

41104NW0007 2.11503 MCKINNON

010

EXPLORATION REPORT  
ON THE  
ESPANOLA PROPERTY  
MONGOWIN AND MCKINNON TOWNSHIPS,  
PROVINCE OF ONTARIO  
NTS 41 1/4

PREPARED FOR  
HARDIMAN BAY RESOURCES INC.

DERRY, MICHENER, BOOTH & WAHL

J. R. Lawton, B.Sc.

P. A. Hartwick, B.Sc.

RECEIVED

AUG 12 1988

MINING LANDS SECTION

Toronto, Ontario  
August 10, 1988

Ref.: 88-79

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**SUMMARY**

During the period from May 12 to June 13, 1988, Derry, Michener, Booth & Wahl (DMBW), on behalf of Hardiman Bay Resources Inc., carried out a geological mapping and sampling program on the Espanola property, Mongowin and McKinnon townships, Ontario, located about 70 km southwest of Sudbury and 11 km south of the town of Espanola, Ontario.

A property-wide mapping, trenching and sampling program was proposed because despite the fact that the region has been the object of intermittent gold exploration since the early 1920's which resulted in the discovery of many gold showings and two small deposits, exploration on the Espanola property itself has been limited to localized trenching, stripping and sampling carried out within the last few years by the property vendor.

The property is predominantly underlain by an east-west striking, steeply to moderately dipping, sequence of Huronian clastic sediments crosscut by Middle to Late Precambrian mafic intrusive dykes and sills. The sedimentary sequence has been folded about east-west trending axes. The Fox Lake antiform crosscuts the centre of the property.

Two 10 m wide quartz and quartz-carbonate vein zones, similar to known gold vein occurrences in the area, intrude the sediments approximately parallel to stratigraphy.

The entire property was mapped at a scale of 1:2,500. In addition, an area covering the main zone of interest was mapped at a scale of 1:1,000. Extensive trenching was carried out over the main zone and along strike to the west. Channel sampling was conducted in each trench.

Results of the sampling have not been particularly encouraging. The average silica content in the main zone is 79.87% SiO<sub>2</sub> which is considerably less than typical requirements for silica flux SiO<sub>2</sub> purity at the Sudbury smelters (90% to 92%). The average gold value obtained was 37 ppb Au with only four samples

(ii)

returning over 100 ppb. It was hoped that consistently anomalous Au values of from 300 to 500 ppb Au in the main silica zone would have served to increase the economic attractiveness of the flux material; however, the gold values obtained are too low to be of economic significance.

DMBW, therefore, recommends that no further work be carried out on Hardiman Bay Resources Inc. Espanola property at this time.

## INTRODUCTION

The following report was prepared by Derry, Michener, Booth & Wahl (DMBW) at the request of Hardiman Bay Resources Inc. The report describes the results of a linecutting, mapping and sampling program conducted by J. R. Lawton, DMBW contract geologist, and two technicians, during the period from May 12, 1988 to June 13, 1988.

## PROPERTY LOCATION, DESCRIPTION AND ACCESS

The Espanola property is located in Mongowin and McKinnon townships, approximately 70 km southwest of Sudbury and 11 km south of the town of Espanola, Ontario, as shown in Figure 1. The property consists of the following 45 unpatented mining claims covering about 700 hectares as listed in Table 1 and shown in Figure 2.

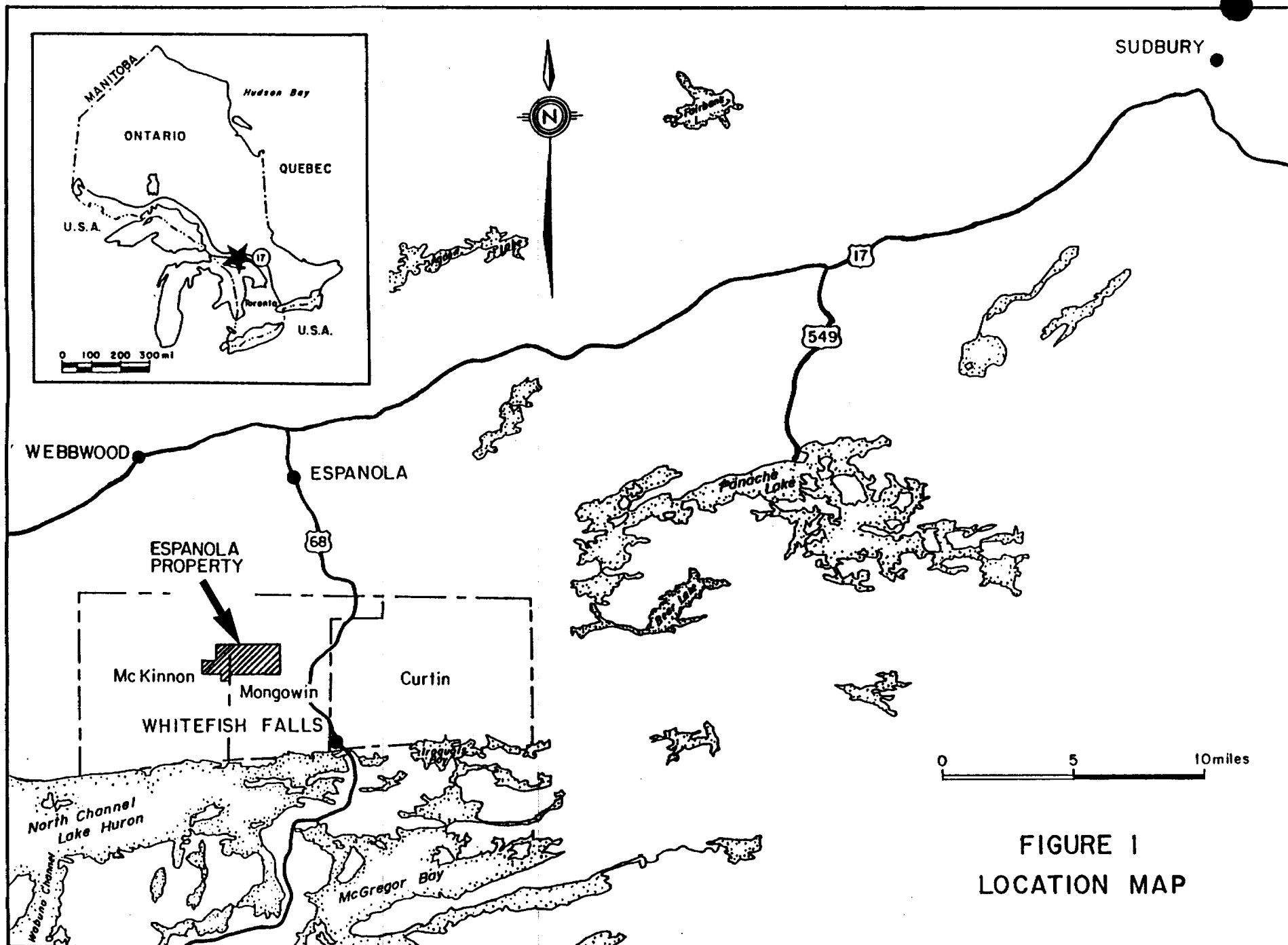
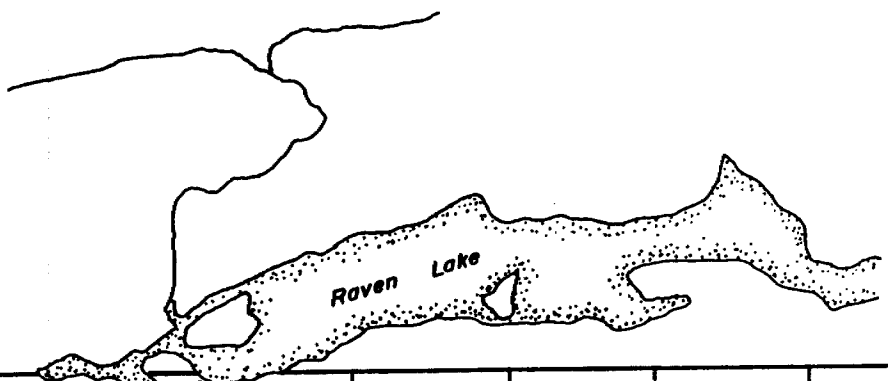
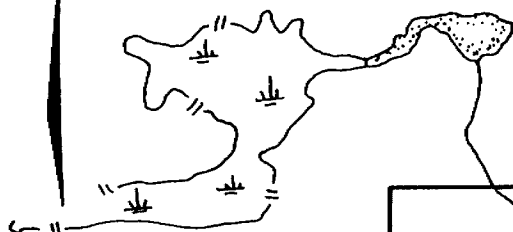


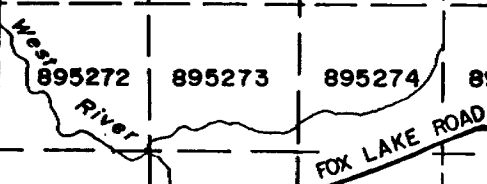
FIGURE 1  
LOCATION MAP



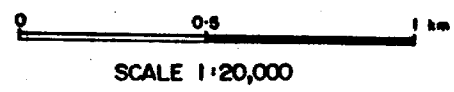
McKINNON TWP.  
MONGOWIN TWP.



|        |        |        |        |        |        |        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 895312 | 895313 | 895260 | 895261 | 895262 | 895263 | 895264 | 895265 | 895266 | 895267 |        |        |
| 895310 | 895311 | 895268 | 895269 | 895270 | 895271 | 895272 | 895273 | 895274 | 895275 |        |        |
| 895306 | 895307 | 895207 | 787614 | 791240 | 791241 | 791242 | 791243 | 791244 | 827042 | 895276 | 895277 |
| 895308 | 895309 | 895206 | 895204 | 983605 | 983606 | 983607 | 983608 | 827044 | 827043 | 895278 | 895279 |



895205



NOTE: All claim numbers are preceded with an 'S' (Sudbury)

FIGURE 2  
CLAIM MAP  
(Up-dated April, 1988)



Table 1  
List of Claims

| <u>Claim Number</u>      | <u>Date of Record</u> | <u>Total Days<br/>Credit<br/>Approved And<br/>Applied For</u> | <u>Anniversary Date*</u> |
|--------------------------|-----------------------|---|--------------------------|
| <u>Mongowin Township</u> |                       |   |                          |
| S791240                  | April 17, 1984        | 200   | April 17, 1990           |
| S791241                  | April 17, 1984        | 140   | April 17, 1990           |
| S791242                  | April 17, 1984        | 200   | April 17, 1990           |
| S791243                  | April 17, 1984        | 200   | April 17, 1990           |
| S791244                  | April 17, 1984        | 200   | April 17, 1990           |
| S827042                  | April 24, 1985        | 133   | April 24, 1989           |
| S827043                  | April 24, 1985        | 200   | April 24, 1990           |
| S827044                  | April 24, 1985        | 200   | April 24, 1990           |
| S895260 - S895267        | June 19, 1987         | 20  | June 19, 1989            |
| S895268 - S895271        | June 19, 1987         | 60  | June 19, 1989            |
| S895272 - S895279        | June 19, 1987         | 20  | June 19, 1989            |
| S983605 - S983608        | June 2, 1987          | 60  | June 2, 1989             |
| <u>McKinnon Township</u> |                       |   |                          |
| S787614                  | April 17, 1984        | 150   | April 17, 1989           |
| S895204                  | March 24, 1987        | 40  | March 24, 1989           |
| S895205                  | March 24, 1987        | 20  | March 24, 1989           |
| S895206                  | March 24, 1987        | 40  | March 24, 1989           |
| S895207                  | March 24, 1987        | 60  | March 24, 1990           |
| S895306                  | June 19, 1987         | 20  | June 19, 1989            |
| S895307                  | June 19, 1987         | 60  | June 19, 1990            |
| S895308                  | June 19, 1987         | 20  | June 19, 1989            |
| S895309                  | June 19, 1987         | 30  | June 19, 1989            |
| S895310-S895311          | June 19, 1987         | 60  | June 19, 1990            |
| S895312-S895313          | June 19, 1987         | 20  | June 19, 1989            |

\* The anniversary dates given are based in part on the recent Report of Work forms filed with The Ministry of Northern Development and Mines (reproduced in Appendix D).

Access to the property is excellent. From Trans-Canada Highway No. 17 drive south on Highway 6 through Espanola for a distance of about 16 km to the all-weather gravel Fox Lake Road, then drive west for 7 km. The Fox Lake Road bisects the entire property.

DMBW has not examined title to the claims nor substantiated their physical boundaries and, accordingly, expresses no opinion as to validity of title and property description.

### EXPLORATION HISTORY

There has been sporadic exploration in the Mongowin and McKinnon townships area since the early 1800's when the Wallace Mine was discovered, the first nickel find in Canada. For a more complete discussion of several regional gold occurrences and deposits refer to Hartwick and Woolham (1987).

The only recorded exploration work that has been carried out on the Espanola property itself has occurred since 1984. The work was carried out by Mr. D. A. Brunne and consisted of a considerable amount of trenching, stripping and blasting. See Appendix I, from Hartwick and Woolham (1987), for details.

### REGIONAL GEOLOGY

The bedrock geology in the Espanola property area comprises two major groups; Huronian Supergroup stratigraphy consisting of slightly metamorphosed quartzites, argillites, greywackes, conglomerates and carbonates; and Middle to Late Precambrian mafic intrusives, generally in the form of crosscutting dykes and conformable sills (Robertson et al., 1972). All rocks are part of the Southern Province of the Canadian Shield (see Figure 3).

The oldest rocks in the area belong to the Espanola Formation which consists of interbedded calcareous and magnesium-rich carbonates and very fine

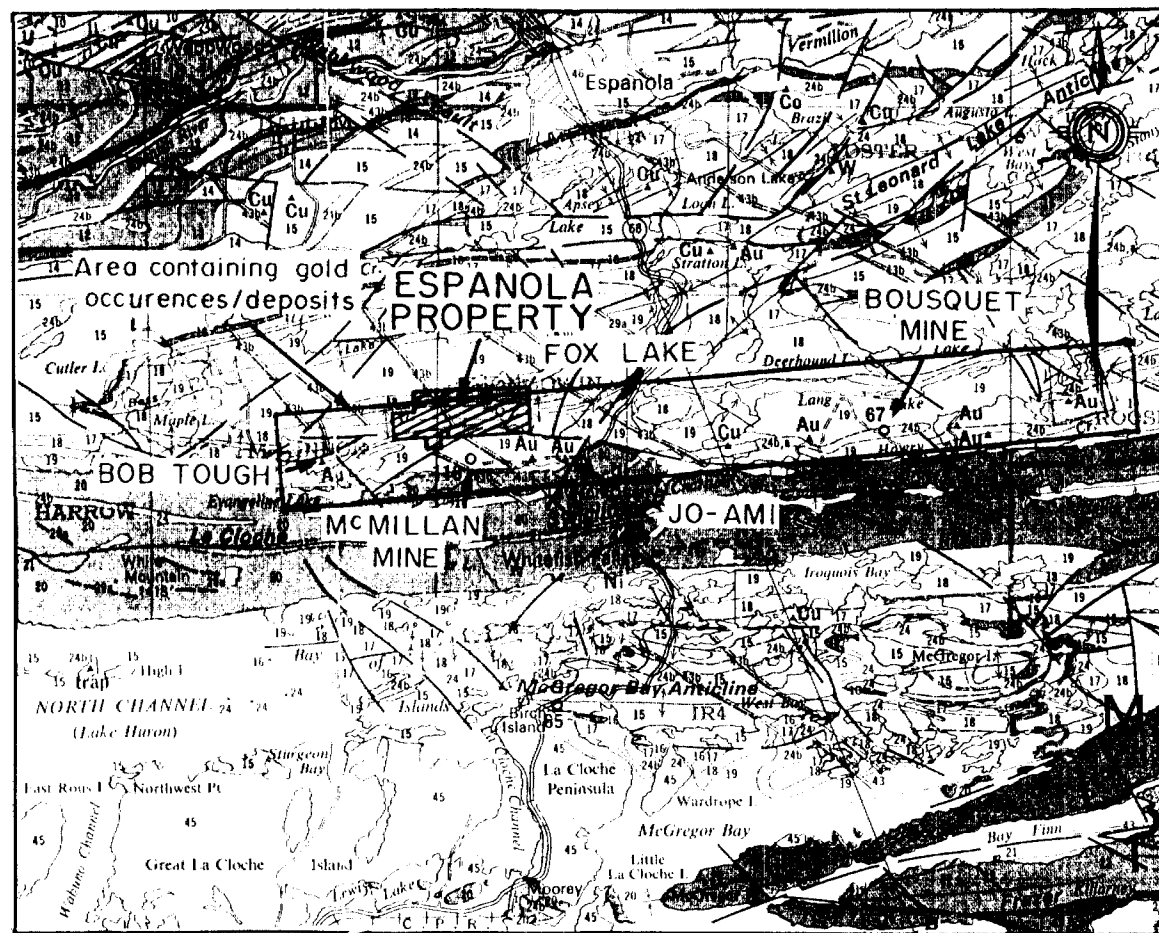


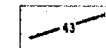
FIGURE 3  
REGIONAL GEOLOGY

## LEGEND

### PRECAMBRIAN

#### LATE PRECAMBRIAN

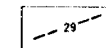
##### MAFIC INTRUSIVE ROCKS<sup>b</sup>



- 43 Unsubdivided.
- 43a Diabase, quartz diabase dikes.
- 43b Olivine diabase dikes.
- 43c Gabbro, norite, pyroxenite, peridotite stocks.
- 43d Partly serpentinized peridotite and minor olivine gabbro stocks.

#### MIDDLE PRECAMBRIAN

##### LATE MAFIC INTRUSIVE ROCKS



- 29 Unsubdivided.
- 29a Magnetite, ilmenite, amphibole.
- 29b Peridotite, pyroxenite, and amphibolite with minor diorite and tonalite.

### HURONIAN SUPERGROUP<sup>h</sup>

#### COBALT GROUP

##### BAR RIVER FORMATION



- 22 Quartz sandstone, hematitic siltstone, and sandstone.

##### GORDON LAKE FORMATION



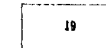
- 21 Siltstone, argillite, sandstone.

##### LORRAIN FORMATION



- 20 Quartz sandstone, mica coars, and aluminous quartz sandstone, quartz-feldspar sandstone, and minor conglomerate, and siltstone.

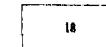
##### GOWGANDA FORMATION



- 19 Conglomerate, sandstone, siltstone, and argillite.

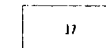
#### QUIRKE LAKE GROUP

##### SERPENT FORMATION



- 18 Quartz-feldspar sandstone with minor siltstone, calcareous siltstone, and conglomerate.

##### ESPAÑOLA FORMATION



- 17 Limestone, dolomite, siltstone, and sandstone.

##### BRUCE FORMATION



- 16 Conglomerate with minor sandstone and siltstone.

(After G.S.C. Map 2361.)

