

REPORT ON



42A03NW0018 63.1605 MCARTHUR

010

MAGNETIC AND ELECTROMAGNETIC SURVEYS

ON McARTHUR TOWNSHIP CLAIMS

PREPARED FOR

CONSOLIDATED CANORAMA EXPLORATIONS LIMITED

Consolidated Canorama Explorations Limited holds a group of 18 contiguous unleased claims, P80075 to P80092 inclusive, situated in the easterly part of McArthur Township, about 20 miles south of Timmins, Ontario. Access is via a gravel logging road which passes about three miles to the west of the group, or by aircraft to McArthur Lake, in the easterly part of the group.

During the winter of 1964-65 magnetic and electromagnetic surveys were carried out under the writer's supervision. The following is a resume of observations.

GENERAL GEOLOGY

Published geological information is sparse. The claims are in a "greenstone" area of acid to basic volcanics with minor sedimentary iron formation, all cut by a series of basic to ultrabasic intrusives.

A gold occurrence is known in volcanics just south of the claim group, while substantial nickel deposits with some associated copper are known in the ultrabasics at the Texmont mine about two miles to the south, and at the McWatters property about fourteen miles to the northeast. The principal purpose of the current exploration program is to search for similar base metal occurrences.

WORK DONE

An east-west base line was cut from which north-south picket lines were run at 300 foot interval. Lines were chained and stations

established at 100 foot interval on all lines. Tie lines were cut and chained along the north and south boundaries. A total 27 miles of lines were cut and 1251 stations established.

A magnetometer survey was carried out over this grid using a Sharpe M.F.I. fluxgate magnetometer with 20 gamma per scale division accuracy. Readings were taken at all stations with additional detailing where indicated. Results were corrected for diurnal variation, plotted and contoured on an accompanying 200 foot to the inch plan.

An electromagnetic survey was carried out over the same line grid, using a Sharpe S.E. 250 vertical coil unit. The parallel line method was used, with 300 foot coil separation and transmitter to the west at all times. In certain cases where considered necessary "square searches" and detailing of certain conductors was done. Results are plotted on an accompanying 200 foot to the inch plan.

MAGNETOMETER SURVEY

The property adjoining to the northwest was also surveyed at the same time. With the larger area covered certain trends and features, not particularly prominent in the Canormas claims alone, stand out much more clearly.

Magnetic relief is quite pronounced and variable, extending over a 13,000 gamma range. A narrow linear magnetic high extends in a N70W direction completely across the north part of the property. This is considered to represent either an iron formation band or a narrow basic dike. Granites are known a short distance north, hence the broad low north of the iron formation is believed to represent granites.

In the southeast part of the group, and within and northwest of McArthur Lake are three broad irregular highs interpreted as

representing basic and/or ultrabasic intrusives, cutting volcanics. A row of lows cutting the southeasterly basic intrusive area is also a pronounced topographic ridge, and is believed to represent a more acid dike.

The overall magnetic pattern is a remarkably angular linear one strongly suggesting that the location of the basic intrusives is controlled by northwest - and northeast-striking faults or fractures. The more pronounced of these linear features are interpreted as faults, and there is evidence of displacement where these cross the iron formation or basic dike.

There are also some indication of conductivity along these postulated faults.

ELECTROMAGNETIC RESULTS

There are a very large number of "cross-overs" on the claim group, most of which are a few degrees only. Since the terrain is quite rugged some may be topographic effects only, though all those checked by detailed work proved to be definite conductors.

None of the conductors can be classed as intense; five, however are quite positive conductors, and there are a great many of a more indefinite nature. Of the five positive zones of conductivity three are at contacts of the basic intrusives and situated on magnetic linears interpreted as faults - i.e. in quite favorable locations geologically. One of these faults, intermittently conductive along its length, has been traced for a total length of 6600 feet, 4800 feet of which is within the Canorama claims. One of the other stronger conductors is situated on a postulated fault within a large basic intrusive,

while the fifth is within the same intrusive but not related to any recognizable structural feature.


Of the less definite conductors the most interesting are two, 900 and 600 feet long respectively, situated in McArthur Lake at or close to the north contact of the most southerly of the basic intensive masses.

CONCLUSIONS AND RECOMMENDATIONS

The surveys have outlined rock-types and structures in which base metal deposits may occur, and conductive features which could represent ore. Diamond drilling is considered warranted.

A great many possible drilling targets are outlined. To further assess these and to be more selective in drilling, some further check on these anomalous features is required. It is recommended that induced polarization surveys be carried out over the main conductive zones and that the property be mapped geologically. Cost of mapping is estimated at \$2,000.00 and I.P. work at about \$2,500.00.

Respectfully submitted,



I. G. Phelan, B.A.Sc., P.Eng.
Consulting Geologist

TORONTO, Ontario
14 May, 1965



A GEOLOGICAL SURVEY OF
THE McARTHUR TOWNSHIP PROPERTY
OF
CONSOLIDATED CANORAMA EXPLORATIONS LIMITED

63.1605

Consolidated Canorama Explorations Limited holds a group of claims in McArthur Township, Timmins area. During the summer of 1965 geological mapping and diamond drilling were carried out under the writer's supervision. The following is a resume of observations.

PROPERTY

The property consists of 18 contiguous unpatented claims situated in the east-central part of McArthur Township, about 20 miles south of Timmins, Ontario. Claim numbers are P80075 to 80092 inclusive. Access is via a gravel logging road which passes about three miles west of the group, or by aircraft to McArthur Lake in the southeast part of the group.

WORK DONE

A 300 foot line grid had been cut over the group during the course of geophysical surveys the previous winter. Geology was mapped by pace and compass methods under the writer's supervision with traverses made on all grid lines, and in intervening areas where required. Results and interpretations are plotted on the accompanying plan at a scale of one inch to two hundred feet.

The property was mapped at the same time as the adjoining ground to the north. Certain features not particularly obvious on the Canorama ground become more apparent when the area as a whole is examined.

The various surveys were followed by a diamond drilling program currently in progress.

GENERAL GEOLOGY

The table of formations is as follows:

KEWEENAWAN	Diabase - dikes and irregular masses.
ALGOMAN	Granite - batholithic masses, and feldspar porphyry dikes.
HAILEYBURIAN	Diorite Gabbro - feldspar porphyry and anorthosite in part. Ultrabasic Complex - Peridotite with pyroxene amphibolite and feldspar-rich variants.
KEEWATIN	Volcanics - dacite, andesite, basalt, tuffs and altered equivalents.

Diabase, granite, and gabbro all intrude the ultrabasics which in turn intrude the volcanics. The relative ages of the first three could not be established. The eras assigned are those conventional in the area.

VOLCANICS

Volcanics are confined to a narrow strip in the northeast part of the group, plus a few inclusions. All have undergone some considerable degree of alteration and are converted in large part to amphibolites and chloritic schists. Well-bedded tuffs are the most prominent volcanics, with altered and schistose equivalents of what appeared to be basaltic andesitic and dacitic flows in lesser quantities. Outcrop areas are too limited to trace specific horizons for any distance.

ULTRABASICS

Peridotite and various related rocks underlie the great bulk of the claim group. The typical ultrabasic is a dense black uniformly fine-grained featureless rock with olivine the only mineral recognizable in hand specimen.

Fine (1/8" - 1/4") asbestos stringers are common, and there are fairly extensive areas of green dunite and of serpentinization. Talc-chlorite-magnesite-carbonate schists are widespread, as observed in drill core, though these extremely soft rocks very seldom outcrop.

Two textural phenomena were widespread, locally termed "bun" and "chicken track" peridotite. The bun peridotite resembles a pillow lava in that it appears to be made up of 3 inch to 9 inch rounded or ellipsoidal buns. These are particularly prominent on weathered surfaces though also recognized at considerable depth in drill core and it is quite possible to pick whole "buns" out of an outcrop. The interior of the buns is typical fine-grained peridotite; no mineralogical variation could be recognized across interface between buns, other than development of some serpentine and a little carbonate. It is suggested that this texture is the result of movement after partial consolidation of the intrusive.

