

Westmin Resources Limited  
Report on 1985 Exploration  
Nash Creek Claims, Ontario.

N.T.S. 32 E/13  
Latitude 49° 54'N  
Longitude 79° 31'W

January 1986

Paul R. J. Nicholls, P.Eng.

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File: NASHEXPL

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## 1.0 Summary:

Two short drill holes tested the northernmost conductor on the Nash Creek claims. The hole intersected chalcopyrite and sphalerite associated with pyrrhotite in graphitic tuffs. The best values returned ranged up to 5700 ppm zinc and 660 ppm Cu (with 2.4 ppm Ag). The conductor was intersected but the horizon was not fully tested.

## 2.0 Recommendations:

Anomalous base and precious metal values associated with two conductive trends have been defined by the work to date. Diamond drilling along these two conductive horizons should be completed in the future.

## 3.0 Introduction:

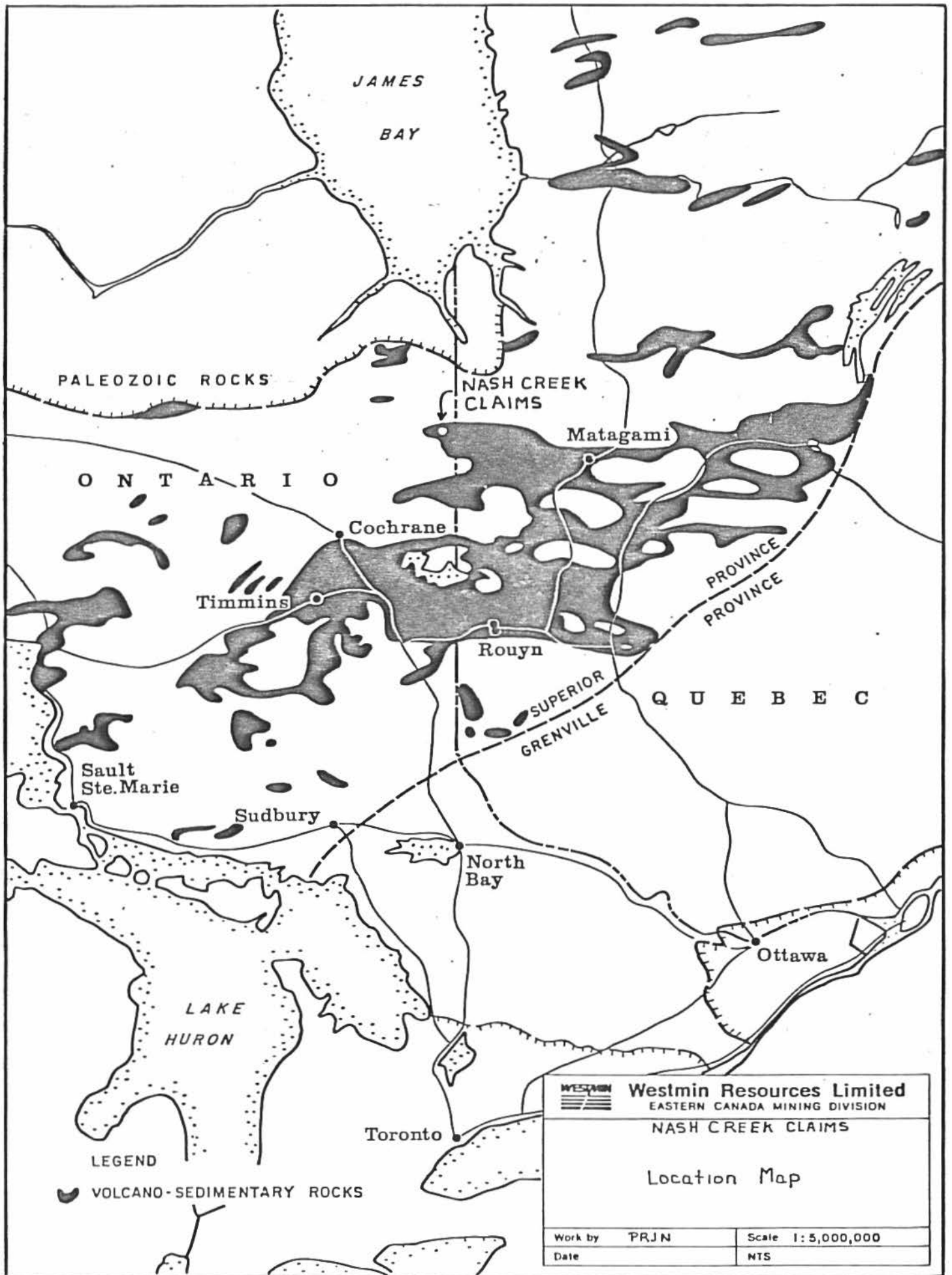
The Nash Creek Claims were staked in 1979 as part of the Detour Gold Project. Geological mapping, ground geophysics and diamond drilling has identified two stratigraphic horizons with anomalous Au and base metal content. In February 1985, two short x-ray drill holes were completed to test the northern horizon and the claims were surveyed. The following report deals with 1985 work.

### 3.1 Location and Access:

The Nash Creek claims are located in the Detour Lake Area of northeastern Ontario (NTS: 32 E/13, Figure 1) approximately 135 kilometres north of Cochrane. The property is accessible via winter roads from the Detour Mine which is linked to Cochrane by an all-weather gravel road.

### 3.2 Claim Status:

At the completion of 1985 the sixteen claims (Table 1, Figure 2) within the Nash Creek claims block had received enough assessment credits to be taken to lease.



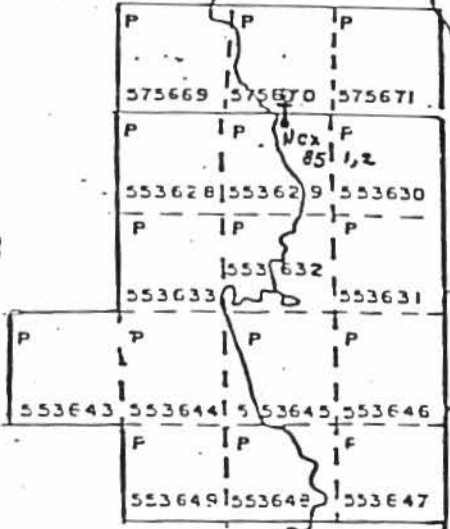
Detour

OF QUEBEC  
NCE OF ONTARIO



SCALE

633.6 316.8 0 316.8 633.6 950.4 metres



WESTMIN RESOURCES LIMITED

NASH CREEK CLAIM GROUP

CLAIM MAP

Drill Hole Location Map

Ontario

32-E-13

**T. 2331**

DATE: May 1985

SCALE: 1:31,680

Table 1  
Claim Status

Nash Creek Project

Location: Lower Detour Lake Area, Porcupine Mining  
Division, Ontario.  
N.T.S. 32 E/13

Property: 16 Mining Claims; Area of 256 ha.

Claim No.	Date Recorded	Work Due	Balance Work Due (days)
P.553628	4 Jan. 1980	4 Jan. 1986	Nil
P.553629	4 Jan. 1980	4 Jan. 1986	Nil
P.553630	4 Jan. 1980	4 Jan. 1986	Nil
P.553631	4 Jan. 1980	4 Jan. 1986	Nil
P.553632	4 Jan. 1980	4 Jan. 1986	Nil
P.553633	4 Jan. 1980	4 Jan. 1986	Nil
P.553643	4 Jan. 1980	4 Jan. 1986	Nil
P.553644	4 Jan. 1980	4 Jan. 1986	Nil
P.553645	4 Jan. 1980	4 Jan. 1986	Nil
P.553646	4 Jan. 1980	4 Jan. 1986	Nil
P.553647	4 Jan. 1980	4 Jan. 1986	Nil
P.553648	4 Jan. 1980	4 Jan. 1986	Nil
P.553649	4 Jan. 1980	4 Jan. 1986	Nil
P.575669	21 July 1980	21 July 1986	Nil
P.575670	21 July 1980	21 July 1986	Nil
P.575671	21 July 1980	21 July 1986	Nil

### 3.3 Previous Work:

Since 1980 the Nash Creek claims have been covered by the following work:

- 1980: A Questor airborne Input electromagnetic and magnetic survey flown over the property identified two conductive trends with 4-6 channel anomalies. Geological mapping indicated that the property was underlain by predominantly mafic volcanic flows with some thin felsic horizons (Rockingham, 1980).
- 1981: Line-cutting was completed over the property with lines spaced at 100 metres (Rockingham, 1981).
- 1982: In 1982 a Max-Min survey located several conductors on the property. The northernmost conductive horizon was tested by one diamond drill hole NC-82-1 that intersected 0.46 g/ton Au over 3 metres. The gold intersection was contained within a sulphidic felsic tuff horizon (Rockingham, 1982).
- 1983: One drill hole (NC-83-2) tested a second conductive horizon and intersected 0.6 g/ton Au over 1.5 metres associated with a thin highly conductive band of pyrrhotite within the mafic flows (Rockingham, 1982).
- 1984: Limited Max-Min II coverage completed on the property to detail some of the Max-Min II anomalies.

1985 Program:

In February 1985, R. Kozy of Larder Lake, Ontario completed two short x-ray drill holes to test the northernmost conductor (Figure 3) under an outcrop where anomalous values of Au had been returned from surface sampling.

The drill holes (Appendix 1) intersected intermediate volcanic flows and tuffs, and graphitic tuffs. The graphitic rocks contained anomalous amounts of copper and zinc (up to 600 ppm and 5700 ppm respectively) (Appendix 2) but no significant values for Au were returned. The holes intersected the conductor but may not have completely tested the horizon.

Respectfully submitted:



Paul R. J. Nicholls, P.Eng.





South

North

6+30 W, 5+10 N



Massive Intermediate  
Volcanic Flows

Intermediate to Felsic  
Tuffs

Massive Intermediate  
Volcanic Flow

ND, ND, 22, 135

ND, 0.2, 710, 110

ND, 0.2, 82, 220

ND, 0.3, 170, 3000

ND, 2.7, 660, 1750

5, 1.9, 320, 2050

ND, ND, 31, 120

20, 0.3, 188, 250

ND, ND, 85, 110

15, 0.3, 88, 5700

ND, 0.6, 220, 730

20, 0.8, 370, 110

graphitic schist  
or tuff

Py, Po, Sph, CPD

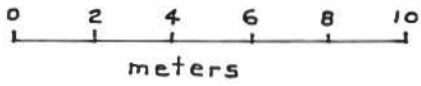
Intermediate  
Flow

NCX-85-1

31.09m


NCX-85-2

30.79m



geochemical results

$\frac{1}{2}$  Au, Ag, Cu, Zn  
 ↑  
 Ppb      PPM

 <b>Westmin Resources Limited</b> EASTERN CANADA MINING DIVISION	
Nash Creek Claims Section 6+30W (Looking west)	
<b>XRAY DRILL          RESULTS</b>	
Work by	PRJN
Date	April 1985
Scale	1:200
MTS	32 E 13

Selected Bibliography

- Rockingham, C.J. 1980: A Report on the Detour Gold Project, Northeastern Ontario, N.T.S. 32 E/13, L/4
- Rockingham, C.J. 1981: A Progress Report on the Detour Gold Project, Northeastern Ontario, N.T.S. 32 E/13, L/4, Westmin Resources Limited Private Report
- Rockingham, C.J. 1982: Report on 1982 Field Work, Detour Gold Project, Ontario, N.T.S. 32 E/13, L/4, Westmin Resources Limited Private Report
- Rockingham, C.J. 1983: Report on the Nash Creek Claims Detour Lake Area, Ontario, N.T.S. 32 E/13, Westmin Resources Limited Private Report

## Certification

I, Paul R. J. Nicholls, of 40 Albert Street South, Box 1605, Stouffville, Ontario, L0H 1L0, certify the following:

- 1) I have practised my profession for nine years.
- 2) I hold an Honours B.Sc., in Geological Engineering obtained from Queen's University, Kingston, Ontario, in 1976.
- 3) I am a Registered Professional Engineer in the Province of Ontario.
- 4) I am a member of the Canadian Institute of Mining and Metallurgy and Geological Association of Canada.
- 5) I have conducted work and reviewed all data presented.
- 6) I have no financial interests in the property covered by this report.

January 1986.



Paul R. J. Nicholls, P.Eng.



Appendix 1

Drill Logs of X-Ray Holes

NCX-85-1 and 2

*Duplicates (retyped)  
of previously submitted  
logs.*

LOCATION 6+30W 5+40N BEARING 000° HOLE NO. NCX-85-1  
 LOGGED BY P. Nicholls ELEVATION \_\_\_\_\_ DIP -50° FINAL DEPTH 31.09m (102')  
 STARTED February 24, 1985 TESTS (CORRECTED) NO Tests  
 FINISHED February 28, 1985  
 CASING 1.4m (pulled out) X-RAY DRILL  
 CORE SIZE 2.22cm (7/8")

FROM m	TO m	DESCRIPTION
0	1.4	Overburden
1.4	9.4	Felsic Volcanic - light grey, fine grained, highly siliceous rock, quartz eyes up to 2mm are common, massive to poorly foliated, feldspar amydules present @1.4 - 1.8m - rusty section - weathered - sulphides along fractures @4.0 - 0.5cm quartz vein at 45° to core axis
9.4	15.2	Intermediate to felsic - fine grained, massive to poorly foliated tuff - 10-15% mafic content generally as chloritic wisps - foliation at 40° to core axis @13.2-13.4m - rusty section - no fresh sulphide minerals observed
15.2	23.5	Felsic Volcanic - light grey fine grained massive siliceous unit with quartz eyes, and amydules @21.9-22.1m - rusty section
23.5	24.7	Graphitic Tuff - fine grained - medium to dark grey well laminated rock - siliceous and graphitic bands alternate, bands of graphite up to 2cm, pyrrhotite rich bands are common in section - banding at 40-50° to core axis
24.7	26.5	Felsic Volcanic - light grey siliceous, quartz-eye fine grained felsic volcanic @ 26.0m - 1-2cm rusty section

LOCATION 6+30W 5+40N BEARING 000<sup>0</sup> HOLE NO. NCX-85-1  
 LOGGED BY P. Nicholls ELEVATION \_\_\_\_\_ DIP -50<sup>0</sup> FINAL DEPTH 31.09m (102')  
 STARTED February 24, 1985 TESTS (CORRECTED) No Tests  
 FINISHED February 28, 1985  
 CASING 1.4m (pulled out) X-RAY DRILL  
 CORE SIZE 2.22cm (7/8")

FROM m	TO m	DESCRIPTION
26.5	30.0	Graphitic Tuff - fine grained, well banded unit similar to section 23.5-24.7m @28.5-29.3m - massive graphite minor pyrrhotite, trace sphalerite
30.0	31.09	Felsic Volcanic Tuff - fine grained, massive, light grey tuff, minor graphite pyrrhotite common filling fractures (5-8 over section) which are oriented at various angles to the core axis.
31.09		END OF HOLE

LOCATION 6+30W 5+40N BEARING 000<sup>o</sup> HOLE NO. NCX-85-2  
 LOGGED BY P. Nicholls ELEVATION \_\_\_\_\_ DIP -65 FINAL DEPTH 30.79m (101')  
 STARTED February 28, 1985 TESTS (CORRECTED) None  
 FINISHED March 2, 1985  
 CASING 1m (pulled out) X-RAY DRILL  
 CORE SIZE 2.22cm (7/8")

FROM m	TO m	DESCRIPTION
0	1.0	Overburden
1.0	24.8	Felsic Volcanic - light grey fine grained siliceous rock with quartz eyes and possible amydules, generally massive - minor tuffaceous bands @14.3m, 20.2-20.6m - rusty section - no fresh sulphides observed @20.6m - 0.3m of core lost.
24.8	30.79	Graphitic Schists - fine grained dark grey laminated to massive graphitic rocks, graphite laminated with cherty layers or can be massive banding at 20° to core axis @24.8-28.0m - minor pyrite and pyrrhotite present @28.0-30.79m- 5-10% sulphides present in section predominately pyrite and pyrrhotite (up to 30% in small sections) with sphaterite and chalcopyrite.
30.79		END OF HOLE

APPENDIX 2

Geochemical Data for X-Ray Holes

NCD-85-1 and 2.



WESTMIN RESOURCES

(P. NICHOLS)

WO NO: 85-0130

PAGE: 1

SAMPLE ID	FROM	TO	AU PPB	AG PPM	CU PPM	ZN PPM
NCX-81-1	1.5	1.8	<5	<.2	47	120
NCX-85-1	21.0	22.0	<5	<.2	39	120
NCX-85-1	23.5	25.0	20	.3	180	280
NCX-85-1	25.0	26.2	<5	<.2	35	140
NCX-85-1	26.2	28.4	15	.3	83	5700
NCX-85-1	28.4	29.6	<5	.6	220	730
NCX-85-1	29.6	31.09	20	.8	390	940
NCX-85-2	18.0	19.8	<5	<.2	22	135
NCX-85-2	20.0	20.6	<5	.2	210	100
NCX-85-2	24.6	26.5	<5	.2	82	220
NCX-85-2	26.5	28.4	<5	.3	170	3000
NCX-85-2	28.4	29.6	<5	2.4	660	2750
NCX-85-2	29.6	30.8	5	1.9	320	2050

7.2331

Westmin Resources Limited  
Report on 1984 and 1985  
Diamond Drill Programmes  
Sunday Lake Claims  
Detour Lake Gold Project, Ontario.

