



42A06SW0095 2.8964 THORNELOE

010 RECEIVED
MAR 17 1986
MINING LANDS SECTION

Geology and Geochemistry

Thorneloe Property

Falconbridge Ltd.

(Comstate Option)

Claim P568445

March, 1986

D.R. Pyke Ph.D.

D.R. Pyke

Thorneloe Property
Falconbridge Ltd.
(Comstate Option)
Claim P568445

General Statement

In October 1985, the overburden was stripped from an outcrop area near the Southwest corner of claim P568445 in Thorneloe Township. This claim forms part of a group of 29 contiguous claims currently being explored by Falconbridge Ltd. under option from Comstate Resources Ltd. The stripping utilized a TD-15 bulldozer and subsequently a backhoe mounted on a muskeg tractor. An air compressor and high pressure water pumps were used to wash the exposed outcrops clean. The outcrops were subsequently mapped in detail (1:250). Continuous chip samples were systematically taken across the stripped areas to thoroughly sample both the quartz vein material and highly altered bedrock.

The stripped area was tied into Line 0 t 00 of a previously cut grid for which the geology and geophysics are on file in the assesement office.

Geology

The geology is shown on Map 1, and consists of an extremely carbonatized and sheared sedimentary succession. Not uncommonly, carbonatization and shearing has combined to destroy many of the primary textures and structures, leaving doubt as to the exact nature of the original sediment. The platy, more fissile units probably represent original siltstones; some

appear to have a fine cherty component and locally graphitic is prominent. Fuchsite is a common constituent of the more intensely carbonatized and coarser grained carbonate portions. "Fragments" were noted throughout many of the units; some of these are undoubtedly true clasts, however, others appear to be broken or boudined layers and lenses, and still others the result of differential carbonatization. Minor pyrite (rarely exceeding 1-2 percent) is sporadically distributed throughout the outcrop area both in some of the quartz veins and sediments.

Foliations are generally in an east-west direction and dip steeply north. Where noted, the axes of small scale folds parallel the foliation direction and have a shallow plunge to the east. Certainly some, but by no means all of the quartz veins, conform to the plunge of these folds, and thus form somewhat flat lying cigar-shaped lenses.

Geochemistry

Chip samples were systematically taken across the exposed outcrop area, in an attempt to sample all the bedrock units and quartz lenses-veins. The sample locations and assay values in ppb gold are shown on Map 2. The assays are also listed in Table 1.

Results and Recommendations

Although only a few of the assays can be considered truly anomalous (the best being 760 ppb) the area is worthy of further evaluation. This is based on the prominent alteration, quartz veining and shearing evident not only within the area

stripped but elsewhere on the property. With this in mind an IP survey has recently been completed, the results of which are currently being evaluated.