Bun peridotite is very extensive and will make up large outcrop areas. "Chicken track" on the other hand is a very local alteration feature and appears to be linear or tabular in distribution - i.e. distributed for one or a few feet on either side of a fracture, shear plane, contact, etc. - with the chicken track texture resulting from the development of platy or bladed pyroxenes and amphiboles with a random orientation. Other variations in the peridotite are areas of pyroxene-rich rock, and some coarser-grained gabbroic sections containing appreciable feldspar. These pyroxenite and gabbroic variations, as far as could be established, are not separate intrusives, but rather are local differentiates or areas of alteration.

An unexplained feature in the peridotite is a strong magnetic high which extends completely across the north contact of the ultrabasics. While the magnetic feature is very well-defined and suggests a more basic dike or perhaps iron formation, neither outcrops nor drill holes showed any visible variation from the less-magnetic peridotite to the south.

GABBRO

A large gabbro dike or sill that appears to be intrusive into the ultrabasics is found traversing the westerly part of the Canorama group. It is exposed over a horizontal width of 800 feet and has been traced on various properties for a length of some miles. It varies considerably in appearance and composition and has been termed gabbro, diorite, feldspar porphyry, syenite and granodiorite by different workers in the area. The writer has examined it over a strike length of $1\frac{1}{2}$ miles and considers all to be the same rock. Where best exposed, it is a typical coarse-grained gabbro composed of $1/8$ to $1/2$ inch plagioclase and pyroxene crystals, though with perhaps a slightly higher than normal feldspar content. There are areas where the feldspars increase in both content and size forming a feldspar porphyry. Occasionally the feldspar is stained a pinkish colour but more commonly is a greenish white. At one location the contact is exposed; here the rock is an anorthothosite - entirely white to greenish feldspar and is in contact with a sheared and schistose talc-chlorite-serpentine rock.

DIORITE

Definite diorite intrusives are exposed only north of the Canorama claims. Other dioritic rocks, exposed within the volcanics, would appear to be re-crystallized volcanics rather than intrusive.

GRANITE

Granite is exposed at two locations in the southeast part of the group. It is a typical Algomian granite, rather gneissic and medium coarse grained.

DIABASE

Two diabase dikes were found. One in the easterly part of the group, has a strike of about N60E, is 100 feet plus wide, and is definitely intrusive into the peridotites, with fine chilled contacts.

A second, larger diabase dike is found striking N40E through the central part of the group. It appears to be about 300 feet wide and has been traced for a 2,000 foot strike length. In the most northerly and best exposure, the diabase, rather than a single dike, is several fingers separated by inclusions of highly sheared and altered peridotite, largely converted to talc-serpentine-carbonate schists. In these schists - i.e. in peridotite but in close proximity to the diabase - are found areas of disseminated sulfides, mainly pyrrhotite carrying low nickel values, but also appreciable chalcopyrite. Similar sulfides are also found in peridotite, very close to the assumed diabase contact, about 2,000 feet to the southwest of the above. Assays were of the order of 0.6% combined copper-nickel.

STRUCTURAL GEOLOGY

The absence of good horizon markers and few contact exposures tend to obscure structural features. The ultrabasics are believed to be one or several northwest-striking and southwest-dipping sills. The large gabbro body conforms to this attitude.

Intense shearing and schistosity is very widespread though usually overburden-covered and found only in drill holes. A northeast-trending fault is known to exist as shown on the accompanying plan. This is marked by intense shearing, slight right-hand displacement and marked topographic lows. A second north-northeast trending shear apparently terminates the easterly diabase dike. Strong northwest shearing is evident in the diabase

and peridotite in the mineralized area described above; a second northwest fault is postulated in a linear depression in the volcanics. Numerous other northwest and northeast topographic and magnetic features suggest faulting also, but definite evidence is lacking; the magnetics in particular suggest numerous east-northeast faults with slight right-hand displacement.

DIAMOND DRILLING

To date six holes (1 to 4, 6 and 7 on the attached plan) totalling 2316 feet have been completed. Each was drilled to test a geophysically-indicated target in the ultrabasics. Each cut similar material - a zone of intense shearing and schistosity with the rock converted almost entirely to a soft mud of talc, serpentine, carbonates, and chlorite. Graphite is usually present, and films and streaks of pyrrhotite and lesser chalcopyrite are common. While some nickel is present the mineralization is too sparse to warrant further testing.