N.T.S. 32 E/13, L/4  
Latitude  $50^{\circ}00'N$   
Longitude  $79^{\circ}35'W$

Paul R. J. Nicholls, B.Sc., P.Eng.

February 1986.

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## 1.0 Summary and Conclusions:

Diamond drilling has shown that the Sunday Lake claims are underlain by stratigraphy similar to that at the Detour Lake Mine.

Thin basaltic komatiite horizons intersected near the bottom of Hole SL-84-5 are considered significant as they show that the ultramafic rocks intimately associated with the Detour Lake Mine are present on the Sunday Lake Claim Block. One sludge sample returned a value of 171 grams Ag from a cherty horizon immediately south of the komatiites. Core recovery from this section was less than 20 percent.

More drilling is required to test this zone as well as other targets on the property.

## 2.0 Recommendations:

The Sunday Lake claims cover geological units along strike from and similar to those at the Detour Lake Mine and should be more fully evaluated by diamond drilling.

To conduct this evaluation the following programme is recommended.

- 1) Two diamond drill holes 250 m deep on Line 11+00E, and 5+00E (1+40N) and 5+00E (1+40N) Az 180 dip -50 should test the conductor along strike from komatiitic rocks and anomalous Ag intersected in Hole SL-84-5.
- 2) A diamond drill hole 150 m deep on Line 32+00E at 3+00N Az 180 dip -50 should test the second discrete Max-Min II/I.P. anomaly.
- 3) The southern contact of the magnetic high should be tested by a 200 metre hole at Line 22+00E at 3+25N. This hole would test stratigraphy up-ice from an anomalous Au value (2635 ppb) obtained in the overburden drilling.
- 4) A fence of four 300 m holes should be completed north of the anomalous gold values obtained in overburden drill Hole DO-81-83. This series of holes should start at 13+00N on Line 56+00E or Line 52+00E (Az 180 -50) and test the magnetic high and weak Max-Min anomalies.
- 5) The discrete Max-Min conductor at Line 46+00E, 11+00N should be tested by a 200 metre drill hole.
- 6) An additional 150 metre hole should be wedged from SL-84-5 to intersect the komatiites and zone which returned the high Ag value. The hole will be extended to complete geologic section.

At the completion of this programme all of the claims in this block will be able to be taken to lease upon filing of the work and it is recommended that a perimeter survey covering the entire claim block be completed.

The cost of the programme including drilling (2,400 m), claim surveys, and supervision, overhead, assays, and report writing, etc., is estimated to be \$450,000.

### 3.0 Introduction:

Westmin Resources Limited initiated the Detour Lake Project in late 1979 to explore for a stratabound gold deposit similar to the Detour Lake Mine (Amoco-Campbell Red Lake). The properties acquired, including the Sunday Lake claims were projected to be underlain by stratigraphically equivalent rocks to those hosting the Detour Lake Mine on the basis of government aeromagnetic maps. This interpretation, has been refined by airborne and ground geophysical surveys, geologic mapping, overburden and diamond drilling completed between 1980 and 1984. Anomalous gold in basal till (up to 10,350 ppb Au) was found in three areas.

In December 1984, 474.7 metres of diamond drilling was completed in order to evaluate the westernmost anomaly and to gain geologic information. An additional 51.8 m was completed in February 1985. The following report deals with the 1984 and 1985 drilling programmes.

### 3.1 Location, Access and Topography:

The Sunday Lake claims are located in Northern Ontario (latitude 50°00'N, longitude 79°35'W, N.T.S. 32 L/4) approximately 140 kilometres north of the towns of Cochrane, Ontario and La Sarre, Quebec (Figure 1).

Access to the property is facilitated by an all-weather road from Cochrane to the Detour Lake Mine and by tractor road from the mine property.

Topographic relief on the property is generally less than 10 metres with much of the eastern part of the property covered by muskeg. The central portion of the property is traversed by two small rivers with drainage to the south. Mature forest of spruce and poplar cover the western part of the claim group.

### 3.2 Property Status:

The property consists of 78 claims (Figure 2) located in the Porcupine Mining District of Ontario (Claims Sheets M.3003 and M.2603). The 1984 drill program has given sufficient assessment credits to fulfill all assessment requirements for the claim group. The claims may be taken to lease in 1990-91 once they have been surveyed.

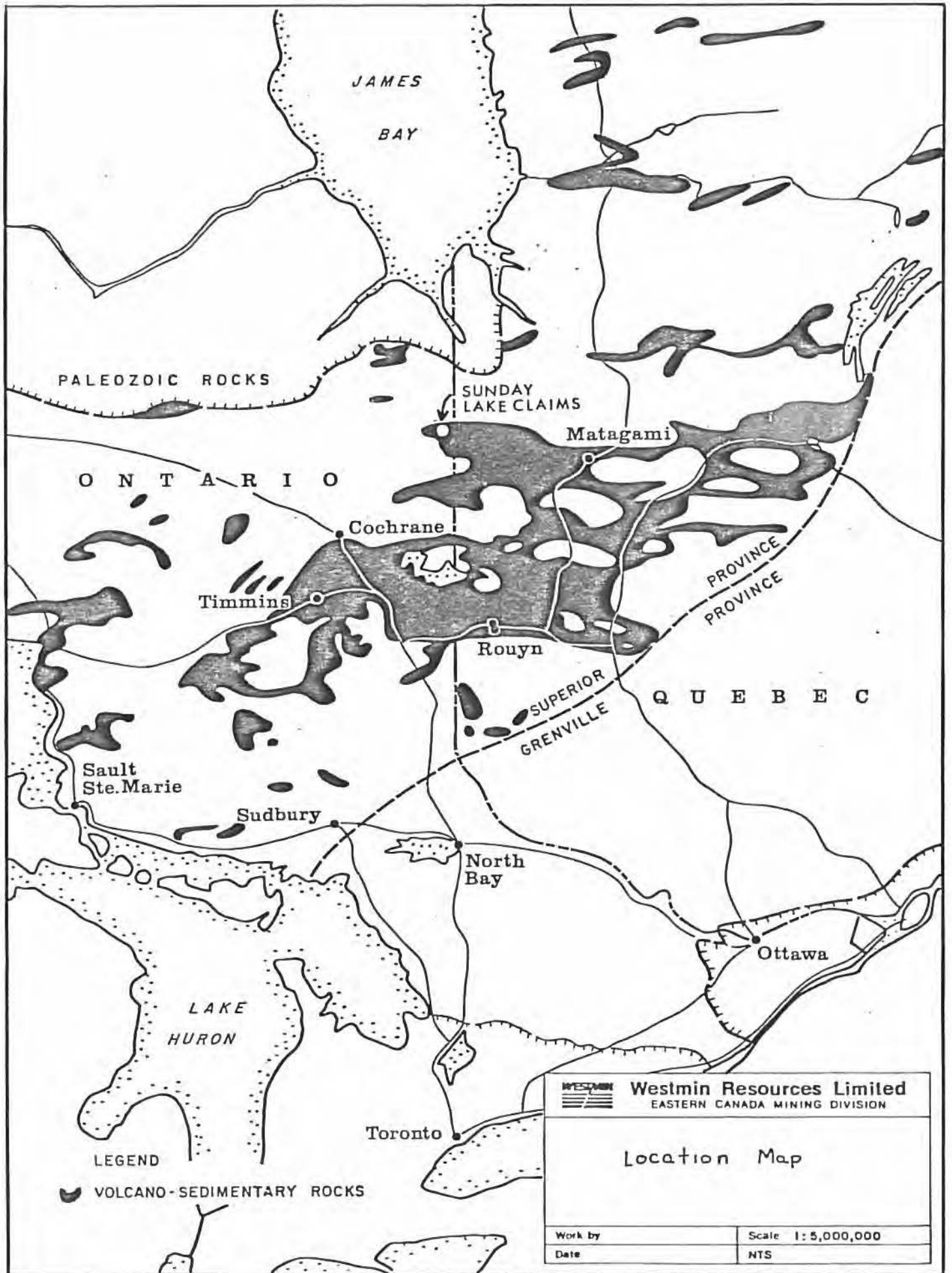


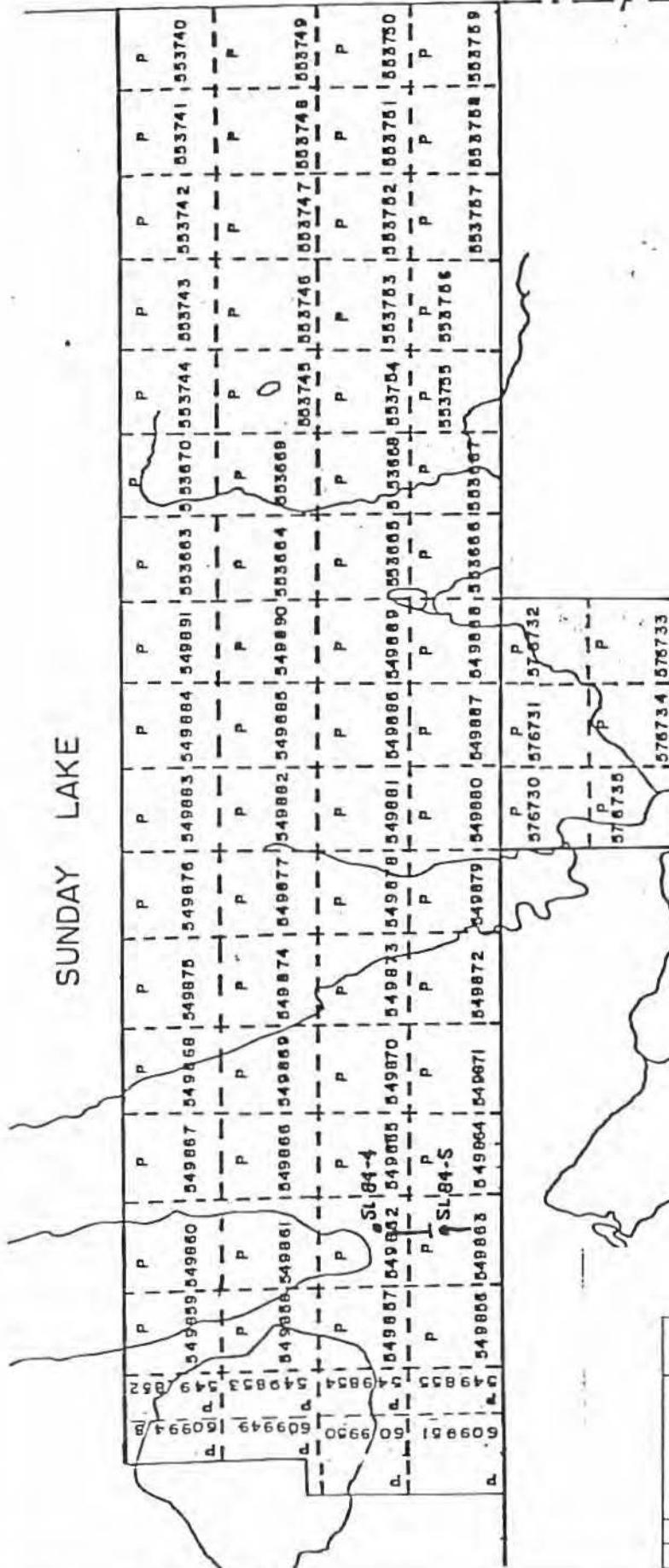



Table 1  
Land Status

Claims	Anniversary Date	Assessment Days Filed	Extension To
P.553740-759 incl.	Jan. 4, 1986	200+	Jan. 2, 1987
P.553663-670 incl.	Jan. 4, 1986	200+	Jan. 2, 1987
P.549852-891 incl.	Jan. 4, 1986	200+	Jan. 2, 1987
P.576739-735 incl.	Dec.30, 1986	200+	
P.609948-951 incl.	Mar.20, 1987	200+	

Claims require legal survey to go to lease. All other assessment requirements have been fulfilled.

SUNDAY LAKE



 <b>Westmin Resources Limited</b> EASTERN CANADA MINING DIVISION	
Claim Map Drill Location	
Work by	PRJN
Date	Feb. 1986
Scale	1:31,680
	NTS 32-E-13, L-4

### 3.3 Previous Work:

Exploration conducted on the Sunday Lake claims prior to November 1984, is summarized below:

1) 1980: An airborne, magnetic and electromagnetic survey (Questor, 1980) located two four-channel anomalies on the south-eastern and south-central portions of the property. Geologic mapping in the area located no areas of outcrop.

2) 1981: A reverse circulation overburden drilling program consisting of 27 holes was conducted over the property to delineate any anomalous gold values in the till that were possibly related to an economic deposit and to aid in the definition of the bedrock stratigraphy. The program was successful in locating one strongly anomalous area on the eastern portion of the property (10,350 ppb Au in Hole SO-81-82) as well as several above background (900 - 1400 ppb Au) values and one anomalous (2,365 ppb Au) value on the western side of the property.

3) 1982: A program of line-cutting, ground magnetometer VLF-EM and Max-Min II surveys were conducted over the eastern portion of the property (Lines 42+00 to 64+00E) in the vicinity of the anomalous Au value (10,350 ppb Au) and INUT conductor. Several conductors were defined by the ground geophysics. Three diamond drill holes tested the strongest conductors and intersected graphitic zones associated with felsic volcanic and sedimentary rocks (Rockingham, 1982) that are stratigraphically below the mafic volcanics that host the Detour Lake Mine.

4) 1983: The program consisted of line-cutting, ground magnetometer, and VLF-EM, to extend geophysical coverage to most of the property area. Numerous VLF-EM conductors were located and an easterly trending magnetic high was traced across the property.

5) February-May 1984: The program consisted of line-cutting (10 kilometres) on the northeastern portion of the property (Lines 42+00E to 64+00E, 0+00N to 15+00N), VLF-EM (15 km), magnetometer survey (24 km), a Max-Min II survey coverage over most of the claim group and an induced polarization survey of selected lines (22 km) was completed.

### 3.4 1984-85 Drill Programme:

In December 1984 and February 1985, two BQ diamond drill holes (totalling 526.5 metres) were completed on the Sunday Lake property (Figure 3). Sludge samples were collected at intervals of 3.05 m or 6.1 metres. The core was logged with respect to lithology, structure and mineralization. All core and sludge samples were sent to Barringer Magenta (Toronto) to be analysed for Au and Ag.

### 4.0 Geology:

#### 4.1 Regional Geology

The Detour Project Area is located in the northern part of the Archean Abitibi greenstone belt of the Superior Structural Province. This part of the greenstone belt is folded into a major east-west striking anticline. The core of the anticline is a thick sequence of turbiditic wackes. The northern limb of the anticline is composed primarily of basalts with two known sub-volcanic intrusives. While the southern limb appears to be more complex with two major volcanic units and minor units of volcanic conglomerate, graphitic sediments, and ultramafic rocks.

The Detour Lake Mine and the Sunday Lake claims are located on the northern limb of the anticline. Extensive drilling in the mine area has defined the volcanic stratigraphy of the northern limb (Jackson, 1980).

Arkosic sediments and felsic volcanics represent the basal sequence and are overlain by mafic tuffaceous rocks and minor sediments (300 metres). The mafic tuffs are overlain by a sequence of variolitic mafic volcanics (90 metres) and a second horizon of mafic tuffs (30 metres). A thin layer (3 - 90 metres) of ultramafic flows and tuffs overlies the mafic tuffs and is in turn overlain by a thin continuous cherty tuff horizon. The uppermost unit is a thick sequence of basalts. The Au deposit is centred on the cherty tuff horizon.

