

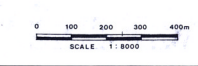


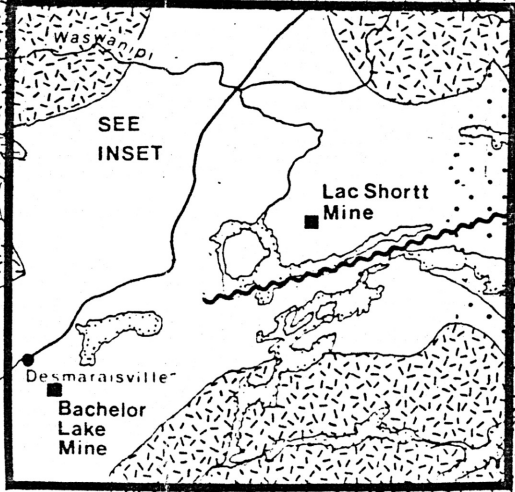
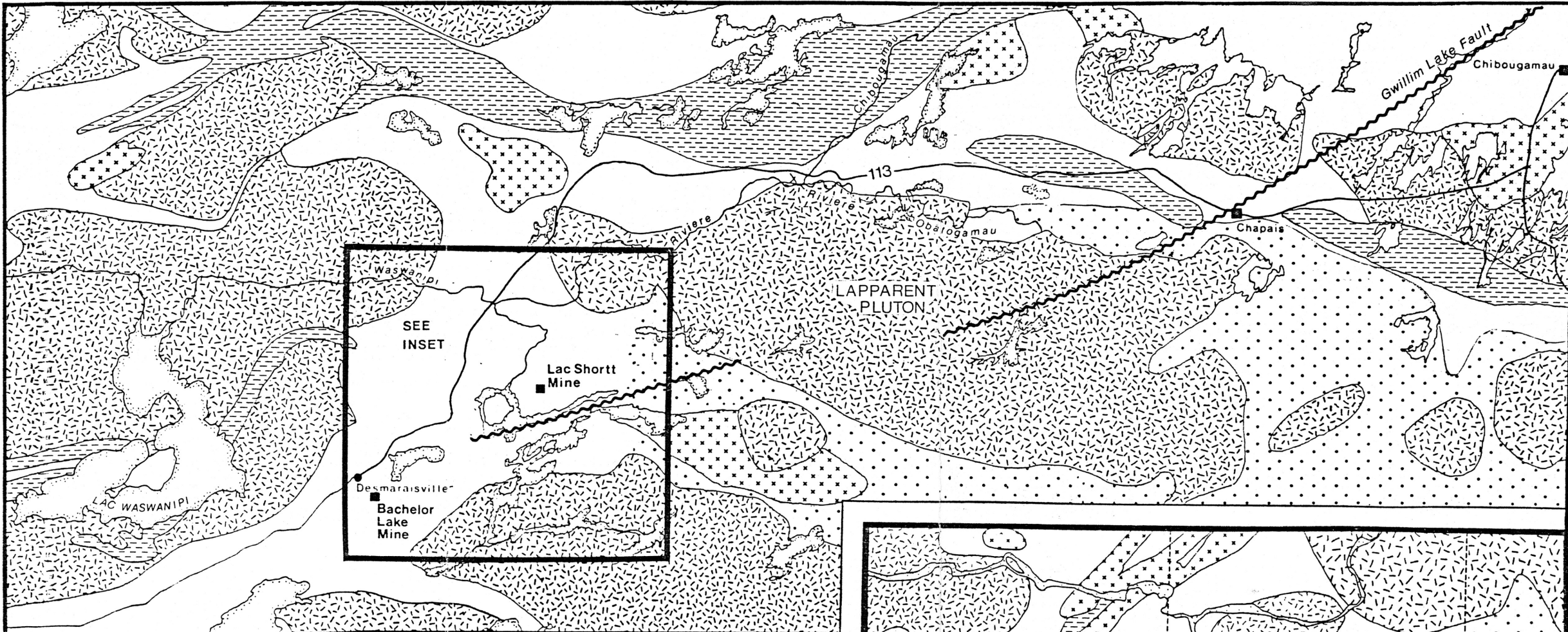
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




- ODM LEGEND
- 1983 reverse circulation drill hole No. PLS-88-01; bedrock elevation of 297 m above sea level
 - 10- Bedrock topography contour; 10 m intervals
 - A-A' Location of Quaternary Section A-A'
 - ▨ Area underlain by Missinabi Formation (Unit 3)
 - ▩ Area underlain by Lower Till (Unit 2)
 - ▧ Chibougamau Till (Unit 4) not intersected
 - ≡≡≡ Axis of Kruger Road Esker
 - ▤▤▤ Subsurface extent of esker (Subunit 5a)
 - ▨▨▨ Subsurface extent of DeGeer moraine (Subunit 5a)
- Notes: MERQ Compilation legend in pocket

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 LAC SHORTT PROJECT
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 BOYVINET, LESUEUR AND GAND TOWNSHIPS
Plan 2
 BEDROCK TOPOGRAPHY
 AND QUATERNARY GEOLOGY

BY OVERBURDEN DRILLING MANAGEMENT LIMITED DECEMBER 1998





-  Felsic intrusives
-  Mafic intrusives
-  Metavolcanics (undifferentiated)
-  Metasediments
-  Obatogamau Formation (basalts, gabbro)

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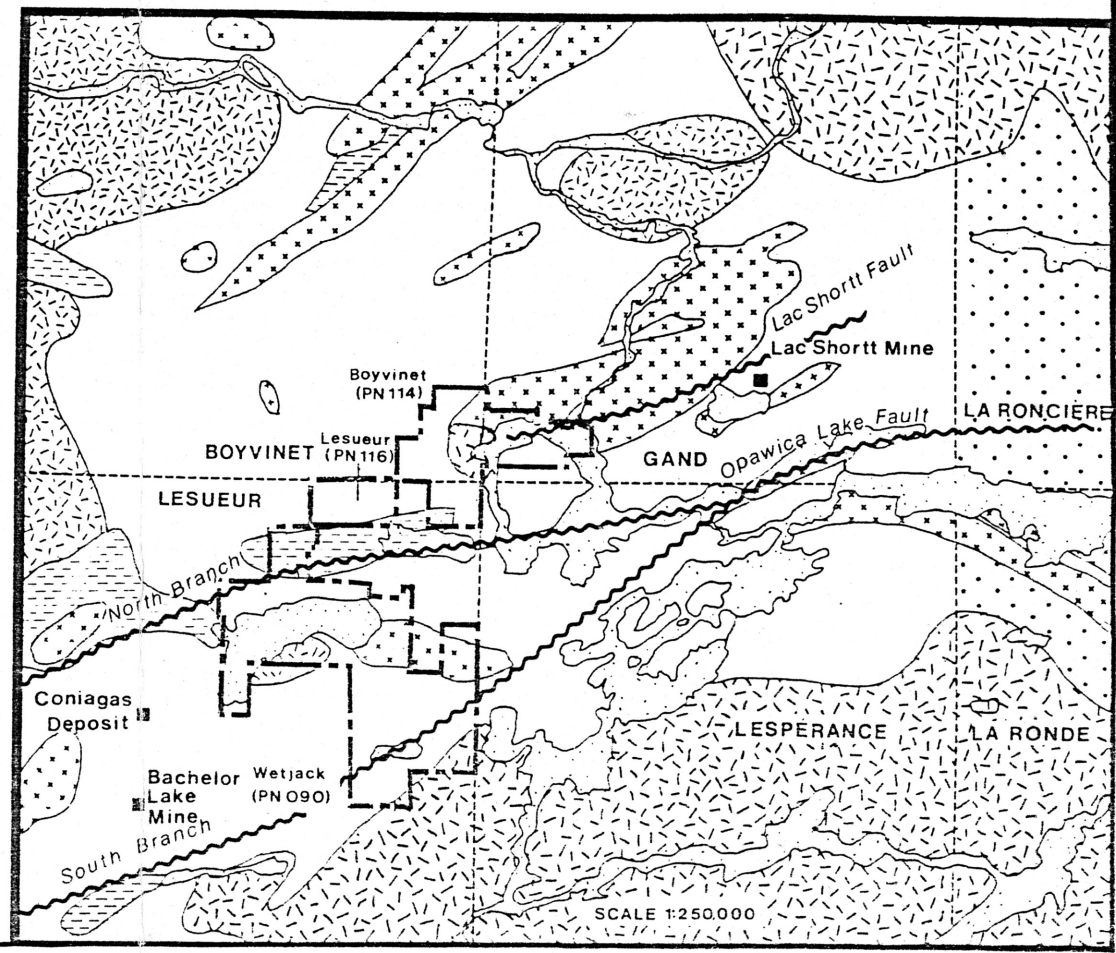
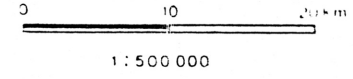
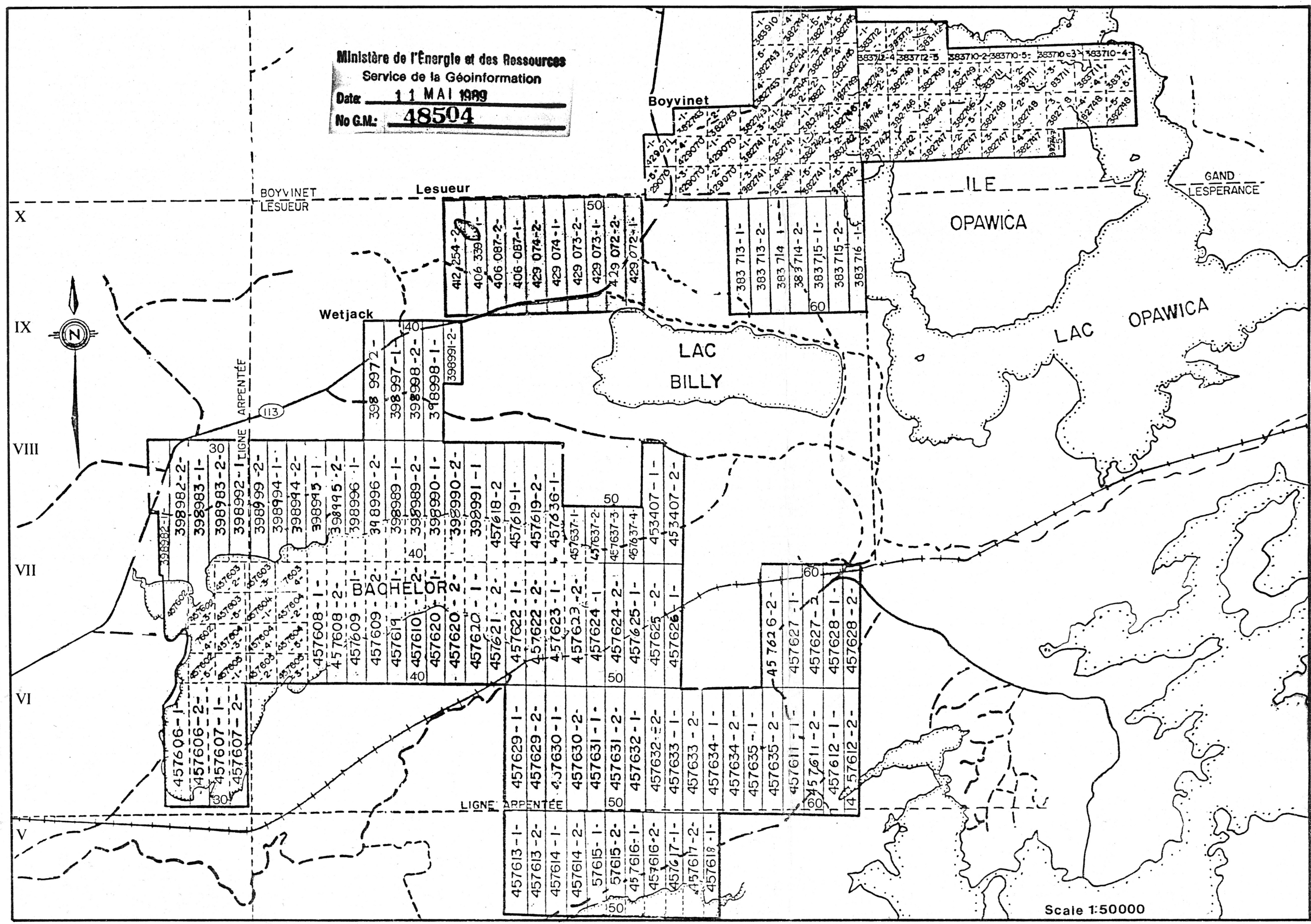


Figure 2 - Geological Setting of the Lac Shortt Project
 (Modified from MERQ-OGS, 1983)

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Scale 1:50000

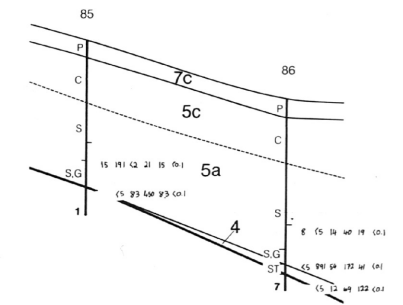
Figure 4 - Claim Map of the Wetjack, Lesueur and Boyvinet Properties



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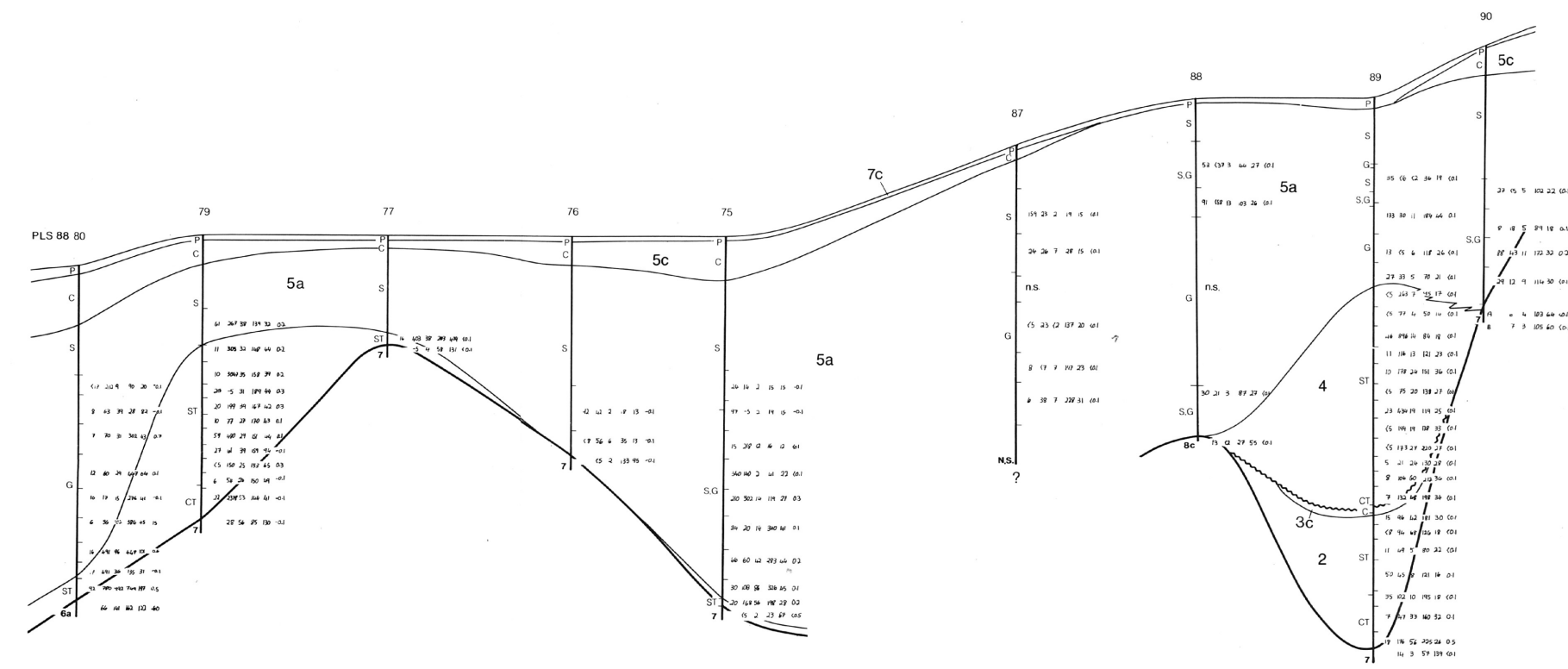
Figure 6 - Aeromagnetics of the Drill Areas
(Source: MERQ, 1981)

A 330 m A'



B

330 m



B'

