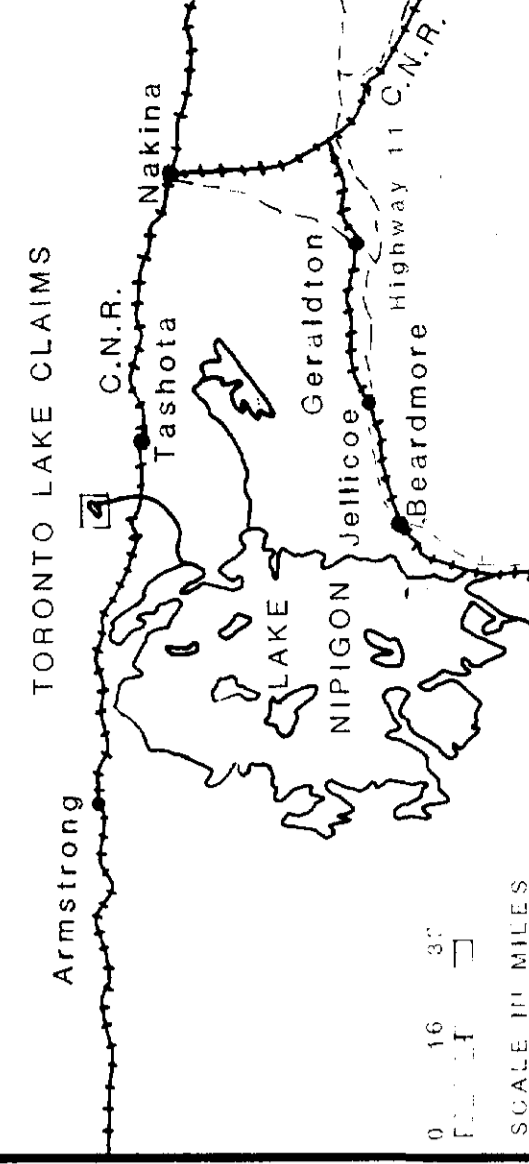
H.E. NEAL & ASSOCIATES LTD. TORONTO CANADA

DRAWN BY: C.J.H. DATE: Dec. 1987





KEY MAP



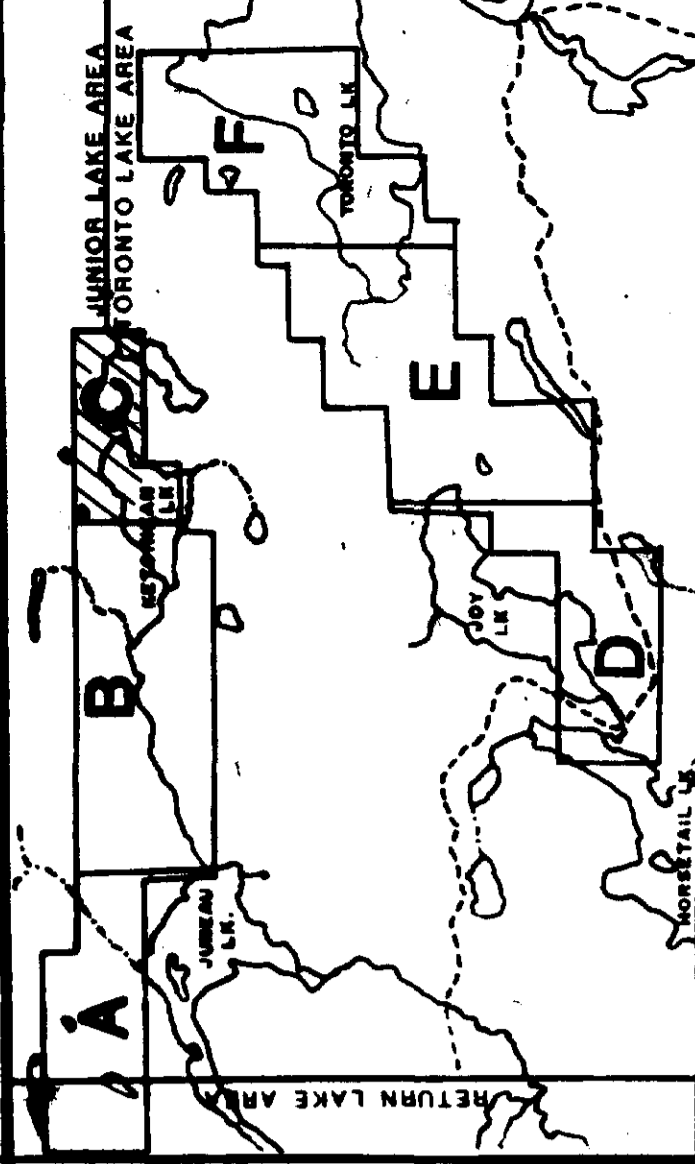
LEGEND

- 6 DIABASE
 - 6a) Diabase 6b) Porphyritic diabase
- 5 GRANITIC ROCKS
 - 5a) Unintruded 5b) Granite, granite gneiss
 - 5c) Porphyritic granite, porphyritic granite gneiss
 - 5d) Pegmatite
- 4 BASIC & ULTRABASIC INTRUSIVE ROCKS
 - 4a) Metagabbro 4b) Metapyroxenite, hornblende
 - 4c) Serpentinite 4d) Talc-chlorite schist
- 3 IRON FORMATION
- 2 METASEDIMENTS
 - 2a) Quartz-biotite gneiss, biotite-quartz-feldspar gneiss
 - 2b) Quartzite
 - 2c) Blue quartz augen-biotite-sericite schist or gneiss
 - 2d) Quartz-sericite(muscovite) schist, quartz-biotite schist
 - 2e) Biotite-quartz-garnet-feldspar schist
- 1 METAVOLCANICS
 - 1a) Differentiated 1b) Massive amphibolite
 - 1c) Schistose amphibolite 1d) Metadiabase

SYMBOLS

- Boundary of rock outcrop.
- × Small rock outcrop
- Geological boundary: defined, assumed.
- ↗ Schistosity: inclined dip, vertical dip, dip unknown.
- ↘ Gneissosity: inclined dip, vertical dip, dip unknown
- ↖ Jointing: inclined dip, vertical dip.
- ↔ Fault or shear zone (arrows indicate direction of movement).
- ↗ Drag-fold (arrow indicates direction of plunge).
- Synclinal axis
- Claim post: located, not located
- ⊗ Swamp
- ↗ Creek with flow direction indicated.
- Road
- Trail
- ↘ Slope (arrow points downslope).
- Esker
- QV Quartz vein
- PY Pyrite
- CP Chalcopyrite
- sph Sphalerite
- mag Magnetite
- gnt Garnet
- Soil/Humus sample
- ▲ Rock sample

