COMINCO LTD.

PROJECTS UNIT

EXPLORATION

EASTERN DISTRICT

REPORT OF WORK
GIB PROPERTY
GUIBORD TWP., ONTARIO
PERIOD SEPTEMBER 1976 - AUGUST 1977

W. M. Little

1. LOCATION, ACCESS, HISTORY

The property is located in Guibord Township, Larder Lake Mining Division, Ontario, about 45 miles east of Timmins, 10 miles east of Matheson, and 3 miles east of the Ross gold mine.

Highway #101 crosses the northern edge of the property and a bush road along the eastern boundary provides additional access. Although much of the property is underlain by muskeg, most areas were quite dry in August - September 1976, and all parts of the property could be reached easily on foot or with tracked vehicles.

The property is part of a larger claim block held by Hollinger Mines Ltd. from 1964-1972. Their work (primarily gold exploration) consisted of ground E.M. and magnetometer surveys, and about 20 widely spaced drill holes. The present Gib Property was staked by Cominco for gold exploration possibilities in August and September 1976, and a 32 hole "overburden drill" program in September 1976 is the subject of the present report.

2. PROPERTY

The property is owned 100% by Cominco Ltd., 120 Adelaide St. W., Suite 1700, Toronto, Ontario, M5H 1T1.

Assessment credits are claimed for application against 113 claims, in Guibord Twp., Ont., with numbers as follows:

L 475766-785; 797-806; 824-833 inclusive.
L 477203-219; 222-234; 237-250; 252-262 inclusive.
L 477312-319; 322-325 328-329; 332-335 inclusive.

The claim locations are shown on the attached map.

.....2

The overburden drilling involved 32 holes, on the following claims:

L 475770, 777, 780, 781
L 477214, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 238, 239, 242, 243, 252, 255, 260, 262
L 477319, 322

The present submission does not apply to an additional 21 adjoining claims (L 476814-823, L477220-221, 235-236, 251, L477320-321, 326-327, 336, 379) in Guibord and Michaud Townships, which gave the property an original total of 134 claims.

3. WORK CARRIED OUT

The main work carried out was a program of 32 vertical "overburden drill" holes on a grid roughly 1000' x 2000'. The holes were drilled to penetrate approximately 5' into bedrock, and had an average depth of 116'. The drilling was done under contract by Bradley Bros. Limited, P. O. Box 367, Noranda, P.Q., using track mounted "reverse circulation" equipment, giving a hole roughly 3½" in diameter.

The cuttings were divided into plus and minus 14 mesh fractions, and 5-10 lb. samples of both fractions were collected from (a) approximately the lower 10' of the overburden (2-5' sample intervals) and (b) the bedrock (1-2' intervals). Since the bedrock depth could not be accurately predicted, the overburden sampling was usually started well above the expected depth to ensure that the sampling covered the 10' basal section. Extra samples, from higher parts of the overburden, were subsequently disposed of.

The sampling was carried out by R. L. Lortie (geologist) and R. Campbell (sampler). For the overburden sampling, the exceptionally high drill penetration (up to 5'/minute) made it necessary to have two men to handle the sieving and bagging of samples, measure and note footages, and remove access materials. Additional duties of the geologist were to log the full length of the holes (mostly involving overburden variations), to decide when holes should be stopped (i.e. to distinguish bedrock from boulders), to change hole locations depending on bedrock lithologies, and to make preliminary binocular microscope studies of the bedrock cuttings.

The program involved 4 days field time (August 24-27, 1976) by the writer and R. Lortie, to spot drill hole locations, and 18 days (September 7-24) by R. Lortie and R. Campbell, when the drilling was in progress.

Analytical procedures were as follows:

Samples were pulvarized and split at the Cominco Geochemical Laboratory, Toronto.

.....3

The original coarse (+14 mesh) fraction was used for all bedrock analyses. The ppb Au determinations were done by Bondar-Clegg and Company, Ottawa, using a fire assay - AA procedure. The major element analyses were carried out by XRF by the Cominco Research Laboratory, Vancouver, and the FeO, Co_2, H_2O+, MnO_2, As_2O_3 and S determinations by wet chemical methods by the Cominco Toronto Laboratory.

The basal overburden samples (original-14 mesh fraction) were treated by the Cominco Vancouver Laboratory. Analyses were made on a -20 mesh "silt fraction" (cut before liquid separation) and a "heavy mineral fraction" from which magnetite was removed. All samples were pulvarized before analysis. The ppb Au analyses were by aqua regia extraction AA procedure, the Cu, Pb and Zn by acid extraction plus AA, and the As by a colorometric method.

4. GEOLOGY

The geology shown on the attached map is based on the ODM mapping by Prest (1953) modified for the results of Hollinger's 1964-72 drilling and the present overburden drill program. For most of the property, however, the geology is still very poorly known - there are essentially no outcrops, and the widely scattered drill holes provide as many questions as answers.

The following discussion is restricted to new information provided by the present work.

Overburden

Descriptions of the overburden in individual holes are given in Table II.

From the exploration standpoint, the most obvious characteristic is its thickness - an average of 110', and over 90' thick in 28 of the 32 holes.

The bulk of the material, and possibly all of it, has been water transported, and probably represents part of the Munro Esker system. Two distinct layers are usually present. The upper part, averaging about 60' thick, consists of clean, fine sand, which sometimes grades laterally or upwards into sandy clay or silt. The lower subdivision, 50' thick on the average, is usually a fine (-1") well sorted gravel, although the basal sections sometimes contain coarser gravel "up to 3") and occasionally boulders of larger size.

