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MINING LANDS SECTION

PATIÑO MINES (QUEBEC) LIMITED

GEOLOGICAL REPORT

Shining Tree II Property

Connaught Township

Larder Lake Mining Division

District of Sudbury

Ontario, Canada

March, 1981

A. INTRODUCTION

During the summer of 1980 line cutting, and subsequent electro-magnetic and magnetic surveys were carried out on a property optioned to Patino Mines (Quebec) Limited. During the latter half of September, 1980 a detailed geological survey was carried out over the previously cut lines spaced at 400 foot intervals across the property and oriented approximately north-south. This property is located in Connaught township (Shining Tree area), Larder Lake Mining Division, District of Sudbury. The geological mapping was done by Patino Mines (Quebec) Limited staff geologists.

B. PROPERTY, LOCATION AND ACCESS

The property described in this report consists of sixteen contiguous claims located in Connaught township. The claim numbers are as follows:

L 507854 - 507857	4 inclusive claims
L 507859 - 507864	6 inclusive claims
L 507820 - 507825	6 inclusive claims

This claim group is located approximately in the center of Connaught township about 14 km northwest of the village of Shining Tree, Ontario. It is bordered on the east by Connaught Lake and transected by both Elephant Head and Esther creeks.

Access to the property is available by means of a Hydro access road which services the north-south power transmission line 5 km west of the claim group. The hydro road intersects highway 560 about 16 km west of Shining Tree. This road must be travelled a distance of 19 km north from highway 560 until it intersects an old drill road which leads eastward to the property (a distance of 5 km). The old road cuts across the northwestern corner of the claim group

C. TOPOGRAPHY

The topography of the area is typified by gently rolling terrain with occasional steep hills along the sides of both Elephant Head and Esther creeks and near Connaught Lake.

There do not appear to be any thick or extensive areas of glacial till but rather a thin veneer of till and humus covering most of the property. The outcrop (bedrock) exposure is slightly variable, it is poorly exposed in the west (2-5% exposure) and comprises about 10% of the surface area throughout the west of the property.

Elephant Head and Esther creeks both cut across the property. The latter flows out of the end of Connaught Lake, which is situated at the eastern end of the grid. The two creeks join immediately north of the northern boundary of the property.

Vegetation mainly consists of a native mixed forest of poplar, spruce and birch trees. Several long linear swamps host dense growths of alders, spruce and cedar. Alders are generally common as fringe growths to the two main creeks and Connaught lake. In addition, there are a few smaller swampy areas scattered throughout the area.

D. PREVIOUS WORK

The earliest exploration activity in Connaught township began in 1913 and was carried out mainly for copper, as well as gold.

John Mataris first discovered copper mineralization in the Mataris Lake area in 1913 (Carter, 1980), about 2 km north-northeast of our claim group.

In 1950 Duvay Gold Mines held 10 claims near Connaught Lake (Carter, 1980). Five diamond drill holes were drilled for a total length of 662 feet. Acid lavas, talc schist and pyrite mineralization were intersected in these holes. The inferred location of the drill

holes is just north of the claim group (probably 200-600 feet to the north) near the east side of Esther Creek. Data from current geological mapping indicates that the location of those drill holes are underlain by intrusive granitic-type rocks (Carter, 1980). However, the drill holes might have intersected roof pendants or block-faulted slivers of the surrounding metavolcanic rocks.

In 1963, Siscoe Metals Ltd. drilled eight diamond drill holes. Their approximate location is given on the Shining Tree II geological map. Presumably, the drill target was a shear zone in the granodiorite which contained some gossan plus quartz and quartz-carbonate veining as seen in at least one bedrock exposure (trench). The trenching and pitting (see map) were presumably carried out by Siscoe as well as other previous prospectors. All of Siscoe's diamond drill holes were drilled at an angle of -45° and were relatively shallow (all less than 400 feet in length). Below is a short synopsis of the geology in each hole:

DDH S-1 (311 feet) intersected granite, sheared granite, feldspar porphyry. Some disseminated pyrite and minor quartz and calcite veins were also present. The best assay was trace Au with .14 oz/T Ag over a 1 foot sample length.

DDH S-2 (356 feet) intersected feldspar porphyry, sheared and altered granite with disseminated pyrite, and a 12 foot wide fault zone with mylonite and breccia. The best assay was 0.006 oz/T Au with 0.27 oz/T Ag over a sample length of 0.1 foot.

DDH S-3 (250 feet) intersected feldspar porphyry (both sheared and unsheared varieties) with disseminated pyrite in a few sections. Mylonites, apalites, minor quartz and calcite veins were also present. The best assay was trace Au with .09 oz/T Ag (sample length unknown).

DDH S-4 (204 feet) intersected quartz-feldspar porphyry (sheared, altered and unsheared varieties) and several "shear zones" (maximum

width 6 feet). These shear zones consist of heavily altered porphyry with some disseminated pyrite. Minor quartz and calcite veins were also intersected. The best assay was trace Au with .14 oz/T Ag over a sample length of 1.1 foot.

DDH S-5 (200 feet) intersected quartz-feldspar porphyry and several shear zones (maximum width 9 feet) with some disseminated pyrite in these zones. Minor quartz and calcite veining was also intersected. The best assay was trace Au with 0.12 oz/T Ag over a sample length of 1 foot.

DDH S-6 (205 feet) intersected granite, several shear zones (maximum width 4 feet) with disseminated pyrite, and Matachewan diabase dykelets. Also present were minor quartz and calcite veinlets. The best assay was 0.005 oz/T Au with 0.11 oz/T Ag over a 2.0 foot sample length.

DDH S-7 (200 feet) intersected rhyolite (?) quartz-feldspar porphyry, "shear zones" (maximum width 4 feet) with some disseminated pyrite and quartz-carbonate veins, and a "sheared" quartz-feldspar porphyry.

DDH S-8 (286 feet) intersected quartz-feldspar porphyry, a shear zone (10 feet wide) with disseminated pyrite, and granite. Various minor quartz and carbonate veinlets were also intersected. The best assay was trace Au with trace Ag.

During the summer of 1980, electromagnetic and magnetic surveys were carried out for Patino Mines (Quebec) Limited over the present 16 contiguous claims. The magnetic survey outlined various north-south striking magnetic anomalies which probably correspond to various diabase dykes. The electromagnetic survey outlined a segmented, moderate strength EM-16 conductor in the northern part of the grid. Although this conductor coincides with a stream bed (Elephant Head Creek), it is possible that a fault system may also be inferred from this data.

Geological mapping at a scale of one inch to 200 feet was conducted over the grid area during the last two weeks of September, 1980. At this time, all pits and trenches were examined and sampled. These samples were assayed for gold and silver. All of the sample locations and assay values are given on the compilation map of Shining Tree II property.

Subsequent to the geological mapping and sampling, a diamond drill program was started in January, 1981. In this program four holes (total length of 1,690 feet) were drilled to test the long, segmented EM-16 conductors and the vertical extent of some pyrite-bearing quartz veins located in two pits (pit #1 and #2) (see map) adjacent to it.

E. GENERAL GEOLOGY

The map area is near the contact between a large body of intrusive early Precambrian granodiorite found in the southwest corner of Connaught township and a sequence of northwest-striking, Early Precambrian subalkaline volcanic rocks which underlie the rest of the township. The composition of these metavolcanic rocks ranges from basalt to rhyolite (Carter, 1980). Although the relationship between metavolcanic rocks and the granodiorite is clearly intrusive near Elephant Head Creek, in many other places the contact appears to be structural and follows major fault and shear linear features.

Numerous north to northwest-striking diabase dykes which probably belong to the Matachewan dyke set, intrude both the felsic intrusive and metavolcanic rocks.

Middle Precambrian (Proterozoic) rocks lie unconformably on the older early Precambrian (Archean) rocks. Rocks of the Gowganda formation of the Cobalt Group and Nipissing diabase are fairly common in the central part of Connaught township just north of Connaught Lake (Carter, 1980). The relatively flat lying rocks of the Gowganda formation are mainly comprised of conglomerate with some greywacke (minor)

metasediments. The various outcrops of Nipissing diabase are considered to represent erosional remnants of a once continuous flat lying sill.

F. GEOLOGY OF THE SHINING TREE II PROPERTY

Early Precambrian metavolcanic rocks of andesite composition (1) represent the oldest rocks in the map area. A large stock of coarse-grained granodiorite (2) is presumably intrusive into these metavolcanic rocks. Of the various types of dykes which cross-cut the granodiorite, the felsic (possibly syenitic) dykes (3) are less common than the diabase dykes (4).

Relatively flat lying middle Precambrian rocks of the Gowganda formation (unit 5) (Huronian supergroup-Cobalt group) are located in the most eastern part of the map area. In this area the Gowganda formation consists mainly of conglomerates (5a) with a lesser greywacke member (5b). The youngest rocks are those of Nipissing diabase (6) and represent erosional remnants of a large sill.