W. R. Pyke

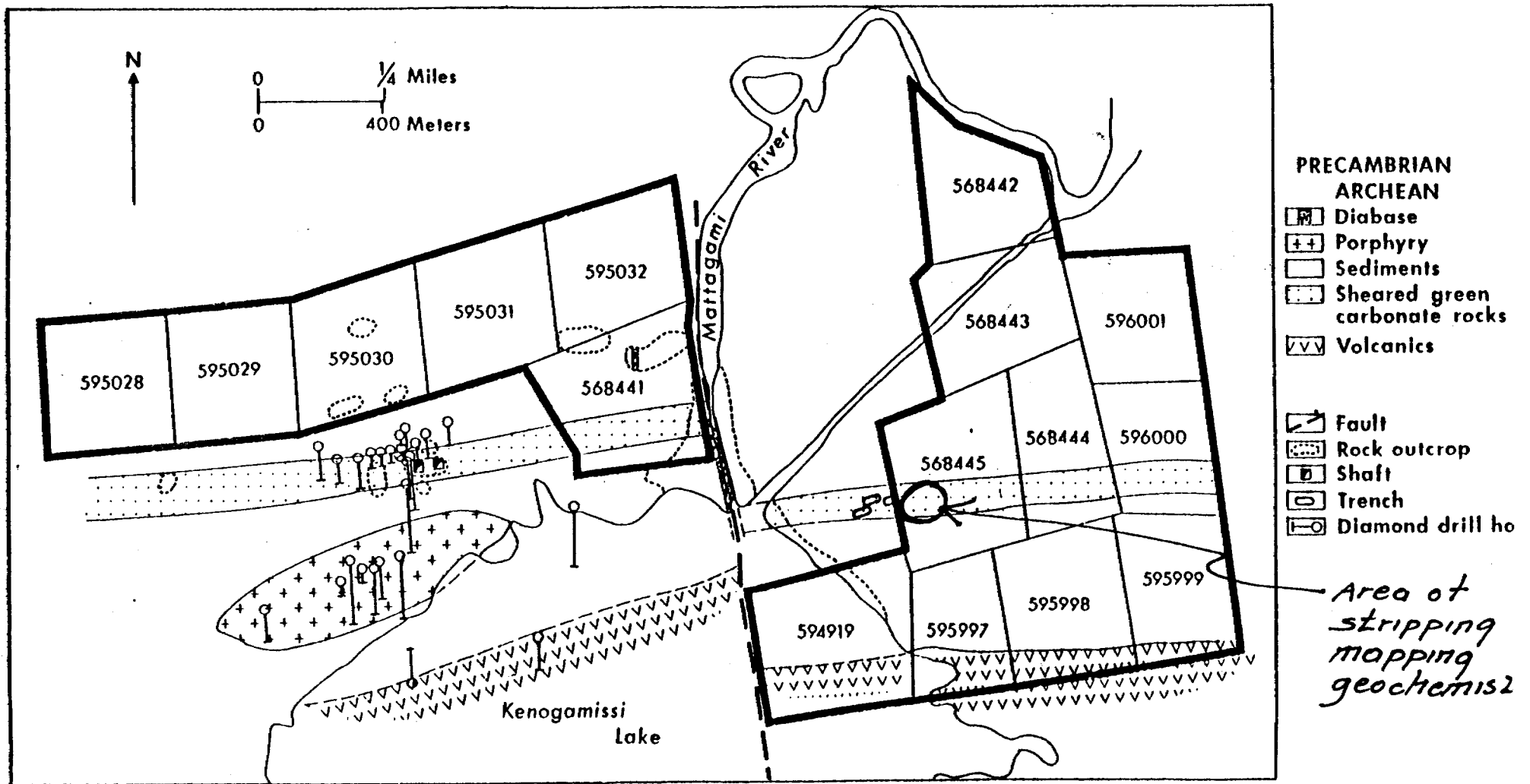


Figure - General geology in vicinity of the Thornloe property.

Assesement Breakdown

Field Work

<u>Name</u>	<u>Type of Work</u>	<u>Date</u>	<u>Days</u>	
D. Pyke	Geological Mapping	Oct 27	1.0	
	" "	Oct 29	0.75	
Scott Halliday	Geological Mapping	Oct 27	1.12	
	" "	Oct 28	1.0	Geological
	Geochemical Sampling	Nov 03	1.0	
	Geochemical Sampling	Nov 04	0.75	
Mark Russell	Geochemical Sampling	Nov 04	0.75	
Barry Manchuk	Geochemical Sampling	Nov 04	0.75	Geochemical

Total Geological days = 3.87
Total Geochemical days = 3.25

Drafting

		<u>Days</u>
Scott Halliday	October 31	1
	Nov. 2	1
	Nov. 9	1
Dale Pyke	Nov. 20	1
		<u>4</u>

Above technical days to be applied to claim P568445

Expenditures

55 samples were assayed by Swastika Laboratories Limited for a total cost of \$618.75. The expenditure credits are to be applied to claims P595997, 595998 and 595999 as per previously submitted report of work.



SWASTIKA LABORATORIES LIMITED

P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0

TELEPHONE: (705) 642-3244

ANALYTICAL CHEMISTS • ASSAYERS • CONSULTANTS

Certificate of Analysis

416.25

TABLE I

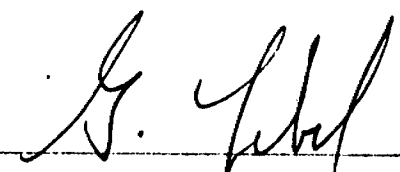
Certificate No. 61619 Date: November 12 1985

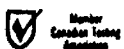
Received Nov. 5/85 37 Samples of ore

Submitted by Falconbridge Ltd., Timmins, Ontario Att'n: Mr. B. Manchuk

Proj. #701-617

SAMPLE NO.	GOLD PPB	SAMPLE NO.	GOLD PPB
8894	70	8984	Nil
8895	60	8985	60
8896	10	8986	10
8897	Nil	8987	Nil
8898	20	8988	Nil
8899	770	8989	110
	750	8990	380
8900	140		380
8971	Nil	8991	Nil
8972	Nil	8992	Nil
8973	Nil	8993	90
8974	Nil	8994	Nil
8975	Nil	8995	Nil
8976	Nil	8996	Nil
8977	Nil	8997	Nil
8978	Nil	8998	230
8979	Nil		530
8980	Nil	8999	30
8981	Nil	9000	10
8982	Nil		
8983	30		

