



41016NW0019 2.6412 HORWOOD

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**Geological Assessment Report**

**Report no. 8106 3.2**

**Geology of the Potimo Claim Group  
Horwood Township, Ontario  
NTS 41 - 0/16**

**Gold Fields Canadian Mining Ltd.  
335-230 Lakeshore Rd. East  
Mississauga, Ontario  
L5G 1G8**

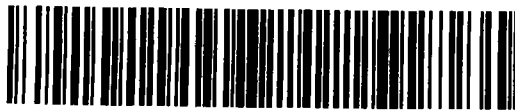
**by Ed Sawitzky  
December, 1983**

**RECEIVED**

**FEB 22 1984**

**MINING LANDS SECTION**

TABL OF CONTENTS



41016NW0019 2.6412 HORWOOD

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Key Map - - - - - (1)  
 Claim Map - - - - - (2)  
 Introduction - - - - - (3)  
 Location and Access - - - - - (3)  
 Grid Description - - - - - (3)  
 Topography and Vegetation - - - - - (3)  
 Field Methods - - - - - (3)  
 Previous Work - - - - - (4)  
 General Geology - - - - - (4)  
 Geology of the Potimo Claim Group - - - - - (4)  
 Table of Lithologic Units - - - - - (5)  
 Structural Geology - - - - - (7)  
 Mineralization and Alteration - - - - - (8)  
 Diamond Drilling Data - - - - - (9)  
 Acknowledgements - - - - - (9)  
 Qualifications - - - - - (9)  
 References - - - - - (10)  
 Appendix - - - - (Assessment Credit Work Forms) - - - - (11)

TABLES

Table 1 Lithologic Units for Potimo Property - - - - - (5)

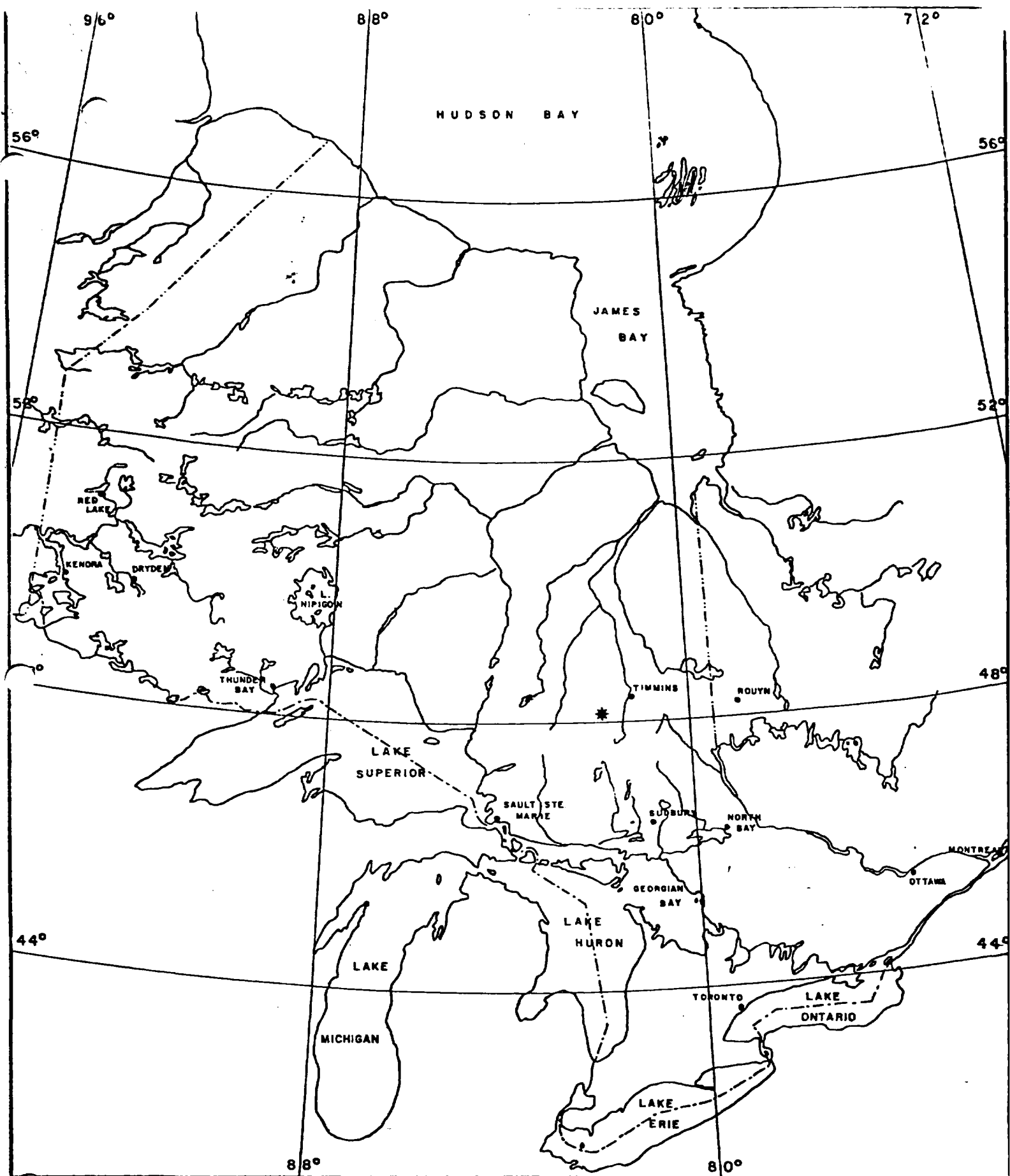
FIGURES

Figure 1 Key map showing location of survey area (1)  
 Figure 2 Claim / index map showing Potimo claim group (2)

ATTACHMENTS

Geological Maps (back pocket)

- Map no. 8106.3 a. Geology, west half of Potimo Claim Group, Dist. of Sudbury, Scale 1:2500
- b. Geology, east half of Potimo Claim Group, Dist. of Sudbury, Scale 1:2500
- c. Geology, alteration zone of Potimo Claim Group, Dist. of Sudbury, Scale 1:1000



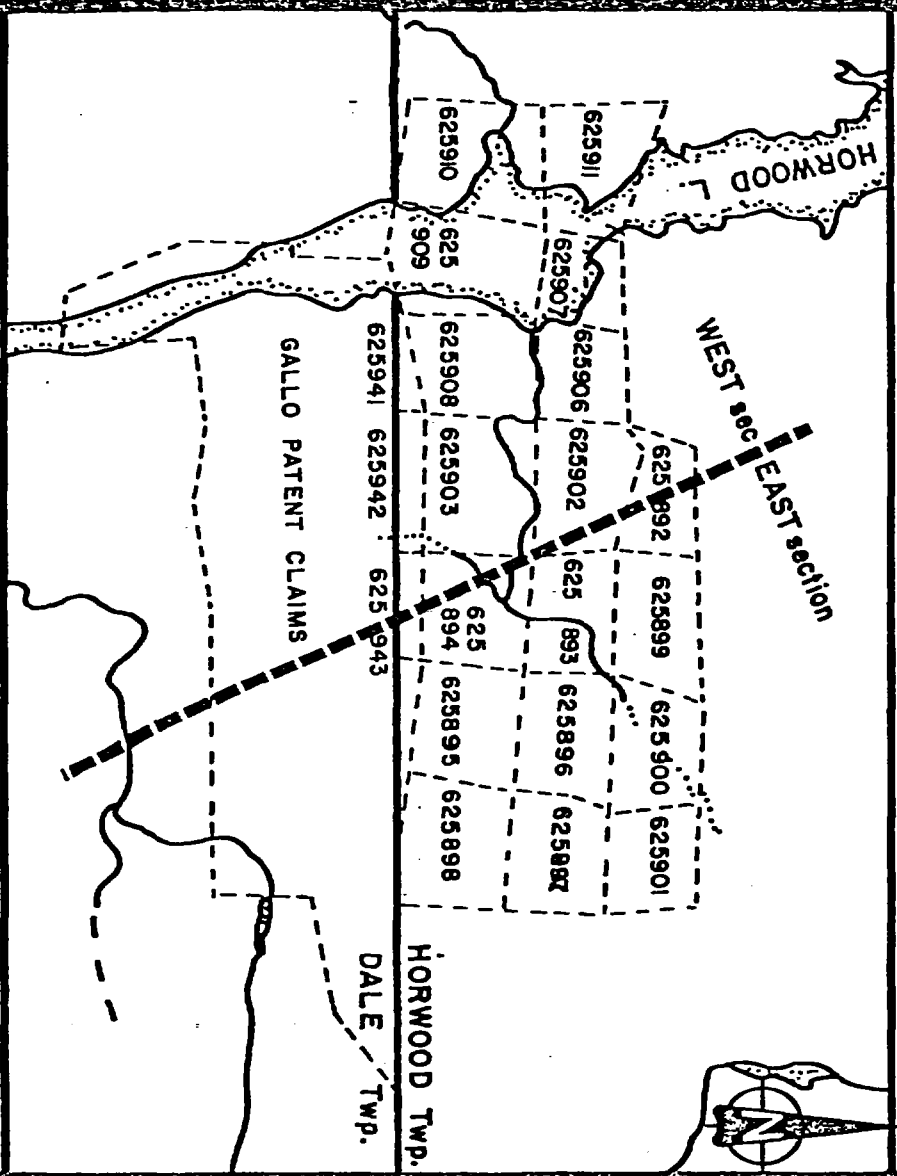
Outline Map of ONTARIO

Scale: 1"  $\approx$  125 Miles

Survey AREA

T

Index



Scale 1" = 1/2 mile

Claim of the Potimo Property

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## INTRODUCTION

This report pertains to the geological survey covering the Potimo claim group, registered under Darius Gold Mine; c/o Gold Fields Canadian Mining Ltd. Mississauga, Ontario.