1. Metavolcanic Rocks - Andesite

The andesites are generally fine-grained, aphanitic and are generally believed to represent relatively thick volcanic flows. They are generally medium green in colour and contain up to 20% plagioclase phenocrysts and minor pyrite. Chlorite and epidote are the main alteration minerals.

The weathered surface is generally blocky and coarse with some conchoidally fractured sharp edges. In other places, near shear zones, the metavolcanic rocks are somewhat fissile, foliated and sheared.

The andesitic rocks are mainly located in the eastern part of the map area. It is believed that they either represent roof

pendants in the granodiorite stock or blocks of volcanic rocks which are in fault contact with the granodiorite along the edges. The southernmost series of andesite flows in the map area are the northern edge of a major volcanic sequence which continues eastward and underlies the greater part of Connaught township.

2. Granodiorite

Coarse-grained, massive, moderately jointed granodiorite with well developed plutonic textures is the predominant rock type in the map area. Foliation is detectable only in a few areas on the property. The mineralogy of the granodiorite generally consists of 40-60% plagioclase feldspar, 30-40% quartz, 10% biotite and 5-10% K-feldspar. Typically the weathered surface is whitish to pinkish-white in colour while the fresh surface is a grey colour. Alteration is usually minor, except in a few places where local patches exhibit alteration of plagioclase feldspar to epidote + chlorite + quartz mineral assemblages which may or may not contain hematized feldspars. Typically the feldspars within the granodiorite as well as the alteration patches are not hematized.

Shearing within the granodiorite is not common, except for two distinct east-west trending shear zones near Elephant Head creëk which are of importance. One of the shears passes through trench #1, while the other is located in both pit #1 and pit #2 (see map). These sheared granodiorites are more altered and consist of chloritized, sericitized and partly carbonated rock types which may contain 2-3% fine-grained, disseminated pyrite. In both shear zones there are several east-west striking, pyrite-bearing quartz- carbonate veins which carry variable Au and Ag

The large mass of granodiorite comprises a stock which underlies most of the map area as well as the southwest corner of Connaught township. It is generally in fault contact with the metavolcanic rocks (1) and possibly with the Nipissing diabase (6) along its entire eastern boundary.

3. Felsic (Syenitic) Dykes

These fine-grained felsic dykes range in width from 3-30 feet, and cross-cut the coarse grained granodiorite in several places. Their composition is of an intermediate type (dacite to andesite) with no visible quartz phenocrysts. The fresh surface generally has a light green-grey colour, while the weathered surface is light grey. Texturally these rocks are fine-grained and even-textured with the characteristic fracture and joint pattern common to most dyke rocks.

4. (Matachewan?) Diabase Dykes

These medium to coarse-grained rocks are characterized by fairly well developed subophitic textures and contain 50% plagioclase feldspar and 50% amphibole (hornblende). On the fresh surface the colour is grey-dark green while the weathered surface is a characteristic brown colour. Fracturing and jointing is also fairly well developed. Straight intrusive contacts with the coarse grained granodiorite are observed in several localities as well as a chilled, fine-grained margin in at least one locality.

The dykes which range in width from 40-100 feet are most numerous in the north-central part of the map area. They strike in a north-south direction and are frequently displaced by east-west striking faults. The displacements are minor.

5. Gowganda Formation

5a. Conglomerate

The Gowganda conglomerate has a characteristic red-brown fresh and weathered surface. It is a moderately sorted framework supported polymictic conglomerate which is composed of granitic, quartz and volcanic clasts. The frame work consists of well rounded to subangular clasts which make up about 20-25% of the total rock. The clasts are supported by a greywacke-siltstone type matrix. These flat-lying rocks are mainly observed in the eastern part of the map area where they form cliffs around Connaught Lake.

5.b Greywacke

Fine-grained greyish-green coloured greywacke with well developed bedding/foliation occurs as a minor rock type. It occurs as scattered outcrops in the eastern part of the map area and underlies the conglomerate.

6. Nipissing Diabase

These medium to coarse-grained rocks are generally comprised of 50% plagioclase and 40-50% amphiboles which exhibit sub-ophitic textures. The weathered surface is typically a brownish-red colour while the fresh surface is dark green.

Nipissing diabase rocks which are the youngest in the map area, are located in the eastern part of the grid where they represent a major rock type. These rocks are believed to represent a sill which was intruded between the flat lying Gowganda formation and the underlying Archean rocks.

G. ECONOMIC GEOLOGY

Both previous and present exploration on the Shining Tree II property has been centred around several distinct shear zones within the granodiorite near Elephant Head Creek. One of these shears passes through trench #1 (see map), while the other is located in pit #1 and pit #2.

1. Trench No. 1

Within the trench a sheared, altered granodiorite is the main rock type. The alteration consists of carbonatization and chloritization. Three quartz-carbonate veins with no visible sulphides are located adjacent to the sheared granodiorite. Assays of this material indicate an average of 0.05 oz/T Au and 0.05 oz/T Ag. Several other trenches are located about 800 feet to the west on the probable westward extension of the same east-west shear zone.

It appears that most of the trenches occur in overburden. One sample from here assayed .08 oz/T Au.

The eastward extension of this shear zone probably extends to a series of outcrops on line 4E (see map). In this series of outcrop there are about 10 narrow quartz veins, some of which contain 1-3% pyrite. The granodiorite is somewhat fractured and slightly sheared. Assays average 0.05 oz/T Au and 0.05 oz/T Ag with the best assay at 0.10 oz/T Au with 0.13 oz/T Ag.

2. Pits No. 1 and No. 2

As exposed in pit No. 1, the east-west shear zone in the granodiorite is 10 feet wide and dips 45° to the south. Of the four quartz-carbonate veins which are located in the shear, three are barren of sulphides and the width of the veins generally ranges from 2-4 inches. The other quartz-carbonate vein which is located near the centre of the shear zone is 4 inches wide and contains 20-25% pyrite. The granodiorite is somewhat altered with epidote and sericite at the vein margins.

The eastward extension of the southern shear can be seen in pit #2 some 20 feet east of pit #1. In pit #2 the granodiorite is not as sheared as in pit #1. Most of the quartz-carbonate veins have also disappeared over the 20 foot distance. Only one 4 inch quartz-carbonate vein is located in pit #2. Minor (1-3%) pyrite is present in the vein as well as in the host granodiorite nearest the vein.

The best assay value from grab samples of the quartz-carbonate veining and sheared granodiorite was that of a sample of vein material in pit #1 with 20-25% pyrite. This sample assayed 1.56 oz/T Au and 6.46 oz/T Ag. The average of other vein material was about 0.05 oz/T Au and 0.10 oz/T Ag. A sample of granodiorite with 1-3% pyrite had 0.06 oz/T Au and 0.05 oz/T Ag.

H. DIAMOND DRILL PROGRAM

This program was concluded in February, 1981. A total of 1,690 feet was drilled. A summary of each hole together with the detailed drill logs is given in this section.

1. Summary of Diamond Drill Results

ST-II-1

Location 3+00W 10+00N
Azimuth 025° Departure - 45°
Length 309' Core Size - AQ
Date January 21-24, 1981
Purpose To test vertical continuation of surface quartz-carbonate veins and to test EM-16 conductor (92° crossover).

Summary of Geological Units

Footage

0 to 4	Overburden
4 to 79.0	Granodiorite
79.0 to 79.8	Quartz vein
79.8 to 106.0	Granodiorite
106. to 129.4	Altered granodiorite
129.4 to 134.5	Intermediate dyke
134.5 to 165.0	Granodiorite
165.0 to 176.3	Intermediate dyke
176.3 to 201.0	Altered and recrystallized granodiorite
201.0 to 309	Granodiorite
309	End of hole

Summary of Mineralization

64.0 to 68.8	To 15% py in some QV in granodiorite 0.006 oz/T Au and 0.006 oz/T Ag over 1.0'
79.0 to 79.8	QV with 0.002 oz/Au, Ag N.D
237 - 238.0	Weekly fractured zone corresponds approximately to the EM-16 intersection. < 0.001 oz/T Au 0.009 oz/T Ag over 1.0'

ST II-2

Location 3-00W 10+00N
Azimuth 025° Departure - 60°
Length 462° Over Size - AQ
Date January 24-29, 1981
Purpose To test vertical continuation of surface quartz-carbonate veins and to test EM-16 conductor (92° crossover).