Per 
G. Lebel -- Manager



ESTABLISHED 1928



SWASTIKA LABORATORIES LIMITED

P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0

TELEPHONE: (705) 642-3244

ANALYTICAL CHEMISTS • ASSAYERS • CONSULTANTS

Certificate of Analysis

202.50

TABLE 1 (CONT'D)

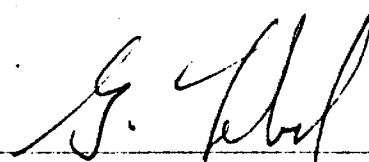
Certificate No. 61646 Date: November 15 1985

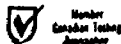
Received Nov. 6/85 18 Samples of ore

Submitted by Falconbridge Ltd., Timmins, Ontario Att'n: Mr. B. Manchuk

Proj. #701-617

SAMPLE NO.	GOLD PPB
6981	10
6982	10 Nil
6983	10
6984	Nil
6985	20
6986	Nil
6987	10
6988	Nil
6989	30
6990	20
6991	20
6992	20
6993	Nil
6994	20 10
6995	Nil
6996	20
6997	10
6998	30

Per 
G. Lebel -- Manager



ESTABLISHED 1928



12275

SWASTIKA LABORATORIES LIMITED

P.O. BOX 10, SWASTIKA, ONTARIO P0K 1T0 TELEPHONE: (705) 642-3244

SOLD TO

Falconbridge Limited
979 rue de Bourgogne
Ste. Foy, Quebec
G1W 2L4

Att'n: Mr. J. Boissonnault

Q
M
I
R
T
O

1.5% late charge over 30 days
(annual rate 18%)

DATE	SHIPPED VIA	TEST REFERENCE NO.	PROV. ANALYST NO.	ANALYST	TERMS	AMOUNT
Nov. 25/85				751 - 617		
QUANTITY	DESCRIPTION				UNIT PRICE	TOTAL
37	Au Assays PPB				\$ 8.50	\$ 314.50
37	Sample handling				2.75	101.75
	Cert. No. 61619 Nov. 12/85					
18	Au Assays PPB				8.50	153.00
10	Sample handling				2.75	49.50
	Cert. No. 61646 Nov. 15/85					
SWASTIKA LABORATORIES LTD. WITH THANKS					Total \$ 518.75	

Jan 3/86

MOORE BUSINESS FORMS 3-1084

PER

FACTURE / INVOICE

ANALYTICAL CHEMISTS • ASSAYERS • CONSULTANTS
ESTABLISHED 1928





42A06SW0095 2.8964 THORNELOE

900

Mining Lands Section

File No 28964

Control Sheet

TYPE OF SURVEY _____ GEOPHYSICAL

_____ GEOLOGICAL

_____ GEOCHEMICAL

_____ EXPENDITURE

MINING LANDS COMMENTS:

<Thorneloe>

L.D.

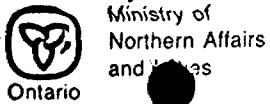
Lgd.

Dennis K.

Signature of Assessor

Mar. 24/86

Date



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

#030/86
28964

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.

mar. 11

Type of Survey(s) **Geochemical (Expenditure)** Township or Area **THORNELOE**

Claim Holder(s) **COMSTATE RESOURCES LTD** Prospector's Licence No. **T-1127**

Address **#403-8199 Yonge St. Thornhill Ont L3T 2G6**

Survey Company **FALCONBRIDGE MINES LTD** Date of Survey (from & to) **14 10 85 15 11 85** Total Miles of line Cut

Name and Address of Author (of Geo-Technical report) **D. R. PYKE 31 DELAIR CRES THORNHILL ONT L3T 2M3**

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	
Man Days Complete reverse side and enter total(s) here	Geological	
	Geochemical	
	Geophysical	
Airborne Credits Note: Special provisions credits do not apply to Airborne Surveys.	- Electromagnetic	
	- Magnetometer	
	- Radiometric	

Mining Claims Traversed (List in numerical sequence)

Prefix	Mining Claim Number	Expend. Days Cr.	Prefix	Mining Claim Number	Expend. Days Cr.
P	595997	15			
	595998	15			
	595999	10.9			
RECEIVED					
FEB 04 1986					
MINING LANDS SECTION					
RECORDED					
JAN 20 1986					

Expenditures (excludes power stripping)

Type of Work Performed **ANALYSES (ASSAYS)** (Sect. 11-17)

Performed on Claim(s) **P568445**

Calculation of Expenditure Days Credits

Total Expenditures **\$ 613.50** ÷ **15** = **40.9** Total Days Credits

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.