CONCLUSIONS AND RECOMMENDATIONS

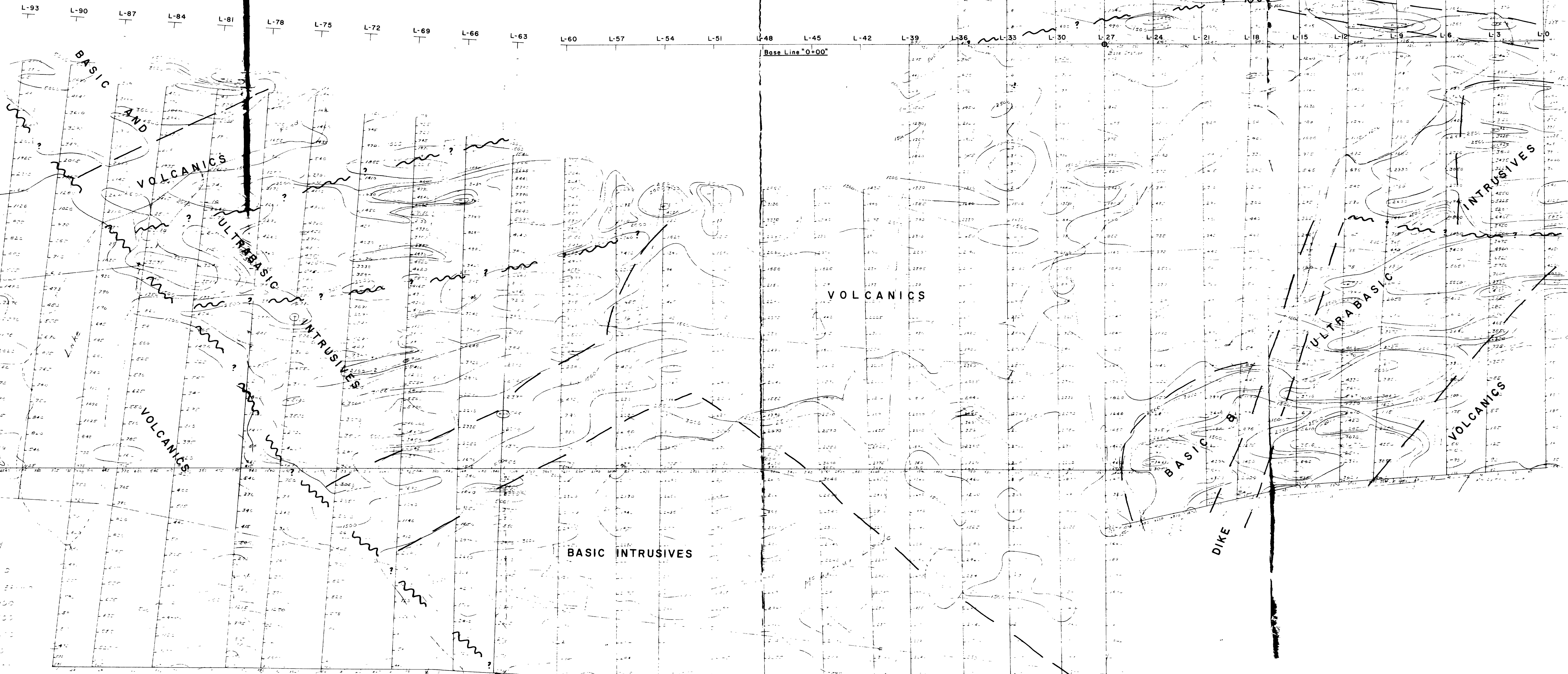
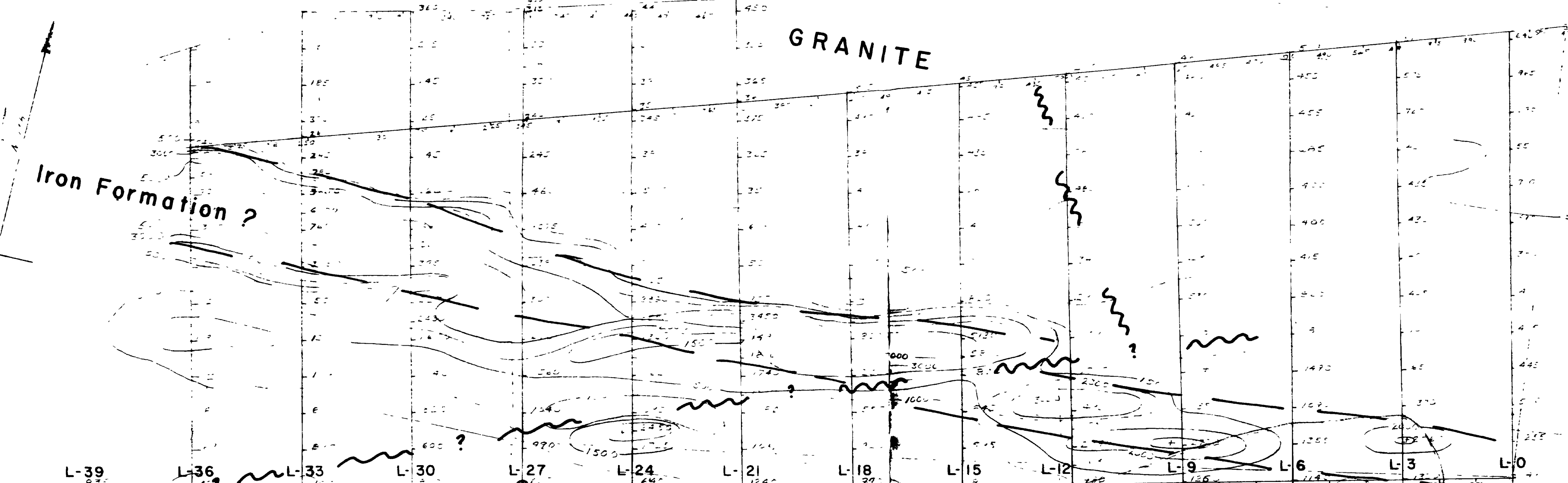
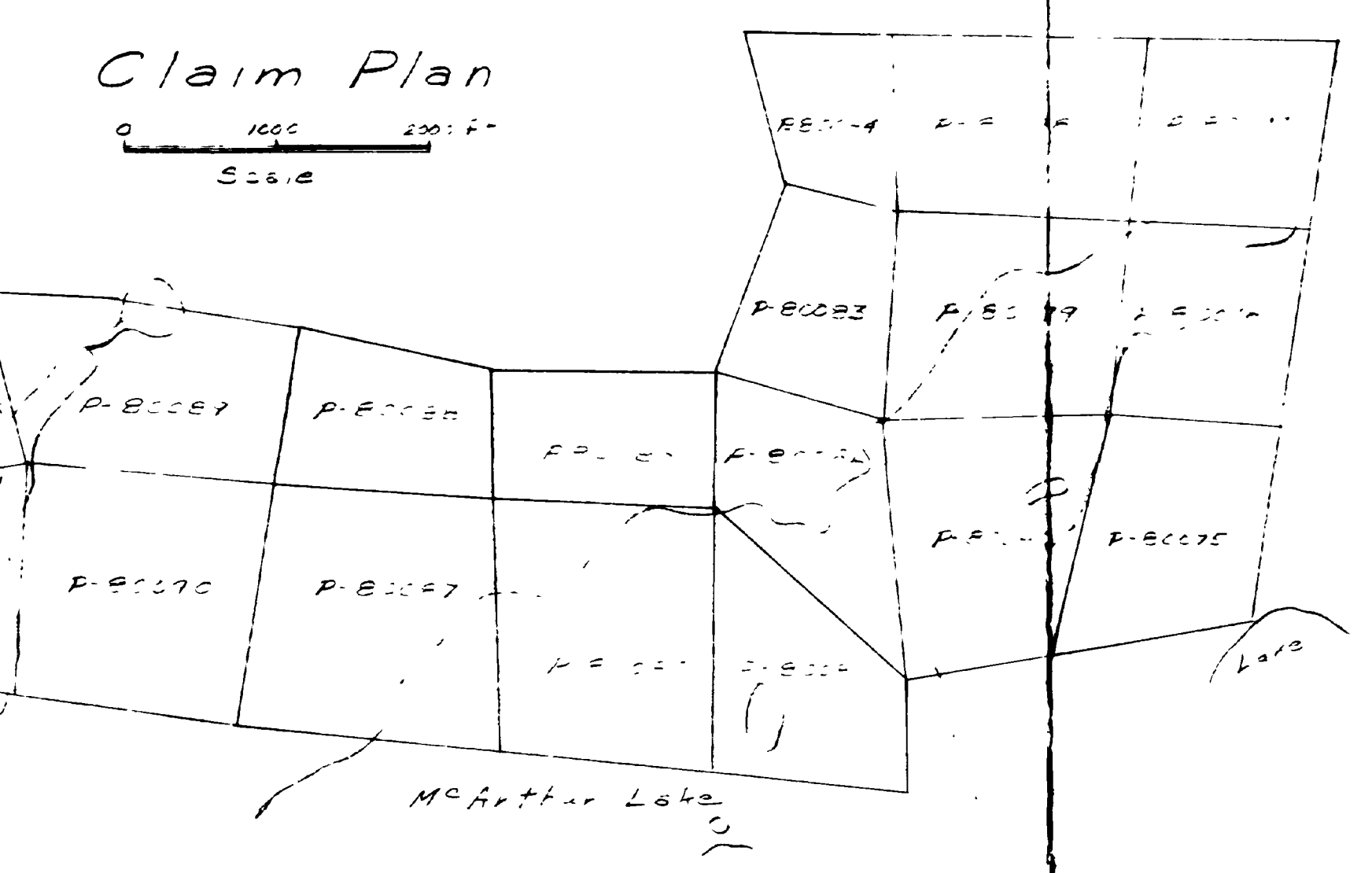
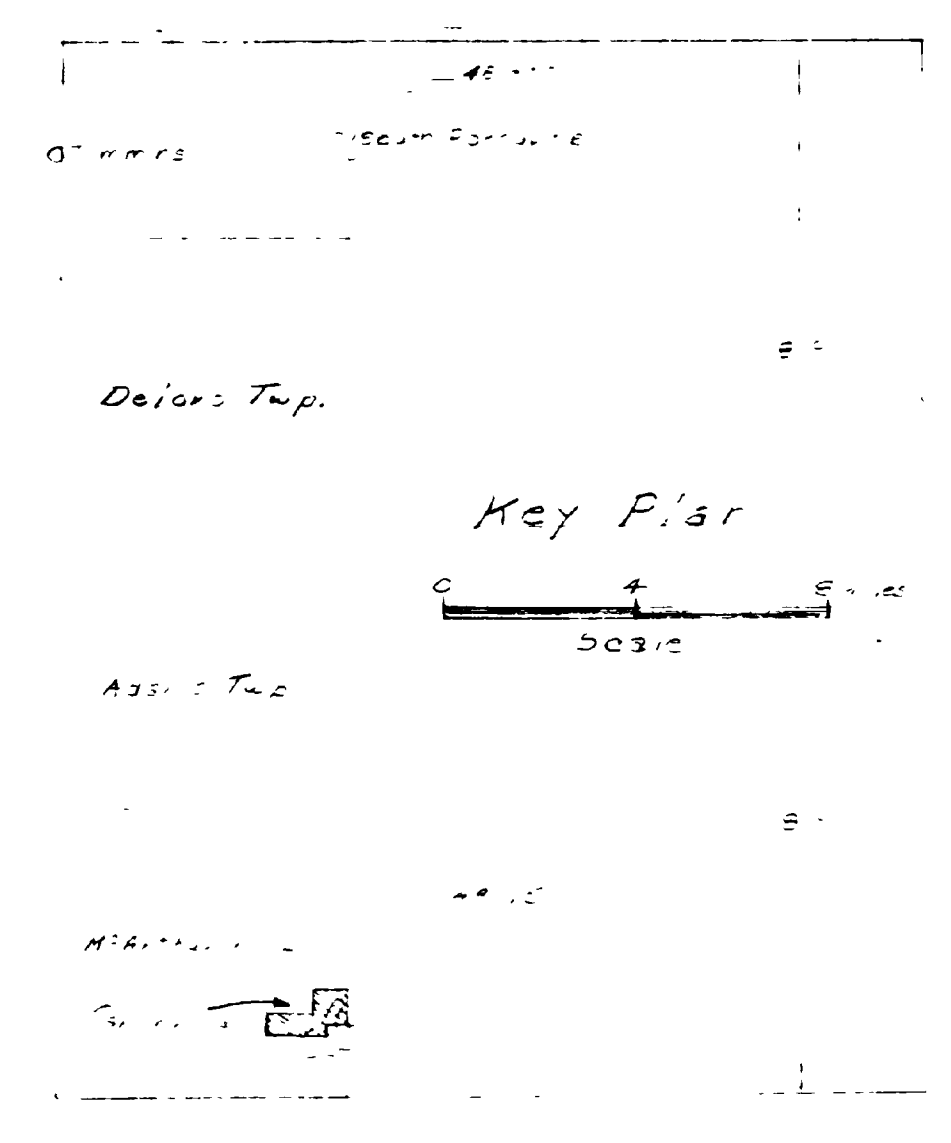
The mineralization found to date is too sparse and low grade to be economically important. Further geophysical work and drilling is planned with attention concentrated in the vicinity of the main diabase, and in and to the west of the large gabbro dike.