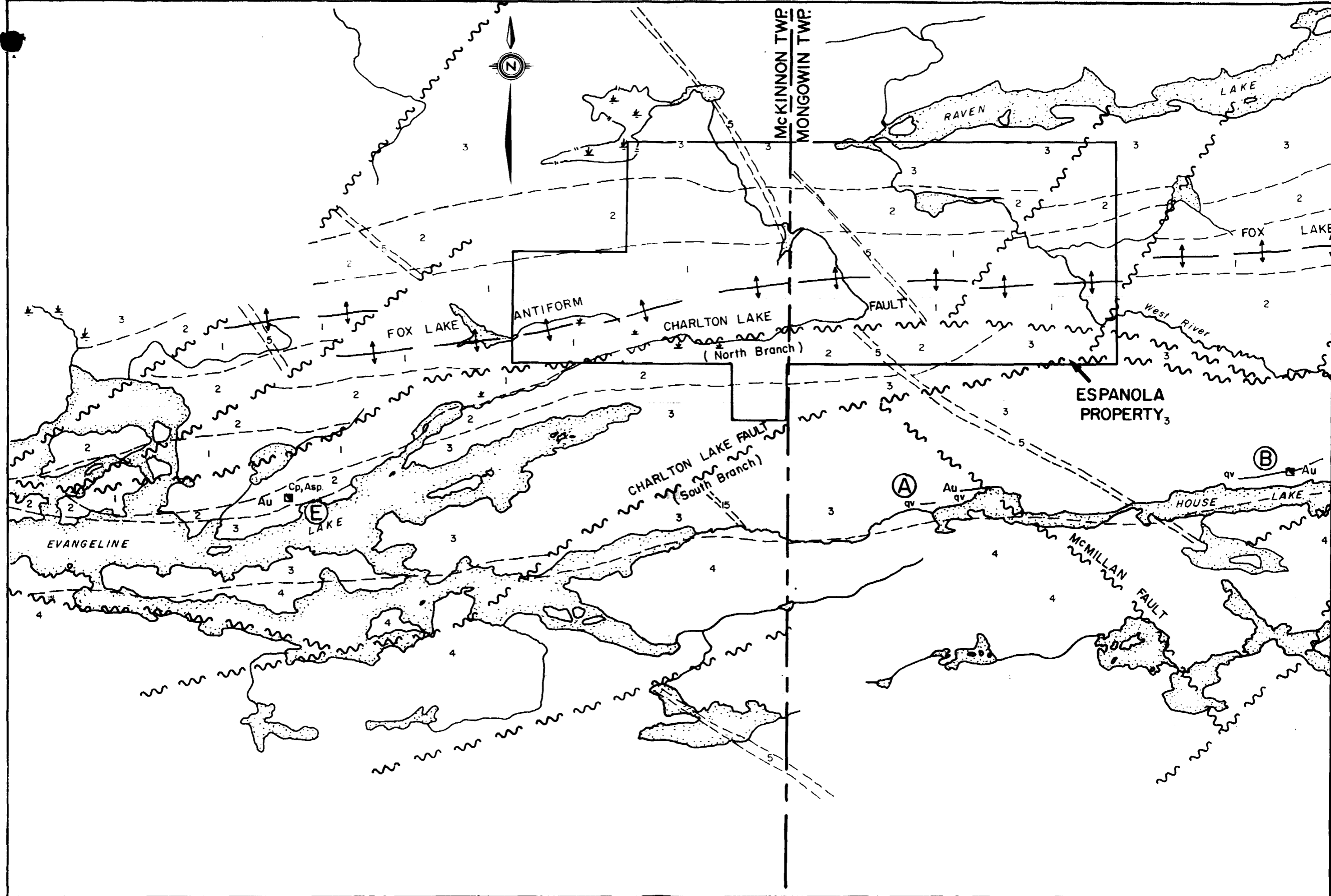
to fine-grained clastic sediments. Based on mapping by Robertson et al., (1972) and Card (1967), the Espanola Formation is exposed along the hinge of the Fox Lake Antiform and underlies about 800 m of the property from east to west (see Figure 4). Mapping carried out around 1968 by Card (1976), however, does not acknowledge the presence of the Espanola Formation as all the rocks along the antiform in the area are included in the Serpent Formation. The reason for the discrepancy is unknown.

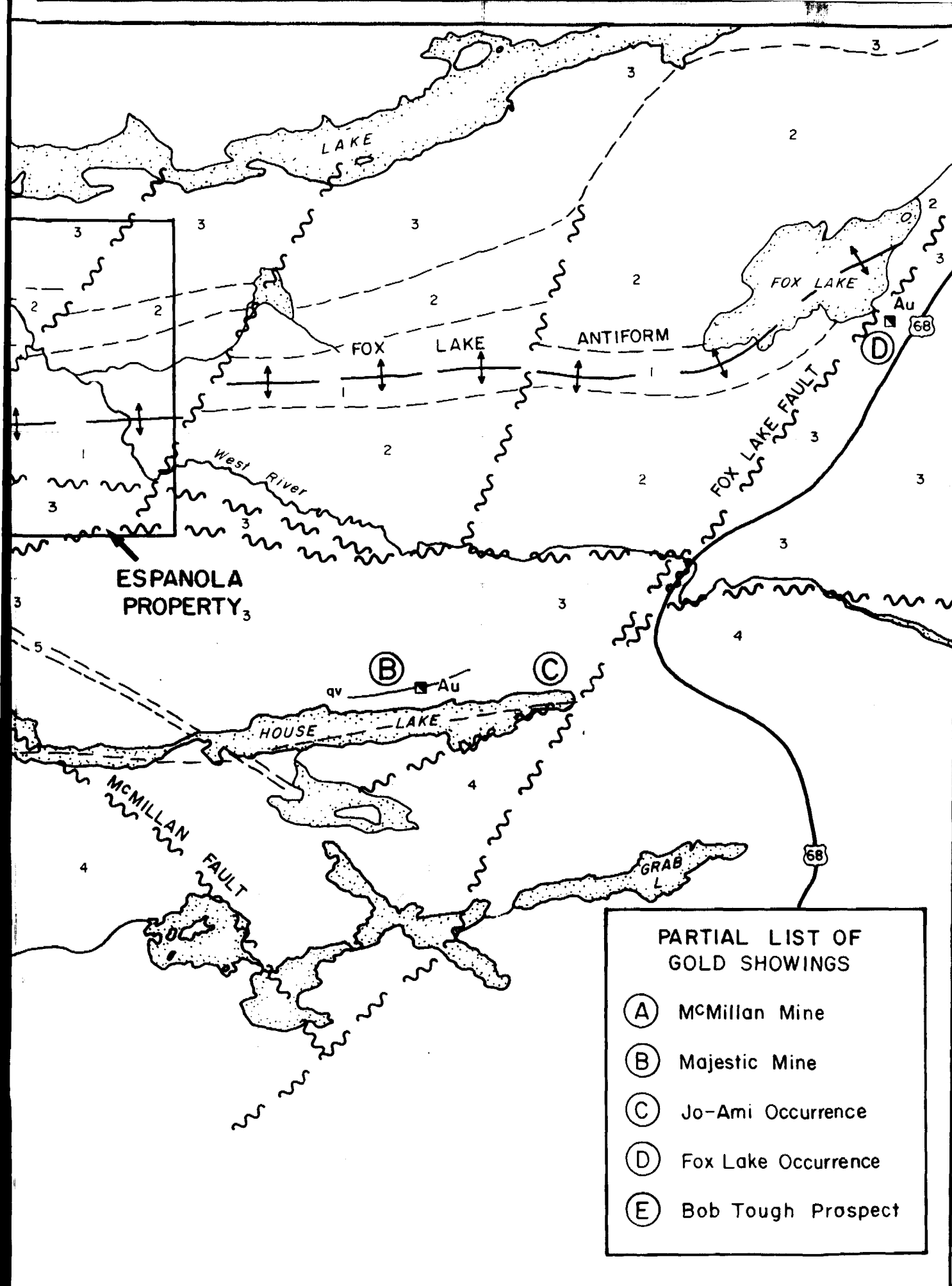
Conformably overlying the Espanola Formation lies the Serpent Formation, a sequence consisting dominantly of feldspathic quartzites and polymictic conglomerates. These rocks occur to the north and south of the antiform axis and both limbs are present on the property. Gold values of up to 0.17 oz./ton over 2.6 m have been obtained in drill core from a quartz vein and sulphide-bearing shear zone within the Serpent Formation at the Bob Tough prospect, approximately 2.5 km west-southwest of the property.

In conformable to disconformable contact with the Serpent lies the Gowganda Formation, a mixed succession of polymictic conglomerates, with a matrix of argillite or greywacke, interbedded with siltstones and feldspathic quartzites. Magnetite-bearing argillites, which give rise to distinct magnetic anomalies, occur near the base and top of the Formation. The southeastern part of the property is underlain by these conglomerates (Card, 1967). As summarized in Hartwick and Woolham (1987), most of the known gold deposits and showings in the region occur within the Gowganda Formation.

Conformably overlying the Gowganda lies the Lorrain Formation, a succession of orthoquartzites and feldspathic quartzites that locally consist of greater than 95% SiO<sub>2</sub> and are consequently exploited for silica flux and industrial applications. The Lorrain Formation is approximately 1,700 m to 1,800 m thick (Card, 1976) but does not outcrop on the Espanola property.

Structural geology in the area is dominated by three major east-west trending folds, a syncline in the north and south and an anticline in the middle. The Fox Lake antiform axis crosscuts the central part of the property from east





### LEGEND

#### MID TO LATE PRECAMBRIAN

- 5 MAFIC INTRUSIVES  
Olivine diabase, amphibolites,  
metagabbros.

#### HURONIAN SUPERGROUP

##### COBALT GROUP

- 4 LORRAIN FORMATION  
Cherty quartzites with local arkosic  
and argillaceous units.

- 3 GOWGANDA FORMATION  
Interbedded quartzites, polymictic  
conglomerates and argillaceous units

##### QUIRKE LAKE GROUP

- 2 SERPENT FORMATION  
Feldspathic quartzite, protoquartzite  
and polymictic conglomerate.

- 1 ESPANOLA FORMATION  
Interbedded limestone, dolostone,  
and calcareous to non-calcareous  
argillite, siltstone, sandstone and  
quartzite.

### SYMBOLS

- ~ Fault or Shear Zone  
- - - Geologic Contact  
⌘ Antiform  
68 Highway  
— River, Stream  
\* \* \* Swamp  
- - - Township Boundary

0 1/2 1 Kilometre

SCALE 1:25 000  
(Approx.)

FIGURE 4  
SIMPLIFIED GEOLOGY  
OF THE  
ESPANOLA PROPERTY AREA

### PARTIAL LIST OF GOLD SHOWINGS

- (A) McMillan Mine  
(B) Majestic Mine  
(C) Jo-Ami Occurrence  
(D) Fox Lake Occurrence  
(E) Bob Tough Prospect

to west and it is this structure that has caused the oldest rocks in the area to outcrop on the Espanola property. The axis is near vertical and the fold limbs are steeply dipping to vertical. The Bass Lake Syncline to the north of the map area is a canoe-shaped, doubly plunging fold. The fold axis plunges  $20^{\circ}$  to  $30^{\circ}$  to the east in the west (McKinnon Township) and at  $15^{\circ}$  to  $20^{\circ}$  to the west in the east (Mongowin Township). The La Cloche Lake Syncline, which crosses the southern parts of both townships, is an isoclinal fold with vertical or slightly overturned limbs (Card, 1967).

There are three sets of faults in the area trending east-west, northeast and northwest. The east-west faulting has produced major offsets up to thousands of feet. The two crosscutting fault sets have apparent horizontal offsets of a few hundred to a few thousand feet (Card, 1967). Both east-west and northeast trending fault sets are known to exist on the Espanola property (Robertson et al., 1972 and Card, 1967). Gold mineralization in the region appears to be intimately associated with faults.

#### PRESENT PROGRAM

The 1988 summer exploration program, carried out between May 12th and June 13th, involved the following:

- (a) Geological mapping of the entire property at a scale of 1:2,500. Control was maintained by using a cut line grid with 100 m spaced lines and 25 m pickets. In total, 70 km of picket lines and baselines have been cut on the property.
- (b) Detailed geological mapping at a scale of 1:1,000 in the main zone area, a 600 m long and 325 m wide area within which all of the trenching and detailed sampling was carried out. A 25 m spaced grid with 25 m pickets was put in and used for control.

- (c) Extensive trenching was carried out over the main quartz and quartz-carbonate zones as well as along strike from the known occurrences. Two hundred and fourteen channel and chip samples were taken from the trenches.
  
- (d) A rock geochemical program was conducted over the western half of the property in order to geochemically test other unexplored rock units. Also a few grab samples were taken from veins similar to those found in the main area.

### Trenching

Trenching was carried out by two backhoes supplied by local contractors in Espanola. The main zones of interest were exposed with extensive trenches up to 100 m long and 25 m wide over the main veins. Work was also done at various points along strike to the west of both zones of interest for approximately 500 m. The trenches were washed down with a Wajax Mark 3 pump (See Plate 1) and then channel sampled.

### Sampling Method

Two hundred and fourteen channel and chip samples were taken for analysis. A Sthil TS350 portable rock saw and a dry-use JKS Boyles diamond saw blade was used to cut a channel 2 to 3 cm wide in the rock (See Plate 2). Sample intervals were initially laid out by the geologist, then channeled and finally chipped out and bagged by the technician. In areas of little lithological variation, a composite sample was made up from four or five samples and sent in for analysis. The individual samples were kept and are currently in storage.





Plate 1: Cleaning a trench out with a Wajax



Plate 2: Cutting a channel with a rock saw



Plate 3

Main Trench Zone  
Water eroded surface  
of mafic intrusive



Plate 4

Quartz Carbonate Trench  
Mixed carbonate and  
quartz pods

## PROPERTY GEOLOGY

The predominant rock type on the property is a massive quartzo feldspathic quartzite with local interbedded argillaceous units up to 2 m wide. The composition of the quartzite ranges from 70%-85% silica, with trace amounts of gold and silver and up to about 15 to 20% alumino silicates. Sample 155 from Trench 21 WS returned a relatively high value of 84.55% SiO<sub>2</sub>, with 12 ppb Au and less than 0.1 ppm Ag. Sample 149 from the Main Trench Zone returned 70.3% SiO<sub>2</sub>, 38 ppb Au and 0.1 ppm Ag.

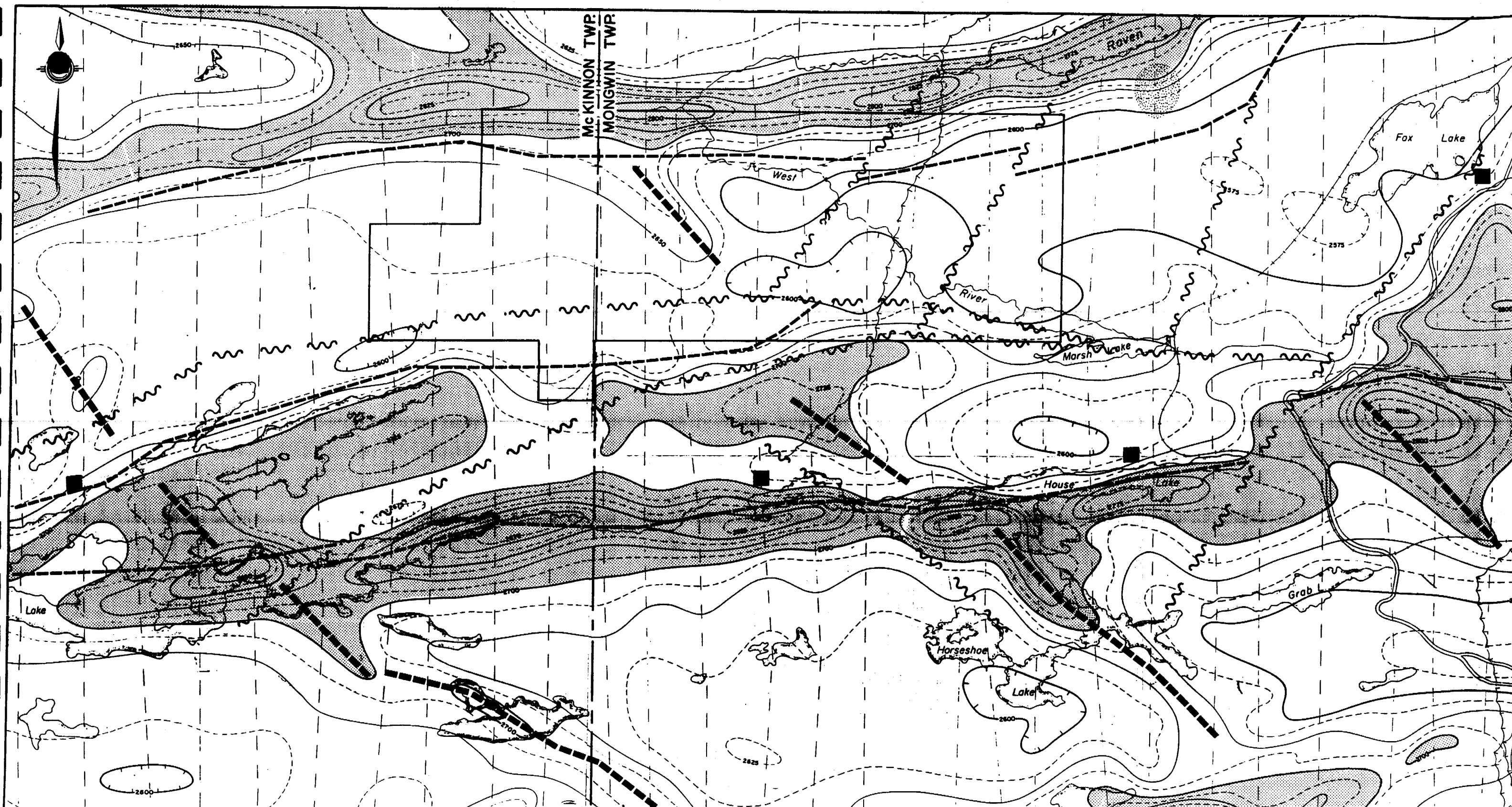
The quartzite was sampled to test for an alternate source of silica; however, the silica results obtained are insufficiently high for use as a flux and the precious metal values are economically unattractive.

The other prevalent rock type is a series of gabbroic dykes which crosscut the quartzite in a northwesterly direction. They have a magnetic signature and were picked up by both the regional aeromagnetic survey (See Figure 5) and the ground magnetometer survey conducted prior to the present program. While minor sulphides are present, the dykes are not economic.

In general, the quartzite is too massive and homogeneous to show structure; however, a small fold was found in Trench 23W (See Plate 5). As shown on Map 88-79-03, a shear/fault crosscuts the main zone of interest. A set of small conjugate fault pairs were found to exist in the quartz carbonate trench zone (See Map 88-79-03) and were probably the result of late structural movements. It can be reasonably assumed that these mesoscale deformations are representative of property-size macroscale structures.





## ECONOMIC GEOLOGY

The purpose of the program was to delineate a quartz vein zone for use as a silica flux. Of paramount importance, however, would be the presence of highly anomalous gold values (say 300 to 500 ppb) and possibly silver values to make the material more economically attractive.