Field work began July 28, 1982 and continued intermittently until Nov. 5, 1983.

## LOCATION AND ACCESS

The survey area is located in the Foleyet region (Northeast Ontario), 56 air miles (90 kms) southwest of Timmins. The property is accessible from Timmins via Highway 101 (west) to the Palomar road turn off, go south via an Ontario Forests public access road to Wade's Camp, on the northwest shore of Horwood Lake, then lastly, via boat to the claim group.

## GRID DESCRIPTION

The Potimo grid consists of 26 grid lines, a baseline and one tie line cut and chained for a total of 34.98 kms. The baseline was turned off the Dale-Horwood township line, approximately 850m ( $\frac{1}{2}$  mile) east of Horwood Lake with an azimuth of 68°. Grid lines were turned off the baseline every 125m (90 degrees) and chained at 25m intervals.

## TOPOGRAPHY AND VEGETATION

The terrain is "rugged" or hilly on the west side of the property with an elevation of approximately 100-125 ft. (38m) becoming gently undulating to flat, low lying and swampy progressively eastwards. This corresponds to decreasing rock exposure eastward; average outcrop density is 10-15%. Except for Horwood Lake no other lakes or rivers occur on the property. Drainage, poor to the east, is via one main creek traversing the entire property. Overburden consists of a basal till overlain by either fine outwash sands or silty clays of varying thickness.

A typical, mixed boreal forest vegetation covers the property consisting of "high ground" poplars, birches, jack pines, mountain maple and "low ground" black spruce, balsam fir and alder. Large white and red pines are scattered throughout the area.

## FIELD METHODS

The claim group was mapped at a scale of 1:2500 (metric) on the above described grid (see map no. 8106 3.2a,b). Location of features between picket lines used by pace and compass from a known location. Detailed mapping at a scale of 1:1000 (metric) was done over a small area, between lines 5+50E and 3+75E, south of the baseline (see map no. 8106 3.2c).

PREVIOUS WORK

The Cambach Syndicate staked 24 claims in 1922-33 on the east side of the south arm of Horwood Lake. Stripping and trenching was carried out over a small area on a shear zone. "Low gold values have been obtained from the shear zone and from an adjacent quartz vein. In 1934 the shear zone was explored by diamond drilling to the extent of four holes aggregating 400 feet (122m). Low gold values were obtained " (Harding, 1937, p. 25)

No additional work is reported. However, shortly after the original work, the shear zone was traced southwest into Dale Township where approximately 20 trenches were dug at various intervals along a 350m strike length. (The latter may be the result of work performed on the Burke claims circa 1940).

No recent exploration work has been carried out in this area, ie. no reference to this property has been made in the O.G.S. Report 169, by Breaks (1978)

This portion of the Swayze greenstone has been mapped by Laird. (1935), Harding (1937), and more recently, by Breaks (1978).

GENERAL GEOLOGY

The Potimo claim group lies within a generally east-west trending metavolcanic-metasedimentary belt known as the Swayze greenstone belt (Goodwin, 1965) Breaks (1978, p5) describes the area as follows: "All bedrock is of Early Precambrian (Archean) age with the exception of Middle to Late Precambrian diabase dike swarms. Mafic metavolcanics predominate and together with minor felsic metavolcanics comprise the oldest rocks.... Pre-tectonic mafic to ultra-mafic plutons of variable size, which are especially notable in Horwood township, invade the metavolcanic sequence, and are believed to be consanguineous with Early Precambrian mafic volcanism..... The syntectonic domical Hardiman Lake Pluton, consisting predominately of foliated trondjemite, invaded the supra-crustal sequence in southeast Horwood Township and induced east-west to north-south trending cross-folds adjacent to the pluton near Great Pike Lake". Metasediments are rare in the area. Regional metamorphism is within the greenschist facies.

The geology south of the Horwood Township line is poorly understood, no recent mapping of the area has been attempted.

GEOLOGY OF THE POTIMO CLAIM GROUP

The Potimo claim group is underlain by mafic and felsic metavolcanics which are intruded by small masses of metagabbro and narrow felsic sills.

Mafic metavolcanics constitute the major lithologic unit underlying approximately eighty percent of the property. All of these rocks have been affected by greenschist facies metamorphism. These rocks range in character from massive to pillowed

TABLE 1

Lithologic Units:

Potimo Property

Cenozoic

Quaternary  
Recent

Lake, stream and swamp deposits

Pleistocene

Glacial drift, sand and clay

Unconformity

Precambrian

Early Precambrian (Archean)

Late Felsic Intrusive Rocks

all dikes, sills of quartz monzonite (?) composition varying from fine to medium grained, massive to porphyritic, with or without phaneritic quartz, feldspar.

Intrusive Contact

Mafic Intrusive Rocks

fine to coarse grained metagabbro

Intrusive Contact

Metavolcanics

Felsic to Intermediate Metavolcanics

Tuff, crystal tuff, lapilli-tuff, tuff breccia, massive quartz and/or feldspar-bearing subvolcanic (?) rocks.

Mafic to Intermediate Metavolcanics

fine to medium grained, massive to pillowed mafic metavolcanic flows, flow top breccia, hyaloclastite, variably amygdaloidal, porphyritic, variolitic, mafic breccia, banded metavolcanics, choritic schists, crenulated metavolcanics, immature interflow meta-sediments (greywackes).

displaying amygdaloidal and variolitic structures. Typically the mafic metavolcanics are fine grained to aphanitic, less commonly medium grained, with fresh surface colours of pale to dark green and grey green and a weathering surface of grey green or buff green.

Amygdules range from less than one percent to, rarely, a maximum of three percent. Variolitic structures vary in character and distribution. They are commonly small (1-3mm) subspheroidal structures ranging from less than five percent, to areas containing up to twenty to forty percent. On the west side of Horwood Lake immisible (?) felsic masses, best referred to as "blobs" with diameters ranging from five to twenty centimeters, are found within massive mafic volcanic flows. The latter felsic blobs and the variolitic structures are not confined to a specific flow horizon but rather form a zone, located south of, and along strike of, the felsic metavolcanics on the property.

A facies change occurs within the mafic volcanics across the map area; to the north, massive and pillowed mafic flows grade southwards into a sequence of mafic breccias intercalated with much less abundant feldspathic tuffs and wackes. Mafic flows, though present, are uncommon within the latter sequence. (West of grid line 0+00 the transition from flows to breccias, tuffs etc. occurs south of the Horwood-Dale Township line, east of L0+00 these same rocks occur south of the baseline (0+00)). In turn these breccias and tuffs are overlain (?) to the south by more massive and pillowed mafic metavolcanic rocks.

The nature of the latter mafic breccias is obscured by intense to moderate shearing and alteration. These rocks typically contain "wispy" shaped lapilli and breccia fragments, monolithic in composition, generally altered due to shearing, and with little if any supporting matrix. In part they form as fragmental upper zones (tops) of massive flows. In other areas (especially south of the baseline) large outcrops of solely mafic breccias occur, with no readily discernable layering. These may represent pyroclastic deposits, suggested by the presence of narrow (10-40 cm wide) intercalated beds of feldspathic tuff (the latter, occasionally displaying grading). Epiclastic sedimentation (feldspathic wackes), best recognized in drill core, forms only a very minor component of the stratigraphy, and is restricted to the area containing the mafic breccias. These epiclastic rocks appear to occur at several horizons within the breccia zone and represents "brief hiatuses" in volcanic activity.

The felsic metavolcanics constitute approximately 10% of the rocks on the property and are found mainly in the northwest corner of the property, east of Horwood Lake. These rocks vary from massive porphyritic (quartz and/or feldspar) felsic flows ? intrusions ? to fragmental rocks ranging from lapilli-tuff to (rarely) tuff-breccia. These rocks weather to a pale creamy buff or greyish green colour and have a fresh surface colour of pale greenish grey.

Small scale grading in an outcrop of lapilli-tuff corresponds well with an "overall" grading northward from tuff breccias to crystal tuffs. These outcrops, on the extreme northeast shoreline



of Horwood Lake in the study area, suggest that in part at least these felsic volcanics are pyroclastic in origin. Further to the east the rocks are massive in nature, lacking any grading and contacts were not exposed. Their origin is problematic.

Mafic intrusions which constitute approximately 10 % of the rocks on the property are located in a zone central to the property. They occur in several small north-south and east-west trending bodies. These fine to coarse grained, rarely porphyritic, metagabbros may in places contain quartz or a minor pegmatitic phase.

Felsic intrusions comprise less than 2% of the rocks in the map area, occurring as scattered, generally narrow (0.5 m - 3.0m) sills (rarely dikes). These yellowish creamy weathering rocks are always aphanitic in texture and tend to be concentrated in the southern portion of the property where extensive shearing occurs. They appear to be the youngest rocks on the property.

### STRUCTURAL GEOLOGY

There is a corresponding structural facies change with lithology across the property. Deformation is intense and localized within a relatively narrow zone (south of the baseline 0+00), corresponding to the area containing mainly mafic breccias. The key structural element here is shearing. North and south of the zone deformation is weaker as evidenced by decreasing pillow attenuation. (This interpretation incorporates data obtained from geological mapping in the northern portion of Dale Township, not included in this report).

Stratigraphy trends approximately east-west ( $260^{\circ}$ - $270^{\circ}$ ) and dips steeply ( $85^{\circ}$ - $60^{\circ}$ ) to the north. Although numerous facing determinations were obtained, the implied structural complexity maybe more apparent than real. Small isoclinal drag folds, outcrop scale, were observed in the zone of intense deformation, however, these may be related to shearing in this zone. (The significance of any major folding in the area will require a more regional mapping approach).