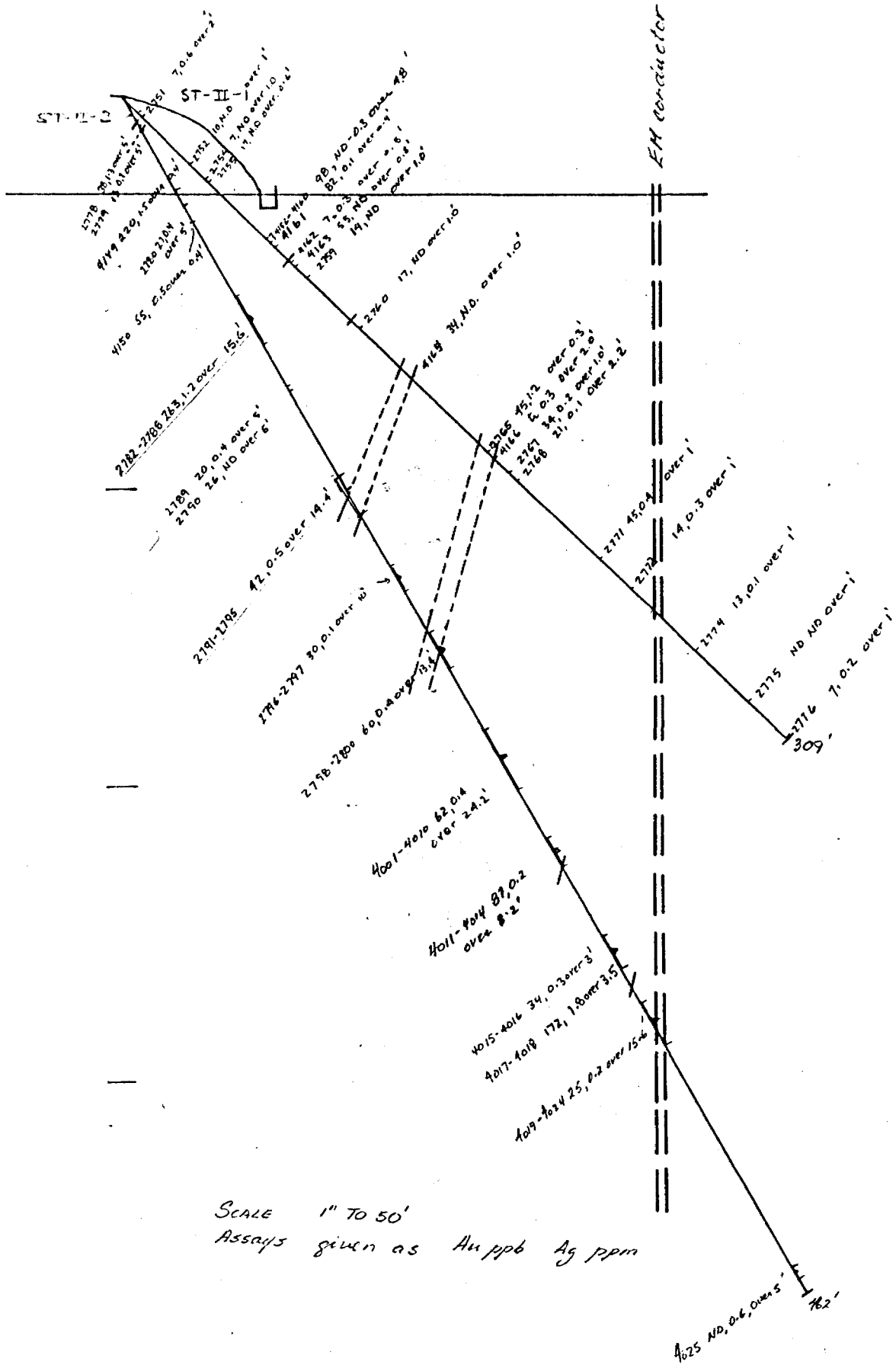
Summary of Geological Units

Footage

0 to 3	Overburden
3 to 10.8	Granodiorite
10.8 to 12.5	Intermediate dyke
12.5 to 88.0	Granodiorite
88.0 to 154.6	Altered granodiorite
154.6 to 162.6	Intermediate dyke
162.6 to 202.0	Altered granodiorite
202.0 to 206.0	Granodiorite
206.0 to 214.4	Intermediate dyke
214.4 to 246.0	Granodiorite
246.0 to 298.0	Sheared granodiorite
298.0 to 350.0	Intermediate dyke
350.0 to 359.0	Altered granodiorite
359.0 to 462.0	Granodiorite
462.0	End of hole.

Summary of Mineralization

75.0 to 93.0	Trace pyrite with QV 0.06 oz/T Au 0.06 oz/T Ag over 0.7' in QV
246.0 to 298.0 350.0 to 359.0	Sheared and altered granodiorite probably is no cause of the EM-16 conductor. Assays range from < 0.001 to 0.005 oz/T Au & ND to 0.01 oz/T Ag.



ST II-3

Location L4+00E 12+00N

Azimuth 350° Departure - 45°

Length 495' Core Size - AQ

Date February 7-15, 1981 (70° crossover)

Purpose To test EM-16 conductor and vertical extent of some quartz-carbonate veins at depth and a possible fault.

Summary of Geological Units

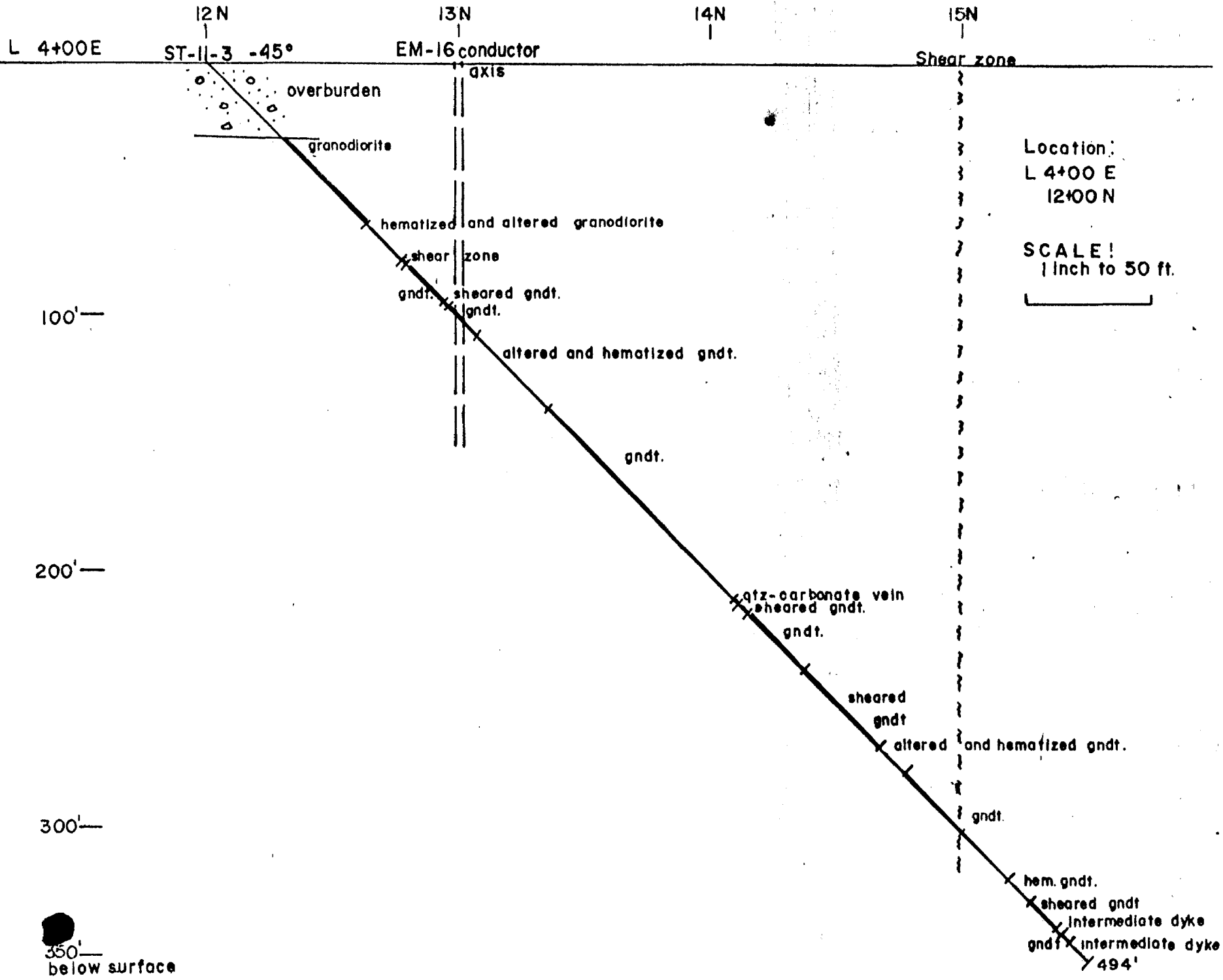
0 to 42.0	Overburden	305.0 to 335.0	Granodiorite
42.0 to 90.0	Granodiorite	335.0 to 376.5	Sheared granodiorite
90.0 to 110.0	Hematized + altered granodiorite	376.5 to 391.0	Hematized & altered granodiorite
110.0 to 112.3	Sheared granodiorite	391.0 to 448.0	Granodiorite
112.3 to 133.0	Granodiorite	448.0 to 462.0	Hematized granodiorite
133.0 to 136.0	Shear zone	462.0 to 476.5	Sheared granodiorite
136.0 to 153.0	Granodiorite	476.5 to 478.2	Intermediate dyke
153.0 to 193.0	Altered & hematized granodiorite	478.2 to 483.5	Granodiorite
193.0 to 295.5	Granodiorite	483.5 to 495.0	Intermediate dyke
295.5 to 298.0	Quartz-carbonate vein	495	End of hole
298.0 to 305.0	Sheared granodiorite		