(From O.G.S. Maps A65 and A66)

**LEGEND**

-  Contacts from geology
-  Faults from geology
-  Diabase dykes from magnetics
-  Gold occurrences

0      1/2      1 Kilometre  
SCALE 1:25 000

**FIGURE 5**  
**AEROMAGNETIC MAP**



Plate 5

Trench 23W  
Nose of small fold



Plate 6

Quartz Carbonate Trench (b)  
Angular quartzite fragments  
and blue quartz filler

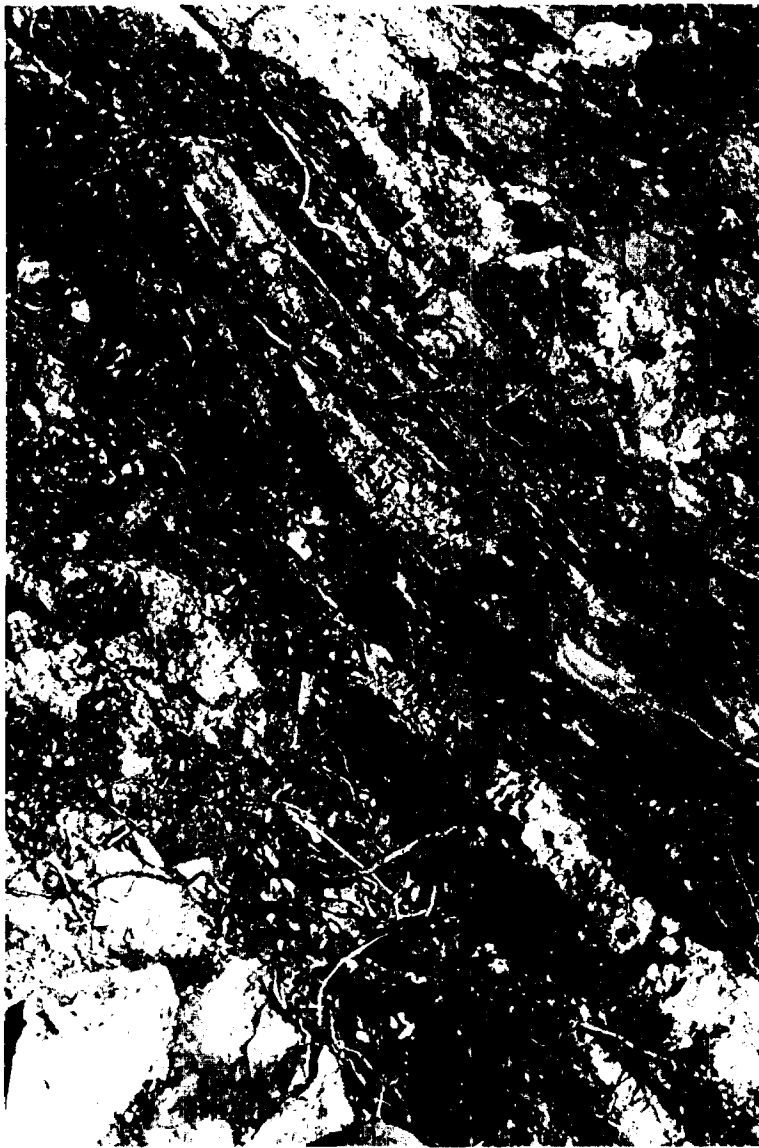


Plate 7

Trench 25 W  
Thin layer of siltstone in  
blue quartz and quartzite



Plate 8

Trench 21W  
Massive blue quartz vein,  
with the highest gold values



Plate 9

West River Bank  
Interfingering of  
siltstone and quartzite

Plate 10

Main Trench Zone  
Massive blue quartz vein





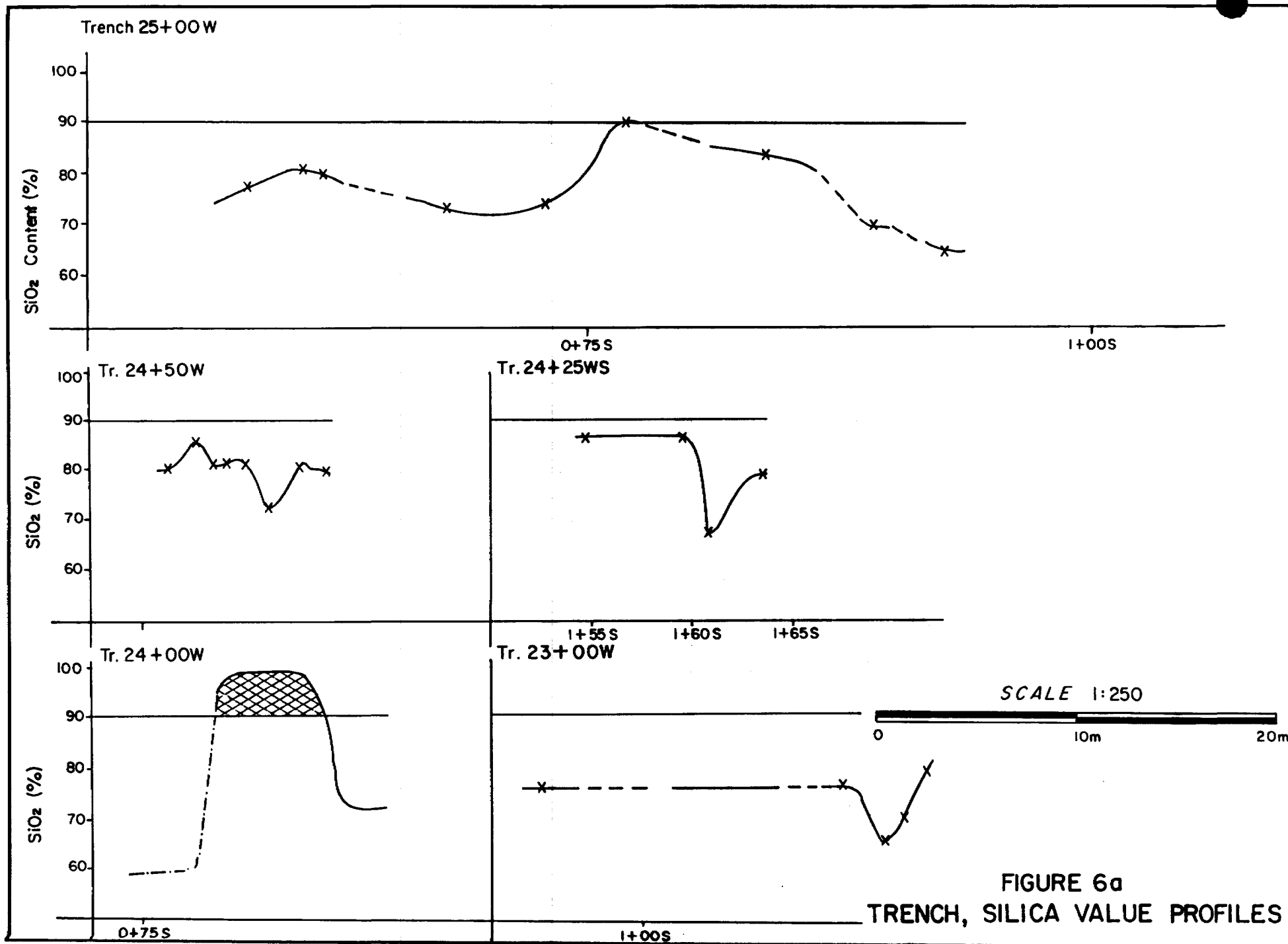
The main target of exploration was a blue quartz vein, up to 10 m wide, striking 060° to 070° and dipping between 60° to 70°N, as shown in Map 86-79-01. The highest gold values were found with associated sulphides in small shears in the quartz vein. Sample 066 returned a value of 544 ppb Au, 57.2% SiO<sub>2</sub> and less than 0.1 ppm Ag. Sample 157 had 100 ppb Au, 87.70% SiO<sub>2</sub> and 11.1 ppm Ag. These, however, are two of only four samples that returned over 100 ppb Au. The average silica content from the quartz vein zone was found to be 79.87% and average gold content, 37 ppb. Table 2 lists the silica, gold and silver values of all samples that returned greater than 25 ppb Au.

Seventy-five to 100 m north of the main quartz vein is a zone consisting of intermixed blue and white quartz and massive crystalline carbonate, striking approximately 070° and traceable for approximately 100 m along a hill-top (see Map 88-79-03). This area was exclusively sampled for its precious metal potential, because due to high carbonate content, its silica flux potential is virtually non-existent. Unfortunately, all samples taken from the zone returned less than 25 ppb Au and 0.1 ppm Ag.

The lithochemical survey carried out over the western half of the property returned on average values of less than 5 ppb gold; two slightly anomalous values of 20 ppb were encountered.

Figures 6a and 6b contain schematic geochemical SiO<sub>2</sub> profiles across all trenches. A 90% cutoff line illustrates that only a small proportion of the samples returned values of sufficient grade for use as a silica flux ore.





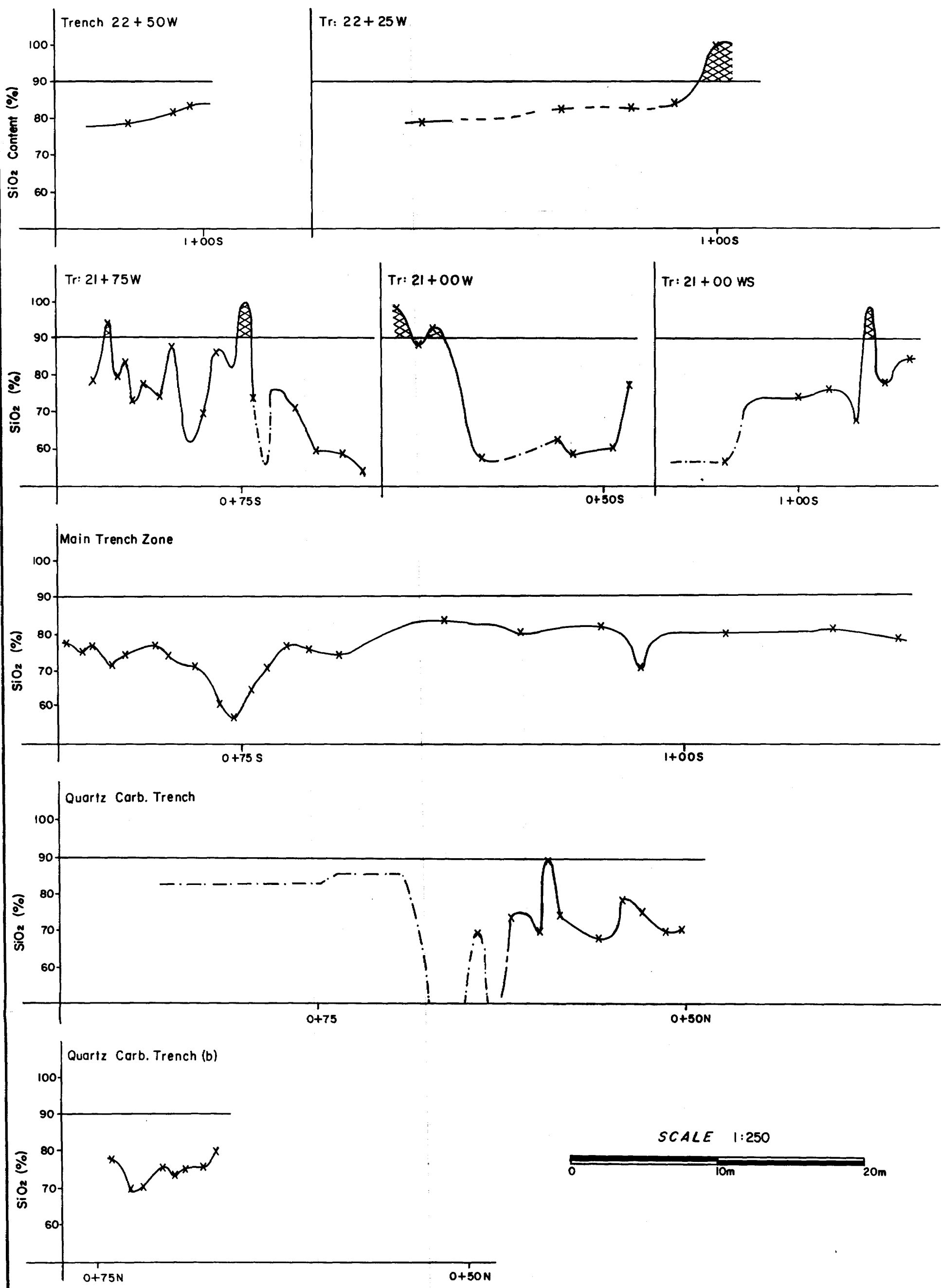


FIGURE 6b  
TRENCH, SILICA VALUE PROFILES

Table 2

**Assay Results of All Samples  
Returning Greater Than 25 ppb Au**

| <u>Sample #</u>   | <u>Au<br/>ppb</u>     | <u>Ag<br/>ppm</u> | <u>SiO<sub>2</sub><br/>(%)</u> | <u>Rock Type</u>   |
|-------------------|-----------------------|-------------------|--------------------------------|--|
| <u>Trench 25W</u> |                       |                   |                                |  |
| 165               | 26                    | *0.1              | 90.34                          | Blue quartz with small quartzite inclusions.   |
| Tr 24+50W         | No significant values |                   |                                |  |
| Tr 24+25WS        | "                     |                   |                                |  |
| Tr 24W            | "                     |                   |                                |  |
| Tr 23W            | "                     |                   |                                |  |
| Tr 22+50W         | "                     |                   |                                |  |
| Tr 22+25W         | "                     |                   |                                |  |
| Tr 21+75W         | "                     |                   |                                |  |
| Tr 21+50W         | "                     |                   |                                |  |
| Tr 21+25W         | "                     |                   |                                |  |
| <u>Trench 21W</u> |                       |                   |                                |  |
| 066               | 544                   | *0.1              | 57.20                          | Quartzite-fractured disseminated sulphide blebs.                                       |
| 067               | 39                    | *0.1              | 61.50                          | Mafic intrusive - shear gouge along contact and quartzite.                             |
| 071               | 52                    | 0.1               | 87.00                          | Blue quartz vein, rusty fractures, small shear gouge with chlorite and 5% sulphides.   |
| 072               | 65                    | 0.2               | 82.50                          | Blue quartz vein, rusty fractures, yellow staining, disseminated sulphides.            |
| 156               | 26                    | 0.2               | 92.50                          | Blue quartz, rust and yellow stains, possible sulphides; arsenopyrite, pyrite, galena. |
| 157               | 100                   | 11.1              | 87.78                          | Blue quartz, rust and yellow stains, possible sulphides; arsenopyrite, pyrite, galena. |
| 158               | 132                   | 1.4               |                                | Shear gouge in quartz-sulphides, arsenopyrite, chlorite, galena, pyrite.               |

**Table 2**  
**(Continued)**

**Assay Results of All Samples**  
**Returning Greater Than 25 ppb Au**

| <u>Sample #</u>         | <u>Au</u><br><u>ppb</u> | <u>Ag</u><br><u>ppm</u> | <u>SiO<sub>2</sub></u><br><u>(%)</u> | <u>Rock Type</u>   |
|-------------------------|-------------------------|-------------------------|--------------------------------------|--|
| <u>Trench 21WS</u>      |                         |                         |                                      |  |
| 150                     | 62                      | 0.1                     |                                      | Mafic intrusive.   |
| 151                     | 72                      | *0.1                    |                                      | Mafic intrusive.   |
| 153                     | 34                      | 0.1                     | 68.10                                | Quartzite-sheared.   |
| 154                     | 34                      | 0.4                     | 78.70                                | Quartzite.   |
| <u>Main Trench Zone</u> |                         |                         |                                      |  |
| 032                     | 60                      | 0.2                     | 77.20                                | Small shear gouge with chlorite,<br>mafic material, rusty. |
| 033                     | 40                      | 0.1                     | 88.76                                | Blue quartz with rusty fractures.                          |
| 148                     | 120                     | 0.1                     | 79.90                                | Quartzite.   |
| 149                     | 38                      | 0.1                     | 70.30                                | Quartzite, minor shearing.                                 |

Note - Samples taken from all other trenches failed to return values greater than 25 ppb Au.

\* - denotes less than

**CONCLUSIONS AND RECOMMENDATIONS**

Unfortunately, the results of the sampling program carried out on the property indicate that there is little or no possibility that an economically viable silica-gold-silver deposit exists on the Espanola property.

Consequently, DMBW recommends that no further exploration work be carried out on the property at this time.

**REFERENCES**

Card, K. D.

1967: Mongowin Township, District of Sudbury, Ontario Department of Mines, Prelim. Geol. Map No. P391, scale 1 in. to 1/4 mile, Geology, 1966.

1976: Geology of the Espanola-Whitefish Falls Area, District of Sudbury, Ontario; Ontario Division Mines GR131, 70 p.

Gordon, J. B., Lovell, M. L., de Grijs, Jan, and Davie, R. F.

1979: Gold deposits of Ontario, Part 2: Part of District of Cochrane, Districts of Muskoka, Nipissing, Parry Sound, Sudbury, Timiskaming and Counties of Southern Ontario; Ontario Geological Survey, Mineral Deposits Circular 18, 252 p.

Hartwick, P. A. and Woolham, R. W.

1987: Report on the Espanola Silica-Gold-Silver Property, Mongowin and McKinnon Townships, Ontario, NTS 411/4. Prepared for Hardiman Bay Resources Inc. by Derry, Michener, Booth & Wahl.

Moore, E. S.

1929: Ore Deposits Near the North Shore of Lake Huron; Ontario Department of Mines, Vol. 38, Pt. 7, p.1-51 (published, 1930).

Ontario Geological Survey, MDIR

Various mineral deposit files from the O.G.S. geological assessment files, Toronto, Ontario.

Rickaby, H. C.

1935: Notes on Mongowin Township and Vicinity; Ontario Dept. of Mines, Vol. 44, pt. 7, p.57-61 (published 1936).

Robertson, J. A., Siemiatkowska, K. M. and Cape, D. F.

1972: McKinnon Township and Adjacent Islands, Districts of Sudbury and Manitoulin; Ontario Division of Mines, Prelim. Map P. 794, Geol. Survey, scale 1 inch to 1/4 mile. Geology 1972.

