REPORT ON
THE FERGUSON BASE METAL OPTION
CAIRO TOWNSHIP
MONTREAL RIVER MINING DIVISION
PROVINCE OF ONTARIO.

by

M. Ferguson

and

F. J. Evelegh

- Exploration Department -
Canadian Johns-Manville Co. Ltd.

May 21st, 1957,
Matheson, Ontario.

63 855

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REPORT ON THE FERGUSON BASE METAL OPTION, CAIRO TOWNSHIP, (Matachewan Area) MONTREAL RIVER MINING DIVISION, PROVINCE OF ONTARIO.

CONCLUSIONS AND RECOMMENDATIONS:

1. The two main showings consist of galena and chalcopyrite mineralization in narrow quartz veins. Associated with the galena was a high percentage of silver. Gold assays were also shown. Assay results were most favourable, from grab samples and chip samples taken over a six feet section.

2. Mineralization occurred in white quartz; highly rusted and closely associated with orthoclase pegmatite dikes of a later age. These intrusions were few in number and most of syenite or host rock was completely absent from quartz or dike rock.

3. Upon completion of the line cutting, magnetometer and electromagnetic surveys were conducted on the claims group. Results of these surveys indicated that no important anomalies occurred in the map area.

4. Due to the amount of work done on the property and evidence concluded further work is definitely not warranted.

INTRODUCTION:

An examination of two trenches bearing chalcopyrite and galena were made of the property by F. W. Kaltwasser on October, 1956. He selected several grab samples, and took chip samples from the number one trench on line 4+00N - 250 feet west of the base line and the number two trench on line 2+00S, 2000 feet north of baseline. The samples assayed highly in lead, copper, silver and some gold. Samples by R. Ferguson had been assayed previously for gold, silver, lead and copper. Assay results were most favourable. On the strength of these assays, an option agreement was drawn up for the six unpatented claims, numbering MR-23627 - 32 included, recorded in the name of R. Ferguson.

An electromagnetic survey was carried out by John Black, and a magnetic survey by A. Oakes in conjunction with the above. The property was geologically mapped by the writer in May, 1957 along lines 200 feet apart.

LOCATION:

This property is located in Cairo Township, approximately 3 miles from the town of Matachewan, one and one-half miles off the main highway to Kirkland Lake, on the road running north to the Indian Reserve.

GEOLOGY:

Geological mapping was conducted along picket lines cut at 200 foot intervals. The rock consists mainly of syenite and syenite porphyry. Small percentages of quartz appear in some of the syenite. Quartz veins strike northwest and contain sulphide mineralization. Minor tension fracture containing quartz, show no mineralization.

Narrow beds of basic rock intrude the syenite forming the valley beds. The main basic intrusive is altered gabbro. The syenite was later intruded by pegmatite and orthoclase dikes. These intrusions seem to be closely associated with the mineralized quartz veins.

Galena appears in cubic form associated with blebs of chalcopyrite. The syenite was well fractured and in places is engulfed in the quartz. The two main showings are located as follows: - number one trench on line 4+00N, 250 feet west of the main base line. This is by far the richer showing of the two. The second one lies on line 2+00S, 2,000 feet west of the base line. Traces of galena were found elsewhere in quartz veins, but these were few in number. The number one trench was about twenty feet long and six feet wide and is cut diagonally by a quartz vein which is highly rusted. Number two trench lies along a scarp face. Chalcopyrite and galena are both present. The quartz veins have branch-like arms and are closely associated with dikes of pegmatite and orthoclase feldspar. Mineral occurrence here is less than

that of the number one trench. Electromagnetic mapping showed no evidence of mineralisation in these zones.

The syenite contacting the basic intrusive, was not too pronounced as the valleys contained heavy overburden. Some higher readings were obtained with the electromagnetic survey close to these contacts.

A geological map, on a scale of one inch equals 100 feet is included with this report.

TOPOGRAPHIC FEATURES:

The region is made up of a series of low hills that build up in altitude to the east. Several small valley systems cut the rock formations diagonally. The valleys seem to be underlain by basic intrusives in many cases. The area is covered by second growth white birch and popular. Small swamps lie in the valleys, along with poorly drained stream beds. The higher ground is underlain by syenite and syenite porphyry.