330 m

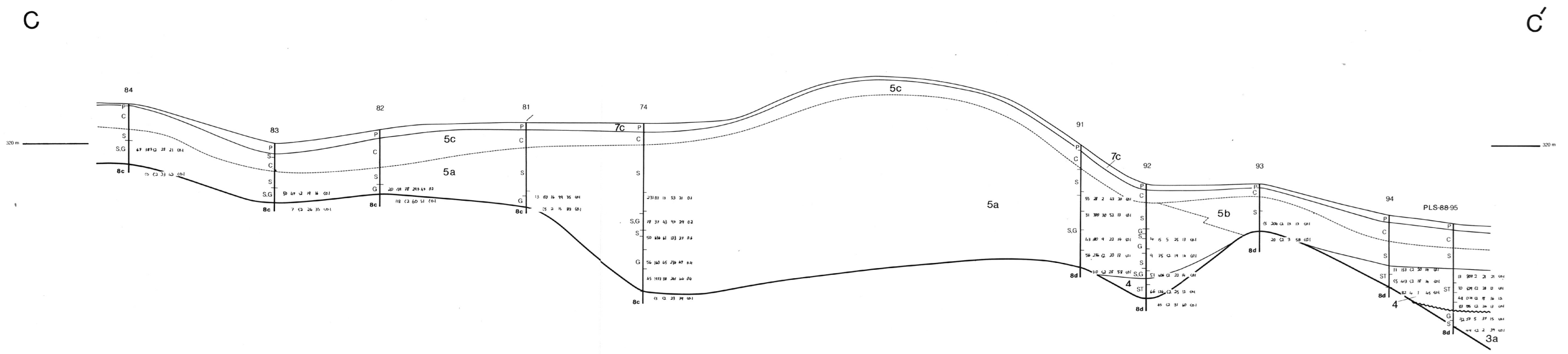
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Date: 11 MAI 1989
No G.M.: 48504

- LEGEND**
Abitibi Quaternary Stratigraphy
- H O L O C E N E**
Present
7 Holocene Sediments
7c - forest-peat member
7b - lacustrine member
7a - fluvial member
- P L E I S T O C E N E**
10,000 Years B.P.
6 Cochrane Till
5 Ojibway II Sediments
5e - littoral and aeolian member
5d - Cochrane member
5c - glaciolacustrine clay member
5b - glaciolacustrine sand member
5a - glaciolacustrine member
4 Chibougamau/Matheson Till
- 100,000 Years B.P.
3 Missinaibi Formation
3c - Ojibway I member
3b - forest-peat member
3a - fluvial member
- I L L I N O I A N**
2 Lower Till and Sediments
- 1,000,000 Years B.P.
YARMOUTH AND KANSAN
1 Older Till and Sediments
- Sediment Varieties**
P Peat
C Clay, silt
S Sand
G Gravel
ST Sand-silt till; clay subordinate
CT Clay till
- Symbols**
Quaternary/bedrock unconformity
Interglacial unconformity
Quaternary unit boundary
Quaternary subunit boundary
- Geochemistry**
Sand-silt till interval with less than 5 ppb Au in the -250 mesh fraction and 240 ppb Au, 20 ppm As, 123 ppm Cu, 53 ppm Zn, and 0.2 ppm Ag in the non-magnetic heavy mineral fraction (S.G. greater than 3.3).

- Bedrock Lithology**
8 Opawica Pluton
8a - gabbro
8b - diorite
8c - quartz diorite
8d - syenite
- 7 Gabbro
- 6 Chemical sediments
6a - iron formation
6b - chert
- 5 Clastic sediments
5a - greywacke
5b - siltstone
- 4 Felsic volcanics
- 3 Intermediate tuffs
- 2 Intermediate volcanics
2a - andesite
2b - dacite
- 1 Mafic volcanics

Scale
Vertical 1:500
East-West 1:4000
North-South 1:2500

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Figure 13 - Sections
A A' and B B'



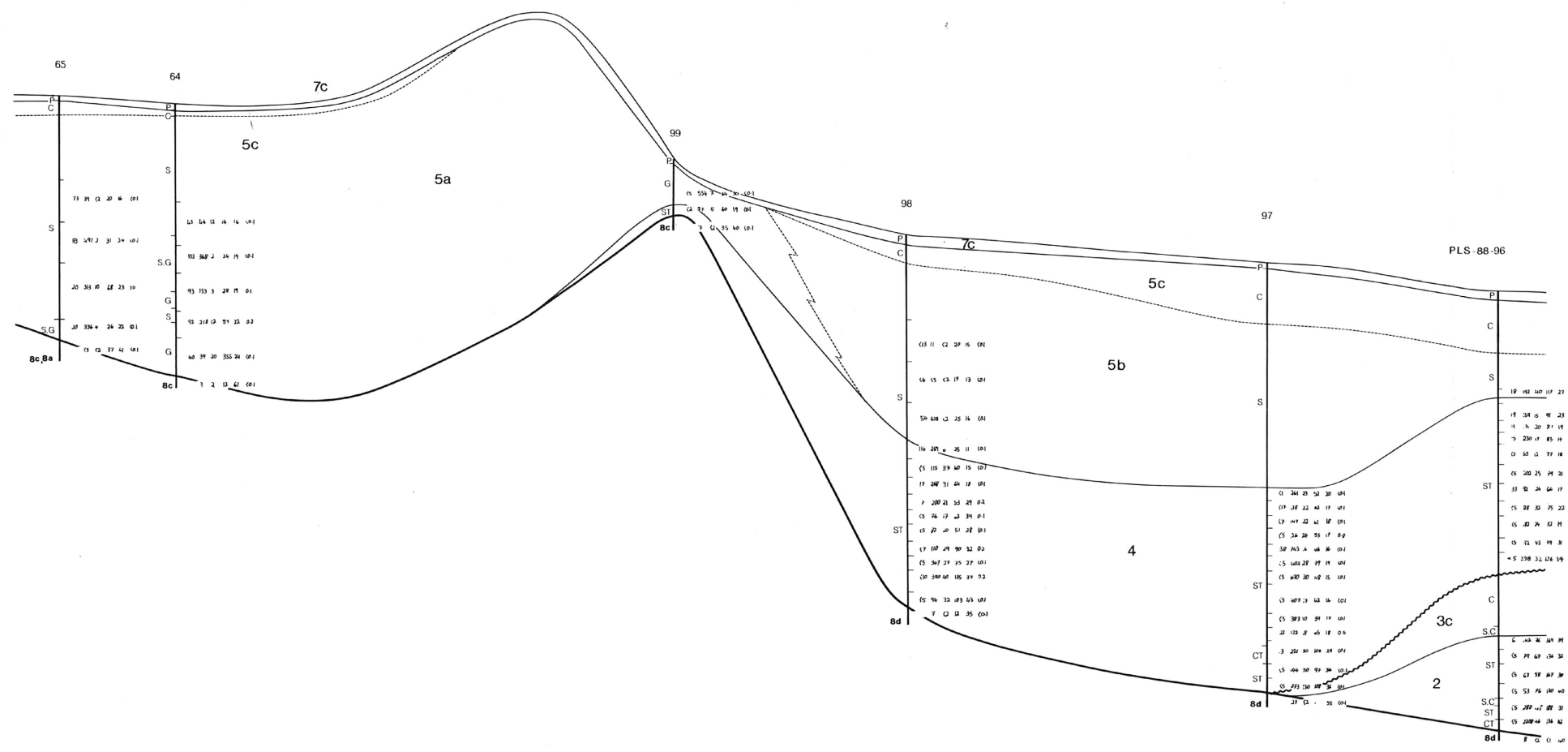
- LEGEND**
Abitibi Quaternary Stratigraph
- HOLOCENE**
Present
7 Holocene Sediments
7c - forest-peat member
7b - lacustrine member
7a - fluvial member
- PLEISTOCENE**
10,000 Years B.P.
6 Cochrane Till
5 Ojibway II Sediments
5e - littoral and aeolian member
5d - Cochrane member
5c - glaciolacustrine clay member
5b - glaciolacustrine sand member
5a - glacioluvial member
4 Chibouganau/Matheson Till
- 100,000 Years B.P.
3 EARLY WISCONSINAN AND SANG/MON
3 Missinaibi Formation
3c - Ojibway I member
3b - forest-peat member
3a - fluvial member
- ILLINOIAN**
2 Lower Till and Sediments
- 1,000,000 Years B.P.
1 YARMOUTH AND KANSAN
1 Older Till and Sediments
- Sediment Varieties**
P Peat
C Clay, silt
S Sand
G Gravel
ST Sand-silt till; clay subordinate
CT Clay till
- Symbols**
Quaternary/bedrock unconformity
Interglacial unconformity
Quaternary unit boundary
Quaternary subunit boundary
- Geochimistry**
Sand-silt till interval with less than 5 ppb Au in the -250 mesh fraction and 240 ppb Au, 20 ppm As, 123 ppm Cu, 53 ppm Zn, and 0.2 ppm Ag in the non-magnetic heavy mineral fraction (S.G. greater than 3.3).
- Bedrock Lithology**
8 Opawica Pluton
8a - gabbro
8b - biotite
8c - quartz diorite
8d - syenite
7 Gabbro
6 Chemical sediments
6a - iron formation
6b - chert
5 Clastic sediments
5a - greywacke
5b - siltstone
4 Felsic volcanics
3 Intermediate tuffs
2 Intermediate volcanics
2a - andesite
2b - dacite
1 Mafic volcanics
- Scale**
Vertical 1:500
Horizontal 1:4000

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BOYVINET, LESUEUR AND GAND TOWNSHIPS
Figure 1 - Sections
C C'

D

D'



- LEGEND**
Abitibi Quaternary Stratigraphy
- HOLOCENE**
Present
7 Holocene Sediments
7c - forest-peat member
7b - lacustrine member
7a - fluvial member
- PLEISTOCENE**
10,000 Years B.P.
LATE WISCONSINAN
6 Cochrane Till
5 Ojibway II Sediments
5e - littoral and aeolian member
5d - Cochrane member
5c - glaciolacustrine clay member
5b - glaciolacustrine sand member
5a - glacioluvial member
4 Chibougamau/Matheson Till
- 100,000 Years B.P.
EARLY WISCONSINAN AND SANGAMON
3 Missinaibi Formation
3c - Ojibway I member
3b - forest-peat member
3a - fluvial member
- ILLINOIAN**
2 Lower Till and Sediments
- 1,000,000 Years B.P.
YARMOUTH AND KANSAN
1 Older Till and Sediments
- Sediment Varieties**
P Peat
C Clay, silt
S Sand
G Gravel
ST Sand-silt till; clay subordinate
CT Clay till

- Symbols**
Quaternary/bedrock unconformity
Interglacial unconformity
Quaternary unit boundary
Quaternary subunit boundary

Geochemistry
Sand-silt till interval with less than 5 ppb Au in the -250 mesh fraction and 240 ppb Au, 20 ppm As, 123 ppm Cu, 53 ppm Zn, and 0.2 ppm Ag in the non-magnetic heavy mineral fraction (S.G. greater than 3.3).

- Bedrock Lithology**
8 Opawica Pluton
8a - gabbro
8b - diorite
8c - quartz diorite
8d - syenite
- 7 Gabbro
- 6 Chemical sediments
6a - iron formation
6b - chert
- 5 Clastic sediments
5a - greywacke
5b - siltstone
- 4 Felsic volcanics
- 3 Intermediate tuffs
- 2 Intermediate volcanics
2a - andesite
2b - dacite
- 1 Mafic volcanics

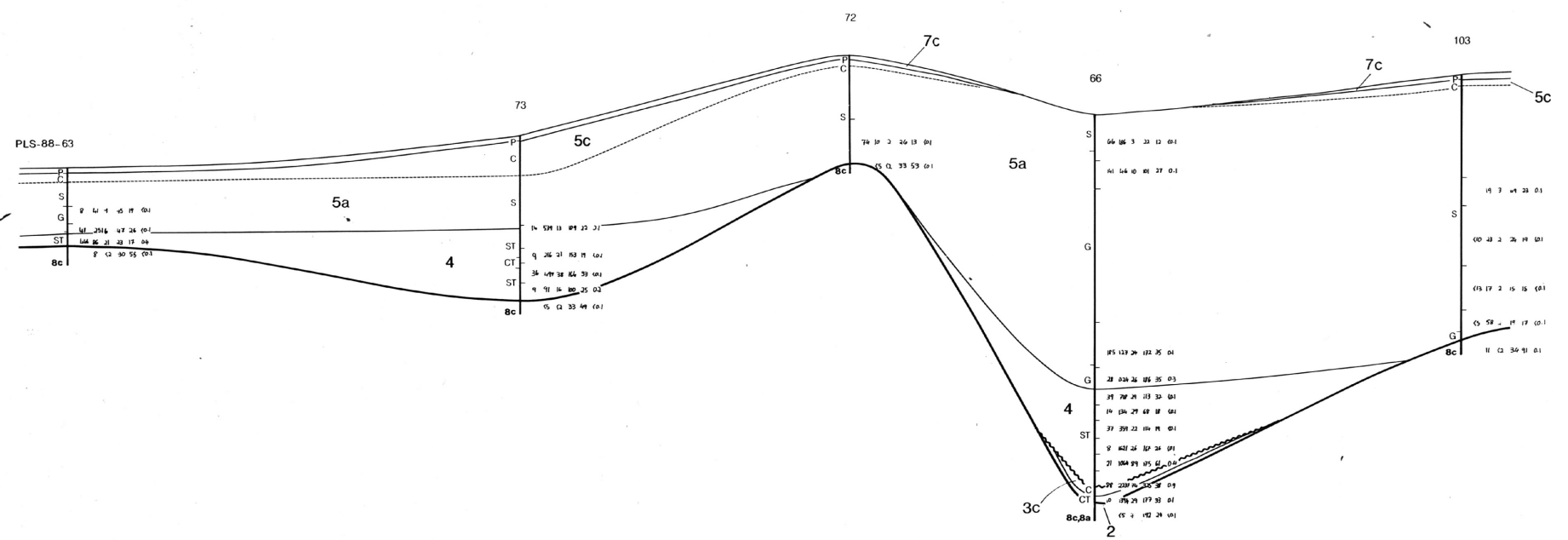
Scale
Vertical 1:500
Horizontal 1:4000

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MINNOVA INC.
LAC SHORTT PROJECT
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BOYVINET, LESUEUR AND GAND TOWNSHIPS
Figure 20- Sections
D-D'

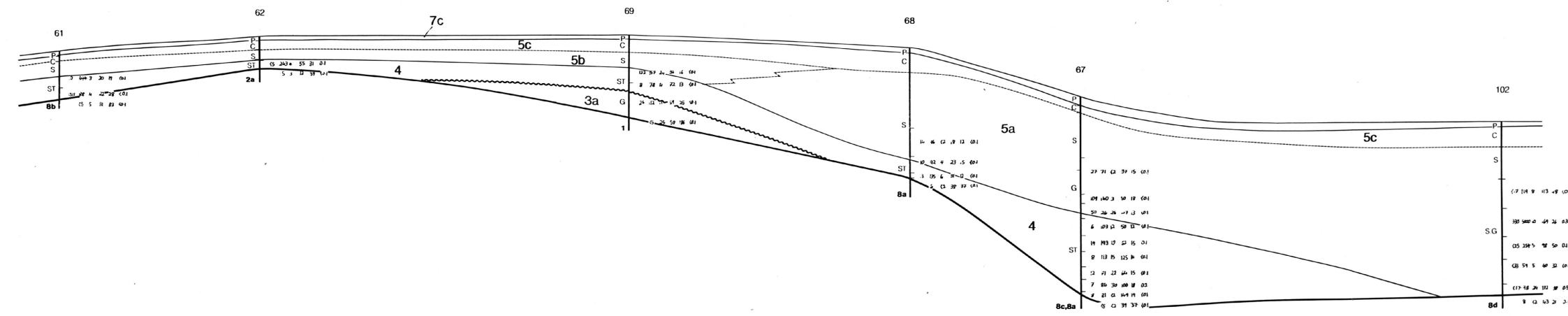
E

E'



F

F'



- LEGEND**
Abitibi Quaternary Stratigraph
- H O L O C E N E**
- Present 7 Holocene Sediments
 - 7c - forest-peat member
 - 7b - lacustrine member
 - 7a - fluvial member
- P L E I S T O C E N E**
- L A T E W I S C O N S I N A N**
- 10,000 Years B.P. 6 Cochrane Till
 - 5 Ojibway II Sediments
 - 5d - littoral and aeolian member
 - 5c - Cochrane member
 - 5c - glaciolacustrine clay member
 - 5b - glaciolacustrine sand member
 - 5a - glacioluvial member
 - 4 Chibougamau/Matheson Till
- 100,000 Years B.P. 3 EARLY WISCONSINAN AND SANGAMON**
- 3 Missinabi Formation
 - 3c - Ojibway I member
 - 3b - forest-peat member
 - 3a - fluvial member
- ILLINOIAN**
- 2 Lower Till and Sediments
- 1,000,000 Years B.P. 1 YARMOUTH AND KANSAN**
- 1 Older Till and Sediments
- Sediment Varieties**
- P Peat
 - C Clay, silt
 - S Sand
 - G Gravel
 - ST Sand-silt till; clay subordinate
 - CT Clay till

- Symbols**
- Quaternary/bedrock unconformity
 - Interglacial unconformity
 - Quaternary unit boundary
 - Quaternary subunit boundary
- Geochemistry**
- Sand-silt till interval with less than 5 ppb Au in the -250 mesh fraction and 240 ppb Au, 20 ppm As, 123 ppm Cu, 53 ppm Zn, and 0.2 ppm Ag in the non-magnetic heavy mineral fraction (S.G. greater than 3.3).