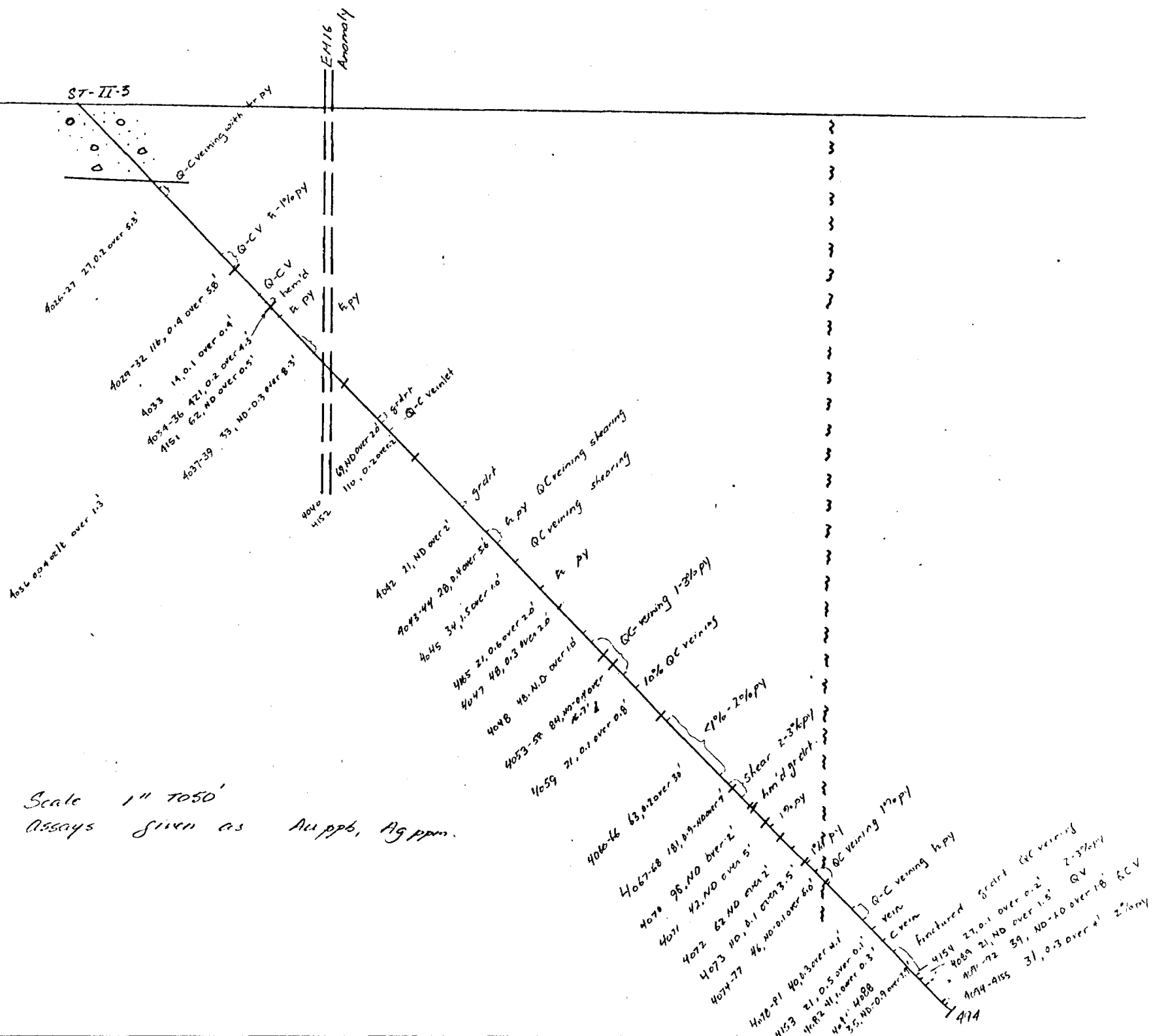
Summary of Mineralization

83.2 to 89.0	Quartz-chlorite veining with 1% py is sheared granodiorite best assay 0.03 oz/T Au, 0.06 oz/T Ag over 0.3'
108-112.3	Hematized granodiorite best assay 0.04 oz/T Au, 0.006 oz/T Ag over 1.3'
127.7 to 136.0	Sericitized shear zone over 133 - 136 with 1% py accounts for EM-16 conductor assays yielded < 0.002 to 0.002 oz/T Au and NQ to 0.009 oz/T Ag

ST II-3 (Continued)

- 293.5 to 310.2 Quartz-carbonate veining with 1 to 3% py
Assay values gave < 0.001 to 0.004 oz/T Au and
ND to 0.01 oz/T Ag
- 335 to 365 < /% to 2% py in sheared granodiorite with 1-2% QV
Assay values gave < 0.001 to 0.003 oz/T Au and ND
to 0.01 oz/T Ag.
- 371.5 to 376.5 Sheared granodiorite with 2-3% py
Assays 0.007 oz/T Au and 0.03 oz/T Ag over 5'





Scale 1" = 50'
 Assays given as Au ppb, Ag ppm.

ST II-4

<u>Location</u>	9+00E	16+50N
<u>Azimuth</u>	350°	<u>Departure</u> - 50°
<u>Length</u>	426'	<u>Core Size</u> - AQ
<u>Date</u>	February 16-19, 1981	
<u>Purpose</u>	To test for EM-16 conductor - 115° crossover	