APPENDIX A

PHOTOS

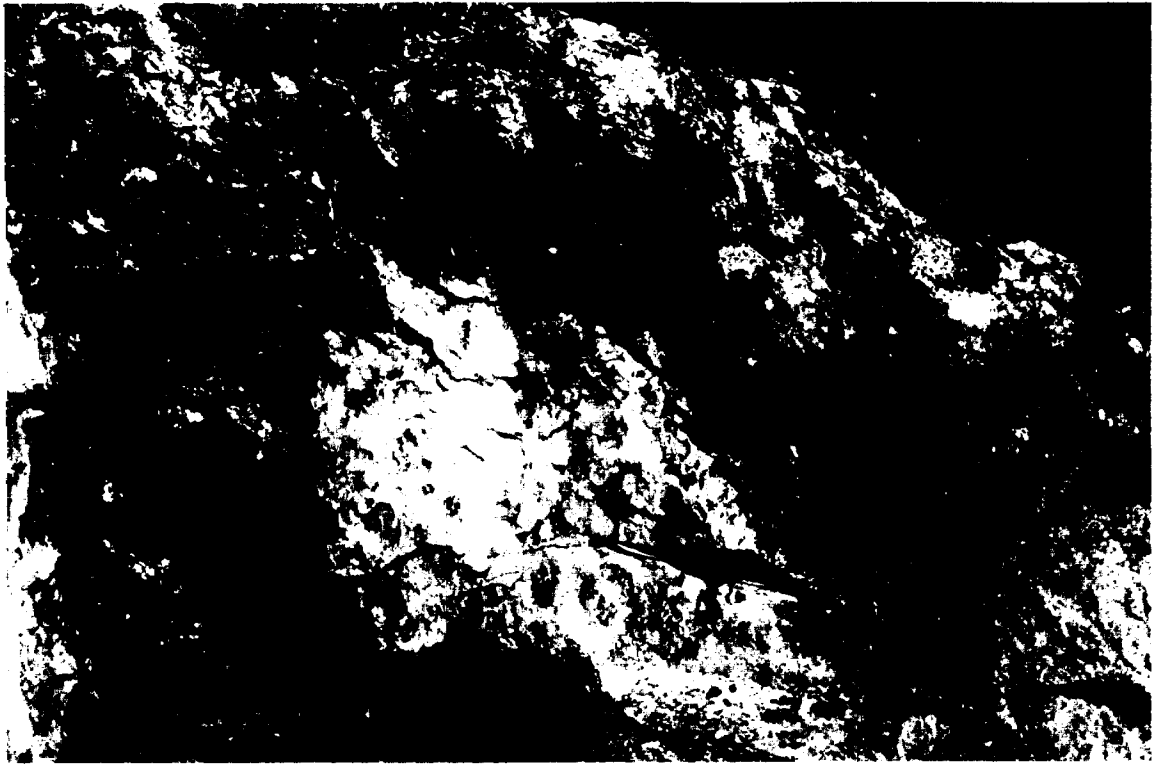
Quartz Carbonate Trench  
Looking North



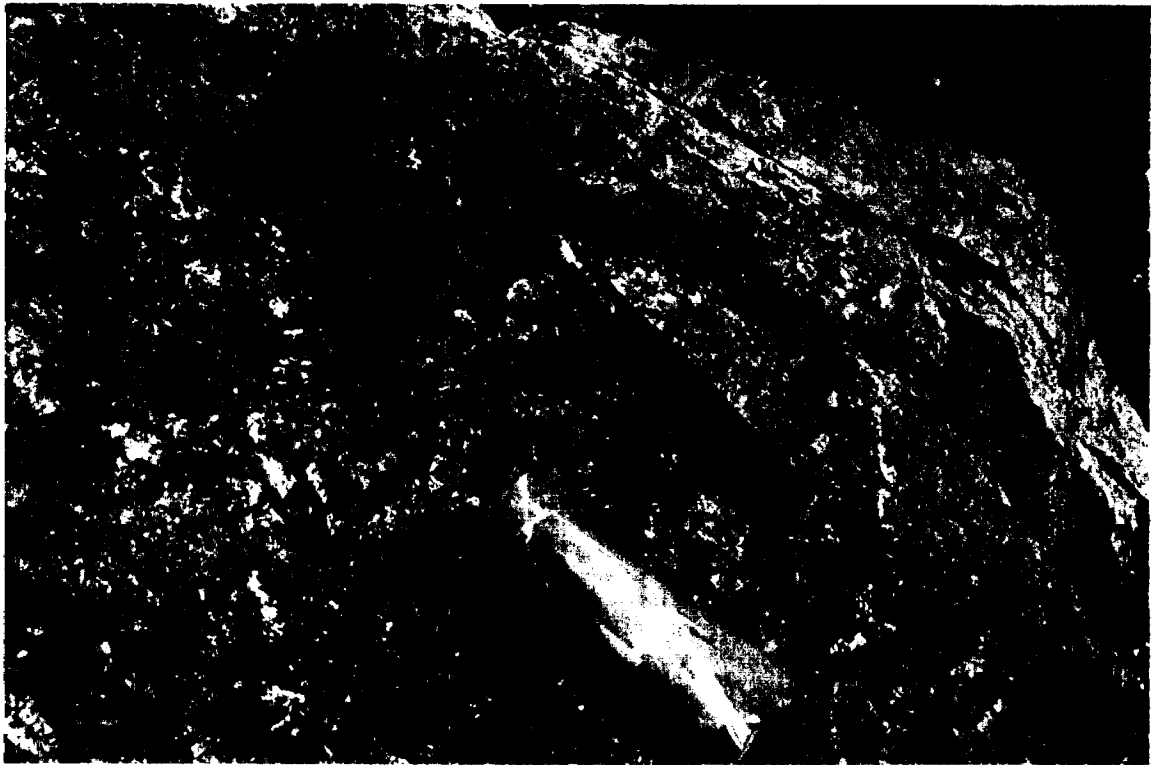
Quartz Carbonate Trench  
Looking North







Quartz Carbonate Trench: Carbonate Material and Quartz



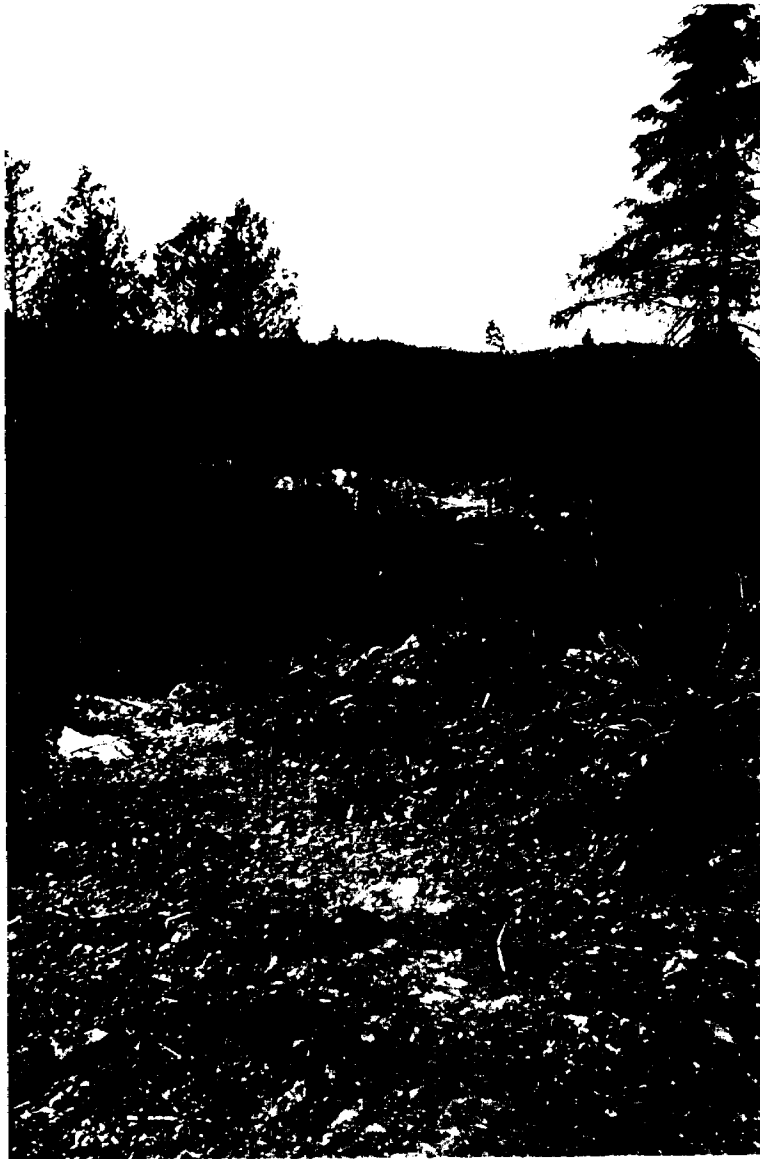
Main Trench Zone: Massive Blue Quartz Vein



Trench 23W: Looking North



A Nightly Visitor



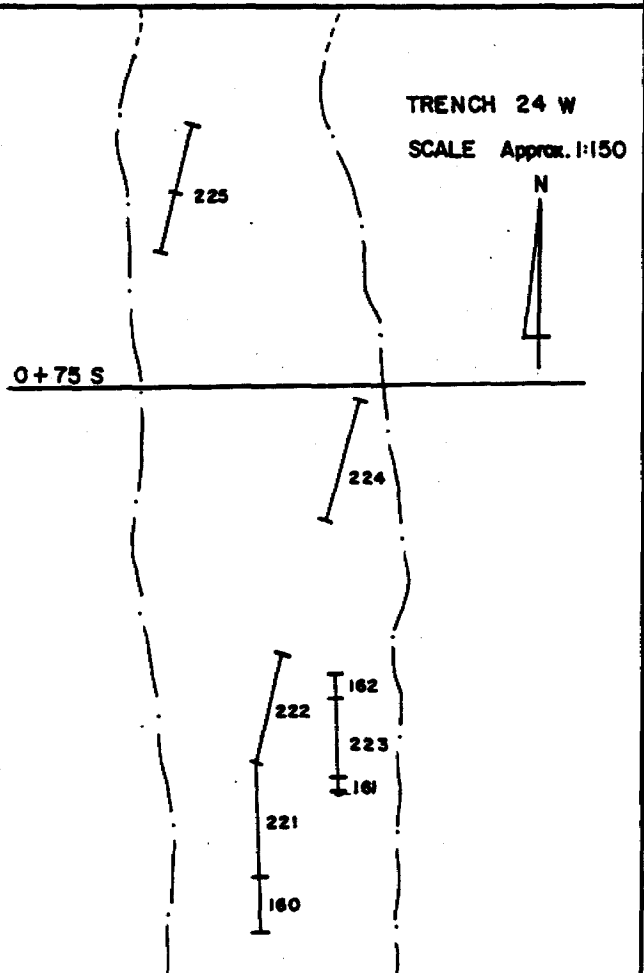
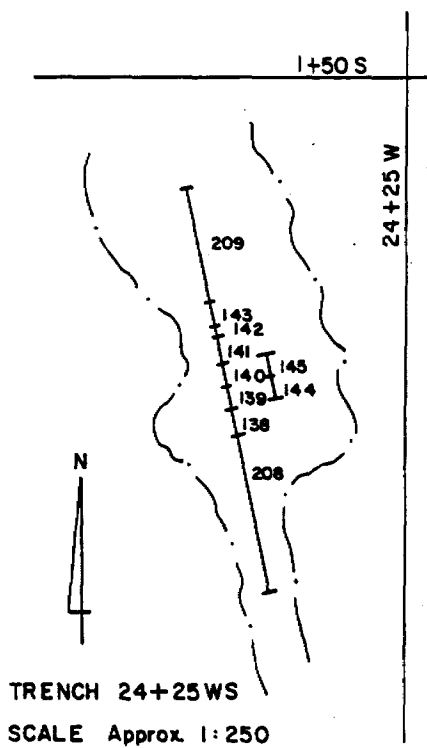
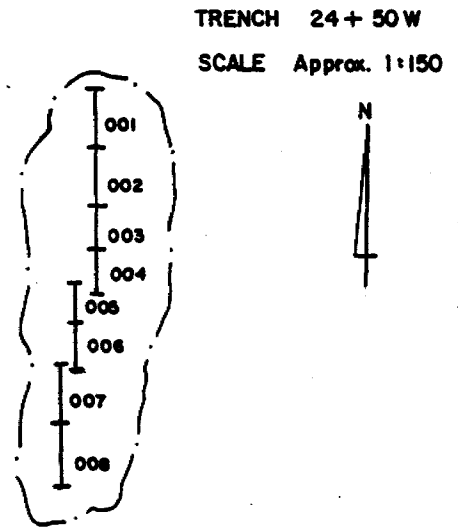
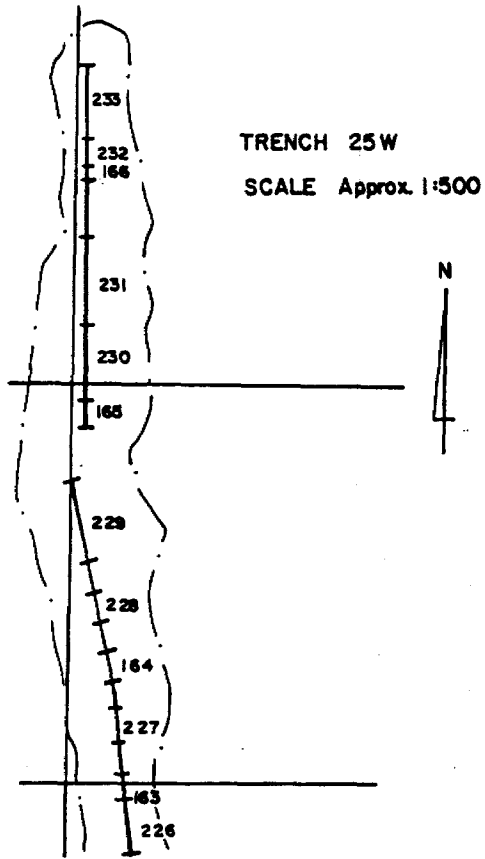
Trench 24W: Looking South

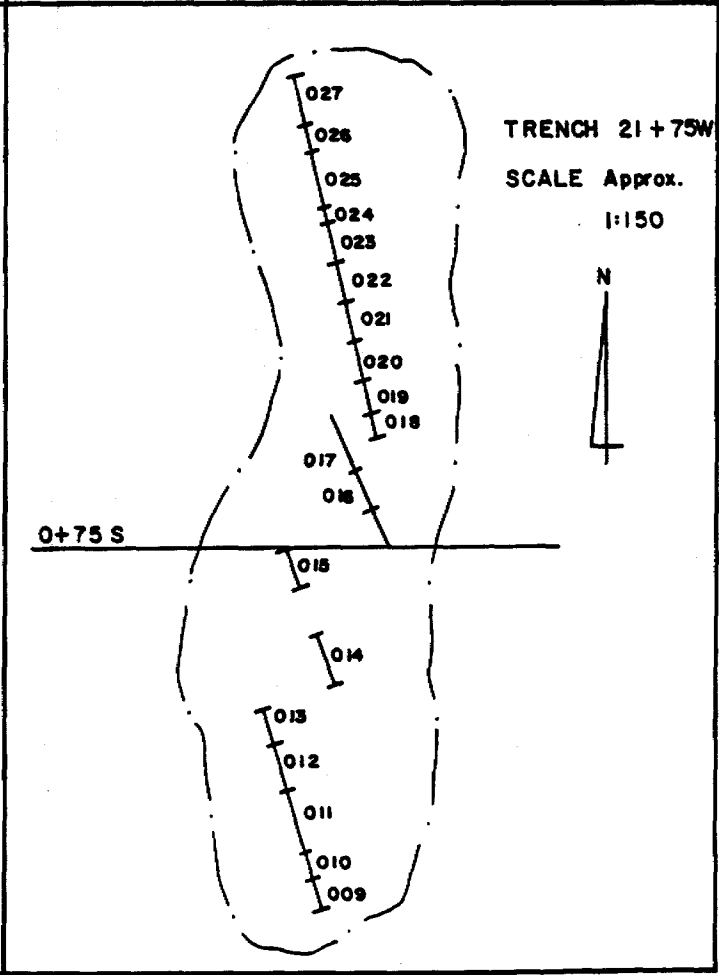
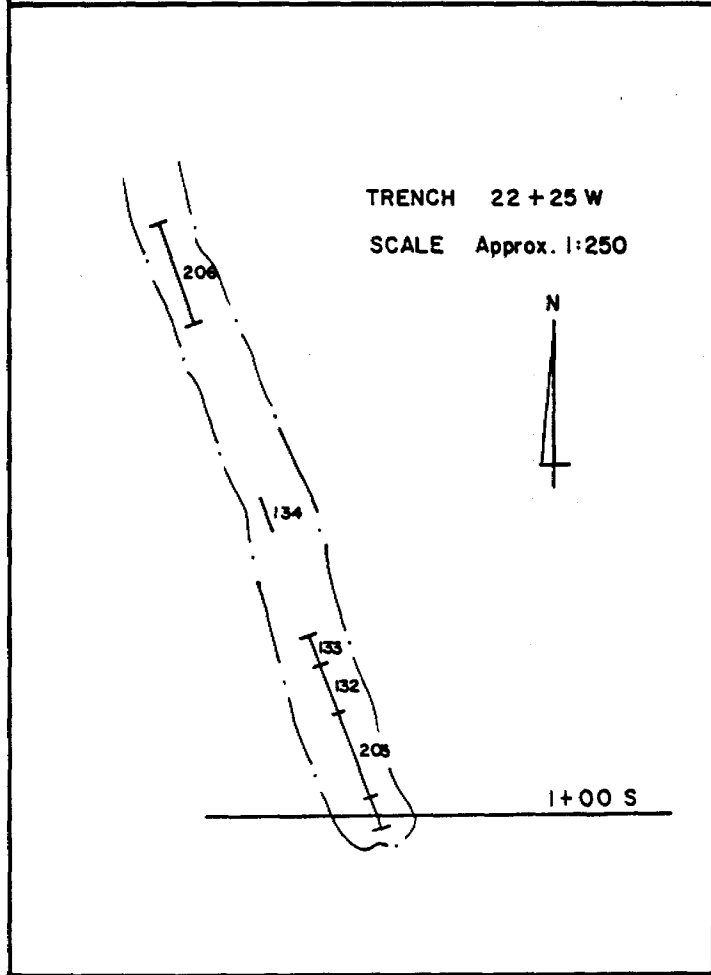
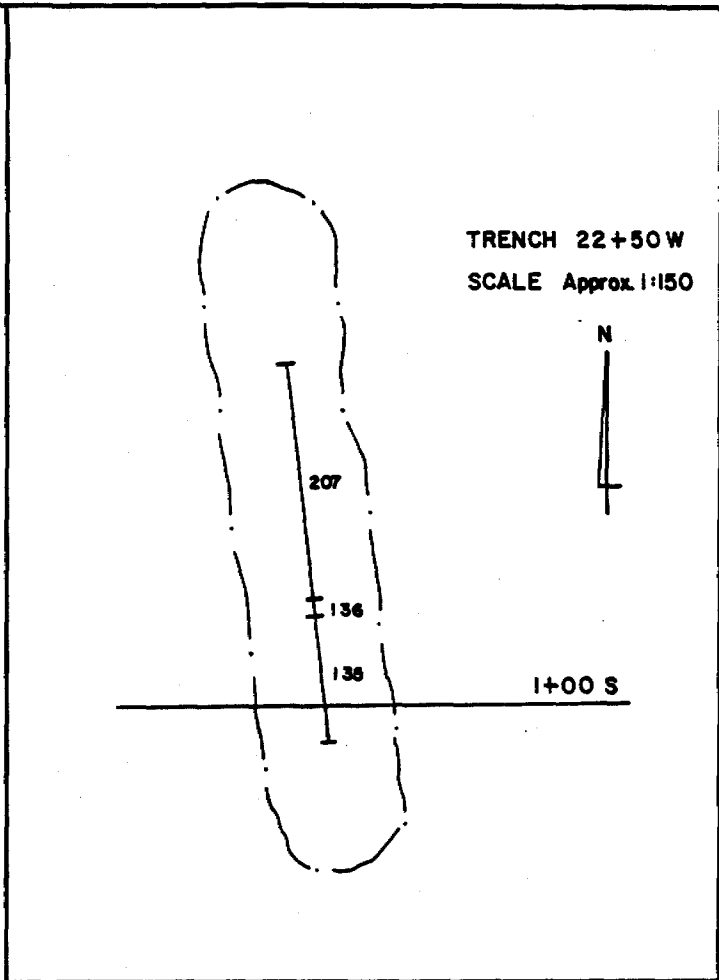
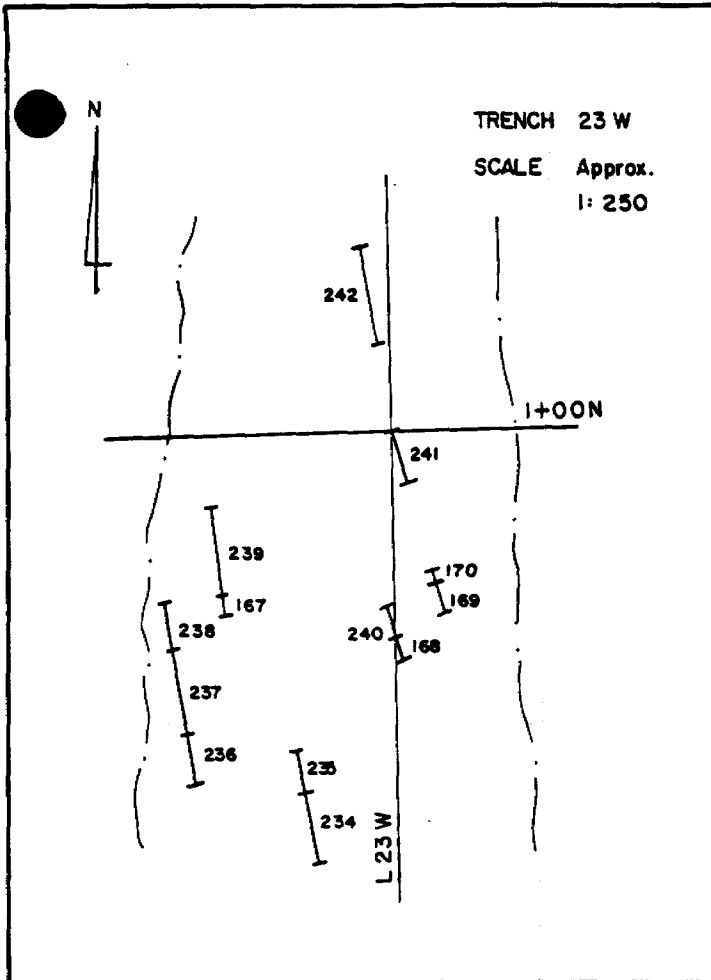