Reference: 1. Vol. XXIX, Part III, Ontario Bureau of Mines 1920, Matachewan Gold Area by A. G. Burrows.

2. Map 44-A, Matachewan Gold Area.

3. Preliminary Report by F. W. Kaltwasser of the same area.

Option Agreements: The following option agreements were made on November 30th, 1956, for one year;

$100.00 cash down payment - paid

$400.00 at the end of six months - not paid as option dropped

$1000.00 total per claim.

Assay Results: - R. Ferguson - Grab Samples.

Sample #1	Gold	Silver	Copper	Lead
	0.70	77.12	1.51	75.20
Sample #2	1.05		2.44	14.43

- F. W. Kaltwasser - Chip samples - No. 1 trench

	1.75	10.09	2.25	11.08

- F. W. Kaltwasser - Chip samples - No. 2 trench.

Gold	Silver	Copper	Lead
0.70	2.27	0.16	2.36

M. Ferguson.

M. Ferguson

DETAILED ASSESSMENT REPORT
CANADIAN JOHNS-MANVILLE CO. LTD. OPTION
FERGUSON GROUP - CAIRO TOWNSHIP
MATACHEWAN AREA, PROVINCE OF ONTARIO.

Line Cutting and Chaining:

This work was contracted to Jean Alix Company Limited, Val d'Or, Quebec, and the following men can be contacted at that address:-

R. Morand	- foreman -	Feb. 1-11/57 -	10 x 4 -	40 man days
P. Robbilard	- line cutter -	Feb. 1-11/57 -	10 x 4 -	40 man days
A. Deschenes	- line cutter -	Feb. 1-11/57 -	10 x 4 -	40 man days
			Total	120 man days

120 man days equivalent to 20 man days per claim are hereby applied for assessment purposes.

A base line, striking N40°W, was started from a point in the central part of claim M-23630 and extended northwest for a length of 2,200 feet. This base line cut 400 feet southeast and then offset to the south for a distance of 1,400 feet. The base line offset was cut southeast for a length of 800 feet. Picket lines, spaced at 200 foot intervals, were turned off at right angles to the Base Line and base line offset. Pickets with numbered locations were established at 100 foot intervals along these offset lines. During the course of this work a total of 9.0 miles of line was cut and chained.

Magnetometer Survey:

This work was conducted by A. Oakes with the assistance of G. Cobby as shown below:-

A. Oakes	- operator - Matheson, Ont	Mar 1-6/57-	5 x 4 -	20 man days
G. Cobby	- assistant - Matachewan, Ont	Mar 1-6/57-	5 x 4 -	20 man days

Calculations, draughting, report, interpretation:

J. Yates	- Matheson, Ont - April 1-3/57	- 2 x 4	-	8 man days
M. Evelegh	- Matheson, Ont - April 1-3/57	- 1 x 4	-	4 man days

F. J. Evelegh - Matheson, Ont - April 1-3/57 1 x 4 - 4 man days

Total ..... 56 man days

This work was carried out using a Sharpe's D-I-H type magnetometer. This instrument has been calibrated in such a manner that readings approximate those obtained when using a Watts Type Vertical Variometer. This instrument was checked on the Government Magnetic Base Station at Matheson and a gamma value of 1220 was found to correspond with an absolute value of 57,599$\frac{4}{}$15 gammas.

One base control station was established on line 4+00N at the base line and has a fixed value of 1885 gammas. Readings were recorded on this station four times per day as a check on the working condition of the instrument and the daily diurnal variation.

The results of this survey are shown on the accompanying Geo-Magnetic Contour Plan on a scale of one inch equals 200 feet.

The trend of the formations is shown to be approximately north-south and the magnetic intensity over the underlying syenite and syenite porphyry varies from 1,400 to over 2,000 gammas. Two weak anomalies, shown on the accompanying plan, indicate the presence of basic intrusives - a peak of over 2,600 was obtained at the south end of line 2+00N. No change was observed in the magnetic readings over the two showings.