Date **JAN 17/86** Recorded Holder or Agent (Signature) **D R Pyke**

For Office Use Only

Total Days Cr. Recorded **40.9** Date Recorded **Jan. 20/86** Mining Registrar **[Signature]**

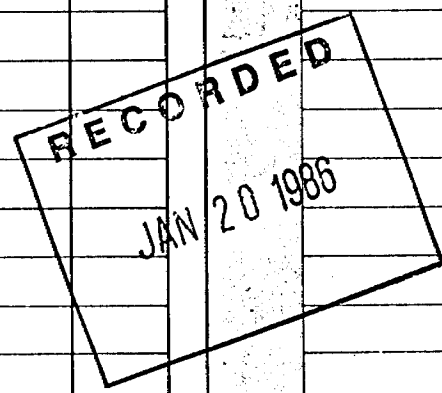
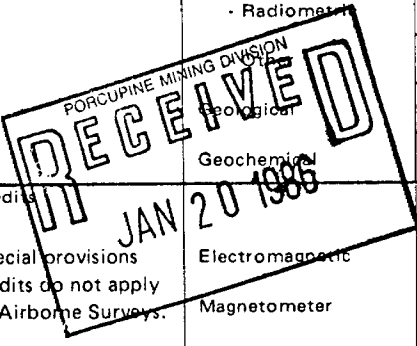
Date Approved as Recorded **Feb. 3. 86** Branch Director **[Signature]**

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 **D. R. PYKE 31 DELAIR CRES THORNHILL ONT L3T 2M3**

Date Certified **JAN 17/86** Certified by (Signature) **D R Pyke**



Total number of mining claims covered by this report of work. **3**

March 13, 1986

Report of Work #30-31

Comstate Resources Ltd
Suite 403
8199 Yonge Street
Thornhill, Ontario
L3T 2C6

Dear Sirs:

RE: Mining Claims P 568445, P 595997 to 99 inclusive
in Thorneloe Township

We have not received the reports and maps (in duplicate)
for Geochemical Survey and Expenditures on the above-mentioned
claims.

As the assessment "Report of Work" was recorded by the
Mining Recorder on January 20, 1986 the 60 day period
allowed by Section 77 of the Mining Act for the submission
of the technical reports and maps to this office will
expire on March 21, 1986.

If the material is not submitted to this office by March 21,
1986 we will have no alternative but to instruct the Mining
Recorder to delete the work credits from the claim record
sheets.

For further information, please contact Mr. Arthur Barr at
(416)965-4888.

Yours sincerely,

J.C. Smith, Supervisor
Mining Lands Section

Whitney Block, 6th Floor
Queen's Park
Toronto, Ontario
M7A 1W3

Telephone: (416) 965-4888

AB/mc
cc: Mining Recorder
Timmins, Ontario

D.R. Pyke
31 Delair Crescent
Thornhill, Ontario
L3T 2M3



GEOPHYSICAL - GEOLOGICAL - GEOCHEMICAL
TECHNICAL DATA STATEMENT

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) Geological-Geochemical & Expenditure

Township or Area Thorneloe

Claim Holder(s) COMSTATE RESOURCES

Survey Company FALCONBRIDGE LTD.

Author of Report D.R. PYKE

Address of Author 31 DELAIR CRES THORNHILL ONT

Covering Dates of Survey OCTOBER/85 FEBRUARY/86
(linecutting to office)

Total Miles of Line Cut _____

MINING CLAIMS TRAVERSED
List numerically

P	568445
(prefix)	(number)
P	595997
P	595998
P	595999

SPECIAL PROVISIONS
CREDITS REQUESTED

DAYS
per claim

Geophysical _____

--Electromagnetic _____

--Magnetometer _____

--Radiometric _____

--Other _____

Geological _____

Geochemical _____

ENTER 40 days (includes
line cutting) for first
survey.

ENTER 20 days for each
additional survey using
same grid.