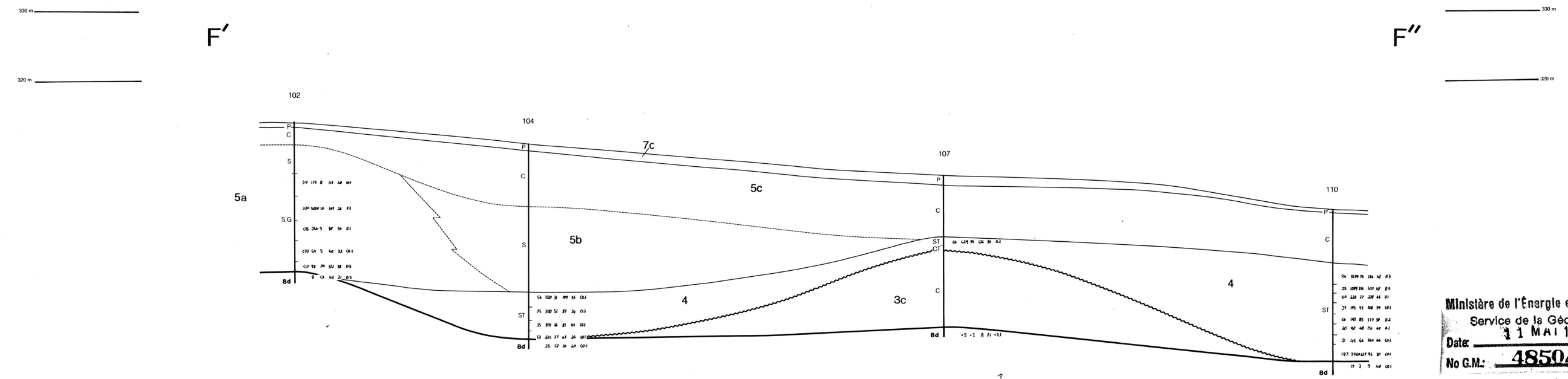
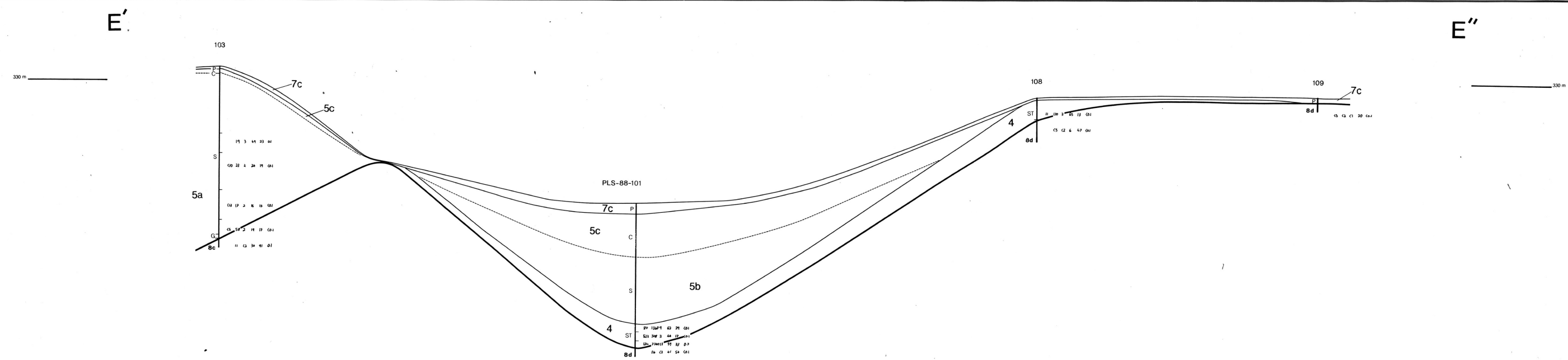
- Bedrock Lithology**
- 8 Opawica Pluton
 - 8a - gabbro
 - 8b - diorite
 - 8c - quartz diorite
 - 8d - syenite
 - 7 Gabbro
 - 6 Chemical sediments
 - 6a - iron formation
 - 6b - chert
 - 5 Clastic sediments
 - 5a - greywacke
 - 5b - siltstone
 - 4 Felsic volcanics
 - 3 Intermediate tuffs
 - 2 Intermediate volcanics
 - 2a - andesite
 - 2b - dacite
 - 1 Mafic volcanics

Scale

- Vertical 1:500
- East-West 1:6000
- North-South 1:2500

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BOYVINET, LESUEUR AND GAND TOWNSHIPS
Figure 21 - Sections
E-E' and F-F'
BY OVERBURDEN DRILLING MANAGEMENT LIMITED DECEMBER 1988



LEGEND
Abitibi Quaternary Stratigraphic

HOLOCENE	
Present	7 Holocene Sediments
	7c - forest-peat member
	7b - lacustrine member
	7a - fluvial member
PLEISTOCENE	
LATE WISCONSINAN	
10,000 Years B.P.	6 Cochrane Till
	5 Ojibway II Sediments
	5e - littoral and aeolian member
	5d - Cochrane member
	5c - glaciolacustrine clay member
	5b - glaciolacustrine sand member
	5a - glaciolacustrine member
	4 Chibougamau/Matheson Till
EARLY WISCONSINAN AND SANGAMON	
100,000 Years B.P.	3 Missinabi Formation
	3c - Ojibway I member
	3b - forest-peat member
	3a - fluvial member
ILLINOIAN	
	2 Lower Till and Sediments
YARMOUTH AND KANSAN	
1,000,000 Years B.P.	1 Older Till and Sediments
Sediment Varieties	
P	Peat
C	Clay, silt
S	Sand
G	Gravel
ST	Sand-silt till; clay subordinate
CT	Clay till

Geochemistry
Sand-silt till interval with less than 5 ppb Au in the -250 mesh fraction and 240 ppb Au, 20 ppm As, 123 ppm Cu, 53 ppm Zn, and 0.2 ppm Ag in the non-magnetic heavy mineral fraction (S.G. greater than 3.3).

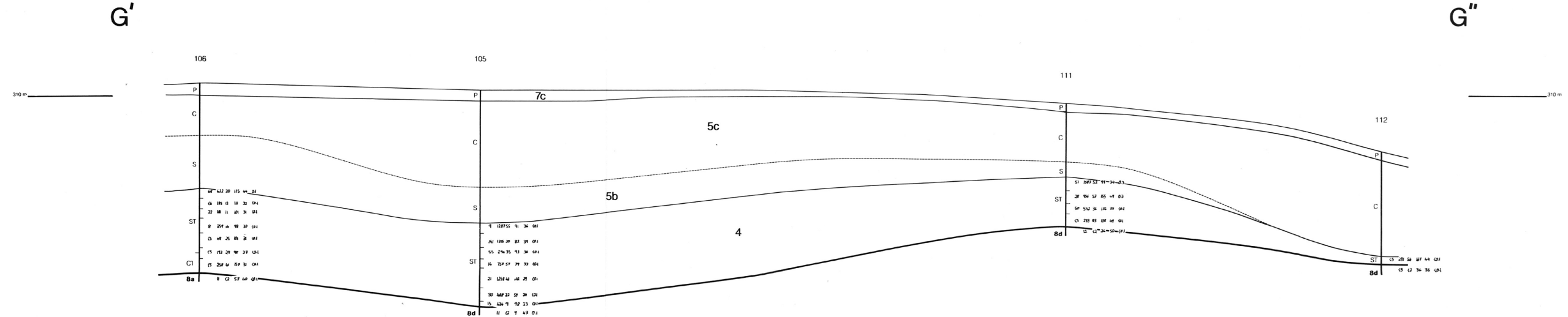
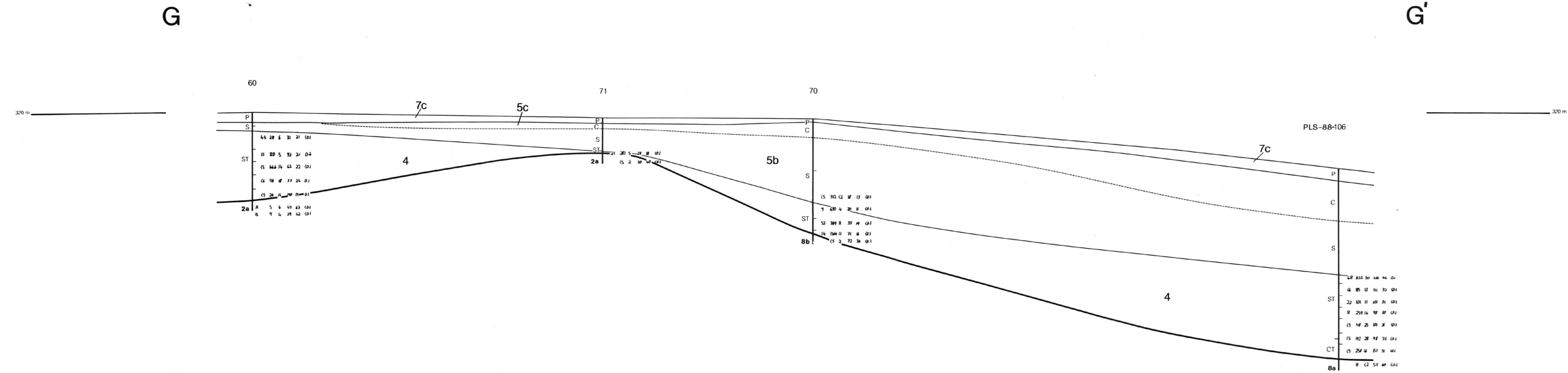
Bedrock Lithology

8	Opawica Pluton
	8a - gabbro
	8b - diorite
	8c - quartz diorite
	8d - syenite
7	Gabbro
6	Chemical sediments
	6a - iron formation
	6b - chert
5	Clastic sediments
	5a - greywacke
	5b - siltstone
4	Felsic volcanics
3	Intermediate tuffs
2	Intermediate volcanics
	2a - andesite
	2b - dacite
1	Mafic volcanics

Scale
Vertical 1:500
East-West 1:4000
North-South 1:2500

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Service de la Géoinformation
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MINNOVA INC.
LAC SHORTT PROJECT
PN : 090,114,116 PROPERTIES
BOYVINET, LESUEUR AND GAND TOWNSHIPS
Figure 22 - Sections
E'-E'' and F'-F''
BY OVERBURDEN DRILLING MANAGEMENT LIMITED DECEMBER 1988



- LEGEND**
Abitibi Quaternary Stratigraphy
- HOLOCENE**
Present
7 Holocene Sediments
7c - forest-peat member
7b - lacustrine member
7a - fluvial member
- PLEISTOCENE**
10,000 Years B.P.
LATE WISCONSINAN
6 Cochrane Till
5 Ojibway II Sediments
5e - littoral and aeolian member
5d - Cochrane member
5c - glaciolacustrine clay member
5b - glaciolacustrine sand member
5a - glacioluvial member
4 Chabougamau/Matheson Till
- 100,000 Years B.P.
EARLY WISCONSINAN AND SANGAMON
3 Missisquoi Formation
3c - Ojibway I member
3b - forest-peat member
3a - fluvial member
- ILLINOIAN**
2 Lower Till and Sediments
- 1,000,000 Years B.P.
YARMOUTH AND KANSAN
1 Older Till and Sediments
- Sediment Varieties**
P Peat
C Clay, silt
S Sand
G Gravel
ST Sand-silt till; clay subordinate
CT Clay till
- Symbols**
Quaternary/bedrock unconformity
Interglacial unconformity
Quaternary unit boundary
Quaternary subunit boundary

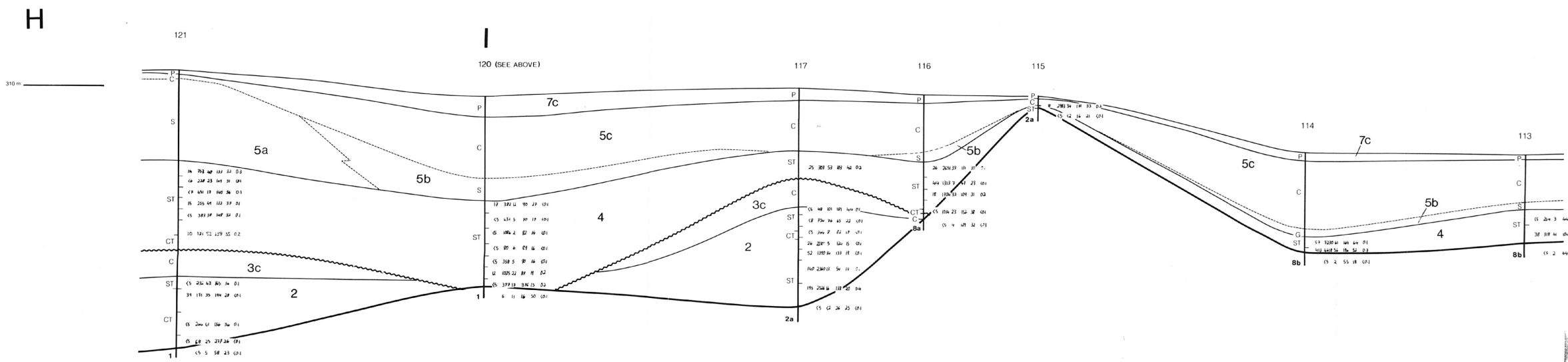
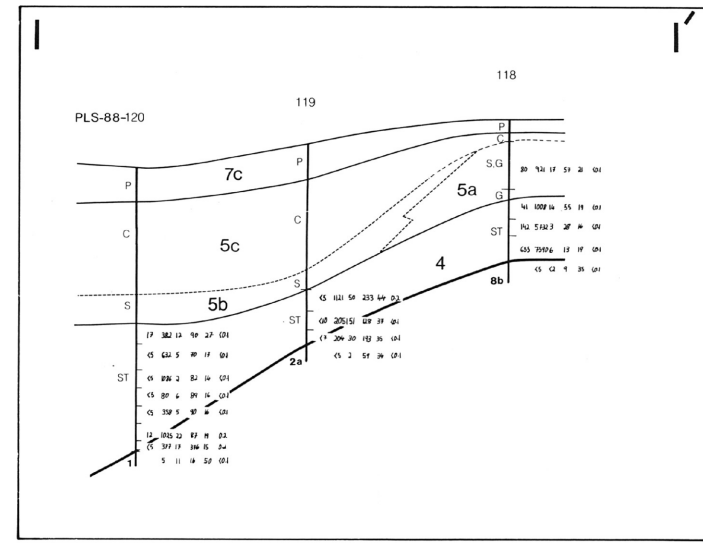
Geochemistry
ST 5 240 20 123 53 0.2
Sand-silt till interval with less than 5 ppb Au in the -250 mesh fraction and 240 ppb Au, 20 ppm As, 123 ppm Cu, 53 ppm Zn, and 0.2 ppm Ag in the non-magnetic heavy mineral fraction (S.G. greater than 3.3).

- Bedrock Lithology**
- 8 Opawica Pluton
8a - gabbro
8b - diorite
8c - quartz diorite
8d - syenite
- 7 Gabbro
- 6 Chemical sediments
6a - iron formation
6b - chert
- 5 Clastic sediments
5a - greywacke
5b - siltstone
- 4 Felsic volcanics
- 3 Intermediate tuffs
- 2 Intermediate volcanics
2a - andesite
2b - dacite
- 1 Mafic volcanics

Scale
Vertical 1:500
Horizontal 1:4000

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Service de la Géoinformation
Date: 11 MAI 1989
No G.M.: 48504

MINNOVA INC.
LAC SHORTT PROJECT
PN : 090,114, 116 PROPERTIES
BOYVINET, LESUEUR AND GAND TOWNSHIPS
Figure 23 - Sections G-G' and G'-G''
BY OVERBURDEN DRILLING MANAGEMENT LIMITED DECEMBER 1988



- LEGEND**
Abitibi Quaternary Stratigraphy
- H O L O C E N E**
Present 7 Holocene Sediments
7c - forest-peat member
7b - lacustrine member
7a - fluvial member
- P L E I S T O C E N E**
10,000 Years B.P. 6 LATE WISCONSINAN
6 Cochrane Till
5 Ojibway II Sediments
5e - littoral and aeolian member
5d - Cochrane member
5c - glaciolacustrine clay member
5b - glaciolacustrine sand member
5a - glacioluvial member
4 Chibougamau/Matheson Till
- 100,000 Years B.P. 3 EARLY WISCONSINAN AND SANGAMON
3 Missinabi Formation
3c - Ojibway I member
3b - forest-peat member
3a - fluvial member
- I L L I N O I A N**
2 Lower Till and Sediments
- 1,000,000 Years B.P. 1 YARMOUTH AND KANSAN
1 Older Till and Sediments
- Sediment Varieties**
P Peat
C Clay, silt
S Sand
G Gravel
ST Sand-silt till; clay subordinate
CT Clay till
- Symbols**
Quaternary/bedrock unconformity
Interglacial unconformity
Quaternary unit boundary
Quaternary subunit boundary

Geochemistry
Sand-silt till interval with less than 5 ppb Au in the -250 mesh fraction and 240 ppb Au, 20 ppm As, 123 ppm Cu, 53 ppm Zn, and 0.2 ppm Ag in the non-magnetic heavy mineral fraction (S.G. greater than 3.3).