Geological Survey:

This mapping was conducted by M. Ferguson, as shown below:-

M. Ferguson - geologist - Matheson, Ont - 4 x 4 - May 6-10/57 - 16 man days

J. Black - assistant - " " - 4 x 4 - " " - 16 man days

G. Cobby - assistant - " " - 4 x 4 - " " - 16 man days

F. J. Evelegh -Geologist- " " - 1 x 4 - " " - 4 man days

Draughting, Interpretation, Report:

M. Ferguson - Matheson, Ont - May 19th-21st/57 - 2 x 4 - 8 man days

J. Yates - Matheson, Ont - " " - 2 x 4 - 8 man days

Total ..... 68 man days

Geological mapping was carried out from the offset picket lines and base lines and rock outcrops were tied in using the chain and compass method.

Electromagnetic Survey:

This work was conducted by John Black with the assistance of R. Todd, as shown below:-

J. Black - operator - Matheson, Ont - March 1-5/57 - 4 x 4 - 16 man days

R. Todd - assistant- Matheson, Ont - March 1-5/57 - 4 x 4 - 16 man days

Draughting, Report:-

J. Yates - Matheson, Ont - April 1-3/57 - 1 x 4 - 4 man days

F. J. Evelegh, Matheson,Ont- April 1-3/57 - 1 x 4 - 4 man days

Total ..... 40 man days

Electromagnetic readings were recorded using the Ronka - Horizontal Loop Type of equipment. This unit had been zeroed over the ultrabasic sill at the Barton Creek Mine of Canadian Johns-Manville Co. Limited in Beatty Township. No significant results were obtained during the course of this survey. A weak zone indicated along the base line between lines 8+00N and 18+00N is believed to be caused by the rugged topography.

The results of this survey are shown on the accompanying Electromagnetic Profile Plan on a scale of one inch equals 200 feet.

Total assessment requirements for six claims for one year -

6 x 40 = 240 man days.

Applied:

Line cutting and geological survey - 120 + 68 = 188 man days

equivalent to 31.3 man days per claim

Geophysical surveys - magnetometer and electromagnetic types -

56 + 40 = 96 man days

equivalent to 16.0 man days per claim

Total assessment work to be applied -

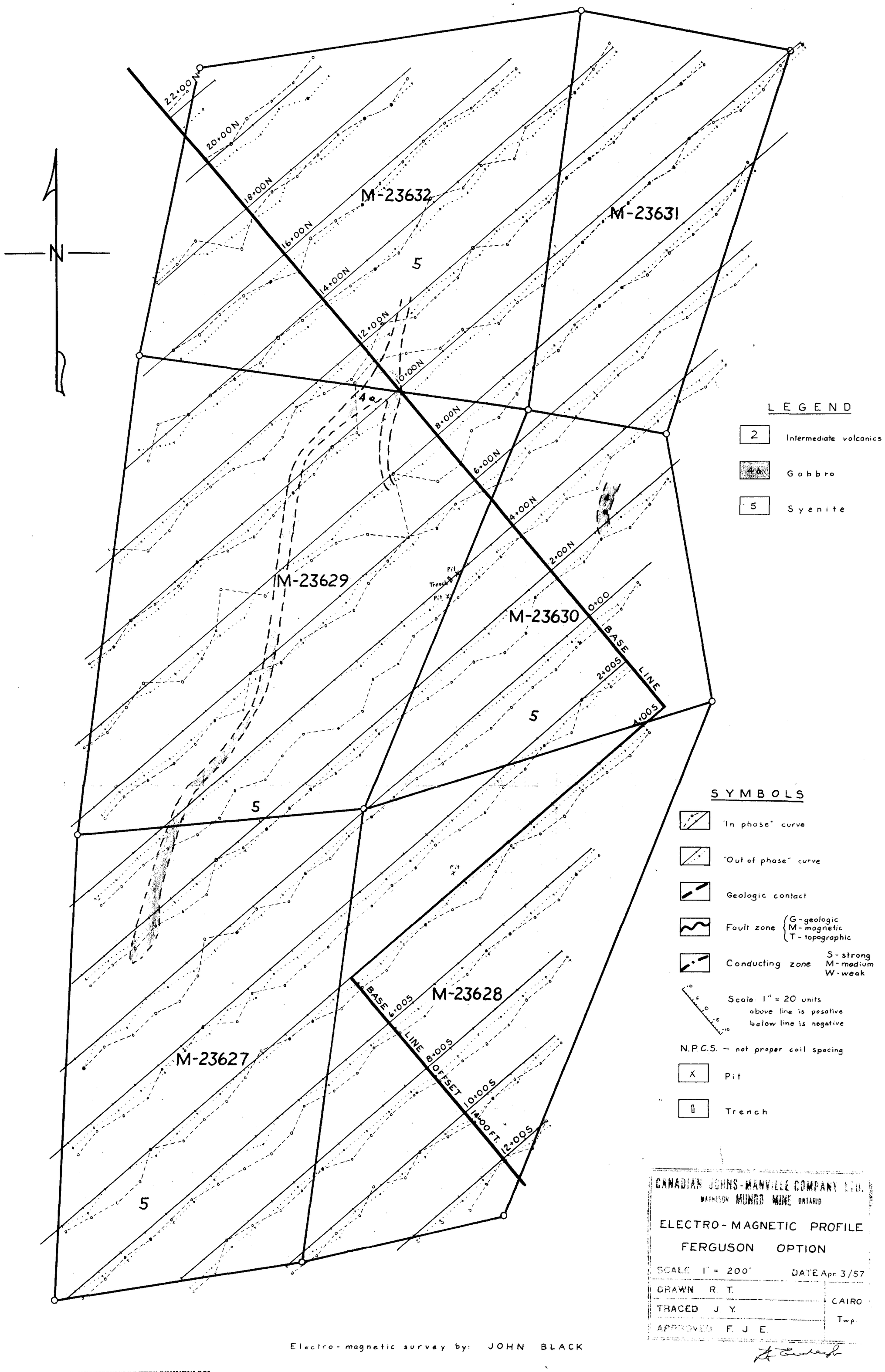
47.3 man days per claim.