Rocks underlying the Potimo claim group are characterized by two foliations and a strong mineral lineation plunging to the west.  $F_1$ , the dominant foliation, is parallel to bedding ( $S_0$ ), trending approximately  $260^{\circ}$ - $270^{\circ}$ , dipping steeply north. The  $F_2$  foliation trends approximately  $235^{\circ}$ - $245^{\circ}$  also dips north but varies from  $70^{\circ}$ - $20^{\circ}$ . In the aforementioned zone of intense deformation,  $F_1$  becomes the shear direction and the axial planar direction of the small scale isoclinal drag folds. Only in this zone of intense deformation does the  $F_2$  foliation direction also correspond with several other structural elements including kink banding, left-lateral fracture displacements and drag folding. Stretched variolites and amygduals all plunge westerly from  $80^{\circ}$ - $20^{\circ}$ .

Faulting with associated shearing occurs in several places throughout the property. A left-lateral sense of displacement appears to be most common.

## MINERALIZATION AND ALTERATION

All rocks in the map area have undergone low greenschist facies metamorphism. Aside from this the only significant alteration in the area occurs within the zone of strong deformation and lithological facies change, mentioned above.

Noteable alteration features occurring in this zone include:

1. the alteration mineralogy (listed in decreasing abundance)
  - a. fine grained magnetite
  - b. carbonate (calcite mainly, with lesser iron-rich carbonates).
  - c. epidote
  - d. sericite
  - e. specular hematite
  - f. quartz-tourmaline (stringers)
2. The extensive development of secondary, fine grained, dusty magnetite disseminated throughout the various rock types in the zone of deformation has left an overall high magnetic signature on this zone.
3. The most significant feature, however, is the presence of several distinct and narrow alteration zones, commonly associated with shearing, occurring within this broader altered package of rocks. On an outcrop scale, these alteration zones are to parallel stratigraphy, however on a more "regional" scale, alteration appears to transect stratigraphy.

Although the alteration zones vary somewhat from each other, they do have common characteristics which may include:

- a. Deformation: the rocks are generally schistose due to shearing; other structural features include kink-banding, fracturing, drag folding, boudinaging and the development of crenulations.
- b. Alteration: In the host rocks bounding the alteration zone, pervasive and stringer-type calcite alteration occurs. In the main alteration zone, calcite and iron-rich carbonates (as carbonate rhombs, stringers or thin bands) give the appearance of "chemical layering".
  - sericitization, strong to weak.
  - silicification, in the form of quartz stringer/veins (0.5cm-20cm wide)
  - disseminated magnetite (up to 10-15%), hematite (may form stringers), and rare quartz-tourmaline stringers.
- c. Host lithology: massive mafic volcanic or mafic lapilli-tuff, tuff.
- d. The presence generally of narrow felsite sills. These sills may or may not themselves be part of the alteration zone.

All zones were mineralized with pyrite (fine to medium grained) and rare chalcopyrite, however, the percentage of sulphide varied greatly and rarely exceeded 1-2%. Pyrite occurs disseminated through the host rock, increasing often towards quartz veins but rarely occurring within these veins. Visible native gold was not observed.

#### DIAMOND DRILLING DATA

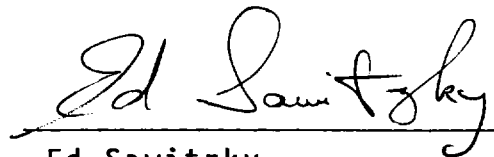
One diamond drill hole (G-83-7), located on claim 625898 (see location map in appendix), has been submitted for assessment work credits. This 407 foot hole (B.Q. core size) was drilled by N. Morissette D.D. Ltd. on November 13, 1983. A drill log has been submitted.

#### QUALIFICATIONS

Ed Sawitzky, geologist with Gold Fields Canadian Mining Ltd. located at 335-230 Lakeshore Rd. E. Mississauga, Ontario, M Sc. Geology (Laurentian University)

#### ACKNOWLEDGEMENTS

The author was ably assisted in the field during the 1982 field season by Pat Pope (senior assistant) and Alain Cotnoir, Ian Reid and Daniel Joubert (junior assistants). Thanks are due to Jack and Richard Wade of Wade's Camp for courtesies and hospitality extended to the field crew during the 1982 field season.

  
Ed Sawitzky

References

Laird, H.C. 1935:

Horwood Lake Area  
O.D.M. Annual Report  
Vol. 44, Pt.7 P. 37

Harding, W. D. 1937:

Geology of the Horwood Lake Area  
O.D.M. Vol XLVL, Pt. II

Breaks, F. W. 1978:

Geology of the Horwood Lake Area,  
O.G.S. Report 169

Seara, J. L. 1982:

Report on Ground VLF and Ground  
Magnetics, Potimo, Foleyet, Ontario

STATEMENT OF QUALIFICATION

Edward Sawitzky  
c/o Gold Fields Canadian Mining Ltd.  
Suite 335 - 230 Lakeshore Rd. East  
Mississauga, Ontario L5G 1G8

I certify that all the previous and below stated information is valid to the best of my knowledge.

|           |   |  |
|-----------|---|--|
| 1978      | BSc in Geology  | Carleton University, Ottawa, Ont.          |
| 1984      | MSc (pending)   | Laurentian University,<br>Sudbury, Ontario |
| 1974-1977 | Contract employment with O.G.S. as senior/and<br>winter assistant               |  |
| 1977-1978 | M.N.R., Forestry Division<br>Employed as a geologist for a regional soil survey |  |
| 1982-1984 | presently employed with<br>Gold Fields Canadian Mining, Ltd.<br>As a Geologist  |  |

Member of the Geological Association of Canada

Member of the Prospectors and Developers Association





Ministry of  
Natural  
Resources

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

# 84/81



41016NW0019 2.6412 HORWOOD

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|--|--|---|---|
| Type of Survey(s)<br><b>GEOLOGICAL</b>   |  | Township or Area<br><b>HORWOOD</b>  |   |
| Claim Holder(s)<br><b>DARIUS GOLD MINE INC.</b>  |  | Prospector's Licence No.<br><b>T-1217</b>   |   |
| Address<br><b>335-230 Lakeshore Rd. E. Mississauga, Ontario L5G 1G8</b>  |  |   |   |
| Survey Company<br><b>Gold Fields Canadian Mining Ltd.</b>  |  | Date of Survey (from & to)<br>Day <b>Mar 82</b>   16   <b>Dec 83</b><br>Mo.   Yr.   Day   Mo.   Yr. | Total Miles of line Cut<br><b>34.98 kms</b> |
| Name and Address of Author (of Geo-Technical report)<br><b>Edward Sawitzky 335-230 Lakeshore Rd. E. Mississauga, Ontario L5G 1G8</b> |  |   |   |

Credits Requested per Each Claim in Columns at right

Mining Claims Traversed (List in numerical sequence)

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

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APR 11 1984

MINING LANDS SECTION

ONTARIO MINING DIVISION  
RECEIVED  
A.M. 7:19 P.M. 11:00

RECORDED  
FEB 24 1984  
Receipt No. *cl*

Total number of mining claims covered by this report of work. **21**

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures \$  + **15** = 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.

**For Office Use Only**

Total Days Cr. Recorded **840** Date Recorded **Jan 24/84** Mining Order *[Signature]*

Date Certified as Recorded **84.6.17** Date Approved as Recorded *[Signature]*

Date **Feb. 21, 1984** Reported Holder or Agent (Signature) *Duffield M. Cameron*

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  
**E. Sawitzky 335-230 Lakeshore Rd. E. Mississauga, Ontario**

Date Certified **Feb. 22/84** Certified by (Signature) *Edward Sawitzky*



Ministry of Natural Resources

File \_\_\_\_\_

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) Geology

Township or Area Horwood

Claim Holder(s) Darius Gold Mine Inc.

335-230 Lakeshore Rd. E., Mississauga

Survey Company Gold Fields Canadian Mining Ltd.

Author of Report Edward Sawitzky

Address of Author 335-230 Lakeshore Rd. E. Mississauga

Covering Dates of Survey March/82-Dec/82  
(linecutting to office)

Total Miles of Line Cut 34.98km

MINING CLAIMS TRAVERSED  
List numerically

- P 625892 (prefix) (number)
- 625893
- 625894
- 625895
- 625896
- 625897
- 625898
- 625899
- 625900
- 625901
- 625902
- 625903
- 625906
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- 625908
- 625909
- 625910
- 625911
- 625941
- 625942
- 625943

If space insufficient, attach list

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: Feb 21/84 SIGNATURE: [Signature]  
Author of Report or Agent

Res. Geol. \_\_\_\_\_ Qualifications This pte

Previous Surveys

| File No. | Type | Date | Claim Holder |
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TOTAL CLAIMS 21

OFFICE USE ONLY



Mining Lands Comments

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To: Geophysics

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To: Geology - Expenditures

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To: Geochemistry

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| <input type="checkbox"/> Approved | <input type="checkbox"/> Wish to see again with corrections | Date | Signature |

*L.D.*

To: Mining Lands Section, Room 6462, Whitney Block. (Tel: 5-1380)



MEA 84 03 06

ASSESSOR

D.K. - June 11/84.

Approved Reports of Work  
sent out

Notice of Intent filed

Approval after Notice of Intent  
sent out

Duplicate sent to Resident  
Geologist

Duplicate sent to A.F.R.O.

