41016NE0001 2.12877 HORWOOD

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GEOLOGICAL REPORT
on the
South Horwood Property
of
GOLDEN DRAGON RESOURCES LIMITED

by
John Burton, B.Sc.
November, 1989

RECEIVED

NOV 15 1989

MINING LANDS SECTION

2.12877

M-326

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LIST OF MAPS

SUMMARY

At the request of the management of Golden Dragon Resources Limited, a reconnaissance mapping survey was carried out from July 16 to July 27, 1989 on Golden Dragon's Horwood Township property situated in south Horwood Township in the North Swayze metavolcanic-metasedimentary "greenstone" belt and is located 90 km southwest of Timmins, Ontario.

Major rock types found on the property were mapped as mafic and intermediate metavolcanic rocks with lesser outcroppings of felsic metavolcanic rock, metasedimentary rock, quartz-feldspar porphyry and diabase. An area of significant structural deformation and alteration was found to occur in the intermediate metavolcanic rock and is considered to be prospective for gold and/or base metal mineralization.

Eleven samples were collected from the claim group for assay for gold, arsenic and copper. Three samples had weakly anomalous copper values between 140 and 253 ppm. These copper anomalies came from carbonatized and sheared mafic to intermediate metavolcanic rocks. Discussion of the assay results is found on page 9 of this report.

Further exploration is recommended in three phases: detailed geological mapping and sampling, electromagnetic, VLF, magnetometer and induced polarization surveys, and diamond drilling. A budget of $264,350 is proposed to complete this three phase exploration program on the property.

INTRODUCTION

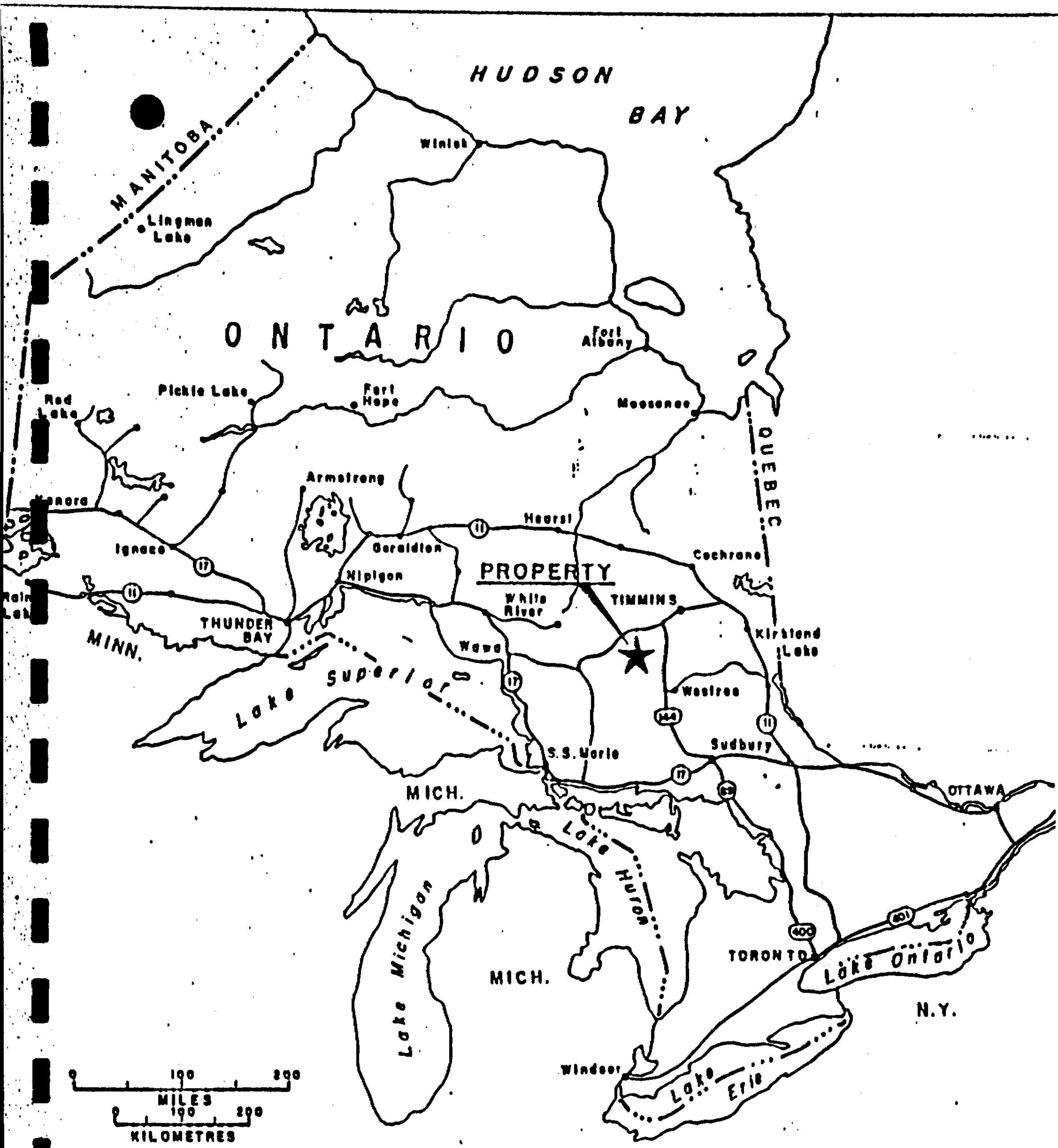
At the request of Golden Dragon Resources Limited, a three person geological crew was contracted from Robert S. Middleton Exploration Services Inc. to conduct a reconnaissance program of geological mapping and sampling on a 94 unpatented, contiguous claim block and a 7.5 patented, contiguous claim block belonging to Golden Dragon Resources Limited which encompasses some 4080 acres in south Horwood Township, Porcupine Mining Division, Ontario (Figure 1).

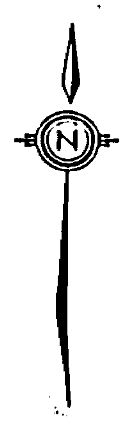
The prospecting and geological mapping carried out between July 16 and July 27, 1989 investigated the source of various airborne geophysical expressions and identified basic rock types. Mapping was conducted by traversing along claim boundaries as well as trisecting each claim. Shoreline mapping by boat was also completed.

The geology of the Horwood Lake area was reported for the O.G.S. by F.W. Breaks in 1971 (O.G.S. Report 169-1972). Break's geology map shows the Golden Dragon property to be predominantly underlain by mafic metavolcanic rocks. A thin intermediate to felsic pyroclastic unit and several feldspar porphyries which strike northeast are shown to occur in the south and east regions of the property.

Several gold occurrences in the vicinity of the property, which include the Tionaga Gold Mine (now owned by Mrs. F. and J.Jr. Lefever) and the Liberator Prospecting Syndicate gold showing, appear to be associated with the Hardiman Bay Fault Zone and the Horwood Lake Fault Zone. The Golden Dragon Property is bounded by these fault structures, Hardiman Bay Fault Zone to the north and Horwood Lake Fault Zone to the west.

The following is a list of claims upon which mapping was performed (see Figure 2):





REVISIONS	ROBERT S. MIDDLETON EXPLORATION SERVICES INC.		
	for Golden Dragon Resources		
	Title LOCATION MAP FIG 1		
	Date: Oct, 89	Scale: 1"=10 miles	N.T.S.:
	Drawn:	Approved:	File: M-326

1033475-1033480
1033486-1033519
1033522-1033530
1033532-1033537
1034571-1034576
1035601-1035613
1036168-1036180
1036185-1036190
25391-396
25395 (1/2)
25425
25339

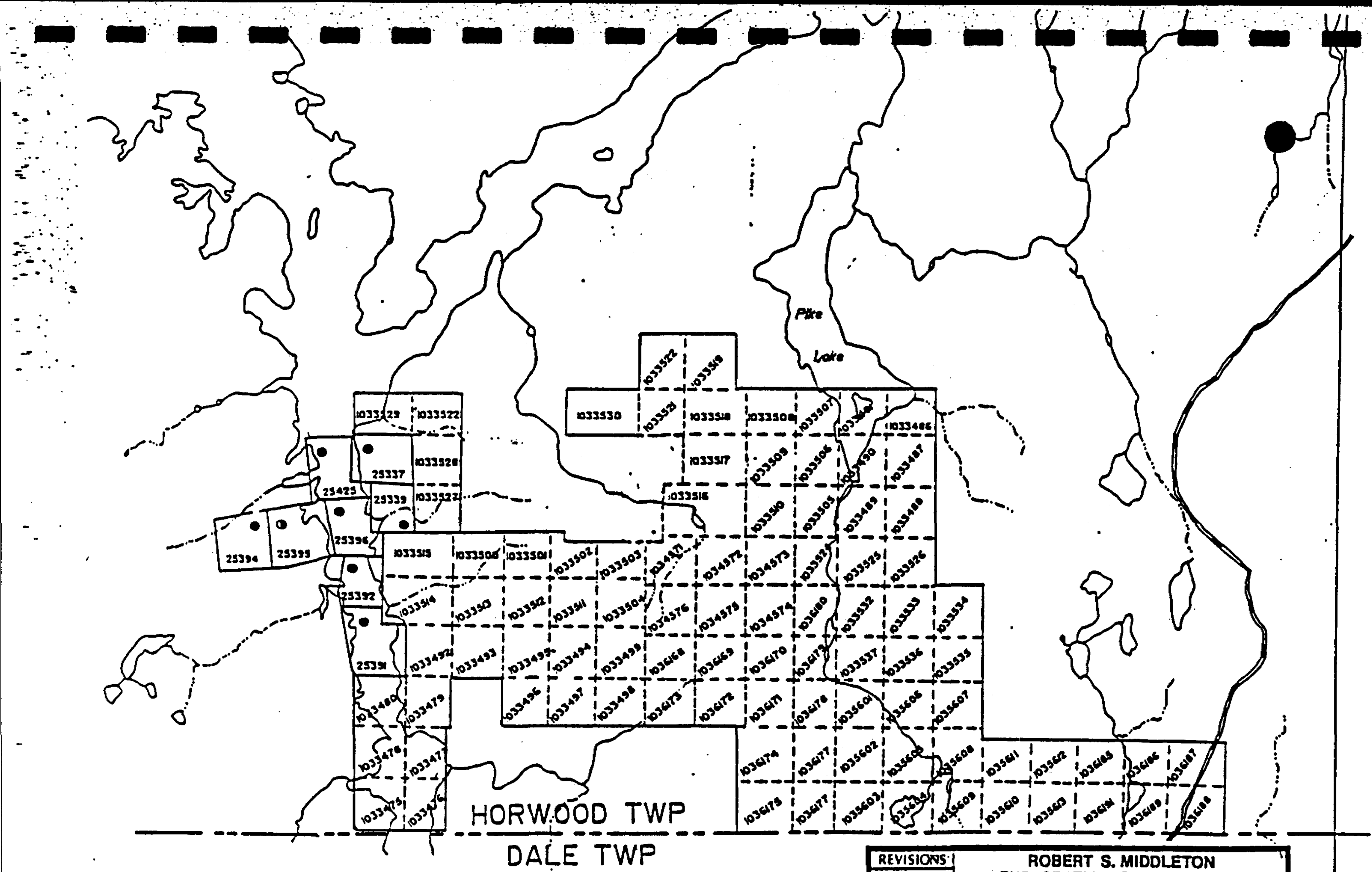
The results of the reconnaissance geological program are represented in this report.