## 5.0 Diamond Drilling:

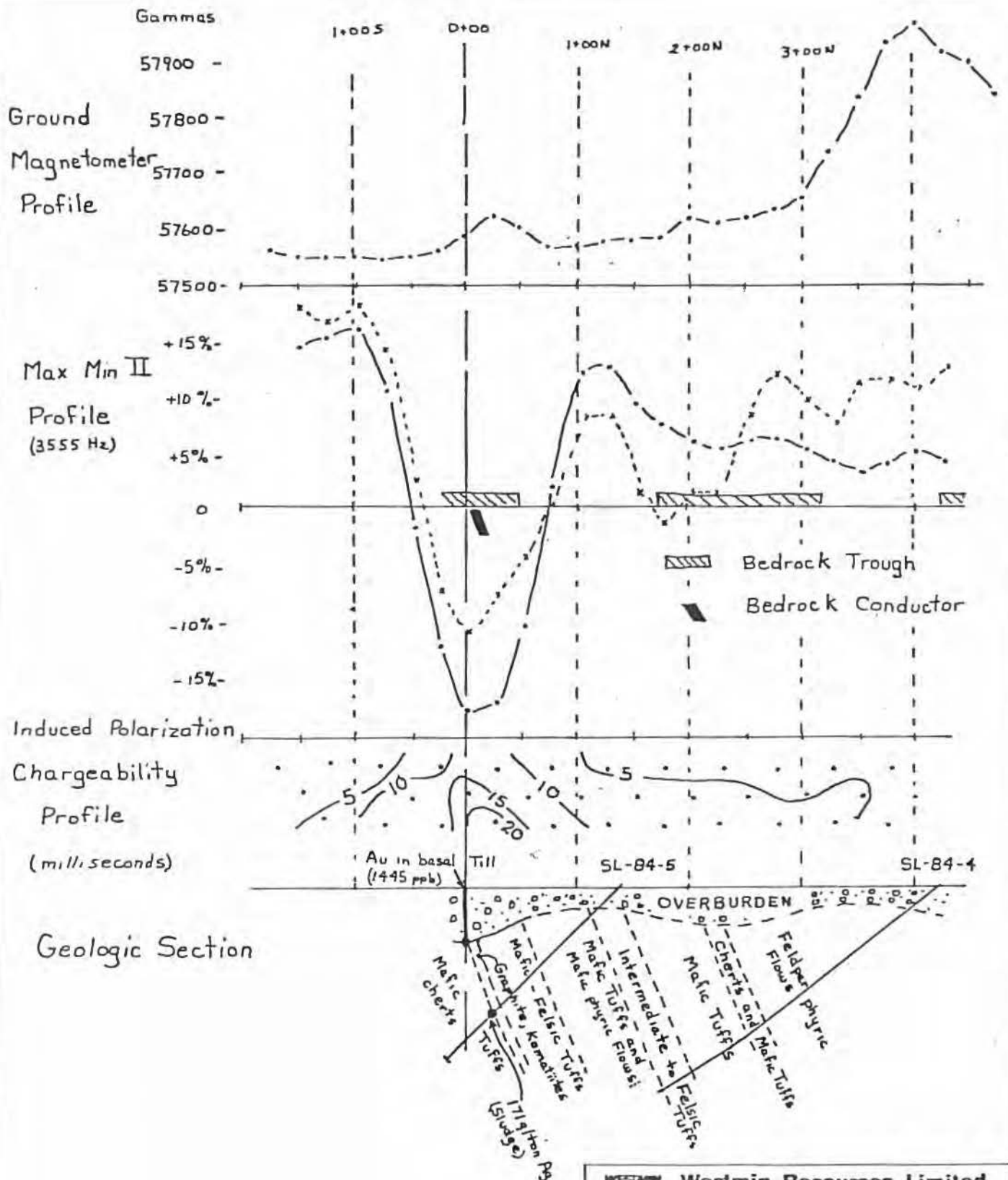
In December 1984 and February 1985 two diamond drill holes (SL84-4 and 5) totalling 526.5 metres were completed on the Sunday Lake claims. The purpose of the drill holes (Figure 4) was to test the following:

- 1) A weak to moderate conductor (L8+00E, 0+10N) with magnetic correlation that was defined by Max-Min II and Induced Polarization surveys.
- 2) A weak Induced Polarization chargeability anomaly (L8+00E, 3+75N).
- 3) The strong magnetic high that trends across the property.
- 4) The volcanic stratigraphy up ice from slightly anomalous basal till samples obtained in the 1981 overburden drill program in order to gain geologic information and possibly intersect an auriferous horizon with no geophysical signature (i.e. non-conductive).

## 5.1 Results

### 5.1.1 Geology:

The two drill holes (Figures 3 and 4) completed the southern portion of a fence of holes recommended in May 1984 (Rockingham and Nicholls) and intersected lithologies ranging from mafic volcanic flows in the north to basaltic komatiites, and felsic and mafic tuffs in the south (Table 2, Appendix 1 - drill logs).




 <b>Westmin Resources Limited</b> EASTERN CANADA MINING DIVISION	
SUNDAY LAKE CLAIMS Geophysics and General Geology Section 8+00E (Looking West)	
Work by	P.R.J.N
Date	April 1985
Scale	1:5000
	NTS 32 L-4

Table 2 - Summary of Lithologies  
1984-1985 Drilling

Hole No.	Metreage		Lithology and Comments
	From	To	
SL-84-4	0	25.6	Overburden with some boulders.
	25.6	165.2	Mafic volcanic flows, massive to pillowed, feldspar phyric, pyrite cubes, minor interflow sediment.
	165.2	169.75	Intermediate to felsic volcanic tuffs and feldspar porphyry. Porphyry is brecciated with minor pyrite and chlorite in veins.
	169.75	196.7	Mixed mafic flows and tuffs.
	196.7	213.1	Mafic tuffs with three thin cherty horizons. Chert horizons can contain up to 2% pyrrhotite.
	213.1	268.3	Mafic tuffs banded chloritic, minor biotite sections. Pyrrhotite rich chert horizon at 266.3 - 266.6 m.
	268.3	304.87	Felsic crystal tuff and feldspar porphyry with minor mafic tuffs.
		304.87	End of hole.
SL-84-5	0	21.34	Overburden.
	21.34	36.0	Felsic crystal tuff. Similar to that in bottom of SL-84-4.
	36.0	47.25	Mafic tuff - fragments up to 0.3 x 1.0 cm.
	47.25	47.95	Mafic flow - calcite filled amygdales.
	47.95	87.9	Massive mafic volcanic - mottled rock with fine-grained matrix dark green elongate to oval shaped masses - fine grained banded tuff horizons present. May be similar to above fragmental or possibly coarse flow.
	87.9	101.9	Banded mafic tuff finely laminated. Crystal tuffs and porphyries contain blue quartz eyes.
	101.9	161.8	Mixed sequence of banded mafic tuffs, felsic crystal tuffs, and feldspar porphyries.
	161.8	168.6	Graphitic tuffs (pyrrhotite).
	168.6	169.9	Basaltic komatiite. 40-50 percent calcite in matrix.
	169.9	172.8	Mafic tuff. Well foliated with minor arsenopyrite.
	172.8	175.9	Chert (?). Only 18 percent core recovery. 171 /t Ag from sludge.
	175.9	176.9	Carbonated komatiite. Similar to above.
	176.9	221.6	Mafic tuffs with chert horizon. Well foliated to fragmental mafic rocks.

Stratigraphic tops indicators generally indicate that the stratigraphy faces north although one indicator in SL-84-5 gave a contradictory facing direction. Measured core angles and dip of conductor indicate that the rocks dip to the north at approximately 70 degrees. This correlates with stratigraphic interpretations put forward for the Detour Mine Area (Johns, 1982, Jackson, 1976).

The Sunday Lake property appears to be at the same general stratigraphic position as the Detour Lake mine which is marked by a transition from predominantly tuffaceous rocks overlain by massive to pillowed mafic flows.

Whole rock geochemistry (Figure 5) has identified a basaltic komatiite horizon near the bottom of SL-84-5. The komatiitic rocks are carbonated and are associated with graphitic tuffs and felsic rocks. One felsic unit immediately below the komatiites gave very poor core recovery and returned a highly anomalous Ag value from a sample (171 g/t).

#### 5.1.2 Geochemistry:

In general the geochemical results from sludge and core samples were discouraging. However a significant value for Ag (171 g/t) in a sludge sample was obtained from 169.8 m to 172.9 m in Hole SL-84-5. This value coincides with a section where only 20 percent of the core was recovered.

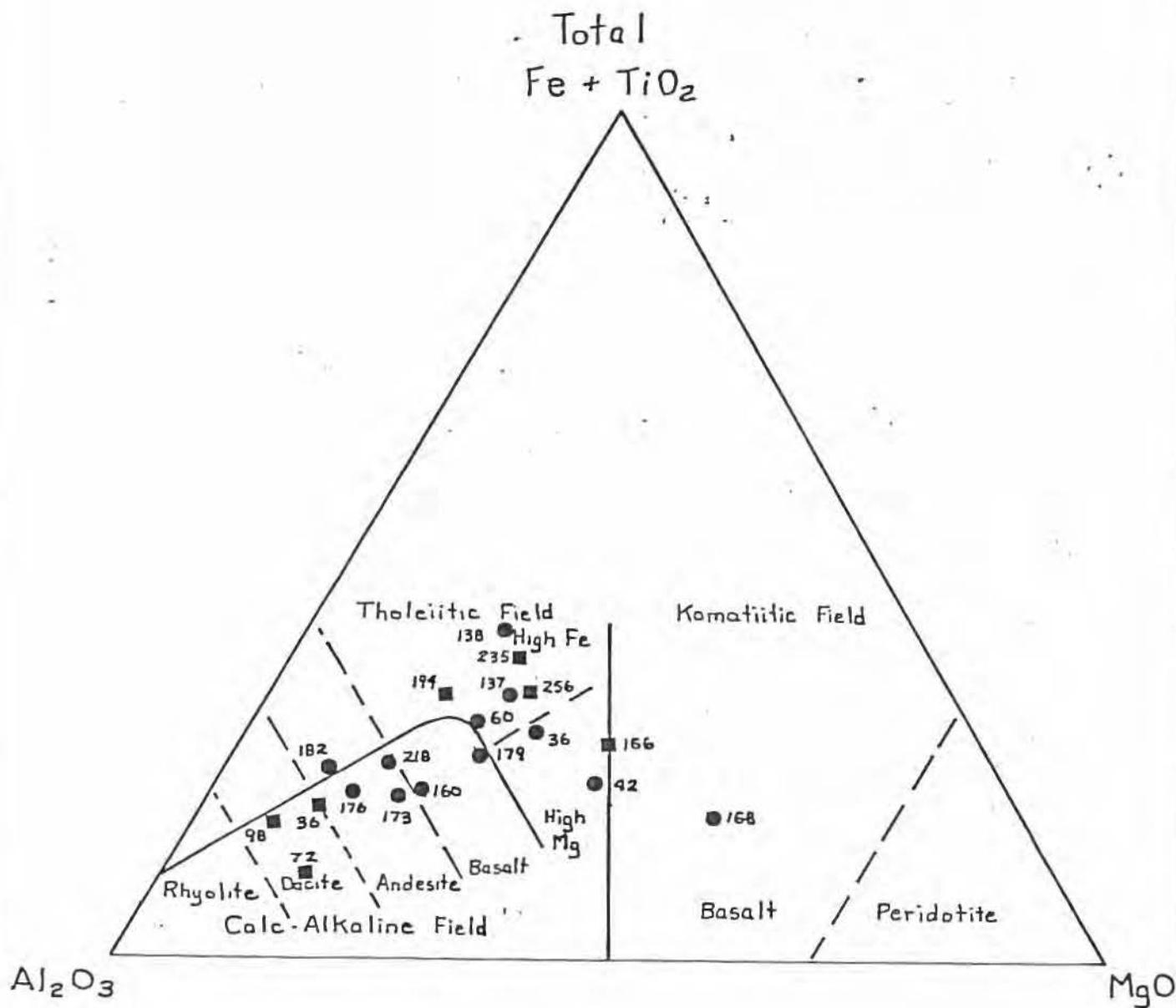
Respectfully submitted:



Paul R. J. Nicholls, P.Eng.







Legend

Sample Location

Hole Number	Depth (m)
SL-84-5 ●	168
SL-84-1 ■	

<b>Westmin Resources Limited</b> EASTERN CANADA MINING DIVISION	
Sunday Lake Claims  Cation Plot	
Work by PRJN	Scale
Date	NTS

### Selected Bibliography

- Jackson, A., 1980: Discovery - Case History of the Detour Lake Gold Deposit. Paper presented at the 1980 CIM Toronto.
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- Rockingham, C.J. and McMillan, R.H., 1979: Detour Project: A Proposal to Acquire a Land Position in a New Gold Mining Camp. Westmin Resources Limited Private Report.
- Rockingham, C.J. 1980: A Report on the Detour Gold Project Northeastern Ontario, N.T.S. 32 E/13, L/4. Westmin Resources Limited Private Report.
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- Rockingham, C.J. and Nicholls, P.R.J. 1984: Summary of 1984 Geophysical Surveys for the Sunday Lake Claims, Detour Lake Gold Project, Ontario.
- Questor, 1980: Airborne Electromagnetic Survey Detour Lake Area Project 22006. Westmin Resources Limited Private Report.

Certification

I, Paul R. J. Nicholls, of 40 Albert Street, South, Box 1605, Stouffville, Ontario, L0H 1L0, certify the following:

- 1) I have practised my profession for ten years.
- 2) I hold an Honours B.Sc., in Geological Engineering obtained from Queen's University, Kingston, Ontario, in 1976.
- 3) I am a Registered Professional Engineer in the Province of Ontario.
- 4) I am a member of the Canadian Institute of Mining and Metallurgy and Geological Association of Canada.
- 5) I have conducted work and reviewed all data presented.
- 6) I have no financial interests in the property covered by this report.

February 1986.

*Paul R. J. Nicholls*

Paul R. J. Nicholls, P.Eng.



Appendix 1

Drill Logs

PROPERTY SUNDAY LAKE

PAGE 1

LOCATION 8+00E 4+23N BEARING 180° HOLE NO. SL84-4  
 LOGGED BY P. Nicholls ELEVATION \_\_\_\_\_ DIP -45° FINAL DEPTH 304.87m  
 STARTED December 4, 1984 TESTS (CORRECTED) Acid Tests  
 FINISHED December 10, 1984 30.5m - 42°  
 46.4m - 38°  
 122.0m - 37°  
 213.0m - 37°  
 304.8m - 33°  
 CASING \_\_\_\_\_  
 CORE SIZE BQ

FROM m	TO m	DESCRIPTION
0	25.6	Overburden
25.6	27.43	Bedrock - triconed - no core recovered
27.43	165.2	<p>Mafic Volcanic Flows (with minor interflow and tuffaceous horizons)</p> <ul style="list-style-type: none"> <li>- predominantly dark grey green, medium grained basalts containing feldspar irregular to rounded masses up to 1mm (may be gabbroic in part)</li> <li>- calcite filled amydules locally present (45-50m)</li> <li>- generally appears massive but pillowed between 130m-150m</li> <li>- Interflow and tuffaceous horizons were observed at                             <ul style="list-style-type: none"> <li>27.43- 27.8 - intermediate to mafic composition, sharp contact with flow @ 60° to core axis</li> <li>37.0 - 37.5 - fine grained mafic tuff with epidote in a vein</li> <li>42.25m - thin band of epidotized interflow sediment @ 45° to core axis</li> <li>41.4 - 42.25- mafic tuff with minor disseminated pyrite</li> <li>51.7m - 10cm band with bedding @ 70° to core axis</li> <li>63.1 - 64.7 - intermediate composition with pyrite as disseminations and thin (1mm) layers, bedding @ 70° to core axis</li> <li>75.2 - 75.4 - intermediate to mafic</li> <li>77.65- 77.8 - interflow sediments - carbonate</li> <li>80.45- 80.9 - calcite along bedding</li> </ul> </li> </ul>

*OMEP Duplicate of previously submitted log*

PROPERTY SUNDAY LAKE

PAGE 2

LOCATION 8+00E 4+23N BEARING 180° HOLE NO. SL84-4  
 LOGGED BY P. Nicholls ELEVATION \_\_\_\_\_ DIP -45° FINAL DEPTH 304.87m  
 STARTED December 4, 1984 TESTS (CORRECTED) Acid Tests  
 FINISHED December 10, 1984 30.5m - 42°  
 46.4m - 38°  
 122.0m - 37°  
 213.0m - 37°  
 304.8m - 33°  
 CASING \_\_\_\_\_  
 CORE SIZE BQ

FROM m	TO m	DESCRIPTION
27.43	165.2	<p>Mafic Volcanic Flows (Continued)</p> <p>121.1 - 124.7 - silica rich section almost cherty - brecciated - disseminated pyrite or pyrite as thin bands</p> <p>159.1 - 159.5 - mafic sediment - calcite along bedding @ 70° to core axis, minor pyrite</p> <p>- <u>Fractures and Veining:</u></p> <p>- Calcite filled fractures common throughout section</p> <p>- Quartz-calcite-hematite filled fractures observed at 29.7-30.0m, 33.1-33.56m, 33.9-34.9m, 37.9-38.1m. Various orientations - may be a late fracture system</p> <p>- Quartz + calcite, chlorite veins at</p> <p>39.22m - 1cm, quartz vein @ 55° to core axis</p> <p>45.50m - minor quartz veining</p> <p>55.3 - 56.85 - barren white quartz veins 70° to core axis</p> <p>63.9 - 64.1 - barren quartz calcite veins</p> <p>74.28 - 74.48 - quartz calcite veins parallel to core axis, minor pyrite</p> <p>77.35 - 77.6 - quartz, calcite, chlorite vein</p> <p>85.6 - 85.9 - quartz, calcite veins</p> <p>155.6 - 156.0 - vuggy quartz calcite veins up to 1.5cm with minor disseminated pyrite</p>
165.2	167.25	<p>Intermediate Tuff - medium green fined grained laminated to massive tuff - laminations at 60-70° to core axis - small fragments are locally visible (1mm x 4mm)</p> <p>- graded beds and small scours indicate tops up the hole - carbonate veins common (calcite)</p>

PROPERTY SUNDAY LAKE

PAGE 3

LOCATION 8+00E 4+23N BEARING 180° HOLE NO. SL84-4  
 LOGGED BY P. Nicholls ELEVATION \_\_\_\_\_ DIP -45° FINAL DEPTH 304.87m  
 STARTED December 4, 1984 TESTS (CORRECTED) Acid Tests  
 FINISHED December 10, 1984 30.5m - 42°  
 46.4m - 38°  
 122.0m - 37°  
 CASING \_\_\_\_\_ 213.0m - 37°  
 CORE SIZE BQ 304.8m - 33°

FROM m	TO m	DESCRIPTION
167.25	169.75	Feldspar Porphyry - intermediate composition light to medium green grey colour, generally fine grained - in part looks tuffaceous - feldspars irregular (1mm) - pyrite in quartz chlorite stringers 168.86-169.3
169.75	172.7	Mafic Tuff - medium to dark grey green laminated to brecciated in appearance laminations at 70° to core axis
171.1	171.6	Diabase - fine grained medium to dark grey intrusive - sharp contacts with surrounding rocks
172.7	196.7	Mixed Mafic Flows and Tuffs (+Diabase) - Flow units are similar to above with feldspars may be finer grained - tuffs are generally fine grained and may be laminated @ 70° to core axis - Flow units observed - 172.7-173.8, 175.1-175.8, 180.9-181.4, 188.4-196.7 - Tuff units 173.8-175.1, 175.8-180.9 (fragments up to 1cm thick not well laminated - chaotic with pyrrhotite at 177.2 (1cm) and 180.7), 181.4-188.4 (tuff or brecciated flow unit with numerous calcite veins (minor quartz) @ 60-80° to core axis, pyrrhotite occurs in thin bands in section - Diabase 178.95-179.85 - possible sill contacts at 70-80° to core axis - light to medium grey colour fine grained - irregular contacts
196.7	197.45	Cherty Horizon - dark grey fine grained massive cherty (silica rich) horizon - has a brecciated appearance with minor pyrite - tuffaceous horizon at upper and lower contacts have attitude of 65° to core axis. - quartz calcite vein (1cm) observed at 197.15m

HOLE NO.