**GOLD FIELDS CANADIAN MINING, LTD.**

A Consolidated Gold Fields Group Company

230 LAKESHORE ROAD EAST, SUITE 335  
MISSISSAUGA, ONTARIO L5G 1G8  
PHONE: (416) 271-0181  
TELEX 06-960446

February 6, 1984

Mr. A. Barr  
Mining Lands Section  
Land Management Branch  
Ministry of Natural Resources  
Room 6643, Whitney Block  
Queen's Park  
Toronto, Ontario  
M7A 1W3

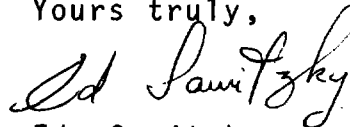
Dear Mr. Barr:

Enclosed are two copies of a geological report, the pertinent maps, and the completed "Technical Data Statement" on 28 mining claims (listed below) in the Horwood Lake (Foley area) of Ontario.

Claim group consists of the following:

625899 to 625892 (incl.)  
625900 to 625903 (incl.)  
625906 to 625911 (incl.)  
625941 to 625943 (incl.)  
720835 to 720841 (incl.)

Yours truly,



Ed. Sawitzky  
Geologist

ES/lm

encl

**RECEIVED**

FEB 22 1984

MINING LANDS SECTION

1. Type of Survey GEOLOGICAL
2. Township or Area HORWOOD
3. Numbers of Mining Claims Traversed by Survey P 625892, 625893, 625903, 625906  
625911, 625941, 625942, 625943.
4. Number of Miles of Line Cut 34.98 km Flown ---
- \*5. Number of Stations Established \_\_\_\_\_
- \*6. Make and type of Instrument Used \_\_\_\_\_
- \*7. Scale Constant or Sensitivity \_\_\_\_\_
- \*8. Frequency Used and Power Output \_\_\_\_\_

9. Summary of Assessment Credits (details on reverse side)

Total ~~10~~ hour Technical Days (Include Consultants, Draughting etc.) 123

Total 8 hour Line-Cutting Days \_\_\_\_\_

Calculation (10 hrs = 8.7)

$$\frac{123}{\text{Technical}} \times \frac{8.7}{\cancel{X}} = \frac{1,076.25}{\text{Line-cutting}} = \frac{1,076.25}{21} = \frac{40}{\text{Assessment credits per claim}}$$

The dates listed on this form represent working time spent entirely within the limits of the above listed claims  Check  
If otherwise, please explain \_\_\_\_\_

Dated: Feb. 21 / 84

Signed: [Signature]

- Note: (A) \* Complete only if applicable.  
(B) Complete list of names, addresses and dates on reverse side.  
(C) Submit separate breakdown for each type of survey.  
(D) Submit in duplicate.

Details of Assessment Work Breakdown

FIELD WORK

| <u>Type of Work</u> | <u>Name &amp; Address</u> | <u>Dates Worked</u> | <u>Number of<br/>8 hour days</u> |
|---------------------|---------------------------|---------------------|----------------------------------|
| Geology             | Ed Sawitzky               | July 28-Dec.16/82   | 10 28                            |
| "                   | Pat Pope                  | July 28-Nov.5/82    | 25                               |
| "                   | Ian Reid                  | July 28-Aug.28/82   | 25                               |
| "                   | Daniel Joubert            | July 28-Nov.5/82    | 6                                |
| "                   | Alain Cotnoir             | July 28-Aug. 21/82  | 22                               |

CONSULTANTS

| <u>Name &amp; Address</u> | <u>Dates Worked (specify in field or office)</u> | <u>Number of<br/>8 hour days</u> |
|---------------------------|--|----------------------------------|
| -----                     | -----  |                                  |
| -----                     | -----  |                                  |
| -----                     | -----  |                                  |

DRAUGHTSMAN, TYPING, OTHERS (specify)

| <u>Name &amp; Address</u> | <u>Type of Work</u>     | <u>Dates Worked</u> | <u>Number of<br/>8 hour days</u> |
|---------------------------|-------------------------|---------------------|----------------------------------|
| Ed Sawitzky               | Drafting/Report writing | July 28-Dec16/82    | 10 5                             |
| Pat Pope                  | Drafting                | July 28-Nov.5/82    | 6                                |
| Daniel Joubert            | "                       | July 28-Nov.5/82    | 6                                |

TOTAL 8 HOUR TECHNICAL DAYS 123  
10

LINE-CUTTING

| <u>Name</u> | <u>Address</u> | <u>Dates Worked</u> | <u>Number of<br/>8 hour days</u> |
|-------------|----------------|---------------------|----------------------------------|
| -----       | -----          | -----               |                                  |
| -----       | -----          | -----               |                                  |
| -----       | -----          | -----               |                                  |
| -----       | -----          | -----               |                                  |
| -----       | -----          | -----               |                                  |

TOTAL 8 HOUR LINE-CUTTING DAYS \_\_\_\_\_

Our File: 2.6412

1984 02 29

Mining Recorder  
Ministry of Natural Resources  
60 Wilson Avenue  
Timmins, Ontario  
P4N 2S7

Dear Sir:

We have received reports and maps for a Geological survey submitted under Special Provisions (credit for Performance and Coverage) on mining claims P 625892 et al in the Township of Horwood.

This material will be examined and assessed and a statement of assessment work credits will be issued.

We do not have a copy of the report of work which is normally filed with you prior to the submission of this technical data. Please forward a copy as soon as possible.

Yours very truly,

J.R. Morton  
Acting Director  
Land Management Branch  
Ro  
Whitney Block  
Room 6643  
Queen's Park  
Toronto, Ontario  
M7A 1W3  
Phone: 416/965-1380

A. Barr:dg

cc: Darius Gold Mine Inc.  
335 - 230 Lakeshore Road East  
Mississauga, Ont.  
L5G 1G8  
Attn: Ed. Sawitzky

KEITH TWP M-962

THE TOWNSHIP OF

HORWOOD

DISTRICT OF  
SUBURY

PORCUPINE  
MINING DIVISION

SCALE 1-INCH 40 CHAINS

DISPOSITION OF CROWN LANDS

- PATENT, SURFACE AND MINING RIGHTS
- " SURFACE RIGHTS ONLY
- " MINING RIGHTS ONLY
- LEASE, SURFACE AND MINING RIGHTS
- " SURFACE RIGHTS ONLY
- " MINING RIGHTS ONLY
- LICENCE OF OCCUPATION
- ROADS
- IMPROVED ROADS
- KINGS HIGHWAYS
- RAILWAYS
- POWER LINES
- MARSH OR MUSKEG
- MINES
- CANCELLED REGISTERED PLAN OF SUBDIVISION