LOCATION, ACCESS AND FACILITIES

The Golden Dragon Resources Limited property is located in southern Horwood Township and bounded by the Dale Township line to the south, approximately 90 km southwest of Timmins, Ontario (Figure 1).

Access to the claim group is via road 616 south from Highway 101 to the northeast shore of Horwood Lake. Transportation by boat is then required to access the property. A new series of lumber roads south from Highway 101 run into the central and eastern portions of the property. The claim group can also be reached via float plane and helicopter from Timmins or Folyet.

Accommodation was available at a fishing/hunting camp centrally located on the east shore of Horwood Lake.



LEGEND

- ● PATENTED CLAIMS
- ◐ 1/2 INTEREST

REVISIONS	ROBERT S. MIDDLETON EXPLORATION SERVICES INC.		
	for Golden Dragon Resources		
	Title CLAIM MAP FIG 2		
	Date: Oct 89	Scale: 1" = 1/2 mi.	N.T.S.:
	Drawn:	Approved:	File: M-326

TOPOGRAPHY AND VEGETATION

The topography of the property is characterized by various ridges, scarps (along shore) and small hills that are separated by low swampy areas.

Rock exposures constitute less than 15% of the total area, with the greatest concentration of outcrop occurring in the central and western parts of the property.

Vegetation consists predominantly of black spruce, birch and poplar. Cedar woods are common in low lying areas. Alder, balsam, fir and pine are also scattered throughout the property.

PREVIOUS WORK

Performed work of interest which is pertinent to the Golden Dragon property was completed by Tionaga Gold Mines Limited, Northgate Exploration Limited and Gold Fields Resources Canada and is described in this section of the report.

The earliest reported work in the Horwood Lake area was in 1918, with a gold mineralization discovery by T. Jessop in a quartz vein within a northwest trending shear zone in chlorite schist. Presently the Tarzan Gold Inc. property surrounds the Jessop discovery which occurs on the eastern shore of Horwood Lake, 4 km north of the Golden Dragon Property. Further exploration on the Jessop property by various, presently unknown, companies between 1927 and 1948 have delineated a quartz veined zone, 1,000 feet long by 3.4 feet wide averaging 0.31 oz Au/ton.

Gold mineralization was discovered in 1933 on the present day claim group of Orofino Mines Limited in southeastern Silk Township which lies immediately to the west of Horwood Township. Visible gold was detected in an east striking system of quartz veins within a small stock of metagabbro.

Tionaga Gold Mines Limited

The Tionaga Mine is located within the northwest sector of the Golden Dragon Property (see Map 2). This small gold mine was initially explored by Hollinger Consolidated Gold Mines during 1935 and 1936. A forty-five degree shaft was sunk to 570 feet. Gold values of 0.02 to 0.85 oz Au/ton were obtained from lenses. In 1938 Tionaga Gold Mines Limited extended the shaft to 731 feet from which 6,653 tons of ore was processed producing 2,299 oz of gold and 404 oz of silver.

In the late 1940's, J.E. Lefever completed several short drill holes approximately 1 km west of the former Tionaga Mine shaft. Sheared andesite with quartz stringers and occasionally quartz porphyry was intersected however no assays were reported (O.G.S. Assessment File DDH Repsort 11).

Northgate Exploration Limited

In the early 1980's Northgate performed VLF-EM and magnetic surveys in the vicinity of the Tionaga Mine. Several conductors were outlined and diamond drilled. Intersections of 0.379 oz Au/ton and 0.13 oz Ag/ton over five feet in a quartz vein associated with a quartz feldspar porphyry was the best result of the drilling.

Gold Fields Resources Canada

The Ontario Geological Survey map indicates a gold, pyrite and chalcopyrite showing on the claims immediately to the south of the Golden Dragon Property. In the early 1980's, ground magnetometer, VLF-EM surveys were performed on this property by Gold Fields Resources. Northeast trending sheared carbonatized mafic volcanic rocks intruded by quartz feldspar porphyry dikes was found on the property (O.G.S. Assessment File 2.4892). An induced polarization survey was recommended.

The Dubermac Occurrence

The Dubermac Occurrence is located approximately 800 meters north of the Golden Dragon Property. In 1946 surface sampling produced assays of 0.40 oz Au/ton over 3.5 feet in a silicified shear zone (OGS MDC/8).

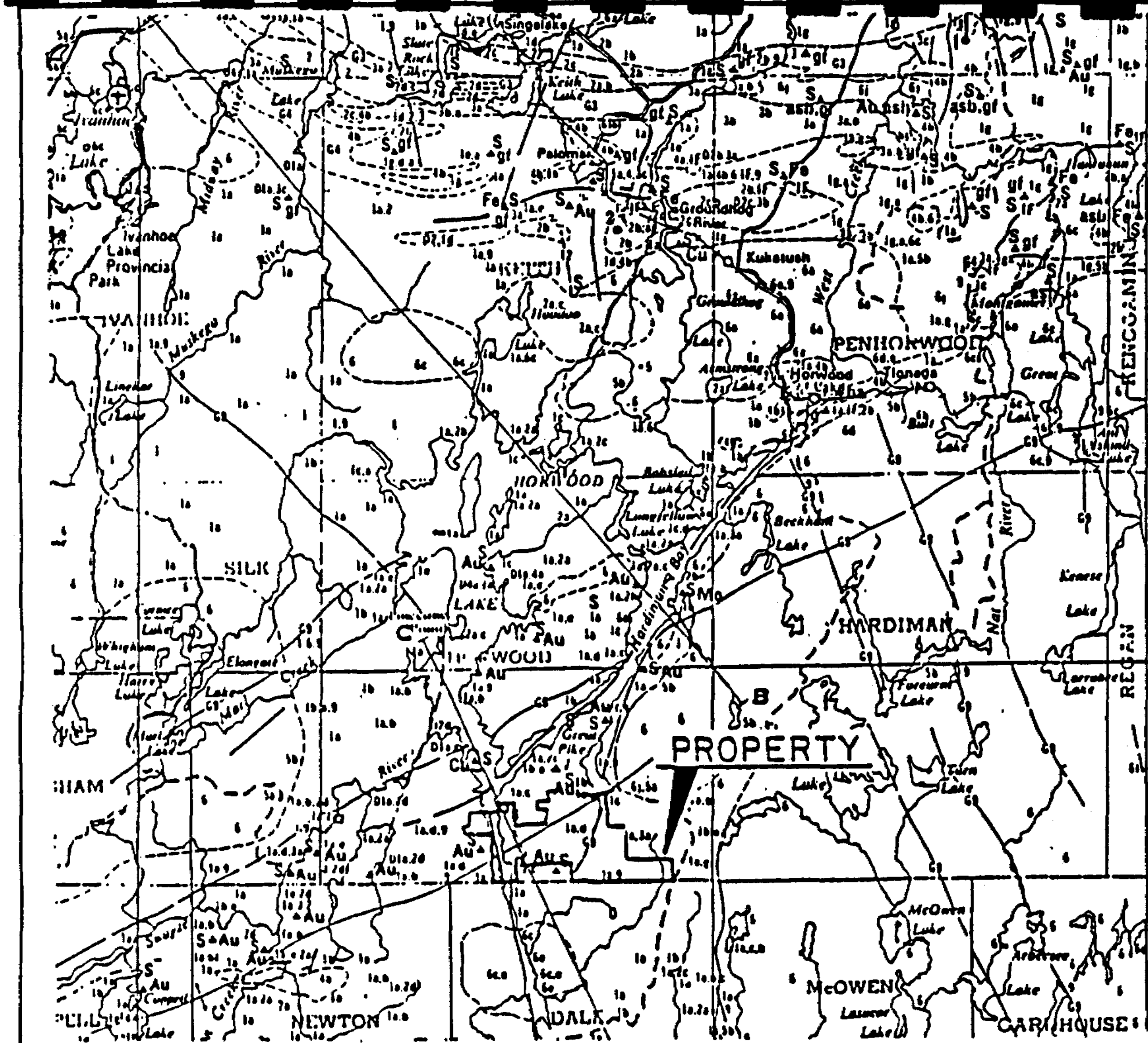
REGIONAL GEOLOGY

The geology of the Horwood Lake area was mapped by F.W. Breaks and reported in 1971, (O.G.S. Report 169). Horwood Township is situated on an east-west trending metavolcanic-metasedimentary belt known as the Swayze-Deloro greenstone belt which is the western extension of the Abitibi metasedimentary-metavolcanic belt of the Superior Province in the Canadian Shield (McCombe, 1988).

The area is predominantly underlain by Precambrian mafic metavolcanic rocks with some Proterozoic diabase dikes. The mafic metavolcanic rocks vary from massive flows to highly sheared schistose varieties. Feldspar and quartz feldspar porphyry intrusions are prolific in the map area (Figure 3).

The local stratigraphy trends east-west with a steep north dip. Two major faults occur in southern Horwood Township, the Horwood Lake Fault along the southern arm of Horwood Lake and the Hardiman Bay Fault which trends to the northeast. The north trending Horwood Lake Fault may be continuous from the Hoodoo Lake Fault 14 km to the north through Horwood Lake and passes just west of the property.

A major anticlinal fold axis is interpreted to trend northeast from Newton Township west of Horwood Lake, continuing through the lake east of Marsh Island and ending in a bay south of Groundhog Lake (Breaks 1978). A second fold system, comprised of an antiform and synform, is suggested west of Great Pike Lake.