Respectfully submitted,



L. G. Phelan, M.A.Sc., P.Eng.
Consulting Geologist

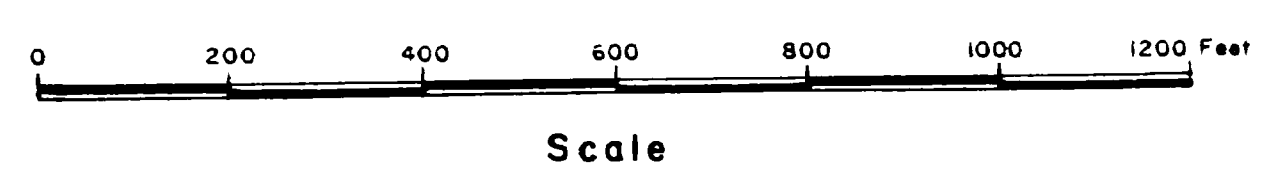
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Legend

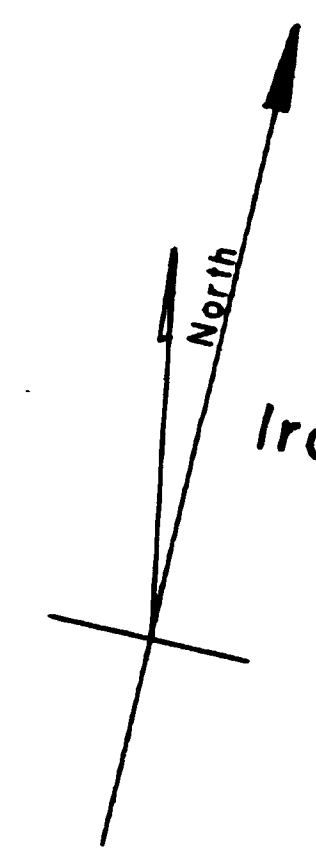
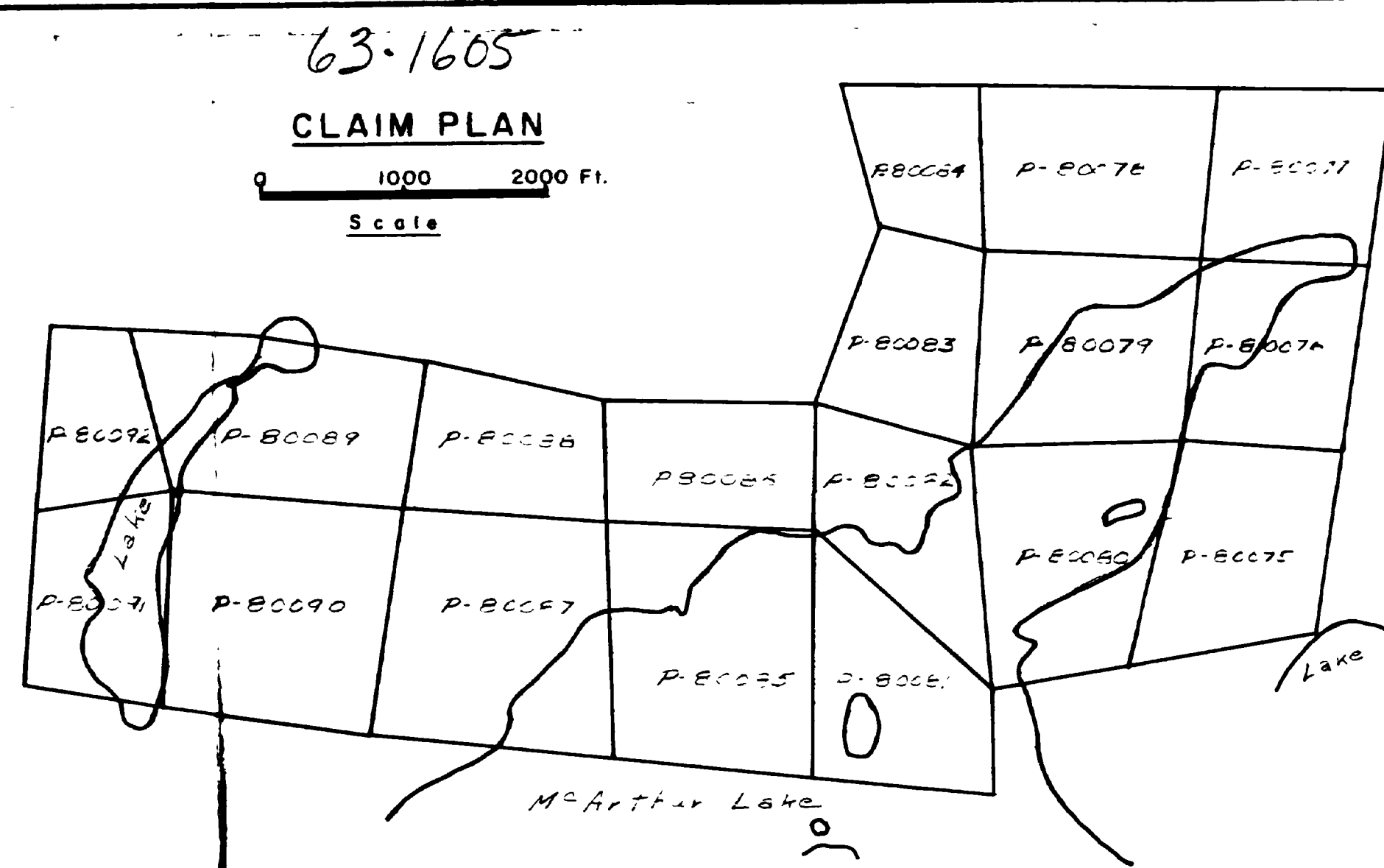
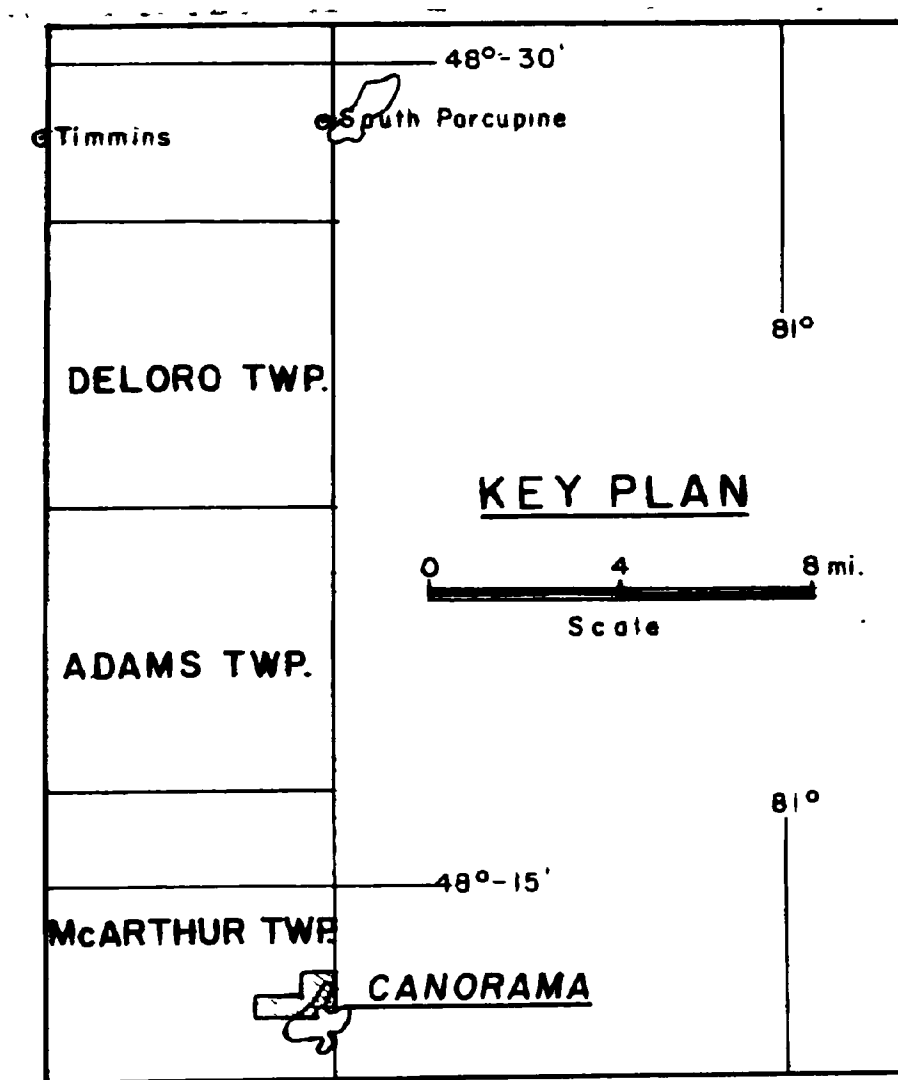
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CONSOLIDATED CANORAMA EXPLORATIONS LIMITED
 McArthur Township, Ontario
 MAGNETOMETER SURVEY 1605



