

ALGOMA ORE DIVISION
THE ALGOMA STEEL CORPORATION, LIMITED

EXPLORATION DEPARTMENT



52J07NE0047 52J07NE0048 GREBE LAKE

010

PERSHLAND GOLD MINES LTD.

(GREBE LAKE CLAIMS)

KASHAWEOCAMA LAKE

THUNDER BAY DISTRICT

GEOLOGY REPORT

December, 1967

P. Leahy,
Geologist.

63A.529

ALGOMA ORE DIVISION
THE ALGOMA STEEL CORPORATION, LIMITED

EXPLORATION DEPARTMENT
PERSHLAND GOLD MINES LTD.
(GREBE LAKE CLAIMS)

KASHAWEOGAMA LAKE

THUNDER BAY DISTRICT

GEOLOGY REPORT

Introduction

The writer is a geologist with the Exploration Department of the Algoma Ore Division of The Algoma Steel Corporation, Ltd.

This report with the accompanying set of 7 contiguous plans interprets the geology of the iron formation between Kashaweogama Lake on the north and Shallow Lake to the south on the Pershland Gold Mines Ltd. group of 21 claims referred to by previous workers as the Grebe Lake claims.

This interpretation is based on the results of geological mapping done by the writer in July and August and a detailed magnetic survey done by this company early in the spring of 1967. Some drilling results and previous geophysical and geological material were obtained from Pershland Gold Mines Ltd.

Location and Access

The Grebe Lake claims are situated in north western Ontario, 13 miles due north of Savant Lake Station on the Canadian National Railway between Kashaweogama and Shallow Lake.

The property can be reached by plane from Sioux Lookout or any of the sea-plain bases in the area. It is also easily accessible by boat from the highway between Savant Lake and Pickle Crow. Wiggle Creek crosses the highway 16 miles north of Savant Lake Station. This creek has an almost clear channel over the mile and one half between the highway and the east end of Kashaweogama Lake.

A tractor road on the west side of the highway 13 miles north of Savant Lake Station leads right onto the property.

Topography

The topography is typical for the area of north western Ontario between the Canadian National Railway and the Albany River. Extensive areas of flat, poorly drained spruce swamp are occasionally broken by low ridges. On the ridges poplar, pine and some birch are mixed with or completely replace the spruce. These ridges in their shape direction and soil content indicate

Cont'd.....

Topography Cont'd.....

their formation was by glacial excavation and deposition with a somewhat lesser expression of bedrock geology.

Outcrops are generally scarce over the area occurring in small local clusters along the slopes of ridges and to a lesser extent exposed through the thin mantle of boulder clay on the ridge tops. There are almost no bedrock exposures in the low swamp areas.

A large esker crosses the property from north-east to south-west. It forms the only outstanding relief feature in the area. Where exposed it is composed of well sorted fine sand.

Regional Geology

The regional geology is described in Ontario Department of Mines Annual Report Vol. XXXVII, Part 4, 1928 by E. S. Moore. A short summary is given here taken from Map No. 37, accompanying this report.

A band of sediments 5 miles wide runs north of east along the south shore of Kashawegama Lake. Three large masses of iron formation are indicated in the area between Kashawegama Lake and Shallow Lake where the Pershland claims are located. The north boundary of the sedimentary assemblage is marked by a thick conglomerate horizon beyond which to the north is a thin basic volcanic horizon then an extensive area of granite. The sedimentary zone is bound on the south by another large granite area.

Detailed Geology

Within the area of the claims belonging to Pershland Gold Mines Ltd., the iron formation and associated sediments are highly deformed. Horizons followed along their strike show rapid changes in thickness and strike and numerous horizontal offsets. It would require almost complete bedrock exposure or very detailed drilling to describe the complex structural pattern in detail.

Rock Types

In this interpretation only four rock types have been distinguished between; basic volcanics, acid fragmental, sediments and iron formation. It would not be possible to distinguish between types within the sedimentary zone with any consistency.

The basic volcanic rocks where found are conformable with the sediments indicating them to be part of a stratigraphic sequence. However, they are medium grained massive rocks and could be intrusive. Their composition is that of diorite or gabbro but at some localities they are present as medium to coarse grained amphibole schist.

The acid fragmental is found as a single horizon easily traceable along strike. It is easily identified on weathered surfaces as the fragments resist weathering processes and stand out. However, on fresh surfaces the fragments are almost indistinguishable from the ground mass. It would be very

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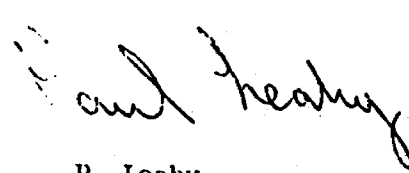
Rock Types Cont'd.....

difficult to distinguish this horizon from the sediments in diamond drill core.

The sediments form a complex sequence of fine grained thinly banded argillaceous and tuffaceous types alternating with broad bands of coarse greywacke and quartzite. Areas where horizons of clastic sediments alternate with horizons of banded magnetite and chert have been included in the sediments whenever the clastic sediments formed more than 50% of the rock exposure.

The iron formation outlined on the geology plans consists of banded magnetite and chert with lesser bands of clastic sediments. The hematite content is very low, although it produces a distinct red colour in the chert in some places. This material should contain more than 15% magnetic iron.

The amount of internal waste in the iron formation zones in the form of clastic sediment bands decreases the areas potential as a source of iron ore.



P. Leahy,
Geologist.

December 26, 1967

ALGOMA ORE DIVISION
THE ALGOMA STEEL CORPORATION, LIMITED

EXPLORATION DEPARTMENT

To Accompany Geological Report

Break-down of Work

(A) Geology

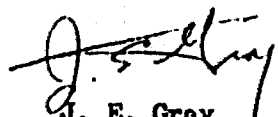
<u>Personnel</u>	<u>Dates</u>	<u>Man Days</u>	<u>Credit Days</u>
P. Leahy, 129 Tancard Street, Sault Ste. Marie, Ont.	July 3 - Aug. 11/67	40	280
T. Grozelle, 345 Nixon Rd., Sault Ste. Marie, Ont.	July 3 - Aug. 11/67	40	280
		80	560

(B) Draughting

P. Leahy, 129 Tancard Street, Sault Ste. Marie, Ont.	Nov. 27, 28, 29, 30/67 Dec. 1, 4/67	6	42
A. Michael, 328 Douglas Street, Sault Ste. Marie, Ont.	Nov. 27, 28, 29/67 Dec. 4, 5/67	5	35
		11	77
	Total	91	637

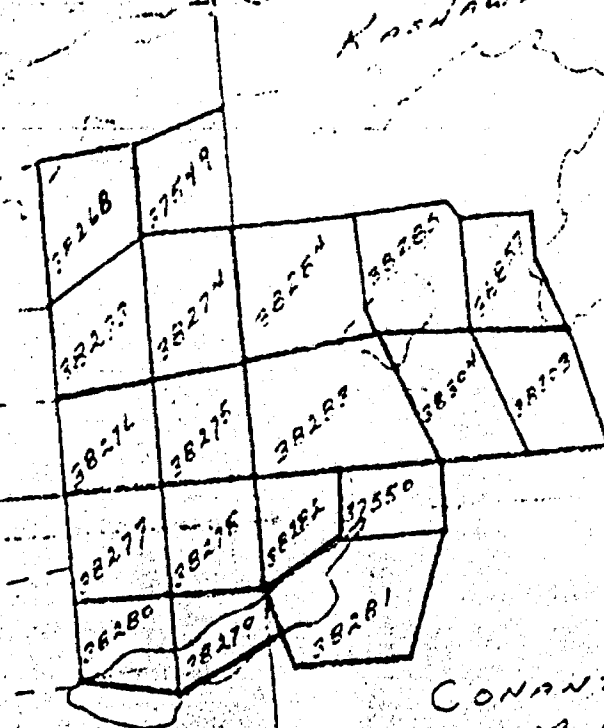
I certify the above information is
true and correct.