Bedrock Types

Bedrock drill cuttings were studied under a binocular microscope by the writer and the results of whole-rock analyses are listed in Table III.

.....4

A fine grained, light grey coloured talc schist interpreted as an altered ultra-mafic flow, was intersected in one hole, G-76-11 at the southern edge of the drilled area. As a matter of interest, it might be noted that ultra-mafic flows are present in outcrop along Highway #101, about a mile north of the property, and that the band of "green carbonate" extending to the north west from the north west corner of the property, is more or less accepted as an altered ultra-mafic.

Fine to medium grained, greenish grey, basic to intermediate volcanics form an irregular fringe on the west side of the syenite body, and regional mapping shows large east-west trenching belts of generally similar rocks to the north and south.

In the drilled area, these rocks have probably been subjected to some degree of contact metamorphism by the nearby syenite - the somewhat coarser grain size which occurs in some places gives this appearance, and the K_2O content is a little high for normal rocks in the basalt - andesite range.

Rocks ranging from dacites to rhyodacites occur to the west of the basic to intermediate volcanics. They are light grey in colour, generally aphanitic, but with tiny (1 mm) quartz eyes in a few places. Although they would seem most likely to be flows, the possibility of fine grained intrusives isn't ruled out.

The rock type termed "basic" syenite, consisting of coarse (up to ¼") pink fledspar with "clots" of fine grained dark material, occurs in a number of places, between the basic to intermediate volcanics and the syenite, and almost certainly represents a contaminated border phase of the syenite body.

The syenite consists predominately of coarse pink feldspar, and is somewhat higher in SiO_2 and substantially lower in Fe_2O_3, MgO and CaO than the mixed rock above.

Alteration and Mineralization

Information on possible wall rock alteration is provided by the H_2O, CO_2, S and As_2O_3 data in Table III.

As compared with published analyses of altered rock adjacent to ore zones at Porcupine (Ferguson, S, 1968, p. 61) and Kirkland Lake (Thompson, J.E., 1950, p.70), the higher H_2O values are in the range of potential interest,but the CO_2 and S are rather low.

.....5

	Basic, Intermediate Volcanics			Porphyry, Dacite		
	H_2O	CO_2	S	H_2O	CO_2	S
Porcupine	.6-2.7	9.5-16.8	.1-14.0	1.0-1.9	3.8-4.2	.2-1.5
Kirkland Lake				.9-2.3	4.1-8.2	.2
Gib	1.1-3.5	.1-6.0	.1- .6	.7-2.5	.2-1.7	0- .5

The Gib rocks do show some indication, however, of a relationship between alteration and gold values. In both the basic to intermediate volcanics and the "basic" syenite, the holes with the highest CO_2 content (#29 and #19 respectively) are the holes with anomalous Au, and the two anomalous dacite holes (#21 and 23) have the highest H_2O. Hole #21, with the highest bedrock Au values obtained in the program, is the only one with anomalous As.

Bedrock Au values and Cu, Pb, Zn, As, Au results from the overburden samples are listed in Table IV. It might be noted that although the different trace Au analytical procedures used for the bedrock and overburden samples give different lower levels of determination (-5 ppb for Bondar-Clegg bedrock analyses, and -25 ppb for Cominco Vancouver overburden results), test work by the writer has shown that the two laboratories give comparable results with samples in the "anomalous" range.

The following discussion is restricted to the trace Au results - the overburden base metal values show no obvious patterns in their distribution.

In the bedrock samples, anomalous Au values (+25 ppb) occur in only 4 of the 32 holes, and even in these 4 holes less than half the samples gave significant values. The highest result was 170 ppm, in hole #29, the equivalent of .0005 oz/T.

The overburden samples gave anomalous Au in the "heavy mineral" fraction in 10 holes, and in the "silt" fraction in 6 - only one hole, #21 showing anomalous results from both fractions. The "heavy mineral" anomalous values (up to 190 ppb) are in the same range as the bedrock figures, but a few values up to 1600 ppb were obtained from "silt". For both overburden fractions, the majority of the anomalous samples came from immediately above the bedrock - the exceptions average 3' above.

As is shown on the geological map, the holes with anomalous "heavy mineral" and "silt" samples occur in rough clusters.

The "heavy mineral" anomalies occur in three groups; (a) in holes #19, 29 and 30, in the north-east, in association with bedrock anomalies in holes #19 and 29; (b) in holes #21, 28 and 17, to the west, in association with bedrock values in holes #21 and 23, and (c) in holes #8, 10, 13, 15 and 16, to the south, without associated bedrock anomalies.

.....6

Anomalous "silt" values occur in two areas, more or less independently of the "heavy mineral" anomaly distribution. Two holes, #21 (with anomalous bedrock, "heavy mineral" and "silt" values) and #22 ("silt" values alone) occur on the west side of the drilled area, and a second group of four holes, #3, 4, 5 and 6 (without associated bedrock or "heavy mineral" values) occurs in the central part of the area.

5. WRITER'S QUALIFICATIONS

The writer is a registered Professional Engineer (Ont.) and holds B.A.Sc (1949), M.A.Sc(1950) and Ph.D (1957) degrees in Economic Geology from the University of Toronto. He has been employed as a mine geologist and in mining exploration since 1954.

He is familiar with the work described in the above report, having initiated, planned and directly supervised the project, having spent four days on the property, and having personally compiled and evaluated the results.

Submitted by: _____ P.Eng.
W. M. LITTLE
SENIOR GEOLOGIST

Qualifications 2.2682 and on this file

REFERENCES

Ferguson, S.A. (1968) Geology and Ore Deposits of Tisdale Township. O.D.M. Geol. Dept. 58.