FELSIC IGNEOUS AND METAMORPHIC ROCKS[c]

Felsic Intrusive and Hybrid Rocks[c]

- 6 Unsubdivided.[d]
- 6a Massive to weakly foliated, biotite and hornblende trondhjemite, granodiorite, and minor quartz diorite.
- 6b Gneissic, biotite and hornblende trondhjemite, granodiorite, and minor quartz diorite.
- 6c Massive to weakly foliated, hornblende and biotite quartz-monzonite.
- 6d Gneissic biotite and hornblende quartz-monzonite.
- 6e Syenitic rocks.
- 6f Pegmatite, aplite.
- 6g Augen gneiss.
- 6h Hornblende granodiorite to diorite (in part hybrid rocks).
- 6i Porphyritic granitic rocks.

INTRUSIVE OR GRADATIONAL CONTACT

Migmatitic Rocks[c]

- 5 Unsubdivided.[d]
- 5a Migmatite with metavolcanic paleosome[e] of quartz-feldspar-hornblende gneiss; veined with more than 25% granitic material (neosome[f]).
- 5b Migmatite with metasedimentary paleosome[e] of biotite-quartz-feldspar gneiss; veined with more than 25% granitic material (neosome[f]).

INTRUSIVE CONTACT

MAFIC AND ULTRAMAFIC INTRUSIVE ROCKS

- 4 Unsubdivided[d].
- 4a Diorite and gabbro.
- 4b Ultramafic rocks and their serpentinized equivalents, minor gabbro.

INTRUSIVE CONTACT

METASEDIMENTS[g]

- 3 Unsubdivided[d].
- 3a Greywacke, arkose, quartzite.
- 3b Conglomerate.
- 3c Argillaceous, fine-grained metasediments.
- 3d Biotite-quartz-feldspar schist gneiss.
- 3e Migmatized metasediments (10-25% granitic material).

METAVOLCANICS[g]

Mafic to Intermediate Metavolcanics

- 1 Unsubdivided[d].
- 1a Basalt to andesite flows and porphyritic flows, massive to foliated.
- 1b Basalt to andesite pillow lava.
- 1c Mafic pyroclastic rocks.
- 1d Layered amphibolite.
- 1e Diorite, gabbro (coarse-grained flows or intrusions).
- 1g Migmatized mafic metavolcanics (10-25% granitic material).

Felsic to Intermediate Metavolcanics

- 2 Unsubdivided[d].
- 2a Rhyolite to dacite flows and fragmental rocks.
- 2b Tuff, banded tuff, and lapilli-tuff.
- 2c Agglomerate, breccia.
- 2d Porphyritic flows, quartz-feldspar porphyry.

REVISIONS	ROBERT S. MIDDLETON EXPLORATION SERVICES INC.		
	for Golden Dragon Resources		
	Title REGIONAL GEOLOGY MAP FIG 3		
	Date: Oct. 89	Scale: 1"=4 Mls	N.T.S.:
	Drawn:	Approved:	File: M-326

Gold mineralization in Horwood Township appears to be controlled by structure. Carbonatized and pyritized shear zones containing quartz veins are favourable environments for gold mineralization. Sulphide minerals commonly associated with gold mineralization are pyrite, chalcopyrite and pyrrhotite. Disseminated gold also occurs in some of the porphyry intrusive rocks (Breaks 1978).

PROPERTY GEOLOGY

Key geological features on the property which were determined from geological mapping or interpreted from airborne geophysical data are indicated, along with rock sample locations, on Maps 1 through 5 of this report.

In general, the geology of the property is comprised of an east-west trending sequence of Archean mafic metavolcanic rocks which have been intruded by small quartz feldspar porphyry bodies and diabase dikes. Lesser amounts of felsic metavolcanic rocks and metasedimentary rocks do occur.

ROCK TYPES

Mafic Metavolcanic Rocks

These metavolcanic rocks comprise over 90% of the rocks in the map area and include massive, pillowed, and foliated types with varieties that are intensely sheared and gossanized. The massive rocks vary in color from dark greenish-grey to black. The chlorite content is generally low in the massive varieties while the foliated rocks contain significantly more chlorite. The foliated metavolcanic rocks are generally dark green in color and commonly display strong carbonatization. The metamorphic grade throughout this metavolcanic sequence varies between upper greenschist and locally, lower amphibolite facies. Mineral assemblages which characterize these rocks are chlorite, actinolite, epidote and *plagioclase. Within these rocks primary structures and textures are absent or poorly recognizable.*

Felsic to Intermediate Metavolcanic Rocks

These metavolcanic rocks comprise only a small constituent of the property. The rocks are characterized as fine grained, weakly to moderately foliated and are mapped as rhyolitic to dacitic flows and tuffs. They vary in color from dark grey to pale grey-green. Sericite alteration is common in these rocks. Mineral assemblages which characterize these rocks are quartz, plagioclase, biotite, and chlorite.

Metasedimentary Rocks

The metasedimentary rocks occupy a very small part of the map area, occurring as thin, discontinuous intercalated units within the metavolcanic sequence of rocks. The rocks, mapped as greywacke, are usually foliated, fine grained and medium to dark grey on fresh surfaces. The few exposures display weak bedding but sedimentary structures are poorly recognizable for the most part due to foliation overprinting.

Early Felsic to Intermediate Intrusive Rocks

These are quartz-feldspar porphyry intrusions which occur as small narrow lenses and thin dikes. The rocks are massive to weakly foliated, medium grained and equigranular. Exposures are white grey to pale pink grey in color. Mineral assemblages characteristic of these rocks are quartz plagioclase, orthoclase, hornblende and minor amounts of biotite and chlorite.

Late Mafic Intrusive Rocks

This group of rocks is most prevalent in the north and eastern parts of the property and consist of narrow northwest trending quartz diabase dikes which cut all other rock types. The dikes dip steeply to vertical and are narrow in width, *usually less than 20 meters. Characteristically they are dark grey to black, medium grained and have a distinguishing red brown weathered surface. Porphyritic varieties of the rock do occur.*

PLEISTOCENE GEOLOGY

Approximately 80% of the property is covered by a discontinuous undulating blanket of glacial overburden and lacustrine sediments. Overburden on hills and ridges is relatively thin and consists of A, B soil profiles and occasionally C soil horizons. Low areas contain thicker overburden consisting of lacustrine sediments and underlying glacial gravel and tills.

ALTERATION AND MINERALIZATION

A significant mineralized zone was found on the south-east shore of Horwood Lake occurring on claim 1033477. This zone, outlined on Geology Map 2, consists of strongly sheared and gossanized intermediate metavolcanic rock, and is characterized by strong orange-brown rust staining of massive to disseminated sulfides and moderate to strong Fe carbonate alteration. Minor stringers of quartz and epidote occur locally. The sulfides are dominated by pyrite but fine disseminated chalcopyrite is also present.

This mineralized gossan zone is approximately five to six meters wide and is situated next to a felsic crystal tuff unit to the south. The zone was not exposed inland but should be readily detected by geophysical means. It is recommended that this zone be extensively mapped and sampled.

GEOPHYSICAL INTERPRETATION

Geophysical interpretation of the geological data is derived from ODM GSC Map 2262G (Figure 4). Aeromagnetic signatures are vague but can be weakly correlated with the geology of the property.

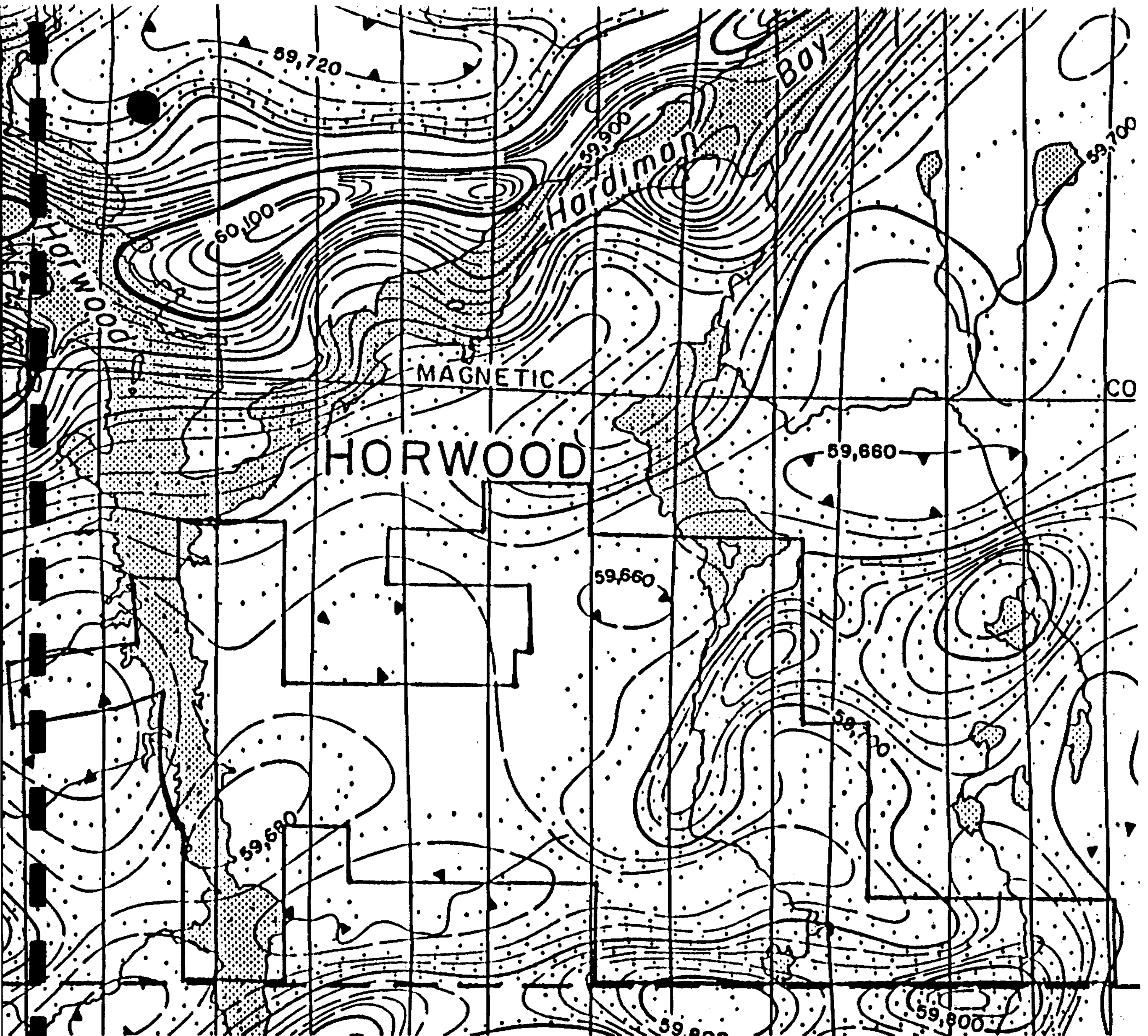
The general area where the Golden Dragon property is situated is seen as a large low magnetic expression which is characterized by mafic metavolcanic rocks. There is a moderate size magnetic depression occurring in the south of the property and may correlate with the sequence of felsic metavolcanic rocks trending east west through the property as depicted on Breaks O.G.S. geology map 2329. A magnetic high on the north-eastern portion of the claim group may be related to Hardiman Lake Pluton.