NOTES

400' Surface Rights Reservation  
along the shores of all lakes & rivers

PLAN NO. M-936

May 10/84 ONTARIO  
MINISTRY OF NATURAL RESOURCES  
SURVEYS AND MAPPING BRANCH

HARDIMAN TWP M-916

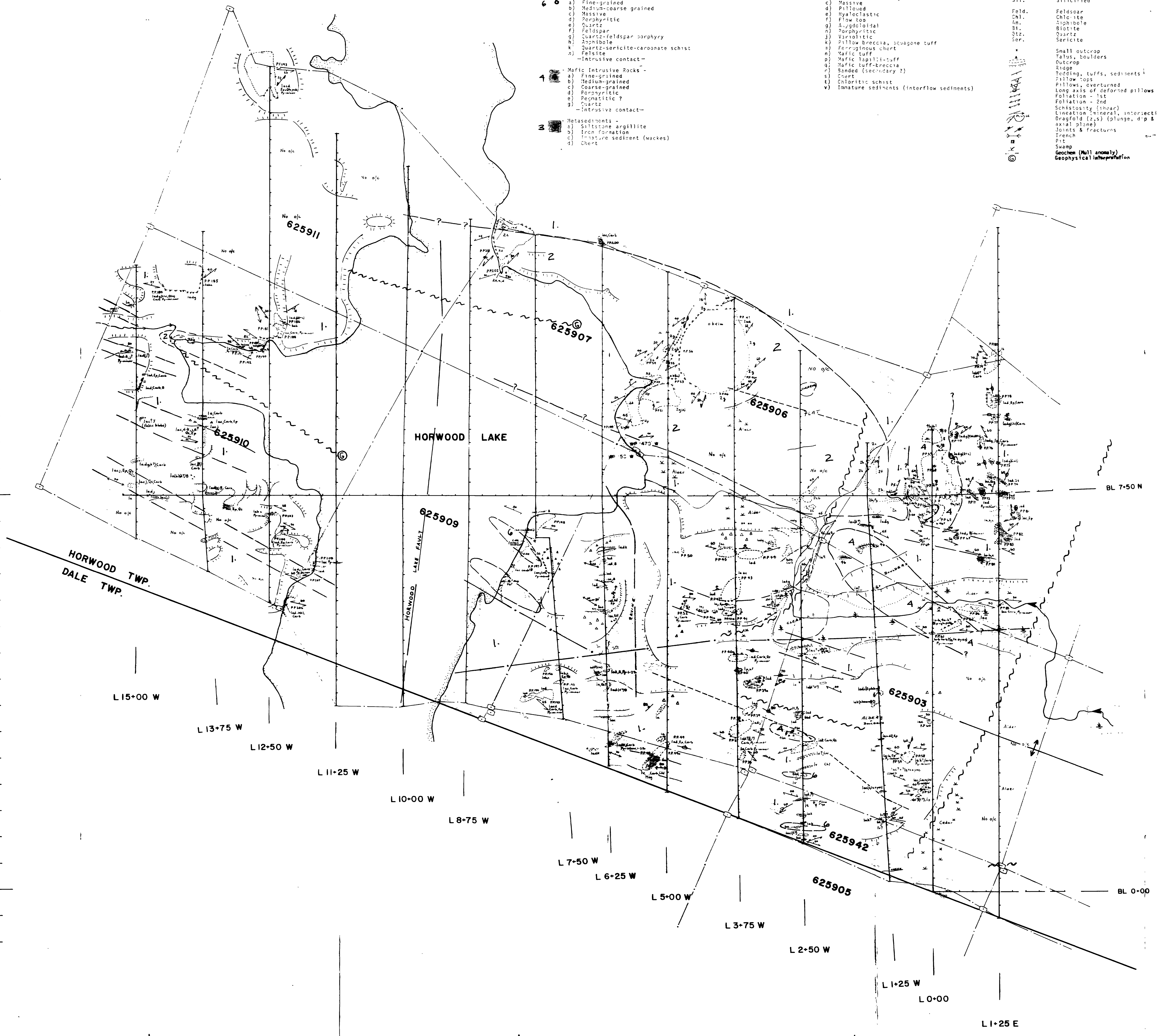
SILK TWP M-815

TON TWP M-3471

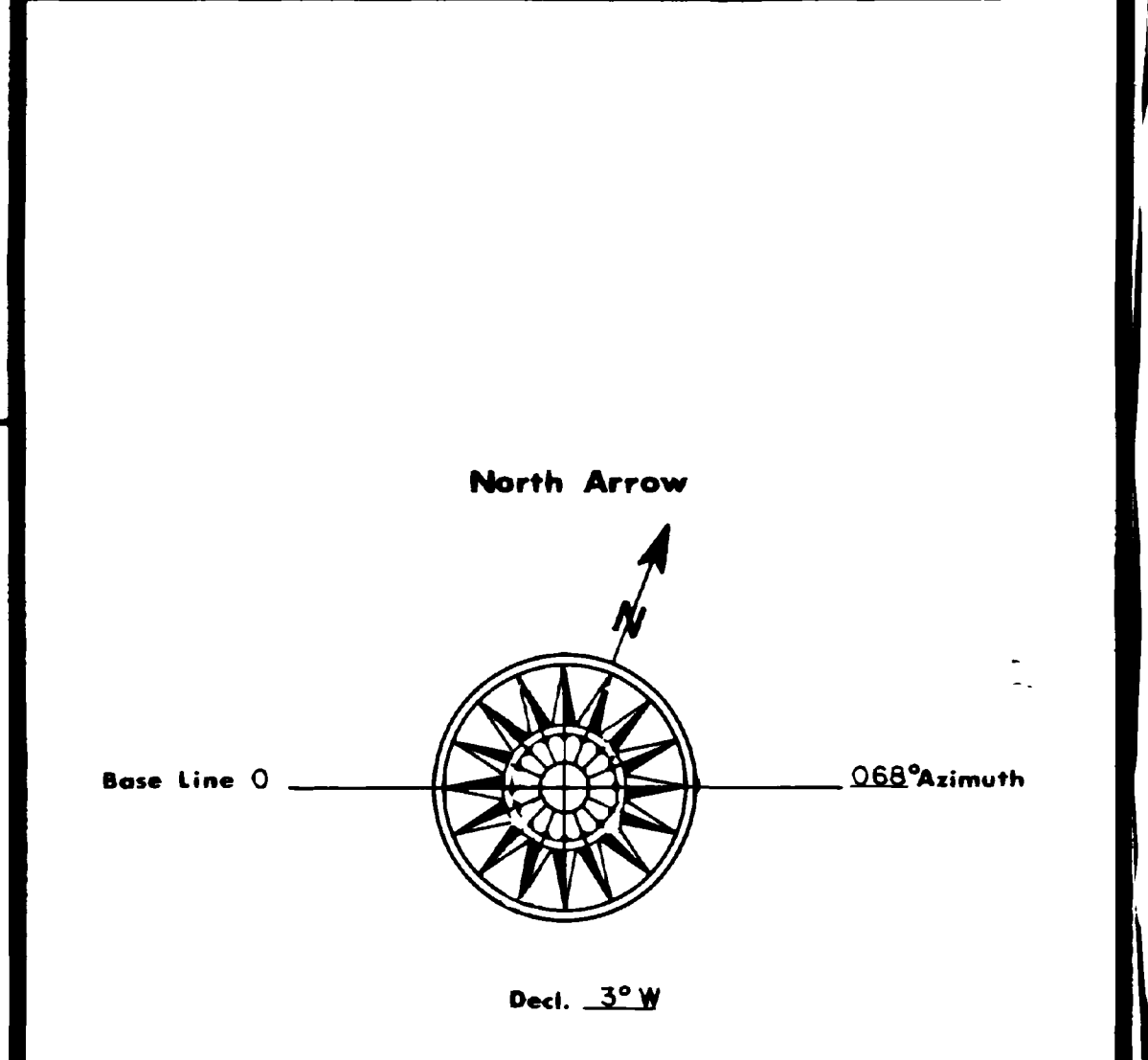
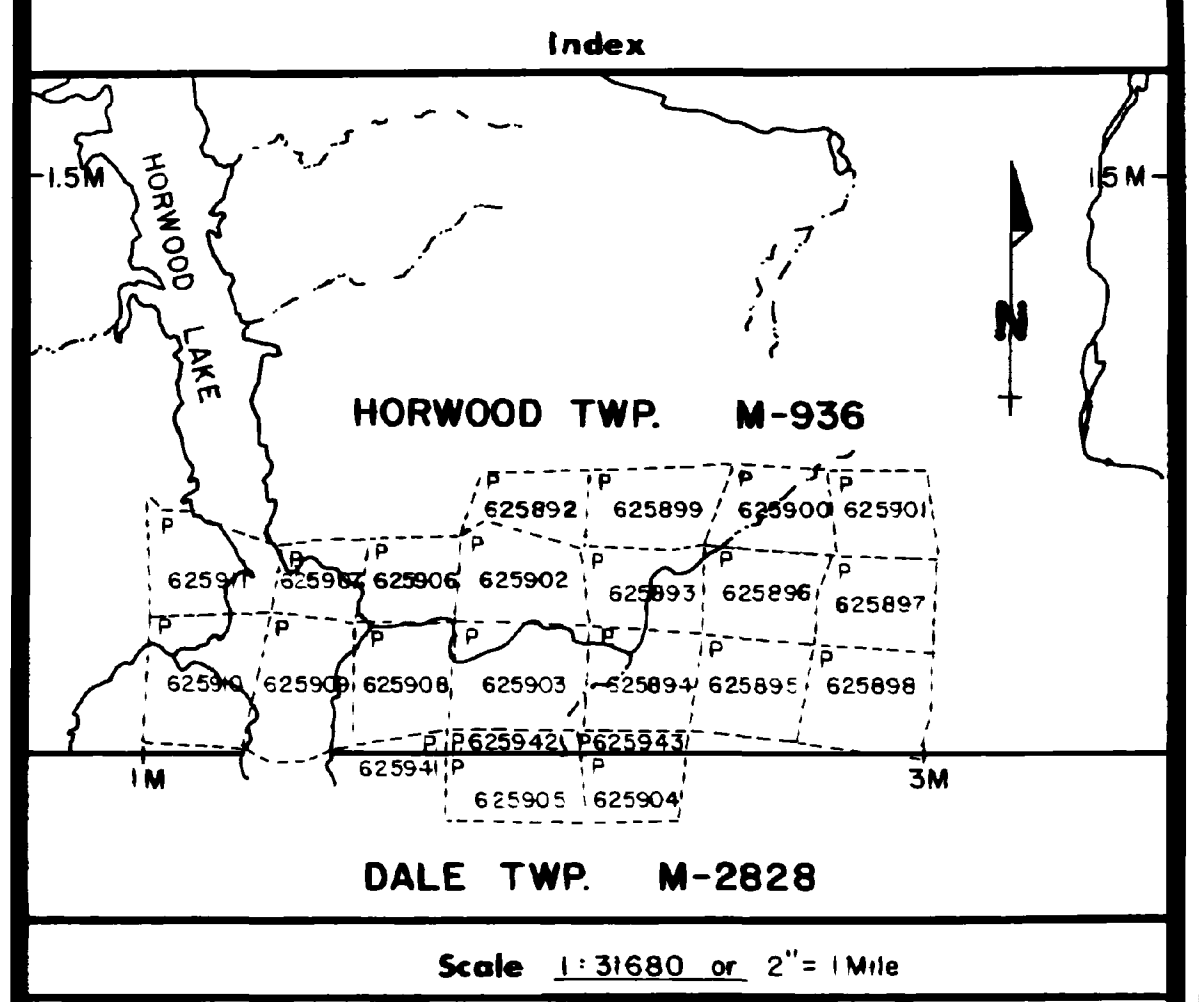
DALE TWP M-2828



16-00 N  
15-50 N  
15-00 N  
14-50 N  
14-00 N  
13-50 N  
13-00 N  
12-50 N  
12-00 N  
11-50 N  
11-00 N  
10-50 N  
10-00 N  
9-50 N  
9-00 N  
8-50 N  
8-00 N  
BL 7-50 N  
7-00 N  
6-50 N  
6-00 N  
5-50 N  
5-00 N  
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BL 0-00  
0-50 S  
1-00 S