December 5, 1967

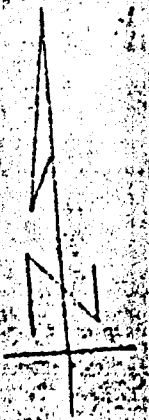

J. E. Gray,
Geological Technician.

GREAT LAKE - MCCLAREN TWP.
M. 1504

KASAWPOGAMA LAKE



CONANT TWP.
M. 1682





900

File: 63A.529

THE MINING ACT

Assessment Work Credits

Name: ALGOMA ORE DIVISION ALGOMA ORE DIVISION

Township or Area: Grebe Lake and McCubbin Township GREBE LAKE AND McCUBBIN

Number of Assessment work days per claim:

Geophysical _____

Geological 40 40

Geochemical _____

Mining Claims:

PA 38269 to 38273 inclusive PA 38269 to 38273 INCLUSIVE

38275 38275

38278 to 38280 inclusive 38278 TO 38280 INCLUSIVE

38283, 38303, 38304 38283, 38303, 38304

NOTE: ASSESSMENT CREDITS HAVE NOT BEEN ALLOWED FOR THE FOLLOWING MINING

NOTE: Assessment credits have not been allowed for the following mining claims as they were not sufficiently covered by the survey! CLAIMS AS THEY WERE NOT SUFFICIENTLY COVERED BY THE SURVEY

PA 38267, 38268, 38274, 38276, 38277, 38281, 38282, 38284, 38285

PA 38647, 38268, 38274, 38277, 38281, 38282, 38284, 38265



DEPARTMENT OF MINES

OFFICE OF MINING RECORDER

May 15, 1960.

Mr. K.R. Clemiss,
Mining Recorder,
Court House,
Sioux Lookout,
Ontario.

Re: PA 38269 et al
Grebe Lake and
McCubbin Twp.

Dear Sir:

The geological assessment work credits as listed with my Notice of Intent dated April 16, 1960 have been approved as of the above date. Please inform the recorded holder and so indicate on your records.

Yours very truly,

A handwritten signature in cursive script, appearing to read 'Fred W. Matthews'.

Fred W. Matthews,
Mining Recorder.

/AR

cc: The Algoma Steel Corporation Ltd.,
Algoma Ore Division,
Exploration Dept.,
Sault Ste. Marie, Ontario.

cc: Mr. H. Leo King,
Resident Geologist,
203 Main Street,
Kenora, Ontario.

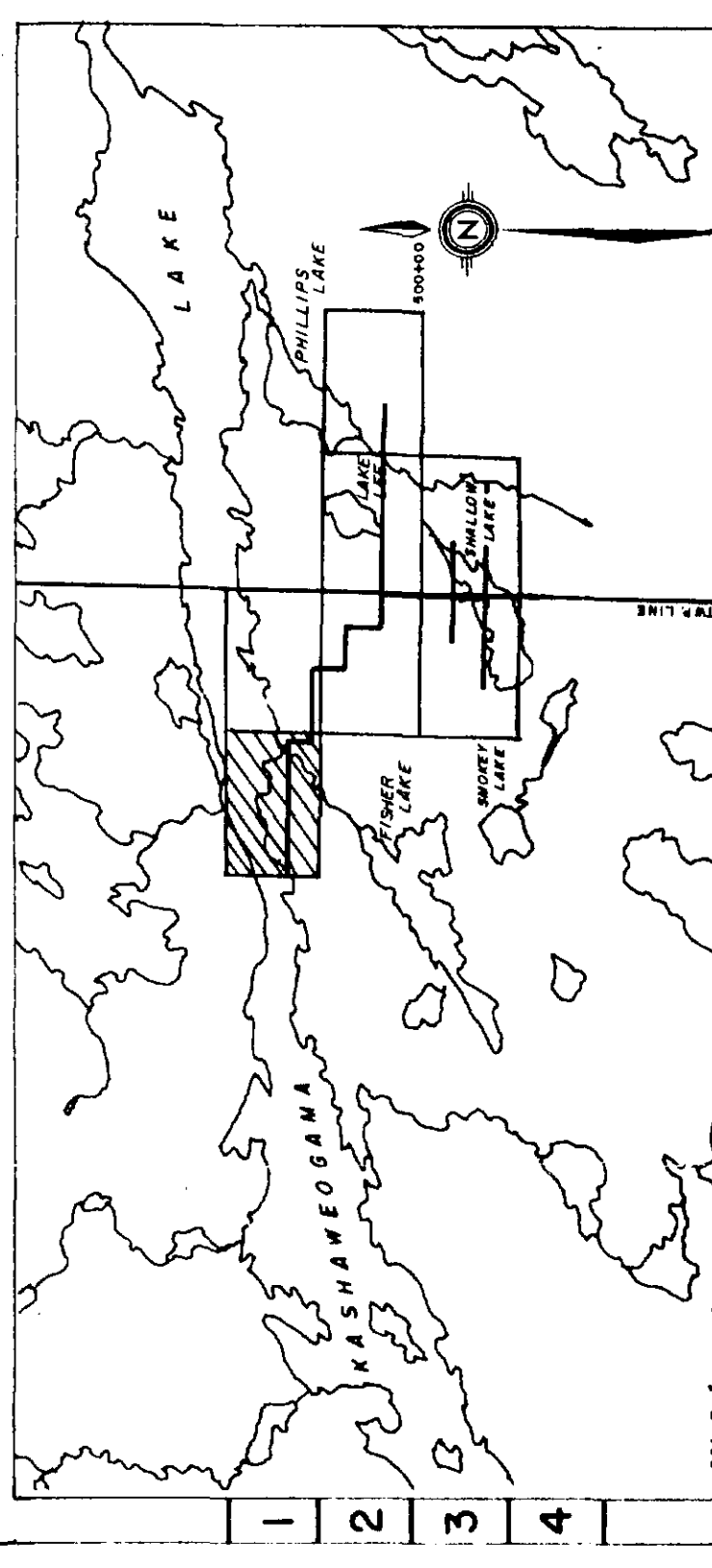
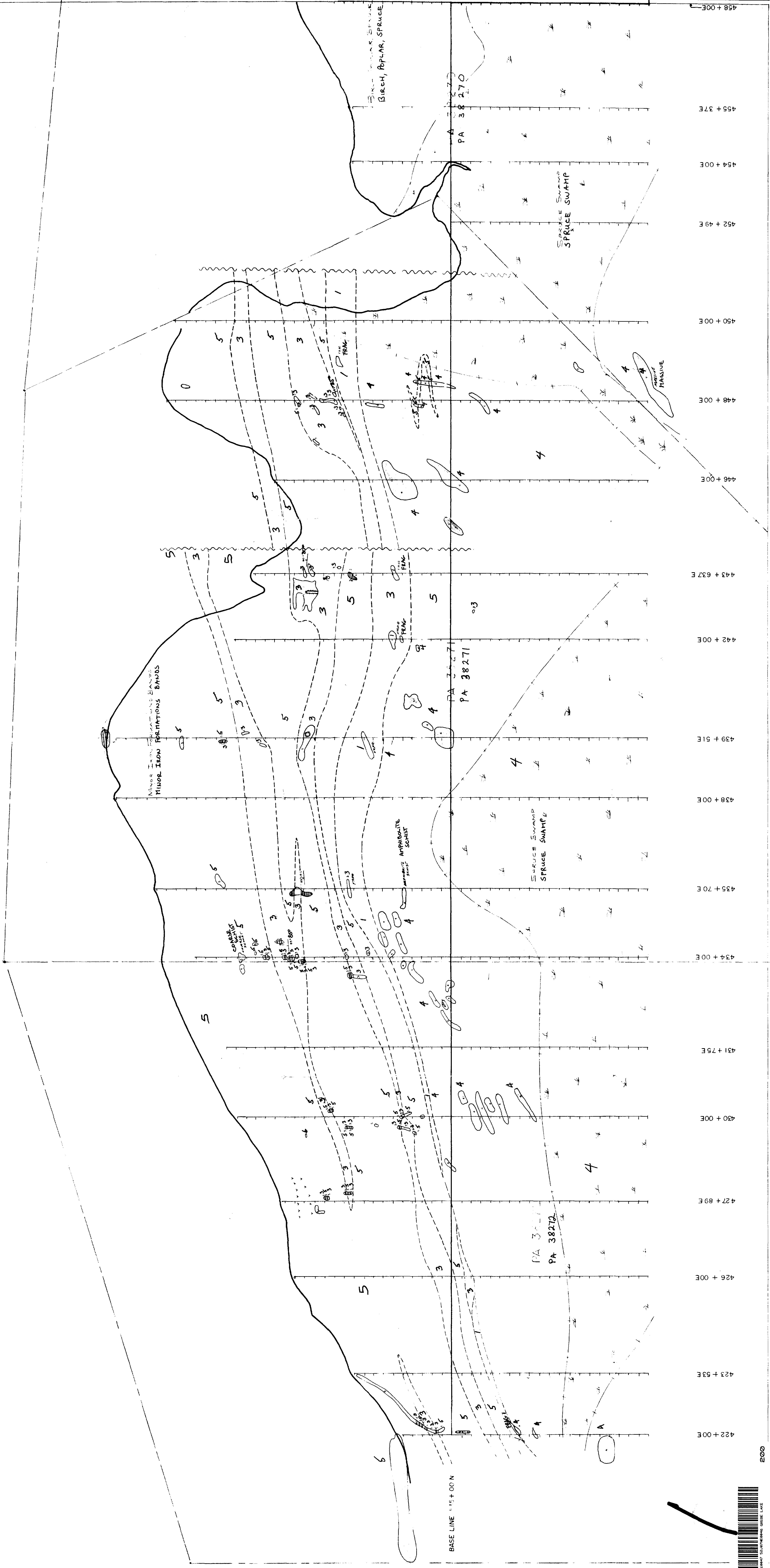
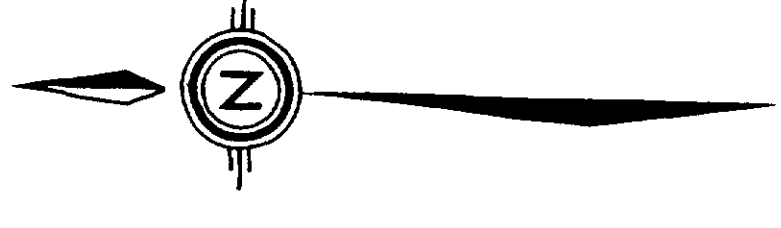
FOR ADDITIONAL
INFORMATION