PROPERTY SUNDAY LAKE

PAGE 4

LOCATION 8+00E 4+23N BEARING 180° HOLE NO. SL84-4  
 LOGGED BY P. Nicholls ELEVATION \_\_\_\_\_ DIP -45° FINAL DEPTH 304.87m  
 STARTED December 4, 1984 TESTS (CORRECTED) \_\_\_\_\_  
 FINISHED December 10, 1984 30.5m - 42°  
 CASING \_\_\_\_\_ 46.4m - 38°  
 \_\_\_\_\_ 122.0m - 37°  
 \_\_\_\_\_ 213.0m - 37°  
 CORE SIZE BQ 304.8m - 33°

FROM m	TO m	DESCRIPTION
197.45	198.75	Tuff - fine grained laminated mafic tuff.
198.75	199.65	Diabase - fine grained medium grey rock with flakes of biotite visible locally discordant contacts
199.65	202.4	Mafic Tuffs - fine grained medium green locally banded @ 80° to core axis
202.4	203.9	Cherty Horizon - dark grey fine grained siliceous and massive. Po up to 1% in section and occurs in fine fractures at various attitudes.
203.9	212.7	Mixed Mafic Flows and Tuffs - generally fine grained, dark green massive rock with some laminated sections - calcite filled fractures common - brecciated section with quartz, calcite and chlorite veins with minor pyrrhotite 206.4-206.65 - biotite rich section (10%) @ 204.6-206m
212.7	213.2	Cherty Horizon - similar to above with only minor pyrrhotite
213.2	268.3	Mafic Tuffs - generally fine grained medium green laminated to massive mafic tuffs, laminations at 70° to core axis - graded beds indicate tops up the hole - minor fragmental sections (258-266.15) - biotite rich bands are locally present. Minor pyrite and pyrrhotite in section. - Flow units observed at 251.8-254.1 (feldspars up to 1mm), 236-239.4, 243-246 (fine grained) - Diabase Dykes - 224.65-225.3, 226.6-227.2, 227.75-229 - calcite veins common - Cherty horizon - well laminated, fine grained 266.3-266.6 light grey to brown grey chert - laminations @ 75° to core axis - 1.5cm band of pyrrhotite at 266.45, pyrrhotite also occurs as fine laminations.

HOLE NO.

T. 2331



PROPERTY SUNDAY LAKE

PAGE 5

LOCATION 8+00E 4+23N BEARING 180° HOLE NO. SL84-4  
 LOGGED BY P. Nicholls ELEVATION \_\_\_\_\_ DIP -45° FINAL DEPTH 304.87m  
 STARTED December 4, 1985 TESTS (CORRECTED) \_\_\_\_\_  
 FINISHED December 10, 1984 30.5m - 42°  
 46.4m - 38°  
 CASING \_\_\_\_\_ 122.0m - 37°  
 213.0m - 37°  
 CORE SIZE BQ 304.8m - 33°

FROM m	TO m	DESCRIPTION
268.3	276.5	Feldspar Porphyry - fine grained medium grey rock with feldspar phenocrysts up to 1mm, feldspars generally irregular but do show rectangular cross sections and may comprise up to 20% of the rock - quartz "eyes" may also be present - upper and lower contacts appear gradational.
276.5	303.76	Intermediate Tuff - light to medium grey green fine grained tuff, sections can contain 5-10% feldspars similar to above - chlorite rich sections (banded) are common. Quartz veins with calcite in sections 280.15-280.4, 285.9-286, 294.1, 294.15
303.76	304.5	Mafic Tuff - fine grained dark green tuff
304.5	304.87	Intermediate Tuff - fine grained lighter green
304.87		END OF HOLE

HOLE NO.

LOCATION L8+00E 1+40N BEARING 180<sup>o</sup> HOLE NO. SL-84-5  
 LOGGED BY P. Nicholls ELEVATION \_\_\_\_\_ DIP -45<sup>o</sup> FINAL DEPTH 169.80 m  
 STARTED December 14, 1984 TESTS (CORRECTED) \_\_\_\_\_  
 FINISHED December 16, 1984  
 CASING \_\_\_\_\_  
 CORE SIZE \_\_\_\_\_

FROM m	TO m	DESCRIPTION
0	21.34	Overburden
21.34	21.95	Bedrock - triconed no core recovered
21.95	36.00	Intermediate to Felsic Tuff - fine grained grey tuff, 5-10% feldspar crystals with subhedral to irregular shapes rock generally banded with bands oriented at 65-70 <sup>o</sup> to core axis. <ul style="list-style-type: none"> <li>- barren white quartz veins generally /cm at 22.4, 23.9, 26.22, 27.12, 28.4, 30.6</li> <li>- quartz chlorite veins with minor pyrrhotite at 35.67 - 36.0</li> </ul>
36.00	47.25	Mafic Tuff - light to medium green rock with darker green fragments. <ul style="list-style-type: none"> <li>- fragments are generally more mafic and range up to 0.3 x 1 cm in size.</li> <li>- some small sections are well laminated with bands at 65-70<sup>o</sup> to core axis.</li> </ul>
47.25	47.95	Mafic Flow - dark green massive basalt, generally fine grained with rounded feldspars up to 6 mm in size (amydules).
47.95	87.9	Massive Mafic Tuff or Flow - medium green coloured matrix hosting dark green mafic fragments or stretched crystals <ul style="list-style-type: none"> <li>- mottled appearances - matrix generally fine grained with fragments?</li> <li>- generally 2mm x 5mm - fragments? are mainly elongate but some have an oval appearance - matrix supported</li> </ul> <p>47.95 - 51.7 fragments comprise 20% of rock, minor laminated sections with banding at 65-70<sup>o</sup> to core axis</p>

*amzp duplicate  
of previous submitted  
file (to 169.81)*

HOLE NO.

LOCATION L8+00E 1+40N BEARING 180° HOLE NO. SL-84-5  
 LOGGED BY P. Nicholls ELEVATION \_\_\_\_\_ DIP -45° FINAL DEPTH 169.80 m  
 STARTED December 14, 1984 TESTS (CORRECTED) \_\_\_\_\_  
 FINISHED December 16, 1984  
 CASING \_\_\_\_\_  
 CORE SIZE \_\_\_\_\_

FROM	TO	DESCRIPTION
47.95	87.9	51.7 - 81.4 fragments comprise up to 50% of rock. - thin felsic bands at 56.1 (chert, <3cm) 74.8 (5mm @ 70° to core axis) - quartz veins at 55.5 (1cm, minor sulphides), 71.1 - 71.3, 71.95 (3mm) 72.4, 80.95 (1cm), 74.7 - fine grained mafic tuff with no fragments, 69.4 - 69.7 banded at 70° to core axis.
87.9	101.9	81.4 - 87.9 mafic tuff with 20 - 30% fragments. Banded Mafic Tuffs - fine grained med-dark green tuffs banded to massive with banding at 65-70° to core axis - thin bands of felsic volcanic - Intermediate to felsic crystal tuff 90.64 - 91.25 m - laminated fine grained grey rock with 5 - 10% feldspar crystals - Intermediate to felsic laminated tuff 92.05 - 94.10 m - grey-white laminated fine grained rock with bands oriented at 60 - 70° to core axis - Pyritic Mafic Tuff - banded medium (94.45 - 95.5) to dark green tuff - pyrite occurs as fine laminations biotite rich layers present - Hematite found along joint planes oriented @ 30° to core axis. - Pyrite cubes disseminated in section 99.2 - 101.1

HOLE NO.

## PROPERTY SUNDAY LAKE

PAGE 3

LOCATION L8+00E 1+40N BEARING 180° HOLE NO. SL-84-5LOGGED BY P. Nicholls ELEVATION \_\_\_\_\_ DIP -45° FINAL DEPTH 169.80 mSTARTED December 14, 1984 TESTS (CORRECTED) \_\_\_\_\_FINISHED December 16, 1984

CASING \_\_\_\_\_

CORE SIZE \_\_\_\_\_

FROM m	TO m	DESCRIPTION
101.9	109.9	Intermediate to felsic crystal tuff: <ul style="list-style-type: none"> <li>- fine grained grey siliceous rock with 10 - 15% feldspar crystals (1mm)</li> <li>- blue quartz eyes (1mm)</li> <li>- generally banded @ 65 - 70° to core axis</li> </ul>
109.9	111.7	Banded Mafic Tuff - fine grained dark green banded tuff 109-111.1 - chaotic banding, folds soft sedimentary deformation <ul style="list-style-type: none"> <li>- pyritic and biotite rich (up to 10 - 15%)</li> </ul>
111.7	116.3	Intermediate to Felsic Crystal Tuff <ul style="list-style-type: none"> <li>- fine grained grey crystal tuff with feldspar crystal tuff with feldspar crystals and blue quartz eyes</li> <li>- disseminated pyrite and quartz veining in section 115.7 - 116.3</li> </ul>
116.3	119.5	Banded Mafic Tuffs <ul style="list-style-type: none"> <li>- fine grained medium to dark green mafic tuff</li> <li>- banded at 60 - 70° to core axis</li> </ul>
119.5	130.1	Feldspar Porphyry - fine grained grey rock with feldspars up to 2mm <ul style="list-style-type: none"> <li>- feldspars are subhedral to irregular in shape</li> <li>- minor mafic tuffs layers</li> <li>- contacts are irregular and discordant (probable intrusive)</li> </ul>

HOLE NO.

2331

LOCATION L8+00E 1+40N BEARING 180<sup>o</sup> HOLE NO. SL-84-5  
 LOGGED BY P. Nicholls ELEVATION \_\_\_\_\_ DIP -45<sup>o</sup> FINAL DEPTH 169.80 m  
 STARTED December 14, 1984 TESTS (CORRECTED) \_\_\_\_\_  
 FINISHED December 16, 1984  
 CASING \_\_\_\_\_  
 CORE SIZE \_\_\_\_\_

FROM m	TO m	DESCRIPTION
130.1	137.5	Mafic Tuff - fine grained medium green rock with some dark green fragments - generally massive (may be in part a flow unit)
137.5	145.4	Banded Mafic Tuff - dark green banded tuff - fine grained with banding at 60 - 70 <sup>o</sup> to core axis 137.5 - 140.7 - pyrite cubes up to 3mm are scattered through section 144.9 - 145.4 - pyrite as bands up to 2mm and in quartz vein oriented at 45 <sup>o</sup> to core axis
145.4	148.4	Intermediate to felsic laminated tuff - fine grained grey with bands at 60 <sup>o</sup> to core axis 145.65 - 145.80 - pyrrhotite in fractures and veins ( 5%)
148.8	157.0	Feldspar Porphyry - fined grained grey rock with sub-hedral feldspar crystals up to 2mm - discordant contacts at top and bottom
157.0	160.7	Intermediate to felsic tuff - fine grained grey massive to banded with banding at 60 - 70 <sup>o</sup> to core axis 157.4 - 157.6 - pyrite
160.7	161.8	Intermediate to Felsic Tuff - fine grained massive dark grey possibly graphitic.
161.8	162.3	Massive Graphite - black

PROPERTY SUNDAY LAKE

PAGE 5

LOCATION L8+00E 1+40N BEARING 180° HOLE NO. SL-84-5

LOGGED BY P. Nicholls ELEVATION \_\_\_\_\_ DIP -45° FINAL DEPTH 169.80 m

STARTED December 14, 1984 TESTS (CORRECTED) \_\_\_\_\_

FINISHED December 16, 1984

CASING \_\_\_\_\_

CORE SIZE \_\_\_\_\_

FROM m	TO m	DESCRIPTION
162.3	168.3	Intermediate to Felsic Tuff - fine grained grey - Massive graphitic horizons at 162.9 - 162.95, and 163.3 - Pyrrhotite and pyrite in veins and fractures (up to 10%) with graphite at 163.3 - 163.5 - Brecciated rock with abundant quartz veining 164 - 165.2
168.3	168.6	Massive Graphite
168.6	169.8	Basaltic Komatiite - fine to medium grained massive light brown rock - granular appearance - heavily carbonated (calcite)
169.8		END OF HOLE

## PROPERTY SUNDAY LAKE

PAGE 1

LOCATION 8+00E 1+40N BEARING 180° HOLE NO. SL-84-5  
 (ext)  
 LOGGED BY P. Nicholls ELEVATION \_\_\_\_\_ DIP -45° FINAL DEPTH 221.6  
 STARTED February 14, 1985 TESTS (CORRECTED) \_\_\_\_\_  
 FINISHED February 15, 1985  
 CASING 21.95m  
 CORE SIZE BQ

FROM m	TO m	DESCRIPTION
169.8	169.9	Carbonated Basaltic Komatiite - massive - light to medium grey - green rock - granular appearance - heavily carbonated - medium grained
169.9	172.8	Mafic Tuff - well laminated; fine grained - medium grey green rock with minor felsic layers - rusty appearance locally - possible small xtal of Aspy at 171.6
172.8	175.9	Chert - fine grained quartz rich unit - core recovery for this section 18%
175.9	176.9	Carbonated Basaltic Komatiite - massive medium grained heavily carbonated rock similar to above
176.9	189.6	Mafic Tuff - fine grained - poorly to well laminated - medium to dark green rock - calcite common in matrix and as fine fractures - locally pyritic - quartz vein with rusty colouring at 177m ( 1cm) - white massive chert horizons are common in this unit 181.8-182.3 - qtz calcite pyrite veins 183.4-184.0 - less veining 187.1-187.4 - no veining 188.3-188.6 - no veining 188.9-189.4 - minor qtz-calcite veining

## PROPERTY SUNDAY LAKE

PAGE 2

LOCATION 8+00E 1+40N BEARING 180<sup>0</sup> HOLE NO. SL-84-5  
 LOGGED BY P. Nicholls ELEVATION \_\_\_\_\_ DIP -45<sup>0</sup> FINAL DEPTH 221.6  
 (ext)  
 STARTED February 14, 1985 TESTS (CORRECTED) \_\_\_\_\_  
 FINISHED February 15, 1985  
 CASING 21.95m  
 CORE SIZE BQ

FROM m	TO m	DESCRIPTION
189.4	191.5	Mafic Fragmental? - generally fined grained, dark grey green rock with felsic layers - in upper section the layers appear to be fragmental in nature - lower in section - the layers appear more sedimentary than fragmental and are carbonate rich.
191.5	191.6	Breccia - a chaotic carbonate cemented breccia with fragments similar to above unit - fragments are sub angular to subrounded and there is no orientation. (intraformational breccia) strat tops down hole?
191.6	221.6	Mafic Tuffs - fine grained medium grey-green rock - well to poorly laminated - calcite common in laminations and in fine veins - some small sections may be feldspar phyric flows (feldspars 1mm) - other sections appear sedimentary as if reworked - cherty sections 203.5-204, 206.6-208.1 minor qtz calcite veining - quartz vein (80cm) with limonite stains at 213.9
221.6		END OF HOLE

HOLE NO.