MAP SHEET LOCATION



QUEBEC COBALT
AND EXPLORATION LIMITED

TORONTO LAKE PROJECT

SHEET C

GEOLOGY & GEOCHEMISTRY

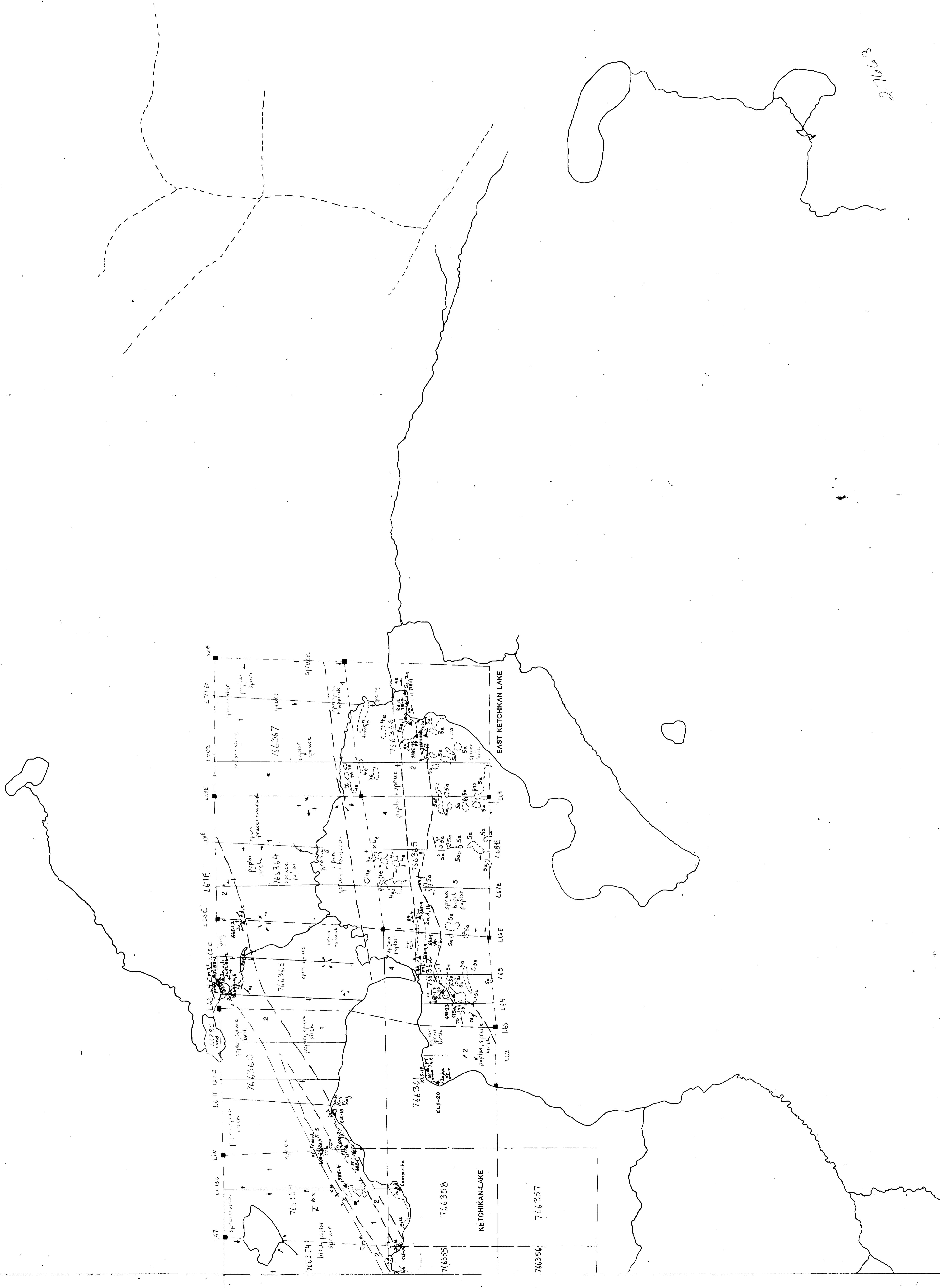
H.E. NEAL & ASSOCIATES LTD.
TORONTO
CANADA

SCALE IN FEET

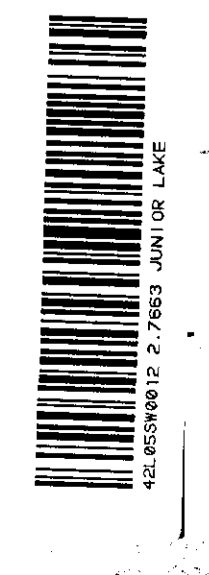
0 10 20 40 80 120

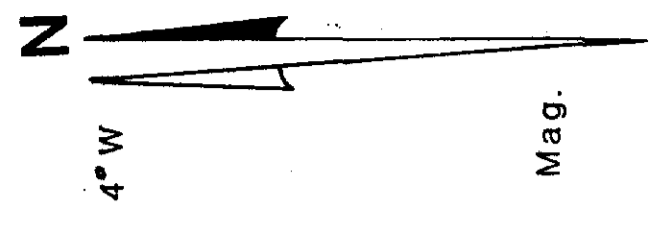
DATE: Dec. 1984

APPROVED BY: [Signature]