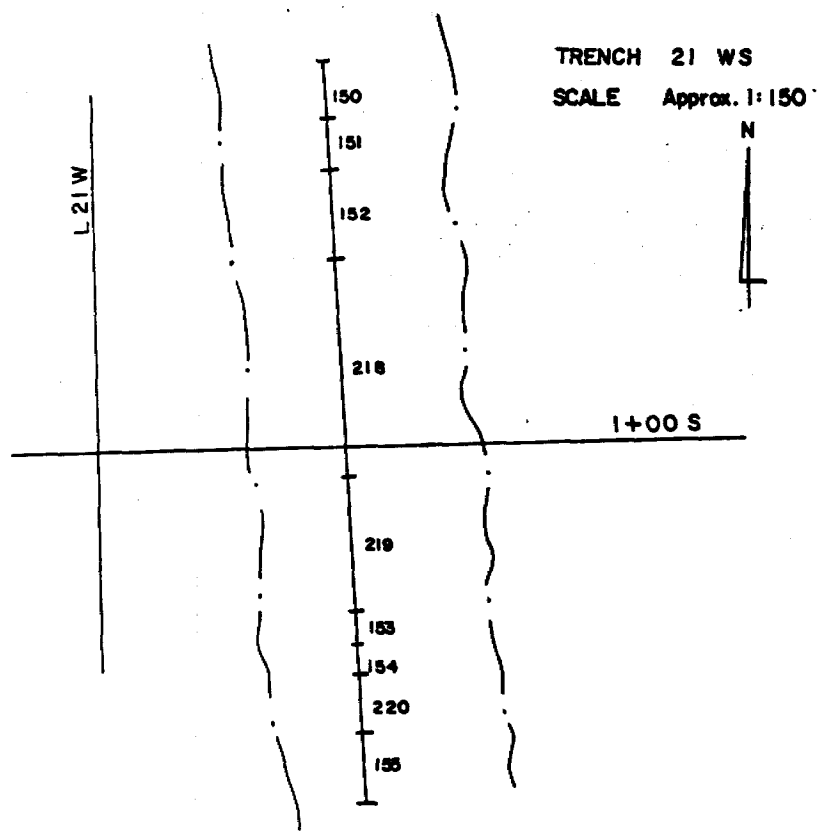
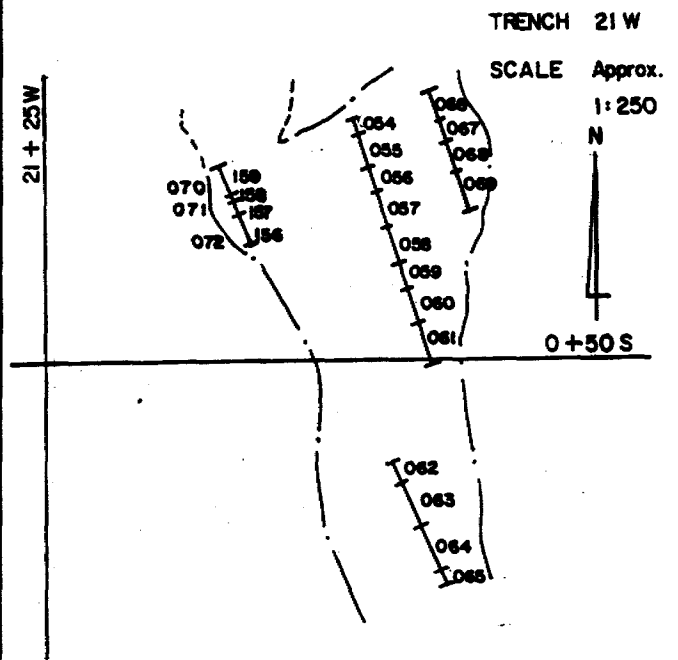
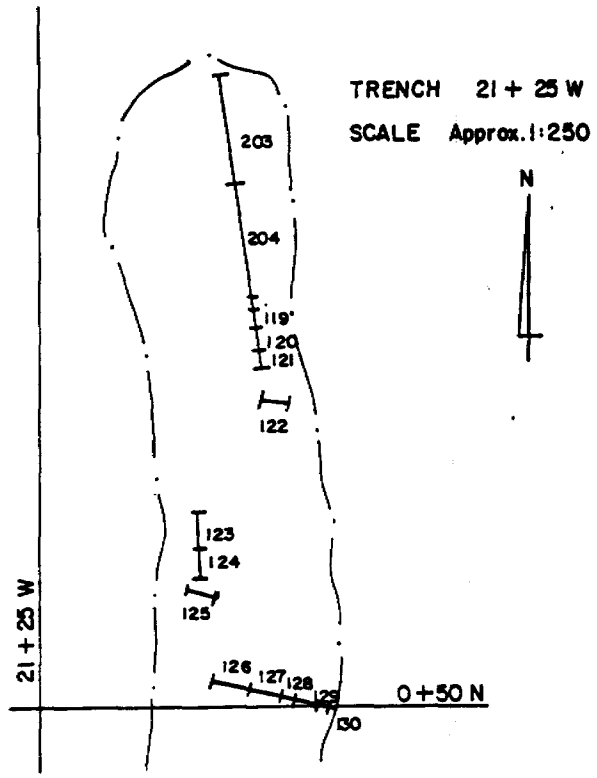
Trench 25W: Looking South

**APPENDIX B**

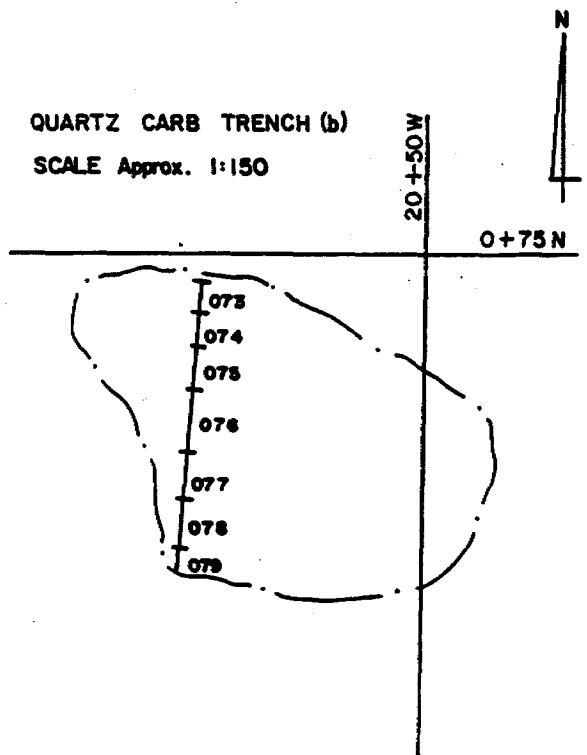
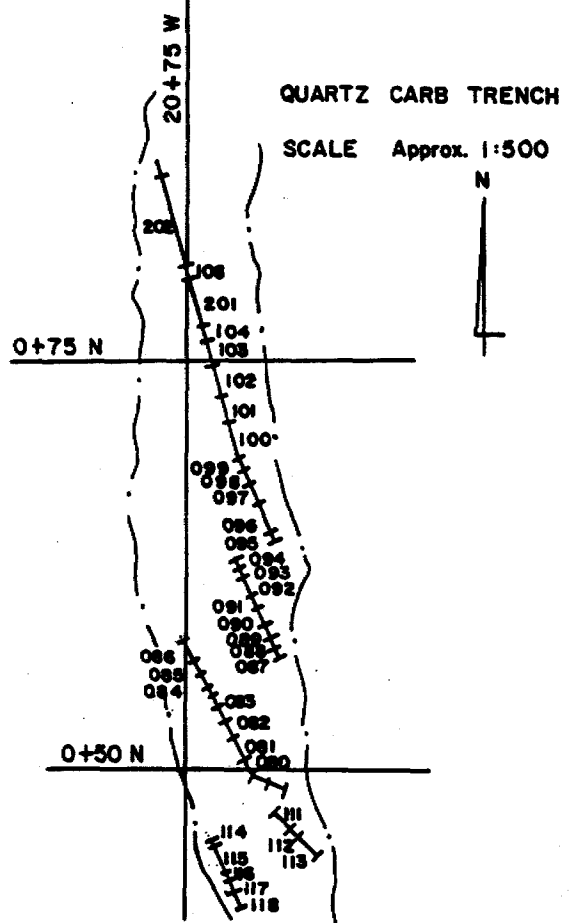
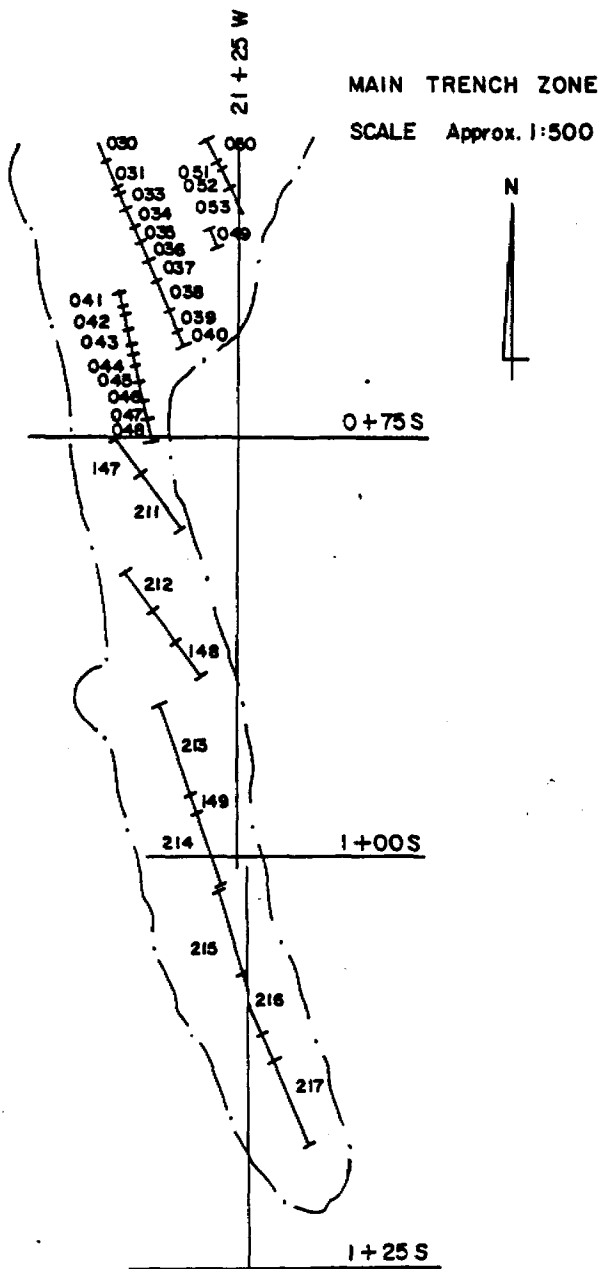
**SAMPLE LOCATION SKETCHES**











APPENDIX C

ANALYSIS RESULTS

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5420 Canotek Road  
Ottawa, Ontario  
K1J 8X5  
(613) 749-2220 Telex 053-3233

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REPORT: 088-51004.0

PROJECT: HBR-103

PAGE 1

| SAMPLE NUMBER | ELEMENT UNITS | Ag PPM | Au PPB | SAMPLE NUMBER | ELEMENT UNITS | Ag PPM | Au PPB |
|---------------|---------------|--------|--------|---------------|---------------|--------|--------|
| 001           |               | <0.1   | <5     | 037           |               | <0.1   | <5     |
| DUPLICATE     |               | <0.1   |        | 038           |               | <0.1   | <5     |
| 002           |               | <0.1   | 8      | 039           |               | <0.1   | <5     |
| 003           |               | <0.1   | 7      | 040           |               | <0.1   | <5     |
| 004           |               | <0.1   | <5     | 041           |               | <0.1   | <5     |
| 005           |               | <0.1   | 10     | 042           |               | <0.1   | <5     |
| 006           |               | <0.1   | 7      | 043           |               | <0.1   | <5     |
| 007           |               | <0.1   | 6      | 044           |               | <0.1   | <5     |
| 008           |               | <0.1   | <5     | DUPLICATE     |               | <0.1   |        |
| 009           |               | 0.1    | <5     | 045           |               | <0.1   | <5     |
| 010           |               | 0.1    | 15     | 046           |               | <0.1   | <5     |
| DUPLICATE     |               | 0.1    |        | 047           |               | <0.1   | <5     |
| 011           |               | 0.1    | <5     | 048           |               | <0.1   | <5     |
| 012           |               | <0.1   | 9      | 049           |               | <0.1   | <5     |
| 013           |               | 0.1    | 11     | 050           |               | <0.1   | <5     |
| 014           |               | 0.1    | 6      | 051           |               | <0.1   | 6      |
| 015           |               | <0.1   | 6      | 052           |               | <0.1   | <5     |
| 016           |               | 0.1    | <5     | DUPLICATE     |               | 0.1    |        |
| 017           |               | 0.1    | 16     | 053           |               | <0.1   | <5     |
| 018           |               | 0.4    | <5     | 054           |               | <0.1   | 6      |
| DUPLICATE     |               | 0.7    |        | 055           |               | <0.1   | <5     |
| 019           |               | <0.1   | <5     | 056           |               | <0.1   | 7      |
| 020           |               | <0.1   | <5     | 057           |               | <0.1   | <5     |
| 021           |               | <0.1   | 6      | 058           |               | <0.1   | <5     |
| 022           |               | 0.1    | 6      | 059           |               | <0.1   | <5     |
| 023           |               | <0.1   | <5     | 060           |               | <0.1   | <5     |
| 024           |               | <0.1   | <5     | 061           |               | <0.1   | <5     |
| 025           |               | <0.1   | 7      | 062           |               | <0.1   | <5     |
| 026           |               | 0.1    | <5     | 063           |               | <0.1   | 10     |
| 027           |               | 0.1    | <5     | 064           |               | <0.1   | <5     |
| 028           |               | 0.1    | <5     | 065           |               | 0.1    | <5     |
| 029           |               | <0.1   | <5     | 066           |               | <0.1   | 544    |
| 030           |               | <0.1   | 9      | 067           |               | <0.1   | 39     |
| 031           |               | <0.1   | 11     | 068           |               | <0.1   | <5     |
| 032           |               | 0.2    | 60     | 069           |               | <0.1   | <5     |
| 033           |               | 0.1    | 40     | DUPLICATE     |               | <0.1   |        |
| 034           |               | 0.1    | <5     | 070           |               | 0.3    | <5     |
| 035           |               | <0.1   | <5     | 071           |               | 0.1    | 52     |
| DUPLICATE     |               | <0.1   |        | 072           |               | 0.2    | 65     |
| 036           |               | 0.1    | <5     |               |               |        |        |

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Ottawa, Ontario  
K1J 8X5  
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# Geochemical Lab Report

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PROJECT: ESPANOLE

PAGE 1

| SAMPLE<br>NUMBER | ELEMENT<br>UNITS | Ag<br>PPM | Au<br>PPB |
|------------------|------------------|-----------|-----------|
|------------------|------------------|-----------|-----------|

|           |  |      |    |
|-----------|--|------|----|
| 73        |  | <0.1 | <5 |
| DUPLICATE |  | <0.1 |    |
| 74        |  | <0.1 | <5 |
| 75        |  | <0.1 | <5 |
| 76        |  | <0.1 | <5 |

|    |  |      |    |
|----|--|------|----|
| 77 |  | <0.1 | <5 |
| 78 |  | <0.1 | <5 |
| 79 |  | <0.1 | <5 |
| 80 |  | <0.1 | <5 |
| 81 |  | <0.1 | 16 |

|           |  |      |    |
|-----------|--|------|----|
| 82        |  | <0.1 | <5 |
| DUPLICATE |  | <0.1 |    |
| 83        |  | <0.1 | <5 |
| 84        |  | <0.1 | <5 |
| 85        |  | <0.1 | <5 |

|    |  |      |    |
|----|--|------|----|
| 86 |  | <0.1 | <5 |
| 87 |  | <0.1 | <5 |
| 88 |  | <0.1 | <5 |
| 89 |  | <0.1 | <5 |
| 90 |  | <0.1 | <5 |

|           |  |      |    |
|-----------|--|------|----|
| DUPLICATE |  | <0.1 |    |
| 91        |  | <0.1 | <5 |
| 92        |  | <0.1 | <5 |
| 93        |  | <0.1 | <5 |
| 94        |  | <0.1 | <5 |

|    |  |      |    |
|----|--|------|----|
| 95 |  | <0.1 | <5 |
| 96 |  | <0.1 | <5 |

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| SAMPLE NUMBER | ELEMENT UNITS | Ag PPM | Au PPB | SAMPLE NUMBER | ELEMENT UNITS | Ag PPM | Au PPB |
|---------------|---------------|--------|--------|---------------|---------------|--------|--------|
| 097           |               | <0.1   | 11     | 136           |               | 0.3    | <5     |
| DUPLICATE     |               | <0.1   |        | 137           |               | <0.1   | <5     |
| 098           |               | <0.1   | 14     | 138           |               | 0.1    | 5      |
| 099           |               | 0.1    | 6      | 139           |               | 0.1    | 11     |
| 100           |               | 0.1    | <5     | 140           |               | <0.1   | 5      |
| 101           |               | <0.1   | <5     | 141           |               | <0.1   | <5     |
| 102           |               | 0.1    | <5     | 142           |               | <0.1   | 5      |
| 103           |               | <0.1   | <5     | 143           |               | <0.1   | 5      |
| 104           |               | <0.1   | 10     | DUPLICATE     |               | 0.1    |        |
| 105           |               | <0.1   | <5     | 144           |               | 0.2    | 10     |
| 109           |               | <0.1   | 6      | 145           |               | <0.1   | 8      |
| DUPLICATE     |               | <0.1   |        | 146           |               | 0.2    | 6      |
| 110           |               | <0.1   | <5     | 147           |               | 0.2    | 12     |
| 111           |               | <0.1   | <5     | 148           |               | 0.1    | 120    |
| 112           |               | 0.1    | <5     | 149           |               | 0.1    | 38     |
| 113           |               | <0.1   | <5     | 150           |               | 0.1    | 62     |
| 114           |               | <0.1   | <5     | 151           |               | <0.1   | 72     |
| 115           |               | <0.1   | <5     | DUPLICATE     |               | 0.2    |        |
| 116           |               | <0.1   | <5     | 152           |               | 0.1    | 14     |
| 117           |               | <0.1   | <5     | 153           |               | 0.1    | 34     |
| DUPLICATE     |               | <0.1   |        | 154           |               | 0.4    | 34     |
| 118           |               | <0.1   | <5     | 155           |               | <0.1   | 12     |
| 119           |               | <0.1   | <5     | 156           |               | 0.2    | 26     |
| 120           |               | <0.1   | <5     | 157           |               | 11.1-  | 100    |
| 121           |               | <0.1   | <5     | 158           |               | 1.4    | 132    |
| 122           |               | <0.1   | 5      | 159           |               | <0.1   | 8      |
| 123           |               | <0.1   | 7      | 160           |               | 0.2    | 10     |
| 124           |               | <0.1   | 7      | 161           |               | <0.1   | 12     |
| 125           |               | <0.1   | 5      | 162           |               | 0.4    | 8      |
| 126           |               | <0.1   | 9      | 163           |               | <0.1   | 10     |
| 127           |               | <0.1   | 7      | 164           |               | 0.2    | 16     |
| 128           |               | <0.1   | 7      | 165           |               | <0.1   | 26     |
| 129           |               | <0.1   | 5      | 166           |               | 0.2    | <5     |
| 130           |               | <0.1   | 15     | 167           |               | 0.1    | <5     |
| 131           |               | <0.1   | 7      | 168           |               | <0.1   | <5     |
| 132           |               | <0.1   | 11     | DUPLICATE     |               | <0.1   |        |
| 133           |               | <0.1   | 5      | 169           |               | <0.1   | <5     |
| 134           |               | 0.2    | 5      | 170           |               | <0.1   | <5     |
| DUPLICATE     |               | <0.1   |        | 171           |               | <0.1   | <5     |
| 135           |               | <0.1   | 5      | 172           |               | <0.1   | <5     |