APPENDIX 2

Sample Record Sheets and  
Geochemical Values

SLU. 2 SAMPLES

SL-4 -HOLE NO.  
1 -PAGE

PROPERTY- SUNDAY LAKE

SAMPLE NO.	FROM (m)	TO (m)	LENGTH (m)	ASSAYS				DESCRIPTIONS
				Au ppb	Ag ppm			
SL-84-4-1	27.43	35.36		< 5	1.6			
SL-84-4-2	35.36	41.46		< 5	.2			
SL-84-4-3	41.46	47.56		< 5	1.3			
SL-84-4-4	45.52	50.91		< 5	.9			
SL-84-4-5	50.91	57.01		< 5	.6			
SL-84-4-6	57.01	63.10		< 5	1.5			
SL-84-4-7	63.10	69.20		< 5	.8			
SL-84-4-8	69.20	75.30		< 5	.5			
SL-84-4-9	75.30	81.40		< 5	1.1			
SL-84-4-10	81.40	87.50		< 5	4.9			
SL-84-4-11	87.50	93.59		< 5	1.5			
SL-84-4-12	93.59	99.69		< 5	.9			
SL-84-4-13	99.69	105.79		< 5	.3			
SL-84-4-14	105.79	111.89		< 5	.2			
SL-84-4-15	111.89	117.98		< 5	.7			
SL-84-4-16	117.98	124.08		< 5	.3			
SL-84-4-17	124.08	130.18		< 5	.3			
SL-84-4-18	130.18	136.28		< 5	.2			

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T. 23 31

PROPERTY - SUNDAY LAKE

SAMPLE NO.	FROM (m)	TO (m)	LENGTH (m)	ASSAYS				DESCRIPTIONS
				Au (ppb)	Ag (ppb)			
SL-84-4-19	136.28	142.38		< 5	.2			
SL-84-4-20	142.38	146.04		< 5	.2			

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SAMPLE NO.	FROM (m)	TO (m)	LENGTH (m)	ASSAYS				DESCRIPTIONS
				Au ppb	Ag ppm			
8401	37.8	38.4	0.6	< 5	< .2			
8402	45.12	45.8	0.62	10 <sup>y</sup>	.2			
8403	54.0	55.0	1.0	< 5	< .2			
8404	63.1	64.2	1.1	< 5	< .2			
8405	77.0	77.8	0.8	< 5	< .2			
8406	85.4	86.4	1.0	< 5	< .2			
8407	88.2	89.2	1.0	< 5	< .2			
8408	89.2	90.2	1.0	< 5	< .2			
8409	121.8	122.8	1.0	< 5	< .2			
8410	122.8	123.8	1.0	< 5	< .2			
8411	123.8	124.8	1.0	< 5	< .2			
8412	155.6	156.6	1.0	< 5	< .2			
8413	168.86	169.36	0.5	< 5	< .2			
8414	177.0	178.0	1.0	< 5	< .2			
8415	181.4	182.0	0.6	< 5	< .2			
8416	182.0	183.0	1.0	< 5	< .2			
8417	184.0	185.0	1.0	< 5	< .2			
8418	202.4	203.9	1.5	< 5	< .2			

T. 2331

PROPERTY- SUNDAY LAKE

SAMPLE NO.	FROM (m)	TO (m)	LENGTH (m)	ASSAYS				DESCRIPTIONS
				Au ppb	Ag ppm			
8419	206.4	207.0	0.6	< 5	< .2			
8420	266.2	266.7	0.5	< 5	< .2			

36

## SLC E SAMPLES

SL 1-5 -HOLE NO.  
1 -PAGE

PRO. TY- SUNDAY LAKE

SAMPLE NO.	FROM (m)	TO (m)	LENGTH	ASSAYS				DESCRIPTIONS
				Au (ppb)	Ag (ppm)			
SL-84-5-1	21.95	26.52		< 5	< .2			
SL-84-5-2	26.52	32.62		< 5	< .2			
SL-84-5-3	32.62	38.72		< 5	< .2			
SL-84-5-4	38.72	44.82		< 5	< .2			very little sludge
SL-84-5-5	44.82	50.91		Missing				no sludge
SL-84-5-6	50.91	57.01		< 5	< .2			
SL-84-5-7	57.01	63.11		< 5	✓ .3			
SL-84-5-8	63.11	69.21		< 5	< .2			
SL-84-5-9	69.21	75.30		< 5	✓ .2			
SL-84-5-10	75.30	81.40		< 5	< .2			
SL-84-5-11	81.40	87.50		< 5	✓ .3			very little sludge
SL-84-5-12	87.50	93.60		< 5	✓ .4			
SL-84-5-13	93.60	99.70		< 5	✓ .6			very little sludge
SL-84-5-14	99.70	105.80		< 5	✓ .4			
SL-84-5-15	105.80	111.90		< 5	✓ .2			
SL-84-5-16	111.90	118.00		< 5	✓ .6			

T. 23 31

## PROPERTY- SUNDAY LAKE

SAMPLE NO.	FROM (m)	TO (m)	LENGTH	ASSAYS				DESCRIPTIONS
				Au (ppb)	Ag (ppb)			
SL-84-5-17	118.00	124.10		< 5	x .3			very little sludge
SL-84-5-18	124.10	130.18		< 5	< .2			very little sludge
SL-84-5-19	130.18	136.28		< 5	x .2			very little sludge
SL-84-5-20	136.28	142.38		< 5	< .2			very little sludge
SL-84-5-21	142.38	148.48		x 150	< .2			very little sludge
SL-84-5-22	148.48	154.47		< 5	x 2.0			very little sludge
SL-84-5-23	154.47	160.67		< 5	< .2			very little sludge
SL-84-5-24	160.67	166.77		< 5	† 9.4			
SL-84-5-25	166.77	169.82		< 5	h 4.2			

38

T. 23 31

PROPERTY- SUNDAY LAKE

SAMPLE NO.	FROM (m)	TO (m)	LENGTH (m)	ASSAYS				DESCRIPTIONS
				Au ppb	Ag ppm			
8440	35.67	36.0	0.33	< 5	< .2			
8441	55.32	55.57	0.29	< 5	< .2			
8442	94.45	95.5	1.05	< 5	< .2			
8443	109.6	111.1	1.5	< 5	< .2			
8444	115.6	116.4	0.8	< 5	< .2			
8445	144.9	145.9	1.0	< 5	< .2			
8446	148.4	148.7	0.3	< 5	< .2			
8447	163.1	163.8	0.7	< 5	< .2			
8448	164.0	165.2	1.2	< 5	< .2			
8449	142.4	143.7	1.3	< 5	< .2			
8450	143.7	144.9	1.2	< 5	< .2			
8451	145.9	146.9	1.0	< 5	< .2			
8452	146.9	148.4	1.5	< 5	< .2			
8453	160.7	163.1	2.3	< 5	X .2			
8454	163.5	164.0	0.5	< 5	< .2			
8455	165.2	166.7	1.5	< 5	< .2			
8456	166.7	168.1	1.4	< 5	< .2			
8457	168.1	169.1	1.5	< 5	< .2			

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T. 2331



SAMPLE NO.	FROM (m)	TO (m)	LENGTH (m)	ASSAYS				DESCRIPTIONS
				Au ppb	Ag ppm			
8458	170	171.5	1.5	< 5	✓ .2			
8459	174.3	175.9	1.6	< 5	< .2			
8460	175.9	177.0	1.1	< 5	< .2			
8461	177.0	178.0	1.0	< 5	< .2			
8462	178.0	179.0	1.0	< 5	< .2			
8463	179.0	180.0	1.0	< 5	< .2			
8464	180.0	181.0	1.0	< 5	< .2			
8465	181.0	182.0	1.0	< 5	✗ .2			
8466	182.0	182.8	0.8	< 5	< .2			
8467	182.8	183.8	1.0	< 5	< .2			
8468	183.8	184.8	1.0	< 5	< .2			
8469	205.1	206.1	1.0	< 5	< .2			
8470	206.1	207.1	1.0	< 5	< .2			
8471	208.0	209.0	1.0	< 5	< .2			
8472	207.1	208.0	0.9	< 5	< .2			

40

APPENDIX 3

Lab Analysis Sheets

WESTHIN RESOURCES

(P. NICHOLS)

PROJ: SUNDAY LAKE

WO NO: 85-0007

PAGE: 1

SAMPLE ID	AU PPB	AG PPM	SAMPLE ID	AU PPB	AG PPM
B401	<5	<.2	SLB4-5-12	<5	.4
B402	10	<.2	SLB4-5-13	<5	.6
B403	<5	<.2	SLB4-5-14	<5	.4
B404	<5	<.2	SLB4-5-15	<5	.2
B405	<5	<.2	SLB4-5-16	<5	.6
B406	<5	<.2	SLB4-5-17	<5	.3
B407	<5	<.2	SLB4-5-18	<5	<.2
B408	<5	<.2	SLB4-5-19	<5	.2
B409	<5	<.2	SLB4-5-20	<5	<.2
B410	<5	<.2	SLB4-5-21	150	<.2
B411	<5	<.2	SLB4-5-22	<5	2.0
B412	<5	<.2	SLB4-5-23	<5	<.2
B413	<5	<.2	SLB4-5-24	<5	9.4
B414	<5	<.2	SLB4-5-25	<5	4.2
B415	<5	<.2	SLB4-4-1	<5	1.6
B416	<5	<.2	SLB4-4-2	<5	.2
B417	<5	<.2	SLB4-4-3	<5	1.3
B418	<5	<.2	SLB4-4-4	<5	.9
B419	<5	<.2	SLB4-4-5	<5	.6
B420	<5	<.2	SLB4-4-6	<5	1.5
B421	<5	<.2	SLB4-4-7	<5	.8
B422	<5	<.2	SLB4-4-8	<5	.5
B423	<5	<.2	SLB4-4-9	<5	1.1
B424	<5	<.2	SLB4-4-10	<5	4.9
B425	<5	<.2	SLB4-4-11	<5	1.5
B440	<5	<.2	SLB4-4-12	<5	.9
B441	<5	<.2	SLB4-4-13	<5	.3
B442	<5	<.2	SLB4-4-14	<5	.2
B443	<5	<.2	SLB4-4-15	<5	.7
B444	<5	<.2	SLB4-4-16	<5	.3
B445	<5	<.2	SLB4-4-17	<5	.3
B446	<5	<.2	SLB4-4-18	<5	.2
B447	<5	<.2	SLB4-4-19	<5	.2
B448	<5	<.2	SLB4-4-20	<5	.2
SLB4-5-1	<5	<.2			
SLB4-5-2	<5	<.2			
SLB4-5-3	<5	<.2			
SLB4-5-4	<5	<.2			
SLB4-5-5	MISSING	MISSING			
SLB4-5-6	<5	<.2			
SLB4-5-7	<5	.3			
SLB4-5-8	<5	<.2			
SLB4-5-9	<5	.2			
SLB4-5-10	<5	<.2			
SLB4-5-11	<5	.3			

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X	X	RRRRR	A	LL
XX	XX	RR RR	AAA	LL
XX	XX	RR RR	AA AA	LL
XXX		RR RR	AA AA	LL
XXX		RRRRR	AAAAAAA	LL
XX	XX	RR RR	AA AA	LL
XX	XX	RR RR	AA AA	LLLLLLL
X	X	RR R	AA AA	LLLLLLL

XRF - WHOLE ROCK ANALYSIS

WESTMIN RESOURCES LIMITED  
 Attn: PAUL NICHOLLS  
 25 ADELAIDE STREET EAST, SUITE 1400  
 TORONTO, ONTARIO  
 MSC 1Y2

CUSTOMER No. 605

DATE SUBMITTED  
 11-JAN-85

REPORT 23534

REF. FILE 19148

DATE REPORTED 31-JAN-85

XRF W. R. A. SUMS INCLUDE ALL ELEMENTS DETERMINED.  
 FOR SUMMATION ELEMENTS ARE CALCULATED AS OXIDES.

SAMPLE	1 SiO2	3 AL2O3	10 CaO	6 MgO	11 Na2O	12 K2O	4 Fe2O3	8 MnO	2 TiO2	13 P2O5	5 CR2O3	14 LOI	SUM
SL-84-4-36. 1M	66.8	14.6	3.99	1.98	3.88	1.39	4.99	0.06	0.68	0.19	<0.01	1.62	100.3
SL-84-4-72. 2M	66.5	14.6	3.77	2.21	3.79	1.49	5.36	0.06	0.68	0.18	<0.01	1.77	100.5
SL-84-4-98. 8M	67.2	15.2	3.49	1.28	4.25	1.98	4.11	0.05	0.76	0.19	<0.01	1.47	100.1
SL-84-4-166. 1M	47.9	11.7	9.43	9.10	2.83	0.67	11.6	0.20	0.78	0.20	0.06	5.00	99.5
SL-84-4-194. 4M	55.1	14.1	9.21	3.88	1.96	0.41	12.4	0.20	1.04	0.11	0.02	2.00	100.5
SL-84-4-223. 2M	42.5	12.1	10.7	5.45	0.65	2.34	15.8	0.26	1.10	0.09	0.02	8.00	99.0
SL-84-4-256. 7M	46.9	12.9	10.3	6.27	1.70	0.10	13.5	0.24	1.35	0.12	0.02	6.54	100.0
SL-84-5-36. 2M	47.3	15.4	9.38	7.89	1.83	0.40	13.6	0.20	1.27	0.11	0.01	3.08	100.5
SL-84-5-42. 25M	48.4	13.2	9.19	9.61	3.10	0.61	9.79	0.17	0.71	0.28	0.09	4.39	99.6
SL-84-5-60. 2M	49.4	15.4	11.2	5.67	1.96	0.18	12.3	0.17	1.30	0.10	0.04	2.62	100.4
SL-84-5-137. 4M	46.2	12.2	12.1	5.33	1.78	0.22	12.5	0.20	1.18	0.10	<0.01	8.54	100.4
SL-84-5-138. 3M	45.7	12.4	7.78	4.92	2.26	0.65	17.0	0.24	1.99	0.13	<0.01	6.77	99.9
SL-84-5-160. 7M	59.7	14.2	4.39	3.96	4.79	0.14	6.60	0.10	0.58	0.12	0.01	5.54	100.2
SL-84-5-168. 8M	47.5	10.9	5.61	14.1	0.08	0.01	8.56	0.22	0.34	0.07	0.17	12.6	100.2

7  
FeO

9  
NiO.

SAMPLE	RB	SR	Y	ZR	NB
SL-84-4-36. 1M	50	360	30	230	30
SL-84-4-72. 2M	50	390	20	220	20
SL-84-4-98. 8M	50	390	40	240	30
SL-84-4-166. 1M	20	140	10	30	30
SL-84-4-194. 4M	10	120	20	80	10
SL-84-4-223. 2M	70	120	20	30	20
SL-84-4-256. 7M	20	120	20	50	20
SL-84-5-36. 2M	10	120	20	60	10
SL-84-5-42. 25M	20	170	<10	80	10
SL-84-5-60. 2M	10	90	10	60	10
SL-84-5-137. 4M	30	160	10	50	20
SL-84-5-138. 3M	50	100	30	90	20
SL-84-5-160. 7M	10	230	<10	130	20
SL-84-5-168. 8M	10	10	30	10	<10

X-RAY ASSAY LABORATORIES LIMITED  
1885 LESLIE STREET, DON MILLS, ONTARIO M3B 3J4  
PHONE 416-445-5755 TELEX 06-986947

CERTIFICATE OF ANALYSIS

TO: WESTMIN RESOURCES LIMITED  
ATTN: PAUL NICHOLLS  
25 ADELAIDE STREET EAST, SUITE 1400  
TORONTO, ONTARIO  
M5C 1Y2

CUSTOMER NO. 605

DATE SUBMITTED  
20-MAR-85

REPORT 23572

REF. FILE 19593-A5

6 S.CRES

WERE ANALYSED AS FOLLOWS:

	METHOD	DETECTION LIMIT
WRMAJ %	WR	0.010
WRMIN PPM	WR	10.000

DATE 08-APR-85

X-RAY ASSAY LABORATORIES LIMITED  
CERTIFIED BY 

SAMPLES WITH LOW SUMS HAVE BEEN REPEATED WITH NO CHANGE

WE HAVE CHECKED FOR THE FOLLOWING ELEMENTS:

CU, ZN, NI, PB, CO, AS, U, MO

OF WHICH AS WAS FOUND  
IN GREATER THAN TRACE/MINOR QUANTITIES

THE MATRIX CORRECTION PROGRAM DOES NOT ACCOUNT FOR  
THE PRESENCE OF THESE ELEMENTS



```

X       X
XX      XX
  XX   XX
    XXX
    XXX
  XX   XX
XX      XX
X       X

RRRRR
RR  RR
RR  RR
RR  RR
RRRRR
RR  RR
RR  RR
RR  R

      A
     AAA
    AA AA
   AA  AA
  AAAAAA
 AA  AA
 AA  AA
 AA  AA

LL
LL
LL
LL
LL
LLLLLLL
LLLLLLL

```

XRF - WHOLE ROCK ANALYSIS

WESTMIN RESOURCES LIMITED  
 Attn: PAUL NICHOLLS  
 25 ADELAIDE STREET EAST, SUITE 1400  
 TORONTO, ONTARIO  
 M5C 1Y2

CUSTOMER No. 605

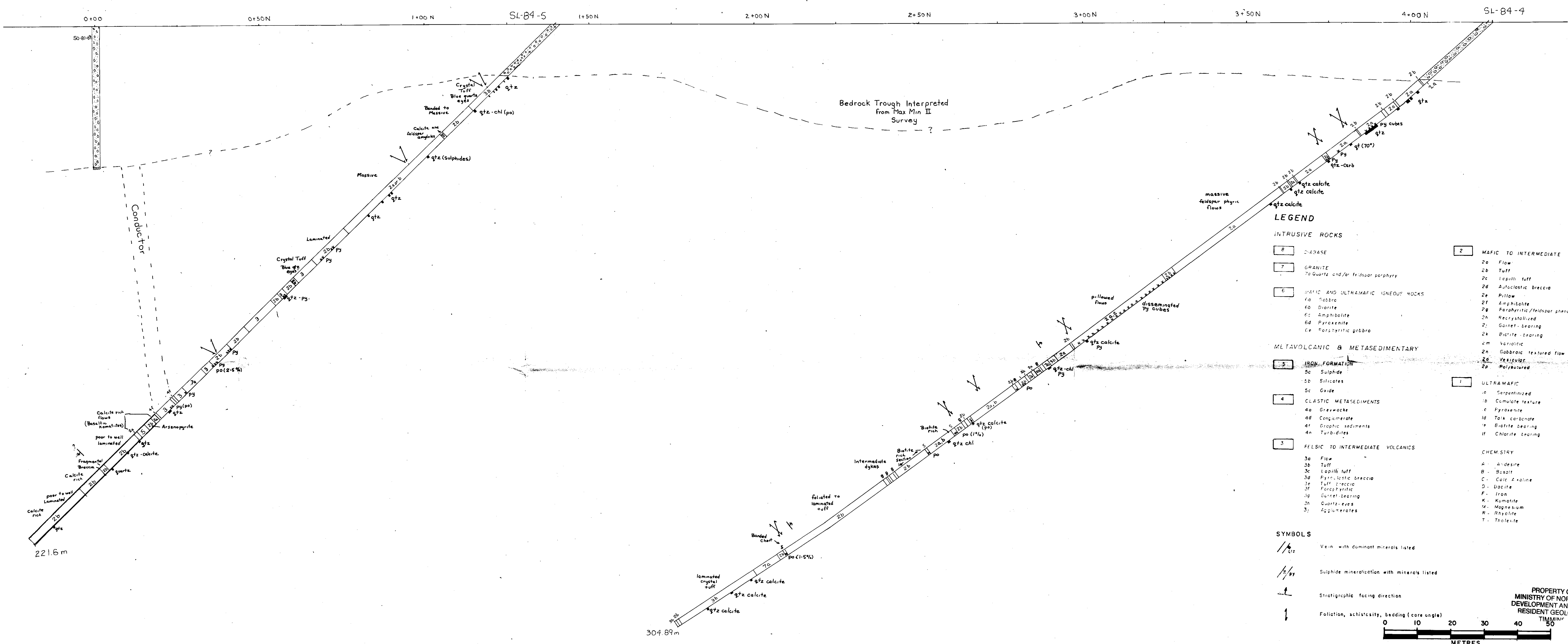
DATE SUBMITTED  
 20-MAR-85

REPORT 23972      REF. FILE 19593      DATE REPORTED 08-APR-85

XRF W. R. A. SUMS INCLUDE ALL ELEMENTS DETERMINED.  
 FOR SUMMATION ELEMENTS ARE CALCULATED AS OXIDES.