Prest, V.K. (1953) Geology of Guibord Township. O.D.M. Vol. LX, Part IX.

Thompson, J.E. et al (1950) Geology of the Main Ore Zone at Kirkland Lake. O.D.M. Vol. LVIII, Part V.

ATTACHMENTS

TABLE I	Cost Breakdown
TABLE II	Overburden Drill Holes, 1976
TABLE III	Bedrock Geochemistry
TABLE IV	Mineralization Summary

Geologist Map, 1" = 1000'

DISTRIBUTION

Ministry of Natural Resources (Ont.) (2) ✓
File (1)

Cominco Ltd.

Statement of Expenditures

Gib Group (Note 1)

During the Period

August 24, 1976 to July 31, 1977

Geology	$ 2,740
Geochemistry	2,794
Overburden drilling	25,560
Administrative services	3,109
	$34,203

Note 1 - 113 Mining Claims in Guibord Township, Larder Lake Mining Division Ontario:
Nos.: L-475766-785, 797-806, 824-833; L-477203-219, 222-234, 237-250, 252-262; L-477312-319, 322-325, 328-329, 332-335, inclusive in all cases.

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R. Craig
Vancouver Office
October 13, 1977

Certified Correct

R. L. Woods
Supervisor, Exploration
& Foreign Accounting

[illegible] = 2,280.2 loyo

TABLE II

GIB PROPERTY

Overburden Drill Holes, 1976

Hole G-76-1 — Claim 477223 September 7, 8

0-65'	-	Grey clay
65-93	-	Gravel
93-95	-	Gravel till, sand/clay balls
95-115	-	Gravel
115-121	-	Bedrock, andesite
121	-	End of hole

G-76-2 — Claim 477224 September 8

0-72'	-	Clay
72-90	-	Gravel
90-92	-	Granitic boulder
92-100	-	Bedrock, syenite
100		End of hole

G-76-3 — Claim 477252 September 8

0-80'	-	Clay
80-95	-	Gravel
95-100	-	Till (sand/clay balls)
100-113	-	Gravel 103' - lost water 103-113 - no return
113-118	-	Boulder? diabase?
118-126	-	Till (sand/clay balls) (includes a few large boulders)
126-128	-	No return
128-132	-	Bedrock, syenite
132		End of hole

G-76-4 — Claim 477252 September 8, 9

0-32'	-	Clay
32-105	-	Fine sand
105-120	-	Gravel (~2' of clayey gravel at top)
120-121	-	Till
121-128	-	Gravel
128-134	-	Bedrock, basic syenite
134		End of hole

G-76-5 — Claim 477228 September 9

0-10	-	Clay
10-67	-	Fine sand
67-71	-	Bedrock, syenite
71		End of hole

TABLE II (cont'd)

Hole G-76-6		Claim 477229 September 9
0-30'	-	Clay, minor fine sand
30-55	-	Clay and fine sand, sand more abundant
55-57	-	Gravel
57-58	-	Boulder (diabase)
58-60	-	Gravel
60-78	-	Pebbly sand and gravel
78-79	-	Coarse gravel
79-82	-	Bedrock, andesite
82		End of hole
G-76-7		Claim 477232 September 9
0-60'	-	No return - probably organics (swamp)
60-73	-	Sand, very fine
73-74	-	Gravel, minor clay till
74-78	-	Bedrock, dacite
78		End of hole
G-76-8		Claim 477232 September 11
0-69'	-	Fine sand
69-122	-	Gravel, very minor clay till
122-124	-	Bedrock, dacite
124		End of hole
G-76-9		Claim 477233 September 11
0-90'	-	Very fine sand
90-100	-	Gravel (fine) and pebbly sand - large proportion of sand
100-109	-	Gravel, minor clay till (between 107' & 109')
109-112	-	Bedrock, andesite
112		End of hole
G-76-10		Claim 477232 September 11, 13
0=86'	-	Fine sand; minor silty clay at 70', 76', 84'
86-116	-	Gravel
116-120	-	Bedrock, dacite
120		End of hole
G-76-11		Claim 477234 September 13
0-40'	-	No return - sand
40-60	-	Fine sand, minor clay at bottom (58'-60')
60-74	-	Fine gravel and sand - very minor clay
74-81	-	Fine sand and clay
81-86	-	Gravel
86-90	-	Gravel, clay till
90-93	-	Bedrock, talc schist (ultramafic)
93		End of hole

TABLE II (cont'd)

Hole G-76-12		Claim 477231 and 477234 (on the boundary) Sept. 13
0-35	-	No return - probably sand and organics
35-77	-	Fine sand
77-92	-	Gravel
92-95	-	Bedrock, andesite
95		End of hole
G-76-13		Claim 477231 September 13
0-30'	-	No return - organics and fine sand
30-90	-	Fine sand
90-131	-	Gravel - high proportion of sand
131-134	-	Bedrock, andesite
134		End of hole
G-76-14		Claim 477231 and 477262(on the boundary) Sept. 13
0-30'	-	No return - probably organics and sand
30-79	-	Sand
79-140	-	Gravel; minor clay - till at 92-93' 138-139': boulder, intrusive rock (bedrock)
140-146.5	-	Bedrock, basic syenite
146.5		End of hole
G-76-15		Claim 477230 and 477231(on the boundary) Sept. 14,15
0-69'	-	Sand; minor clay
69-130	-	Gravel - fine gravel and sand
130-132	-	Boulder (of bedrock); mafic intrusive veinlets or dikelets of feldspar.
132-134	-	Boulder (or weathered bedrock) of pink, soft (weathered) intrusive with mafics.
134-141	-	Bedrock, basic syenite
141		End of hole
G-76-16		Claim 477214 and 477227(on the boundary) Sept. 15
0-40'	-	Fine sand and clay (in equal proportions)
40-92	-	Fine - medium grained sand (with large flakes of muscovite)
92-124	-	Gravel
124-130	-	Bedrock, syenite
130		End of hole
G-76-17		Claim 477243 Sept. 15, 16
0-25'	-	Clay, minor fine sand
25-59	-	Silt (not sticky clay)
59-113	-	Fine gravel
113-127	-	Gravel with occasional boulders
127-131	-	Bedrock, dacite
131		End of hole