DISCUSSION OF ASSAY RESULTS

During the reconnaissance mapping eleven samples were collected for assay for gold, arsenic and copper. All samples are located on Maps 1-4.

Results for the assaying of gold and arsenic were generally unimpressive. The highest gold value, 10 ppb, was sample 0481 taken from a gossanized intermediate metavolcanic rock on claim 1033477. The highest arsenic value, 19 ppm, was taken from a strongly carbonatized mafic metavolcanic rock on claim 1033500.

Three samples, 0478, 0481 and 0489, had weakly anomalous copper values of 140, 253 and 146 ppm respectively. The sample 0478, which also had the 19 ppm As value, is situated on claim 1033500 in the northwest area of the property. The sample 0481 had the highest copper value and the highest gold value and was taken from the gossan zone on the southeast shore of Horwood Lake on claim 1033477.



REVISIONS	ROBERT S. MIDDLETON EXPLORATION SERVICES INC.		
	for GOLDEN DRAGON RESOURCES		
	Title AEROMAGNETIC MAP		
	Date: Oct.89	Scale: 1:50,000	N.T.S.:
	Drawn:	Approved:	File: M-326

It is recommended that the three areas where the anomalous copper values occurred, particularly the gossan zone, be extensively mapped and sampled as only very cursory reconnaissance mapping and sampling was conducted during this program.

CONCLUSIONS AND RECOMMENDATIONS

The reconnaissance mapping program performed on the Golden Dragon Resources Limited claim group has identified five distinct rock types. The majority of the property is underlain by massive, pillowed and foliated mafic volcanic flow rocks. Other identified rock types are felsic metavolcanic, metasedimentary, quartz-feldspar porphyry and diabase.

It has been determined from the geological mapping that the mafic to intermediate metavolcanic rocks, in which the gossan zone occurs, contain the most abundant hydrothermal alteration and mineralization and therefore present the most potential source of economic mineralization. The gossan zone on claim number 1033477 is recommended for future geological and geophysical exploration.

A three phase exploration program is recommended for the Golden Dragon Resources Limited property. The purpose of this program is to delineate the known deformation/alteration zone and to explore the property for similar zones.

Phase I would involve line cutting for ground control and detailed geological mapping and sampling.

Geophysical surveys such as VLF-EM and magnetometer surveys to delineate shear and fault zones and sulfide mineralization would be involved in Phase II. Detailed induced polarization surveys may be necessary over any anomalous zone detected by the initial geophysical surveys.

Diamond drilling is recommended in Phase III of the exploration program and would include several holes in the vicinity of the Tionaga Mine to potentially locate additional gold mineralization.

The following is a proposed budget for the three phase exploration program.

BUDGET

Phase I

Linecutting	
160 km @ $230./km	$36,800.00
Geological Mapping (2 geologists)	
40 days @ $550./day	22,000.00
Assaying	4,000.00
Travel, accommodation	5,000.00
Reports	2,500.00

Phase II

Magnetometer Survey	
75 km @ $100./km	7,500.00
Electromagnetic Survey	
75 km @ $176./km (2 frequencies 444, 1777)	13,200.00
Accommodations	5,600.00
VLF	
75 kms @ $100./km	7,500.00
Induced Polarization	
10 days @ $1,450./day	14,500.00

Phase III

Diamond Drilling	
5,000 feet @ $25./foot	125,000.00
Assaying	4,000.00
Supervision	
1 geologist - 30 days @ $275./day	8,250.00
Reports	2,500.00
Accommodation	6,000.00
Total Exploration Budget	$264,350.00

Respectfully submitted

John A. Burton

John Burton, B.Sc.

Qual 212190

REFERENCES

BREAKS, F.W.
1978 — Geology of the Horwood Lake Area, District of Sudbury; Ontario Geological Survey. Report 169 accompanied by Map 2329.

McCOMBE, D.A.
1988 — Report on Horwood Township Property of Golden Dragon Resources Limited, Porcupine Mining Division, Ontario.

Department of Mines and Technical Surveys, Geological Survey of Canada, Map 2262G.

CERTIFICATION

I, John A. Burton, B.Sc., of 38 Fourth Avenue, in the town of Schumacher, Province of Ontario, certify as follows concerning my report on the Horwood Township, Ontario property of Golden Dragon Resources Limited and dated November 9, 1989.

1. *I am a graduate of Mount Allison University, Sackville, New Brunswick, with a B.Sc. degree specializing in geology obtained in 1987.*
2. *I have been practising my profession in Canada for the past 2.5 years.*
3. *I have no direct or indirect interest in the properties, leases or securities of Golden Dragon Resources Limited, nor do I expect to receive any.*
4. *The attached report is a product of:*
   a) *Data listed in the references;*
   b) *Previous work files at the Offices of the Ontario Ministry of Natural Resources;*
   c) *A personal visit to the property to conduct geological mapping.*

Dated this November 9, 1989
TIMMINS, Ontario

John A. Burton, B.Sc.
Qual.
2.12190

APPENDIX A

ROCK SAMPLE DESCRIPTIONS

SAMPLE #	ANOMALOUS ELEMENT	DESCRIPTION
0478	140 ppm Cu	Mafic metavolcanic rock with strong local Fe carbonate alteration, fine grained disseminated sulfides.
0479		Felsic Lapilli tuff with moderate silica and sericite alteration, trace pyrite.
0480		Milky white quartz from a mafic volcanic host, 30m from Tionoga shaft.
0481	253 ppm Cu	Strongly gossanized mafic metavolcanic rock, massive pods of pyrite, trace fine chalcopyrite.
0488		Sheared, pillowed, mafic volcanic, weak brown carbonate alteration, quartz/carbonate stringers, trace pyrite.
0489	146 ppm Cu	Massive, chloritized mafic volcanic rock, quartz/carbonate stringer, <1% fine pyrite.
0490		Intermediate tuff, weak sericite alteration, trace pyrite.
0491		Intermediate tuff, weak shearing and sericitization.
0492		Mafic metavolcanic rock with quartz/carbonate veins, weak hematite staining.
0498		Intermediate to mafic metavolcanic rocks, trace, fine grained disseminated pyrite.
0499		Glassy to smokey grey quartz vein in mafic volcanic rock, moderate Fe carbonate staining at vein margin.

A P P E N D I X B

ASSAY RESULTS

SAMPLE #	Au ppb	As ppm	Cu ppm
0478	1	19	140
0479	<1	<3	34
0480	<1	<3	31
0481	10	<3	253
0488	<1	<3	84
0489	<1	<3	146
0490	<1	<3	25
0491	<1	<3	13
0492	<1	<3	27
0498	2	<3	87
0499	<1	<3	21

Ministry of Northern Development and Mines
Ontario

DOCUMENT No. W 8906-524

41016NE0001 2.12877 HORWOOD

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Report of Work
(Geophysical, Geological and Geochemical Surveys)

Mining Act

Technical Reports and maps in duplicate should be submitted to Mining Lands Section, Mineral Development and Lands Branch:

Type of Survey(s)	Mining Division	Township or Area
Geological Mapping	Porcupine	Horwood Twp

Recorded Holder(s): Golden Dragon Resources Ltd **2.12877**
Prospector's Licence No.: T5159
Address: PO Box 1637 Timmins Ont P4N 7W8
Telephone No.: (705) 264-4246
Survey Company: R.S. Middleton Exploration Services Inc
Name and Address of Author (of Geo-Technical Report): John Burton PO Box 1637 Timmins P4N 7W8
Date of Survey (from & to): 16 07 89 (Day Mo. Yr.) 27 07 89 (Day Mo. Yr.)

Credits Requested per Each Claim in Columns at right

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

Total miles flown over claim(s).

Date	Recorded Holder or Agent (Signature)
Nov 14/89	Cliff David

Mining Claims Traversed (List in numerical sequence)

Prefix	Number	Prefix	Number	Number	Prefix	Number
P	1033475		1033509	1033532		1035610
	1033476		1033510	1033533		1035611
	1033477		1033511	1033534		1035612
	1033478		1033512	1033535		1035613
	1033479		1033513	1033536		1036168
	1033480		1033514	1033537		1036169
	1033486		1033515	1034571		1036170
	1033487		1033516	1034572		1036171
	1033488		1033517	1034573		1036172
	1033489		1033518	1034574		1036173
	1033490		1033519	1034575		1036174
	1033491		1033521	1034576		1036175
	1033492		~~1033522~~ F.O.	1035601		1036176
	1033493		1033523	1035602		1036177
	1033494		1033524	1035603		1036178
	1033495		1033525	1035604		1036179
	1033496		1033526	1035605		1036180
	1033497		~~1033527~~ F.O.	1035606		1036185
	1033498		~~1033528~~ F.O.	1035607		1036186
	1033499		~~1033529~~ F.O.	1035608		1036187
	1033500		1033530	1035609		1036188
	1033501					1036189
	1033502					1036190
	1033503					
	1033504					
	1033505					
	1033506					
	1033507					
	1033508					

Total number of mining claims covered by this report of work: 94

RECEIVED NOV 24 1989 MINING LANDS SECTION

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in this Report of Work, having performed the work or witnessed same during and/or after its completion and annexed report is true.

Name and Address of Person Certifying: Cliff David c/o P.O Box 1637 Timmins Ont P4N 7W8

Telephone No.	Date	Certified By (Signature)
(705) 264-4246	Nov 14/89	Cliff David

Received Stamp: RECEIVED NOV 14 1989 2:25 p.m.