Bondar-Clegg & Company Ltd.  
 5420 Canotek Road  
 Ottawa, Ontario  
 K1J 8X5  
 (613) 749-2220 Telex 053-3233

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PAGE 2

| SAMPLE NUMBER | ELEMENT UNITS | Ag PPM | Au PPB | SAMPLE NUMBER | ELEMENT UNITS | Ag PPM | Au PPB |
|---------------|---------------|--------|--------|---------------|---------------|--------|--------|
| 201           |               | <0.1   | <5     | 238           |               | <0.1   | <5     |
| 202           |               | <0.1   | <5     | 239           |               | <0.1   | <5     |
| 203           |               | <0.1   | <5     | DUPLICATE     |               | <0.1   | <5     |
| 204           |               | <0.1   | <5     | 240           |               | <0.1   | <5     |
| 205           |               | <0.1   | <5     | 241           |               | <0.1   | 18     |
| DUPLICATE     |               | <0.1   |        | 242           |               | <0.1   | <5     |
| 206           |               | <0.1   | <5     |               |               |        |        |
| 207           |               | <0.1   | <5     |               |               |        |        |
| 208           |               | <0.1   | <5     |               |               |        |        |
| 209           |               | <0.1   | <5     |               |               |        |        |
| 210           |               | <0.1   | <5     |               |               |        |        |
| 211           |               | <0.1   | <5     |               |               |        |        |
| 212           |               | <0.1   | <5     |               |               |        |        |
| 213           |               | <0.1   | 6      |               |               |        |        |
| DUPLICATE     |               | <0.1   |        |               |               |        |        |
| 214           |               | 0.1    | <5     |               |               |        |        |
| 215           |               | <0.1   | <5     |               |               |        |        |
| 216           |               | <0.1   | <5     |               |               |        |        |
| 217           |               | <0.1   | <5     |               |               |        |        |
| 218           |               | <0.1   | <5     |               |               |        |        |
| 219           |               | <0.1   | <5     |               |               |        |        |
| 220           |               | <0.1   | <5     |               |               |        |        |
| 221           |               | 0.3    | <5     |               |               |        |        |
| 222           |               | <0.1   | <5     |               |               |        |        |
| 223           |               | 1.2    | <5     |               |               |        |        |
| 224           |               | 0.3    | <5     |               |               |        |        |
| 225           |               | <0.1   | <5     |               |               |        |        |
| 226           |               | <0.1   | <5     |               |               |        |        |
| 227           |               | <0.1   | 8      |               |               |        |        |
| 228           |               | 0.1    | <5     |               |               |        |        |
| 229           |               | <0.1   | <5     |               |               |        |        |
| 230           |               | 0.1    | <5     |               |               |        |        |
| DUPLICATE     |               | <0.1   |        |               |               |        |        |
| 231           |               | 0.1    | <5     |               |               |        |        |
| 232           |               | 0.1    | <5     |               |               |        |        |
| 233           |               | 0.1    | <5     |               |               |        |        |
| 234           |               | <0.1   | <5     |               |               |        |        |
| 235           |               | <0.1   | <5     |               |               |        |        |
| 236           |               | <0.1   | <5     |               |               |        |        |
| 237           |               | <0.1   | <5     |               |               |        |        |

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 5420 Canotek Road  
 Ottawa, Ontario  
 K1J 8X5  
 (613) 749-2220 Telex 053-3233



Certificate  
 of Analysis

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PROJECT: HBR-103

PAGE 1

| SAMPLE NUMBER | ELEMENT UNITS | S102 PCT | SAMPLE NUMBER | ELEMENT UNITS | S102 PCT |
|---------------|---------------|----------|---------------|---------------|----------|
| 001           |               | 79.78    | 037           |               | 77.10    |
| DUPLICATE     |               |          | 038           |               | 73.10    |
| 002           |               | 85.38    | 039           |               | 71.50    |
| 003           |               | 80.60    | 040           |               | 59.90    |
| 004           |               | 81.23    | 041           |               | 86.34    |
| 005           |               | 81.53    | 042           |               | 77.00    |
| 006           |               | 72.02    | 043           |               | 55.40    |
| 007           |               | 81.58    | 044           |               | 56.80    |
| 008           |               | 78.22    | DUPLICATE     |               |          |
| 009           |               | 54.78    | 045           |               | 65.70    |
| 010           |               | 70.40    | 046           |               | 71.40    |
| DUPLICATE     |               |          | 047           |               | 77.00    |
| 011           |               | 59.00    | 048           |               | 75.20    |
| 012           |               | 59.00    | 049           |               | 89.95    |
| 013           |               | 72.70    | 050           |               | 85.20    |
| 014           |               | 76.20    | 051           |               | 80.40    |
| 015           |               | 73.60    | 052           |               | 79.70    |
| 016           |               | 82.20    | DUPLICATE     |               |          |
| 017           |               | 88.70    | 053           |               | 75.90    |
| 018           |               | 69.10    | 054           |               | 56.60    |
| DUPLICATE     |               |          | 055           |               | 83.70    |
| 019           |               | 61.80    | 056           |               | 70.50    |
| 020           |               | 87.64    | 057           |               | 57.30    |
| 021           |               | 74.70    | 058           |               | 57.10    |
| 022           |               | 77.40    | 059           |               | 55.90    |
| 023           |               | 73.50    | 060           |               | 56.40    |
| 024           |               | 83.40    | 061           |               | 56.40    |
| 025           |               | 79.90    | 062           |               | 62.90    |
| 026           |               | 94.15    | 063           |               | 57.00    |
| 027           |               | 77.10    | 064           |               | 58.80    |
| 028           |               | 98.91    | 065           |               | 78.40    |
| 029           |               | 98.13    | 066           |               | 57.20    |
| 030           |               | 78.00    | 067           |               | 61.50    |
| 031           |               | 76.30    | 068           |               | 57.20    |
| 032           |               | 77.20    | 069           |               | 55.50    |
| 033           |               | 88.76    | DUPLICATE     |               |          |
| 034           |               | 71.90    | 070           |               | 69.60    |
| 035           |               | 78.80    | 071           |               | 87.00    |
| DUPLICATE     |               |          | 072           |               | 82.50    |
| 036           |               | 74.00    |               |               |          |

Bondar-Clegg & Company Ltd.  
5620 Canotek Road  
Ottawa, Ontario  
K1J 8X5  
(613) 749-2220 Telex 053-3233



# Certificate of Analysis

REPORT: 088-51197,4

PROJECT: ESPANOLE

| SAMPLE<br>NUMBER | ELEMENT<br>UNITS | SIQ2<br>PCT |
|------------------|------------------|-------------|
|------------------|------------------|-------------|

|    |  |       |
|----|--|-------|
| 73 |  | 78.90 |
| 74 |  | 69.70 |
| 75 |  | 71.60 |
| 76 |  | 74.80 |
| 77 |  | 63.70 |

|    |  |       |
|----|--|-------|
| 78 |  | 75.80 |
| 79 |  | 80.70 |
| 80 |  | 71.80 |
| 81 |  | 70.00 |
| 82 |  | 75.60 |

|    |  |       |
|----|--|-------|
| 83 |  | 78.50 |
| 84 |  | 68.50 |
| 85 |  | 67.70 |
| 86 |  | 70.60 |
| 87 |  | 14.50 |

|    |  |       |
|----|--|-------|
| 88 |  | 75.60 |
| 89 |  | 84.40 |
| 90 |  | 69.30 |
| 91 |  | 74.80 |
| 92 |  | 30.80 |

|    |  |       |
|----|--|-------|
| 93 |  | 70.30 |
| 94 |  | 28.00 |

A handwritten signature or initials, possibly 'AP', located at the bottom right of the page.



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 5420 Canuck Road  
 Ottawa, Ontario  
 K1J 8X5  
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Certificate  
 of Analysis

REPORT: 088-51194.4

PROJECT: HBR-103

PAGE 1

| SAMPLE NUMBER | ELEMENT UNITS | SiO2 PCT | SAMPLE NUMBER | ELEMENT UNITS | SiO2 PCT |
|---------------|---------------|----------|---------------|---------------|----------|
| 134           |               | 83.10    | 233           |               | 77.80    |
| 135           |               | 83.60    | 234           |               | 81.20    |
| 136           |               | 81.10    | 235           |               | 71.40    |
| 138           |               | 66.80    | 236           |               | 66.10    |
| 139           |               | 86.60    | 237           |               | 77.00    |
| 146           |               | 88.30    | 242           |               | 76.00    |
| 148           |               | 79.90    |               |               |          |
| 149           |               | 70.30    |               |               |          |
| 153           |               | 68.10    |               |               |          |
| 154           |               | 78.70    |               |               |          |
| 155           |               | 84.00    |               |               |          |
| 156           |               | 92.50    |               |               |          |
| 157           |               | 83.78    |               |               |          |
| 159           |               | 97.77    |               |               |          |
| 164           |               | 64.00    |               |               |          |
| 165           |               | 90.34    |               |               |          |
| 166           |               | 79.30    |               |               |          |
| 172           |               | 92.50    |               |               |          |
| 206           |               | 78.60    |               |               |          |
| 207           |               | 78.60    |               |               |          |
| 208           |               | 78.10    |               |               |          |
| 210           |               | 80.80    |               |               |          |
| 211           |               | 74.40    |               |               |          |
| 212           |               | 83.90    |               |               |          |
| 213           |               | 83.30    |               |               |          |
| 214           |               | 80.10    |               |               |          |
| 215           |               | 79.90    |               |               |          |
| 216           |               | 81.30    |               |               |          |
| 217           |               | 78.20    |               |               |          |
| 218           |               | 73.70    |               |               |          |
| 219           |               | 76.10    |               |               |          |
| 220           |               | 77.30    |               |               |          |
| 221           |               | 72.80    |               |               |          |
| 222           |               | 98.61    |               |               |          |
| 223           |               | 99.56    |               |               |          |
| 228           |               | 69.20    |               |               |          |
| 229           |               | 83.50    |               |               |          |
| 230           |               | 74.10    |               |               |          |
| 231           |               | 72.70    |               |               |          |
| 232           |               | 81.90    |               |               |          |

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 5420 Canotek Road  
 Ottawa, O  
 K1J 8X5  
 (613) 749-2220 Telex 053-3233



Geochemical  
 Lab Report

REPORT: 088-51403.0

PROJECT: HDR-103

PAGE 1

| SAMPLE NUMBER | ELEMENT UNITS | Ag PPM | Au PPB | SAMPLE NUMBER | ELEMENT UNITS | Ag PPM | Au PPB |
|---------------|---------------|--------|--------|---------------|---------------|--------|--------|
| JU-300        |               | 0.1    | <5     | RW-603        |               | <0.1   | <5     |
| DUPLICATE     |               | <0.1   |        | RW-604        |               | <0.1   | <5     |
| JU-301        |               | 0.1    | <5     | RW-605        |               | <0.1   | <5     |
| JU-302        |               | <0.1   | <5     | RW-606        |               | <0.1   | <5     |
| JU-303        |               | <0.1   | <5     | RW-607        |               | 0.1    | <5     |
| JU-304        |               | <0.1   | <5     | RW-608        |               | <0.1   | <5     |
| JU-309        |               | <0.1   | <5     | RW-609        |               | <0.1   | <5     |
| JU-310        |               | <0.1   | 12     | RW-610        |               | <0.1   | <5     |
| JU-311        |               | <0.1   | <5     | DUPLICATE     |               | <0.1   |        |
| JU-312        |               | <0.1   | <5     | RW-611        |               | <0.1   | <5     |
| JU-313        |               | <0.1   | <5     | RW-612        |               | <0.1   | <5     |
| DUPLICATE     |               | <0.1   |        | RW-613        |               | 0.1    | <5     |
| JU-314        |               | <0.1   | 7      | RW-614        |               | <0.1   | <5     |
| JU-315        |               | <0.1   | <5     | RW-615        |               | <0.1   | <5     |
| JU-316        |               | <0.1   | <5     |               |               |        |        |
| JU-317        |               | <0.1   | <5     |               |               |        |        |
| JU-318        |               | <0.1   | <5     |               |               |        |        |
| JU-319        |               | <0.1   | <5     |               |               |        |        |
| JU-320        |               | 0.1    | <5     |               |               |        |        |
| JU-321        |               | <0.1   | <5     |               |               |        |        |
| DUPLICATE     |               | <0.1   |        |               |               |        |        |
| JU-322        |               | <0.1   | <5     |               |               |        |        |
| JU-323        |               | <0.1   | <5     |               |               |        |        |
| JU-324        |               | <0.1   | <5     |               |               |        |        |
| JU-325        |               | <0.1   | <5     |               |               |        |        |
| JU-326        |               | <0.1   | <5     |               |               |        |        |
| JU-327        |               | <0.1   | <5     |               |               |        |        |
| JU-328        |               | 0.3    | <5     |               |               |        |        |
| JU-329        |               | <0.1   | <5     |               |               |        |        |
| JU-330        |               | <0.1   | 10     |               |               |        |        |
| JU-331        |               | 0.1    | <5     |               |               |        |        |
| JU-332        |               | <0.1   | <5     |               |               |        |        |
| JU-333        |               | <0.1   | <5     |               |               |        |        |
| JU-334        |               | <0.1   | 22     |               |               |        |        |
| JU-335        |               | <0.1   | <5     |               |               |        |        |
| JU-336        |               | <0.1   | <5     |               |               |        |        |
| JU-337        |               | <0.1   | 7      |               |               |        |        |
| RW-600        |               | <0.1   | <5     |               |               |        |        |
| DUPLICATE     |               | <0.1   |        |               |               |        |        |
| RW-601        |               | <0.1   | <5     |               |               |        |        |

Bondar-Clegg & Company Ltd.  
5420 Canotek Road  
Ottawa, Ontario  
K1J 8X5  
(613) 749-2220 Telex 053-3233



# Geochemical Lab Report

REPORT: 088-51403.1

PROJECT: NBR-103

PAGE 1

| SAMPLE NUMBER | ELEMENT UNITS | Ni PPM | Ag PPM | Pd PPB | Pt PPB | Au PPB |
|---------------|---------------|--------|--------|--------|--------|--------|
| JU-305        |               | 43     | <0.1   | <1     | <5     | <1     |
| DUPLICATE     |               | 42     | <0.1   |        |        |        |
| JU-306        |               | 46     | <0.1   | <1     | 6      | <1     |
| JU-307        |               | 48     | <0.1   | <1     | <5     | 5      |
| JU-308        |               | 28     | <0.1   | <1     | <5     | 7      |

**APPENDIX D**

**REPORTS OF WORK**



Ministry of Natural Resources Ontario

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

DOCUMENT No. W8807-150

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.

The Mining Act

|   |  |
|---|--|
| Type of Survey(s)<br><b>GEOLOGICAL MAPPING</b>  | Township or Area<br><b>MCKINNEN/MONGOWIN TWP</b>                                       |
| Claim Holder(s)<br><b>HARDIMAN BAY RESOURCES INC.</b>   | Prospector's Licence No.<br><b>T.4938</b>  |
| Address<br><b>SUITE 500, 67 RICHMOND ST. W. TORONTO, ON M5H 1Z5</b>   |  |
| Survey Company<br><b>DERRY, MICHENER, BOOTH &amp; WAHL</b>  | Date of Survey (from & to)<br>12 05 88 / 13 06 88<br>Day   Mo.   Yr.   Day   Mo.   Yr. |
| Name and Address of Author (of Geo-Technical report)<br><b>JAMES LAWTON SUITE 410, 20 RICHMOND ST. E. TORONTO M5C 2R9</b> |  |
| Total Miles of line cut<br><b>27 km</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     |                |
| For each additional survey:<br>using the same grid:<br>Enter 20 days (for each) | - Other           |                |
|   | Geological        | 20             |
|   | Geochemical       |                |

| Men Days                                      | Geophysical       | Days per Claim |
|---|-------------------|----------------|
| Complete reverse side and enter total(s) here | - Electromagnetic |                |
|   | - Magnetometer    |                |
|   | - Radiometric     |                |
|   | - Other           |                |
|   | Geological        |                |
|   | Geochemical       |                |

| Prefix | Mining Claim Number | Expend. Days Cr. | Prefix | Mining Claim Number | Expend. Days Cr. |
|--------|---------------------|------------------|--------|---------------------|------------------|
| S      | 787614              |                  |        |                     |                  |
|        | 827042              |                  |        |                     |                  |
|        | 895204              |                  |        |                     |                  |
|        | 895205              |                  |        |                     |                  |
|        | 895206              |                  |        |                     |                  |
|        | 895207              |                  |        |                     |                  |
|        | 895268              |                  |        |                     |                  |
|        | 895269              |                  |        |                     |                  |
|        | 895270              |                  |        |                     |                  |
|        | 895271              |                  |        |                     |                  |
|        | 895307              |                  |        |                     |                  |
|        | 895309              |                  |        |                     |                  |
|        | 895310              |                  |        |                     |                  |
|        | 895311              |                  |        |                     |                  |
|        | 983605              |                  |        |                     |                  |
|        | 983606              |                  |        |                     |                  |
|        | 983607              |                  |        |                     |                  |
|        | 983608              |                  |        |                     |                  |

Expenditures (excludes power stripping)

Suburb Mining Div. RECEIVED

Type of Work Performed  
**III 22 1988**

Performed on Claim(s)  
A.M. 7/18/19/20/11/12/11/21/31/4/5/6 P.M.  
**21102 P.M.**

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.

Date **July 19 1988** Recorded Holder by Agent (Signature) *[Signature]*

Total number of mining claims covered by this report of work. **18**

For Office Use Only

Total Days Cr. Date Recorded **360** **July 27/88**

Date Approved as Recorded **July 27/88** Mining Reporter **V.C. Miller**

Branch Director

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  
**JAMES R LAWTON SUITE 410, 20 RICHMOND ST. E. TORONTO ONT M5C 2R9**

Date Certified **July 19 1988** Certified by (Signature) *[Signature]*

Mining Act

of Survey(s) **GEOLOGICAL MAPPING** Township or Area **MCKINNON / MONTGOMERY**

Claim Holder(s) **HARDIMAN BAY RESOURCES INC.** Prospector's Licence No. **T. 4938**

Address **SUITE 500 67 RICHMOND ST. WEST TORONTO M5H 1Z5**

Survey Company **PERRY MICHAEL BOUTH & WAHL** Date of Survey (from & to) **12 05 88** | **15 06 88** Total Miles of Line Cut **27 km**

Name and Address of Author (of Geo-Technical report) **AMES LAWTON, PERRY HARDWICK SUITE 410 20 RICHMOND ST E TORONTO M5C 2R9**

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

| Mining Claim |        | Expend. Days Cr. |
|--------------|--------|------------------|
| Prefix       | Number |                  |
| S            | 895260 |                  |
|              | 895261 |                  |
|              | 895262 |                  |
|              | 895263 |                  |
|              | 895264 |                  |
|              | 895265 |                  |
|              | 895266 |                  |
|              | 895267 |                  |
|              | 895272 |                  |
|              | 895273 |                  |
|              | 895274 |                  |
|              | 895275 |                  |
|              | 895276 |                  |
|              | 895277 |                  |
|              | 895278 |                  |
|              | 895279 |                  |
|              | 895306 |                  |
|              | 895308 |                  |
|              | 895312 |                  |
|              | 895313 |                  |

**RECEIVED**  
MONTGOMERY DIV.  
JUN 22 1988  
P.M.  
7 10 19 11 12 13 14 15 16

**RECEIVED**  
MONTGOMERY DIV.  
JUN 16 1988  
P.M.  
7 10 19 11 12 13 14 15 16

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures \$  ÷ 15 = Total Days Credits

Total number of mining claims covered by this report of work. **20**

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 **JUN 15 1988** Recorded Holder or Agent (Signature) *[Signature]*

For Office Use Only

|                                    |                                 |                                  |
|------------------------------------|---------------------------------|----------------------------------|
| Total Days Cr. Recorded <b>800</b> | Date Recorded <b>June 27/88</b> | Mining Recorder <b>C. Miller</b> |
|                                    | Date Approved as Recorded       | Branch Director                  |

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 **JAMES R. LAWTON 20 RICHMOND ST E SUITE 410 TORONTO M5C 2R9**

Date Certified  Certified by (Signature) *[Signature]*



Ontario

Ministry of  
Northern Development  
and Mines

Ministère du  
Développement du Nord  
et des Mines



41104NW0007 2.11503 MCKINNON

900

September 8, 1988

Your File: W8807-150

Our File : 2.11503

Mining Recorder  
Ministry of Northern Development and Mines  
Bag 3000  
200 Brady Street, 6th Floor, West Tower  
Sudbury, Ontario  
P3A 5W2

Dear Sir:

RE: Notice of Intent dated August 24, 1988.  
Geological Survey on Mining Claims S787614 et al  
in the Townships of McKinnon and Mongowin

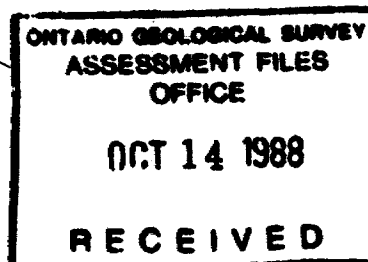
The assessment work credits, as listed with the above-mentioned  
Notice of Intent, have been approved as of the above date.