SEE MAPS:

525/07 NE-0046 # 1-7

KASHAWEOGAMA

LAKE



52J/07 NE-0046, #1

THE ALGOMA STEEL CORPORATION, LIMITED
 ALGOMA ORE DIVISION
 EXPLORATION DEPARTMENT
 KASHAWEOGAMA LAKE IRON FORMATION
 PERSHLAND GOLD MINES LTD.
 GEOLOGY

GEOLOGICAL LEGEND

YELLOW	1 ACID TO INTERMEDIATE VOLCANICS
L. BLUE	2 SEDIMENTS
ORANGE	3 IRON FORMATION
GREEN	4 BASIC TO INTERMEDIATE VOLCANICS
BROWN	5 METASEDIMENTS
PINK	6 BASIC TO INTERMEDIATE
RED	7 ACID INTRUSIVES
BROWN	8 DIABASE

MAGNETOMETER SURVEY

READINGS IN GAMMAS

0 000 TO 10 000	YELLOW
10 000 TO 20 000	ORANGE
20 000 TO 40 000	GREEN
40 000 TO 60 000	BROWN
60 000 TO 80 000	PINK
80 000 OR OVER	RED

M*PHAR M-700 FLUXGATE IMA



PA 3317
PA 38268

PA 38269

458+00E
459+57E
462+00E
463+67E
466+00E
468+00E
469+00E
470+00E
471+76E
474+00E
475+85E
478+00E

BIRCH, POPLAR, SPRUCE

SPRUCE SWAMP

PA 38273

PA 38274

BL 550+00N

SPRUCE AND CEDAR SWAMP

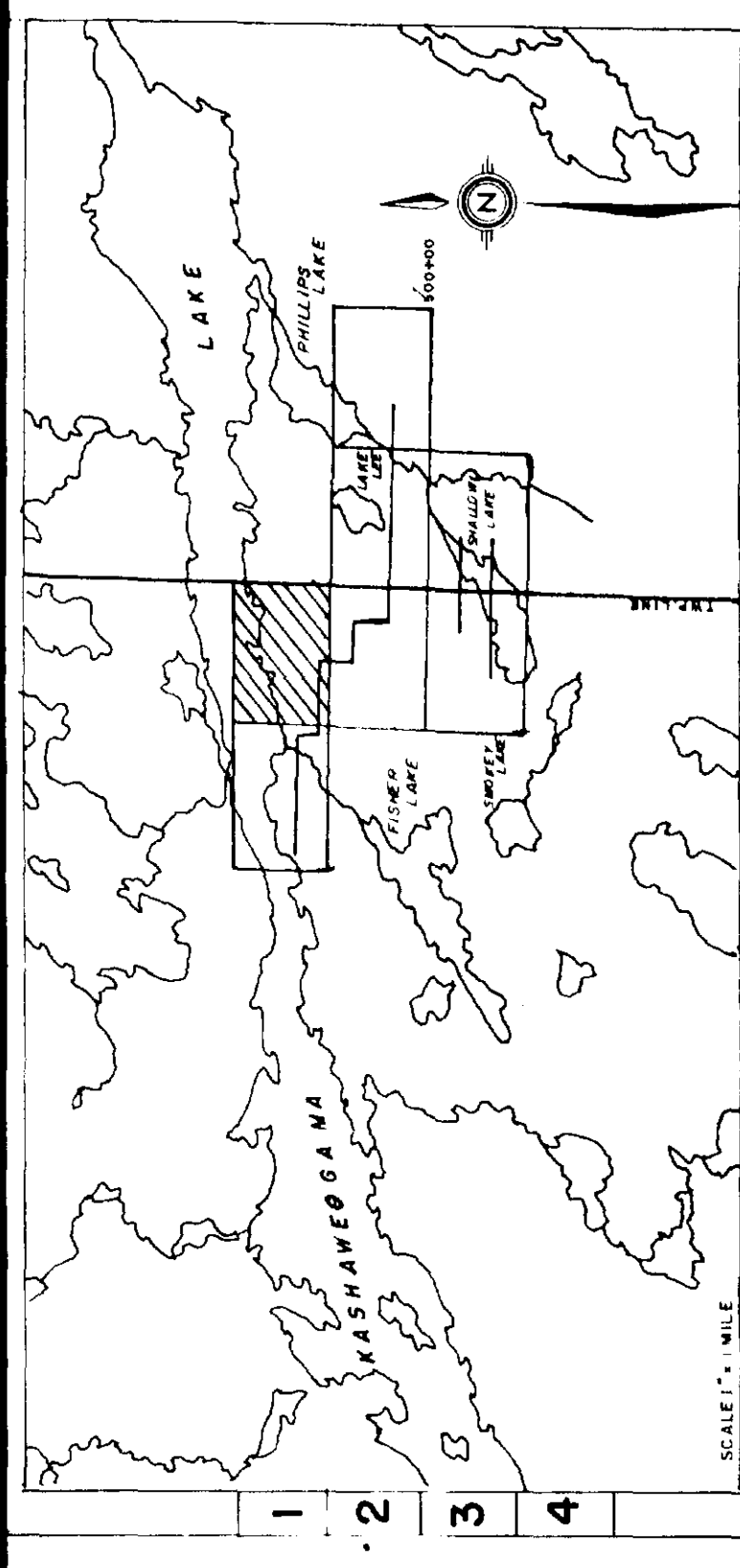


GEOLOGICAL LEGEND		MAGNETOMETER SURVEY	
YELLOW	1 ACID TO INTERMEDIATE VOLCANICS	READINGS IN GAMMAS	
L. BLUE	2 SEDIMENTS	0 000 TO 10 000	
PURPLE	3 IRON FORMATION	10 000 TO 20 000	
PURPLE	4 BASIC TO INTERMEDIATE VOLCANICS	20 000 TO 40 000	YELLOW
PURPLE	5 METASEDIMENTS	40 000 TO 60 000	ORANGE
PURPLE	6 BASIC TO INTERMEDIATE	60 000 TO 80 000	RED
RED	7 ACID INTRUSIVES	80 000 OR OVER	PURPLE
BROWN	8 DIABASE	* PHAN M-100 PLUS/GATE MMS.	