TABLE II (cont'd)

Hole G-76-18 — Claim 477225 September 16

0-66'	-	Clay and fine sand
	-	Minor clay only (at 20-30')
66-100.5	-	Gravel; minor till beds below 80' (80-90')
100.5-104	-	Bedrock, basalt
104		End of hole

G-76-19 — Claim 477222 September 16

0-45	-	Silty clay and fine sand, in equal proportions.
45-74	-	Fine sand; very minor clay
74-140	-	Gravel; minor till
140-145	-	Bedrock, basic syenite
145		End of hole

G-76-20 — Claim 477238 September 17

0-24'	-	Fine sand and clay
24-26	-	Gravel with boulders
26-28	-	Bedrock, basalt
28	-	End of hole

Note: Redrilled G-76-20 (15' north) to confirm bedrock at 26'
- hole logged exactly as before.

G-76-21 — Claim 475777 September 17

0-25'	-	Clay and fine sand
25-92	-	Gravel
70-92	-	Till (mainly)
92-114	-	Coarse gravel
114-123	-	Bedrock, dacite
123		End of hole

Hole G-76-22 — Claim 475780 and 475781 (on the boundary) Sept. 18

0-62'	-	Fine sand, minor clay
62-78	-	Gravel
78-92	-	Clay till, small pebbles (no boulders)
92-95	-	Gravel, high proportion sand
95-113	-	Till with small boulders
113-128	-	Coarse gravel (boulders ≤2-3")
128-131	-	Bedrock, dacite
131		End of hole

G-76-23 — Claim 477242 Sept. 18 & 20

0-52'	-	Fine sand, subordinate clay
52-140	-	Gravel (102-104', large boulder, basic tuff?)
140-145	-	Bedrock, dacite
145		End of hole

TABLE II (cont'd)

Hole G-76-24 — Claim 477319 and 477322 (boundary) Sept. 20

0-53'	-	Organics (10'); clay and fine sand
53-70	-	Fine gravel
70-80	-	Gravel (mainly), minor till layers
80-90	-	Till (mainly)
90-94	-	Clay
94-102	-	Gravel, occasional clay bed
102-110	-	Clay
110-115	-	Gravel
115-122	-	Boulder - green sandstone (graywacke)
122-128	-	Bedrock, basalt
128		End of hole

G-76-25 — Claim 477260 Sept. 21

0-62'	-	Silty clay
62-68	-	Fine sand and silt
68-100	-	Gravel (fine)
100-110	-	Coarse gravel (poor return)
110-123	-	Till
123-129	-	Gravel
129-135	-	Bedrock, basic syenite
135		End of hole

G-76-26 — Claim 477260 Sept. 21

0-58'	-	Clay (silty)
58-105	-	Fine gravel
105-115	-	Bouldery gravel
115-130	-	Till and gravel
130-136	-	Bedrock, syenite
136		End of hole

G-76-27 — Claim 475770 Sept. 21

0-39'	-	Clay, fine sand
39-51	-	Gravel
51-72	-	Till
72-80	-	Coarse gravel
80-89	-	Till
89-92	-	Clay with sand
92-96	-	Sand, minor clay
96-99	-	Till and gravel
99-103	-	Bedrock, basic syenite
103		End of hole

TABLE II (cont'd)

Hole G-76-28			Claim 477239 Sept. 22
0-38'	-		Clay and fine sand
38-59	-		Gravel
59-90	-		Till and gravel (about equal proportions - alternating)
90-94	-		Bedrock, dacite
94			End of hole
G-76-29			Claim 477225 Sept. 22
0-36'	-		Silty clay
36-73	-		Fine silty sand
73-88	-		Gravel
88-92	-		Bedrock, basalt
92			End of hole
G-76-30			Claim 477226 Sept. 23
0-40'	-		Silty clay and fine sand
40-70	-		Fine sand
70-72	-		Gravel
72-76	-		Sand
76-109	-		Gravel
109-116	-		Bedrock, syenite
116			End of hole
G-76-31			Claim 477226 Sept. 23
0-72	-		Fine sand, minor clay near top
72-118	-		Gravel
118-120	-		Till
120-140	-		Gravel
140-145	-		Boulders, coarse gravel
145-153	-		Boulders
153-160	-		Bedrock, syenite
160			End of hole
G-76-32	-		Claim 477255 Sept. 23
0-38'	-		Sand
38-120	-		Gravel
		82')	
		97')	thin till beds
		118')	
120-128	-		Bedrock, basic syenite
128			End of hole