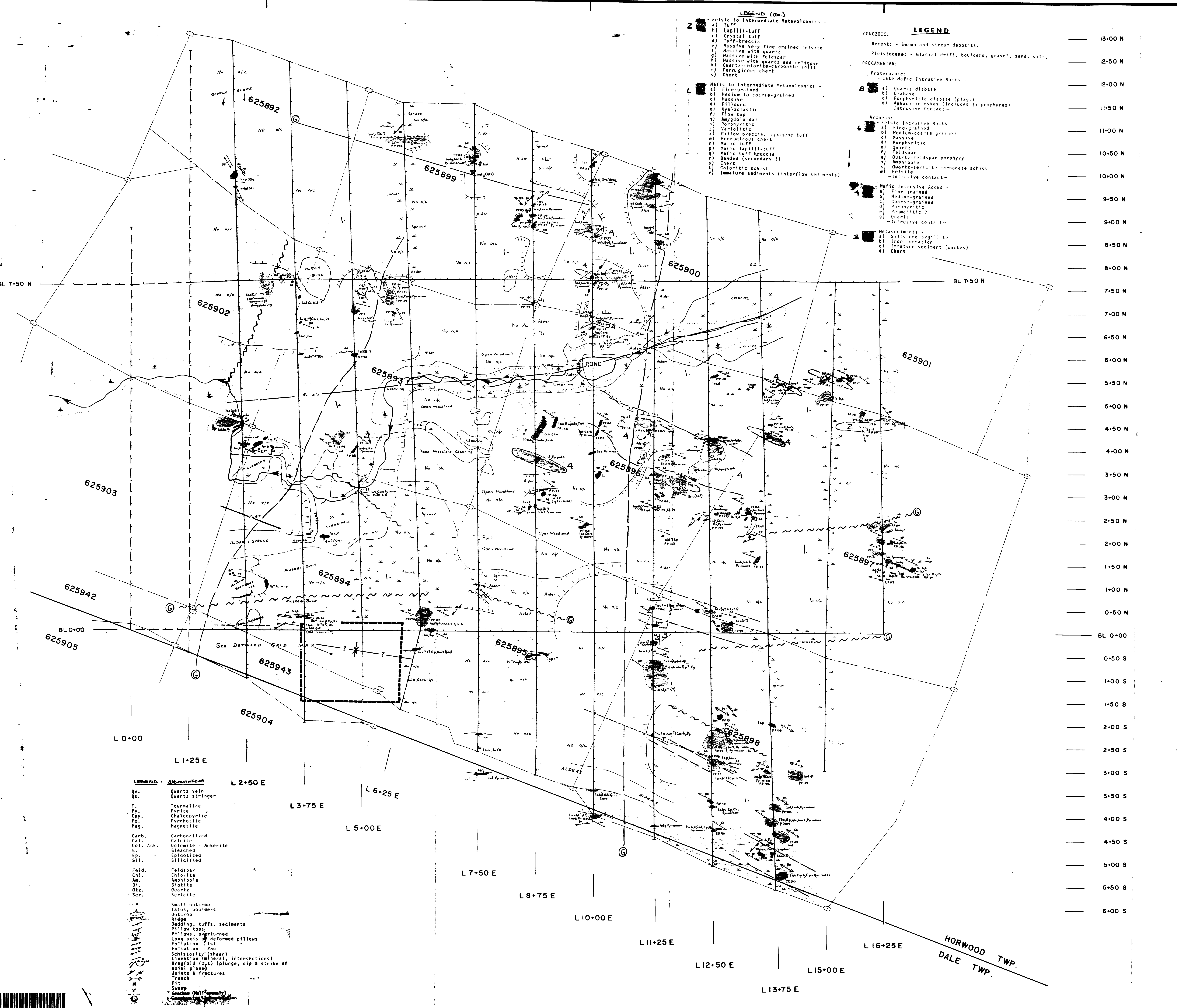
- LEGEND**
- CENOZOIC:**  
Recent: - Swamp and stream deposits.  
Pleistocene: - Glacial drift, boulders, gravel, sand, silt, clay.
- PRECAMBRIAN:**  
Proterozoic:  
- Late Mafic Intrusive Rocks -  
1 a) Quartz diabase  
b) Diabase  
c) Porphyritic diabase (plag.)  
d) Aphanitic dykes (includes lamprophyres)  
- Intrusive Contact -
- Archean:  
6 a) Felsic Intrusive Rocks -  
1) Fine-grained  
2) Medium to coarse grained  
c) Massive  
d) Porphyritic  
e) Quartz  
f) Feldspar  
g) Quartz-feldspar porphyry  
h) Amphibole  
k) Quartz-sericite-carbonate schist  
n) Felsite  
- Intrusive contact -
- 4 Mafic Intrusive Rocks -  
a) Fine-grained  
b) Medium-grained  
c) Coarse-grained  
d) Porphyritic  
e) Pegmatitic ?  
g) Quartz  
- Intrusive contact -
- 3 Metasediments:  
a) Siltsstone argillite  
b) Iron formation  
c) Intra-sediment (wackes)  
d) Chert
- 2 Felsic to Intermediate Metavolcanics -  
a) Tuff  
b) Lapilli-tuff  
c) Crystal-tuff  
d) Tuff-breccia  
e) Massive very fine grained felsite  
f) Massive with quartz  
g) Massive with feldspar  
h) Massive with quartz and feldspar  
k) Quartz-chlorite-carbonate unit  
s) Chert
- 1 Mafic to Intermediate Metavolcanics -  
a) Fine-grained  
b) Medium to coarse-grained  
c) Massive  
d) Pillowed  
e) Mylonitic  
f) Flow top  
g) S-gedoloidite  
h) Porphyritic  
j) Variolitic  
k) Pillow breccia, scoria tuff  
l) Ferruginous chert  
m) Mafic tuff  
n) Mafic lapilli-tuff  
o) Mafic tuff-breccia  
p) Banded (secondary ?)  
s) Chert  
t) Chloritic schist  
v) Immature sediments (interflow sediments)
- Qv. Quartz vein  
Qs. Quartz stringer  
T. Tourmaline  
Py. Pyrite  
Cpy. Chalcopyrite  
Po. Pyromorphite  
Mag. Magnetite  
Carb. Carbonatized  
Cal. Calcite  
Gnl. Ank. Goussierite - Ankerite  
B. Bleached  
Epi. Epithermal  
Sil. Silicified  
Feld. Feldspar  
Chl. Chlorite  
Am. Amphibole  
Bt. Biotite  
Qtz. Quartz  
Ser. Sericite  
Small outcrop  
Talus, boulders  
Outcrop  
Ridge  
Sedding, tuffs, sediments  
Pillow tops  
Pillows, overturned  
Long axis of deformed pillows  
Foliation - 1st  
Foliation - 2nd  
Schistosity (shear)  
Lineation (mineral, intersections)  
Drag fold (Z) (plunge, dip & strike of axial plane)  
Joints & fractures  
Trench  
Pit  
Swamp  
Geochem (Null anomaly)  
Geophysical interpretation



- Legend**
- Lake
  - Stream
  - Wet Swamp
  - Swamp
  - Beaver Dam
  - Road
  - Water Dam
  - Rail Road
  - Power line
  - Cliff
  - Terrain body
  - Out crop
  - Claim post
  - B.M.
  - B.S. (Base Station)
  - Ad.h.
  - Shaft
  - Building