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
1800	Nov. 14/89	B White
	Date Approved as Recorded	Provincial Manager, Mining Lands
	See revised work statement	

1362 (89/06)

R32L

Ministry of Northern Development and Mines
Ontario

DOCUMENT No. W 8906-524

Mining Act

Report of Work
(Geophysical, Geological and Geochemical Surveys)

Instructions
- Please type or print.
- Refer to Section 77, the Mining Act for assessment work requirements and maximum credits allowed per survey type.
- If number of mining claims traversed exceeds space on this form attach a list.
- Technical Reports and maps in duplicate should be submitted to Mining Lands Section, Mineral Development and Lands Branch.

Type of Survey(s)	Mining Division	Township or Area
Geological Mapping	Porcupine	Horwood Twp

Recorded Holder(s): Golden Dragon Resources Ltd 2.12877
Prospector's Licence No.: T5159
Address: P.O. Box 1637 Timmins Ont P4N 7W8
Telephone No.: (705) 264-4246
Survey Company: R.S. Middleton Exploration Services Inc
Name and Address of Author (of Geo-Technical Report): John Burton P.O. Box 1637 Timmins P4N 7W8
Date of Survey (from & to): 16 07 89 | 27 07 89 (Day Mo. Yr. | Day Mo. Yr.)

Credits Requested per Each Claim in Columns at right

Special Provisions		Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	Geophysical	
	- Electromagnetic	
For each additional survey: using the same grid:	- Magnetometer	
Enter 20 days (for each)	- Other	
	Geological	20
	Geochemical	

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

Airborne Credits		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Other	

Total miles flown over claim(s).

Date	Recorded Holder or Agent (Signature)
Nov 14/89	Cliff David

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Number	Mining Claim Prefix	Number	Mining Claim Prefix	Number
P	1033475	1033509	1033532		1035610
	1033476	1033510	1033533		1035611
	1033477	1033511	1033534		1035612
	1033478	1033512	1033535		1035613
	1033479	1033513	1033536		1036168
	1033480	1033514	1033537		1036169
	1033486	1033515	1034571		1036170
	1033487	1033516	1034572		1036171
	1033488	1033517	1034573		1036172
	1033489	1033518	1034574		1036173
	1033490	1033519	1034575		1036174
	1033491	1033521	1034576		1036175
	1033492	~~1033522~~ F.O.	1035601		1036176
	1033493	1033523	1035602		1036177
	1033494	1033524	1035603		1036178
	1033495	1033525	1035604		1036179
	1033496	1033526	1035605		1036180
	1033497	~~1033527~~ F.O.	1035606		1036185
	1033498	~~1033528~~ F.O.	1035607		1036186
	1033499	~~1033529~~ F.O.	1035608		1036187
	1033500	1033530	1035609		1036188
	1033501				1036189
	1033502				1036190
	1033503				
	1033504				
	1033505				
	1033506				
	1033507				
	1033508				

Total number of mining claims covered by this report of work. 94

RECEIVED NOV 24 1989 MINING LANDS SECTION

RECORDED NOV 14 1989

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in this Report of Work, having performed the work or witnessed same during and/or after its completion and annexed report is true.

Name and Address of Person Certifying: Cliff David % P.O. Box 1637 Timmins Ont P4N 7W8

Telephone No.	Date	Certified By (Signature)
(705) 264-4246	Nov 14/89	Cliff David

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
1800	Nov. 14/89	B White
	Date Approved as Recorded	Provincial Manager, Mining Lands
	See revised	work Statement

Received Stamp: RECEIVED NOV 14 1989 2:35 pm

1362 (89/06)

Ministry of Northern Development and Mines
Ontario

Technical Assessment Work Credits

File: 2.12877

Date: February 21, 1990

Mining Recorder's Report of Work No.: W8906-524

Recorded Holder: GOLDEN DRAGON RESOURCES LIMITED

Township or Area: HORWOOD TOWNSHIP

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	
Electromagnetic ______ days	P 1033475 to 480 incl.
Magnetometer ______ days	1033486 to 519 incl.
Radiometric ______ days	1033521 to 530 incl.
Induced polarization ______ days	1033521 to 530 incl.
Other ______ days	1033532 to 537 incl.
Section 77 (19) See "Mining Claims Assessed" column	1034571 to 576 incl.
Geological 20 days	1035601 to 613 incl.
Geochemical ______ days	1036168 to 180 incl.
Man days ☐ Airborne ☐	1036185 to 190 incl.
Special provision ☒ Ground ☐	
☐ Credits have been reduced because of partial coverage of claims.	
☐ Credits have been reduced because of corrections to work dates and figures of applicant.	

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

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; Geologocal - 40; Geochemical - 40; Section 77(19) - 60.

828 (85/12)

RSM EXPLORATION services

ROBERT S. MIDDLETON EXPLORATION SERVICES INC.

136 Cedar St. So.
P.O. Box 1637
Timmins, Ontario
P4N 7W8
Telephone (705) 264-4246
Fax: 705-267-6110

Suite 301
121 Richmond St. W.
Toronto, Ontario
M5H 2K1
Telephone: (416) 861-9316
Fax: 416-861-1367

November 14, 1989

Ministry of Northern Development and Mines
Mining Lands Section
Mines and Minerals Division
880 Bay Street
3rd Floor
Toronto, Ontario
M5S 1Z8

RECEIVED
NOV 15 1989
MINING LANDS SECTION

Dear Sir/Madam:

Please find enclosed Reports, Maps, and a copy of the Report of Work for Geological Mapping performed on claims in Horwood Twp. (Porcupine Mining Division).

Kindly acknowledge the accompanying copy of the Report of Word "Received" and return at your earliest convenience.

Thank you for your time and consideration.

Sincerely,

Cliff David

Cliff David

Ontario

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

Mining Lands Section
880 Bay Street, 3rd Floor
Toronto, Ontario
M5S 1Z8

Telephone: (416) 965-4888

February 21, 1990

Your File: W8906-524
Our File: 2.12877

Mining Recorder
Ministry of Northern Development and Mines
60 Wilson Avenue
Timmins, Ontario
P4N 2N7

Dear Sir:

Re: Notice of Intent dated February 5, 1990 for Geophysical Survey submitted on Mining Claims P 1033475 et al in Horwood Township.

The assessment work credits, as listed with the above-mentioned Notice of Intent have been approved as of the above date. Please disregard the previous Notice of Intent dated February 5, 1990.

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

Yours sincerely,

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

DM:pt
Enclosure

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

Golden Dragon Resources
Timmins, Ontario
Attn: Cliff David

~~Resident~~ Geologist
Timmins, Ontario

REFERENCES

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. – MINING RIGHTS ONLY
S.R.O. – SURFACE RIGHTS ONLY
M.+ S. – MINING AND SURFACE RIGHTS

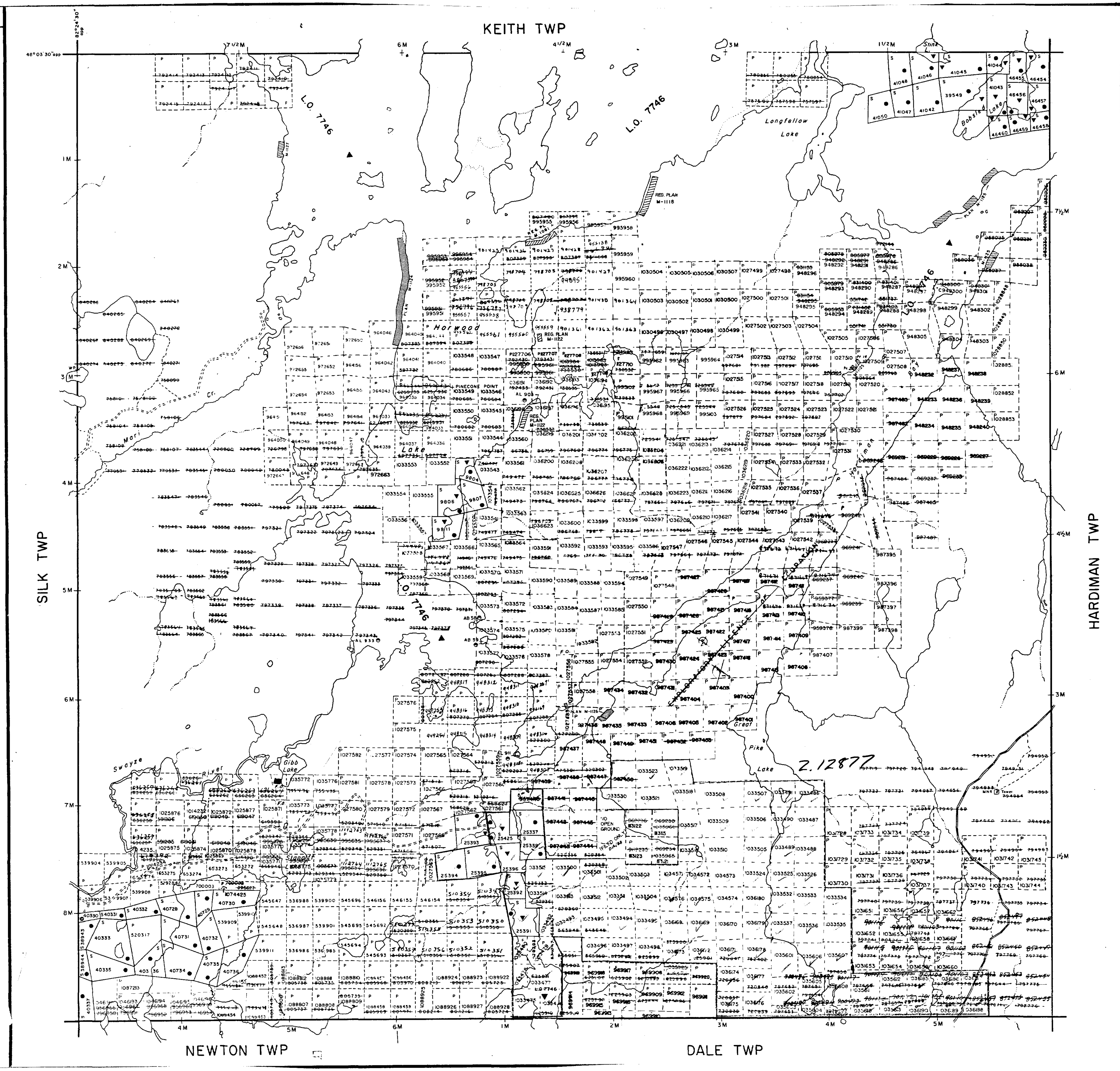
Description	Order No.	Date	Disposition	File
R1 SEC 36/80	W 2/82	(re-opened N.R.O. 3/82)		
R2 ELO 14901	NRD 22/85	JUNE 7/85	MR + SR RE-OPENED JUNE 17/85 7:00 A.M.	