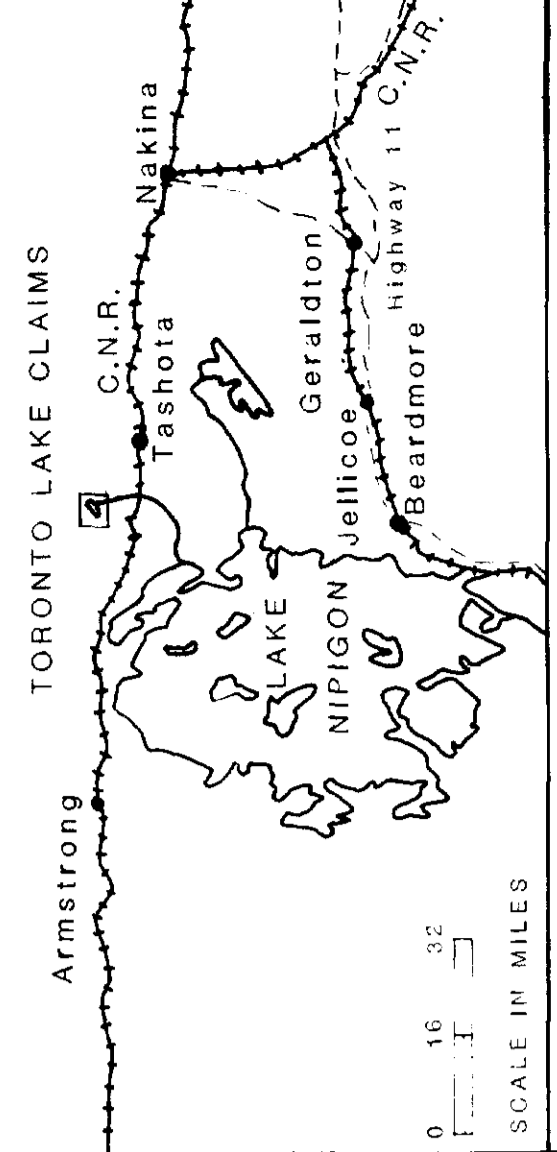


27603





KEY MAP



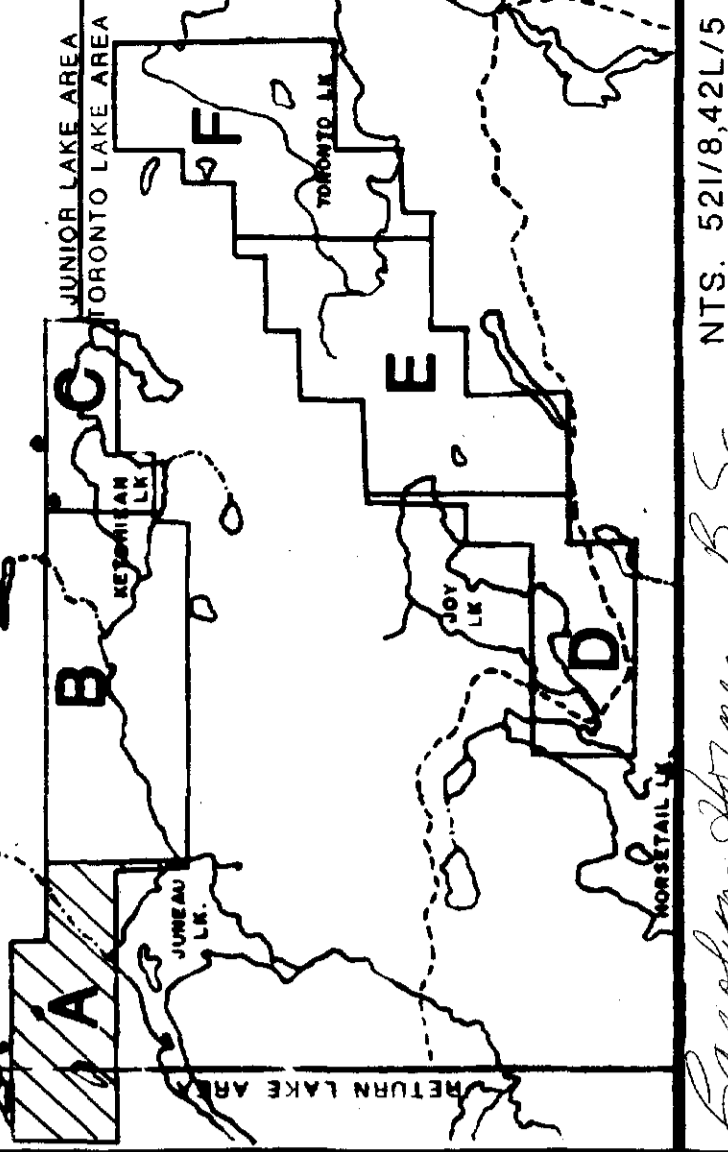
LEGEND

- 6 DIABASE
6a) Diabase 6b) Porphyritic diabase
- 5 GRANITIC ROCKS
5a) Undifferentiated 5a) Granite, granite gneiss
5b) Porphyritic granite, porphyritic granite gneiss
5c) Pegmatite
- 4 BASIC & ULTRABASIC INTRUSIVE ROCKS
4a) Mafic gneiss 4b) Magnetite, hematite
4c) Serpentine 4d) Paridotite 4f) Talc-chlorite schist
- 3 IRON FORMATION
- 2 METASEDIMENTS
2a) Quartz-biotite gneiss, biotite-quartz-feldspar gneiss
2b) Quartzite 2c) Amphibolite schist or gneiss
2d) Blue schist (chlorite-muscovite) schist, quartz-biotite schist
2f) Biotite-quartz-garnet-feldspar schist
- 1 METAVOLCANICS
1a) Undifferentiated 1a) Massive amphibolite
1b) Schistose amphibolite 1c) Metadiabase

SYMBOLS

- Boundary of rock outcrop.
- x Small rock outcrop
- Geological boundary: defined, assumed.
- Schistosity: inclined dip, vertical dip, dip unknown
- Gneissosity: inclined dip, vertical dip, dip unknown
- Jointing: inclined dip, vertical dip.
- Fault or shear zone (arrows indicate direction of movement).
- Drag-fold (arrow indicates direction of plunge).
- Synclinal axis
- Claim post: located, not located
- * Swamp
- ~ Creek with flow direction indicated.
- Road
- - - Trail
- ↘ Slope (arrow points down slope).
- Esker
- qv Quartz vein
- py Pyrite
- cp Chalcopyrite
- sph Sphalerite
- mag Magnetite
- gnt Garnet
- Soil/Humus sample
- Rock sample