SAMPLE	SI02	AL203	CAO	MGO	NA2O	K2O	FE2O3	MNO	TIO2	P2O5	CR2O3	LOI	SUM
D-85-21-97.8	39.3	8.81	14.1	12.6	<0.01	0.02	8.63	0.26	0.30	0.09	0.16	15.0	99.3
NEX-85-1-7.9	50.6	13.3	6.58	5.20	1.52	0.99	9.24	0.19	0.82	0.17	<0.01	11.1	99.7
SL-84-5-173	60.3	14.2	4.30	3.42	4.19	0.94	6.03	0.07	0.57	0.17	0.03	4.54	98.8
SL-84-5-176.3	60.5	15.3	3.53	2.50	3.15	1.94	6.81	0.10	0.65	0.11	0.01	3.85	98.5
SL-84-5-182	56.7	14.5	5.71	2.00	3.10	2.38	6.08	0.12	0.69	0.08	0.01	4.31	95.7
SL-84-5-218.9	59.8	15.0	2.64	3.30	2.78	2.12	8.31	0.07	0.60	0.17	0.02	3.39	98.3

SAMPLE	RB	SR	Y	ZR	NB
D-85-21-37.8	20	400	<10	20	20
NEX-85-1-7.9	30	90	20	80	20
SL-84-5-173	30	330	10	130	20
SL-84-5-176.3	60	330	20	100	<10
SL-84-5-182	80	210	20	90	10
SL-84-5-218.9	90	360	10	110	10



**LEGEND**

INTRUSIVE ROCKS	
8	DIORASE
7	GRANITE 7a Quartz and/or feldspar porphyry
6	MAFIC AND ULTRAMAFIC IGNEOUS ROCKS
6a	Gabbro
6b	Diorite
6c	Amphibolite
6d	Pyroxenite
6e	Porphyritic gabbro
2	MAFIC TO INTERMEDIATE VOLCANICS
2a	Flow
2b	Tuff
2c	Lapilli tuff
2d	Asthenic breccia
2e	Pillow
2f	Amphibolite
2g	Porphyritic/feldspar phenocrysts
2h	Recrystallized
2i	Garnet-bearing
2k	Biotite-bearing
2m	Variscite
2n	Gabbroic textured flow
2o	Vesicular
2p	Polysaturated
METAVOLCANIC & METASEDIMENTARY	
5	IRON FORMATION
5a	Sulphide
5b	Silicates
5c	Gaize
4	CLASTIC METASEDIMENTS
4a	Greywacke
4d	Conglomerate
4f	Graphic sediments
4n	Turbidites
1	ULTRAMAFIC
1a	Serpentinized
1b	Comulate texture
1c	Pyroxenite
1d	Talk carbonate
1e	Biotite bearing
1f	Chlorite bearing
FELSIC TO INTERMEDIATE VOLCANICS	
3a	Flow
3b	Tuff
3c	Lapilli tuff
3d	Pyroclastic breccia
3e	Tuff tzeccia
3f	Porphyritic
3g	Garnet-bearing
3h	Quartz-eyes
3i	Apophanites
CHEMISTRY	
A	Andesite
B	Basalt
C	Calc Andine
D	Dacite
F	Iron
K	Kumalite
M	Magnesium
R	Rhyolite
T	Tholeiite

**SYMBOLS**

	Vein with dominant minerals listed
	Sulphide mineralization with minerals listed
	Stratigraphic facing direction
	Foliation, schistosity, bedding (core angle)

PROPERTY OF  
MINISTRY OF NORTHERN  
DEVELOPMENT AND MINES  
RESIDENT GEOLOGIST  
TIMMINIC

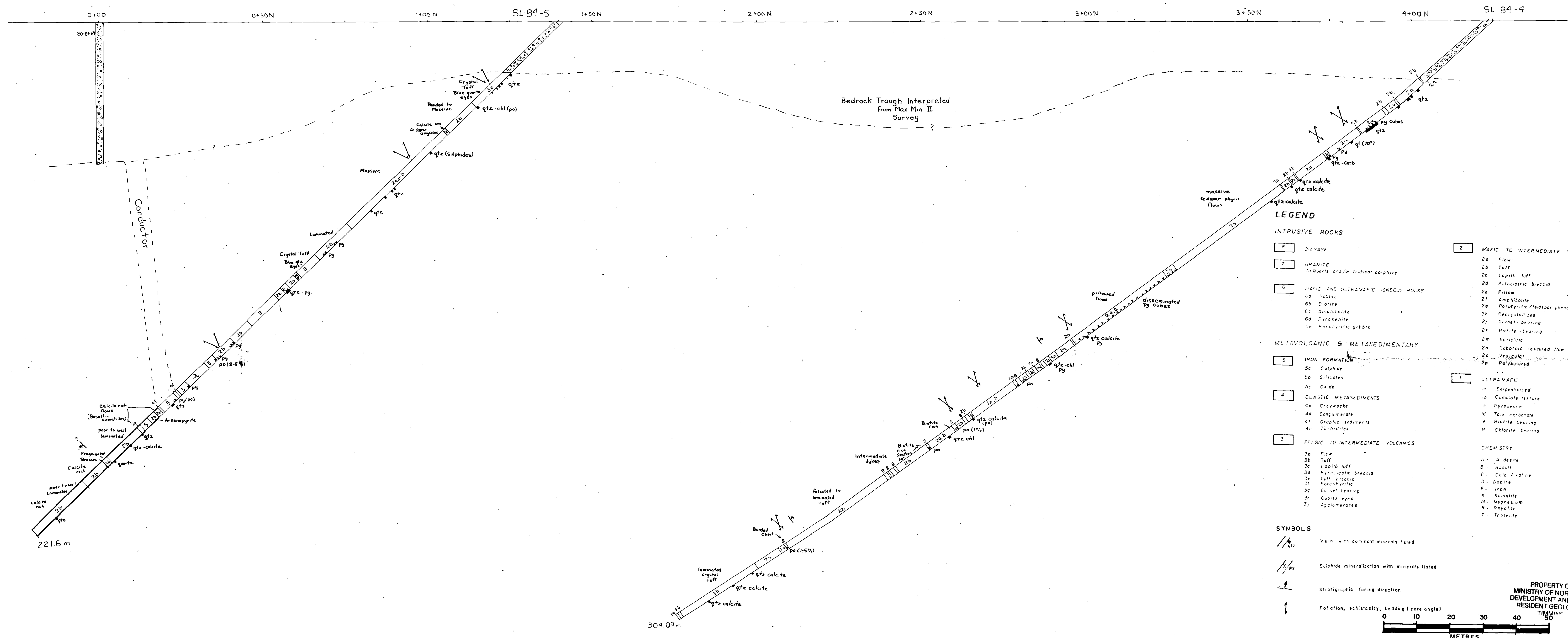
0 10 20 30 40 50  
METRES

**Westmin Resources Limited**  
EASTERN CANADA MINING DIVISION

434622  
SUNDAY LAKE CLAIMS  
1985  
Section 8+00E (Looking West)  
GEOLOGY T.2331

Work by	P.R.J.N.	Scale	1:500
Date	April 1985	NTS	32 E-13, L-4

FIGURE 4



- LEGEND**
- INTRUSIVE ROCKS**
- 8 DIABASE
  - 7 GRANITE  
7a Quartz and/or feldspar porphyry
  - 6 MAFIC AND ULTRAMAFIC IGNEOUS ROCKS
    - 6a Gabbro
    - 6b Diorite
    - 6c Amphibolite
    - 6d Pyroxenite
    - 6e Perthritic gabbro
  - 5 IRON FORMATION
    - 5a Sulphide
    - 5b Silicates
    - 5c Gade
  - 4 CLASTIC METASEDIMENTS
    - 4a Greywacke
    - 4d Conglomerate
    - 4f Graphic sediments
    - 4n Turbidities
  - 3 FELSIC TO INTERMEDIATE VOLCANICS
    - 3a Flow
    - 3b Tuff
    - 3c Lapilli tuff
    - 3d Pyroclastic breccia
    - 3e Tuff breccia
    - 3f Perthritic
    - 3g Garnet-bearing
    - 3h Quartz-eyes
    - 3j Agglomerates
  - 2 MAFIC TO INTERMEDIATE VOLCANICS
    - 2a Flow
    - 2b Tuff
    - 2c Lapilli tuff
    - 2d Autoclastic breccia
    - 2e Pillow
    - 2f Amphibolite
    - 2g Perthritic/feldspar phenocrysts
    - 2h Recrystallized
    - 2i Garnet-bearing
    - 2k Biotite-bearing
    - 2m Variolitic
    - 2n Gabbroic textured flow
    - 2o Vesicular
    - 2p Polysutured
  - 1 ULTRAMAFIC
    - 1a Serpentinized
    - 1b Calcic texture
    - 1c Pyroxenite
    - 1d Talk carbonate
    - 1e Biotite-bearing
    - 1f Chlorite-bearing
- CHEMISTRY**
- A - Andesite
  - B - Basalt
  - C - Calc. Andesite
  - D - Basalt
  - E - Iron
  - K - Kumalite
  - M - Magnetite
  - R - Rhyolite
  - T - Tholeiite

- SYMBOLS**
- Vein with dominant minerals listed
  - Sulphide mineralization with minerals listed
  - Stratigraphic facing direction
  - Foliation, schistosity, bedding (core angle)
- 0 10 20 30 40 50 METRES

**Westmin Resources Limited**  
EASTERN CANADA MINING DIVISION

SUNDAY LAKE CLAIMS  
1985  
Section 8+00E (Looking West)  
**GEOLOGY**

134622

**T. 23 31**

Work by	P.R.J.N.	Scale	1:500
Date	April 1985	NTS	32 E-13, L-4

FIGURE 4

D-85-18  
6+00N 6+50N 7+00N 7+50N 8+00N

Overburden

Mafic Flow

Chloritic Brecciated Sections  
Intraformational Breccia

qtz-calcite  
Veins common

Calcite common  
in bands and as  
cement

Argillite  
(+sulfaceous  
component)

qtz-calcite  
py

qtz-calcite  
py

Calcite  
(minor)

qtz and qtz-ankerite  
veins common  
+ trace py

green mica

green mica

Intermediate  
to Felsic Tuff  
(sericite common)

py (10%)  
nodules

Graphitic  
schist

Argillite  
(minor graphite)

229.87m

LEGEND

INTRUSIVE ROCKS

- 8 GABBRO
- 7 GRANITE  
7a Quartz and/or feldspar porphyry
- 6 MAFIC AND ULTRAMAFIC IGNEOUS ROCKS
  - 6a Gabbro
  - 6b Diorite
  - 6c Amphibolite
  - 6d Pyroxenite
  - 6e Porphyritic gabbro

METAVOLCANIC & METASEDIMENTARY

- 5 IRON FORMATION
  - 5a Sulphide
  - 5b Silicates
  - 5c Oxide
- 4 CLASTIC METASEDIMENTS
  - 4a Greywacke
  - 4d Conglomerate
  - 4f Graphitic sediments
  - 4n Turbidites
- 3 FELSIC TO INTERMEDIATE VOLCANICS
  - 3a Flow
  - 3b Tuff
  - 3c Lapilli tuff
  - 3d Pyroclastic breccia
  - 3e Tuff breccia
  - 3f Porphyritic
  - 3g Garnet-bearing
  - 3h Quartz-eyes
  - 3j Agglomerates

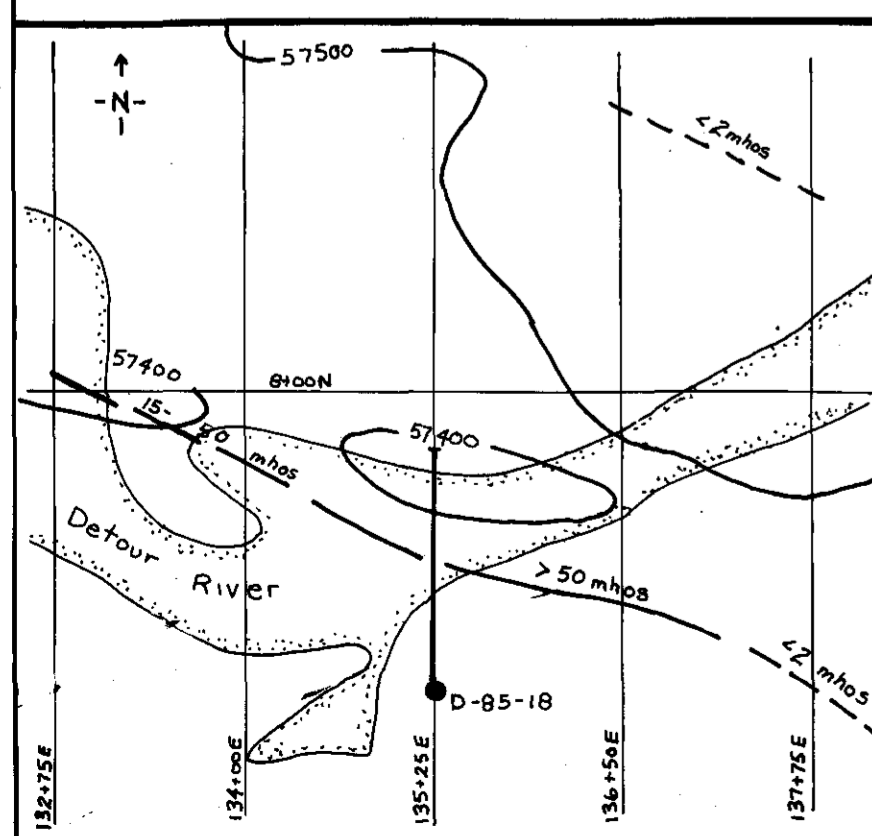
- 2 MAFIC TO INTERMEDIATE VOLCANICS
  - 2a Flow
  - 2b Tuff
  - 2c Lapilli tuff
  - 2d Autoclastic breccia
  - 2e Pillow
  - 2f Amphibolite
  - 2g Porphyritic/feldspar phenocrysts
  - 2h Recrystallized
  - 2i Garnet-bearing
  - 2k Biotite-bearing
  - 2m Variolitic
  - 2n Subvolcanic textured flow
  - 2o Vesicular
  - 2p Polysutured

- 1 ULTRAMAFIC
  - 1a Serpentinized
  - 1b Columnar texture
  - 1c Pyroxenite
  - 1d Talk carbonate
  - 1e Biotite bearing
  - 1f Chlorite bearing

- CHEMISTRY
- A - Andesite
  - B - Basalt
  - C - Calc Alkaline
  - D - Dacite
  - F - Iron
  - K - Komatiite
  - M - Magnesium
  - R - Rhyolite
  - T - Tholeiite

SYMBOLS

- Vein, with dominant minerals listed
- Sulphide mineralization with minerals listed
- Stratigraphic facing direction
- Foliation, schistosity, bedding (core angle)