52J/07NE-0046, #2

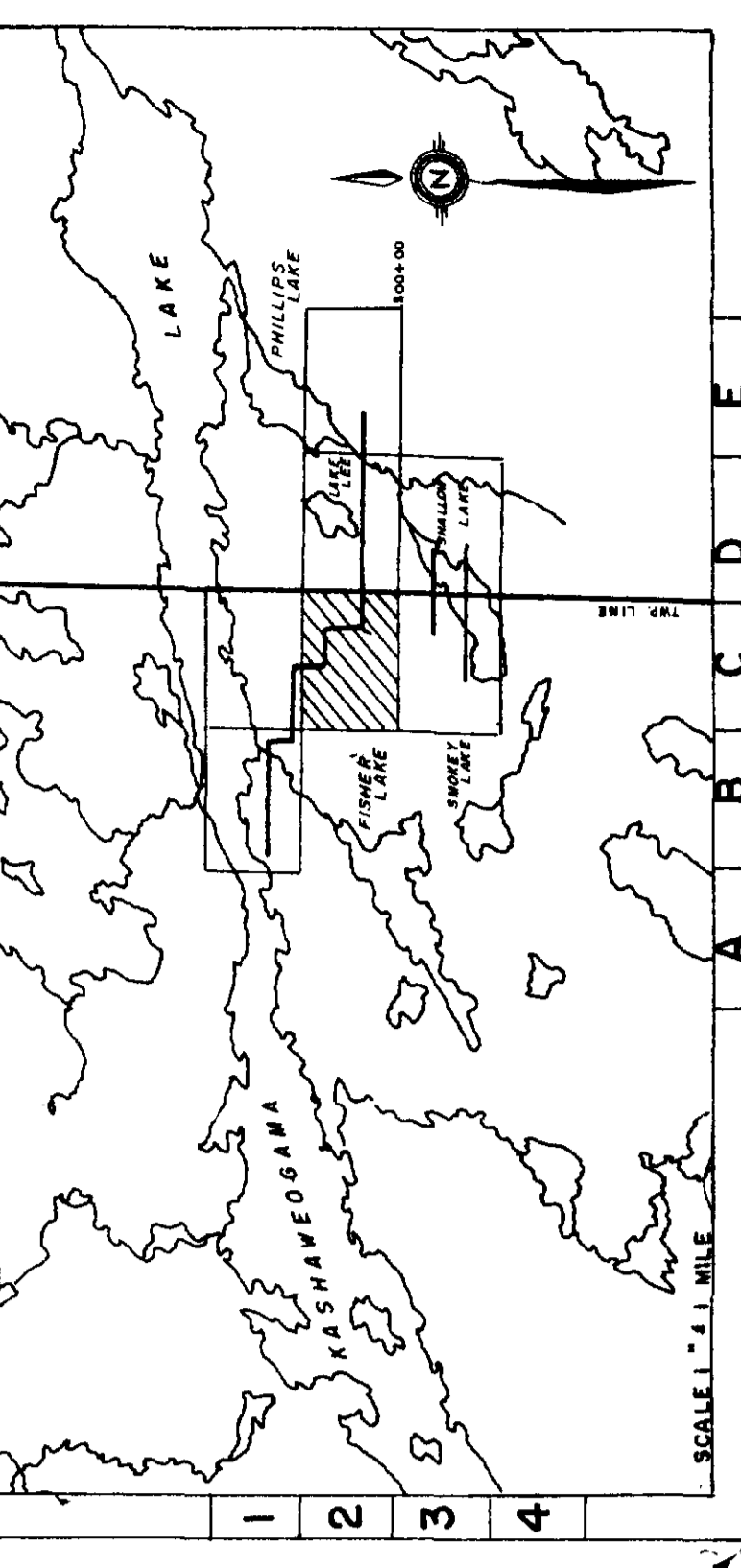
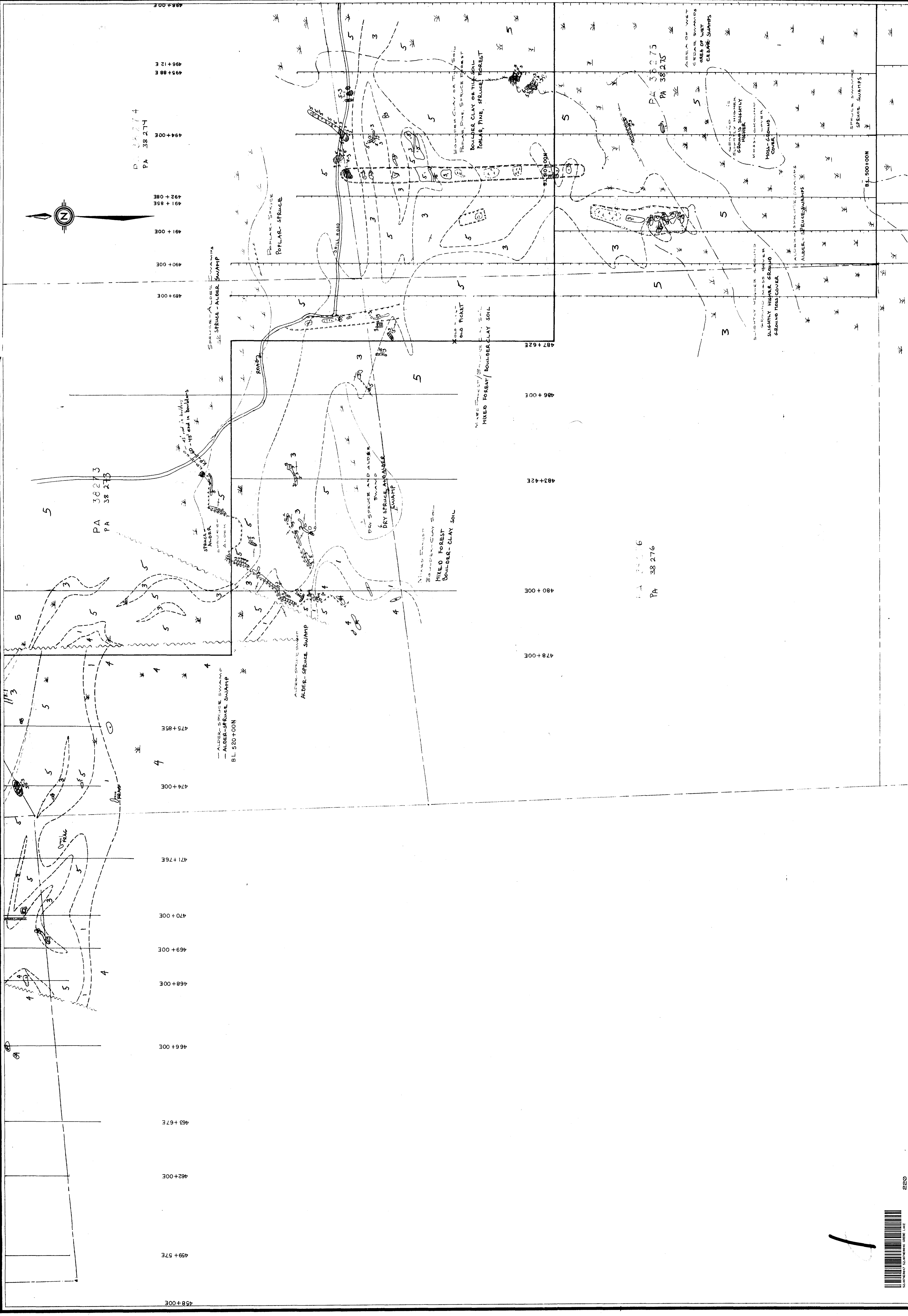
THE ALGOMA STEEL CORPORATION, LIMITED
ALGOMA ORE DIVISION
EXPLORATION DEPARTMENT

KASHAWEOGAMA LAKE IRON FORMATION
PERSHLAND GOLD MINES LTD.
GEOLOGY



SHEET 1-C

NOV. 1987



PA 38274
 494+00E
 495+88E
 496+12E
 498+00E

490+00E
 489+00E
 487+62E
 486+00E
 483+42E
 480+00E
 478+00E

475+85E
 474+00E
 471+76E
 470+00E
 469+00E
 468+00E
 466+00E
 463+67E
 462+00E
 459+57E
 458+00E

PA 38273
 PA 38275

PA 38276

BL 520+00N
 BL 500+00N

SPRUCE-ALDER SWAMP
 ALDER-SPRUCE SWAMP
 POPULAR-SPRUCE
 MIXED FOREST BOULDER-CLAY SOIL
 DRY SPRUCE AND ALDER SWAMP
 DRY SPRUCE AND ALDER SWAMP
 MIXED FOREST BOULDER-CLAY SOIL
 ALDER-SPRUCE SWAMP
 SPRUCE-ALDER SWAMP
 BOULDER CLAY OR TILLY SOIL
 BOUNDARY CLAY OR TILLY SOIL
 BOULDER CLAY OR TILLY SOIL
 POPULAR, PINE, SPRUCE FOREST
 SLIGHTLY HIGHER GRADED
 6-ROUND TREE COVER
 ALDER-SPRUCE SWAMP
 SPRUCE SWAMP
 SPRUCE SWAMP
 AREA OF WET
 CLEAR SWAMP
 CLEAR SWAMP