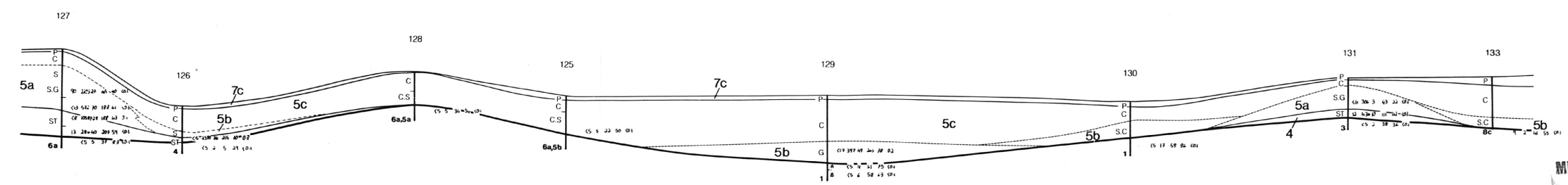
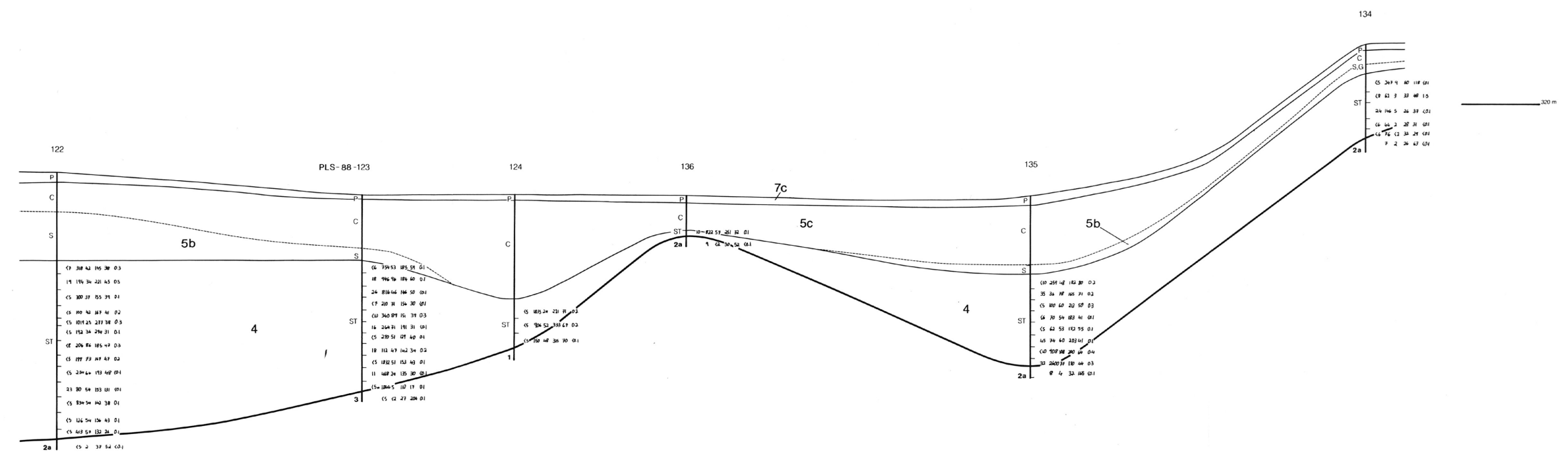
ST 4 5 240 20 123 53 0.2

- Bedrock Lithology**
- 8 Opawica Pluton
8a - gabbro
8b - fluorite
8c - quartz diorite
8d - syenite
- 7 Gabbro
- 6 Chemical sediments
6a - iron formation
6b - chert
- 5 Clastic sediments
5a - greywacke
5b - siltstone
- 4 Felsic volcanics
- 3 Intermediate tuffs
- 2 Intermediate volcanics
2a - andesite
2b - dacite
- 1 Mafic volcanics

Scale
Vertical 1:500
Horizontal 1:4000

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No G.M.: 48504

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LAC SHORTT PROJECT
PN : 090,114, 116 PROPERTIES
BOYVINET, LESUEUR AND GAND TOWNSHIPS
Figure 24 - Sections
H-H' and I-I'
BY OVERBURDEN DRILLING MANAGEMENT LIMITED DECEMBER 1988

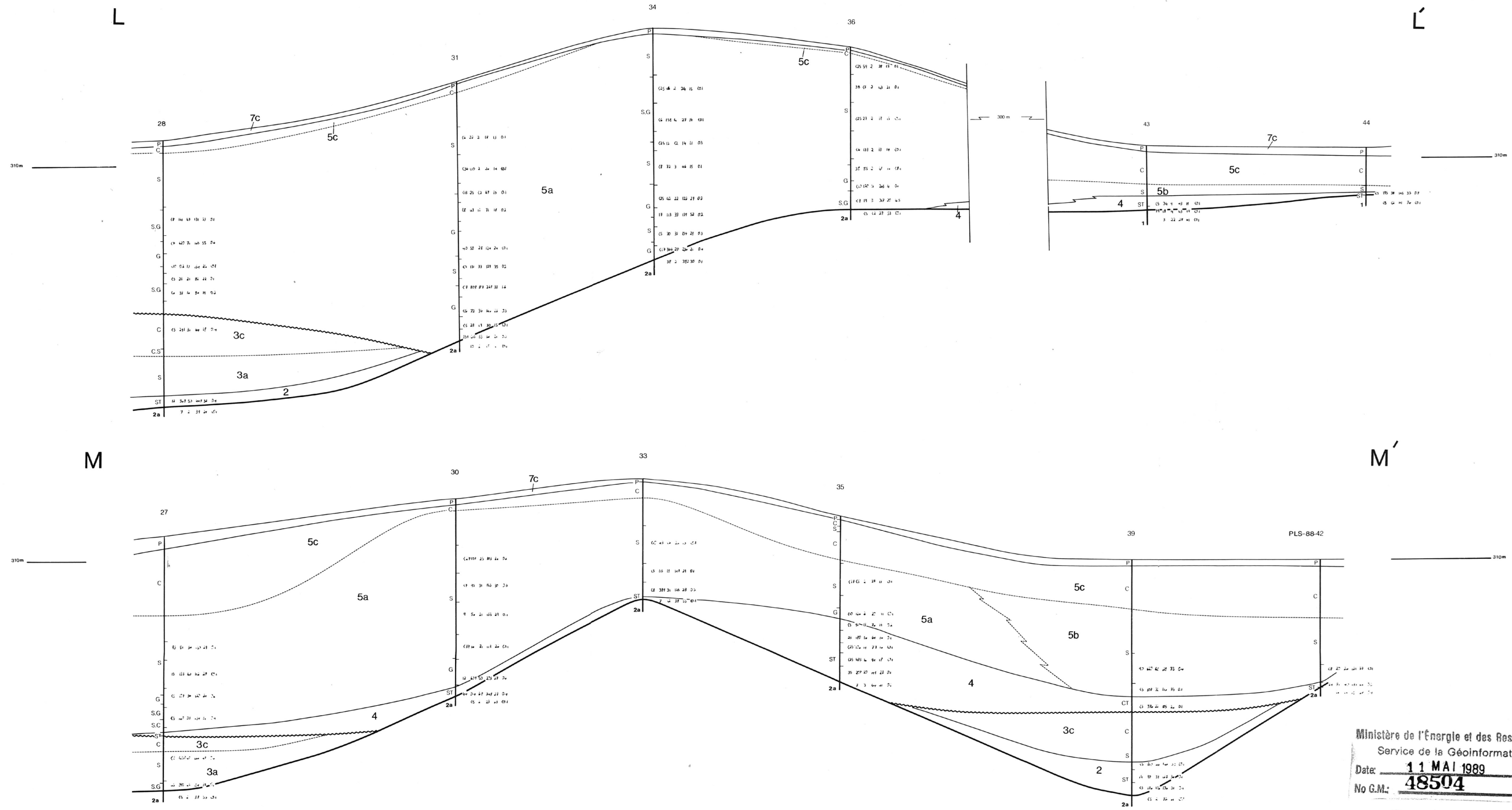


- LEGEND**
Abitibi Quaternary Stratigraph
- HOLOCENE**
Present
7 Holocene Sediments
7c - forest-peat member
7b - lacustrine member
7a - fluvial member
- PLEISTOCENE**
10,000 Years B.P.
LATE WISCONSINAN
6 Ojibway II Sediments
5e - littoral and aeolian member
5d - Cochrane member
5c - glaciolacustrine clay member
5b - glaciolacustrine sand member
5a - glaciolacustrine member
4 Chibougamau/Matheson Till
- 100,000 Years B.P.
EARLY WISCONSINAN AND SANGAMON
3 Missinaibi Formation
3c - Ojibway I member
3b - forest-peat member
3a - fluvial member
- ILLINOIAN**
2 Lower Till and Sediments
- 1,000,000 Years B.P.
YARMOUTH AND KANSAN
1 Older Till and Sediments
- Sediment Varieties**
P Peat
C Clay, silt
S Sand
G Gravel
ST Sand-silt till; clay subordinate
CT Clay till
- Symbols**
Quaternary/bedrock unconformity
Interglacial unconformity
Quaternary unit boundary
Quaternary subunit boundary
- Geochemistry**
Sand-silt till interval with less than 5 ppb Au in the -250 mesh fraction and 240 ppb Au, 20 ppm As, 123 ppm Cu, 53 ppm Zn, and 0.2 ppm Ag in the non-magnetic heavy mineral fraction (S.G. greater than 3.3).
- Bedrock Lithology**
8 Opawica Pluton
8a - gabbro
8b - diorite
8c - quartz diorite
8d - syenite
- 7 Gabbro
- 6 Chemical sediments
6a - iron formation
6b - chert
- 5 Clastic sediments
5a - greywacke
5b - siltstone
- 4 Felsic volcanics
- 3 Intermediate tuffs
- 2 Intermediate volcanics
2a - andesite
2b - dacite
- 1 Mafic volcanics

Scale
Vertical 1:500
East-West 1:4000
North-South 1:2500

Ministère de l'énergie et des Ressources
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MINNOVA INC.
LAC SHORTT PROJECT
PN : 090,114,116 PROPRIETIES
BOYVINET, LESUEUR AND GAND TOWNSHIPS
Figure 25 - Sections
J-J' and K-K'



- LEGEND**
Abitibi Quaternary Stratigraphic
- HOLOCENE**
Present
7 Holocene Sediments
7c - forest-peat member
7b - lacustrine member
7a - fluvial member
- PLEISTOCENE**
10,000 Years B.P.
6 Ojibway II Sediments
5c - littoral and aeolian member
5d - Cochrane member
5e - glaciolacustrine clay member
5b - glaciolacustrine sand member
5a - glacioluvial member
4 Chibougamau/Matheson Till
- 100,000 Years B.P.
EARLY WISCONSINAN AND SANGAMON
3 Missinabi Formation
3c - Ojibway I member
3b - forest-peat member
3a - fluvial member
- ILLINOIAN**
2 Lower Till and Sediments
- 1,000,000 Years B.P.
YARMOUTH AND KANSAN
1 Older Till and Sediments
- Sediment Varieties**
P Peat
C Clay, silt
S Sand
G Gravel
ST Sand-silt till; clay subordinate
CT Clay till
- Symbols**
Quaternary/bedrock unconformity
Interglacial unconformity
Quaternary unit boundary
Quaternary subunit boundary

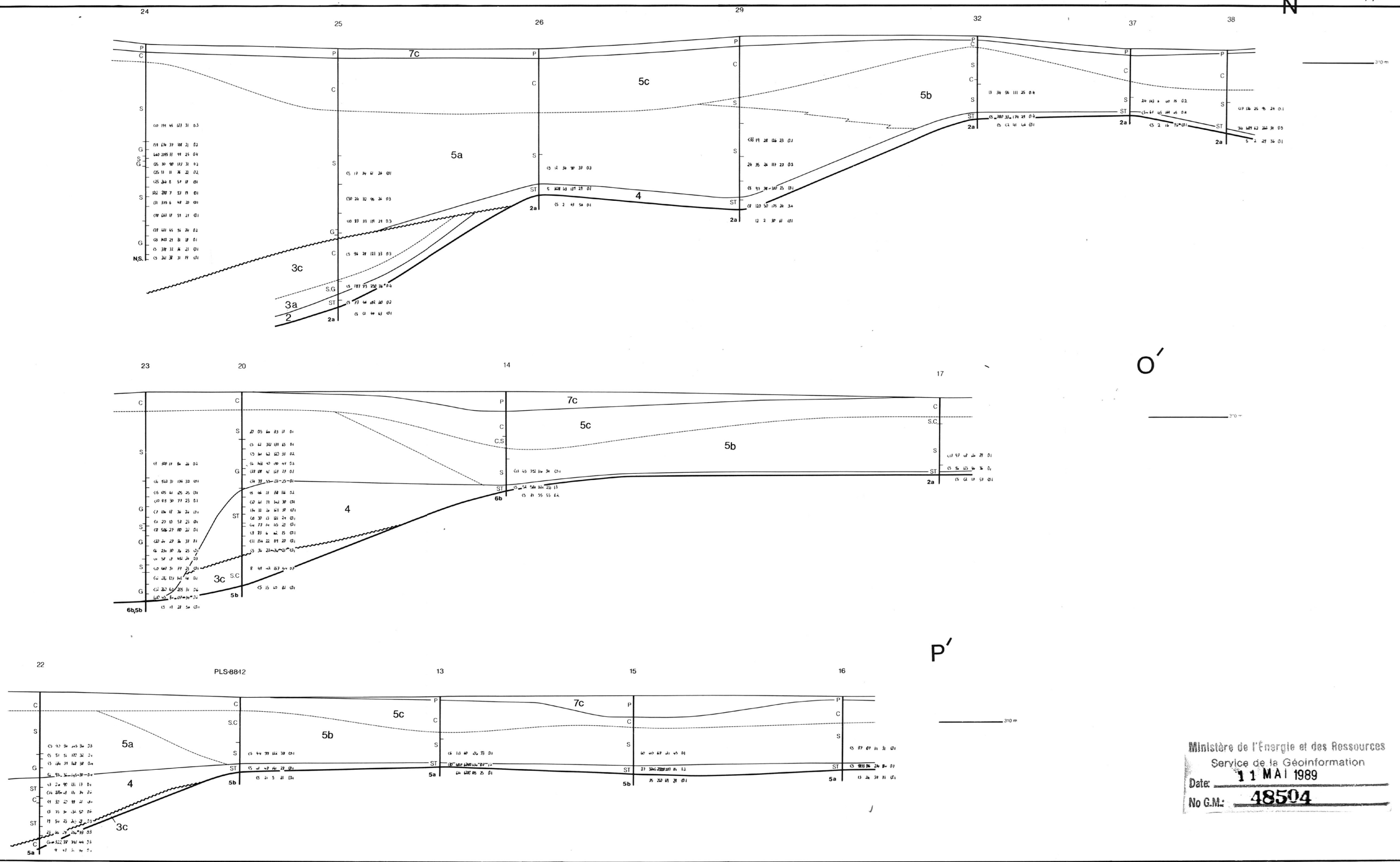
Geochemistry
ST 45 240 20 123 53 0.2
Sand-silt till interval with less than 5 ppb Au in the -250 mesh fraction and 240 ppb Au, 20 ppm As, 123 ppm Cu, 53 ppm Zn, and 0.2 ppm Ag in the non-magnetic heavy mineral fraction (S.G. greater than 3.3).