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: March 17/86 SIGNATURE: D.R. Pyke
Author of Report or Agent

Res. Geol. _____ Qualifications 23899

Previous Surveys

File No.	Type	Date	Claim Holder

TOTAL CLAIMS 4

If space insufficient, attach list

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS - If more than one survey, specify data for each type of survey

Number of Stations _____ Number of Readings _____

Station interval _____ Line spacing _____

Profile scale _____

Contour interval _____

MAGNETIC

Instrument _____

Accuracy - Scale constant _____

Diurnal correction method _____

Base Station check-in interval (hours) _____

Base Station location and value _____

ELECTROMAGNETIC

Instrument _____

Coil configuration _____

Coil separation _____

Accuracy _____

Method: Fixed transmitter Shoot back In line Parallel line

Frequency _____
(specify V.L.F. station)

Parameters measured _____

GRAVITY

Instrument _____

Scale constant _____

Corrections made _____

Base station value and location _____

Elevation accuracy _____

**INDUCED POLARIZATION
RESISTIVITY**

Instrument _____

Method Time Domain Frequency Domain

Parameters - On time _____ Frequency _____

- Off time _____ Range _____

- Delay time _____

- Integration time _____

Power _____

Electrode array _____

Electrode spacing _____

Type of electrode _____

SELF POTENTIAL

Instrument _____ Range _____

Survey Method _____

Corrections made _____

RADIOMETRIC

Instrument _____

Values measured _____

Energy windows (levels) _____

Height of instrument _____ Background Count _____

Size of detector _____

Overburden _____

(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey _____

Instrument _____

Accuracy _____

Parameters measured _____

Additional information (for understanding results) _____

AIRBORNE SURVEYS

Type of survey(s) _____

Instrument(s) _____
(specify for each type of survey)

Accuracy _____
(specify for each type of survey)

Aircraft used _____

Sensor altitude _____

Navigation and flight path recovery method _____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____

GEOCHEMICAL SURVEY - PROCEDURE RECORD

Numbers of claims from which samples taken P568445

Total Number of Samples 55

Type of Sample Rock chip
(Nature of Material)

Average Sample Weight 5 lbs

Method of Collection Sledge hammer, chisel

Soil Horizon Sampled _____

Horizon Development _____

Sample Depth _____

Terrain _____

Drainage Development _____

Estimated Range of Overburden Thickness _____

SAMPLE PREPARATION

(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis _____

General Continuous chip samples over distances of 8-10', were taken using a hammer & chisel.

ANALYTICAL METHODS

Values expressed in: per cent
p. p. m.
p. p. b.

Cu, Pb, Zn, Ni, Co, Ag, Mo, As, (circle)

Others Au

Field Analysis (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Field Laboratory Analysis

No. (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Commercial Laboratory (_____ tests)

Name of Laboratory SWASTIKA LAB.

Extraction Method _____

Analytical Method _____

Reagents Used _____

General Analysed for gold ppb using fire assay - A.A.