52J/07NE-0046, #3
 THE ALGOMA STEEL CORPORATION, LIMITED
 ALGOMA ORE DIVISION
 EXPLORATION DEPARTMENT
 KASHAWEOGAMA LAKE IRON FORMATION
 PERSHLAND GOLD MINES LTD.
 GEOLOGY

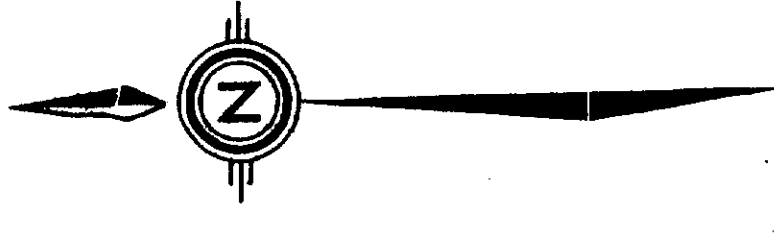
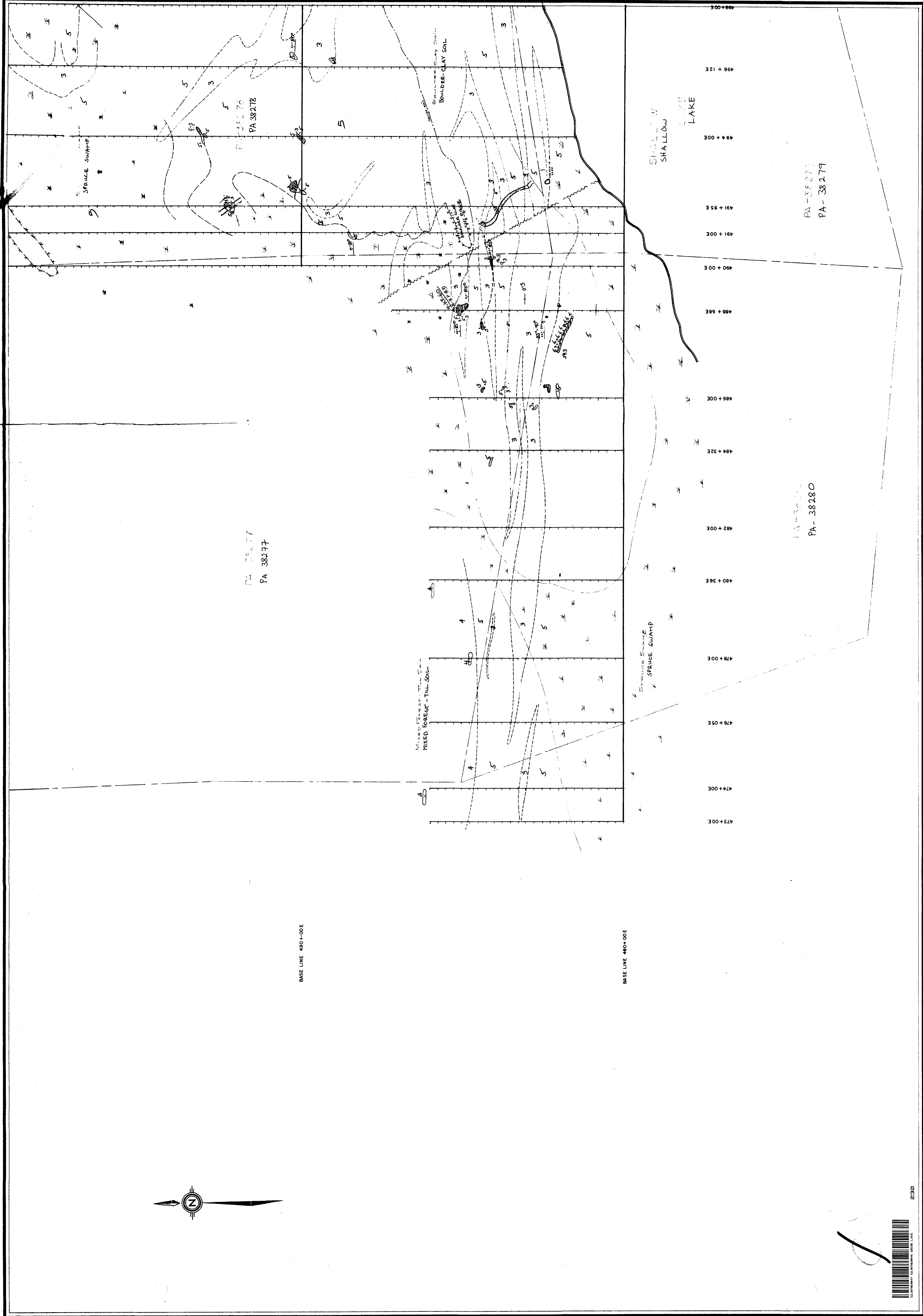
SCALE 1" = 1,000 FT. DEC 1967

E220

GEOLOGICAL LEGEND	
YELLOW	1 ACID TO INTERMEDIATE VOLCANICS
BLUE	2 SEDIMENTS
GREEN	3 IRON FORMATION
ORANGE	4 BASIC TO INTERMEDIATE VOLCANICS
PURPLE	5 METASEDIMENTS
RED	6 BASIC TO INTERMEDIATE
BROWN	7 ACID INTRUSIVES
	8 DIABASE

MAGNETOMETER SURVEY	
0 000 TO 10 000	SWAMP
10 000 TO 20 000	SWAMP
20 000 TO 40 000	SWAMP
40 000 TO 60 000	SWAMP
60 000 TO 80 000	SWAMP
80 000 OR OVER	SWAMP

W* PHR M-700 PLUM-GATE MAG.

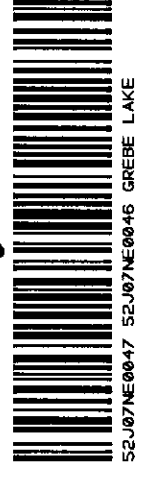


BASE LINE 490+00E

BASE LINE 480+00E

PA 38277
PA 38278

PA 38279
PA 38280



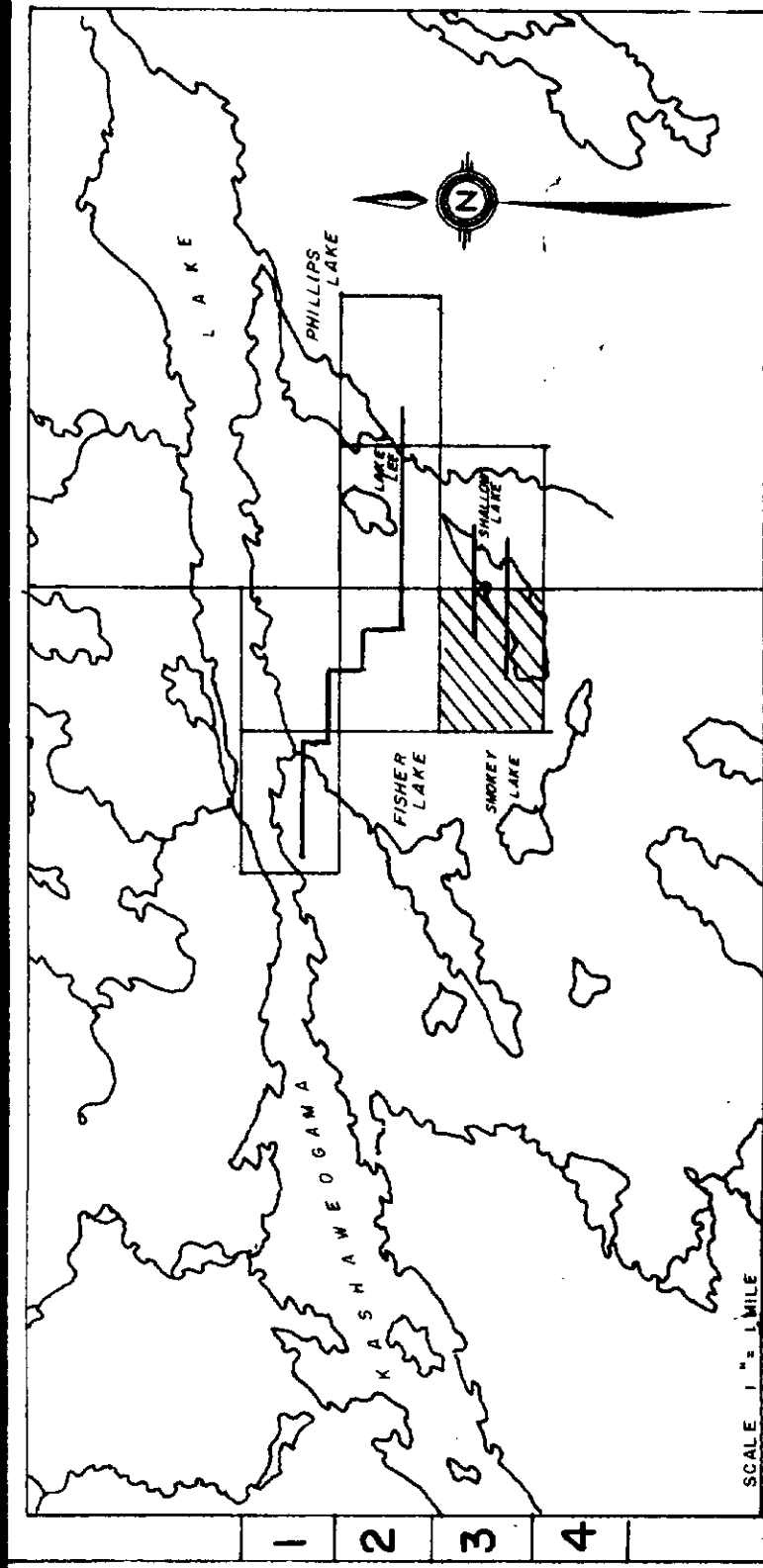
- GEOLOGICAL LEGEND**
- YELLOW 1 ACID TO INTERMEDIATE VOLCANICS
 - BLUE 2 BEDMENTS
 - 3 IRON FORMATION
 - 4 BASIC TO INTERMEDIATE VOLCANICS
 - 5 METASEDIMENTS
 - PURPLE 6 BASIC TO INTERMEDIATE
 - RED 7 ACID INTRUSIVES
 - BROWN 8 DIABASE
- MAGNETOMETER SURVEY**
- READINGS IN GAMMAS
- 0 000 TO 10 000
 - 10 000 TO 20 000
 - 20 000 TO 40 000
 - 40 000 TO 60 000
 - 60 000 TO 80 000
 - 80 000 OR OVER
- MPHAR M-700 FLUORIMETER MAG