The following six claims comprise the group:-

M-23627-28-29-30-31-32.

F. J. Evelegh,
Sr. Geologist.

M-23632
M-23631
M-23629
M-23630
M-23628
M-23627
22+00N
20+00N
18+00N
16+00N
14+00N
12+00N
10+00N
8+00N
6+00N
4+00N
2+00N
0+00
BASE LINE
2+00S
4+00S
BASE LINE OFFSET 1400 Ft.
6+00S
8+00S
10+00S
12+00S
Poplar and Birch
Flat land
assorted boulders
quartz veins
coarse grained
quartz veins
quartz stringers
trace galena
ridge 5' high
med. grain
Red syenite
fine gr.
4a fine gr.
scattered outcrops
medium grained
barren qtz.
Ridge 20' high
Pit
Trench
Pit
qtz veins
Ridge 15' high
coarse syenite 10% qtz.
med grained
4a fine gr.
Coarse grained
Trench
no outcrop
White Birch
chalcopyrite, galena in white quartz veins associated with pegmatite
heavier overburden
Syenite Boulders
Birch growth
rolling country
Trench
Large Gabbro Boulder
Ravine
dry stream bed boulders containing chalcopyrite & galena
Geology by: M. FERGUSON.
N
Cochrane
Porquis
Matheson
Timmins
Foleyet
MAP AREA
Kirkland L.
Larder L.
Gladwick
Swastika
Englehart
Gogama
Ramsay
Westree
Cobalt
LOCATION SKETCH
Scale: 1" = 50 miles
LEGEND
Basic intrusives - gabbro
5 Syenite & associated intrusives
SYMBOLS
Outcrop
High ground
Swamp
Pit
Trench
Bush road
Creek
Geologic contact
GEOLOGIC and TOPOGRAPHIC PLAN
FERGUSON OPTION
1" = 100'
May 21/57
J. Y.
Cairo Twp.
F. J. E.
M. Ferguson
41P15NE8367 63.855 CAIRO
200