MAP SHEET LOCATION



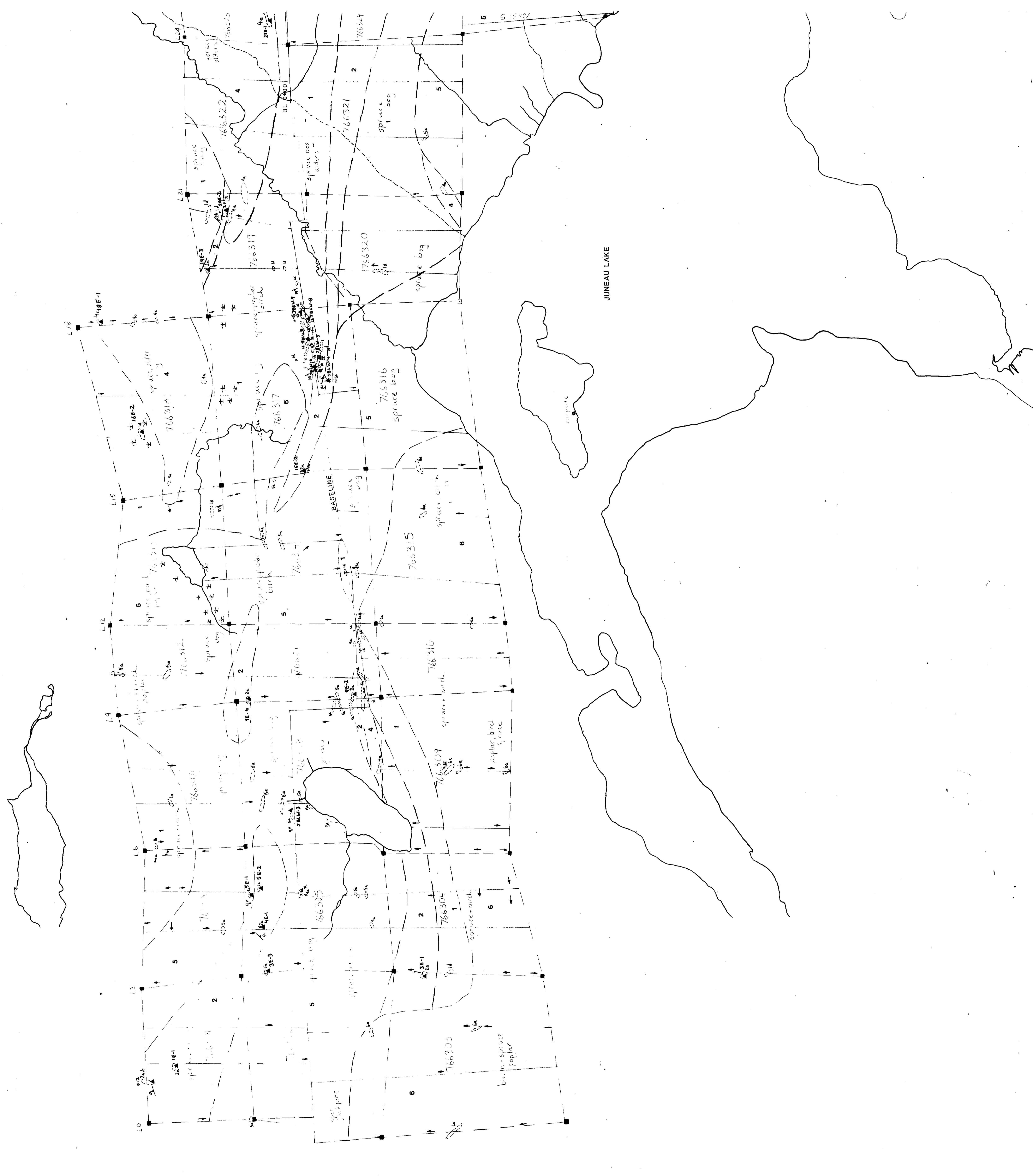
QUEBEC COBALT
AND EXPLORATION LIMITED

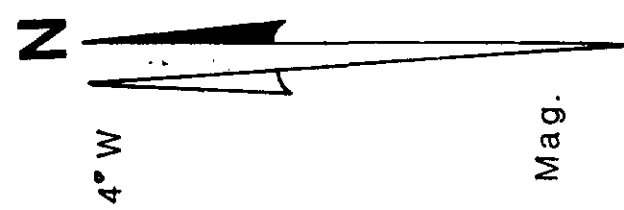
TORONTO LAKE PROJECT
SHEET A
27663

GEOLOGY & GEOCHEMISTRY

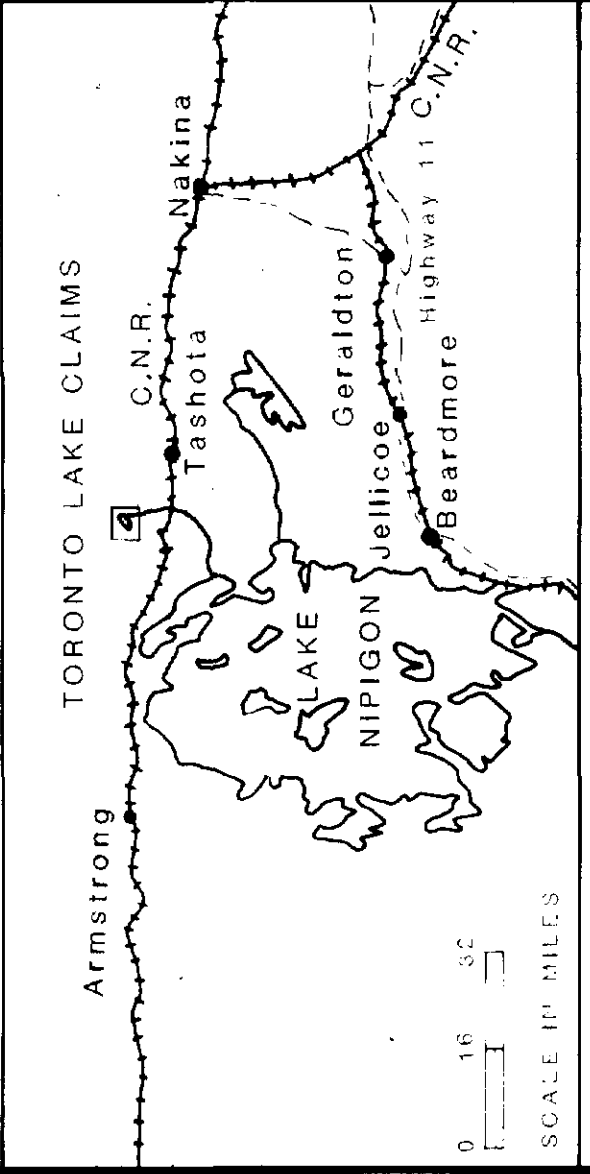
H.E. NEAL & ASSOCIATES LTD.
TORONTO
CANADA

DRAWN BY: C.J.H. DRAWING No. DATE: Dec. 1984
APPROVED BY: H.N.