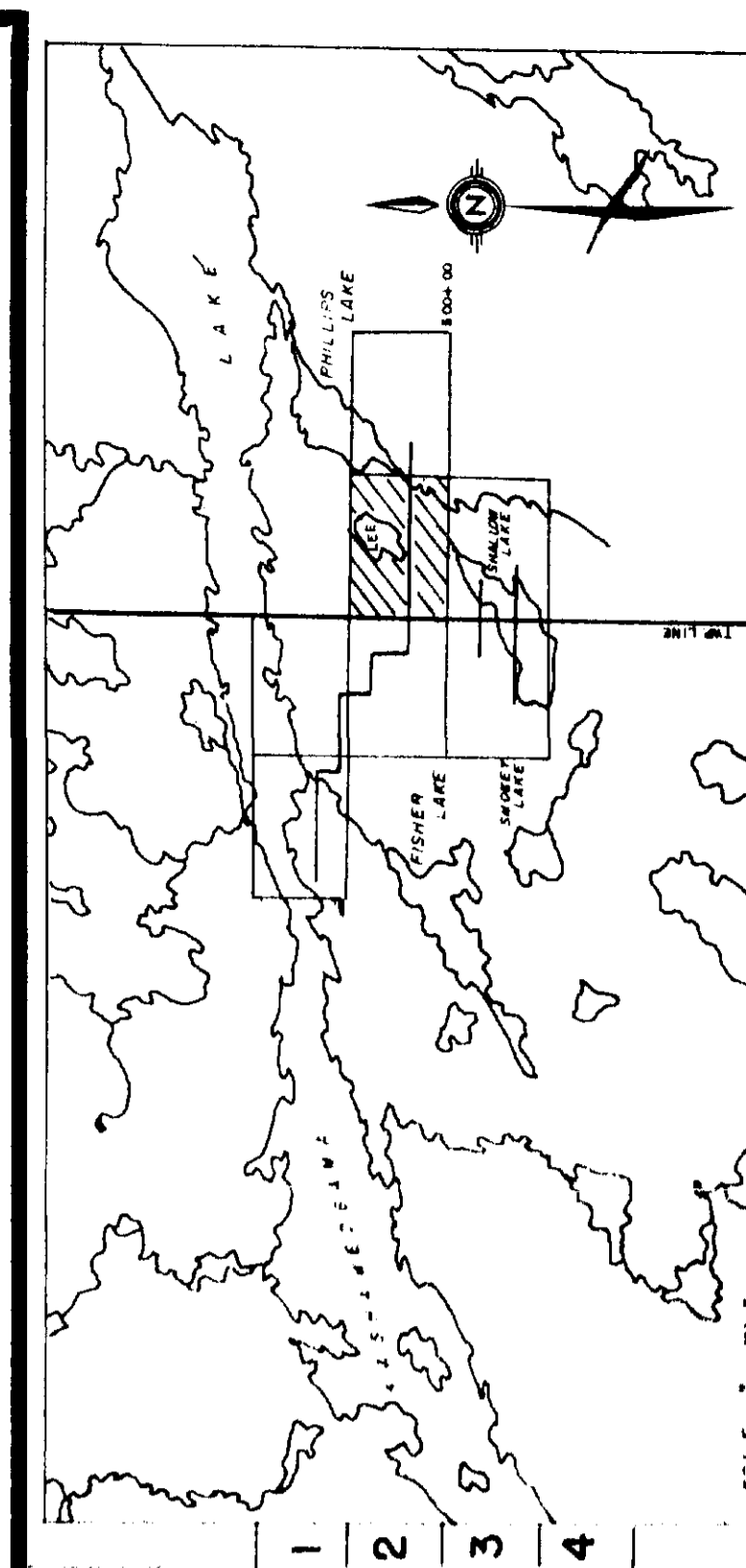
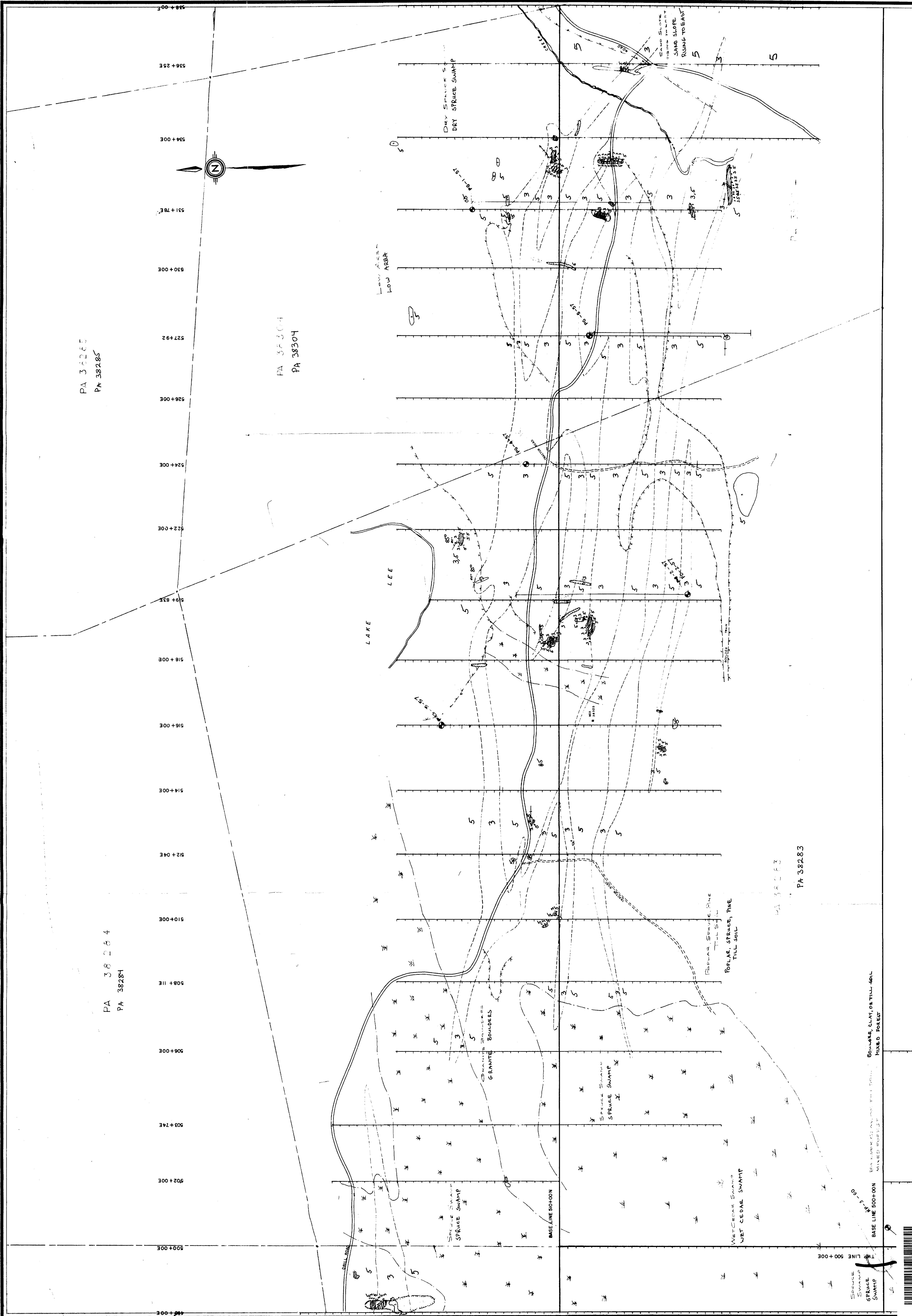
52J107NE-0046 #4