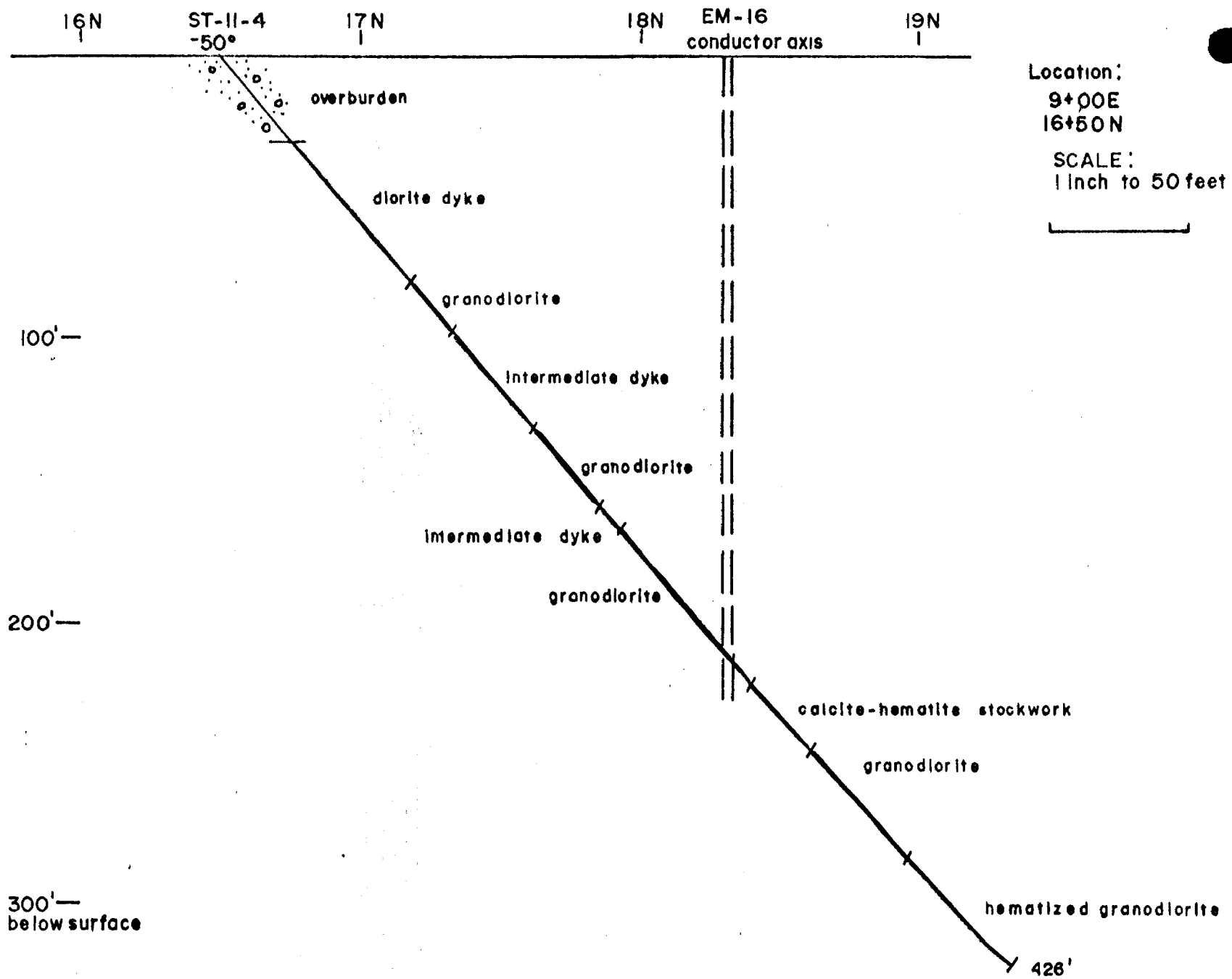
Summary of Geological Units

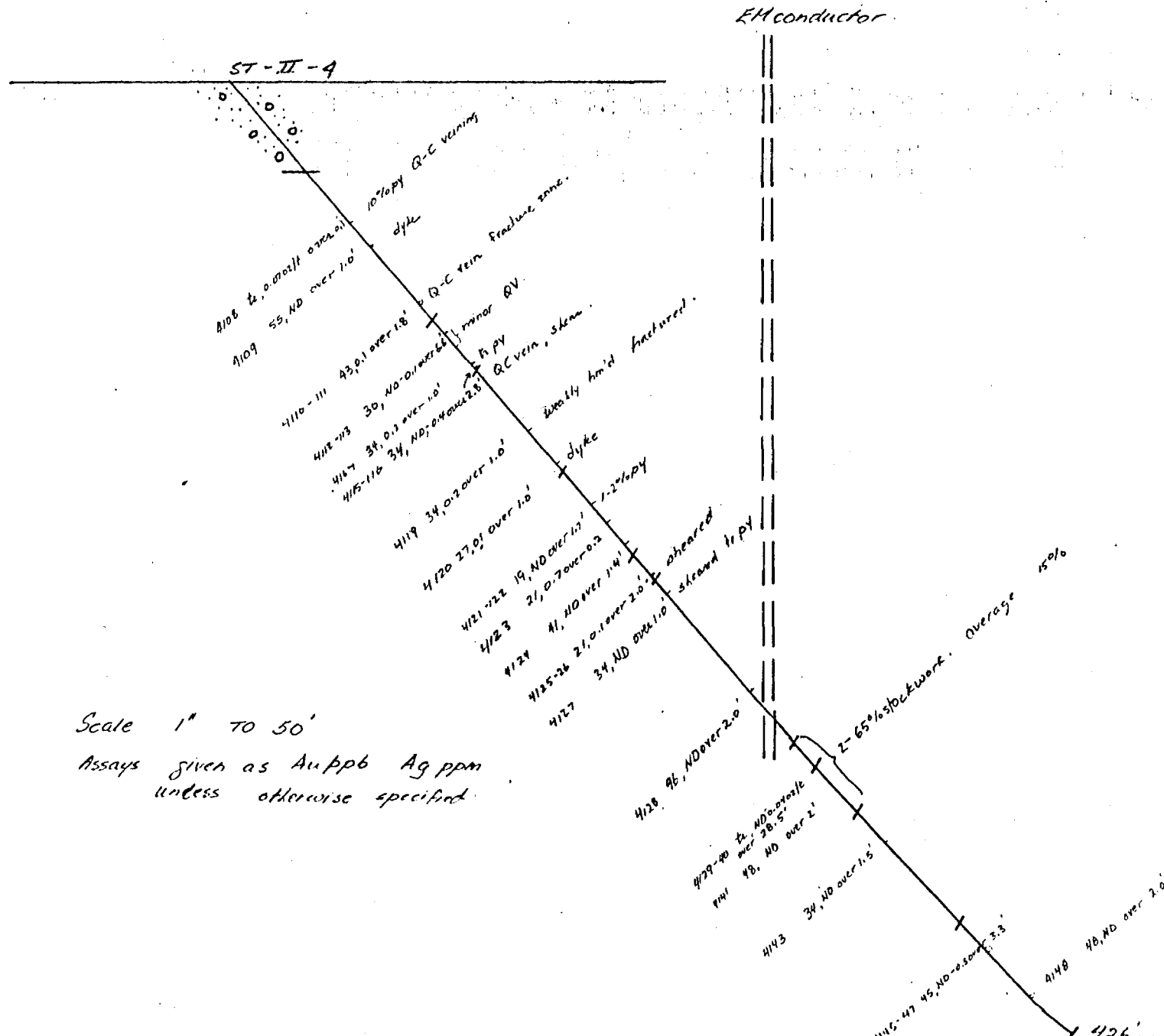
Footage

0 to 40.0	Over burden
40.0 to 102.0	Diorite dyke
102.0 to 129.1	Granodiorite
129.1 to 173.0	Intermediate dyke
173.0 to 207.0	Granodiorite
207.0 to 219.0	Intermediate dyke
219.0 to 289.5	Granodiorite
289.5 to 320.0	Calcite and hematite stock work veining
320.0 to 426.0	Granodiorite
426	End of hole

Summary of Mineralization

62.7 to 62.8	10% py associated with quartz-carbonate veining yielded assays of trace Au and 0.07 oz/T Ag.
289.5 to 320	3 to 65% stock work; calcite and hematite veining probably accounts for the EM-16 conductor Assays yielded trace to 0.02 oz/T Au (note: 0.02 oz/T Au was produced over 2.0') and ND to 0.04 oz/T Ag.





ST-II-4

EM conductor

- 4108 42, 0.07011 over 0.1'
- 4109 55, ND over 1.0'
- 4110-111 43, 0.1 over 1.8'
- 4112-113 30, ND over 1.0'
- 4117 34, 0.3 over 1.0'
- 4115-116 34, ND, 0.4 over 2.8'
- 4119 34, 0.3 over 1.0'
- 4120 27, 0.1 over 1.0'
- 4121-122 19, ND over 1.1'
- 4123 21, 0.7 over 0.2'
- 4124 41, ND over 1.4'
- 4125-26 21, 0.1 over 2.0'
- 4127 34, ND over 1.0'
- 4128 96, ND over 2.0'
- 4129-30 42, ND, 0.07016 over 20.5' over 2.1'
- 4141 48, ND over 2.1'
- 4143 34, ND over 1.5'
- 4145-47 45, ND, 0.5 over 3.3'
- 4148 48, ND over 2.0'

Scale 1" TO 50'
Assays given as Au ppb Ag ppm
unless otherwise specified.

Discussion

1. DDH-ST-II-1 and ST-II-2

These holes demonstrated that the surface pit #1 has no substantial vertical continuation. Also intersected was a section of barren sheared granodiorite which gave low assays of Au and Ag.

2. DDH-ST-II-3

This hole intersected several sections of sheared and altered granodiorite with the best assay 0.03 oz/T Au, 0.06 oz/T Ag over 0.3 feet.

3. DDH-ST-II-4

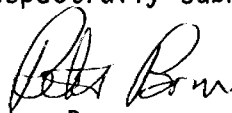
This hole intersected several dykes and a 30 foot section of calcite and hematite stockwork veining within the granodiorite. The best assay over this zone was 0.02 oz/T Au, over 2.0 feet.

In all four holes the EM-16 conductor was satisfactorily explained, usually by sheared granodiorite with 1-2% disseminated pyrite.

CONCLUSIONS

Geological mapping and surface sampling outlined the most favourable areas for mineral exploration for Au and Ag. The electromagnetic survey also outlined EM-16 conductors within these favourable areas which were thought to represent shear zones in the granodiorite. The Au and Ag mineralization is clearly associated with east-west striking pyrite-bearing, quartz-carbonate veins which are intruded into two distinct east-west shear zones in the granodiorite body near Elephant Head Creek. Moderately strong EM-16 conductors and favourable geology were the basis for drill targets. However, subsequent drilling indicated very little if any Au and Ag mineralization in these structures.

Respectfully submitted,


Peter Born

PB/so

June 19, 1981

REFERENCES

Carter, M.W.

1980 - Geology of Connaught and Churchill townships, District of Sudbury, Ontario Geological Survey report 190, 81 p. Accompanied by Geological map 2414, scale 1:31 680 or inch to 1/2 mile.

Siscoe Metals Ltd. (1963) - Assessment Files - Ministry of Natural Resources, Kirkland Lake, Ontario

Report on Diamond Drilling in Connaught township.

APPENDIX

Professional Qualifications

PETER BORN, B.Sc.(Hon.), M.Sc (Geology)

- Graduate B.Sc (Hon) Geology - Carleton University, Ottawa, Ontario, 1976.
- Graduate M.Sc (Geology) - Laurentian University, Sudbury, Ontario, 1979.