FLOODING

FLOODING RIGHTS ON HORWOOD LAKE & HARDIMAN BAY TO CONTOUR ELEV. 1117 FEET ARE RESERVED TO THE SPRUCE FALLS POWER AND PAPER CO. LTD. File: 75166 L.O. 7746

41O16NE0001 2.12877 HORWOOD

200



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	OC
RESERVATION	®
CANCELLED	⊗
SAND & GRAVEL	ⓢ

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

SCALE: 1 INCH = 40 CHAINS

FEET 0 1000 2000 4000 6000 8000
METRES 0 200 1000 (1 KM) 2000 (2 KM)

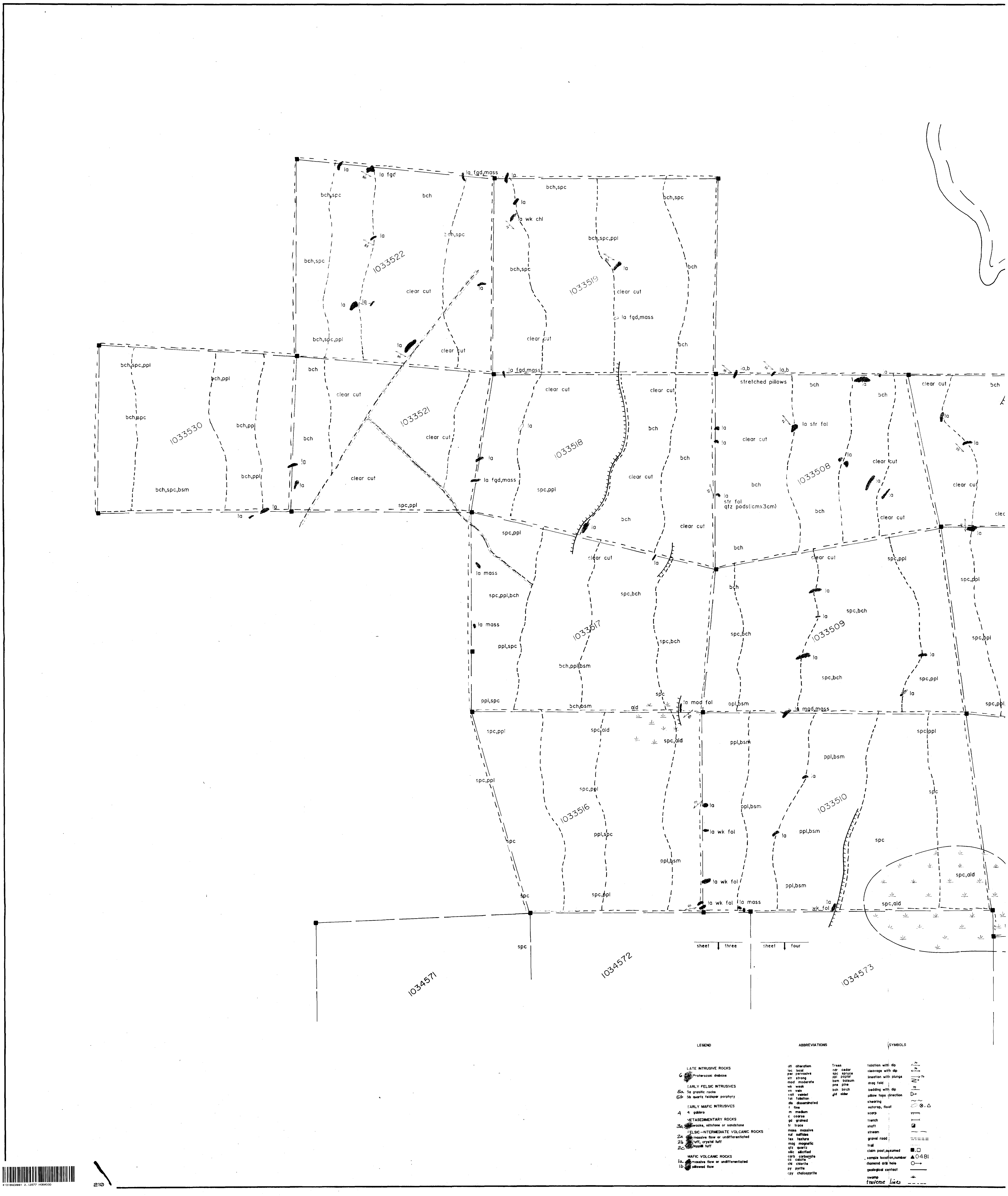
PORCUPINE MINING DIVISION
RECEIVED
NOV 7 1989

TOWNSHIP
HORWOOD

M.N.R. ADMINISTRATIVE DISTRICT
CHAPLEAU
MINING DIVISION
PORCUPINE
LAND TITLES / REGISTRY DIVISION
SUDBURY

Ministry of Natural Resources — Land Management Branch
Ontario

Date MARCH 1985
Number G-3228



1033522
1033519
1033530
1033521
1033518
1033508
1033517
1033509
1033516
1033510
1034571
1034572
1034573
sheet three
sheet four
la fgd,mass
la fgd
la wk chl
clear cut
la fgd,mass
stretched pillows
la str fol
str fol
qtz pods(1cmx3cm)
la mass
la mod fol
la mod,mass
la wk fol
la mass
bch,spc,ppl
bch,spc,bsm
spc,ppl,bch
bch,ppl,bsm
spc,ald
ppl,bsm
LEGEND
LATE INTRUSIVE ROCKS
6 Proterozoic diabase
EARLY FELSIC INTRUSIVES
5a 5a granitic rocks
6b 5b quartz feldspar porphyry
EARLY MAFIC INTRUSIVES
4 4 gabbro
METASEDIMENTARY ROCKS
3a wacke, siltstone or sandstone
FELSIC-INTERMEDIATE VOLCANIC ROCKS
2a massive flow or undifferentiated
2b tuff, crystal tuff
2c lappili tuff
MAFIC VOLCANIC ROCKS
1a massive flow or undifferentiated
1b pillowed flow
ABBREVIATIONS
alt alteration
loc local
per pervasive
str strong
mod moderate
wk weak
vn vein
vnlt veinlet
fol foliation
dis disseminated
f fine
m medium
c coarse
gd grained
tr trace
mass massive
sul sulfides
tex texture
mag magnetic
qtz quartz
silic silicified
carb carbonate
cc calcite
chl chlorite
py pyrite
cpy chalcopyrite
Trees
cdr cedar
spc spruce
ppl poplar
bsm balsum
pne pine
bch birch
ald alder
SYMBOLS
foliation with dip
cleavage with dip
lineation with plunge
drag fold
bedding with dip
pillow tops direction
shearing
outcrop, float
scarp
trench
shaft
stream
gravel road
trail
claim post,assumed
sample location,number
0481
diamond drill hole
geological contact
swamp
traverse lines
210

LEGEND

LATE INTRUSIVE ROCKS
6 Proterozoic diabase

EARLY FELSIC INTRUSIVES
5a 5a granitic rocks
5b 5b quartz feldspar porphyry

EARLY MAFIC INTRUSIVES
4 4 gabbro

METASEDIMENTARY ROCKS
3a wacke, siltstone or sandstone

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MAFIC VOLCANIC ROCKS
1a massive flow or undifferentiated
1b pillowed flow

ABBREVIATIONS

alt	alteration
loc	local
per	pervasive
str	strong
mod	moderate
wk	weak
vn	vein
vnlt	veinlet
fol	foliation
dis	disseminated
f	fine
m	medium
c	coarse
gd	grained
tr	trace
mass	massive
sul	sulfides
tex	texture
mag	magnetic
qtz	quartz
silic	silicified
carb	carbonate
cc	calcite
chl	chlorite
py	pyrite
cpy	chalcopyrite

Trees

cdr	cedar
spc	spruce
ppl	poplar
bsm	balsum
pne	pine
bch	birch

SYMBOLS

foliation with dip
cleavage with dip
lineation with plunge
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bedding with dip
pillow tops direction
shearing
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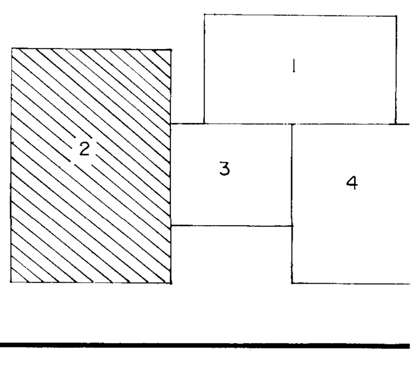
scarp
trench
shaft
stream
gravel road
trail
claim post,assumed
sample location,number ▲0481
diamond drill hole
geological contact (assumed)
swamp
traverse lines
boat traverse