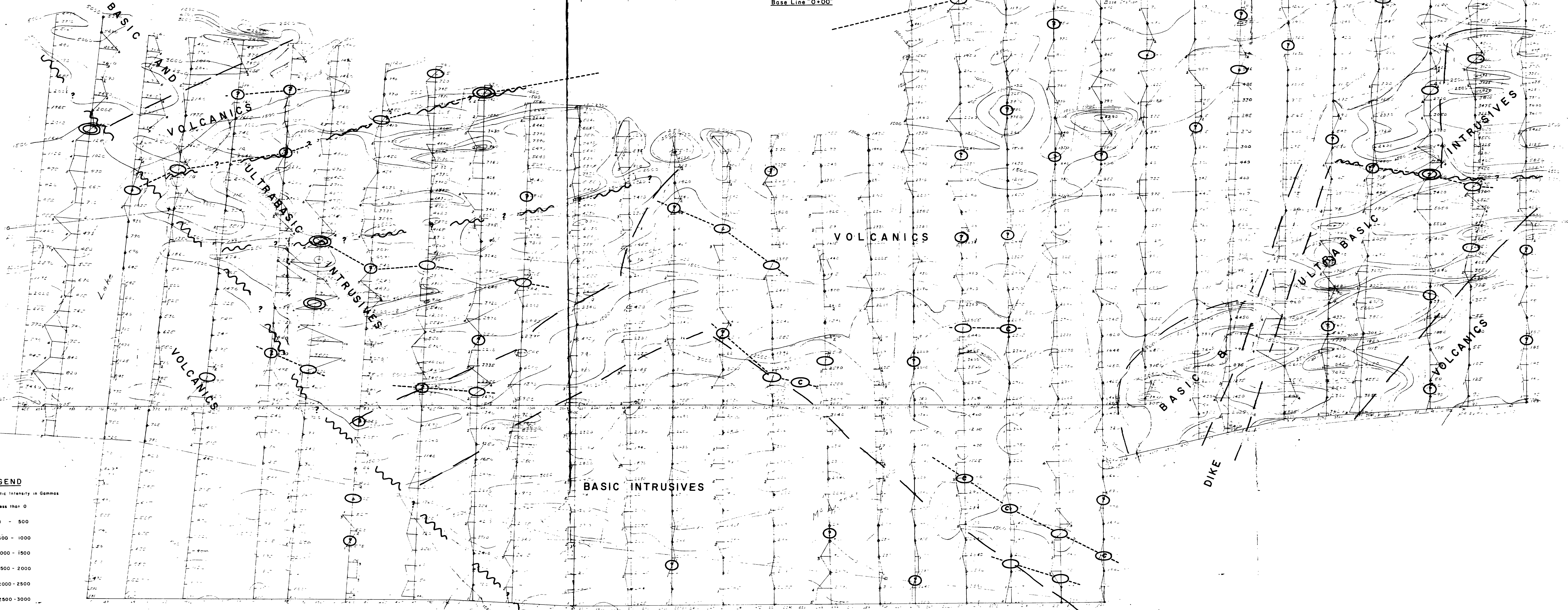
April, 1965





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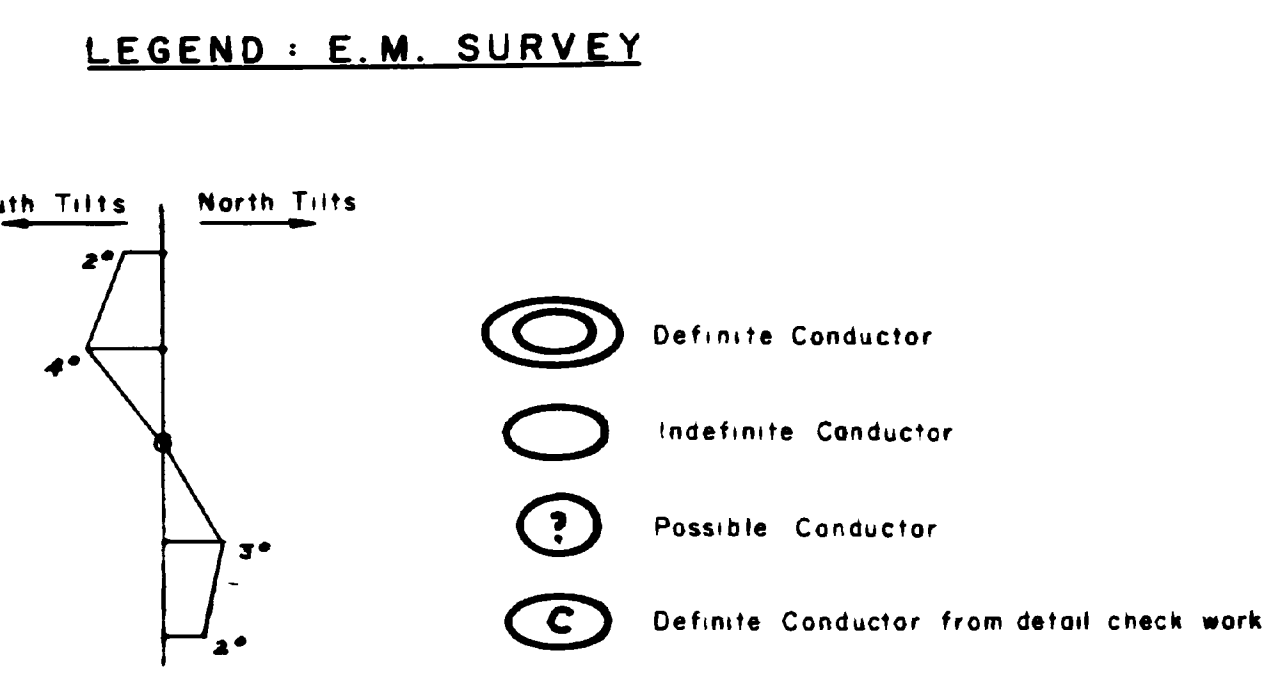
Base Line "0+00"



LEGEND

Vertical Magnetic Intensity in Gammas

[White Box]	less than 0
[Light Gray Box]	0 - 500
[Medium Gray Box]	500 - 1000
[Dark Gray Box]	1000 - 1500
[Very Dark Gray Box]	1500 - 2000
[Black Box]	2000 - 2500
[White Box]	2500 - 3000
[Light Gray Box]	3000 - 5000
[Medium Gray Box]	5000 - 10,000
[Dark Gray Box]	more than 10,000

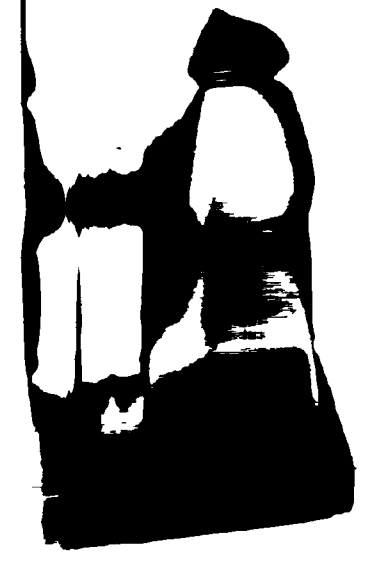


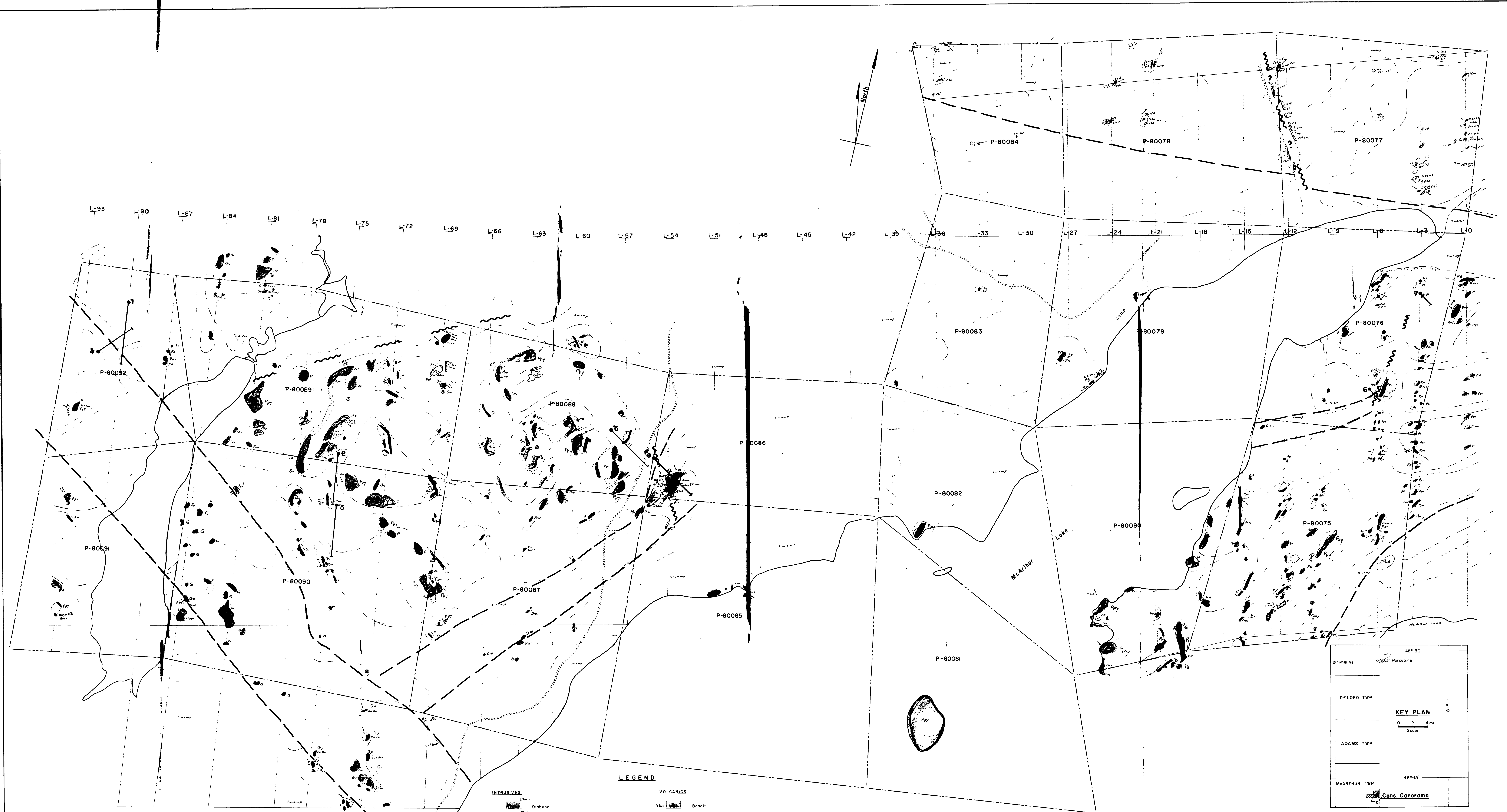
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CONSOLIDATED CANORAMA EXPLORATIONS LIMITED
 McArthur Township, Ontario
MAGNETOMETER SURVEY
 and
ELECTROMAGNETIC SURVEY