THE ALGOMA STEEL CORPORATION, LIMITED
ALGOMA ORE DIVISION
EXPLORATION DEPARTMENT
KASHAEOGAMA LAKE IRON FORMATION
PERSHOLD GOLD MINES LTD.
GEOLOGY

SCALE 1" = 100 FT. DEC. 1967

Sheridan & Associates SHEET 3-C





PA 38283
PA 38285

PA 38284
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52J/07 NE-0046 #5
THE ALGOMA STEEL CORPORATION, LIMITED
ALGOMA ORE DIVISION
EXPLORATION DEPARTMENT
KASHAEOGAMA LAKE IRON FORMATION
PERSHLAND GOLD MINES LTD.
GEOLOGY

MAGNETOMETER SURVEY
READINGS IN GAMMAS
0 000 TO 10 000
10 000 TO 20 000
20 000 TO 40 000
40 000 TO 60 000
60 000 TO 80 000
80 000 OR OVER
M FPHAR M-700 FLUXGATE MAG.

GEOLOGICAL LEGEND
YELLOW 1 ACID TO INTERMEDIATE VOLCANICS
L BLUE 2 SEDIMENTS
3 IRON FORMATION
4 BASIC TO INTERMEDIATE VOLCANICS
5 METASEDIMENTS
6 BASIC TO INTERMEDIATE
RED 7 ACID INTRUSIVES
BROWN 8 DIABASE

SWAMP
SPRUCE SWAMP
WET CEDAR SWAMP

BOULDER ALAY ON TILL SOIL
PINED FOREST

POPULAR, SPRUCE, PINE
TILL SOIL

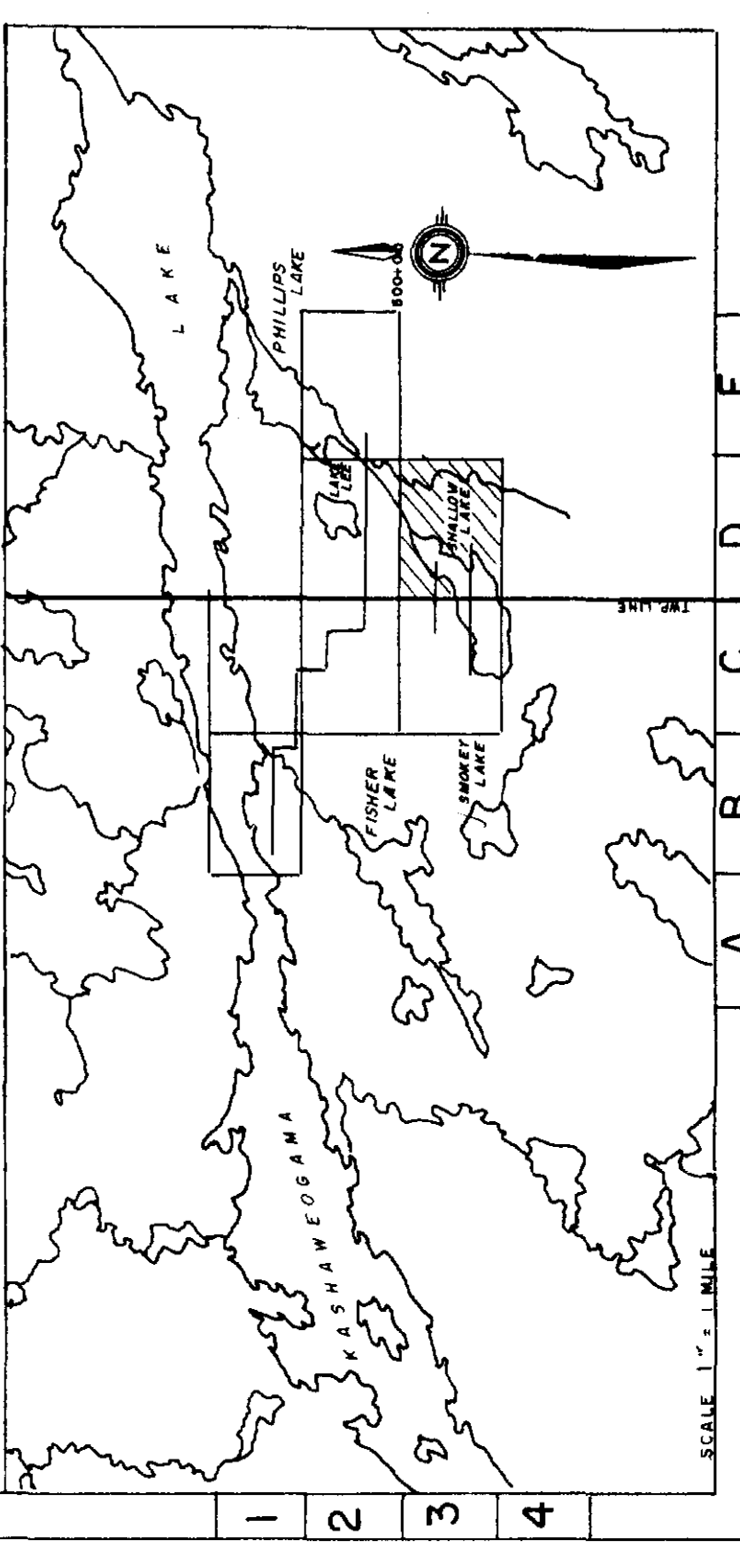
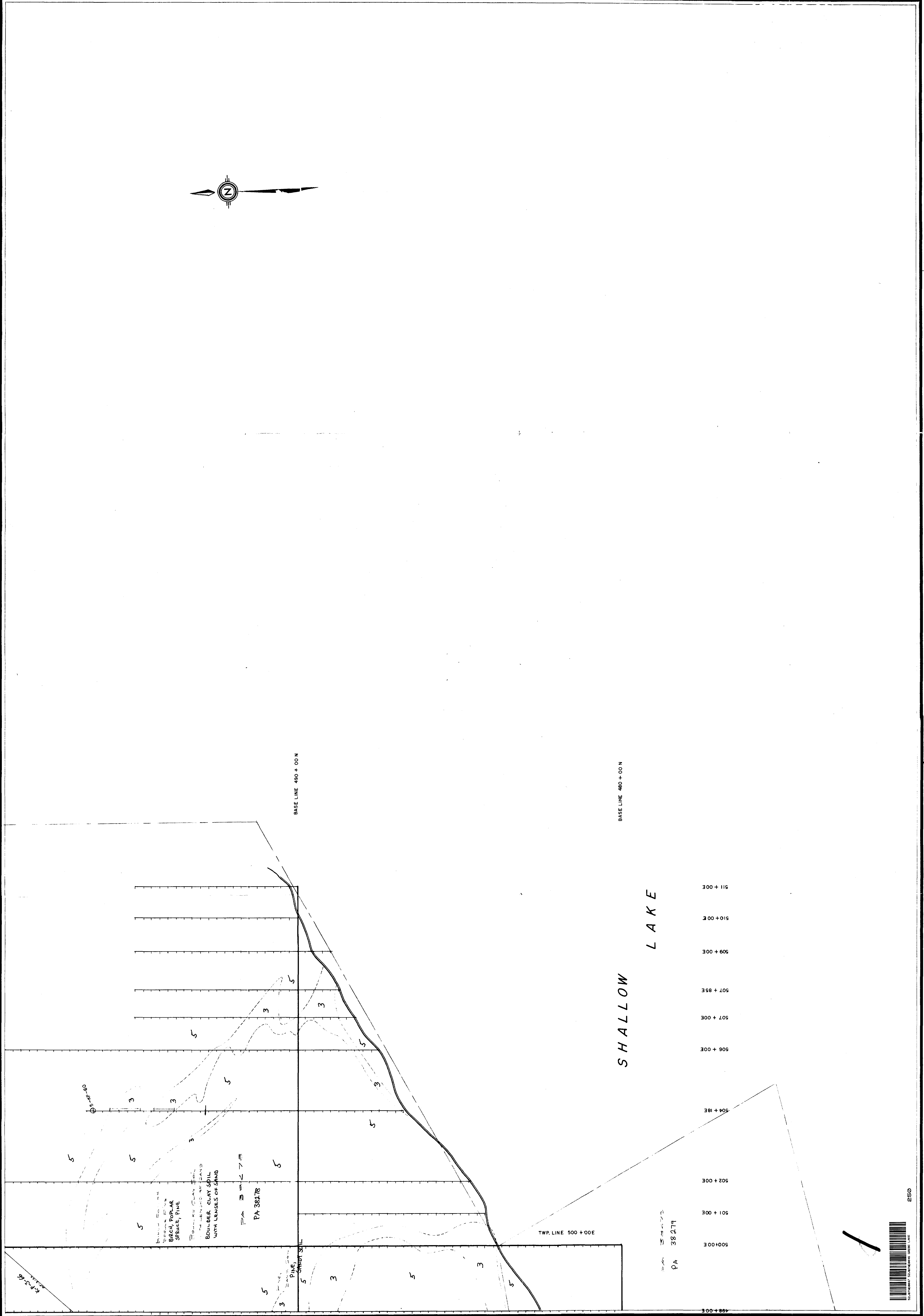
SPRUCE SWAMP
SPRUCE SWAMP
GEMMITE BOULDERS