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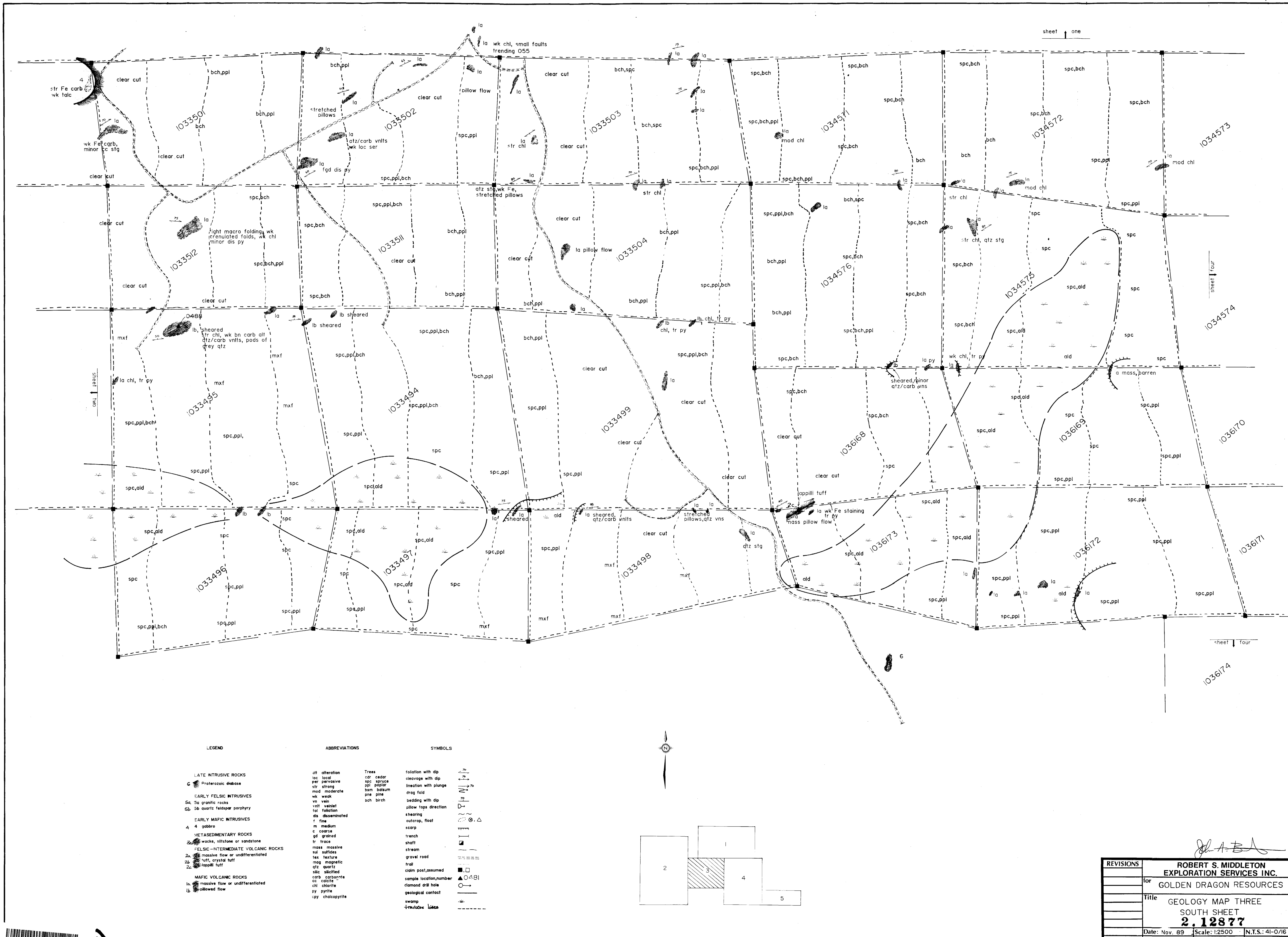
ROBERT S. MIDDLETON
EXPLORATION SERVICES INC.
for GOLDEN DRAGON RESOURCES
Title GEOLOGY MAP THREE
SOUTH SHEET
2.12877
Date: Nov. 89
Scale: 1:2500
N.T.S.: 41-O/16
Drawn: JAB
Approved:
File: M-326
REVISIONS
LEGEND
LATE INTRUSIVE ROCKS
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vn vein
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dis disseminated
f fine
m medium
c coarse
gd grained
tr trace
mass massive
sul sulfides
tex texture
mag magnetic
qtz quartz
silic silicified
carb carbonate
cc calcite
chl chlorite
py pyrite
cpy chalcopyrite
Trees
cdr cedar
spc spruce
ppl poplar
bsm balsam
pne pine
bch birch
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shearing
outcrop, float
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trench
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stream
gravel road
trail
claim post,assumed
sample location,number
diamond drill hole
geological contact
swamp
sheet one
sheet two
sheet four
1033501
1033502
1033503
1033504
1033511
1033512
1033494
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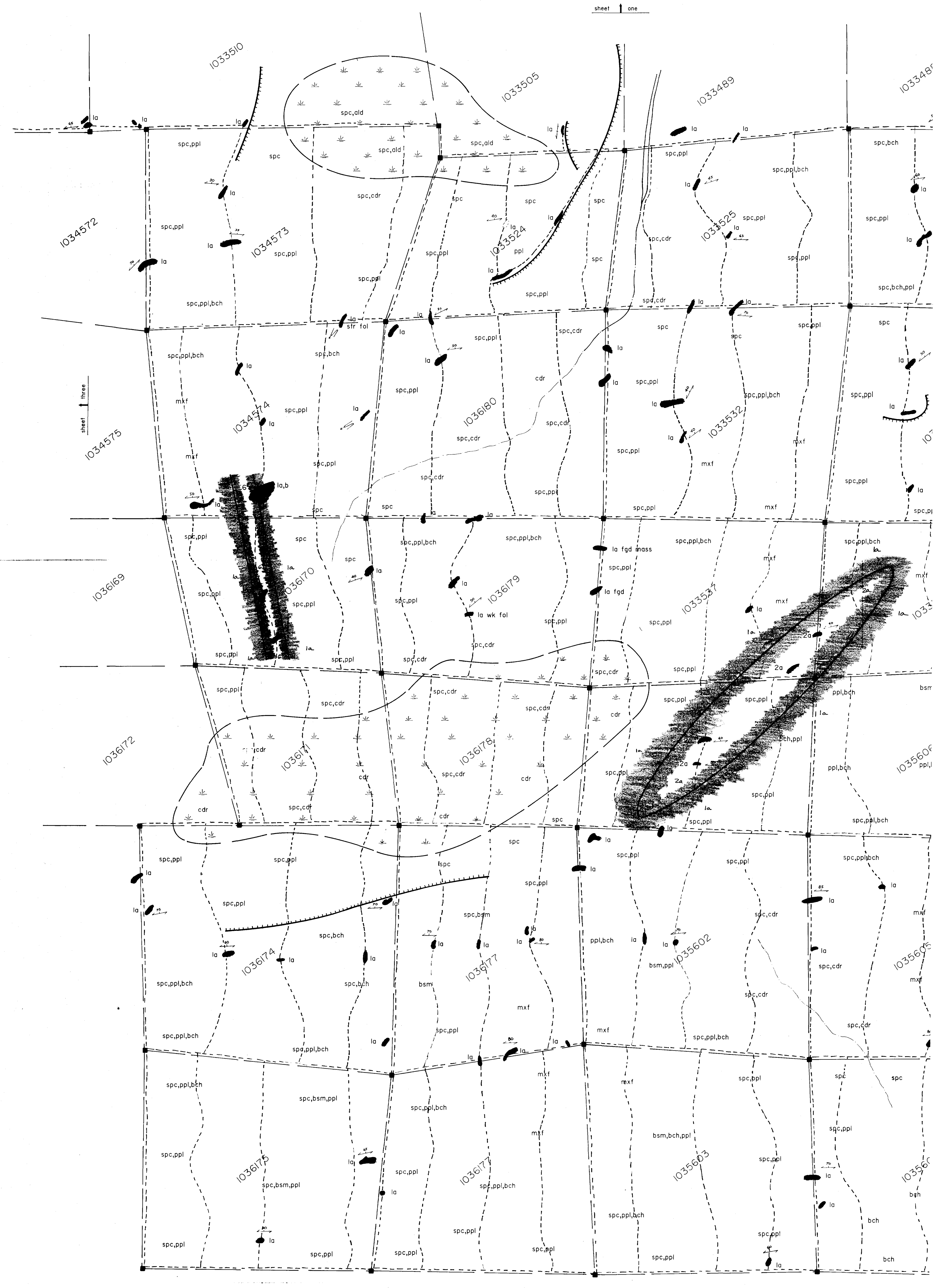

LEGEND

LATE INTRUSIVE ROCKS

6 Proterozoic diabase

EARLY FELSIC INTRUSIVES

5a granitic rocks
5b quartz feldspar porphyry

EARLY MAFIC INTRUSIVES

4 gabbro

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sul sulfides
tex texture
mag magnetic
qtz quartz
silic silicified
carb carbonate
cc calcite
chl chlorite
py pyrite
cpy chalcopyrite

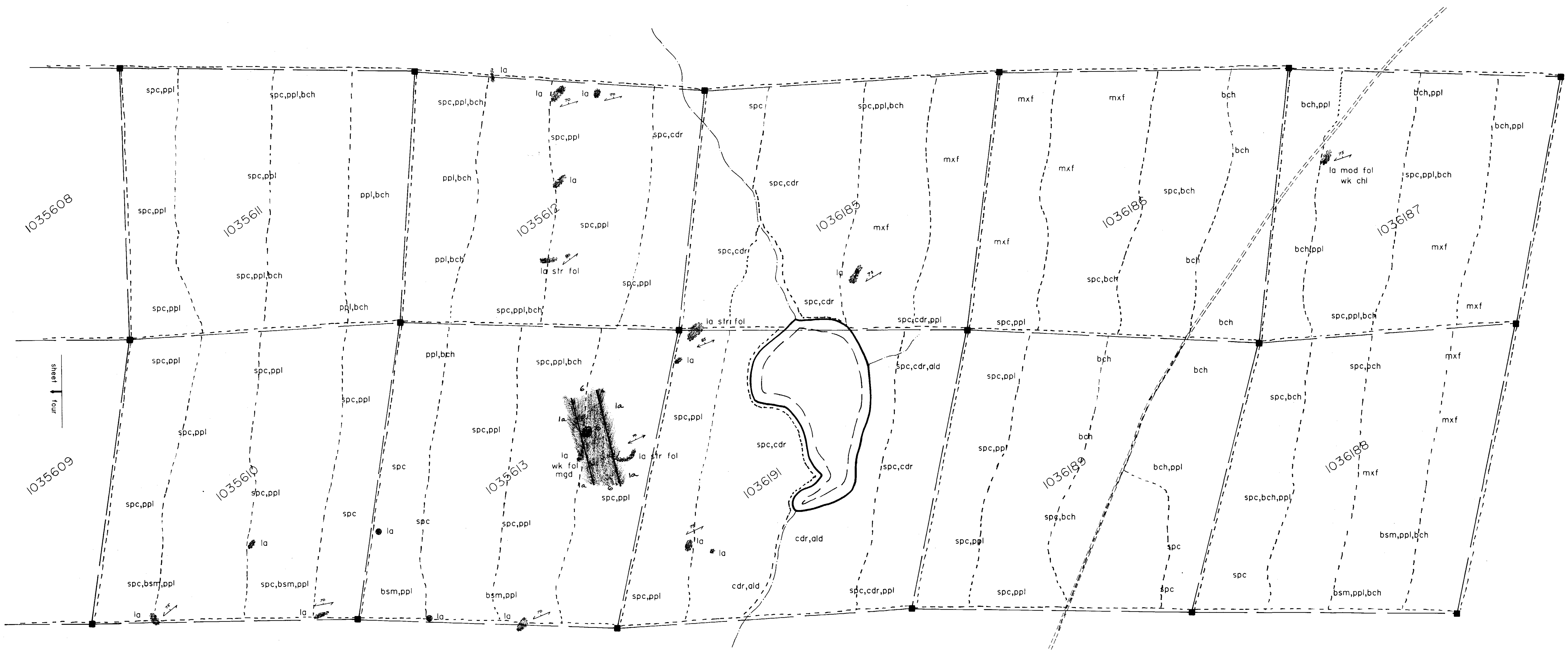
Trees
cdr cedar
spc spruce
ppl poplar
bsm balsum
pne pine
bch birch
ald alder
mxf mixed forest