Please inform the recorded holder of these mining claims and so  
indicate on your records.

Yours sincerely,

W.R. Cowan, Manager  
Mining Lands Section  
Mines & Minerals Division

Whitney Block, Room 6610  
Queen's Park  
Toronto, Ontario  
M7A 1W3  
Telephone: (416) 965-4888



SH:sc

cc: Hardiman Bay Resources Inc.  
Suite 500  
67 Richmond Street West  
Toronto, Ontario  
M5H 1Z5

cc: Derry, Michener, Booth & Wahl  
Suite 410  
20 Richmond Street E.  
Toronto, Ontario  
M5C 2R9  
Attention: Mr. James R. Lawton

cc: Mr. G.H. Ferguson  
Mining & Lands Commissioner  
Toronto, Ontario

cc: Resident Geologist  
Sudbury, Ontario



Recorded Holder  
**Hardiman Bay Resources Inc.**

Township ~~of~~  
**McKinnon and Mongowin**

| Type of survey and number of Assessment days credit per claim   | Mining Claims Assessed  |
|---|---|
| <b>Geophysical</b><br>Electromagnetic _____ days<br>Magnetometer _____ days<br>Radiometric _____ days<br>Induced polarization _____ days<br>Other _____ days<br>Section 77 (19) See "Mining Claims Assessed" column<br>Geological <u>20</u> days<br>Geochemical _____ days<br>Man days <input type="checkbox"/> Airborne <input type="checkbox"/><br>Special provision <input checked="" type="checkbox"/> Ground <input checked="" type="checkbox"/><br><input type="checkbox"/> Credits have been reduced because of partial coverage of claims.<br><input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant. | S-787614<br>827042<br>895204<br>895206-07<br>895268 to 71 inclusive<br>895307<br>895309 to 11 inclusive<br>983605 to 08 inclusive |

Special credits under section 77 (16) for the following mining claims

5 days Geological

S-895205

No credits have been allowed for the following mining claims

not sufficiently covered by the survey       insufficient technical data filed

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geological - 40; Geochemical - 40; Section 77(19) - 80.





Ministry of  
Natural  
Resources

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

DOCUMENT No.  
W8807-150

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.

The Mining Act

Sept 15

Type of Survey(s) **GEOLOGICAL MAPPING 2.115018** Township or Area **BIRNEN/MUNGOVIN TWP**

Claim Holder(s) **HARDIMAN BAY RESOURCES INC.** Prospector's Licence No. **T.4938**

Address **SUITE 500, 67 RICHMOND ST. W. TORONTO, ON M5H 1Z5**

Survey Company **DERRY, MITCHNER, BOOTH & WAHL** Date of Survey (from & to) **12 05 88 13 06 88** Total Miles of line Cut **27 km**

Name and Address of Author (of Geo-Technical report) **JAMES LAWTON SUITE 410, 20 RICHMOND ST. E. TORONTO M5C 2R9**

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     |                |
| For each additional survey:<br>using the same grid:<br>Enter 20 days (for each) | - Other           |                |
|   | Geological        | 20             |
|   | Geochemical       |                |

| Mining Claim |        | Expend. Days Cr. | Mining Claim |        | Expend. Days Cr. |
|--------------|--------|------------------|--------------|--------|------------------|
| Prefix       | Number |                  | Prefix       | Number |                  |
| S            | 787614 |                  |              |        |                  |
|              | 827042 |                  |              |        |                  |
|              | 895204 |                  |              |        |                  |
|              | 895205 |                  |              |        |                  |
|              | 895206 |                  |              |        |                  |
|              | 895207 |                  |              |        |                  |
|              | 895268 |                  |              |        |                  |
|              | 895269 |                  |              |        |                  |
|              | 895270 |                  |              |        |                  |
|              | 895271 |                  |              |        |                  |
|              | 895307 |                  |              |        |                  |
|              | 895309 |                  |              |        |                  |
|              | 895310 |                  |              |        |                  |
|              | 895311 |                  |              |        |                  |
|              | 983605 |                  |              |        |                  |
|              | 983606 |                  |              |        |                  |
|              | 983607 |                  |              |        |                  |
|              | 983608 |                  |              |        |                  |

| Man Days                                      | Geophysical       | Days per Claim |
|---|-------------------|----------------|
| Complete reverse side and enter total(s) here | - Electromagnetic |                |
|   | - Magnetometer    |                |
|   | - Radiometric     |                |
|   | - Other           |                |
|   | Geological        |                |
|   | Geochemical       |                |

| Airborne Credits  | Geophysical       | Days per Claim |
|---|-------------------|----------------|
| Note: Special provisions credits do not apply to Airborne Surveys | - Electromagnetic |                |
|   | - Magnetometer    |                |
|   | - Radiometric     |                |
|   | - Other           |                |
|   | Geological        |                |
|   | Geochemical       |                |

Expenditures (excludes power stripping)

Type of Work Performed **Geological**

Performed on Claim(s) **718191101112111213141516** P.M. **11:02 a.m.**

Calculation of Expenditure Days Credits

Total Expenditures \$  +  =

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 **July 19 1988** Recorded Holder by Agent (Signature) *[Signature]*

For Office Use Only

Total Days Cr. Recorded **360** Date Recorded **July 27/88** Mining Recorder *[Signature]*

Date Approved as Recorded *[Signature]* 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 **JAMES R LAWTON SUITE 410, 20 RICHMOND ST. E. TORONTO ON**

Date Certified **July 19 1988** Certified by (Signature) *[Signature]*

Total number of mining claims covered by this report of work. **18**

RECEIVED  
AUG 3 1988  
MINING LANDS SECTION

SUDBURY  
MINING DIV.  
RECEIVED

DOCUMENT No.  
**W8807-131**

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.

Aug. 16

Mining Act

of Survey(s) **GEOLOGICAL MAPPING 2.1150** Township or Area **McKinnon / Monckwin**

Holder(s) **HARDIMAN Bay Resources Inc.** Prospector's Licence No. **T. 4938**

**SUITE 500 67 RICHMOND ST. WEST TORONTO M5H 1Z5**

by Company **PEREY MICHELER BOOTH & WAHL** Date of Survey (from & to) **12 05 86 13 06 88** Total ~~km~~ of line Cut **27 km**

and Address of Author (of Geo-Technical report) **Mrs LANTON, PEREY HARDWICK SUITE 410 20 RICHMOND ST E TORONTO M5C 2R9**

Days Requested per Each Claim in Columns at right

| Special Provisions  | Geophysical       | Days per Claim |
|---|-------------------|----------------|
| For first survey:<br>Enter 40 days. (This includes line cutting)                | - Electromagnetic |                |
|   | - Magnetometer    |                |
| For each additional survey:<br>Using the same grid:<br>Enter 20 days (for each) | - Radiometric     |                |
|   | - Other           |                |
|   | Geological        | <b>40</b>      |
|   | Geochemical       |                |

| Days  | Geophysical       | Days per Claim |
|---|-------------------|----------------|
| Complete reverse side and enter total(s) here | - Electromagnetic |                |
|   | - Magnetometer    |                |
|   | - Radiometric     |                |
|   | - Other           |                |
|   | Geological        |                |
|   | Geochemical       |                |

| Special Provisions   | Geophysical     | Days per Claim |
|--|-----------------|----------------|
| Note: Special provisions credits do not apply to Airborne Surveys. | Electromagnetic |                |
|  | Magnetometer    |                |
|  | Radiometric     |                |

Mining Claims Traversed (List in numerical sequence)

| Mining Claim |        | Expend. Days Cr. |
|--------------|--------|------------------|
| Prefix       | Number |                  |
| S            | 895260 |                  |
|              | 895261 |                  |
|              | 895262 |                  |
|              | 895263 |                  |
|              | 895264 |                  |
|              | 895265 |                  |
|              | 895266 |                  |
|              | 895267 |                  |
|              | 895272 |                  |
|              | 895273 |                  |
|              | 895274 |                  |
|              | 895275 |                  |
|              | 895276 |                  |
|              | 895277 |                  |
|              | 895278 |                  |
|              | 895279 |                  |
|              | 895306 |                  |
|              | 895308 |                  |
|              | 895312 |                  |
|              | 895313 |                  |

**RECEIVED**  
JUN 29 1988  
MINING LANDS SECTION

**SUDBURY MINING DIV. RECEIVED**  
JUN 22 1988

**SUDBURY MINING DIV. RECEIVED**  
JUN 16 1988

25 45 27 25 87

Expenditures (excludes power stripping)

Days of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures \$  + 15 = Total Days Credits

Total number of mining claims covered by this report of work. **20**

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 **JUNE 15 / 1988** Recorded Holder or Agent (Signature) *[Signature]*

For Office Use Only

Total Days Cr. Recorded **800** Date Recorded **June 27/88** Mining Recorder *[Signature]*

Date Approved as Recorded **8/22/24** *[Signature]*

Verification 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 **James R Lantou 20 Richmond St E Suite 410 Toronto M5C 2R9**

Date Certified \_\_\_\_\_ Certified by (Signature) *[Signature]*



File \_\_\_\_\_

**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 Mapping  
 Township or Area McKinnon and Morganville  
 Claim Holder(s) Hardiman Bay Resources Inc  
 Survey Company Derry Michener Bath and Wahl  
 Author of Report P.A. Hartwick, J.R. Lawton  
 Address of Author 20 Richmond St E Suite 410 Toronto  
 Covering Dates of Survey May 1 (gone) to July 15, 1988  
(linecutting to office)  
 Total Miles of Line Cut (mapping performed on about 70km of line)

| MINING CLAIMS TRAVERSED       |        |
|-------------------------------|--------|
| List numerically              |        |
| S                             | 787614 |
| S                             | 827012 |
| S                             | 895204 |
| S                             | 895205 |
| S                             | 895206 |
| S                             | 895207 |
| S                             | 895268 |
| S                             | 895269 |
| S                             | 895270 |
| S                             | 895271 |
| S                             | 895308 |
| S                             | 895309 |
| S                             | 895310 |
| S                             | 895311 |
| S                             | 983605 |
| S                             | 983606 |
| S                             | 983607 |
| S                             | 983608 |
| <b>TOTAL CLAIMS</b> <u>18</u> |        |

If space insufficient, attach list

| <u>SPECIAL PROVISIONS<br/>CREDITS REQUESTED</u>           | <u>DAYS<br/>per claim</u> |
|---|---------------------------|
| ENTER 40 days (includes line cutting) for first survey.   | Geophysical               |
|   | -Electromagnetic _____    |
|   | -Magnetometer _____       |
|   | -Radiometric _____        |
|   | -Other _____              |
| ENTER 20 days for each additional survey using same grid. | Geological <u>20</u>      |
|   | Geochemical _____         |

**AIRBORNE CREDITS** (Special provision credits do not apply to airborne surveys)  
 Magnetometer \_\_\_\_\_ Electromagnetic \_\_\_\_\_ Radiometric \_\_\_\_\_  
(enter days per claim)  
 DATE: August 10/88 SIGNATURE: [Signature]  
Author of Report or Agent

Res. Geol. \_\_\_\_\_ Qualifications \_\_\_\_\_

| <u>Previous Surveys</u> |      |      |              |
|-------------------------|------|------|--------------|
| File No.                | Type | Date | Claim Holder |
|                         |      |      |              |
|                         |      |      |              |
|                         |      |      |              |
|                         |      |      |              |
|                         |      |      |              |
|                         |      |      |              |
|                         |      |      |              |
|                         |      |      |              |
|                         |      |      |              |
|                         |      |      |              |

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 \_\_\_\_\_

Total Number of Samples \_\_\_\_\_

Type of Sample \_\_\_\_\_  
(Nature of Material)

Average Sample Weight \_\_\_\_\_

Method of Collection \_\_\_\_\_

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 \_\_\_\_\_

ANALYTICAL METHODS

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

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

Others \_\_\_\_\_

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 \_\_\_\_\_

Extraction Method \_\_\_\_\_

Analytical Method \_\_\_\_\_

Reagents Used \_\_\_\_\_

General \_\_\_\_\_



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 Mapping and Linecutting  
Township or Area McKinnon and Mongowin  
Claim Holder(s) Hardiman Bay Resources Inc.  
Survey Company Derry Michener Booth + Wuhl  
Author of Report Perry A. Hartwick, James R. Lawton  
Address of Author 20 Richmond St E Suite 410 Toronto  
Covering Dates of Survey May 18, 1988 to July 15, 1988  
(linecutting to office)  
Total Miles of Line Cut 70 km of cut line  
<sup>km</sup>

**MINING CLAIMS TRAVERSED**  
List numerically

|                               |          |
|-------------------------------|----------|
| S                             | 895260   |
| (prefix)                      | (number) |
| S                             | 895261   |
| S                             | 895262   |
| S                             | 895263   |
| S                             | 895264   |
| S                             | 895265   |
| S                             | 895266   |
| S                             | 895267   |
| S                             | 895272   |
| S                             | 895273   |
| S                             | 895274   |
| S                             | 895275   |
| S                             | 895276   |
| S                             | 895277   |
| S                             | 895278   |
| S                             | 895279   |
| S                             | 895306   |
| S                             | 895308   |
| S                             | 895312   |
| S                             | 895313   |
| <b>TOTAL CLAIMS</b> <u>20</u> |          |

If space insufficient, attach list

**SPECIAL PROVISIONS  
CREDITS REQUESTED**

DAYS  
per claim

ENTER 40 days (includes  
line cutting) for first  
survey.  
ENTER 20 days for each  
additional survey using  
same grid.

Geophysical  
-Electromagnetic \_\_\_\_\_  
-Magnetometer \_\_\_\_\_  
-Radiometric \_\_\_\_\_  
-Other \_\_\_\_\_  
Geological 40  
Geochemical \_\_\_\_\_

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

Magnetometer \_\_\_\_\_ Electromagnetic \_\_\_\_\_ Radiometric \_\_\_\_\_  
(enter days per claim)

DATE: August 10, 1988 SIGNATURE: [Signature]  
Author of Report or Agent

Res. Geol. \_\_\_\_\_ Qualifications \_\_\_\_\_

**Previous Surveys**

| File No. | Type | Date | Claim Holder |
|----------|------|------|--------------|
|          |      |      |              |
|          |      |      |              |
|          |      |      |              |
|          |      |      |              |
|          |      |      |              |
|          |      |      |              |
|          |      |      |              |
|          |      |      |              |
|          |      |      |              |
|          |      |      |              |

**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 \_\_\_\_\_

Total Number of Samples \_\_\_\_\_

Type of Sample \_\_\_\_\_  
(Nature of Material)

Average Sample Weight \_\_\_\_\_

Method of Collection \_\_\_\_\_

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 \_\_\_\_\_

ANALYTICAL METHODS

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

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

Others \_\_\_\_\_

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 \_\_\_\_\_

Extraction Method \_\_\_\_\_

Analytical Method \_\_\_\_\_

Reagents Used \_\_\_\_\_

General \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
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\_\_\_\_\_  
\_\_\_\_\_

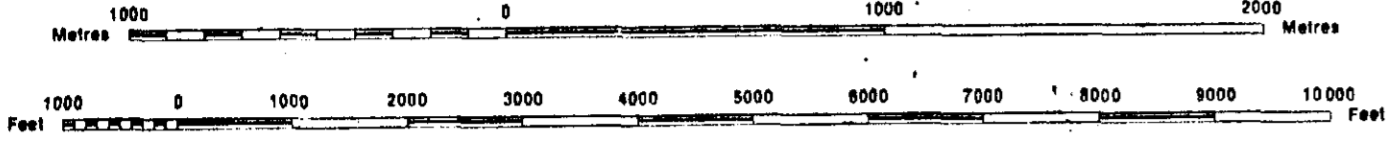


**INDEX TO LAND DISPOSITION**

PLAN  
**G-2972**  
TOWNSHIP  
**McKINNON**

M.N.R. ADMINISTRATIVE DISTRICT  
**ESPANOLA**  
MINING DIVISION  
**SUDBURY**  
LAND TITLES/REGISTRY DIVISION  
**SUDBURY**

Scale 1:20 000



Contour Interval 10 Metres

**SYMBOLS**

|                                 |       |
|---------------------------------|-------|
| Boundary                        | ..... |
| Township, Meridian, Baseline    | ..... |
| Road allowance; surveyed        | ..... |
| shoreline                       | ..... |
| Lot/Concession; surveyed        | ..... |
| unsurveyed                      | ..... |
| Parcel; surveyed                | ..... |
| unsurveyed                      | ..... |
| Right-of-way; road              | ..... |
| railway                         | ..... |
| utility                         | ..... |
| Reservation                     | ..... |
| Cliff, Pit, Pile                | ..... |
| Contour                         | ..... |
| Interpolated                    | ..... |
| Approximate                     | ..... |
| Depression                      | ..... |
| Control point (horizontal)      | ..... |
| Flooded land                    | ..... |
| Mine head frame                 | ..... |
| Pipeline (above ground)         | ..... |
| Railway; single track           | ..... |
| double track                    | ..... |
| abandoned                       | ..... |
| Road; highway, county, township | ..... |
| access                          | ..... |
| trail, bush                     | ..... |
| Shoreline (original)            | ..... |
| Transmission line               | ..... |
| Wooded area                     | ..... |

**DISPOSITION OF CROWN LAND**

|                         |       |
|-------------------------|-------|
| Patent                  | ..... |
| Surface & Mining Rights | ..... |
| Surface Rights Only     | ..... |
| Mining Rights Only      | ..... |
| Lease                   | ..... |
| Surface & Mining Rights | ..... |
| Surface Rights Only     | ..... |
| Mining Rights Only      | ..... |
| Licence of Occupation   | ..... |
| Order-in-Council        | ..... |
| Cancelled               | ..... |
| Reservation             | ..... |
| Sand & Gravel           | ..... |

**SAND AND GRAVEL**

- ① GRAVEL FILE 19063
- ② MTC GRAVEL PIT No. 488
- ③ GRAVEL FILE 28316
- ④ MNR GRAVEL RESERVE 483
- ⑤ MNR GRAVEL RESERVE 485
- ⑥ MNR GRAVEL RESERVE 489

DATE OF ISSUE  
**AUG 1 81**  
SUDBURY  
MINING RECORDS

**AREAS WITHDRAWN FROM DISPOSITION**

|  |           |         |             |        |
|--|-----------|---------|-------------|--------|
| MRO - Mining Rights Only   |           |         |             |        |
| SRO - Surface Rights Only  |           |         |             |        |
| M+S - Mining and Surface Rights  |           |         |             |        |
| Description  | Order No. | Date    | Disposition | File   |
| SEC 42/60  |           | 4/10/69 | S.R.O.      | 183005 |
| APPLICATION UNDER SECTION 31(4) OF MINING ACT<br>DUCKS UNLIMITED AGREEMENT |           |         |             |        |

**NOTES**

LAND UNDER LAKE HURON WITHDRAWN FROM STAKING BY ORDER IN COUNCIL DATED APRIL 12th, 1930.