- Bedrock Lithology**
- 8 Opawica Pluton
8a - gabbro
8b - diorite
8c - quartz diorite
8d - syenite
- 7 Gabbro
- 6 Chemical sediments
6a - iron formation
6b - chert
- 5 Clastic sediments
5a - greywacke
5b - siltstone
- 4 Felsic volcanics
- 3 Intermediate tuffs
- 2 Intermediate volcanics
2a - andesite
2b - dacite
- 1 Mafic volcanics

Scale
Vertical 1:500
East-West 1:4000
North-South 1:2000

Ministère de l'Énergie et des Ressources
Service de la Géoinformation
Date: 11 MAI 1989
No G.M.: 48504

MINNOVA INC.
LAC SHORTT PROJECT
PN : 090,114,116 PROPRIÉTÉS
BOYVINET, LESUEUR AND GAND TOWNSHIPS
Figure 26 - Sections L-L' and M-M'
BY OVERBURDEN DRILLING MANAGEMENT LIMITED DECEMBER 1988



- LEGEND**
Abitibi Quaternary Stratigraphic
- HOLOCENE**
- Present 7 Holocene Sediments
 - 7c - forest-peat member
 - 7b - lacustrine member
 - 7a - fluvial member
- PLEISTOCENE**
- 10,000 Years B.P.
- LATE WISCONSINAN**
- 6 Cochrane Till
 - 5 Ojibway II Sediments
 - 5e - littoral and aeolian member
 - 5d - Cochrane member
 - 5c - glaciolacustrine clay member
 - 5b - glaciolacustrine sand member
 - 5a - glaciolacustrine member
 - 4 Chibougamau/Matheson Till
- 100,000 Years B.P.
- EARLY WISCONSINAN AND SANGAMON**
- 3 Missisquoi Formation
 - 3c - Ojibway I member
 - 3b - forest-peat member
 - 3a - fluvial member
- ILLINOIAN**
- 2 Lower Till and Sediments
- 1,000,000 Years B.P.
- YARMOUTH AND KANSAN**
- 1 Older Till and Sediments
- Sediment Varieties**
- P Peat
 - C Clay, silt
 - S Sand
 - G Gravel
 - ST Sand-silt till; clay subordinate
 - CT Clay till

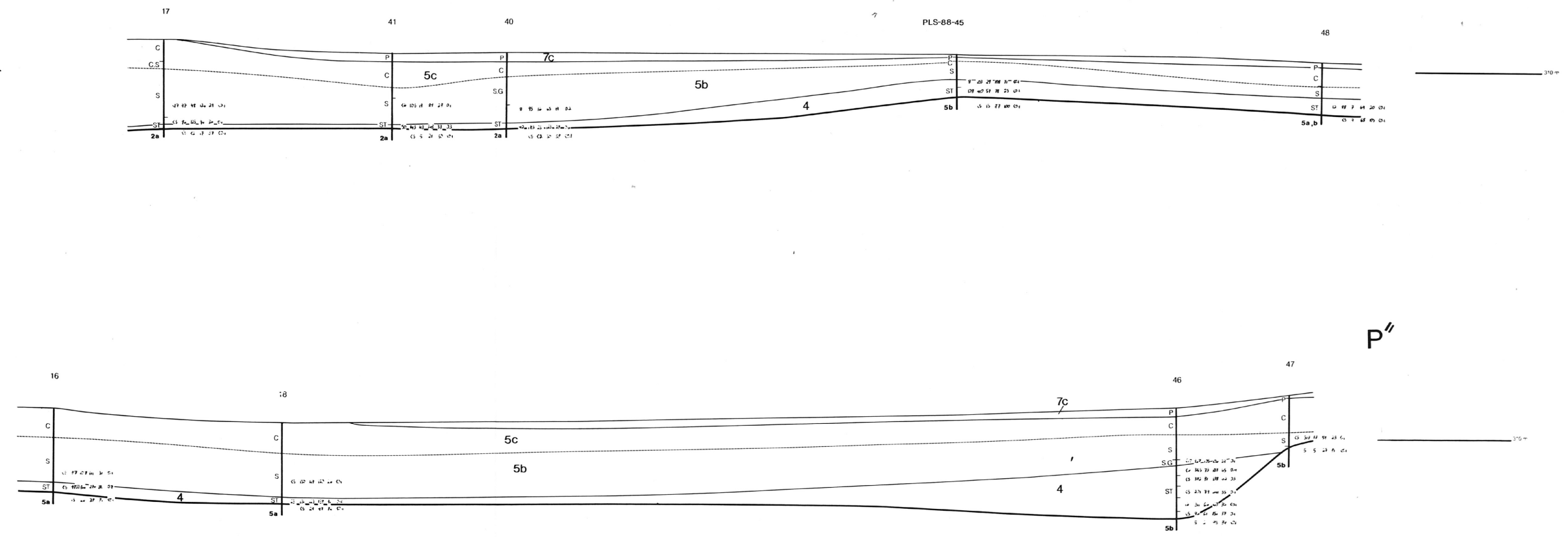
- Symbols**
- Quaternary/bedrock unconformity
 - Interglacial unconformity
 - Quaternary unit boundary
 - Quaternary subunit boundary
- Geochemistry**
- Sand-silt till interval with less than 5 ppb Au in the -250 mesh fraction and 240 ppb Au, 20 ppm As, 123 ppm Cu, 53 ppm Zn, and 0.2 ppm Ag in the non-magnetic heavy mineral fraction (S.G. greater than 3.3).

- Bedrock Lithology**
- 8 Opawica Pluton
 - 8a - gabbro
 - 8b - diorite
 - 8c - quartz diorite
 - 8d - syenite
 - 7 Gabbro
 - 6 Chemical sediments
 - 6a - iron formation
 - 6b - chert
 - 5 Clastic sediments
 - 5a - greywacke
 - 5b - siltstone
 - 4 Felsic volcanics
 - 3 Intermediate tuffs
 - 2 Intermediate volcanics
 - 2a - andesite
 - 2b - dacite
 - 1 Mafic volcanics

Scale
Vertical 1:500
East-West 1:2000
North-South 1:2000

Ministère de l'énergie et des Ressources
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MINNOVA INC.
LAC SHORTT PROJECT
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BOYVINET, LESUEUR AND GAND TOWNSHIPS
Figure 27 - Sections
N-N', O-O', and P-P'
BY OVERBURDEN DRILLING MANAGEMENT LIMITED DECEMBER 1988

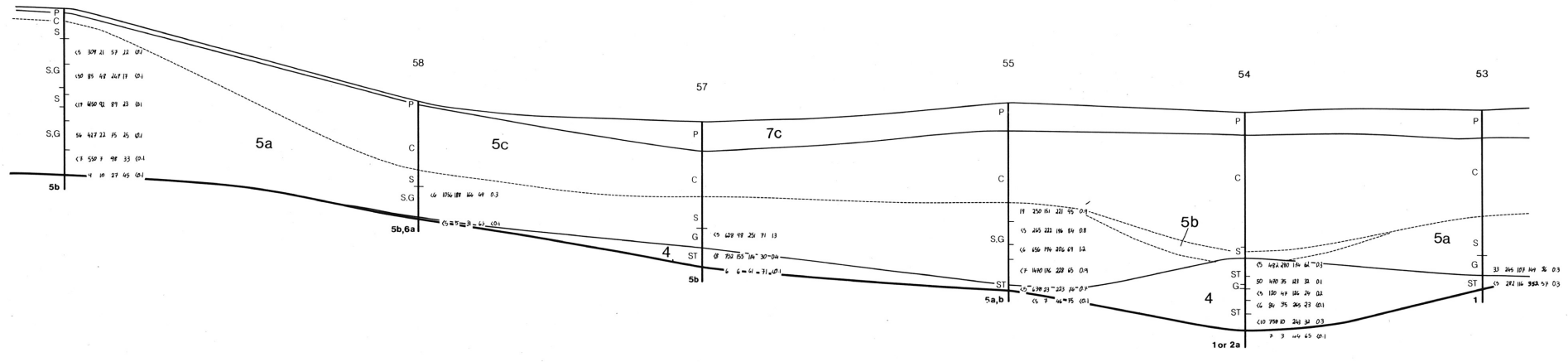
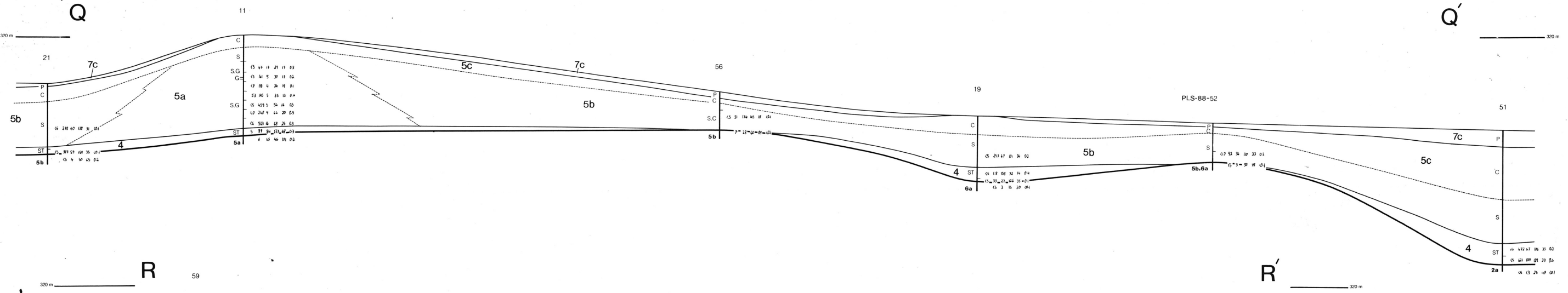
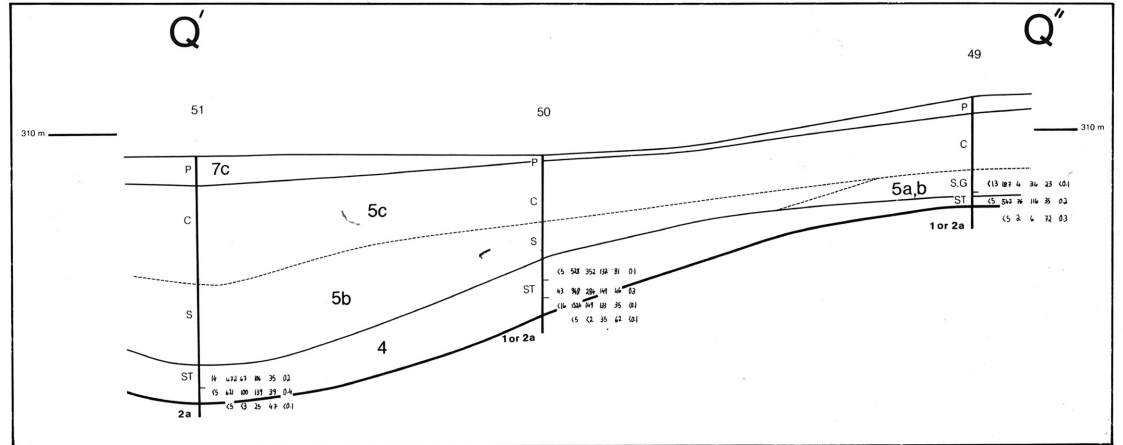


- LEGEND**
Abitibi Quaternary Stratigraph
- HOLOCENE**
- Present 7 Holocene Sediments
 - 7c - forest-peat member
 - 7b - lacustrine member
 - 7a - fluvial member
- PLEISTOCENE**
- LATE WISCONSINAN**
- 10,000 Years B.P. 6 Cochrane Till
 - 5e - littoral and aeolian member
 - 5d - Cochrane member
 - 5c - glaciolacustrine clay member
 - 5b - glaciolacustrine sand member
 - 5a - glacioluvial member
 - 4 Chibougamau/Matheson Till
- EARLY WISCONSINAN AND SANGAMON**
- 100,000 Years B.P. 3 Missinabi Formation
 - 3c - Ojibway I member
 - 3b - forest-peat member
 - 3a - fluvial member
- ILLINOIAN**
- 2 Lower Till and Sediments
- YARMOUTH AND KANSAN**
- 1,000,000 Years B.P. 1 Older Till and Sediments
- Sediment Varieties**
- P Peat
 - C Clay, silt
 - S Sand
 - G Gravel
 - ST Sand-silt till; clay subordinate
 - CT Clay till
- Symbols**
- Quaternary/bedrock unconformity
 - Interglacial unconformity
 - Quaternary unit boundary
 - Quaternary subunit boundary
- Geochemistry**
- ST 240 20 123 53 0.2
- Sand-silt till interval with less than 5 ppb Au in the -250 mesh fraction and 240 ppb Au, 20 ppm As, 123 ppm Cu, 53 ppm Zn, and 0.2 ppm Ag in the non-magnetic heavy mineral fraction (S.G. greater than 3.3).
- Bedrock Lithology**
- 8 Opawica Pluton
 - 8a - gabbro
 - 8b - diorite
 - 8c - quartz diorite
 - 8d - syenite
 - 7 Gabbro
 - 6 Chemical sediments
 - 6a - iron formation
 - 6b - chert
 - 5 Clastic sediments
 - 5a - greywacke
 - 5b - siltstone
 - 4 Felsic volcanics
 - 3 Intermediate tuffs
 - 2 Intermediate volcanics
 - 2a - andesite
 - 2b - dacite
 - 1 Mafic volcanics

Scale
Vertical 1:500
East-West 1:4000
North-South 1:2000

Ministère de l'Énergie et des Ressources
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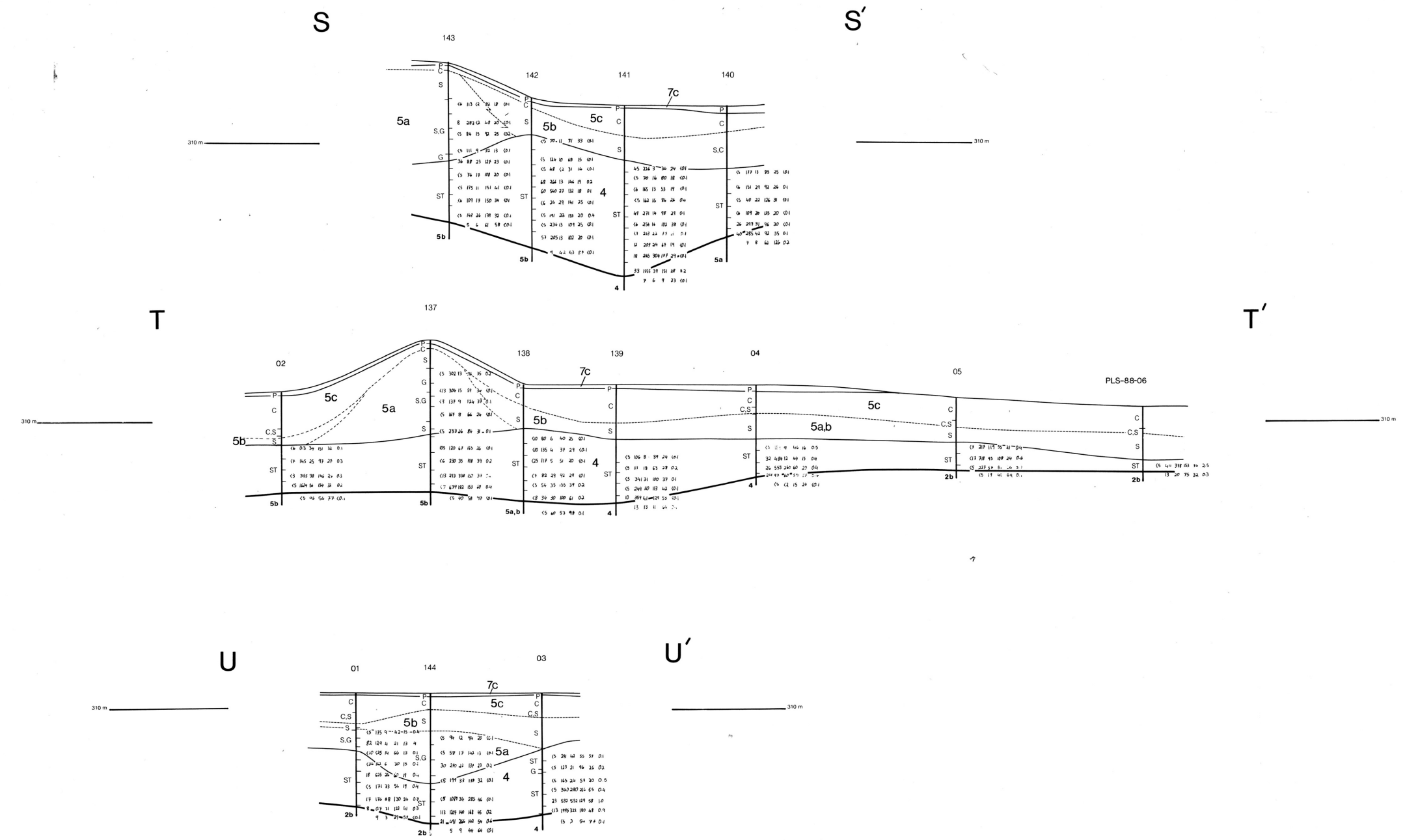
MINNOVA INC.
LAC SHORTT PROJECT
PN : 090,114,116 PROPERTIES
BOYVINET, LESUEUR AND GAND TOWNSHIPS
Figure 28 - Sections
O'-O'' and P'-P''