SYMBOLS

foliation with dip
cleavage with dip
lineation with plunge
drag fold
bedding with dip
pillow tops direction
shearing
outcrop, float
scarp
trench
shaft
stream
gravel road
trail
claim post,assumed
sample location,number 0481
diamond drill hole
geological contact (assumed)
swamp
traverse lines

2
3

240



LEGEND

LATE INTRUSIVE ROCKS
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mag	magnetic
qtz	quartz
silic	silicified
carb	carbonate
cc	calcite
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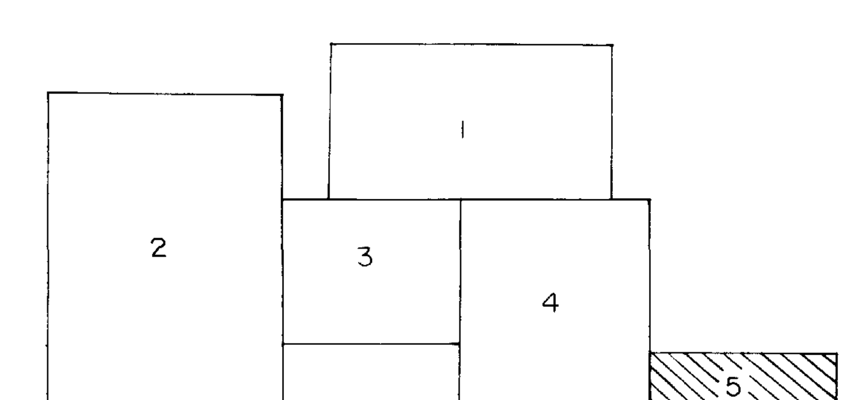
cpy	chalcopyrite

Trees

cdr	cedar
spc	spruce
ppl	poplar
bsm	balsum
pne	pine
bch	birch
ald	alder
mxf	mixed forest

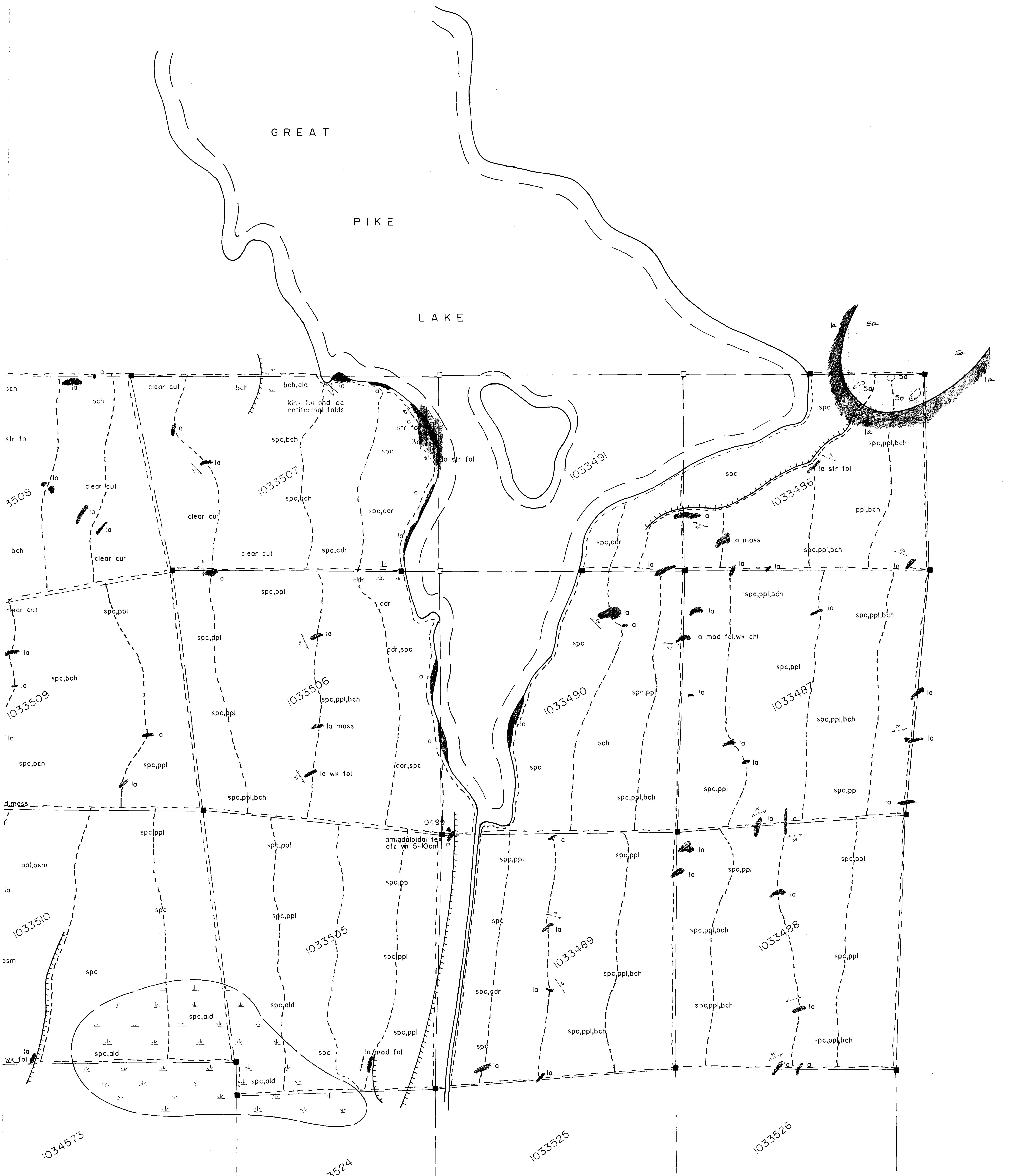
SYMBOLS

foliation with dip
cleavage with dip
lineation with plunge
drag fold
bedding with dip
pillow tops direction
shearing
outcrop, float
scarp
trench
shaft
stream
gravel road
trail
claim post,assumed
sample location,number ▲0481
diamond drill hole
geological contact
swamp
traverse lines



REVISIONS	
	ROBERT S. MIDDLETON EXPLORATION SERVICES INC.
	for GOLDEN DRAGON RESOURCES
	Title GEOLOGY MAP FIVE 2.12877
	Date: Nov. 89 / Scale: 1:2500 / N.T.S.: 41-O/16
	Drawn: JAB / Approved: / File: M-326

250



EVIATIONS

Trees
cdr cedar
spc spruce
ppl poplar
bsm balsum
pne pine
bch birch
ald alder

SYMBOLS

foliation with dip
cleavage with dip
lineation with plunge
drag fold
bedding with dip
pillow tops direction
shearing
outcrop, float
scarp
trench
shaft
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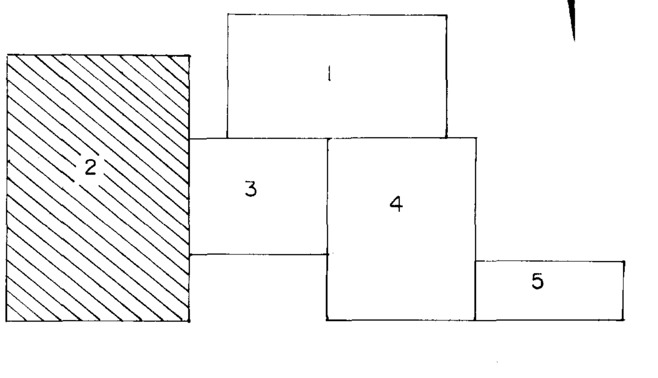
gravel road
trail
claim post,assumed
sample location,number ▲0481
diamond drill hole
geological contact
swamp
traverse lines

2.12877

REVISIONS	ROBERT S. MIDDLETON EXPLORATION SERVICES INC.		
	for GOLDEN DRAGON RESOURCES		
	Title GEOLOGY MAP ONE NORTH SHEET		
	Date: October/89	Scale: 1:2500	N.T.S.: 41-0/16
	Drawn: JAB	Approved:	File: M-326



REVISIONS	ROBERT S. MIDDLETON EXPLORATION SERVICES INC.	
	for GOLDEN DRAGON RESOURCES	
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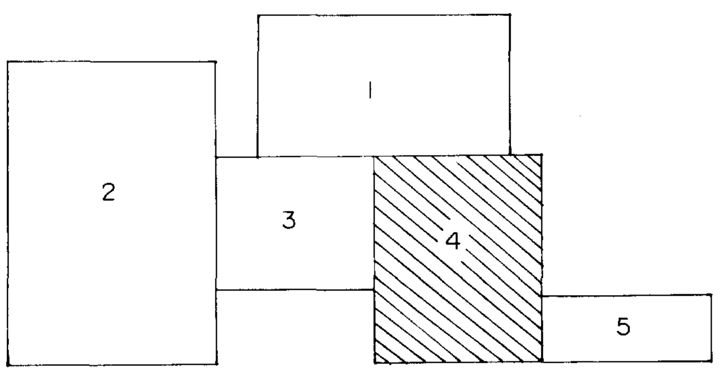
Date: October/89	Scale: 1:2500	N.T.S.: 41-0/16
Drawn: JAB	Approved:	File: M-326



John A. Barton

REVISIONS	ROBERT S. MIDDLETON EXPLORATION SERVICES INC.		
	for GOLDEN DRAGON RESOURCES		
	Title GEOLOGY MAP FOUR EAST SHEET		
	2.12877		
	Date: Nov. 89	Scale: 1:2500	N.T.S.: 41-O/16
	Drawn: JAB	Approved:	File: M-326.