TABLE IV

MINERALIZATION SUMMARY

Hole No. Footage	Bedrock Samples ppb Au	Overburden Samples — Heavy Mineral Fraction Cu	Pb	Zn	As	ppb Au	Silt Fraction Cu	Pb	Zn	As	ppb Au
G-76-1		44	L3	43	L2	L25	5	L3	13	L2	L25
95-100		60	L3	42	"	"	7	L3	12	"	"
100-105											
105-108	n.d.										
108-110	n.d.										
110-111	n.d.										
G 76-2											
85-90		19	L3	39	L2	L25	5	L3	9	L2	L25
90-92		80	20	187	"	"	53	10	64	"	"
92-95	n.d.										
95-100	L5										
G-76-3											
122-124A		39	L3	34	L2	L25	8	6	11	L2	L25
122-124B		30	3	45	"	"	7	L3	11	"	"
124-126		32	L3	51	"	"	10	L3	15	"	66,4,70
128-130	n.d.										
131-132A	n.d.										
131-132B	n.d.										
G-76-4											
120-125		88	L3	39	L2	L25	14	L3	12	L2	200,4
125-128		42	L3	54	"	"	10	L3	16	"	L25
128-130	n.d.										
130-132	L5										
132-133	L5										
133-134	L5										
G-76-5											
67-68		170	25	187	L2	L25	28	L3	72	L2	45,18,80
68-69	n.d.										
69-70	n.d.										
70-71	L5										
G-76-6											
73-78		63	L3	52	L2	L25	8	L3	13	L2	1600,6,24,50
78-79		38	L3	45	"	"	10	L3	24	"	L25
79-80	L5										
80-81	n.d.										
G-76-7											
73-74		34	6	43	L2	L25	10	L3	30	L2	L25
74-75	L5										
75-76	n.d.										
76-77	n.d.										
77-78	n.d.										

BLE IV (cont'd)

Hole No. Footage	Bedrock Samples ppb Au	Overburden Samples Heavy Mineral Fraction Cu	Pb	Zn	As	ppb Au	Silt Fraction Cu	Pb	Zn	As	ppb Au
G-76-8											
118-120		70	L3	73	55	88,70	15	L3	27	L2	L25
120-122		60	3	49	L2	L25	19	L3	26	"	"
122-123	L5										
123-124	L5										
G-76-9											
100-105		70	25	60	L2	L25	12	L3	16	L2	L25
109-110	n.d.										
110-111	L5										
111-112	n.d.										
G-76-10											
108-112		50	4	53	4	L25	7	L3	13	L2	L25
112-116		117	10	37	3	100,90	17	L3	24	"	"
116-118	n.d.										
117-118	n.d.										
118-119	n.d.										
119-120	n.d.										
G-76-11											
85-90		200	20	56	L2	L25	25	L3	16	L2	L25
90-91	L5										
91-92	L5										
92-93	L5										
G-76-12											
104-108		27	5	37	L2	L25	3	L3	8	L2	L25
108-112		32	L3	28	"	"	5	L3	10	"	"
112-113	L5										
113-114	n.d.										
114-115	n.d.										
G-76-13											
124-129		39	L3	42	L2	L25	18	L3	26	L2	L25
129-132		200	48	54	"	40,26,40	15	L3	20	"	"
132-133	L5										
133-134	L5										
G-76-14											
136-138		25	L3	87	L2	L25	13	L3	42	L2	L25
138-140		191	L3	91	"	"	40	L3	61	"	"
140-142	L5										
142-144	n.d.										
144-145	L5										
145-146.5	L5										

TABLE IV (cont'd)

Hole No. Footage	Bedrock samples ppb Au	Overburden Samples: Heavy Mineral Fraction Cu	Pb	Zn	As	ppb Au	Silt Fraction Cu	Pb	Zn	As	ppb Au
G-76-15											
130-132		68	5	264	L2	L25	41	L3	102	L2	L25
132-135		167	150	409	"	40,42	40	91	201	"	"
135-137	10										
137-139	5										
139-140	5										
140-141	L5										
G-76-16											
120-122		65	23	98	L2	L25	34	7	50	L2	L25
122-124		135	27	115	"	48,12	57	7	60	"	"
124-126	L5										
126-128	L5										
128-129	n.d.										
129-130	n.d.										
G-76-17											
118-124		56	6	47	L2	L25	12	L3	19	L2	L25
124-127		72	27	39	"	140,110	10	3	21	"	"
127-128	5										
128-129	L5										
129-130	L5										
130-131	L5										
G-76-18											
88- 98		18	3	27	L2	L25	6	L3	12	L2	L25
98-101		103	3	47	"	"	19	L3	22	"	"
101-102	L5										
102-103	n.d.										
103-104	n.d.										
G-76-19											
128-134		28	L3	26	L2	L25	7	L3	13	L2	L25
134-140		40	L3	44	"	40,80	9	L3	15	"	"
140-141	50										
141-143	n.d.										
143-145	35										
G-76-20											
24- 26							38	L3	49	L2	L25
26- 27	L5										
27- 28	L5										

TABLE IV (cont'd)

Hole No. Footage	Bedrock Samples	Overburden Samples									
		Heavy Mineral Fraction					Silt Fraction				
	ppb Au	Cu	Pb	Zn	As	ppb Au	Cu	Pb	Zn	As	ppb Au
G-76-21											
104-110		193	6	49	L2		21	L3	30	L2	L25
110-116		188	241	66	"	108,52,;90	22	59	147	"	266,40
116-118	L5										
118-120	95										
120-123	100										
G-76-22											
115-120		30	3	61	L2	L25	16	4	22	L2	L25
120-128		39	3	63	"	"	5	L3	27	"	760,30
128-129	L5										
129-130	L5										
130-131	5										
G-76-23											
152-157		76	3	61	L2	L25	23	4	40	L2	L25
157-160		144	685	92	"	"	37	75	49	"	"
160-161	5										
161-162	40										
162-163	n.d.										
163-165	n.d.										
G-76-24											
110-115		47	L3	38	L2	L25	20	3	28	L2	L25
115-122		500	50	36	6		91	L3	60	"	"
122-124	L5										
124-127	L5										
127-128	L5										
G-76-25											
120-125		70	L3	70	L2	L25	11	L3	26	L2	L25
125-129		73	L3	90	"	"	6	L3	17	"	"
129-131	n.d.										
131-133	L5										
133-135	n.d.										
G-76-26											
120-125		108	10	52	L2	L25	20	L3	27	"	"
125-130		52	L3	47	"	"	5	L3	18	"	"
130-133	n.d.										
133-135	L5										
135-136	L5										
G-76-27											
90- 95A		28	L3	39	L2	L25	4	L3	17	L2	L25
90- 95B		40	L3	52	"		28	L3	50	"	"
100-102	L5										
102-103	10										