KEY MAP



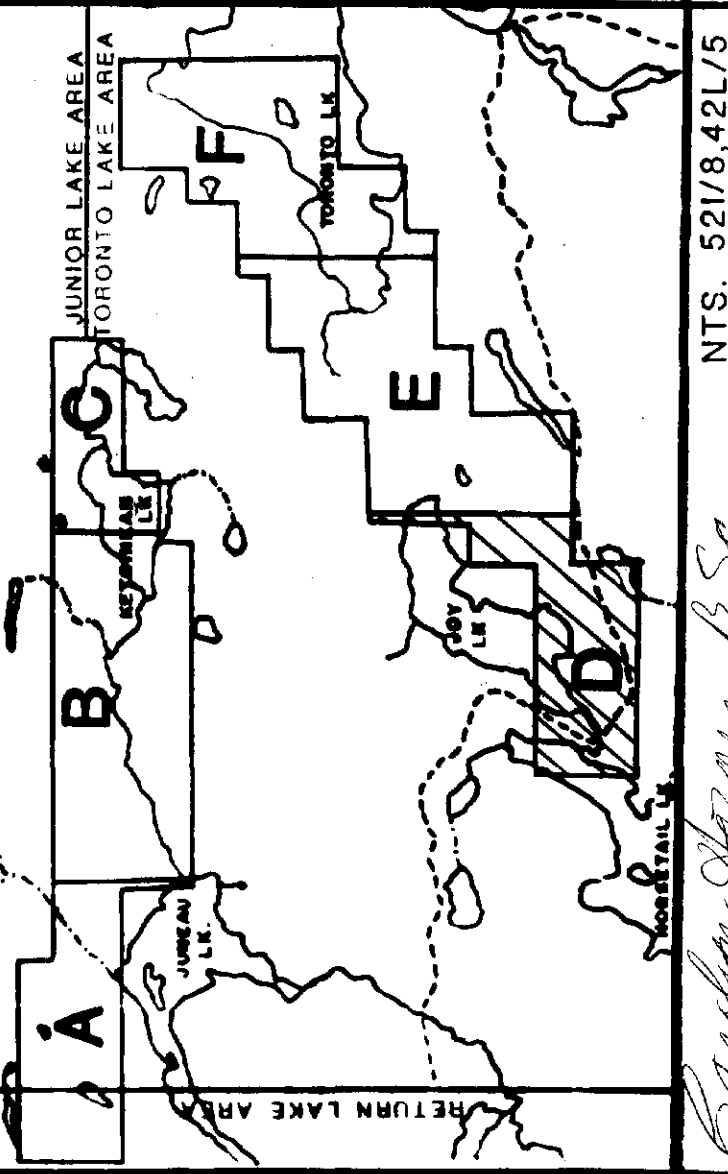
LEGEND

- 6** DIABASE
 - 6a) Diabase 6b) Porphyritic diabase
- 5** GRANITIC ROCKS
 - 5a) Undifferentiated 5a) Granite, granite gneiss
 - 5b) Porphyritic granite, porphyritic granite gneiss
 - 5c) Pegmatite
- 4** BASIC & ULTRABASIC INTRUSIVE ROCKS
 - 4a) Metagabbro 4b) Metapyroxene, hornblende
 - 4c) Serpentine 4d) Peridotite 4f) Talc-chlorite schist
- 3** IRON FORMATION
- 2** METASEDIMENTS
 - 2a) Quartz-biotite gneiss, biotite-quartz-feldspar gneiss
 - 2b) Quartzite
 - 2c) Blue quartz augen-biotite-schist or gneiss
 - 2d) Amphibolite
 - 2e) Quartz-biotite schist
 - 2f) Biotite-quartz-garnet-feldspar schist
- 1** METAVOLCANICS
 - 1a) Undifferentiated 1a) Massive amphibolite
 - 1b) Schistose amphibolite 1c) Metadiabase

SYMBOLS

- Boundary of rock outcrop.
- × Small rock outcrop
- Geological boundary: defined, assumed.
- ↘ Schistosity: inclined dip, vertical dip, dip unknown.
- ↗ Gneissosity: inclined dip, vertical dip, dip unknown.
- ↖ Jointing: inclined dip, vertical dip.
- ↘ Fault or shear zone (arrows indicate direction of movement).
- ↗ Drag-fold (arrow indicates direction of plunge).
- × Synclinal axis
- Claim post: located, not located
- ⊖ Swamp
- ~ Creek with flow direction indicated.
- Road
- Trail
- ↘ Slope (arrow points down slope).
- Esker
- QV Quartz vein
- PY Pyrite
- CP Chalcopyrite
- SPH Sphalerite
- MAG Magnetite
- GRN Garnet
- Soil/Humus sample
- ▲ Rock sample