Scale 0 200 400 600 800 1000 1200 Feet

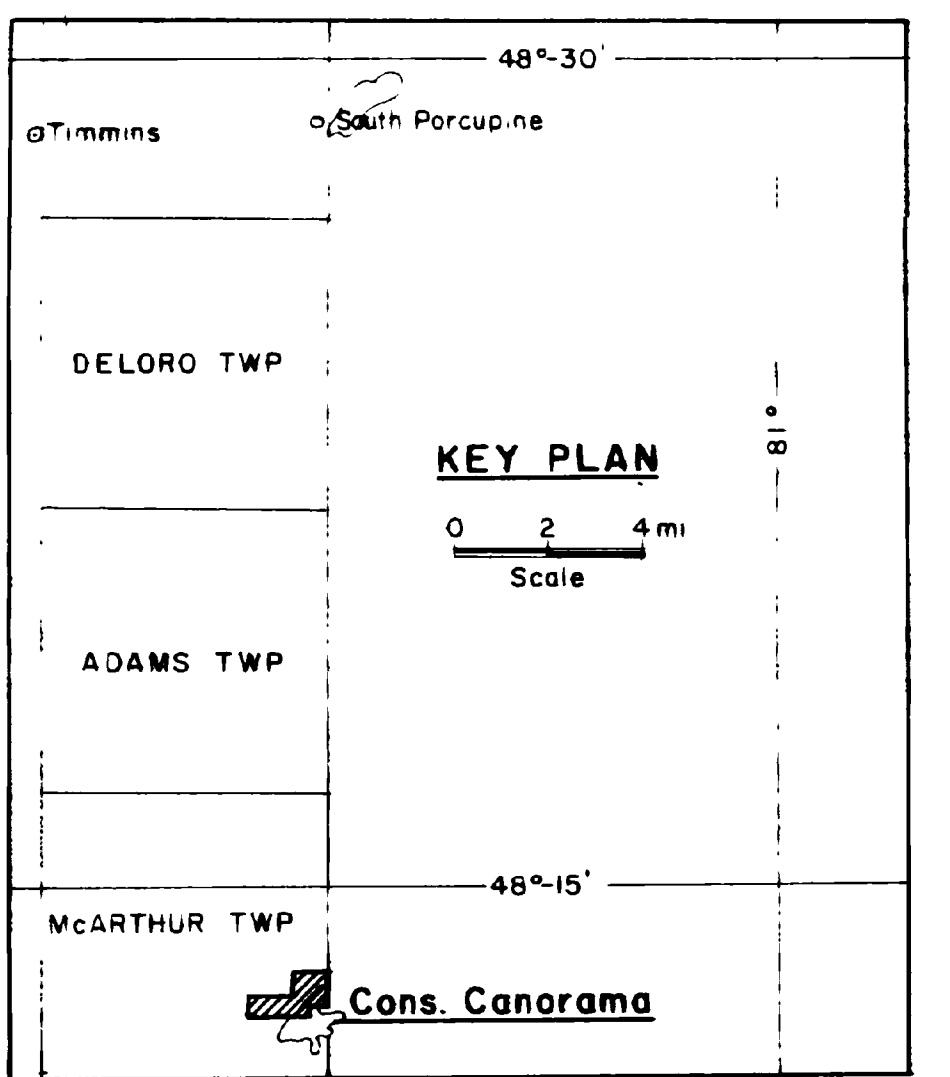
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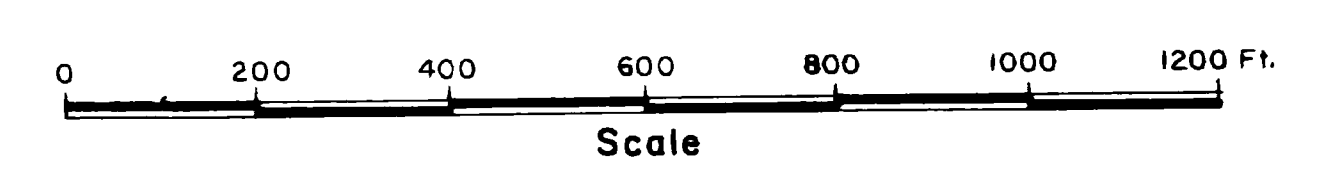


- SYMBOLS**
- Fault
 - Geological boundary
 - Diamond drill hole
 - Strike and dip of Formation, Schistosity, Jointing
 - Shearing
 - Outcrop
 - Outcrop area
 - Scarp
 - Topographic trend
 - Tractor road

- LEGEND**
- | | | | |
|---|--|------------------|-------------------|
| INTRUSIVES | | VOLCANICS | |
| Diabase | Basalt | Andesite | |
| Porphyry | Tuff | Amphibolite | |
| Syenite | Dacite | | |
| Granite | | | |
| ACID | Gabbro, (a-orthoclasic, p-porphyratic) | chl - Chlorite | Fel - Feldspar |
| Diorite, meta-diorite | Peridotite, undifferentiated | Ta - Talc | Serp - Serpentine |
| Amphibolized Peridotite | Pyroxene-rich Peridotite | Qtz - Quartz | Ol - Olivine |
| Olivine-rich Peridotite, Dunite, Serpentine | Gabbroic Peridotite | | |



CONSOLIDATED CANORAMA EXPLORATIONS LIMITED
 McArthur Township, Ontario
GEOLOGICAL PLAN

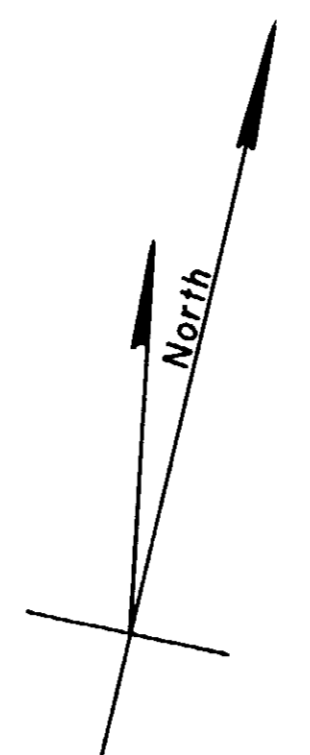
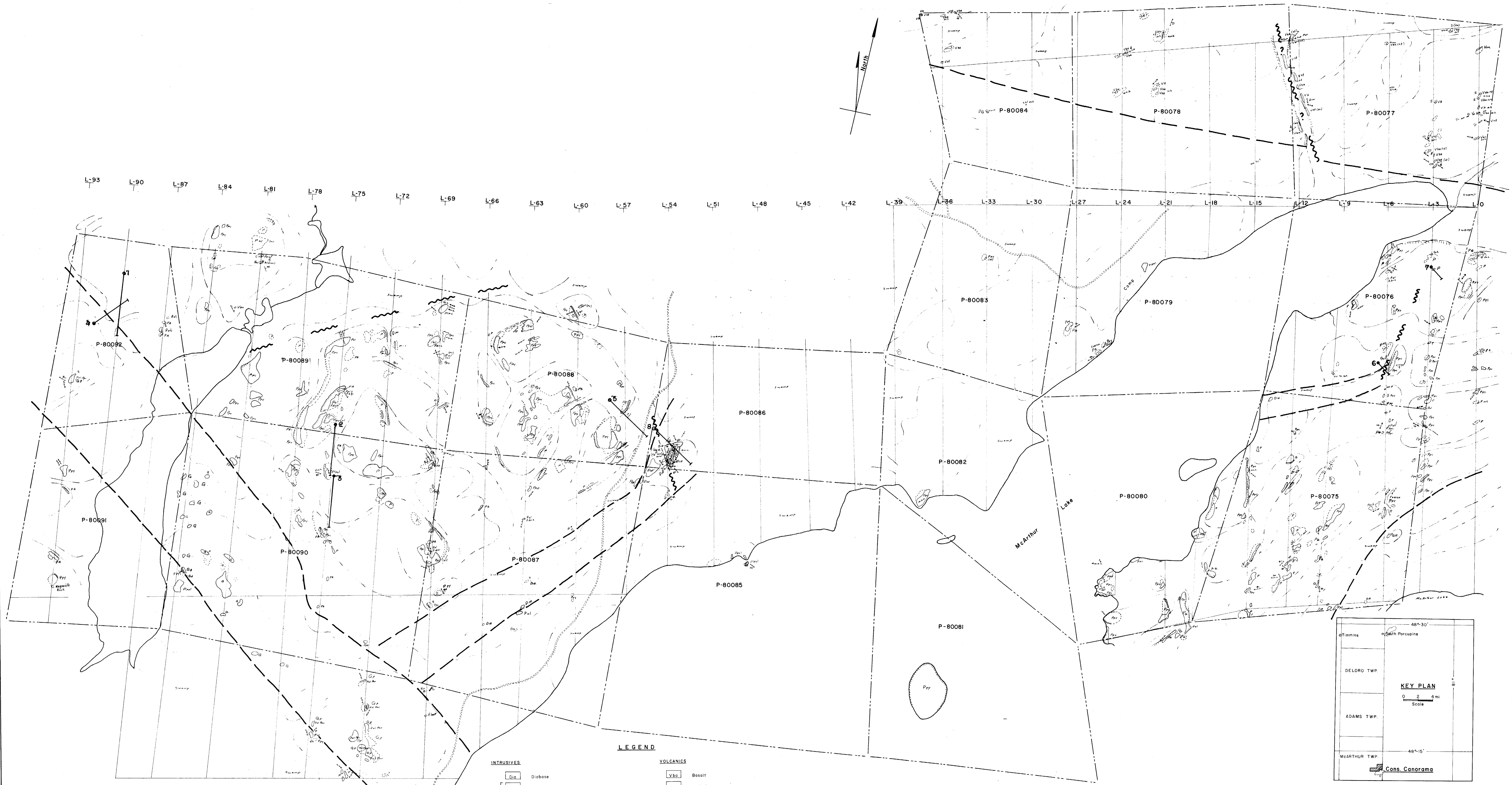