- LEGEND**
Abitibi Quaternary Stratigraphy
- HOLOCENE**
Present
7 Holocene Sediments
7c - forest-peat member
7b - lacustrine member
7a - fluvial member
- PLEISTOCENE**
10,000 Years B.P.
6 Cochrane Till
5 Ojibway II Sediments
5e - littoral and aeolian member
5d - Cochrane member
5c - glaciolacustrine clay member
5b - glaciolacustrine sand member
5a - glaciolacustrine member
4 Chibougamau/Matheson Till
- 100,000 Years B.P.
3 EARLY WISCONSINAN AND SANGAMON
3 Missinabi Formation
3c - Ojibway I member
3b - forest-peat member
3a - fluvial member
- ILLINOIAN**
2 Lower Till and Sediments
- 1,000,000 Years B.P.
1 YARMOUTH AND KANSAN
1 Older Till and Sediments
- Sediment Varieties**
P Peat
C Clay, silt
S Sand
G Gravel
ST Sand-silt till; clay subordinate
CT Clay till
- Symbols**
Quaternary/bedrock unconformity
Interglacial unconformity
Quaternary unit boundary
Quaternary subunit boundary
- Geochemistry**
ST 5 240 20 123 53 0.2
Sand-silt till interval with less than 5 ppb Au in the -250 mesh fraction and 240 ppb Au, 20 ppm As, 123 ppm Cu, 53 ppm Zn, and 0.2 ppm Ag in the non-magnetic heavy mineral fraction (S.G. greater than 3.3).
- Bedrock Lithology**
8 Opawica Pluton
8a - gabbro
8b - diorite
8c - quartz diorite
8d - syenite
7 Gabbro
6 Chemical sediments
6a - iron formation
6b - chert
5 Clastic sediments
5a - greywacke
5b - siltstone
4 Felsic volcanics
3 Intermediate tuffs
2 Intermediate volcanics
2a - andesite
2b - dacite
1 Mafic volcanics
- Scale**
Vertical 1:500
East-West 1:4000
North-South 1:2000

Ministère de l'Énergie et des Ressources
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MINNOVA INC.
LAC SHORTT PROJECT
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BOYVINET, LESUEUR AND GAND TOWNSHIPS
Figure 29 - Sections Q-Q', Q-Q', and R-R'
BY OVERBURDEN DRILLING MANAGEMENT LIMITED DECEMBER 1988



- LEGEND**
Abitibi Quaternary Stratigraphic
- HOLOCENE**
Present
7 Holocene Sediments
7c - forest-peat member
7b - lacustrine member
7a - fluvial member
- PLEISTOCENE**
10,000 Years B.P.
6 Cochrane Till
5 Ojibway II Sediments
5e - littoral and plian member
5d - Cochrane member
5c - glaciolacustrine clay member
5b - glaciolacustrine sand member
5a - glacioluvial member
4 Chibougamau/Milesion Till
- 100,000 Years B.P.
EARLY WISCONSINAN AND SANGAMON
3 Missinabi Formation
3c - Ojibway I member
3b - forest-peat member
3a - fluvial member
- ILLINOIAN**
2 Lower Till and Sediments
- 1,000,000 Years B.P.
YARMOUTH AND KANAN
1 Older Till and Sediments
- Sediment Varieties**
P Peat
C Clay, silt
S Sand
G Gravel
ST Sand-silt till; clay subordinate
CT Clay till
- Symbols**
Quaternary/bedrock unconformity
Interglacial unconformity
Quaternary unit boundary
Quaternary subunit boundary

Geochemistry
Sand-silt till interval with less than 5 ppb Au in the -250 mesh fraction and 240 ppb Au, 20 ppm As, 12 ppm Cu, 53 ppm Zn, and 0.2 ppm Ag in the non-magnetic heavy mineral fraction (S.G. greater than 3.3).

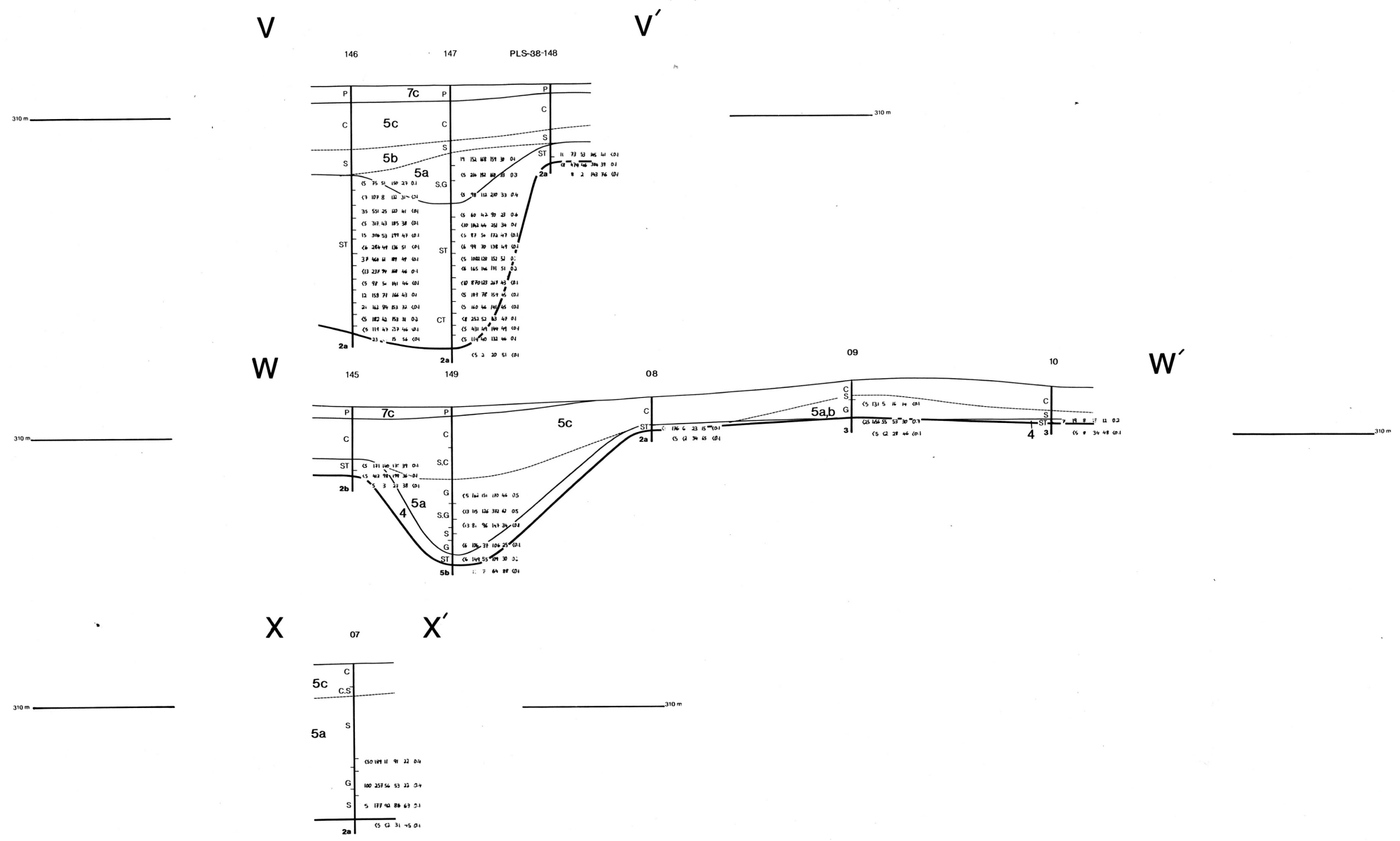
ST 45 240 20 123 53 0.2

- Bedrock Lithology**
- 8 Opawica Pluton
8a - gabbro
8b - diorite
8c - quartz diorite
8d - syenite
- 7 Gabbro
- 6 Chemical sediments
6a - iron formation
6b - chert
- 5 Clastic sediments
5a - greywacke
5b - siltstone
- 4 Felsic volcanics
- 3 Intermediate tuffs
- 2 Intermediate volcanics
2a - andesite
2b - dacite
- 1 Mafic volcanics

Scale
Vertical 1:500
East-West 1:5000
North-South 1:1500

Ministère de l'Énergie et des Ressources
Service de la Géoinformation
Date: 11 MAI 1989
No G.M.: 48504

MINNOVA INC.
LAC SHORTT PROJECT
PN : 090,114,116 PROPERTIES
BOYVINET, LESUEUR AND GAND TOWNSHIPS
Figure 30 - Sections S-S, T-T, and U-U



LEGEND
Abitibi Quaternary Stratigraphy

HOLOCENE
Present
7 Holocene Sediments
7c - forest-peat member
7b - lacustrine member
7a - fluvial member

PLEISTOCENE
10,000 Years B.P.
6 Cochrane Till
5 Ojibway II Sediments
5e - littoral and aeolian member
5d - Cochrane member
5c - glaciolacustrine clay member
5b - glaciolacustrine sand member
5a - glacioluvial member
Chibougamau/Matheson Till
4
100,000 Years B.P.
3 Missinabi Formation
3c - Ojibway I member
3b - forest-peat member
3a - fluvial member

ILLINOIAN
2 Lower Till and Sediments

1,000,000 Years B.P.
YARMOUTH AND KANSAN
1 Older Till and Sediments

Sediment Varieties
P Peat
C Clay, silt
S Sand
G Gravel
ST Sand-silt till; clay subordinate
CT Clay till

Symbols
Quaternary/bedrock unconformity
Interglacial unconformity
Quaternary unit boundary
Quaternary subunit boundary

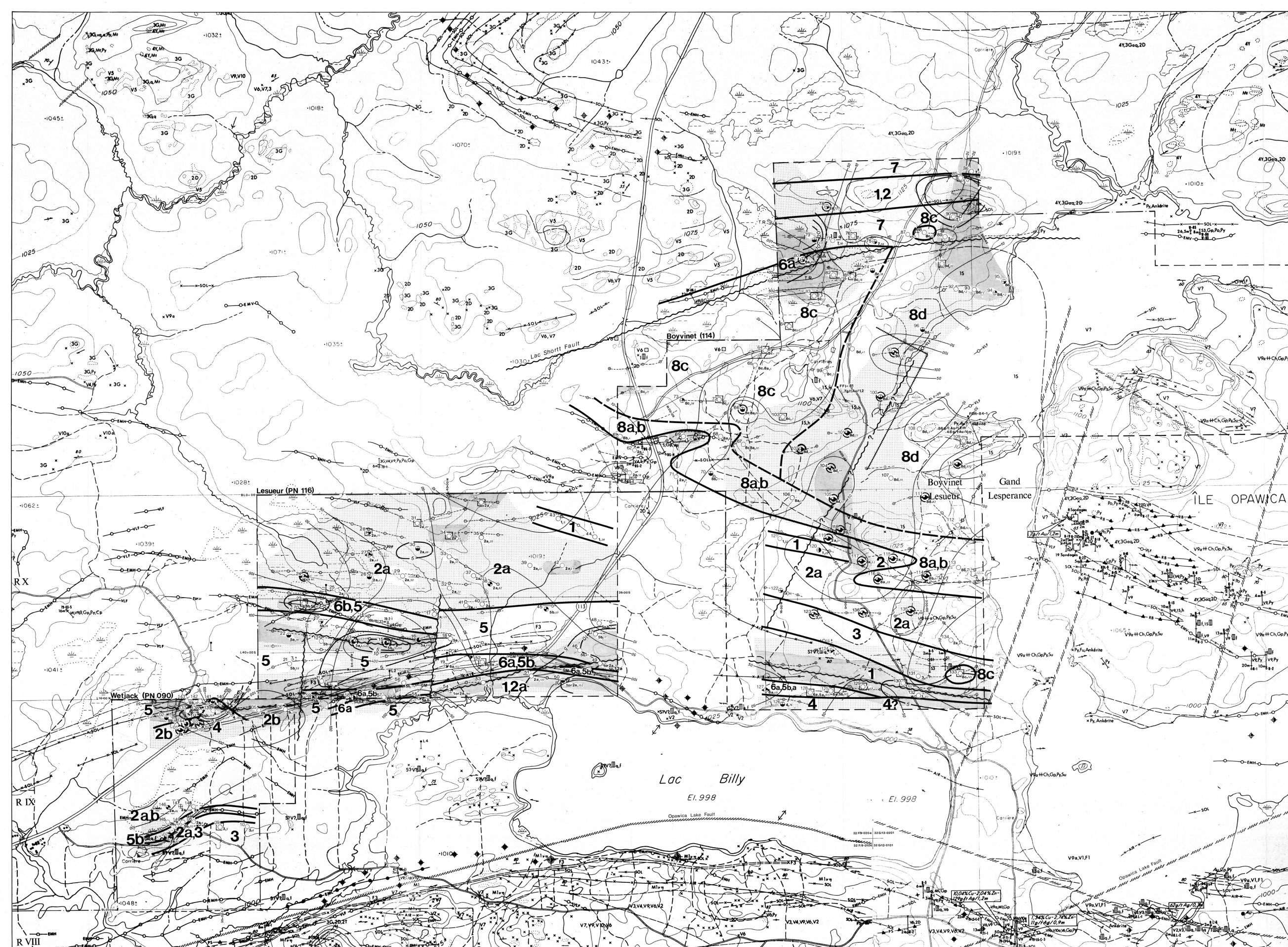
Geochemistry
ST 5 240 20 123 53 0.2
Sand-silt till interval with less than 5 ppb Au in the -250 mesh fraction and 240 ppb Au, 20 ppm As, 123 ppm Cu, 53 ppm Zn, and 0.2 ppm Ag in the non-magnetic heavy mineral fraction (S.G. greater than 3.3).

Bedrock Lithology
8 Opawica Pluton
8a - gabbro
8b - diorite
8c - quartz diorite
8d - syenite
7 Gabbro
6 Chemical sediments
6a - iron formation
6b - chert
5 Clastic sediments
5a - greywacke
5b - siltstone
4 Felsic volcanics
3 Intermediate tuffs
2 Intermediate volcanics
2a - andesite
2b - dacite
1 Mafic volcanics

Scale
Vertical 1:500
East-West 1:4000
North-South 1:1500

Ministère de l'Énergie et des Ressources
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MINNOVA INC.
LAC SHORTT PROJECT
PN : 090,114, 116 PROPERTIES
BOYVINET, LESUEUR AND GAND TOWNSHIPS
Figure 31 - Sections V-V', W-W', and X-X'
BY OVERBURDEN DRILLING MANAGEMENT LIMITED DECEMBER 1988



Ministère de l'Énergie et des Ressources
 Service de la Géologie
 Date: 11 MAI 1988
 No. G.M.: 18504

TABLE OF ELEVATED BEDROCK GEOCHEMISTRY

Sample No.	Gold (ppm)	Arsenic (ppm)	Copper (ppm)	Zinc (ppm)	Silver (ppm)
PLS-88-02-01	1.5	45	34	77	0.1
06-02	1.2	42	32	75	0.1
11-09	1.1	40	30	72	0.1
13-03	1.0	38	28	70	0.1
14-05	0.9	36	26	68	0.1
15-08	0.8	34	24	66	0.1
16-11	0.7	32	22	64	0.1
17-14	0.6	30	20	62	0.1
18-17	0.5	28	18	60	0.1
19-20	0.4	26	16	58	0.1
20-23	0.3	24	14	56	0.1
21-26	0.2	22	12	54	0.1
22-29	0.1	20	10	52	0.1
23-32	0.1	18	8	50	0.1
24-35	0.1	16	6	48	0.1
25-38	0.1	14	4	46	0.1
26-41	0.1	12	2	44	0.1
27-44	0.1	10	0	42	0.1
28-47	0.1	8	0	40	0.1
29-50	0.1	6	0	38	0.1
30-53	0.1	4	0	36	0.1
31-56	0.1	2	0	34	0.1
32-59	0.1	0	0	32	0.1
33-62	0.1	0	0	30	0.1
34-65	0.1	0	0	28	0.1
35-68	0.1	0	0	26	0.1
36-71	0.1	0	0	24	0.1
37-74	0.1	0	0	22	0.1
38-77	0.1	0	0	20	0.1
39-80	0.1	0	0	18	0.1
40-83	0.1	0	0	16	0.1
41-86	0.1	0	0	14	0.1
42-89	0.1	0	0	12	0.1
43-92	0.1	0	0	10	0.1
44-95	0.1	0	0	8	0.1
45-98	0.1	0	0	6	0.1
46-101	0.1	0	0	4	0.1
47-104	0.1	0	0	2	0.1
48-107	0.1	0	0	0	0.1
49-110	0.1	0	0	0	0.1
50-113	0.1	0	0	0	0.1
51-116	0.1	0	0	0	0.1
52-119	0.1	0	0	0	0.1
53-122	0.1	0	0	0	0.1
54-125	0.1	0	0	0	0.1
55-128	0.1	0	0	0	0.1
56-131	0.1	0	0	0	0.1
57-134	0.1	0	0	0	0.1
58-137	0.1	0	0	0	0.1
59-140	0.1	0	0	0	0.1
60-143	0.1	0	0	0	0.1
61-146	0.1	0	0	0	0.1
62-149	0.1	0	0	0	0.1
63-152	0.1	0	0	0	0.1
64-155	0.1	0	0	0	0.1
65-158	0.1	0	0	0	0.1
66-161	0.1	0	0	0	0.1
67-164	0.1	0	0	0	0.1
68-167	0.1	0	0	0	0.1
69-170	0.1	0	0	0	0.1
70-173	0.1	0	0	0	0.1
71-176	0.1	0	0	0	0.1
72-179	0.1	0	0	0	0.1
73-182	0.1	0	0	0	0.1
74-185	0.1	0	0	0	0.1
75-188	0.1	0	0	0	0.1
76-191	0.1	0	0	0	0.1
77-194	0.1	0	0	0	0.1
78-197	0.1	0	0	0	0.1
79-200	0.1	0	0	0	0.1
80-203	0.1	0	0	0	0.1
81-206	0.1	0	0	0	0.1
82-209	0.1	0	0	0	0.1
83-212	0.1	0	0	0	0.1
84-215	0.1	0	0	0	0.1
85-218	0.1	0	0	0	0.1
86-221	0.1	0	0	0	0.1
87-224	0.1	0	0	0	0.1
88-227	0.1	0	0	0	0.1
89-230	0.1	0	0	0	0.1
90-233	0.1	0	0	0	0.1
91-236	0.1	0	0	0	0.1
92-239	0.1	0	0	0	0.1
93-242	0.1	0	0	0	0.1
94-245	0.1	0	0	0	0.1
95-248	0.1	0	0	0	0.1
96-251	0.1	0	0	0	0.1
97-254	0.1	0	0	0	0.1
98-257	0.1	0	0	0	0.1
99-260	0.1	0	0	0	0.1
100-263	0.1	0	0	0	0.1