MAP SHEET LOCATION



NTS: 5218, 42L/S

**QUEBEC COBALT
AND EXPLORATION LIMITED**

TORONTO LAKE PROJECT

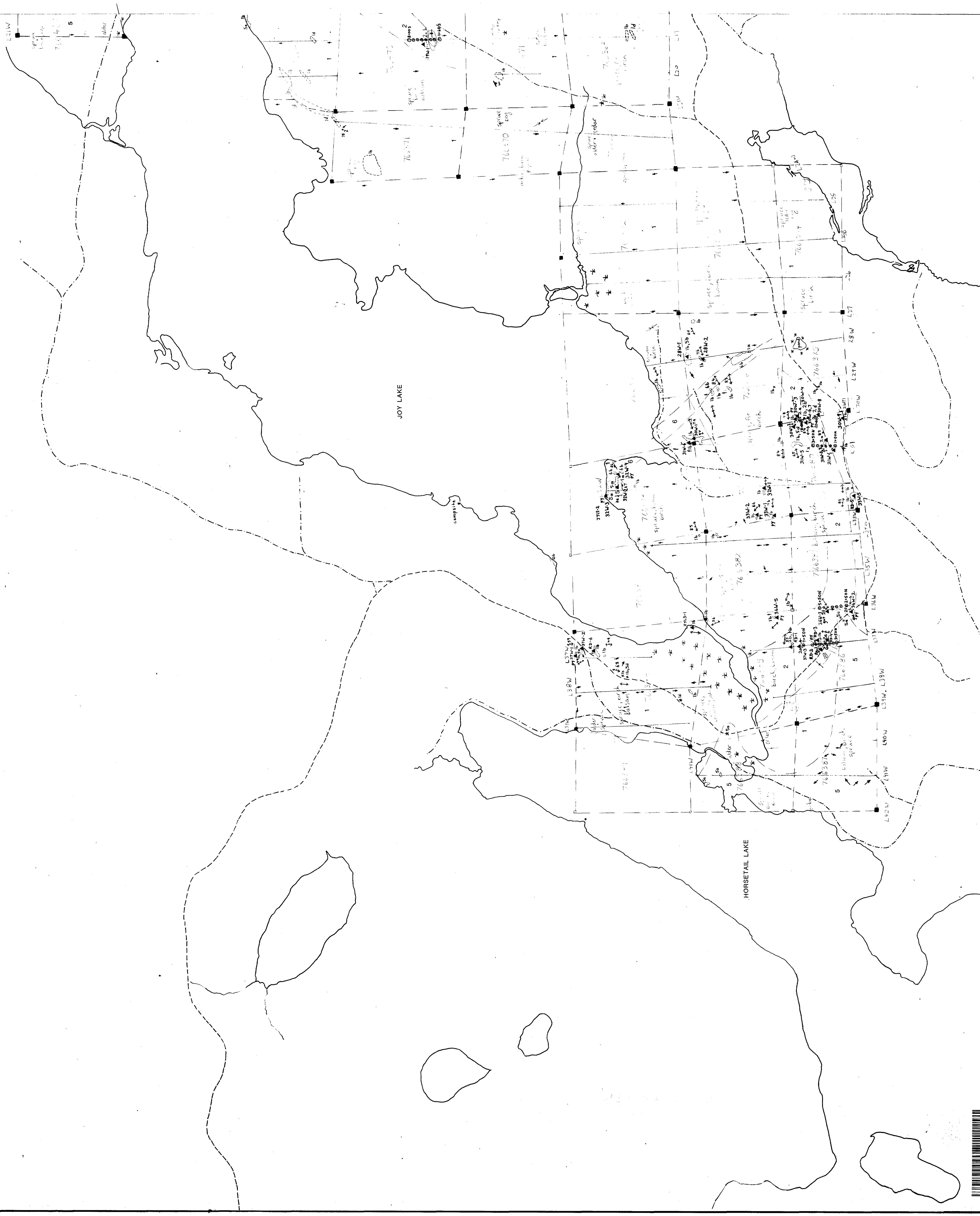
SHEET D 27663

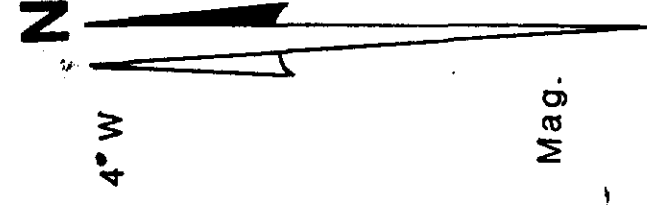
GEOLOGY & GEOCHEMISTRY

SCALE IN FEET
0 100 200 300 400 500 600 700 800 900 1000

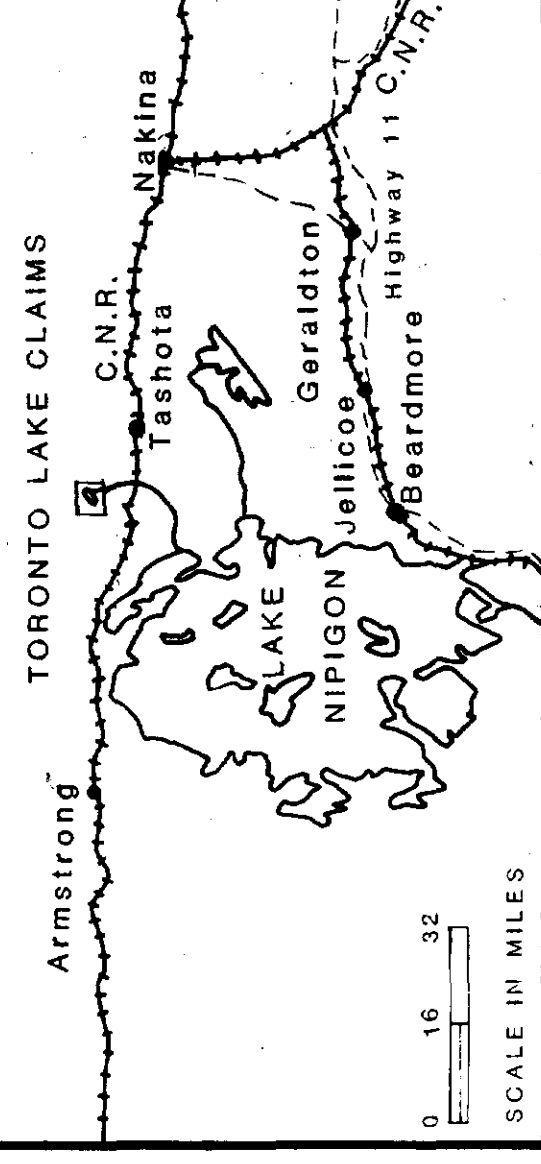
H.E. NEAL & ASSOCIATES LTD.
TORONTO CANADA

DRAWN BY: C.J.H. DRAWING NO. DATE: Dec. 1984
APPROVED BY: H.E.N.





KEY MAP



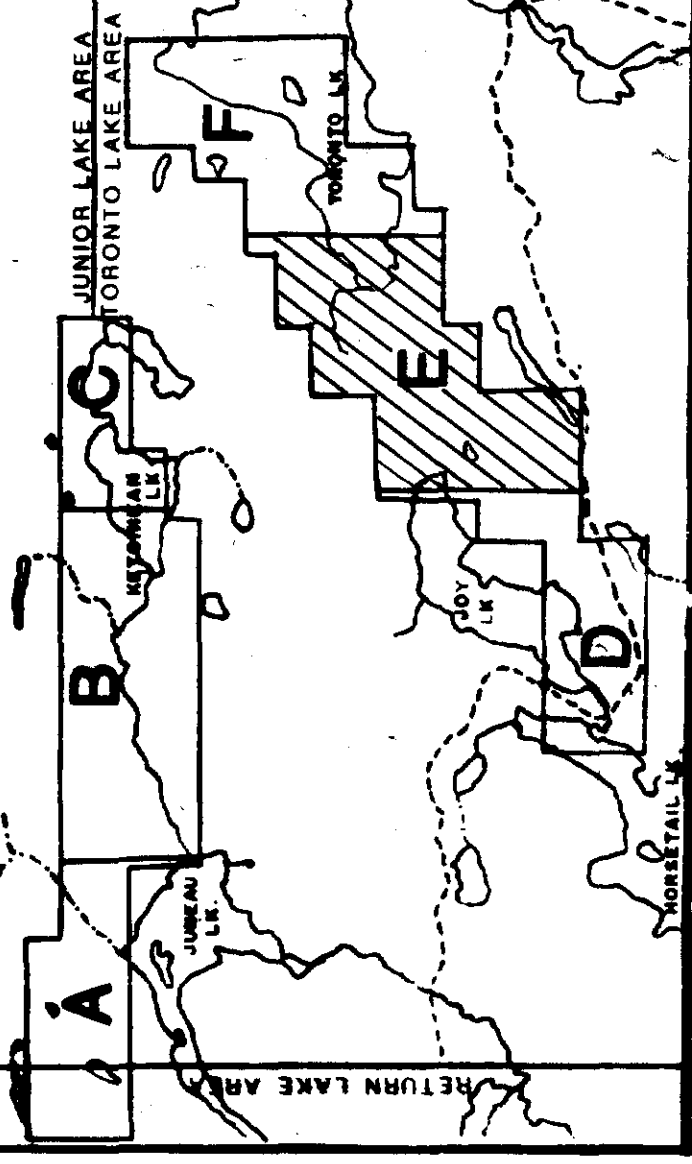
LEGEND

- 6 DIABASE
6a) Diabase 6b) Porphyritic diabase
- 5 GRANITIC ROCKS
5a) Undifferentiated 5a) Granite, granite gneiss
5b) Porphyritic granite, porphyritic granite gneiss
5c) Pegmatite
- 4 BASIC & ULTRABASIC INTRUSIVE ROCKS
4a) Metagabbro 4b) Metaporphyrite, hornblende
4c) Serpentine 4d) Pyroxenite 4e) Talc-chlorite schist
- 3 IRON FORMATION
- 2 METASEDIMENTS
2a) Quartz-biotite gneiss, biotite-quartz-feldspar gneiss
2b) Quartzite
2c) Blue quartz augen-biotite-sericite schist or gneiss
2d) Blue quartz augen-biotite schist
2e) Biotite-quartz-garnet-feldspar schist
- 1 METAVOLCANICS
1a) Undifferentiated 1a) Massive amphibolite
1b) Schistose amphibolite 1c) Metadiabase