July, 1965

1608



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L-93 L-90 L-87 L-84 L-81 L-78 L-75 L-72 L-69 L-66 L-63 L-60 L-57 L-54 L-51 L-48 L-45 L-42 L-39 L-36 L-33 L-30 L-27 L-24 L-21 L-18 L-15 L-12 L-9 L-6 L-3 L-0

~~~~~ Fault  
 --- Geological boundary  
 ○ Diamond drill hole

**SYMBOLS**

Strike and dip of Formation, Schistosity, Jointing  
 Shearing  
 Outcrop  
 Outcrop area  
 Scarp  
 Topographic trend  
 Tractor road

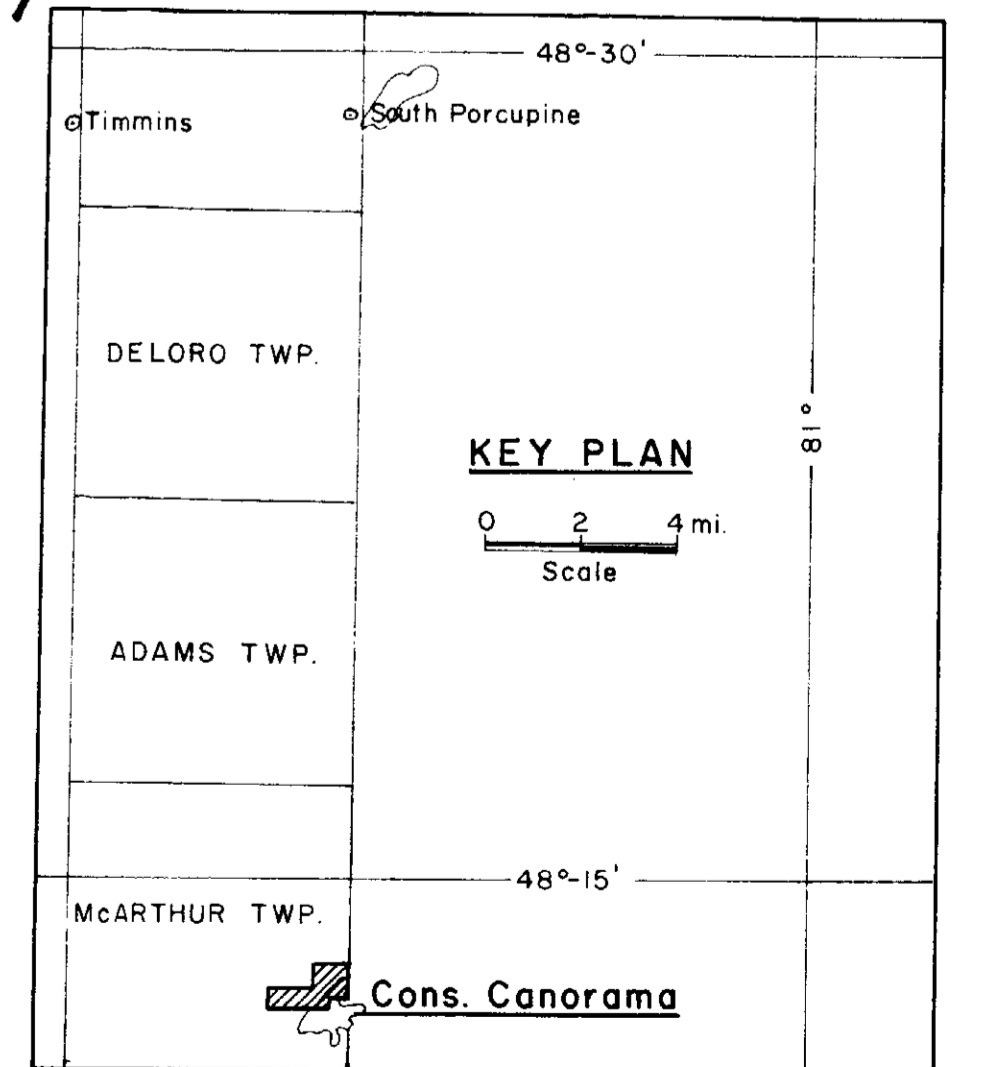
**INTRUSIVES**

|     |                                             |
|-----|---------------------------------------------|
| Dis | Diabase                                     |
| Por | Porphyry                                    |
| Sy  | Syenite                                     |
| GR  | Granite                                     |
| G   | Gabbro, (a-anorthositic, p-porphyrific)     |
| D   | Diorite, meta-diorite                       |
| P   | Peridotite, undifferentiated                |
| PA  | Amphibolized Peridotite                     |
| PPY | Pyroxene-rich Peridotite                    |
| POT | Olivine-rich Peridotite, Dunite, Serpentine |
| PG  | Gabbroic Peridotite                         |

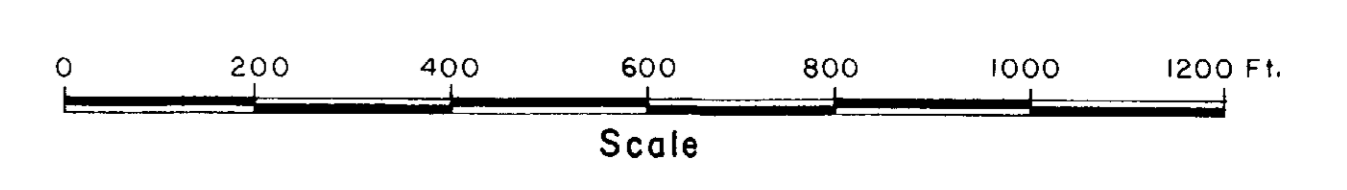
**VOLCANICS**

|     |             |
|-----|-------------|
| Vba | Basalt      |
| Van | Andesite    |
| Vit | Tuff        |
| Va  | Amphibolite |
| Vdc | Dacite      |

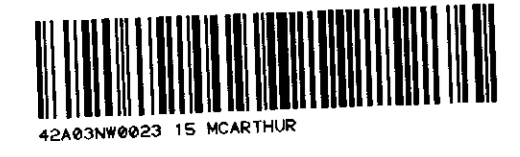
chl - Chlorite      Fel - Feldspar  
 Ta - Talc          Serp - Serpentine  
 Qtz - Quartz      Ol - Olivine



**CONSOLIDATED CANORAMA EXPLORATIONS LIMITED**  
 McArthur Township, Ontario  
**GEOLOGICAL PLAN**



July, 1965



200