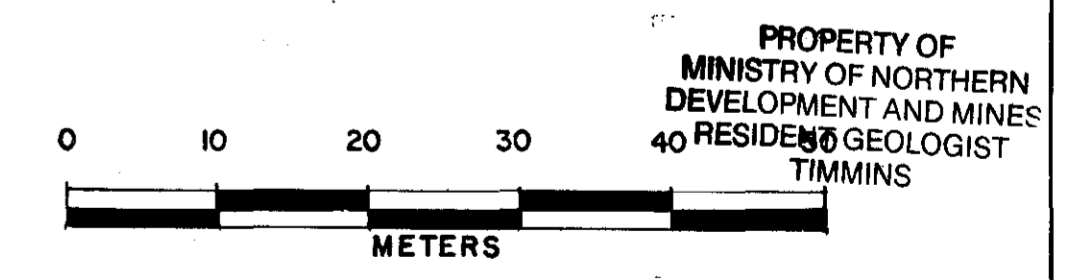
Geophysical  
Compilation

Magnetics  
— 57500 — Contours  
Depression

Max Min II

Conductors  
- - - - - weak  
— — — — — strong  
10mhos  
Conductivity

scale 1:5000



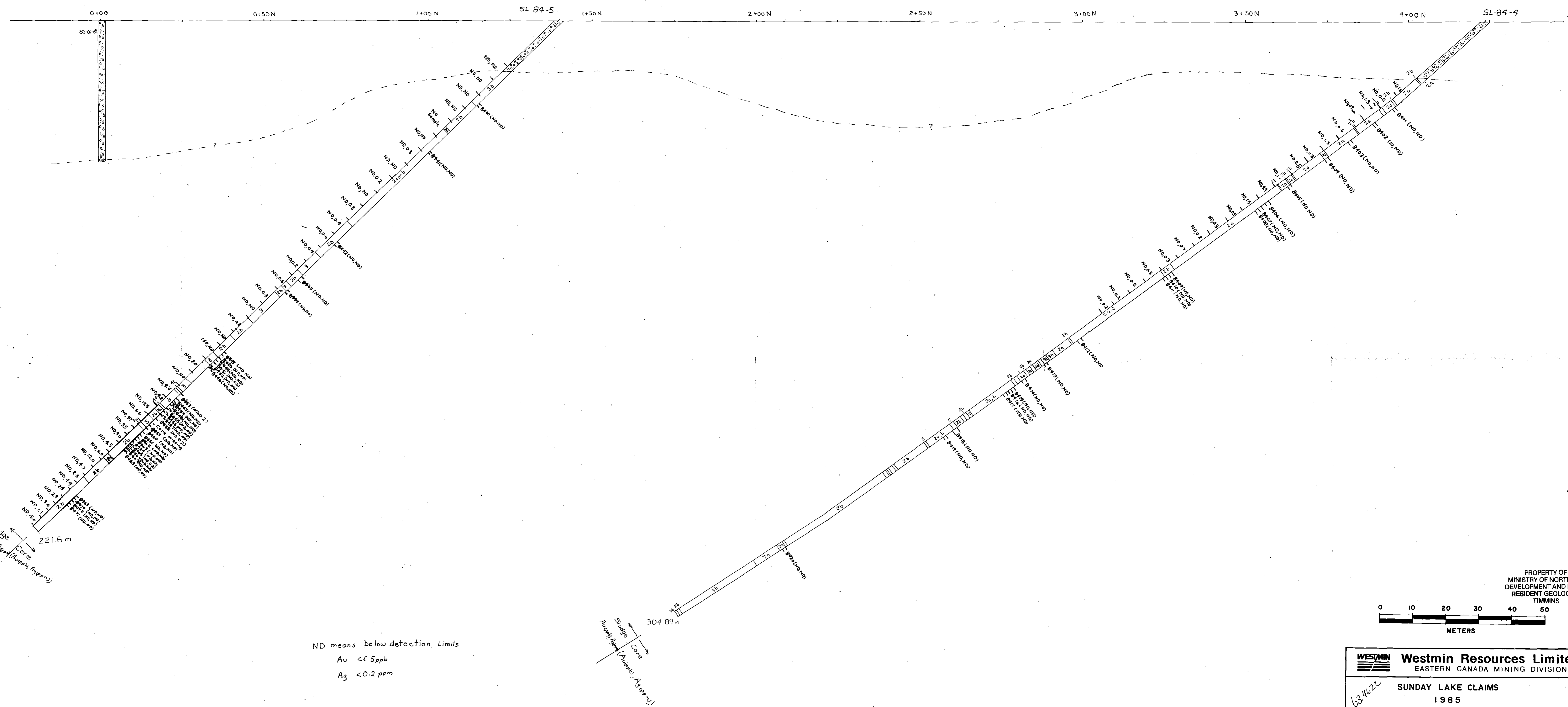
**WESTMIN** Westmin Resources Limited  
EASTERN CANADA MINING DIVISION

63.4622 SOUTH DETOUR CLAIMS  
1985

Section 135+25E (Looking West)

GEOLOGY T. 23 31

Work by	PRJ N	Scale	1:500
Date	April 1985	NTS	32 E-13



ND means below detection limits  
 Au < 5 ppb  
 Ag < 0.2 ppm

PROPERTY OF  
 MINISTRY OF NORTHERN  
 DEVELOPMENT AND MINES  
 RESIDENT GEOLOGIST  
 TIMMINS

0 10 20 30 40 50  
 METERS

**WESTMIN** Westmin Resources Limited  
 EASTERN CANADA MINING DIVISION

624622  
 SUNDAY LAKE CLAIMS  
 1985  
 Section 8+00 E (Looking West)  
 GEOCHEMISTRY T. 23 31

Work by PRJN	Scale 1:500
Date April 1985	NTS 32 L-4

FIGURE 5

6+00N 6+50N 7+00N 7+50N 8+00N

Overburden

ND 84.0  
ND 100  
ND 113  
ND ND  
25.98  
10, 4.7  
ND ND  
15.3.1  
ND 2.2  
ND 1.5  
ND ND  
ND 4.1  
ND 0.6  
ND 10.4  
ND 0.9  
ND 2.6  
No Sample

ND 0.3  
ND 0.3  
ND 0.5  
5.1.0  
No Sample  
ND 0.4  
ND 0.4  
ND 0.4  
ND 1.2  
ND 0.1  
ND 0.1  
ND 0.9  
ND ND  
ND ND  
No Sample

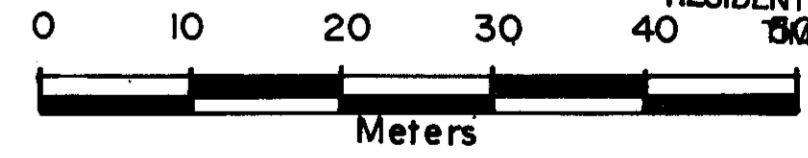
8473 (ND, ND)  
8477 (ND, ND)  
8475 (ND, ND)

8476 (ND, ND)

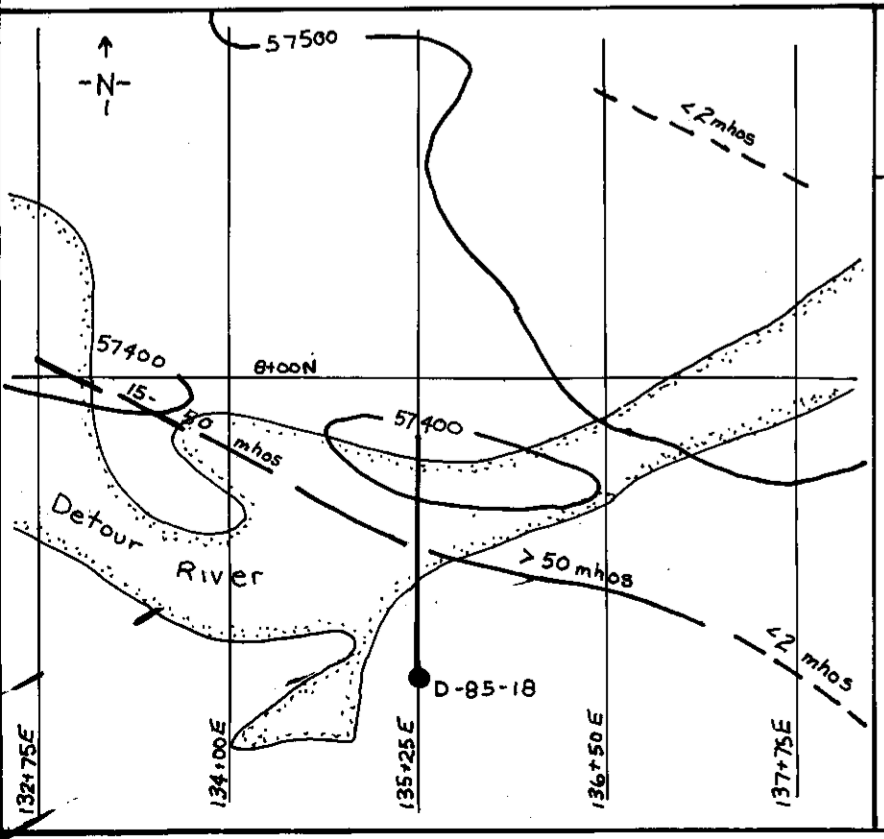
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5566 (ND ND)  
5567 (ND ND)  
5568 (ND ND)  
5569 (ND ND)  
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5571 (ND ND)  
5572 (ND ND)  
5573 (ND ND)  
5574 (ND ND)  
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5580 (ND ND)  
5581 (ND ND)  
5582 (ND ND)  
5583 (ND ND)  
5584 (ND ND)  
5585 (ND ND)  
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5590 (ND ND)  
5591 (ND ND)  
5592 (ND ND)  
5593 (ND ND)  
5594 (ND ND)  
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5596 (ND ND)  
5597 (ND ND)  
5598 (ND ND)  
5599 (ND ND)  
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5601 (ND ND)  
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5609 (ND ND)  
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5613 (ND ND)  
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5616 (ND ND)  
5617 (ND ND)  
5618 (ND ND)  
5619 (ND ND)  
5620 (ND ND)  
5621 (ND ND)  
5622 (ND ND)  
5623 (ND ND)  
5624 (ND ND)  
5625 (ND ND)  
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5627 (ND ND)  
5628 (ND ND)  
5629 (ND ND)  
5630 (ND ND)  
5631 (ND ND)  
5632 (ND ND)  
5633 (ND ND)  
5634 (ND ND)  
5635 (ND ND)  
5636 (ND ND)  
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5639 (ND ND)  
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5641 (ND ND)  
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5646 (ND ND)  
5647 (ND ND)  
5648 (ND ND)  
5649 (ND ND)  
5650 (ND ND)  
5651 (ND ND)  
5652 (ND ND)  
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5685 (ND ND)  
5686 (ND ND)  
5687 (ND ND)  
5688 (ND ND)  
5689 (ND ND)  
5690 (ND ND)  
5691 (ND ND)  
5692 (ND ND)  
5693 (ND ND)  
5694 (ND ND)  
5695 (ND ND)  
5696 (ND ND)  
5697 (ND ND)  
5698 (ND ND)  
5699 (ND ND)  
5700 (ND ND)

229.87m  
CORE SAMPLES  
SLUDGE SAMPLES  
Au (ppb), Ag (ppm)

ND means below Detection Limits  
Detection Limits  
Au - 5 ppb  
Ag - 0.2 ppm



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RESIDENT GEOLOGIST



Geophysical  
Compilation

Magnetics  
— 57500 — Contours  
Depression

MaxMin II

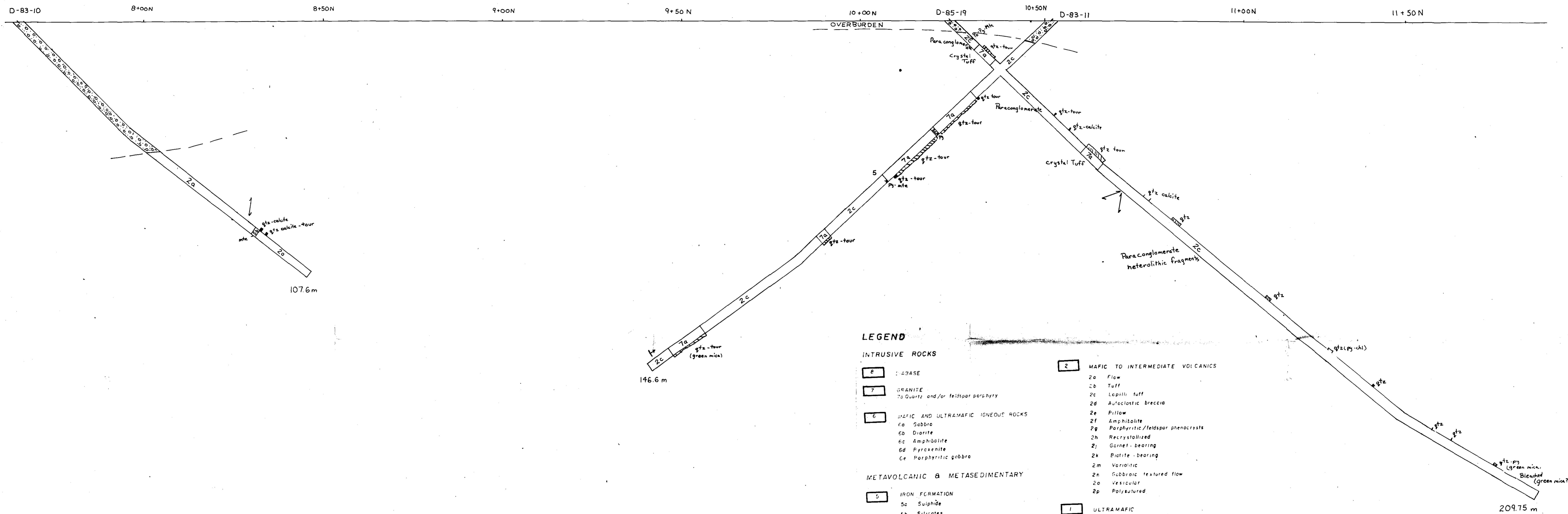
Conductors  
--- weak  
— strong  
10mhos  
↑ Conductivity

scale 1:5000

<b>Westmin Resources Limited</b> EASTERN CANADA MINING DIVISION	
63.462 SOUTH DETOUR CLAIMS 1985 Section 135+25E (Looking West) GEOCHEMISTRY <b>T. 23 31</b>	
Work by	Scale 1:500
Date April 1985	NTS 32-E-13

FIGURE 6





**LEGEND**

**INTRUSIVE ROCKS**

- 8 BASE
- 7 GRANITE  
To Quartz and/or feldspar porphyry
- 6 MAFIC AND ULTRAMAFIC IGNEOUS ROCKS
  - 6a Gabbro
  - 6b Diorite
  - 6c Amphibolite
  - 6d Pyroxenite
  - 6e Porphyritic gabbro

**METAVOLCANIC & METASEDIMENTARY**

- 5 IRON FORMATION
  - 5a Sulphide
  - 5b Silicates
  - 5c Oxide
- 4 CLASTIC METASEDIMENTS
  - 4a Greywacke
  - 4d Conglomerate
  - 4f Graphic sediments
  - 4n Turbidites
- 3 FELSIC TO INTERMEDIATE VOLCANICS
  - 3a Flow
  - 3b Tuff
  - 3c Lapilli tuff
  - 3d Pyroclastic breccia
  - 3e Tuff breccia
  - 3f Porphyritic
  - 3g Garnet-bearing
  - 3h Quartz-eyes
  - 3j Agglomerates

**MAFIC TO INTERMEDIATE VOLCANICS**

- 2a Flow
- 2b Tuff
- 2c Lapilli tuff
- 2d Autoclastic breccia
- 2e Pillow
- 2f Amphibolite
- 2g Porphyritic/feldspar phenocrysts
- 2h Recrystallized
- 2i Garnet-bearing
- 2k Biotite-bearing
- 2m Variolitic
- 2n Gabbroic textured flow
- 2o Vesicular
- 2p Polysutured