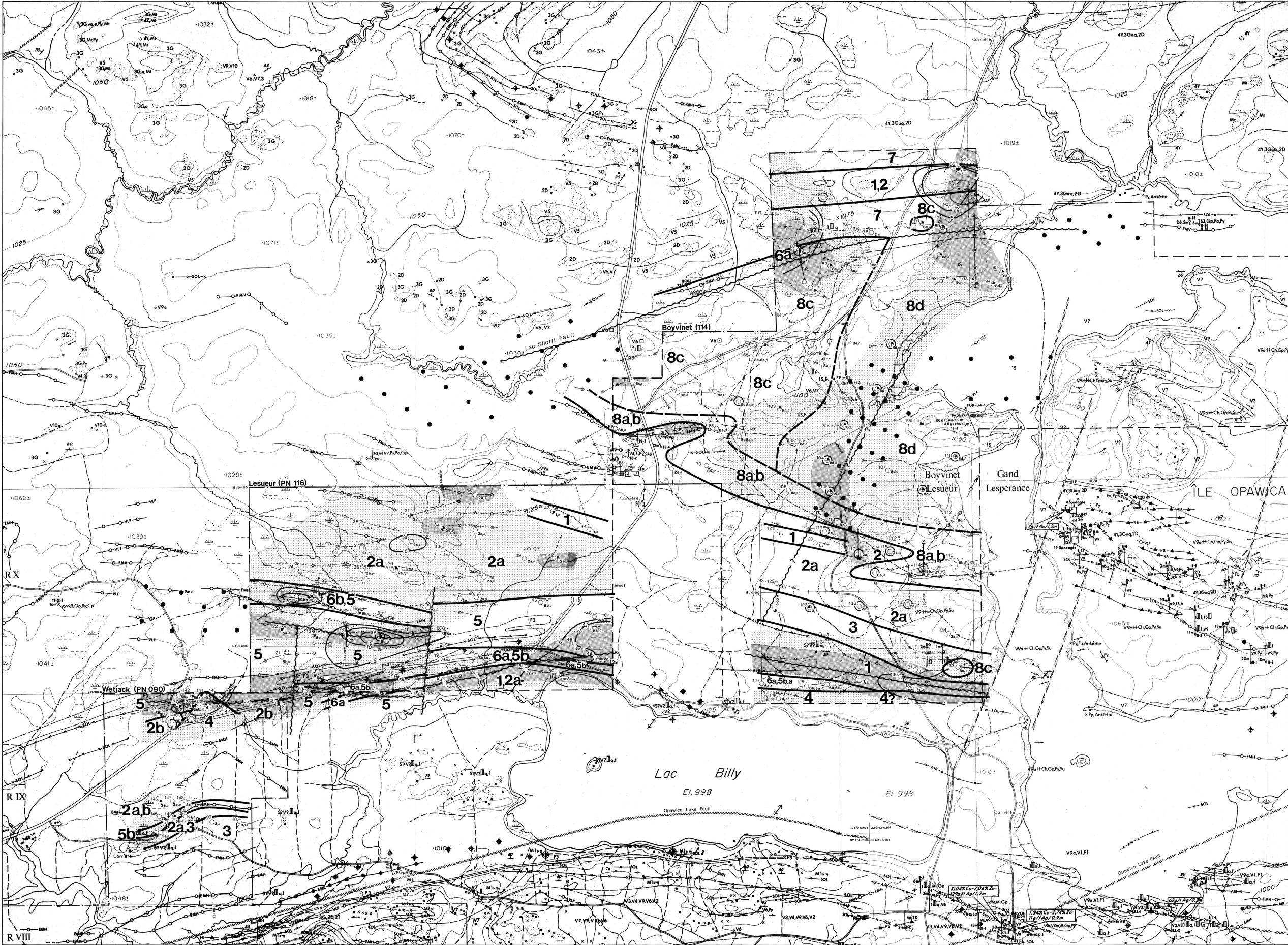
- ODM LEGEND
- Bedrock Lithology
- 8 Opawica Pluton
 - 8a - gabbro
 - 8b - giorite
 - 8c - quartz diorite
 - 8d - syenite
 - 7 Gabbro
 - 6 Chemical sediments
 - 6a - Iron formation
 - 6b - chert
 - 5 Clastic sediments
 - 5a - greywacke
 - 5b - siltstone
 - 4 Felsic volcanics
 - 3 Intermediate tuffs
 - 2 Intermediate volcanics
 - 2a - andesite
 - 2b - dacite
 - 1 Mafic volcanics

- Symbols
- 131 1988 reverse circulation drill hole No. PLS-88-131; bedrock intersection of Unit 3, highest Chibougamau Till (or equivalent sediments). H.M.C. 3/4 assay of 10 ppm As (N=5 = no sample)
 - Unit contact
 - Submit contact
 - Axis of shearing, fault
 - Zone of strong shearing
 - Zone of weak shearing
 - Hydrothermal carbonate contours; contours at 5, 10 and 20 percent
 - H.M. As contours; contours at 10, 50, 100 and 400 ppm As
 - Strong VLF conductor (Chamchib)
 - Weak VLF conductor (Chamchib)
 - Ground magnetic axis over 5000 gammas (Chamchib or Falcoiridge Copper)
 - Ground magnetic axis over 1000 gammas (Chamchib or Falcoiridge Copper)
 - No Chibougamau Till intersected
- Heavy Mineral Gold Anomalies
- Ten or more visible gold grains or greater than 1000 ppb gold
 - Ten or more visible gold grains
 - Greater than 1000 ppb gold
 - Stratigraphic continuity
 - Elevated pathfinder element
 - Five or more delicate plus irregular gold grains
 - Potentially significant

MINNOVA INC.
 LAC SHORTT PROJECT
 PN : 090,114,116 PROPERTIES
 BOYVINET, LESUEUR AND GAND TOWNSHIPS

Plan 3
 BEDROCK GEOLOGY
 AND HEAVY MINERAL
 GEOCHEMISTRY

BY OVERBURDEN DRILLING MANAGEMENT LIMITED DECEMBER 1988
 SCALE 1:8000



Ministère de l'Énergie et des Ressources
 Service de la Géolocalisation
 Date: 11 MAI 1989
 No. C.M.: 35504

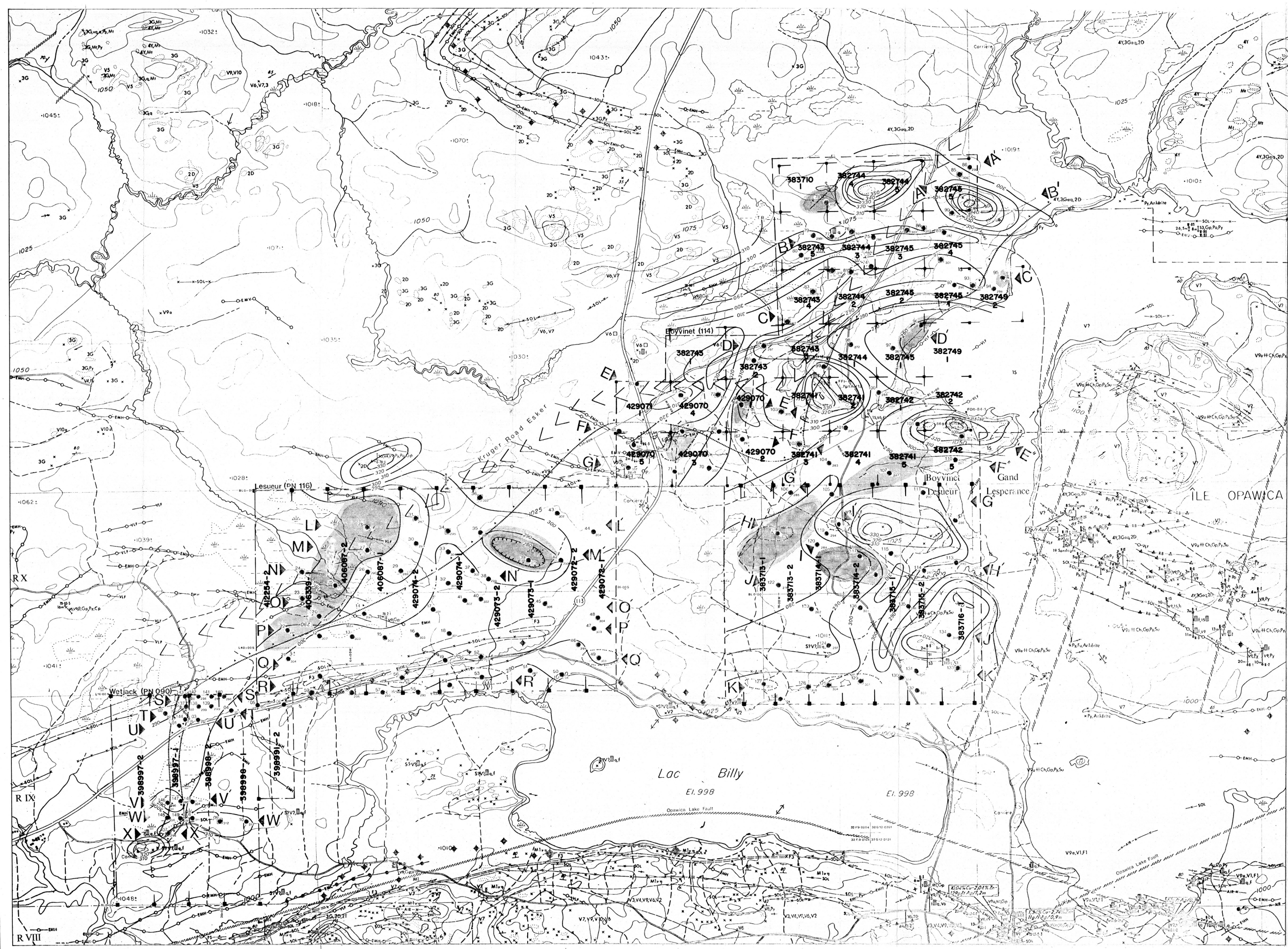
TABLE OF ELEVATED BEDROCK CHEMISTRY

Sample No.	Gold (g/ton)	Arsenic (g/ton)	Copper (g/ton)	Zinc (g/ton)	Silver (g/ton)
PLS-88-0041	1.2	1.0	1.0	1.0	0.1
00-02	1.2	1.0	1.0	1.0	0.1
10-01	1.2	1.0	1.0	1.0	0.1
10-02	1.2	1.0	1.0	1.0	0.1
10-03	1.2	1.0	1.0	1.0	0.1
10-04	1.2	1.0	1.0	1.0	0.1
10-05	1.2	1.0	1.0	1.0	0.1
10-06	1.2	1.0	1.0	1.0	0.1
10-07	1.2	1.0	1.0	1.0	0.1
10-08	1.2	1.0	1.0	1.0	0.1
10-09	1.2	1.0	1.0	1.0	0.1
10-10	1.2	1.0	1.0	1.0	0.1
10-11	1.2	1.0	1.0	1.0	0.1
10-12	1.2	1.0	1.0	1.0	0.1
10-13	1.2	1.0	1.0	1.0	0.1
10-14	1.2	1.0	1.0	1.0	0.1
10-15	1.2	1.0	1.0	1.0	0.1
10-16	1.2	1.0	1.0	1.0	0.1
10-17	1.2	1.0	1.0	1.0	0.1
10-18	1.2	1.0	1.0	1.0	0.1
10-19	1.2	1.0	1.0	1.0	0.1
10-20	1.2	1.0	1.0	1.0	0.1
10-21	1.2	1.0	1.0	1.0	0.1
10-22	1.2	1.0	1.0	1.0	0.1
10-23	1.2	1.0	1.0	1.0	0.1
10-24	1.2	1.0	1.0	1.0	0.1
10-25	1.2	1.0	1.0	1.0	0.1
10-26	1.2	1.0	1.0	1.0	0.1
10-27	1.2	1.0	1.0	1.0	0.1
10-28	1.2	1.0	1.0	1.0	0.1
10-29	1.2	1.0	1.0	1.0	0.1
10-30	1.2	1.0	1.0	1.0	0.1
10-31	1.2	1.0	1.0	1.0	0.1
10-32	1.2	1.0	1.0	1.0	0.1
10-33	1.2	1.0	1.0	1.0	0.1
10-34	1.2	1.0	1.0	1.0	0.1
10-35	1.2	1.0	1.0	1.0	0.1
10-36	1.2	1.0	1.0	1.0	0.1
10-37	1.2	1.0	1.0	1.0	0.1
10-38	1.2	1.0	1.0	1.0	0.1
10-39	1.2	1.0	1.0	1.0	0.1
10-40	1.2	1.0	1.0	1.0	0.1
10-41	1.2	1.0	1.0	1.0	0.1
10-42	1.2	1.0	1.0	1.0	0.1
10-43	1.2	1.0	1.0	1.0	0.1
10-44	1.2	1.0	1.0	1.0	0.1
10-45	1.2	1.0	1.0	1.0	0.1
10-46	1.2	1.0	1.0	1.0	0.1
10-47	1.2	1.0	1.0	1.0	0.1
10-48	1.2	1.0	1.0	1.0	0.1
10-49	1.2	1.0	1.0	1.0	0.1
10-50	1.2	1.0	1.0	1.0	0.1

- ODM LEGEND**
- Bedrock Lithology**
- 8 Opaowica Pluton
 - 8a - gabbro
 - 8b - diorite
 - 8c - quartz diorite
 - 8d - syenite
 - 7 Gabbro
 - 6 Chemical sediments
 - 6a - iron formation
 - 6b - chert
 - 5 Clastic sediments
 - 5a - greywacke
 - 5b - siltstone
 - 4 Felsic volcanics
 - 3 Intermediate tuffs
 - 2 Intermediate volcanics
 - 2a - andesite
 - 2b - dacite
 - 1 Mafic volcanics
- Symbols**
- 133 1988 reverse circulation drill hole No. PLS-88-133; bedrock intersection of unit 8c, 5% hydrothermal carbonate (total Fe/Mg carbonate + total disseminated calcite > 5%)
 - Unit contact
 - Subsist contact
 - Axis of shearing, fault
 - Zone of strong shearing
 - Zone of weak shearing
 - Hydrothermal carbonate contour; contours at 5, 10 and 20 percent
 - Strong VLF conductor (Chamchib)
 - Weak VLF conductor (Chamchib)
 - Ground magnetic axis over 5000 gammas (Chamchib or Falconbridge Copper)
 - Ground magnetic axis over 1000 gammas (Chamchib or Falconbridge Copper)
 - Dispersal train-type overburden gold anomaly
 - Proposed follow-up reverse circulation drill hole
 - Proposed follow-up diamond drill hole
- Bedrock Geochemistry**
- Gold assay of 10 ppb or greater
 - Arsenic assay of 20 ppm or greater
 - Copper assay of 200 ppm or greater
 - Zinc assay of 200 ppm or greater
- Notes: MERQ geoscientific compilation legend in pocket

MINNOVA INC.
LAC SHORTT PROJECT
 PN : 090,114,116 PROPERTIES
 BOYVINET, LESUEUR AND GAND TOWNSHIPS
Plan 1
BEDROCK GEOLOGY,
CARBONATE ALTERATION
AND PROPOSED EXPLORATION

SCALE: 1:50,000
 BY OVERBURDEN DRILLING MANAGEMENT LIMITED DECEMBER 1988



Ministère de l'Énergie et des Ressources
 Service de la Géoinformation
 File: 116-1116-000
 No. cat.: 1552/4

- ODM LEGEND
- 01 1988 reverse circulation drill hole No. PLS-83-21; bedrock elevation of 297 m above sea level
 - 10 Bedrock topography contour; 10 m intervals
 - A-A' Location of Quaternary Section A-A'
 - Area underlain by Mississippian Formation (Unit 3)
 - Area underlain by Lower Till (Unit 2)
 - Chibougamau Till (Unit 4) not intersected
 - Axis of Kruyer Road Esker
 - Subsurface extent of esker (Subunit 3a)
 - Subsurface extent of DeGeer moraine (Subunit 3a)