**GEOLOGY MAP**  
SUMMER 1982  
E. SAWITZKY  
P. POPE

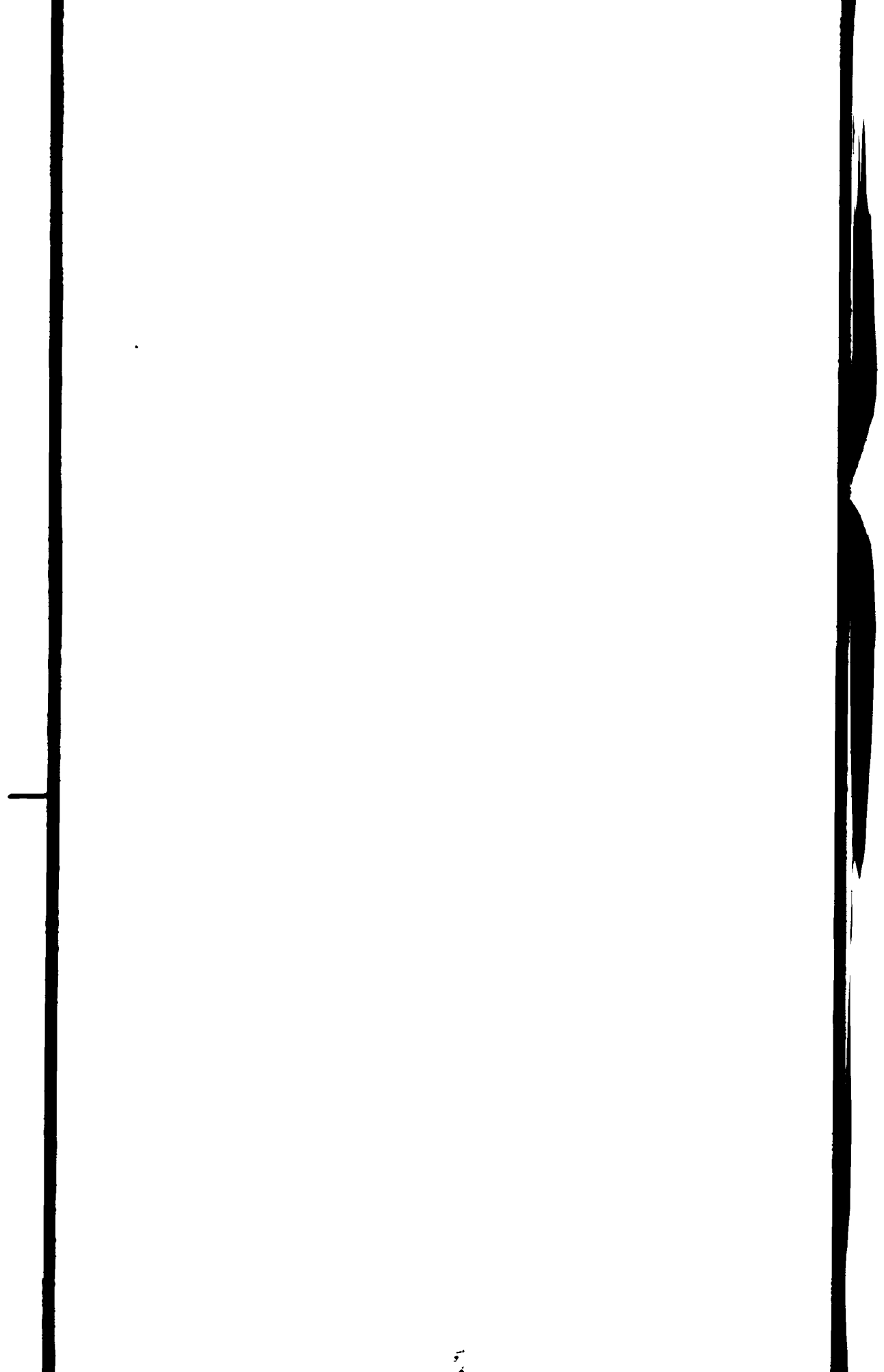
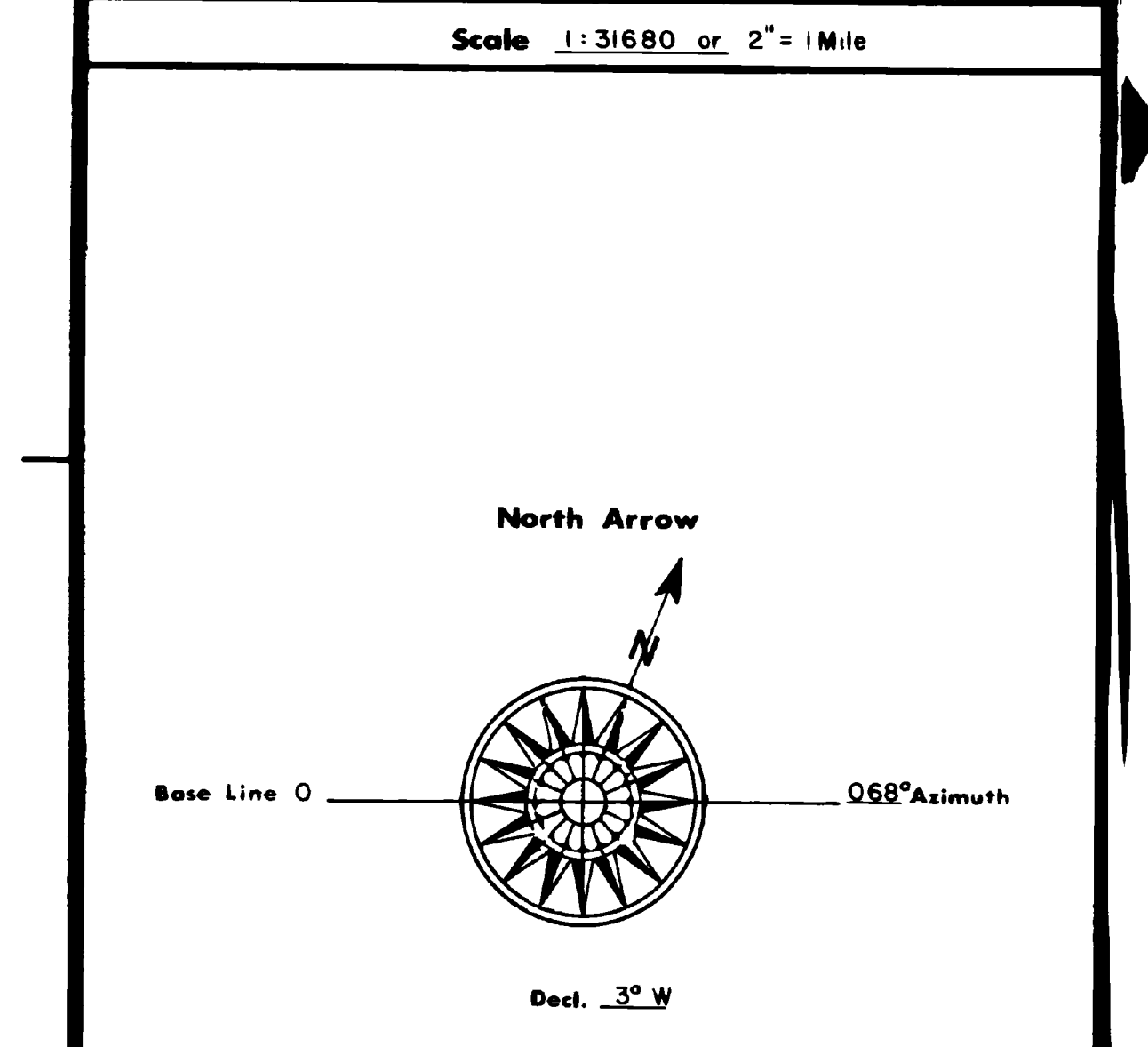
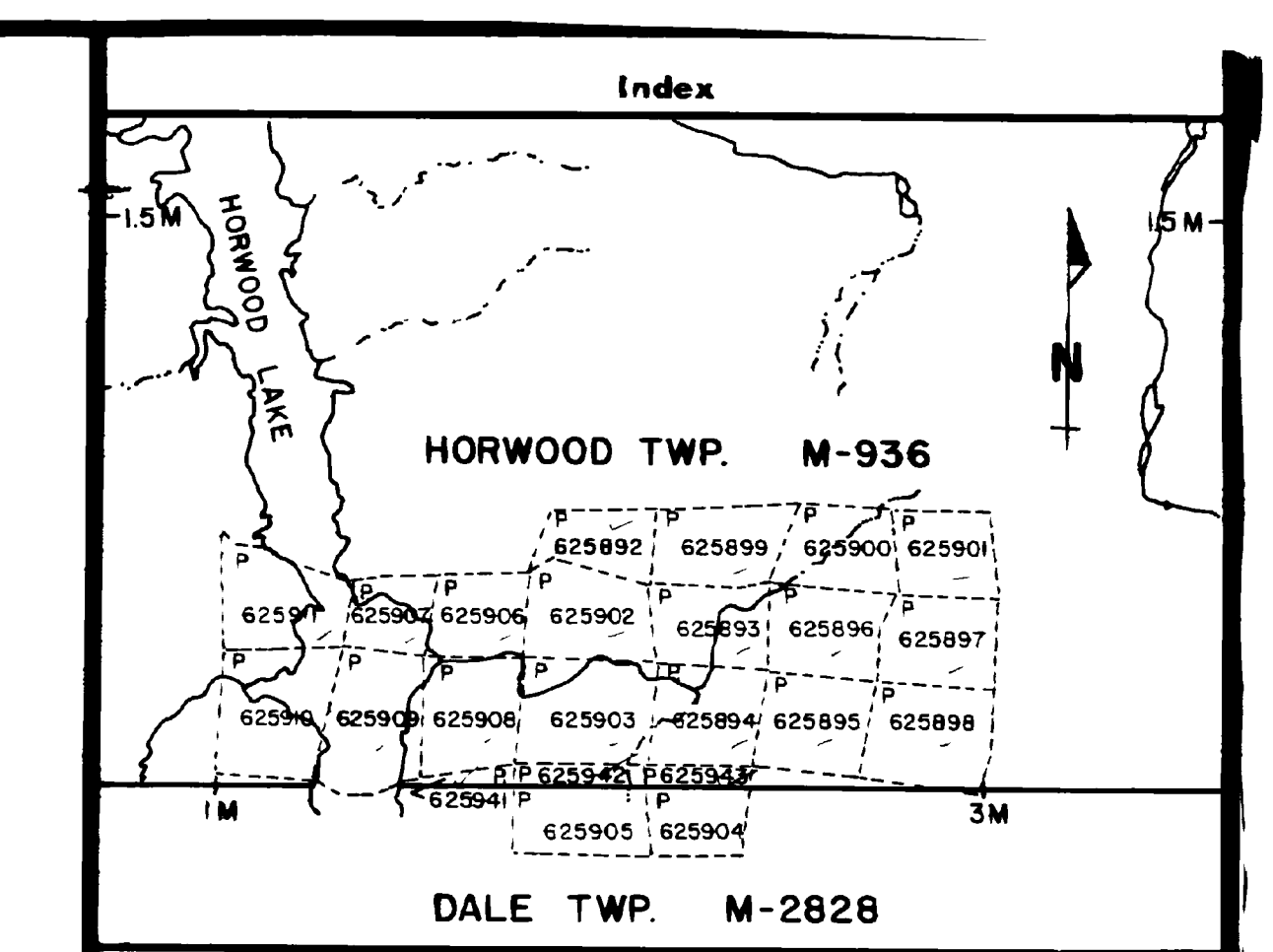
|   |                |
|---|----------------|
| Total line  | Total Readings |
| Metric  | English        |
|   |                |
| <p><b>Revisions</b></p> <p>Project: POTIMO<br/>Twp: Horwood<br/>Area: Foleyet, Ontario</p> <p>Scale: 1:2500<br/>Date: APRIL, 1982<br/>Grid by: DAVID J. GLIDDON<br/>Compiled by: M.T.S. 41-0/16</p> |                |