TABLE IV (cont'd)

Hole No. Footage	Bedrock Samples	Overburden Samples									
		Heavy Mineral Fraction					Silt Fraction				
	ppb Au	Cu	Pb	Zn	As	ppb Au	Cu	Pb	Zn	As	ppb Au
G-76-28											
80- 85		49	L3	42	L2	L25	10	L3	19	L2	L25
85- 90		80	L3	58	"	300,450	13	L3	22	"	"
90- 91	L5										
91- 92	10										
92- 93	n.d.										
93- 94	n.d.										
G-76-29											
80- 84		32	L3	44	L2	L25	8	L3	17	L2	L25
84- 89		49	12	37	"	240,400	11	L3	19	"	"
89- 91	10										
91- 93	170										
93- 94	n.d.										
94- 96	5										
96- 97	L5										
G-76-30											
100-105		72	L3	41	L2	180,L25	10	L3	17	L2	L25
105-110		82	10	69	"	L25	20	L3	37	"	"
110-113	L5										
113-114	10										
114-116	L5										
G-76-31											
145-150		52	4	97	L2	L25	9	L3	31	L2	L25
150-154		93	95	117	"	"	21	3	33	"	"
154-157	n.d.										
157-160	L5										
G-76-32											
110-115		62	138	64	L2	L25	24	L3	30	L2	L25
115-120		36	29	120	"	"	25	L3	70	"	"
120-123	n.d.										
123-126	L5										
126-128	5										

TABLE III

BEDROCK GEOCHEMISTRY

	U.M. (flow?)	Basic to Intermediate Volcanics								Dacite							
Hole No.	G-76-11	76-1	76-6	76-9	76-12	76-13	76-18	76-20	76-24	76-29	76-7	76-8	76-10	76-17	76-21	76-22	76-23	76-28
Footage	127-130	105-111	79-81	109-112	112-115	132-134	101-104	26-28	122-127	89-97	74-78	122-124	116-120	160-165	116-123	128-131	160-163	90-94
SiO_2	41.97	56.05	54.10	53.14	58.89	57.07	51.51	52.15	52.07	48.36	63.55	68.10	64.76	69.73	63.26	70.70	62.04	66.06
Al_2O_3	5.29	13.81	14.78	14.52	12.76	12.62	13.02	14.50	14.19	13.14	15.33	16.11	16.01	14.01	16.67	12.52	17.48	15.78
Fe_2O_3	5.98	3.45	2.27	3.25	.73	2.77	5.15	6.06	7.84	5.23	2.05	2.71	1.66	1.16	3.01	2.34	1.69	1.56
FeO	5.16	8.31	4.59	7.60	9.75	2.72	7.81	3.30	2.29	2.29	2.72	1.43	2.72	3.15	2.44	1.86	4.23	3.01
MgO	22.28	4.84	4.64	5.32	3.72	5.19	4.97	7.47	5.76	6.84	3.03	1.52	2.21	2.16	2.90	2.36	2.60	2.97
CaO	9.27	7.92	7.52	8.52	6.98	6.43	9.04	8.30	6.07	9.32	4.88	1.90	2.20	2.40	1.45	3.64	2.04	2.84
Na_2O	.20	2.55	5.03	2.44	2.72	5.45	3.61	3.30	2.40	3.85	5.92	3.37	4.49	3.26	2.02	3.42	2.91	3.26
K_2O	.06	1.45	1.96	1.75	1.42	2.51	1.10	1.35	1.15	2.62	1.30	2.28	2.85	1.66	3.05	1.75	2.73	2.83
MnO	.17	.17	.13	.18	.18	.10	.21	.18	.14	.19	.07	.06	.06	.06	.07	.07	.09	.06
TiO_2	.34	1.14	.67	.95	1.17	.46	1.27	.65	.84	.75	.57	.71	.48	.54	.61	.43	.73	.55
P_2O_5	.03	.10	.45	.09	.12	.24	.13	.06	.06	.39	.09	.08	.07	.03	.12	.07	.09	.10
H_2O+	2.62	1.04	1.39	1.16	1.19	.28	1.33	1.07	3.49	.39	.83	1.58	.71	1.17	2.46	1.07	2.24	1.38
CO_2	6.93	.12	3.31	.26	.47	3.79	.05	.80	4.28	5.98	.78	.25	.28	.36	.18	.58	.53	1.70
S	.06	.05	.20	.08	.12	.58	.11	.13	.20	.28	.48	.01	.21	.09	.01	.08	.14	.28
As_2O_3*	L5	L5	L5	L5	L5	5	L5	5	L5	L5	5	5	L5	L5	60	L5	15	35
Au**	L5	n.d.	L5	L5	L5	L5	L5	L5	L5	37	L5	L5	n.d.	L5	65	L5	11	L5
Total	100.36	101.00	101.04	99.26	100.22	100.21	99.31	99.32	100.78	99.63	101.60	100.11	98.71	99.78	98.25	100.89	99.54	102.38