LAKE LEE

DRY SPRUCE SWAMP
LOW AREA
LOW AREA

PA 38283
PA 38285

SCALE 1" = 100 FT.
DEC. 1967
DRAWN BY A. MICHAEL 2-D L-51



52J/07 NE-0046, #6

THE ALGOMA STEEL CORPORATION LIMITED
 ALGOMA ORE DIVISION
 EXPLORATION DEPARTMENT

KASHAWEOGAMA LAKE IRON FORMATION
 PERSHLAND GOLD MINES LTD.
 GEOLOGY

SCALE 1" = 100 FT.
 DED. 957

DRAWN BY: MICHAEL 3-9-52

GEOLOGICAL LEGEND

YELLOW	1 ACID TO INTERMEDIATE VOLCANICS
L. BLUE	2 SEDIMENTS
ORANGE	3 IRON FORMATION
GREEN	4 BASIC TO INTERMEDIATE VOLCANICS
PURPLE	5 METASEDIMENTS
PURPLE	6 BASIC TO INTERMEDIATE
R. D.	7 ACIDINTRUSIVES
BROWN	8 DIABASE

MAGNETOMETER SURVEY

READINGS IN GAMMAS

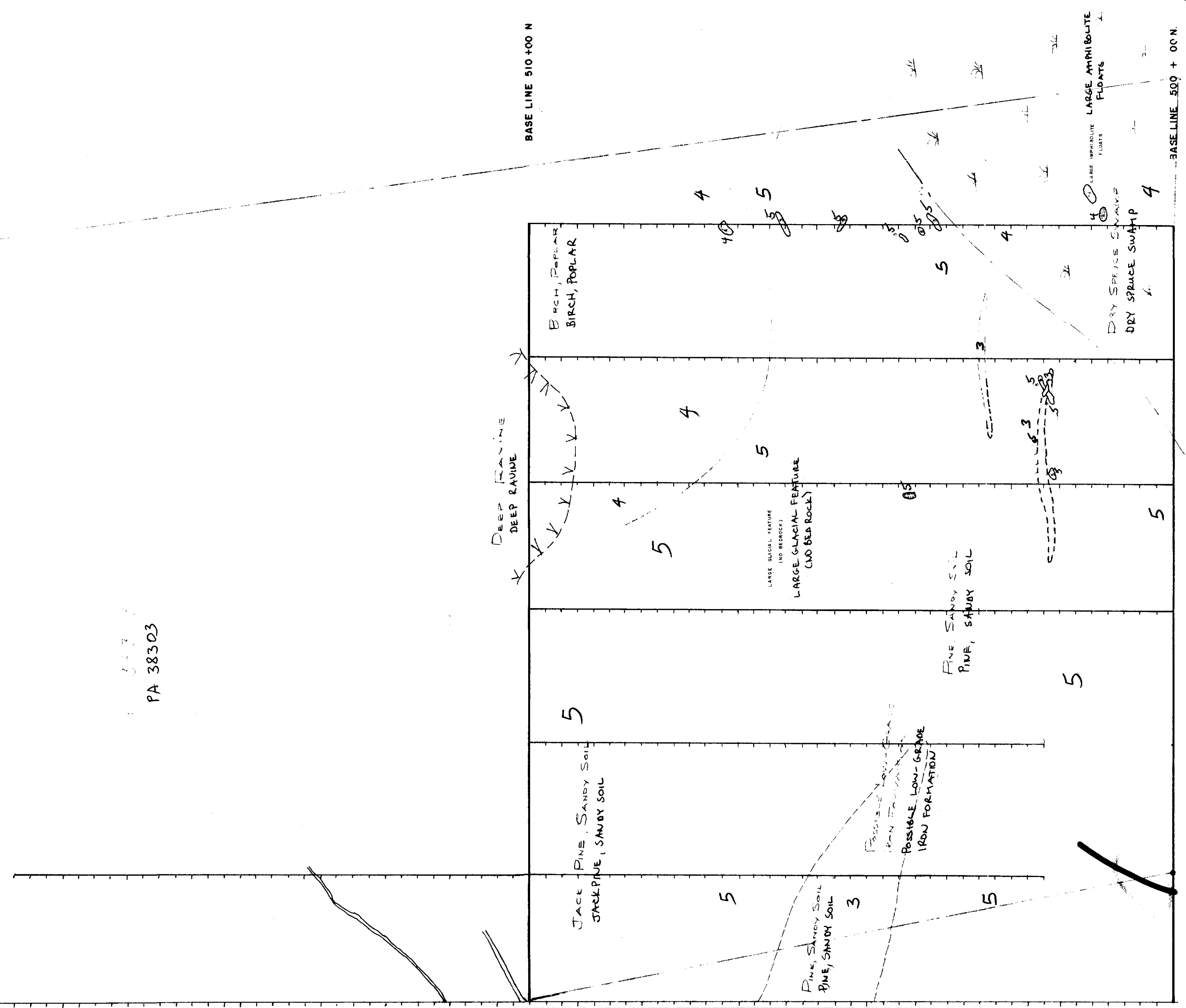
0 000 TO 10 000	YELLOW
10 000 TO 20 000	ORANGE
20 000 TO 40 000	GREEN
40 000 TO 60 000	R. D.
60 000 TO 80 000	PURPLE
80 000 OR OVER	PURPLE

MPHR M-700 FLUX-GATE MAG

2550

PA 38303
PA 3685T

540+00E
542+00E
544+08E
546+00E
547+95E
550+00E



GEOLOGICAL LEGEND		MAGNETOMETER SURVEY	
YELLOW	1 ACID TO INTERMEDIATE VOLCANICS	READINGS IN GAMMAS	
L BLUE	2 SEDIMENTS	0 000 TO 10 000	
ORANGE	3 IRON FORMATION	10 000 TO 20 000	YELLOW
PURPLE	4 BASIC TO INTERMEDIATE VOLCANICS	20 000 TO 40 000	ORANGE
RED	5 METASEDIMENTS	40 000 TO 60 000	RED
PURPLE	6 BASIC TO INTERMEDIATE	60 000 TO 80 000	PURPLE
RED	7 ACID INTRUSIVES	80 000 OR OVER	BROWN
BROWN	8 DIABASE	MPRASE M-700 FLUX GATE 1MG	

52J/07NE-0046, #7
THE ALGOMA STEEL CORPORATION, LIMITED
ALGOMA ORE DIVISION
EXPLORATION DEPARTMENT
KASHAWEOGAMA LAKE IRON FORMATION
PERSHLAND GOLD MINES LTD.
GEOLOGY