- LEGEND (con.)**
- 2 Felsic to Intermediate Metavolcanics -
    - a) Tuff
    - b) Lapilli-tuff
    - c) Crystal-tuff
    - d) Tuff-breccia
    - e) Massive very fine grained felsite
    - f) Massive with quartz
    - g) Massive with feldspar
    - h) Massive with quartz and feldspar
    - i) Quartz-chlorite-carbonate schist
    - m) Ferruginous chert
    - s) Chert
  - 4 Mafic to Intermediate Metavolcanics -
    - a) Fine-grained
    - b) Medium to coarse-grained
    - c) Massive
    - d) Pillowed
    - e) Hyaloclastic
    - f) Flow top
    - g) Angular/oidal
    - h) Porphyritic
    - i) Variolitic
    - j) Pillow breccia, aquagone tuff
    - k) Ferruginous chert
    - m) Mafic tuff
    - n) Mafic lapilli-tuff
    - o) Mafic tuff-breccia
    - p) Banded (secondary?)
    - s) Chert
    - t) Chloritic schist
    - v) Immature sediments (interflow sediments)

- LEGEND**
- CENOZOIC:**
- Recent - Swamp and stream deposits.
  - Pleistocene - Glacial drift, boulders, gravel, sand, silt.
- PRECAMBRIAN:**
- Proterozoic:
    - Late Mafic Intrusive Rocks -
      - a) Quartz diabase
      - b) Diabase
      - c) Porphyritic diabase (plag.)
      - d) Aphanitic dykes (includes lamprophyres)
      - e) Intrusive Contact
    - Archean:
      - Felsic Intrusive Rocks -
        - a) Fine-grained
        - b) Medium-coarse grained
        - c) Massive
        - d) Porphyritic
        - e) Quartz
        - f) Feldspar
        - g) Quartz-feldspar porphyry
        - h) Amphibole
        - i) Quartz-sericite-carbonate schist
        - m) Felsite
      - Intrusive contact -
    - Mafic Intrusive Rocks -
      - a) Fine-grained
      - b) Medium-grained
      - c) Coarse-grained
      - d) Porphyritic
      - e) Pegmatitic?
      - g) Quartz
    - Intrusive contact -
  - Metasediments -
    - a) Siltsone argillite
    - b) Iron formation
    - c) Immature sediment (wackes)
    - g) Chert

- LEGEND: Abbreviations**
- Qv. Quartz vein
  - Qs. Quartz stringer
  - T. Tourmaline
  - Py. Pyrite
  - Chp. Chalcopyrite
  - Py. Pyrrhotite
  - Mag. Magnetite
  - Carb. Carbonatized
  - Cal. Calcite
  - Dol. Ank. Dolomite - Ankerite
  - B. Bleached
  - Ep. Epitaxial
  - Sil. Silicified
  - Feld. Feldspar
  - Chl. Chlorite
  - Am. Amphibole
  - Bl. Biotite
  - Qtz. Quartz
  - Ser. Sericite
  - Small outcrop
  - Talus, boulders
  - Outcrop
  - Ridge
  - Bedding, tuffs, sediments
  - Pillow tops
  - Pillows, overturned
  - Long axis of deformed pillows
  - Foliation - 1st
  - Foliation - 2nd
  - Schistosity (shear)
  - Lineation (linear, intersections)
  - Dragfold (Z<sub>2</sub>) (plunge, dip & strike of axial plane)
  - Joints & fractures
  - Trench
  - Pit
  - Swamp
  - Concave (Null anomaly)



- Legend**
- Lake
  - Stream
  - Wet Swamp
  - Swamp
  - Beaver Dam
  - Road
  - Winter Road
  - Rail Road
  - Power line
  - Cliff
  - Terrain body
  - Our crop
  - Claim post
  - B.M.
  - B.S. (Base Station)
  - d.d.h.
  - Shaft
  - Building

**GEOLGY MAP**

SUMMER 1982

E. SAWITZKY

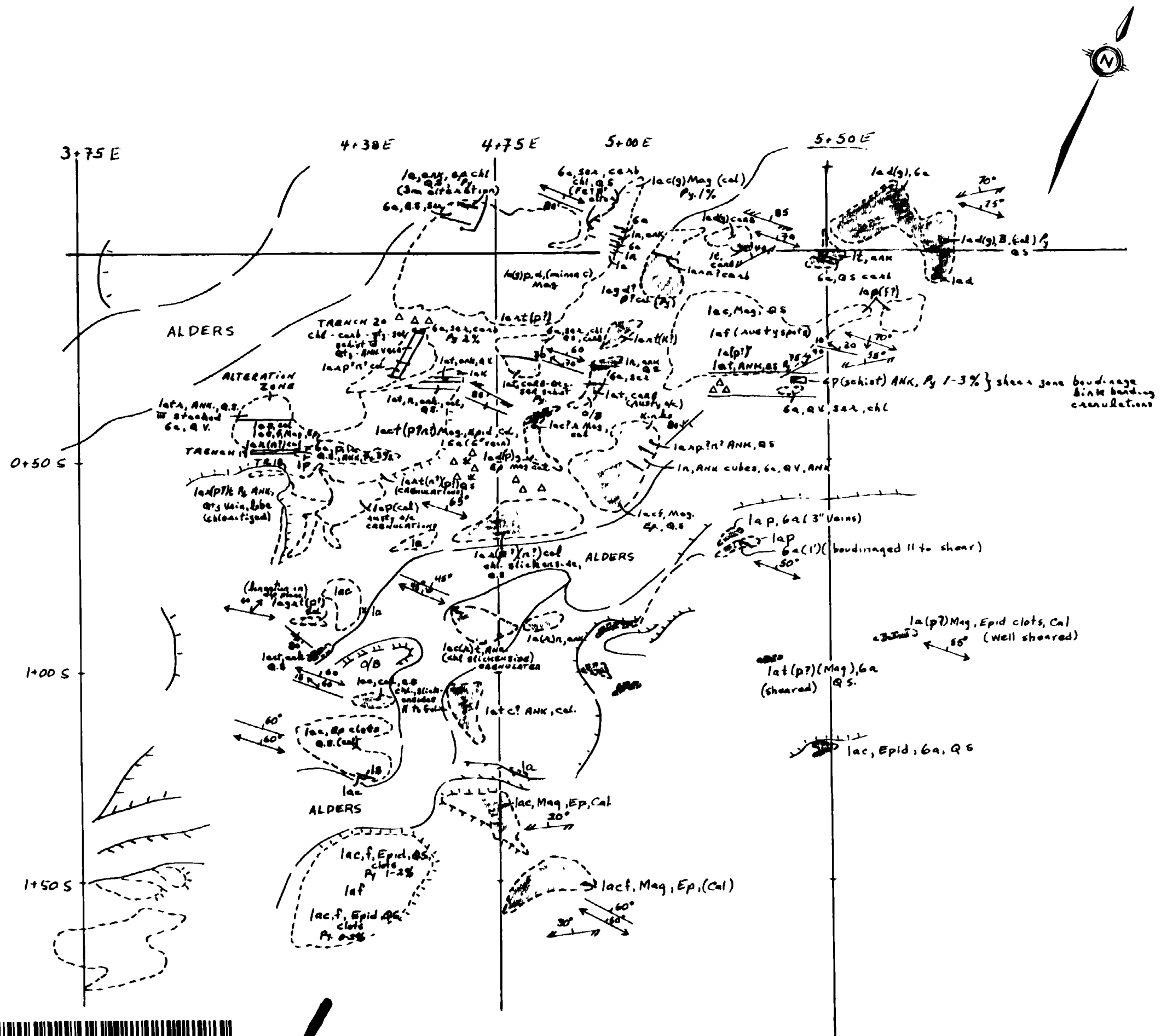
P. POPE

See Legend on Map 2

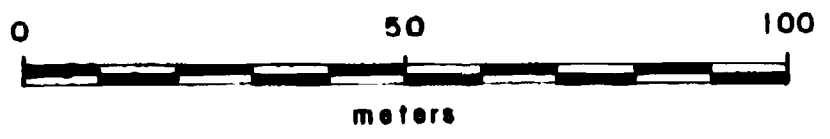
|            |                           |
|------------|---------------------------|
| Total line | Total Readings            |
| Metric     | 0 100m 200m               |
| English    | 0 100 200 300 400 500     |
| Revisions  | <b>GOLD FIELDS MINING</b> |
| Project    | POTIMO                    |
| Twp.       | Horwood                   |
| Area       | Foleyet, Ontario          |
| Scale      | 1:2500                    |
| Date       | APRIL, 1982               |
| Grid by    | DAVID J. GLIDDON          |
| Contour by |                           |

2 of 2





- LEGEND**
- ARCHEAN G Felsic Intrusive Rocks
- (a) Fine-grained
  - (b) Med-coarse grained
  - (c) massive
  - (d) Pillowed
  - (e) Hyaloclastic
  - (f) flow top
  - (g) Amygdaloidal
  - (h) Porphyritic
  - (j) Variolitic
  - (k) Pillow breccia, aquagere tuff
  - (m) Ferruginous chert
  - (n) Mafic tuff
  - (p) Mafic lapilli-tuff
  - (q) Mafic tuff-breccia
  - (r) Banded (secondary?)
  - (s) Chert
  - (t) chloritic schist
  - (v) Immature sediments (inter-flow scumblings)



230

|                       |  |  |
|-----------------------|--|--|
| <b>Revisions</b>      | <b>GOLD FIELDS RESOURCES CANADA LTD.</b> |  |
| <b>Month/Day/Year</b> | <b>GEOLOGY: ALTERATION ZONE</b>          |  |
|                       | <b>Potimo Claim Group</b>                |  |
|                       | <b>HORWOOD Twp., ONTARIO</b>             |  |
| Scale: 1:1,000        | Map No.                                  |  |
| Date: Aug. 1982       | 8106.3.2 c                               |  |
| Drawn By: E. SAWITZKY |  |  |
|                       | N.T.S. 41-0/16                           |  |