* ppm

** ppb

BEDROCK GEOCHEMISTRY (cont'd)

	"Basic" Syenite							Syenite						
Hole No.	76-4	76-14	76-15	76-19	76-25	76-27	76-32	76-2	76-3	76-5	76-16	76-26	76-30	76-31
Footage	128-134	140-145	135-141	140-145	129-133	100-103	120-128	92-100	128-132	68-71	124-130	130-136	110-116	154-160
SiO_2	55.01	54.53	55.06	54.72	54.25	52.81	50.19	65.98	68.36	63.07	63.56	58.59	58.04	61.81
Al_2O_3	18.36	13.53	17.14	15.94	17.18	14.82	14.08	14.82	13.72	16.46	18.28	16.29	16.60	17.37
Fe_2O_3	4.07	5.02	3.29	5.09	4.23	3.51	7.81	1.81	1.03	1.95	1.75	3.00	3.20	3.17
FeO	1.43	2.44	3.01	2.72	1.72	3.44	2.44	1.58	1.72	1.43	.57	3.30	2.29	1.15
MgO	1.94	4.27	2.07	2.32	1.93	4.58	3.76	1.31	1.26	1.39	.65	3.30	1.82	1.19
CaO	5.05	7.85	4.16	5.52	5.59	7.51	10.34	3.46	4.05	3.48	2.44	3.22	3.93	2.62
Na_2O	3.42	3.51	5.16	4.95	3.68	2.85	3.12	3.41	3.66	4.43	5.59	1.73	5.04	5.28
K_2O	7.34	5.61	5.78	4.38	6.18	5.64	3.53	4.92	4.14	5.74	5.38	7.54	4.70	4.82
MnO	.13	.15	.16	.17	.15	.14	.26	.06	.06	.09	.05	.10	.13	.07
TiO_2	.77	.86	.90	.84	.86	.85	1.40	.59	.37	.48	.32	.83	.80	.47
P_2O_5	.25	.61	.33	.34	.30	.67	.22	.10	.07	.14	.04	.11	.25	.13
H_2O+	.91	.26	.34	.56	.70	.77	1.44	.36	.63	.33	.34	1.46	.49	.58
CO_2	1.67	1.01	1.93	3.51	3.07	2.52	.27	1.73	.67	1.90	1.93	1.21	1.78	1.35
S	.07	.13	.14	.39	.07	.08	.07	.18	.10	.16	.01	.04	.11	.06
As_2O_3*	5	5	L5	5	5	L5	L	5	5	L5	L5	L5	L5	L5
Au**	L5	L5	5	28	L5	5	L5	L5	n.d.	L5	L5	L5	L5	L5
Total	100.42	99.78	99.47	101.45	99.91	100.19	98.93	100.31	99.84	101.05	100.91	100.72	99.18	100.07

* ppm

** ppb

Ministry of Natural Resources
Ontario

Lands Administratio Branch

42A09SE0244 2.2515 GUIBORD

File
2.2515

900

2.2515

Recorded Holder
Cominco Ltd.

Township or Area
Guibord Township

Type of survey and number of Assessment days credit per claim	OVERBURDEN DRILLING
Geophysical	Location of (32) drill holes:
Electromagnetic _____ days	Mining Claims -
Magnetometer _____ days	L. 475769 - 70
Radiometric _____ days	475777 - 78
Induced polarization _____ days	475780
Section 86 (18) see across days	477214
Geological _____ days	477222 to 34 inclusive
Geochemical _____ days	477238 - 39
Man days ☐ Airborne ☐	477242 - 43
Special provision ☐ Ground ☒	477252 - 55
Notice of Intent to be issued:	477260 - 62
☐ Credits have been reduced because of partial coverage of claims.	477319
☐ Credits have been reduced because of corrections to work dates and figures of applicant.	477322
☐ No credits have been allowed for the following mining claims as they were not sufficiently covered by the survey:	Amount spent on this programme = $34,203.00
_____	Total assessment days credit allowed = 2,280
_____	The above 29 mining claims may be grouped under Section 85(6) of The Mining Act, for the purposes of recording the work credits of 2,280 days.
_____	
_____	

RECEIVED
FEB 5 1982
MINING LANDS SECTION

NOTE:

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical — 80; Geological — 40; Geochemical — 40;
Section 86(18)-60:

Form LA. 101 (10/74)

MUNRO TWP. M. 376

HISLOP TWP. M. 355

MICHAUD TWP. M. 372

COOK TWP. M. 339

Natural Gas Pipe Line

Northern Ontario

GRAVEL RESERVE

10V

Guibord Lake

Little Pike River

Pike River

Wayne Lake

Guibord Hill 476890

RF 143

572

Holtyre Townsite

SECONDARY HWY P-3256-9

P-3256-10

REG. PLAN M-76

VI V IV III II I

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

48° 27' 35"

80° 08' 05"

NOTES

400' surface rights reservation along the shores of all lakes and rivers.