M.Sc Thesis title - Geology of the East Bull Lake
Layered complex, District of Algoma, Ontario

Material from thesis included into two short pages:
GSC paper 78-1A and in Abstracts and Program -
Joint Meeting Geol. Assoc. Can. and Geol. Soc. Amer.,
Toronto, Ontario, 1978.

- Member of Geological Association of Canada
- 1979 (January - December) worked for Urangesellschaft Canada Limited as a field/exploration geologist on a project located in the Northwest Territories.
- 1980 (January) joined Patino Mines (Quebec) Limited as an exploration geologist at their Chibougamau (Quebec) exploration office and have worked on various properties in both Ontario and Quebec.



MINES (QUEBEC) LIMITED
 PATINO (QUEBEC) LIMITEE
 _____ PROPERTY

DIP TEST		
FOOTAGE	ANGLE	
	RECORDING	CORRECTED

LEVEL
LOCATION
SECTION
LATITUDE
DEPARTURE

ELEVATION
BEARING
LENGTH
CORE SIZE
FINISHED

HOLE No. ST-2-1
SHEET No. 3/3
LOGGED BY
PURPOSE
TOT. RECOVERY

FOOTAGE		DESCRIPTION	GRADE ESTIMATE	SAMPLE NO.	FOOTAGE			ASSAYS					RECOVERY	
FROM	TO				FROM	TO	LENGTH	% CU	OZ AU	OZ AG	CU CUM. W X A	AU CUM. W X A	RUN	SHORT
76.3	201.0	GRANODIORITE (altered and rexltd) fairly homogeneous granodiorite with altered creamy coloured plagioclase feldspars and hematite around these grains. Qtz - 40% - probably rexltd look - qtz eyes - grains aren't particularly interlocking. Also 10 - 15% chlorite. Also trace pyrite - f.g. rexltd in several places. This unit is similar or identical to 106 - 129 with similar feldspar alteration and hematization and qtz eyes - could indicate both units underwent shearing and rexltd. The contact with the regular gndrt is gradual but distinct.												
201	309	GRANODIORITE med. grey colour, c.g. mass. and homogeneous indent to 4 - 79' qtz - 40% biotite - 5 - 10% chlorite 10% plag. feldsp - 40% little or no kspar which is distinct as such Alteration - moderate - with 10 - 15% sericite and chlorite - note in several places the rexltd chlorite can get fairly c.g. and porphroblastic in a few places. Traces pyrite in places - especially in calcite veins - 1" wide with 1% py - about 2% veining - also present poss. some very red Fe -carbonate Accessory is minor leucoxene - titanuim - whitish colour locally 1% (304 - 309) similar to above but gndrt has more recrystallized light green chlorite - c.g. growing around mainly qtz eyes Colour pinkish - grey instead of greenish grey no sulphides present in the section.												
309		End of Hole ST - 2 - 1												

[Handwritten Signature]

MINES (QUEBEC) LIMITED
PATINO (QUEBEC) LIMITEE

SHININGTREE II PROPERTY

DIP TEST			LEVEL		ELEVATION			HOLE No. ST-II-2	
FOOTAGE	ANGLE		LOCATION 3 + 00W; 10 + 00N	SECTION	BEARING 025°	LENGTH 462'	CORE SIZE AQ	SHEET No. 1/6	LOGGED BY P. BORN
	RECORDING	CORRECTED							
0		-60°							
200'	-66°	-59°		LATITUDE					PURPOSE EXPLORATION
400'	-66°	-59°		DEPARTURE -60°					TOT. RECOVERY
462'	-65°	-58°					FINISHED Jan. 24 - 29, 1981		

FOOTAGE FROM	TO	DESCRIPTION	GRADE ESTIMATE	SAMPLE NO.	FOOTAGE			ASSAYS					RECOVERY					
					FROM	TO	LENGTH	% CU	ppb AU	ppm AG	CU CUM. W X A	AU CUM. W X A	RUN	SHORT				
0	3	OVERBURDEN		2778	10.8	12.5	5.0		38	1.3								
				2779		17.5	5.0		13	0.1								
3	10.8	GRANODIORITE C.g. massive and fairly homogeneous with 40% qtz, biotite 5 - 10%, chlorite - 10% with plagioclase the predominant feldspar - 40% Textures - igneous plutonic - slightly rexted Alteration - sericite 10 - 15% with epidote minor not very distinct 1 - 2% locally no sulphides		2780	40.0	45.0	5.0		27	0.4								
				2781	75.0	77.4	2.4		tr	ND								
				2782		78.1	.7		1998	1.9	0.06oz/t Au			40% qtz vein			+ 1% py	
				2783		83.0	4.9		48	1.0								
				2784		83.1	.1		89	0.9							qtz vein	
				2785		86.0	3.0		0.005	0.008	oz/t							
				2786		88.0	3.5		480	2.1							qtz veom + 1% py	
10.8	12.5	INTERMEDIATE (compositional) DYKES fairly sharp contacts angles - 50 - 60° to CA dark grey colour and hard (siliceous comp?) massive and fine grained. The dyke rock contains about 5% calcite veining with 2 - 3% pyrite present from 10.8 - 11.3'		2787		93.0	1.5		89	1.5								
				2788			5.0		27	0.3								
				2789	109.0	114.0	5.0		20	0.4								
				2790		119.0	5.0		26	ND								
12.5	88.0	GRANODIORITE similar or ident. to 3 - 10.8' c.g. massive gndrt. with 30 - 40% qtz 40% plag. felds little Kspar, biotite - 5%, chlorite - 10% and 10 - 15% sericite alteration - generally slight to moderate no sulphides Included in this are several sections where the feldspars are a cream colour, lighter colour: presumably due to the more altered nature of these feldspars - ie. sericitized and epidotized and qtz intergrowths although the feldspar outlines are euhedral. These sections are generally 6" - 1' wide (10% of total section) dyke of similar comp. to above occurs at 41.3 - 41.7 Qtz veining - 1% with minor pyrite in one or two of these		2791	145.6	146.0	.4		247	0.6								
				2792		146.3	.3		117	0.2							qtz vein	
				2793		150.0	5.0		34	ND								
				2794	150.0	155.0	5.0		26	0.6								
				2795		160.0	5.0		34	0.8								
				2796	180.0	185.0	5.0		20	ND								
				2797		190.0	5.0		41	0.1								
				2798	206.3	211.0	4.8		41	0.5								
				2799		214.6	3.6		34	0.7								
				2800		220.0	5.0		96	ND								

MINES (QUEBEC) LIMITED PATINO (QUEBEC) LIMITEE PROPERTY	DIP TEST		LEVEL	ELEVATION	HOLE No. SJ-2-2
	FOOTAGE	ANGLE		LOCATION	SHEET No. 2/6
		RECORDING	CORRECTED	SECTION	LOGGED BY
				LATITUDE	PURPOSE
				DEPARTURE	TOT. RECOVERY

FOOTAGE		DESCRIPTION	GRADE ESTIMATE	SAMPLE NO.	FOOTAGE			ASSAYS					RECOVERY	
FROM	TO				FROM	TO	LENGTH	% CU	ppb AU	ppm AG	CU CUM. W X A	AU CUM. W X A	RUN	SHORT
		GRANODIORITE (cont'd)		4001	243.5	246.0	2.5		14	0.4				
		within this section there are several points of particular interests:		4002		246.4	.4		N.D.	0.5			qtz vein	
		-75 - 88.0 - gndrt with a more intense sericite alteration (15 - 20% sericite) and epidote (minor) with 1% f.g. rexltd pyrite cubes		4003		247.0	.6		21	0.4				
		-77.8 - 78' - qtz vein - whitish qtz plus 1% py		4004		252.0	5.0		27	0.2				
		-81.3 - 81.8 - f.g. - m.g. gndrt - possible shear and resultant rexlations		4005		253.4	1.4		172	ND				
		-86.0 - 86.5 - 40% of this section is qtz veining with 1% py and some greyish material - streaks possible tellurides?? - don't know for certain		4006		253.7	.3		27	0.1			qtz vein	
				4007		258.7	5.0		117	ND				
				4008		264.0	5.0		75	0.1				
				4009		264.5	.5		48	0.2				
				4010		267.7	3.2		21	0.4				
				4011	286.0	290.7	4.7		75	0.1				
				4012		294.2	3.2				No assays??		siderite-qtz vein	
		The contact with the next unit is somewhat gradual but is still distinct - since the other unit is more hematized		4013		296.0	1.8		137	0.2				
				4014		297.7	1.7		69	0.3			some siderite veins	
88.0	154.6	GRANODIORITE (88 - 145) GRANODIORITE (altered and hematized) c.g. massive fairly homogeneous gndrt. with 40% qtz, 40% plag. 5% biotite, 5 - 10% chlorite and sericite is not in matrix but is apparently restricted to the interiors of euhedral creamy coloured feldspars. The alteration would be plag. feld - sericite and epidote and qtz - apparently little or no k-feldspars present. Generally the rock is fairly hard but the feldspars can be scratched easier than in other sections. The colour of the rock is a more pinkish - grey Sulphides = traces in a very few places 1% py Qtz looks slightly rexltd - faintly starting to look like qtz eyes with a higher % of chlorite present in these sections (145.0 - 154.6) GRANODIORITE (sericitized) gndrt is somewhat sheared with associated? sericite alteration		4019	351.0	356.0	5.0		48	0.1			some qtz and carb vein	
				4020		358.5	2.5		21	ND				
				4021		361.0	2.5		21	0.3				
				4022		361.6	.6		14	0.3			qtz vein	
				4024		366.6	5.0		7	0.2				
				4025	453.0	458.0	5.0		ND	0.6				
				4023					ND	0.6				