Note: MERQ Compilation legend in packet

MINNOVA INC.
 LAC SHORT PROJECT
 PN: 090,114,116 PROPERTIES
 BOYVINET, LESUEUR AND GAND TOWNSHIPS

Plan 2
 BEDROCK TOPOGRAPHY
 AND QUATERNARY GEOLOGY
 CLAIM MAP

BY OVERBURDEN DRILLING MANAGEMENT LIMITED DECEMBER 1988
 RECQ
 1988-14-5
 0 100 200 300 400 500
 SCALE 1:50,000



LÉGENDE DE LA COMPILATION GÉOSCIENTIFIQUE

(2e édition, 1984)

ROCHES VOLCANIQUES ARCHÉENNES

V	Roches volcaniques indéterminées
V1	Roches volcaniques felsiques ou intermédiaires
V2	Rhyolite
V3	Trachyte
V4	Dacite
V5	Roches volcaniques intermédiaires ou mafiques
V6	Andésite
V7	Basalte
V8	Roches pyroclastiques indéterminées
V9	Tuf
V10	Agglomérat

ROCHES MÉTAMORPHIQUES

M	Roches métamorphiques indéterminées
M1	Schiste
M3	Roches hybrides
M5	Migmatite
M7	Gneiss
M8	Amphibolite
M9	Granulite
M10	Mylonite
M11	Quartzite
M12	Marbre

ROCHES SÉDIMENTAIRES ARCHÉENNES

S	Roches sédimentaires indéterminées
S1	Conglomérat
S2	Arkose
S3	Grauwacke
S4	Argilite, shale, ardoise, phyllade
S5	Quartzite

ROCHES INTRUSIVES

1	Roches intrusives felsiques indéterminées
1S	Syénite
1Q	Syénite quartzique
1F	Syénite à feldspath alcalin
1E	Syénite quartzique à feldspath alcalin
1G	Granite
1C	Granite à feldspath alcalin
1A	Monzonite quartzique
1M	Monzonite
1N	Monzodiorite quartzique
1T	Tonalite
1D	Granodiorite
1P	Pegmatite
1B	Albite
1X	Aplite
1Z	Granophyre
1R	Rhyolite et felsite intrusive

FORMATIONS DE FER ARCHÉENNES

F1	Formation de fer indéterminée
F2	Formation de fer sulfurée
F3	Formation de fer oxydée
F4	Formation de fer carbonatée

ROCHES SÉDIMENTAIRES PROTÉROZOÏQUES

P	Roches sédimentaires indéterminées
P1	Conglomérat
P2	Arkose
P3	Grauwacke
P4	Quartzite et grès
P5	Argilite, shale, ardoise et phyllade
P6	Formation de fer
P7	Dolomie et autres-roches à carbonates
P8	Tillite

ROCHES SÉDIMENTAIRES PALÉOZOÏQUES

P1	Calcaire
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2	Roches intrusives intermédiaires indéterminées
2T	Diorite quartzique
2M	Monzodiorite
2D	Diorite
2L	Lamprophyre intermédiaire
3	Roches intrusives mafiques indéterminées
3G	Gabbro
3N	Norite
3R	Anorthosite
3L	Lamprophyre mafique ou indéterminé
3D	Diabase
4	Roches intrusives ultramafiques
4P	Péridotite
4H	Hornblendite
4S	Serpentinite
4D	Dunite
4Y	Pyroxénite
4L	Lamprophyre ultramafique

SUFFIXES POUR LES MINÉRAUX DES ROCHES

b	biotite	j	carbonate	s	staurotide
c	chlorite	k	séricite-paragonite	t	trémolite-actinote
d	disthène	m	muscovite	u	amphibole (indéterminé)
e	épidote	n	néphéline	v	**veine de
f	feldspath (indéterminé)	o	feldspath-potassique	w	tourmaline
g	grenat	p	plagioclase	x	sillimanite
h	hornblende	q	quartz	y	pyroxène
i	talc	r	chloritoïde	z	zéolite

**A utiliser avec un autre suffixe de minéral (vq. veine de quartz)

SUFFIXES POUR COMPOSITION, ORIGINE ET ALTÉRATION

COMPOSITION		ALTÉRATION			
α	felsique	ω	amphibolitisée	λ	séricitisée
β	mafique	σ	silicifiée	η	carbonatisée
γ	ultramafique	μ	albitisée	χ	serpentinisée
ORIGINE		π	pyritisée	κ	altération potassique
δ	sédimentaire	ε	épidotisée	τ	altération indéterminée
ν	volcanique	θ	porphyritisée	ζ	skarn
ψ	intrusive	φ	chloritisée	ξ	cornéenne

SUFFIXES POUR LES SUBSTANCES D'INTÉRÊT ÉCONOMIQUE MINÉRAUX ET ROCHES

Am	amiante	Fp	feldspath	Pn	pentlandite
Ay	anthophyllite	Fl	fluorine	Pc	pièce de construction
Ap	apatite	Gn	galène	Pm	pièce ornementale
Asp	arsénopyrite	Gp	graphite	Py	pyrite
Ba	barytine			Pi	pyrophyllite
Be	béryl	Hem	hématite	Po	pyrrhotine
Bs	bismuth			Ra	minéraux radioactifs
Bo	bornite	Ilm	ilménite	Sh	scheelite
Cp	chalcopryrite	Mt	magnétite	Sd	sidérose
Cn	chalcosine	Mc	malachite	Si	silice
Ch	chert, jaspe	Ma	marcasite	Sp	sphalérite
Cr	chromite	Mi	mica	Sm	spodumène
Ct	cordiérite	Md	minéraux décoratifs	Su	sulfures (indéterminés)
Cor	corindon	Mo	molybdénite	Ta	tantalite
Cv	covelline	Oi	olivine		
Fu	Fuchsite				

SUFFIXES POUR STRUCTURES PÉTROGRAPHIQUES ET TEXTURES CARACTÉRISTIQUES

□	porphyre (plus de 50% de phénocristaux)	—	turbidites
□	porphyrique (10% à 50% de phénocristaux)	△	bréchiforme
•	variolitique, sphérolitique	▲	brèche tectonique
⊕	coussinée	▲	brèche intrusive
○	amygdalaire	▲	brèche pyroclastique
✱	à spinifex	△	brèche explosive
†	rubanée	△	brèche de coulée
‡	cisaillée	△	hyaloclastique

SYMBOLES D'ANOMALIES GÉOCHIMIQUES ET SYMBOLES D'ANOMALIES MINÉRALOGIQUES DES ALLUVIONS

SR	SÉDIMENTS DE RUISSEAU
SL	SÉDIMENTS DE FOND DE LAC
SO	SOLS
EZ	Eaux souterraines
ES	Eaux de surface
VG	VÉGÉTAUX
R	ROCHES
ML	MINÉRAUX LOURDS (BATTÉE)
FA	FORAGE ALLUVIONNAIRE

Les zones de fortes teneurs géochimiques sont délimitées par une ligne de contour renfermant l'identification du genre de levé et interrompue par le symbole des éléments d'intérêt.

12m Δ SONDAGE ALLUVIONNAIRE (avec profondeur en mètres à gauche). On remarquera que les sondages alluvionnaires sont reportés sur la couche 3.

SYMBOLES DES ANOMALIES GÉOPHYSIQUES

LEVÉ DE RÉSISTIVITÉ: (a) axe de hautes valeurs (b) axe de basses valeurs

LEVÉ DE POLARISATION PROVOQUÉE axe de hautes valeurs

LEVÉS DE POTENTIEL SPONTANÉ

LEVÉS ÉLECTROMAGNÉTIQUES AÉRIENS: (a) TURAIR (b) radiophase, E-phase (c) systèmes conventionnels (d) AFMAG (e) systèmes multifréquences (excluant l'INPUT) (f) largeur d'anomalie rapportée; le pointillé indique la direction du levé (g) systèmes en mode pulsatoire (h) autres systèmes semi-aéroportés

LEVÉ ÉLECTROMAGNÉTIQUE AÉRIEN SYSTÈME INPUT: (a) 2 canaux (avec produit conductivité-épaisseur, ρhσ) (b) 3 canaux (c) 4 canaux (d) 5 canaux (e) 6 canaux (f) anomalie magnétique coincidente (g) anomalie magnétique juxtaposée

LEVÉS ÉLECTROMAGNÉTIQUES AU SOL: (a) systèmes à cadres horizontaux (avec produit conductivité-épaisseur, ρhσ) (b) systèmes à cadres verticaux (c) systèmes TURAIM (d) systèmes à très basse fréquence (e) systèmes en mode pulsatoire

LEVÉS MAGNÉTIQUES (AXES DE HAUTES VALEURS): (a) aériens (b) au sol

LEVÉ GRAVIMÉTRIQUE: (a) haut gravimétrique (b) bas gravimétrique

LEVÉ RADIOMÉTRIQUE OU DE SPECTROMÉTRIE DES RAYONS GAMMA: (a) uranium (b) thorium (c) rapport uranium/thorium (d) total (e) potassium

SYMBOLES DES INTERSECTIONS ET ZONES MINÉRALISÉES

INTERSECTION MINÉRALISÉE	ZONE MINÉRALISÉE
Identification de la substance, teneur et longueur de la minéralisation indiquée par le sondage.	Nom de la zone (s'il y en a un), identification de la substance et réserves connues et / ou production

SYMBOLES DE SONDAGES

SONDAGE VERTICAL

La première couche lithologique rencontrée y est indiquée à droite et le numéro d'identification du sondage au-dessus du symbole si un journal de sondage existe dans les dossiers consultés.

SONDAGE INCLINÉ AVEC PROJECTION HORIZONTALE

(a) profondeur connue (b) profondeur inconnue

Sondage incliné avec projection horizontale de la lithologie recoupée. La profondeur verticale du mort-terrain y est indiquée en mètres à gauche et le numéro d'identification du sondage au-dessus ou à droite. Ce numéro d'identification correspond exactement à celui donné dans les dossiers de travaux statistiques consultés et ne figure sur la carte de compilation que lorsque les journaux de sondage sont disponibles.

SONDAGE POUR ALIMENTATION EN EAU

La première couche lithologique rencontrée y est indiquée à droite et le numéro d'identification du sondage au-dessus du symbole si un journal de sondage existe dans les dossiers consultés.

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Date: 11 MAI 1989
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SYMBOLES STRUCTURAUX

ISOGRADE DE MÉTAMORPHISME: Le sommet des points indique le sens croissant du grade de métamorphisme. Le nom du(des) minéral(aux) indicateur(s) est(sont) inscrit(s) en toute lettre sur le côté de l'isograde où il(l)s est(sont) présent(s)

LINÉAMENT (obtenu par photo-interprétation)

PLIS

ANTIFORMES: (a) plan axial déterminé, (b) présumé

ANTIFORMES DÉVERSÉS: (a) plan axial déterminé, (b) présumé

SYNFORMES: (a) plan axial déterminé, (b) présumé

SYNFORMES DÉVERSÉS: (a) plan axial déterminé, (b) présumé

PLIS D'ENTRAÎNEMENT: (a) dextre, (b) senestre; (utilisé avec ou sans plongée et pendage)

AXE DE PLISSEMENT AVEC PLONGÉE

FAILLES, ZONES DE CISAILLEMENT: (a) connue, (b) présumée, (c) d'après levés géophysiques, (d) inclinée, (e) avec sens de déplacement, (f) avec affaissement (le cercle plein indique le côté affaissé), (g) faille de charriage (les pointes sont sur le côté relevé), (h) faille de charriage présumée

CONTRACT DE COULÉES

SYMBOLES GÉOMORPHOLOGIQUES

STRIES GLACIAIRES: (a) sens du mouvement connu, (b) inconnu

MORAINE FRONTALE

ESKERS: (a) sens d'écoulement connu, (b) inconnu

LIMITES DE TRANSGRESSION MARINE OU DE SUBMERSION LACUSTRE: (a) connue, (b) présumée

SYMBOLES DES GÎTES MINÉRAUX

STOCKWORK

FILON (en vraies forme et dimension)

FILON (ne pouvant être présenté en vraie dimension à l'échelle de la carte)

AMAS MINÉRALISÉ (en vraies forme et dimension)

AMAS MINÉRALISÉ (ne pouvant être présenté en vraie dimension à l'échelle de la carte)

INDICE OU POINT MINÉRALISÉ

INTERSECTION MINÉRALISÉE DANS UN SONDAGE

SYMBOLES DES INSTALLATIONS MINIÈRES

PUITS DE MINE (AVEC CHEVALEMENT): (a) vertical, (b) incliné

PUITS D'EXPLORATION (SANS CHEVALEMENT): (a) vertical, (b) incliné

PUITS ABANDONNÉS

TRANCHÉE

GRAVIÈRES OU SABLIERES: (a) en exploitation, (b) abandonnée

MINE À CIEL OUVERT

GALERIES D'EXPLORATION À FLANC DE COTEAU (ADIT): (a) en usage, (b) abandonnée

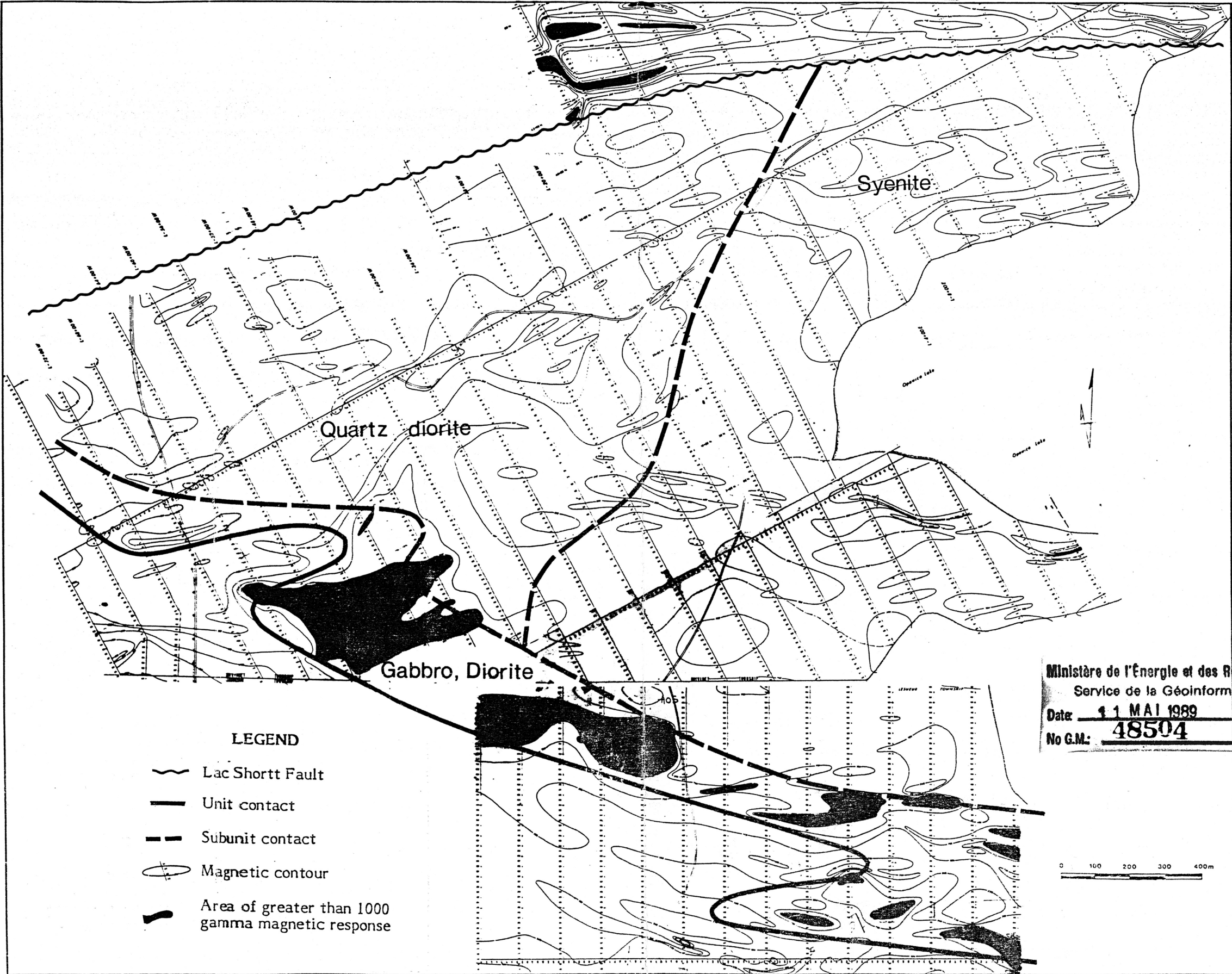
GALERIES DE PRODUCTION À FLANC DE COTEAU (a) en usage, (b) abandonnée

CHANTIERS SOUTERRAINS: profondeur en mètres

BÂTIMENTS

HALDE DE MINÉRAI

PARC À DÉCHETS



LEGEND

- ~ Lac Shortt Fault
- Unit contact
- - Subunit contact
- Magnetic contour
- Area of greater than 1000 gamma magnetic response

Ministère de l'Énergie et des Ressources
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0 100 200 300 400m

Figure 16 - Ground Magnetics of the Opawica Pluton in the Boyvinet Drill Area (Source: Potapoff, 1987)