CANADIAN JOHNS-MANVILLE COMPANY LTD.
MATHESON MUNRO MINE ONTARIO

ELECTRO-MAGNETIC PROFILE

FERGUSON OPTION

SCALE 1" = 200' DATE Apr. 3/57

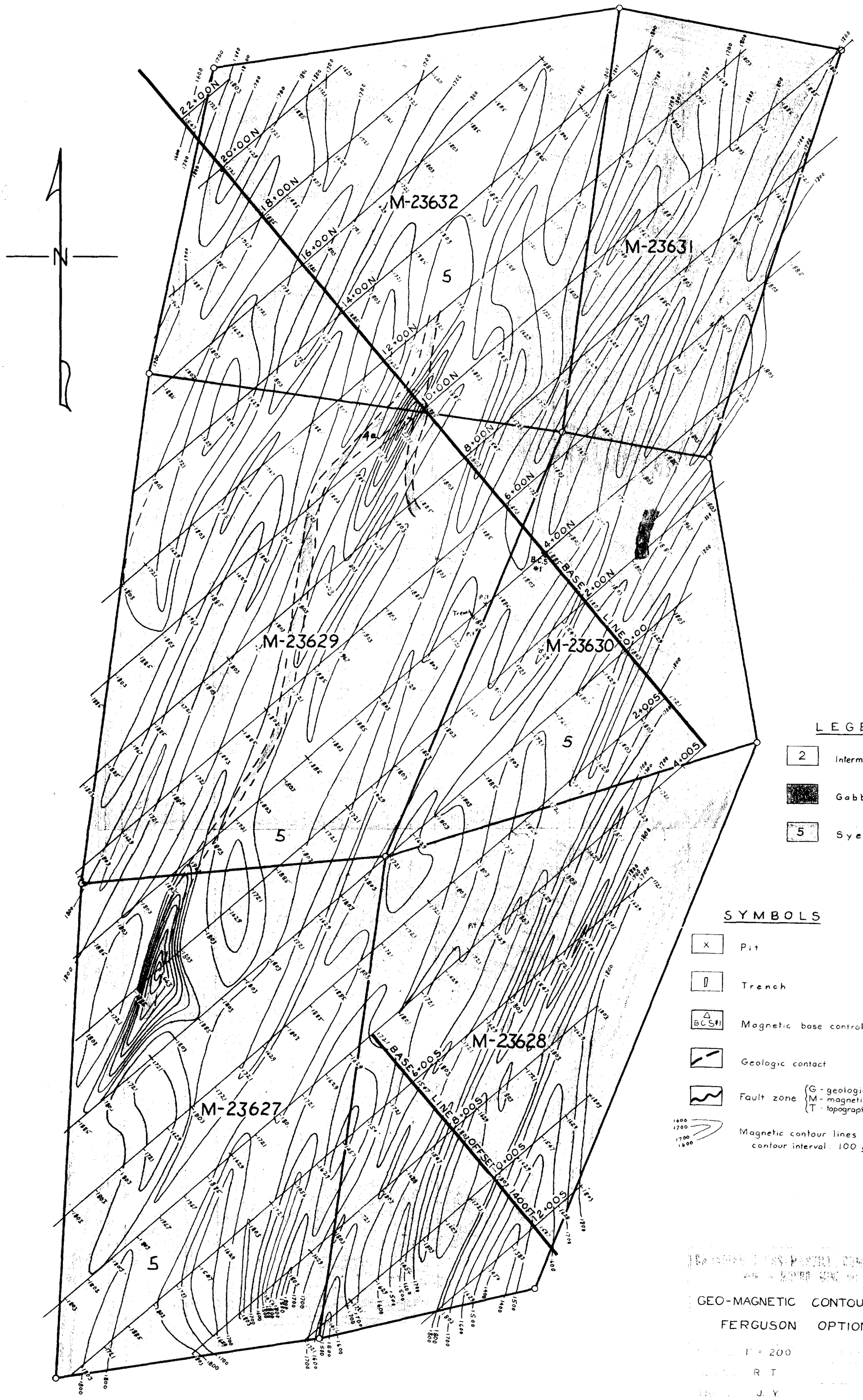
DRAWN R. T.

TRACED J. Y.

APPROVED F. J. E.

CAIRO Twp.

Electro-magnetic survey by: JOHN BLACK



LEGEND

- 2 — Intermediate volcanics
- Gabbro
- 5 — Syenite

SYMBOLS

- X — Pit
- Trench
- △ BCS #1 — Magnetic base control station
- Geologic contact
- Fault zone { G - geologic, M - magnetic, T - topographic }
- Magnetic contour lines, contour interval: 100 gammas

GEO-MAGNETIC CONTOUR PLAN
FERGUSON OPTION

1" = 200' — Apr 3/57

R T

J. Y

F. J. E

CAIRO Twp

Magnetometer survey by A. OAKES