MINES (QUEBEC) LIMITED
 ATINO (QUEBEC) LIMITEE

SHININGTREE II PROPERTY

DIP TEST		
FOOTAGE	ANGLE	
	RECORDING	CORRECTED
200	-53°	-44°
400'	-53°	-44°
404'	-52°	-43°

LEVEL
LOCATION
SECTION 12+00N; L 4+00E
LATITUDE
DEPARTURE -45°

ELEVATION
BEARING 350°
LENGTH 494'
CORE SIZE A0
FINISHED Feb. 7 - 15, 1981

HOLE No. ST-II-3
SHEET No. 1/7
LOGGED BY P. BORN
PURPOSE EXPLORATION
TOT. RECOVERY

FOOTAGE		DESCRIPTION	GRADE ESTIMATE	SAMPLE NO.	FOOTAGE			ASSAYS					RECOVERY				
FROM	TO				FROM	TO	LENGTH	% CU	ppb AU	ppm AG	CU CUM. W X A	AU CUM. W X A	RUN	SHORT			
0	42.0	OVERBURDEN		4026	46.2	46.5	0.3		21	0.4							
				4027	46.5	51.5	5.0		27	0.2							
42.0	295.0	GRANODIORITE (42 - 90)		402B	No sample												
		c.g. massive, rather homogeneous gndrt. Grey-green colour w. biotite - 5%, chlorite 10%, sericite - 10%, qtz - 30% - 40%, plag. felds 40%, the rest kspar (little or none). Also spotty - white-yellow leucoxene? (could be carbonate?) but not siderite likely		4029	83.2	83.5	0.3		988	2.0							
		Alteration: slight - moderate - mainly sericite and chlorite		4030	83.5	84.2	0.7		343	0.9							
		Shearing: not too common but small (4 - 6") moderately sheared sections are present with higher chlorite%		4031	84.2	84.7	0.5		89	ND							
		Sulphides: not present or only trace amounts of pyrite		4032	84.7	89.0	4.3		21	0.2							
		Qtz-carb. veining (calcite) 1 - 2% on average		4033	104.2	104.6	0.4		14	0.1							
		Section of most interest are listed below:		4034	108	109	1.0		0.1	ND							
		46.2 - 46.5' - altered gndrt w. sericite and chlorite high % and poss. Fe carbonate (or leucoxene?) but no py		4035	109	111	2.0		14	0.2							
		63.6 - 64.0' - sheared gndrt - f.g. - m.g. - high chlorite and 1% py		4036	111	112.3	1.3		1371	0.2							
		83.2 - 83.5' - qtz - carb vein no sulphides							(0.04 oz/t)								
		83.5 - 84.2' - slight shear w. chl. and ser. alteration		4151	116.5	117.0	0.5		62	ND							
		84.2 - 84.7' - qtz-carb vein w. 1% py		4037	127.7	130.0	2.3		7	ND							
		89.0 - 89.3' - shear - m.g. - f.g. gndrt - high chlorite		4038	130.0	132.9	2.9		14	0.3							
		(90 - 110.0)		4039	132.9	136.0	3.1		69	ND							
		c.g. gndrt similar to above but alteration types are more variable: The predominant type of alteration is a slightly hematized gndrt w. creamy coloured (presumably sericitized) plag. feldspars which are well formed (euhedral)		4040	152.0	154.0	2.0		69	ND							
				4152	167.8	168	0.2		110	0.2							
				4041	No sample												
				4042	218	220	2.0		21	ND							
				4043	233.4	233.9	0.5		42	3.6							
				4044	233.9	239	5.1		27	ND							
				4045	249.4	250.4	1.0		34	1.5							

FOOTAGE		DESCRIPTION	GRADE ESTIMATE	SAMPLE NO.	FOOTAGE			ASSAYS					RECOVERY	
FROM	TO				FROM	TO	LENGTH	% CU	ppb AU	ppm AG	CU CUM. W X A	AU CUM. W X A	RUN	SHORT
		GRANODIORITE (cont'd)		4046	No sample									
		(111.0 - 112.3)		4165	264 266	2.0		21	0.6				tr py	
		sheared gndrt? - rather chloritic - 30% f.g. - m.g. with 5 - 10% qtz eyes, 20% plag xlts, contacts 70% to CA seem sharp - could also be an altered dyke - intermediate comp but looks sheared and chloritic probably a part of gndrt		4047	272 274	2.0		48	0.3				chl'd gndrt	
				4048	287.5 288.5	1.0		48	ND				gndrt	
				4049	No sample									
				4050	No sample									
				4051	No sample									
		(112.3 - 153.0)		4052	No sample									
		gndrt c.g. mass similar to 42 - 90' with slight alteration - sericite and chlorite but in this section the shearing is more frequent with sheared gndrt with a weakly developed fabric		4053	293.5 295.5	2.0		21	ND					
		60 - 70' to CA		4054	295.5 298.0	2.5		55	ND				Q-C vein	
		Of interest below:		4055	298 303	5.0		150	0.4				2 - 3% py	
		133 - 136 - shear zone which is fairly sericitized and		4056	303 305	2.0		123	0.4				2 - 3% py	
		spotty 1% pyrite (average) but up to a max. of 5% py over 1"		4057	305 309.5	4.5		42	0.3				1% py local	
				4058	309.5 310.2	0.7		48	ND				1 - 2% py	
		(153.0 - 193.0)		4059	318.6 319.4	0.8		21	0.1				10% Q-C vein	
		c.g. gndrt fairly homogeneous, pinkish-grey colour		4060	335 335.2	0.2		48	0.4				2% py	
		What is distinctive is the creamy coloured and well formed plag. crystals which are slightly (sometimes) surrounded by hematite (2%)		4061	335.2 340	4.8		109	0.3				1 - 2% py	
		- 40% qtz, 40% plag, little or no kspar, biotite chlorite - 10%		4062	340 345	5.0		34	0.1				1 - 2% py	
		Alteration - feldspars - sericite - qtz and epidote (1%)		4063	345 350	5.0		27	0.1				1% py	
		Shearing - 1 - 2% of section		4064	350 355	5.0		34	0.2				1% py	
		Qtz-carb (calcite) veining - none (4%)		4065	355 360	5.0		69	0.4				1% py	
		Sulphides - none		4066	360 365	5.0		110	ND				1% py	
		The contact between this and adjacent units (gndrt etc) is gradual since it is largely an alteration difference		4067	371.5 376.5	5.0		240	0.9				shear 2 - 3% py	
				4068	376.5 378.5	2.0		35	ND				gndrt	
				4069	No sample									
		(193.0 - 240.0)		4070	384.2 386.2	2.0		96	ND				hm'd gndrt	
		c.g. gndrt, homogeneous, grey colour with 30% qtz, 5% biotite, 10% chlorite, 10% sericite, plag - 40%, little or no kspar		4071	394.5 399.5	5.0		42	ND				1% py	
		Alteration - chlorite and sericite around edge of qtz grains slightly rexted - with moderate alteration in some places		4072	404 406	2.0		62	ND				gndrt	
				4073	414.5 418	3.5		110	0.1				1% py	

MINES (QUEBEC) LIMITED ATINO (QUEBEC) LIMITEE SHININGTREE II PROPERTY	DIP TEST		LEVEL		ELEVATION		HOLE No. ST-II-4		
	FOOTAGE	ANGLE		LOCATION 9+00E; 16+50N		BEARING 350°		SHEET No. 1 of 4	
		RECORDING	CORRECTED	SECTION		LENGTH 426'		LOGGED BY P. BORN	
	200	-57°	-49°	LATITUDE		CORE SIZE AQ		PURPOSE EXPLORATION	
	400	-55°	-47°	DEPARTURE -50°		FINISHED Feb. 16 - 19, 1981		TOT. RECOVERY	
426	-50°	-41°							