MARCH 14/86

LANDS MANAGEMENT BRANCH
MINING LANDS SECTION
Room 6610
Whitney Block
QUEENS PARK
TORONTO M7A 1W3

RECEIVED
MAR 17 1986
MINING LANDS SECTION

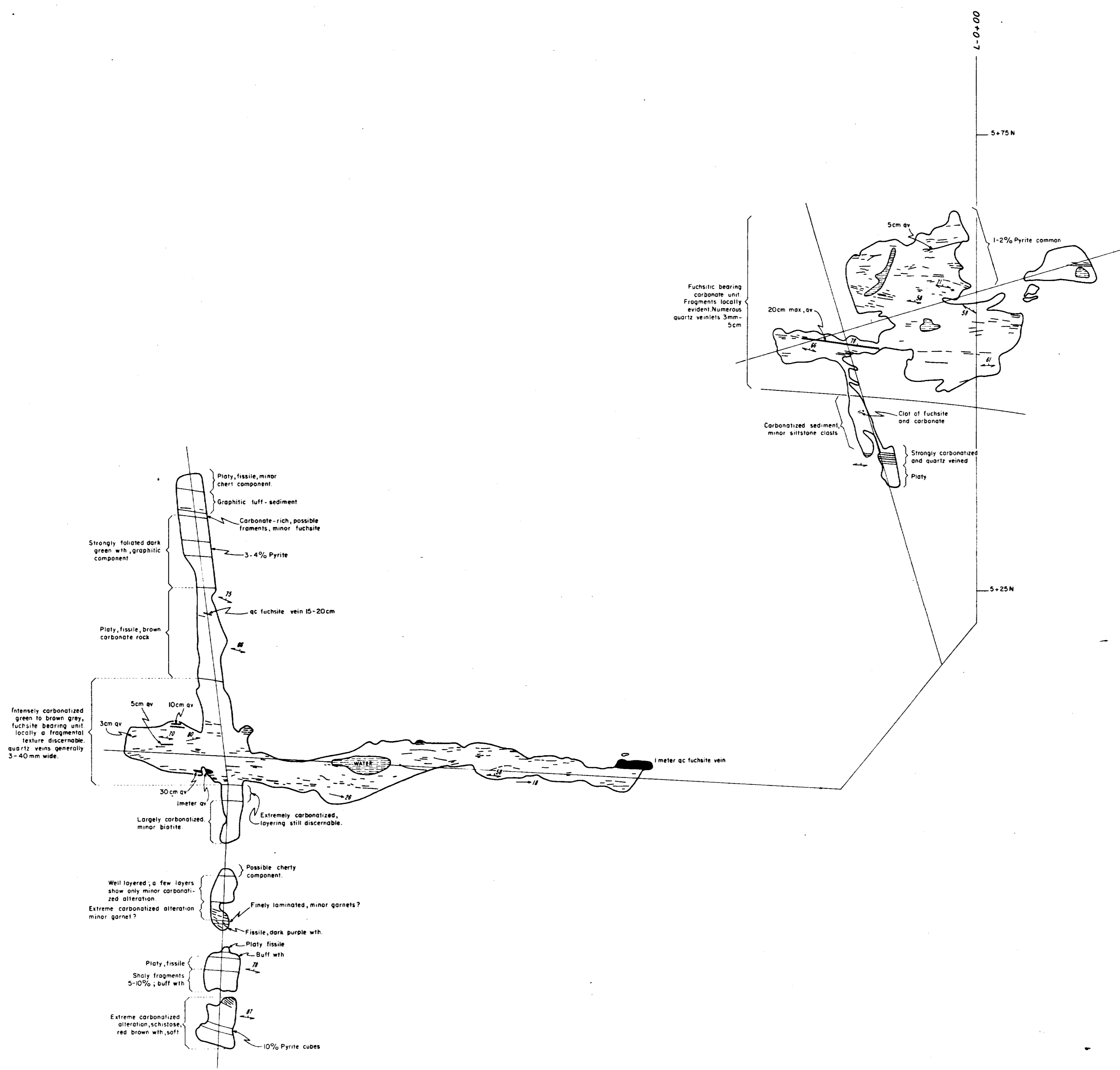
RE: MINING CLAIMS P568445, 595997, 595998
595999 IN THORNELOE TOWNSHIP

Enclosed is a report and maps in duplicate
for geological and geochemical work conducted
on claim P568445 in Thorneloe Township

Sincerely
D.R. Pyke.



Largely or wholly a sedimentary succession entire sequence is highly sheared and carbonized



— LEGEND —

- 6 DIABASE
- 5 QUARTZ-FELDSPAR PORPHYRY
- 4 SANDSTONE (TUFF?)
 - 4a - Graphitic interbeds
- 3 INTERBEDDED SILTSTONE, GRAPHITIC ARGILLITE, MINOR SANDSTONE
 - 3a - Conglomeratic
- 2 MARIPOSITE-BEARING CARBONATE ZONE
 - 2a - Well preserved fragment / 2b - Strongly silicified, mariposite bearing
- 1 FELSIC TUFF: INTERBEDDED GRAPHITIC, CHERT/SILTSTONE
 - 1 - Graphitic chert and siltstone / 1a - schistose felsic tuff
- IF IRON FORMATION
- OUTCROP OUTLINE
- FOLIATION
- LINEATION
- FRACTURE CLEAVAGE
- QUARTZ VEINS (av) and QUARTZ CARBONATE VEINS (acv)