SYMBOLS

- Boundary of rock outcrop.
- x Small rock outcrop
- Geological boundary, defined, assumed.
- Schistosity: Inclined dip, vertical dip, dip unknown.
- Gneissosity: Inclined dip, vertical dip, dip unknown.
- Jointing: Inclined dip, vertical dip.
- Fault or shear zone (arrows indicate direction of movement).
- Drag-fold (arrow indicates direction of plunge).
- Synclinal axis
- Claim post: located, not located
- Swamp
- Creek with flow direction indicated.
- Road
- Trail
- Slope (arrow points downslope).
- Esker
- qv Quartz vein
- py Pyrite
- cp Chalcopyrite
- sph Sphalerite
- mag Magnetite
- gnt Garnet
- o Soil/Humus sample
- Rock sample

MAP SHEET LOCATION



QUEBEC COBALT
AND EXPLORATION LIMITED

TORONTO LAKE PROJECT

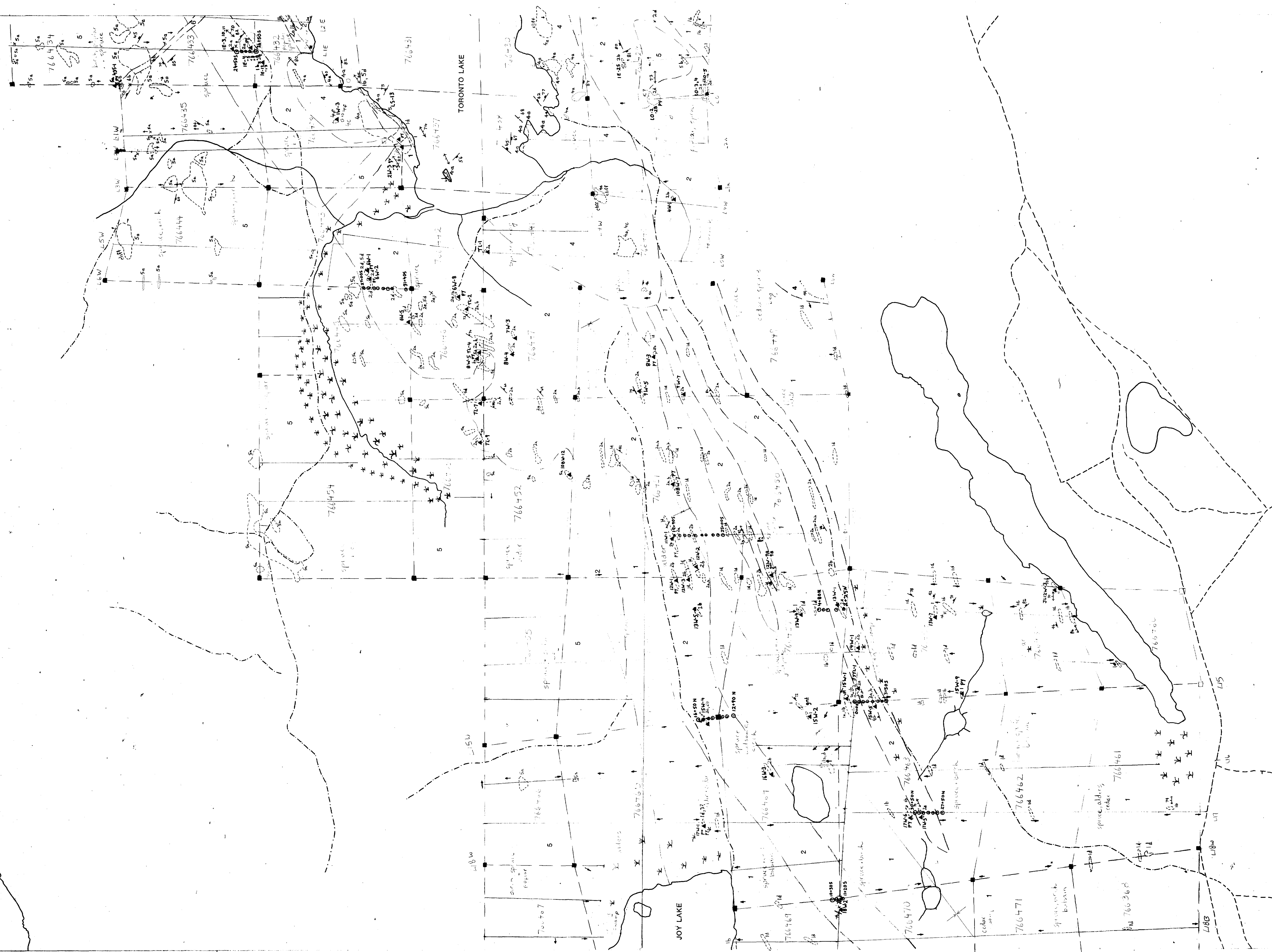
SHEET E 27663

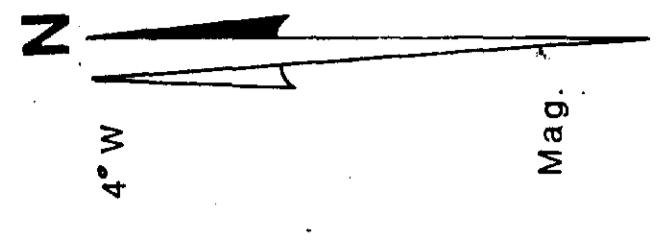
GEOLOGY & GEOCHEMISTRY

SCALE IN FEET 0 400 800 1200

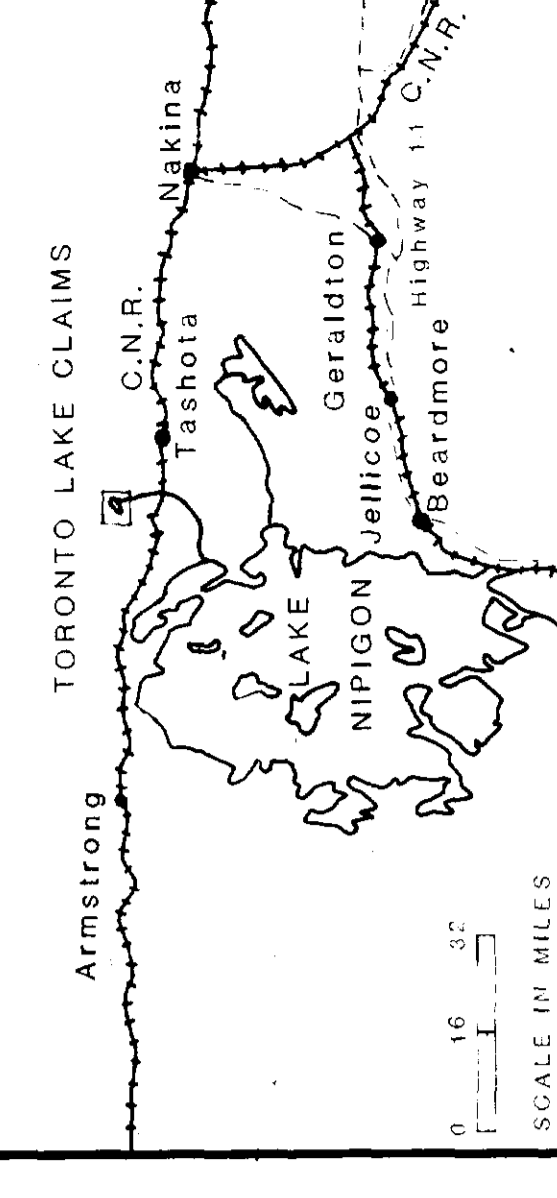
H.E. NEAL & ASSOCIATES LTD.
TORONTO
CANADA

DRAWN BY: C.J.H. DRAWING No. DATE: Dec. 1984
APPROVED BY: H.E.N.





KEY MAP



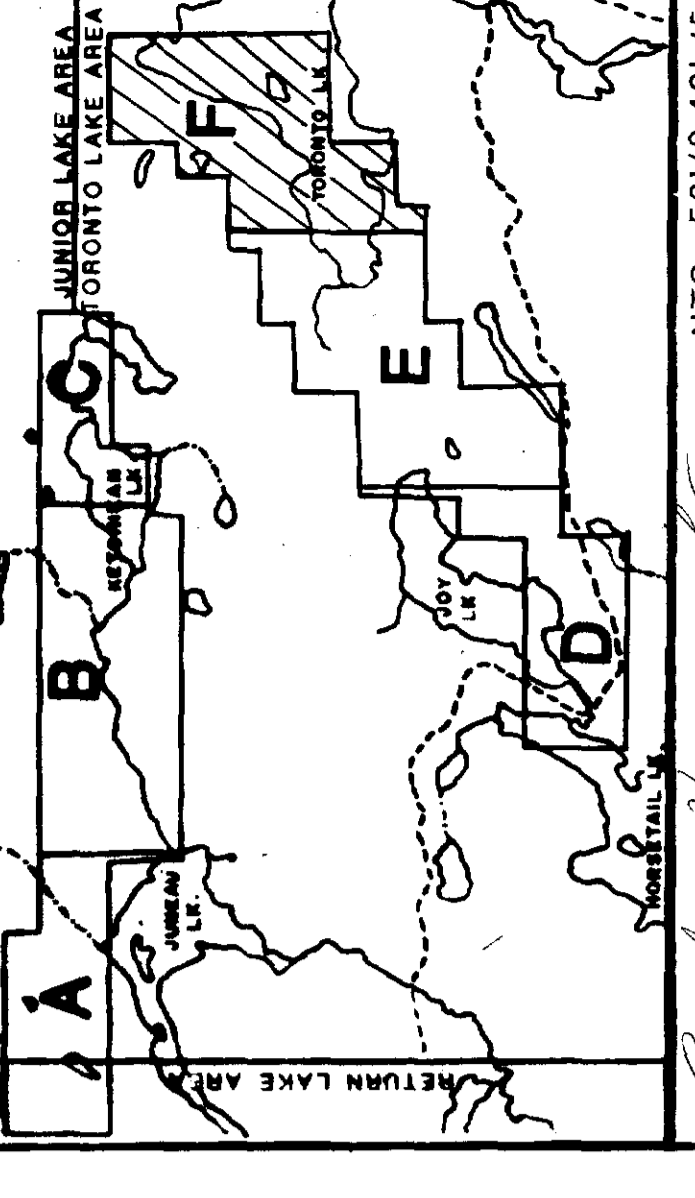
LEGEND

- 6 DIABASE
 - 6a) Diabase 6b) Porphyritic diabase
- 5 GRANITIC ROCKS
 - 5a) Granite 5b) Quartzite
 - 5c) Porphyritic granite, porphyritic granite gneiss
 - 5d) Pegmatite
- 4 BASIC & ULTRABASIC INTRUSIVE ROCKS
 - 4a) Metagabbro 4b) Metasyroxene, hornblende