FOOTAGE		DESCRIPTION	GRADE ESTIMATE	SAMPLE NO.	FOOTAGE			ASSAYS					RECOVERY	
FROM	TO				FROM	TO	LENGTH	% CU	ppb AU	ppm AG	CU CUM. W X A	AU CUM. W X A	RUN	SHORT
0	40	OVERBURDEN		4108	62.7	62.8	0.1		tr	0.07	ox/T			10% py Q-C vein
				4109	66.8	67.8	1.0		55	ND				dyke
40	102	DIORITE DYKE		4110	97.0	98.5	1.5		42	0.1				fracture zone in dyke
		med. grey colour, even textured m.g. to slightly porphyritic plag 40%, qtz 5% or less, carbonate 2 - 3% (calcite), biotite, chlorite (10%)		4111	98.5	98.8	0.3		48	0.1				Q-C vein
		Alteration - slight - essentially not very altered - minor chlorite and calcite - massive texture		4112	111.7	113.7	2.0		14	ND				minor QV + fracture vein/granopyre
		sulphides - none except in one place		4113	113.7	118.3	4.6		34	0.1				
		qtz carbonate veining - 2% - 70% to CA		4114	No sample									
		62.7 - 62.8 qtz-carb. vien with 10% pyrite		4167	123.7	124.7	1.0		34	0.2				tr py in grdrt
		lower contact of unit is sharp and intrusive looking		4115	125.0	126.0	1.0		21	0.4				Q-C vein
102	129.1	GRANODIORITE		4116	126.0	127.8	1.8		41	ND				shear zone
		c.g. massive - slightly foliated (50° to CA), gndrt generally grey slightly pink in places. Qtz 30 - 40%, feldspar mostly plagioclase 40%, biotite 5 - 10%, chlorite 10% sericite 5 - 10%		4117	No sample									
		Alteration - slight - weak - sericite and chlorite and epidote (1-5%) also minor hematite		4118	No sample									
		slight shearing and minor dyke material (intermediate comp)		4119	154.0	155.0	1.0		34	0.2				weakly hm'd fract
		trace pyrite in a few places		4120	171.0	172.0	1.0		27	0.1				dyke weakly fract
		Included in this section		4121	188.0	188.7	0.7		27	ND				1 - 2% py
		113.7 - 118.3 - looks like sugary f.g. qtz-kspar rock type (25° to CA) contacts not sharp but almost gradual and stockwork type in places (with interveining gndrt) could be granopyre phenomena - mafics 5 - 10%, qtz and feldspar subequal amounts pink colour. Alternatively this could represent a very unique type of qtz vein??		4122	188.7	189.7	1.0		14	ND				grdrt
		125.0 - 126.0 qtz - carb vein - 30% of section - 0 - 10° to CA		4123	195.5	195.7	0.2		21	0.7				pk carb vein
		126.0 - 127.8 - shear with high % chlorite and some sericite and poss. leucoxene		4124	205.5	207.0	1.4		41	ND				altered grdrt
		lower contact - next unit looks intrusive to fabric of c.g. gndrt		4125	218	219	1.0		21	0.1				shear dyke Q-C
				4126	219	220	1.0		21	0.1				sheared grdrt



41P11NW0417 2.3960 CONNAUGHT

900

File					
	JUN 24 1981	E. F. ANDERSON	J. R. MORTON	J. C. SMITH	W. GOOD
				V. LEONARD	

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
 Township or Area Connaught Twp.
 Claim Holder(s) PATINO MINES QUEBEC LIMITED
SUITE 1401, 7 King St. E., Toronto, Ont.
 Survey Company PATINO MINES QUEBEC LIMITED
 Author of Report PETER BORN
 Address of Author c/o Box 8000 CHIBOUGAMAU, QUE
 Covering Dates of Survey Sept. 1980 to June 1981
 (linecutting to office)
 Total Miles of Line Cut 16 miles

MINING CLAIMS TRAVERSED	
List numerically	
L.....	507854 ✓
(prefix).....	(number)
L.....	507855 ✓
L.....	507856 ✓
L.....	507857 ✓
L.....	507859 ✓
L.....	507860 ✓
L.....	507861 ✓
L.....	507862 ✓
L.....	507863 ✓
L.....	507864 ✓
L.....	507820 ✓
L.....	507821 ✓
L.....	507822 ✓
L.....	507823 ✓
L.....	507824 ✓
L.....	507825
TOTAL CLAIMS <u>16</u>	

If space insufficient, attach list

<u>SPECIAL PROVISIONS</u>		<u>DAYS</u>
<u>CREDITS REQUESTED</u>		<u>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: June 22, 1981 SIGNATURE: Peter Born
 Author of Report or Agent

Res. Geol. _____ Qualifications 23604

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

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 _____

Instrument _____

Scale constant _____

Corrections made _____

Base station value and location _____

Elevation accuracy _____

Instrument _____

Method Time Domain Frequency Domain

Parameters – On time _____ Frequency _____

– Off time _____ Range _____

– Delay time _____

– Integration time _____

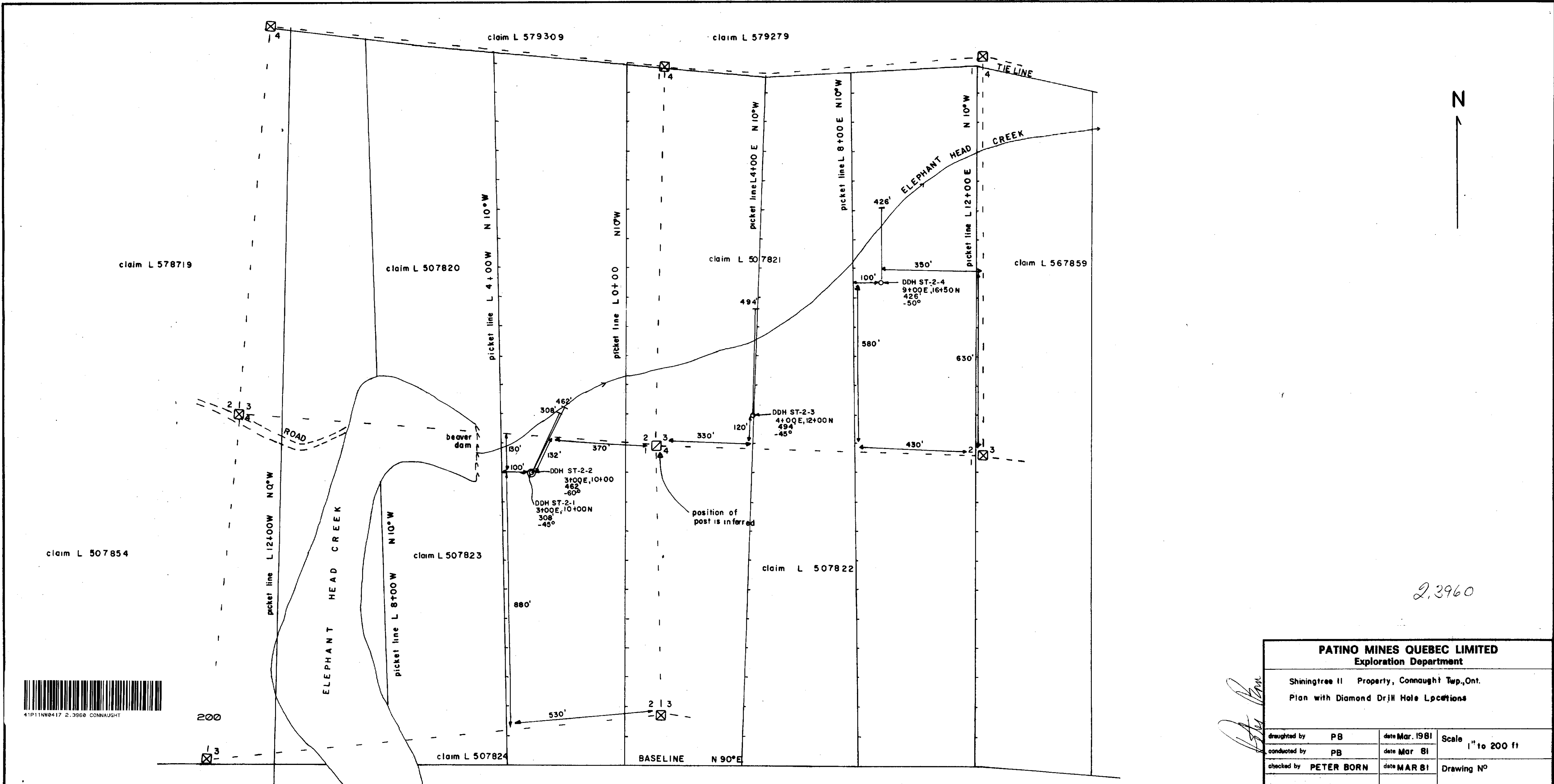
Power _____

Electrode array _____

Electrode spacing _____

Type of electrode _____

INDUCED POLARIZATION
RESISTIVITY



2,3960



200

PATINO MINES QUEBEC LIMITED Exploration Department			
Shiningtree II Property, Connaught Twp., Ont. Plan with Diamond Drill Hole Locations			
draughted by	PB	date	Mar. 1981
conducted by	PB	date	Mar 81
checked by	PETER BORN	date	MAR 81
			Scale 1" to 200 ft
			Drawing No