2.8964

FALCONBRIDGE LTD/LTÉE

PN-617
THORNELOE PROPERTY
 COMSTATE OPTION
 (THORNELOE TWP. ONT.)
 STRIPPED AREA
GEOLOGY

SCALE: 1/250

CARTOGRAPHED BY: _____ DATE: _____

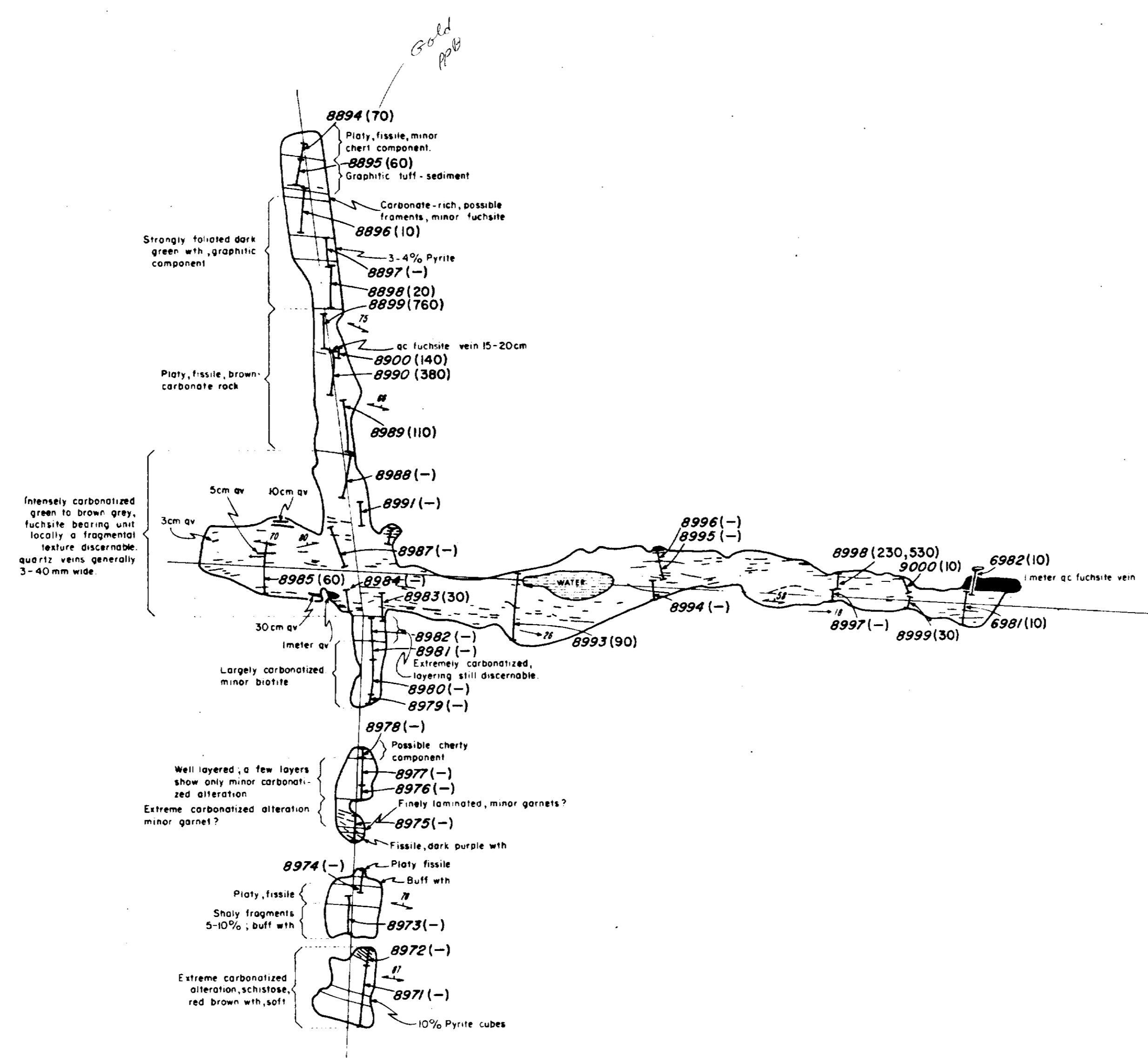
LOCATION: L-0-00 5-25N CLAIM: P508445

DRAWN BY: GÉOIS DATE: FEBRUARY, 86

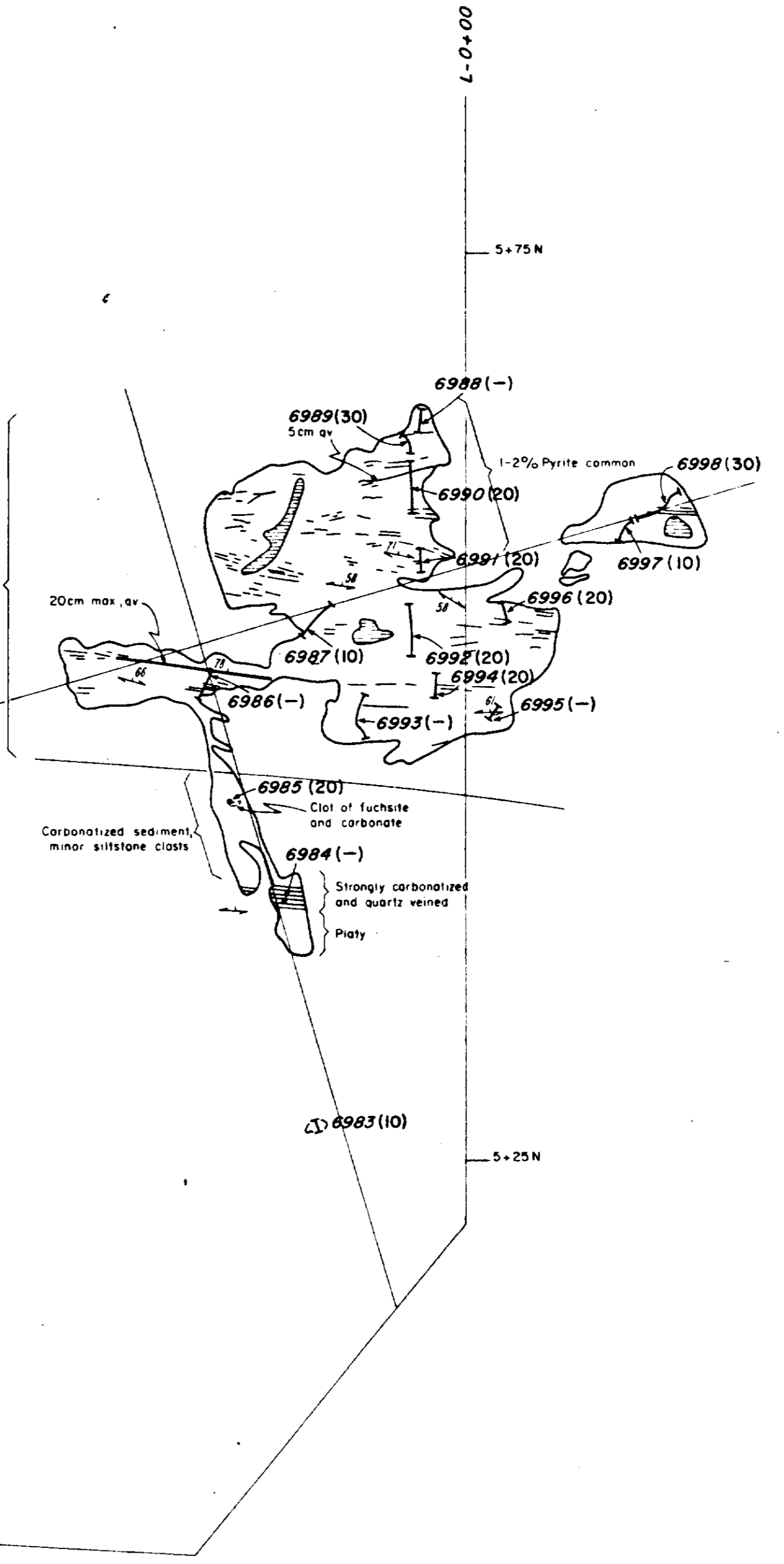




Largely or wholly a
sedimentary succession
entire sequence is
highly sheared and
carbonatized



Fuchsite bearing carbonate unit
Fragments locally evident
Numerous quartz veinlets 3mm-5cm



— LEGEND —

- 6 DIABASE
- 5 QUARTZ-FELDSPAR PORPHYRY
- 4 SANDSTONE (TUFF?)
- 4a Graphitic interbeds
- INTERBEDDED SILTSTONE, GRAPHIC ARGILLITE, MINOR SANDSTONE
- 3a Conglomeratic
- 2 MARIPOSITE BEARING CARBONATE ZONE
- 2a - Well preserved fragment / 2b - Strongly silicified, mariposite bearing
- 1 FELSIC TUFF, INTERBEDDED GRAPHIC CHERT/SILTSTONE
- 1a - Graphitic chert and siltstone / 1a - schistose felsic tuff

IF IRON FORMATION

- OUTCROP OUTLINE
- FOLIATION
- LINEATION
- FRACTURE CLEAVAGE
- QUARTZ VEINS (a) and QUARTZ CARBONATE VEINS (acc)

28964

A. G. L.

FALCONBRIDGE LTD/LTÉE

PN-617
THORNELOE PROPERTY
 COMSTATE OPTION
 (THORNELOE TWP. ONT.)
 STRIPPED AREA
ROCK GEOCHEMISTRY

SCALE: 1/250

CARTOGRAPHED BY: DATE: CLAIM: P560425

LOCATION: L-0-00 5+25N DATE: FEBRUARY 84

DRAWN BY: GÉOLOGES