 - 4c) Serpentine 4d) Epidote 4e) Talc-chlorite schist
- 3 IRON FORMATION
- 2 METASEDIMENTS
 - 2a) Quartz-biotite gneiss, biotite-quartz-feldspar gneiss
 - 2b) Quartzite
 - 2c) Blue quartz augen-biotite-sericite schist or gneiss
 - 2d) Quartz-sericite(muscovite) schist, quartz-biotite schist
 - 2e) Biotite-quartz-garnet-feldspar schist
- 1 METAVOLCANICS
 - 1a) Undifferentiated 1b) Massive amphibolite
 - 1c) Schistose amphibolite 1d) Metadiabase

SYMBOLS

- Boundary of rock outcrop
- x Small rock outcrop
- Geological boundary, defined, assumed
- Schistosity: inclined dip, vertical dip, dip unknown
- Gneissosity: inclined dip, vertical dip, dip unknown
- Joining: inclined dip, vertical dip
- Fault or shear zone (arrows indicate direction of movement)
- Drag-fold (arrow indicates direction of plunge)
- Synclinal axis
- Claim post: located, not located
- Swamp
- Creek with flow direction indicated
- Road
- Trail
- Slope (arrow points downslope)
- Esker
- QV Quartz vein
- py Pyrite
- cp Chalcopyrite
- sph Sphalerite
- mag Magnetite
- gnt Garnet
- Soil/Humus sample
- ▲ Rock sample

MAP SHEET LOCATION



NTS: 521/8,421/5

QUEBEC COBALT AND EXPLORATION LIMITED

TORONTO LAKE PROJECT SHEET F 27603

GEOLOGY & GEOCHEMISTRY

SCALE IN FEET 0 100 200 300 400 500 600 700 800 900 1000

HE NEAL & ASSOCIATES, LTD. TORONTO CANADA DRAWN BY: C.T.H. APPROVED BY: J.C.J. DATE: Dec. 1974