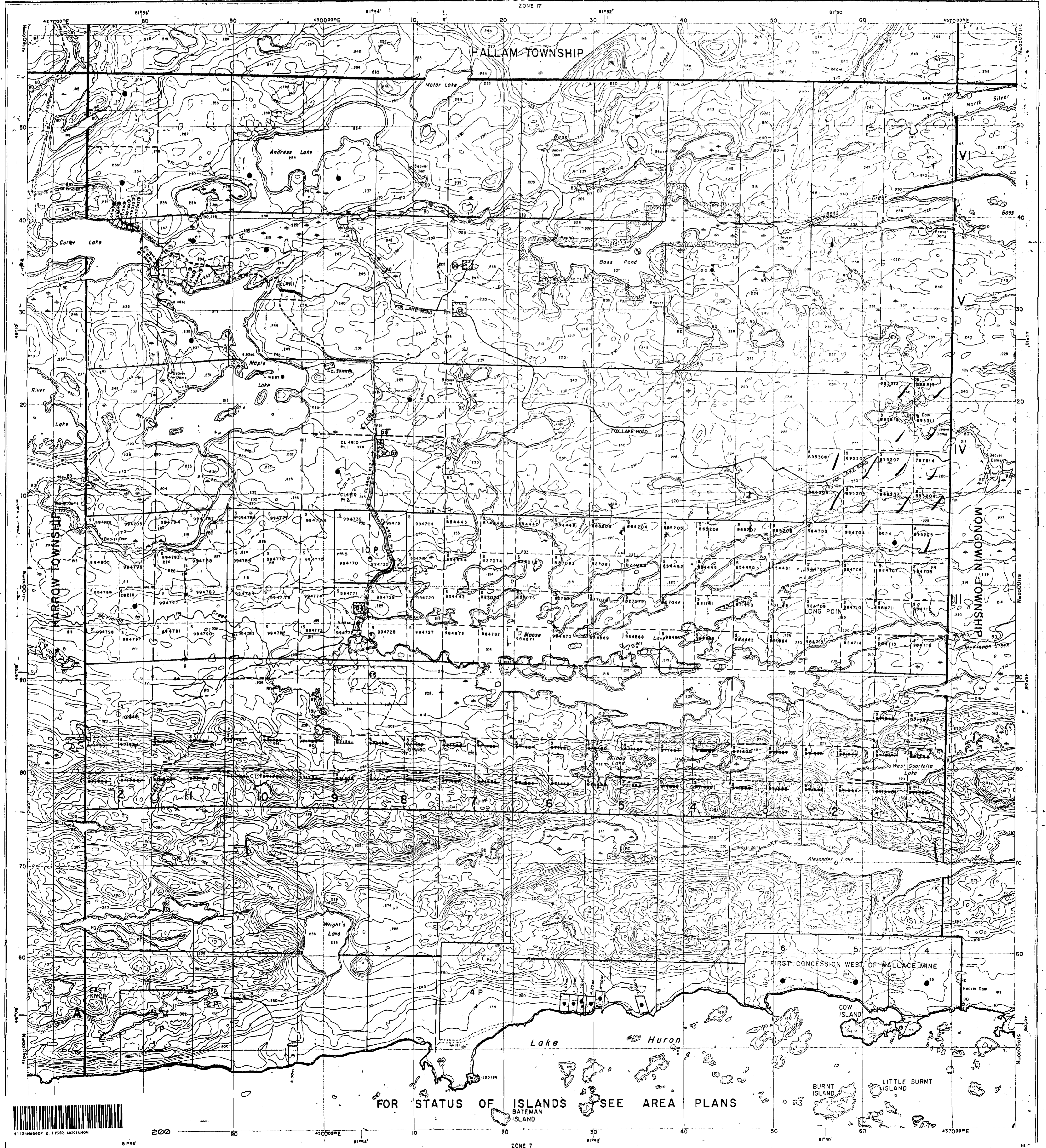
ISLANDS IN LAKE HURON ARE WITHDRAWN FROM STAKING. FILE 98528

400 FOOT SURFACE RIGHTS RESERVATION AROUND ALL LAKES AND RIVERS.

DATE OF ISSUE  
**JUN 30 1988**  
SUDBURY  
MINING RECORDS

Map base and land disposition drafting by Surveys and Mapping Branch, Ministry of Natural Resources.

The disposition of land, location of lot fabric and parcel boundaries on this index was compiled for administrative purposes only.



FOR STATUS OF ISLANDS SEE AREA PLANS



4116488807 2.11000 MCKINNON

81526

200

90

430000E

81554

10

20

30

40

50

60

81500

90

437000E

ZONE 17

81522

10

20

30

40

50

60

81500

90

437000E

10

20

30

40

50

60

70

80

90

100

110

120

130

140

150

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**MAP SYMBOLOLOGY**

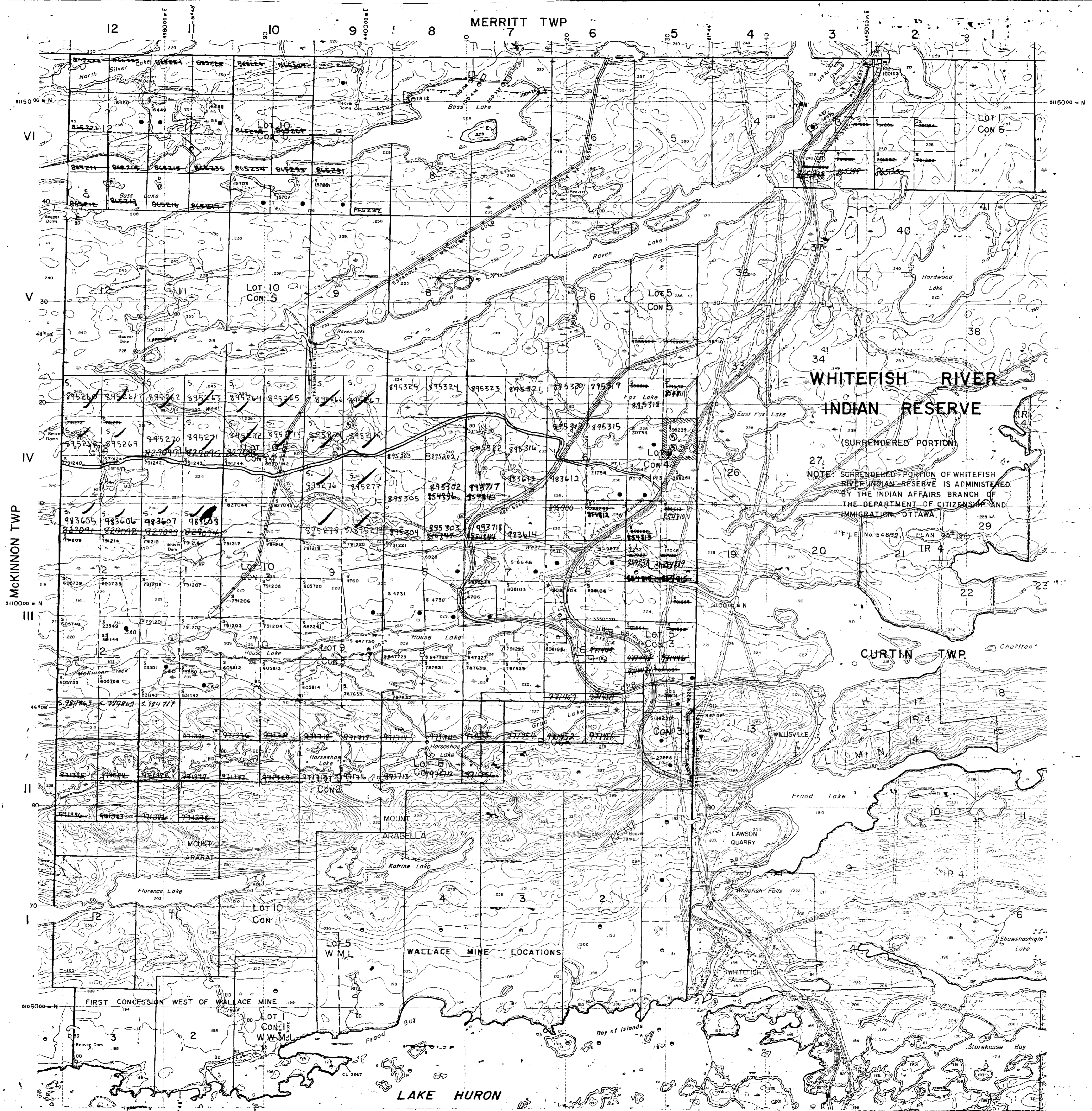
|   |   |
|---|---|
| Aerial Cableway                               | Pipeline (above ground)                                       |
| Boundary                                      | Railroad  |
| International                                 | Single Track  |
| Interprovincial                               | Double Track  |
| District, Township                            | Abandonment   |
| Indian Reserve                                | Turbine   |
| Approach                                      | Road  |
| Lot, Concession                               | Highway, County   |
| Approximate                                   | Township  |
| Park Boundary                                 | Access (road of doubtful maintenance or significant driveway) |
| Bridge  | Trail, Back Road (portage, alley)                             |
| Road, Railroad                                | Rapids  |
| Building                                      | Double line river with multiple rapids                        |
| Chimney                                       | Double line river with multiple rapids                        |
| Cliff, Pit, Pile                              | Reservoir   |
| Contours                                      | River, Stream, Canal  |
| Interpolated                                  | Approximate   |
| Approximate                                   | Direction of flow   |
| Depression                                    | Rock  |
| Control Points                                | Significant   |
| Horizontal                                    | Shoal   |
| Vertical                                      | Falls   |
| Culvert                                       | Double line river   |
| Falls   | Fence, Hedge, Wall  |
| Double line river                             | Feature Outline (Construction features, etc.)                 |
| Fence, Hedge, Wall                            | Flooded Land  |
| Feature Outline (Construction features, etc.) | Lock  |
| Flooded Land                                  | Marsh or Swamp  |
| Lock  | Mast  |
| Marsh or Swamp                                | Mine Head Frame   |
| Mast  | Outcrop   |
| Mine Head Frame                               | Transmission Line   |
| Outcrop                                       | Pole  |
|   | Pylone  |
|   | Tunnel  |
|   | Utility Poles   |
|   | Wharf, Dock, Pier   |
|   | Wooded Area   |

**AREAS WITHDRAWN FROM DISPOSITION**

| M.R.O. - MINING RIGHTS ONLY       |           |        |             |      |
|-----------------------------------|-----------|--------|-------------|------|
| S.R.O. - SURFACE RIGHTS ONLY      |           |        |             |      |
| M.+S. - MINING AND SURFACE RIGHTS |           |        |             |      |
| Description                       | Order No. | Date   | Disposition | File |
| W. 1/82                           | 15/1/82   | S.R.O. | 148266      |      |

**SAND AND GRAVEL**

|                       |            |
|-----------------------|------------|
| M.T.C. File No. 48-17 | File 57694 |
|-----------------------|------------|



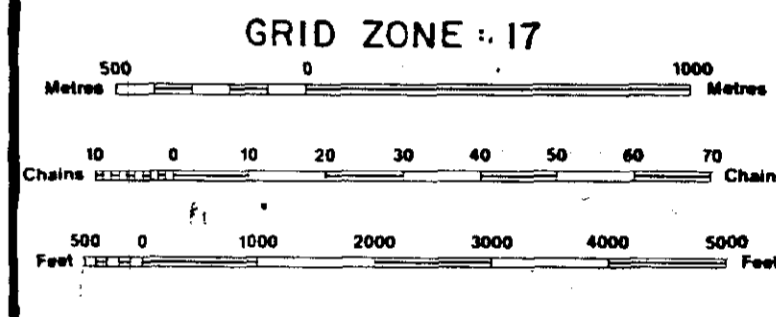
**LEGEND**

|                                    |  |
|------------------------------------|--|
| HIGHWAY AND ROUTE NO.              |  |
| OTHER ROADS                        |  |
| TRAILS                             |  |
| SURVEYED LINES:                    |  |
| TOWNSHIPS, BASE LINES, ETC.        |  |
| LOTS, MINING CLAIMS, PARCELS, ETC. |  |
| UNSURVEYED LINES:                  |  |
| LOT LINES                          |  |
| PARCEL BOUNDARY                    |  |
| MINING CLAIMS ETC.                 |  |
| RAILWAY AND RIGHT OF WAY           |  |
| UTILITY LINES                      |  |
| NON-PERENNIAL STREAM               |  |
| FLOODING OR FLOODING RIGHTS        |  |
| SUBDIVISION OR COMPOSITE PLAN      |  |
| RESERVATIONS                       |  |
| ORIGINAL SHORELINE                 |  |
| MARSH OR MUSKEG                    |  |
| MINES                              |  |
| TRAVERSE MONUMENT                  |  |

**DISPOSITION OF CROWN LANDS**

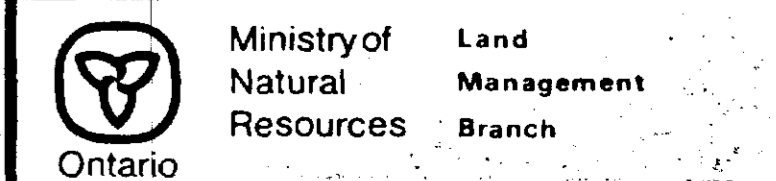
| TYPE OF DOCUMENT                | SYMBOL |
|---------------------------------|--------|
| PATENT, SURFACE & MINING RIGHTS |        |
| " SURFACE RIGHTS ONLY           |        |
| " MINING RIGHTS ONLY            |        |
| LEASE, SURFACE & MINING RIGHTS  |        |
| " SURFACE RIGHTS ONLY           |        |
| " MINING RIGHTS ONLY            |        |
| LICENCE OF OCCUPATION           |        |
| ORDER-IN-COUNCIL                |        |
| RESERVATION                     |        |
| CANCELLED                       |        |
| SAND & GRAVEL                   |        |

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913, VESTED IN ORIGINAL PATENTEES BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63, SUBSEC. 1.



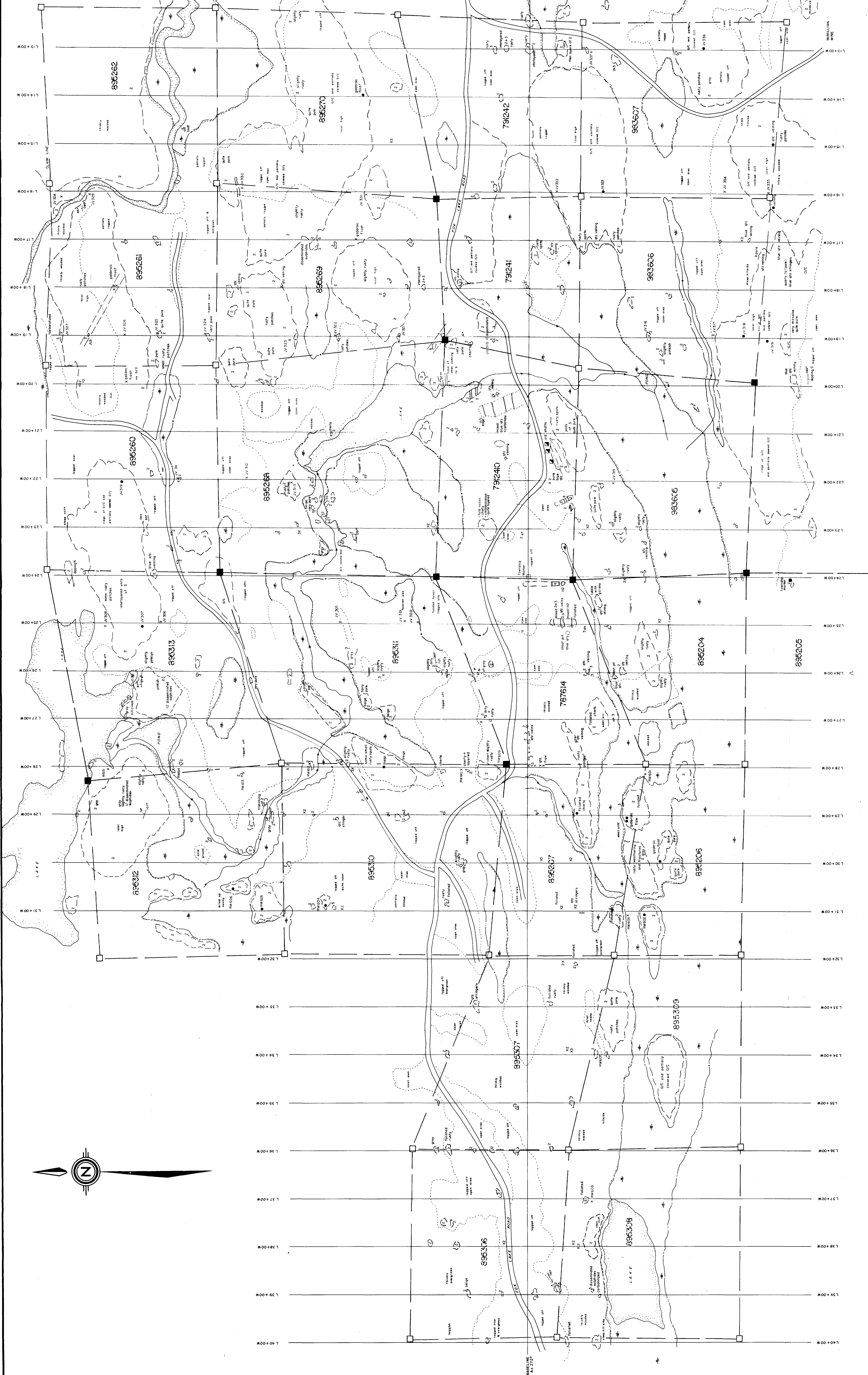
SCALE 1:20 000

TOWNSHIP  
**MONGOWIN**  
M.N.R. ADMINISTRATIVE DISTRICT  
ESPANOLA  
MINING DIVISION  
SUDBURY  
LAND TITLES / REGISTRY DIVISION  
SUDBURY



Original  
Completion: NOVEMBER, 1984  
Number  
G-2899





SCALE 1" = 200'

**2.11503**

HARDIMAN BAY RESOURCES

Espanola Property

McKinnon/Mongowin Townships

PROPERTY GEOLOGY WITH SAMPLE LOCATIONS (WEST SHEET)

DERRY, MICHENER, BOOTH & WAHL

DATE: AUGUST/06

DRAWN BY: M.S. / J.V.A.

PROJECT NO: 88719-01

- LEGEND**
- 6 Carbonate - Heavy brown weathering, large subangular crystals, vit.
  - 5 Carbonic Dykes - Dark green, 45° very hard, minor sulfides, impure.
  - 4 Mafic Intrusive - Greenish weathering, soft, cherty, minor sulfides.
  - 3 Siltstone - Black to dark grey, sandy weathering, made up of thin silt and interbedded with quartzite.
  - 2 Quartzite - Massive, hard, grey white-buff - dark grey, weathered white, gny.
  - 1 Blue Quartz - Massive veins blue white quartz. Fill in fracture of ground blocks of quartzite.
- SYMBOLS**
- X Small Outcrop
  - Edge of Outcrop
  - Contour
  - Interpreted Contour
  - Grid Sample in O/C
  - Strike and Dip Foliation
  - Line of Channel Samples
  - Trench Outline with a Sampling Line Indicator
  - Old Trench Marker
- Old Blast Pit
  - Claim Post and Current Claim Numbers
  - Claim Post (retrospatial)
  - Trench and Vegetation Boundary
  - Swamp Edge
  - Swamp
  - Creek or Stream, with Direction of Flow
  - Lake
  - River
  - Dirt Roads and Logging Roads