DATE OF ISSUE
SEP - 8 1978
SURVEYS AND MAPPING BRANCH

LEGEND

PATENTED LAND	(P) or ●
PATENTED FOR SURFACE RIGHTS ONLY	◒
LEASE	(L)
LICENSE OF OCCUPATION	L.O.
CROWN LAND SALES	C.S.
LOCATED LAND	Loc.
CANCELLED	C.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
HIGHWAY & ROUTE NO.	(17)
ROADS	
TRAILS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	

*used only with summer resort locations or when space is limited

2.2515

TOWNSHIP OF

GUIBORD

DISTRICT OF
COCHRANE

LARDER LAKE
MINING DIVISION

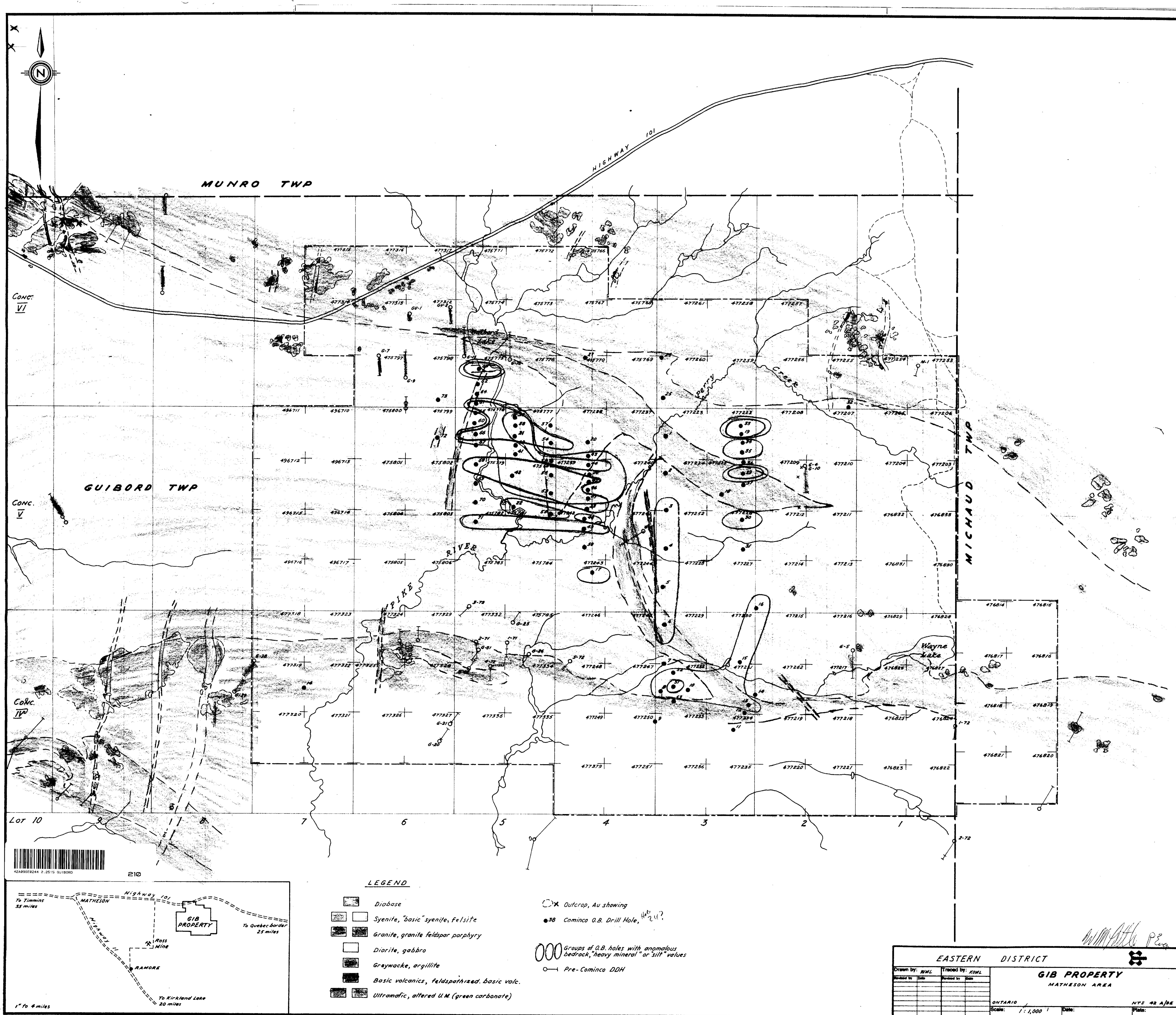
SCALE : 1 INCH 40 CHAINS (1/2 MILE)

DR. JBK	PLAN NO. M. 352
DATE 14 Oct '71	

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

42A09SE0244 2.2515 GUIBORD

200


N
MUNRO TWP
GUIBORD TWP
MICHAUD TWP
HIGHWAY 101
PIKE RIVER
Perry Creek
Wayne Lake
Conc. VI
Conc. V
Conc. IV
Lot 10
9
8
7
6
5
4
3
2
1
42A09SE0244 2.2515 GUIBORD
210
Highway 101
To Timmins 55 miles
MATHESON
GIB PROPERTY
To Quebec border 25 miles
Ross Mine
RAMORE
To Kirkland Lake 20 miles
1" to 4 miles
LEGEND
Diabase
Syenite, "basic" syenite, felsite
Granite, granite feldspar porphyry
Diorite, gabbro
Greywacke, argillite
Basic volcanics, feldspathized. basic volc.
Ultramafic, altered U.M. (green carbonate)
Outcrop, Au showing
Cominco O.B. Drill Hole, Hole 24?
Groups of O.B. holes with anomalous bedrock, "heavy mineral" or "silt" values
Pre-Cominco DDH
EASTERN DISTRICT
Drawn by: WML
Traced by: KOML
Revised by
Date
GIB PROPERTY
MATHESON AREA
ONTARIO
NTS 42 A/9E
Scale: 1" : 1,000'
Date:
Plate:
FORM 210 8000