**ULTRAMAFIC**

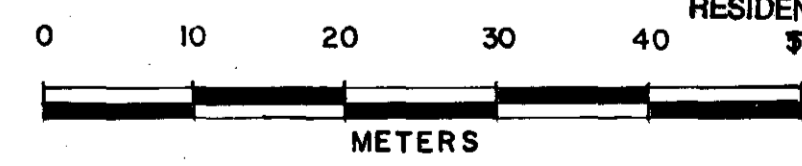
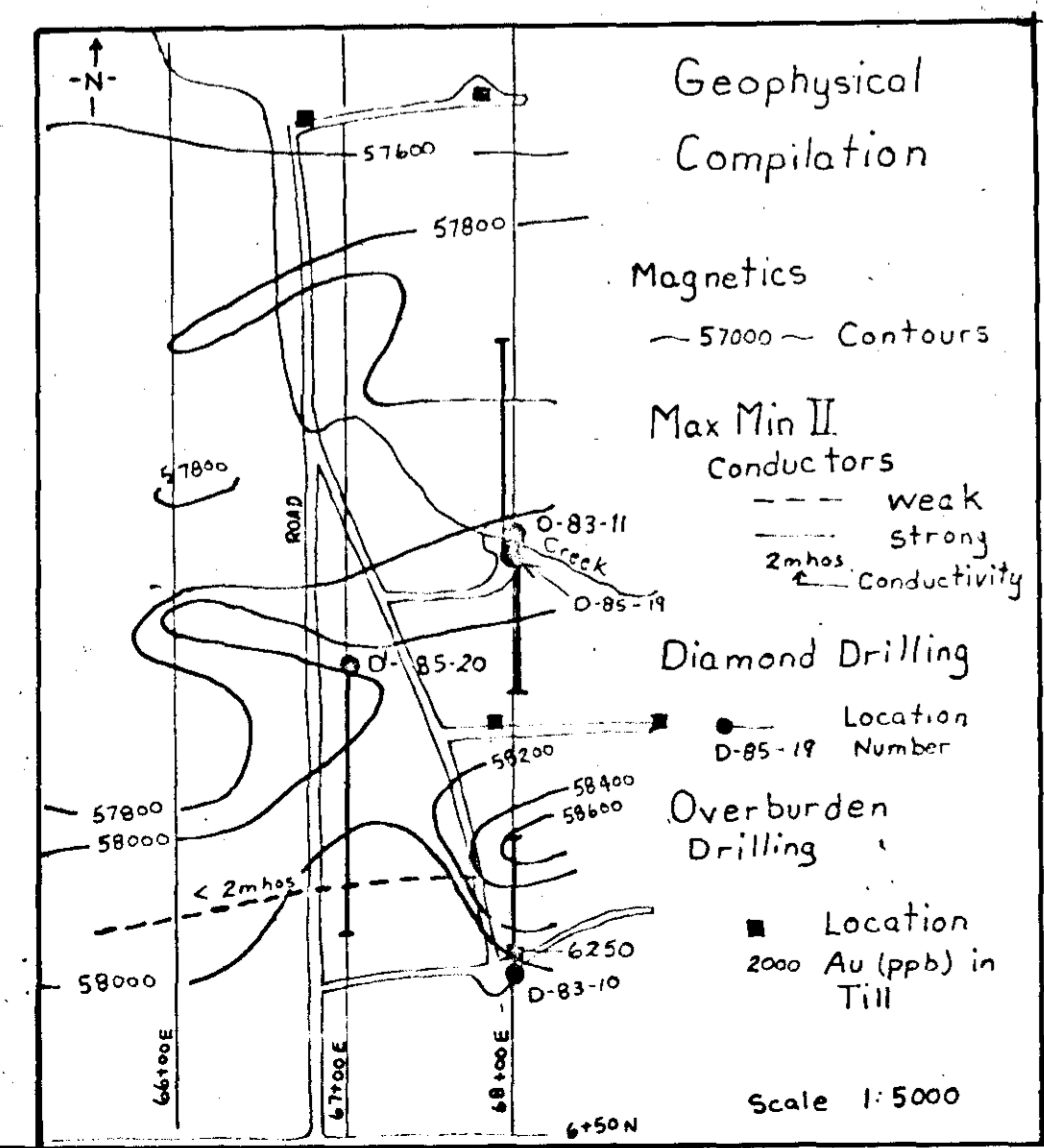
- 1a Serpentinized
- 1b Cumulate texture
- 1c Pyroxenite
- 1d Talk carbonate
- 1e Biotite bearing
- 1f Chlorite bearing

**CHEMISTRY**

- A - Andesite
- B - Basalt
- C - Calc Alkaline
- D - Dacite
- F - Iron
- K - Kumatite
- M - Magnesium
- R - Rhyolite
- T - Tholeiite

**SYMBOLS**

- Vein, with dominant minerals listed
- Sulphide mineralization with minerals listed
- Stratigraphic facing direction
- Foliation, schistosity, bedding (core angle)



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RESIDENT GEOLOGIST  
YKMINNS

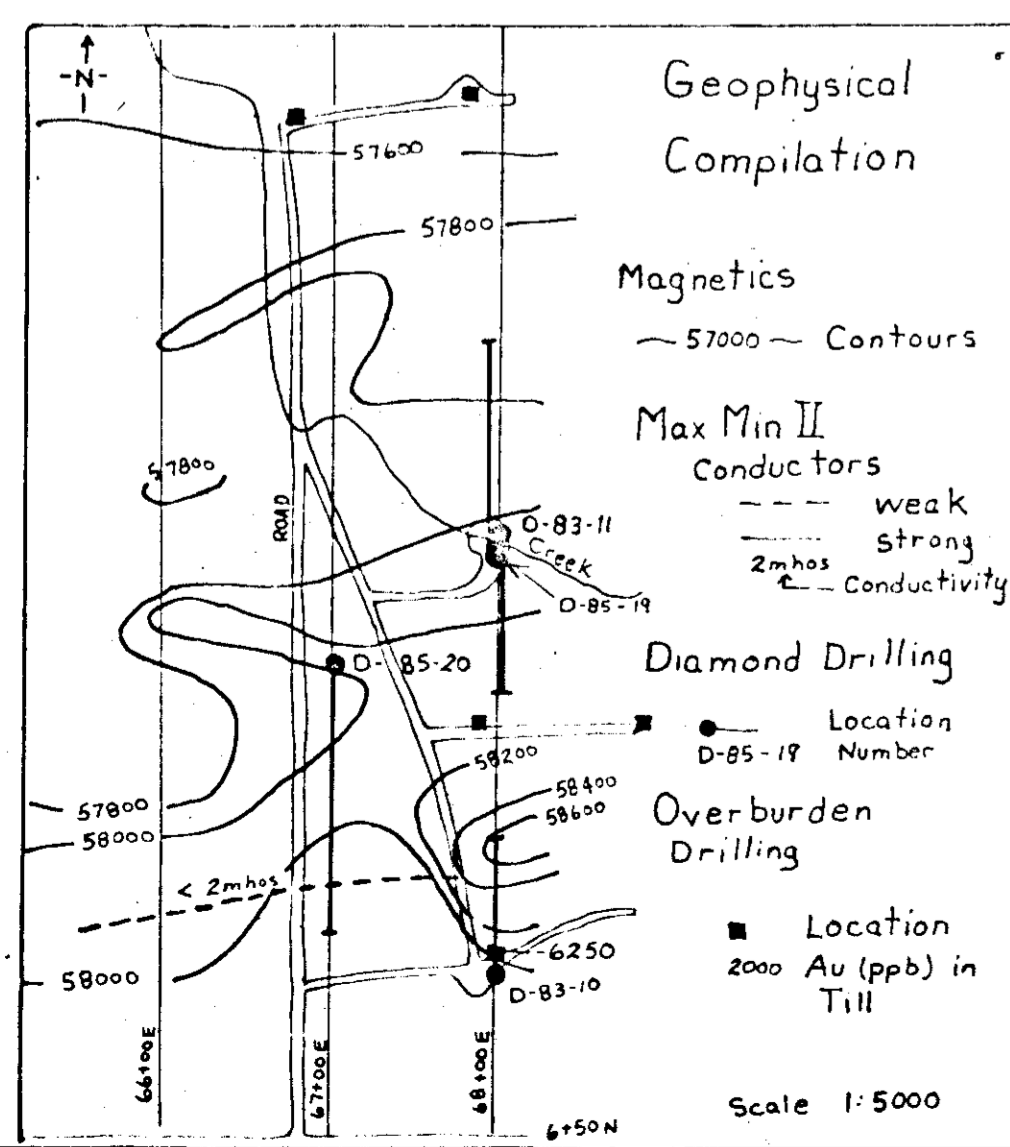
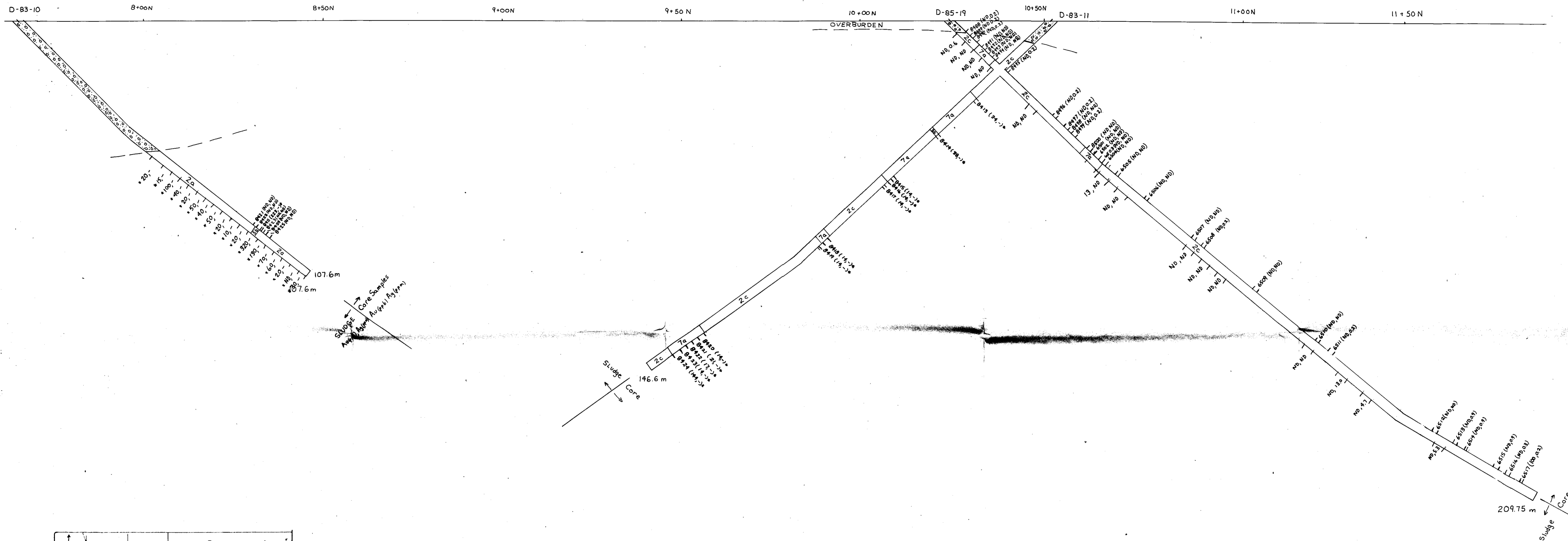
**WESTMIN** Westmin Resources Limited  
EASTERN CANADA MINING DIVISION

63.4622 SOUTH DETOUR CLAIMS  
1985

Section 68+00E (Looking West)  
**GEOLOGY** T. 23 31

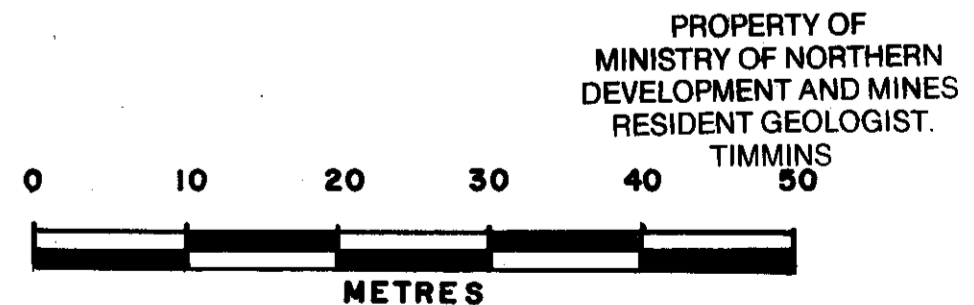
Work by	PRJN	Scale	1:500
Date	April 1985	NTS	32-E-43

FIGURE 8



ND means below detection limits  
 Au < 0.5 ppb  
 Ag < 0.2 ppm

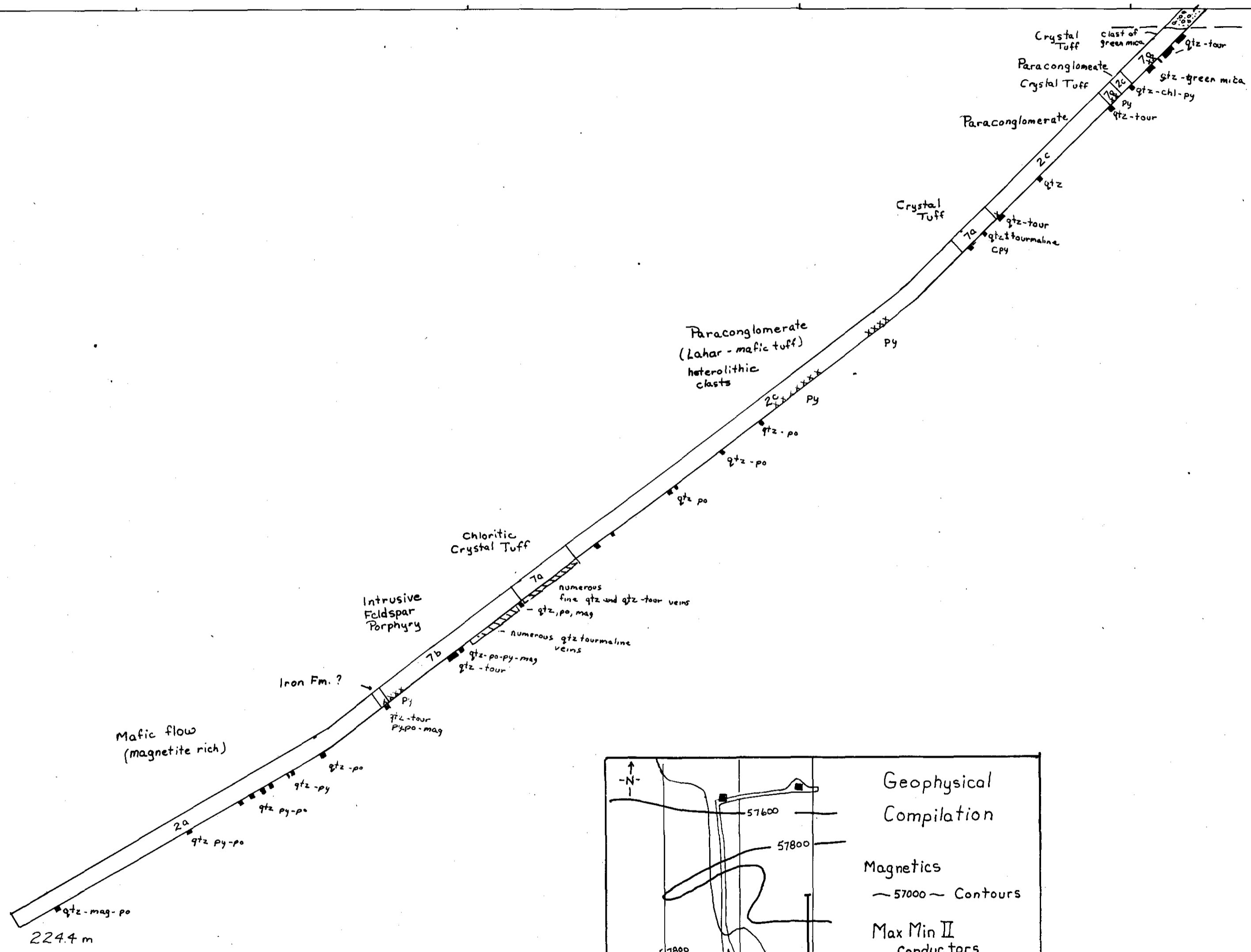
\* denotes samples take during earlier programmes  
 - sample not analyzed for element



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 DEVELOPMENT AND MINES  
 RESIDENT GEOLOGIST,  
 TIMMINS

<b>WESTMIN</b> Westmin Resources Limited EASTERN CANADA MINING DIVISION	
63.4622 SOUTH DETOUR CLAIMS 1985	
Section 68+00E (Looking West)	
GEOCHEMISTRY <b>T. 2381</b>	
Work by PRJ.N	Scale 1:500
Date April 1985	NTS 32473

8+00N                      8+50N                      9+00N                      9+50N                      D-85-20                      10+00N                      10+50N



**LEGEND**

**INTRUSIVE ROCKS**

- 8** DIABASE
- 7** GRANITE
  - 7a Quartz and/or feldspar porphyry
- 6** MAFIC AND ULTRAMAFIC IGNEOUS ROCKS
  - 6a Gabbro
  - 6b Diorite
  - 6c Amphibolite
  - 6d Pyroxenite
  - 6e Porphyritic gabbro

**METAVOLCANIC & METASEDIMENTARY**

- 5** IRON FORMATION
  - 5a Sulphide
  - 5b Silicates
  - 5c Oxide
- 4** CLASTIC METASEDIMENTS
  - 4a Greywacke
  - 4d Conglomerate
  - 4f Graphic sediments
  - 4n Turbidites

**2 MAFIC TO INTERMEDIATE VOLCANICS**

- 2a Flow
- 2b Tuff
- 2c Lapilli tuff
- 2d Autoclastic breccia
- 2e Pillow
- 2f Amphibolite
- 2g Porphyritic/feldspar phenocrysts
- 2h Recrystallized
- 2j Garnet-bearing
- 2k Biotite-bearing
- 2m Varolitic
- 2n Gabbroic textured flow
- 2o Vesicular
- 2p Polysutured

**1 ULTRAMAFIC**

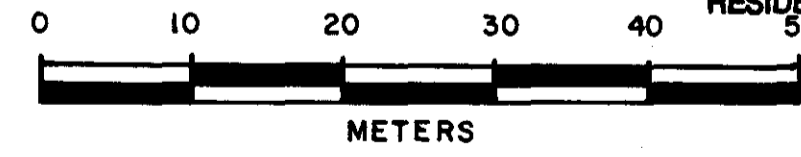
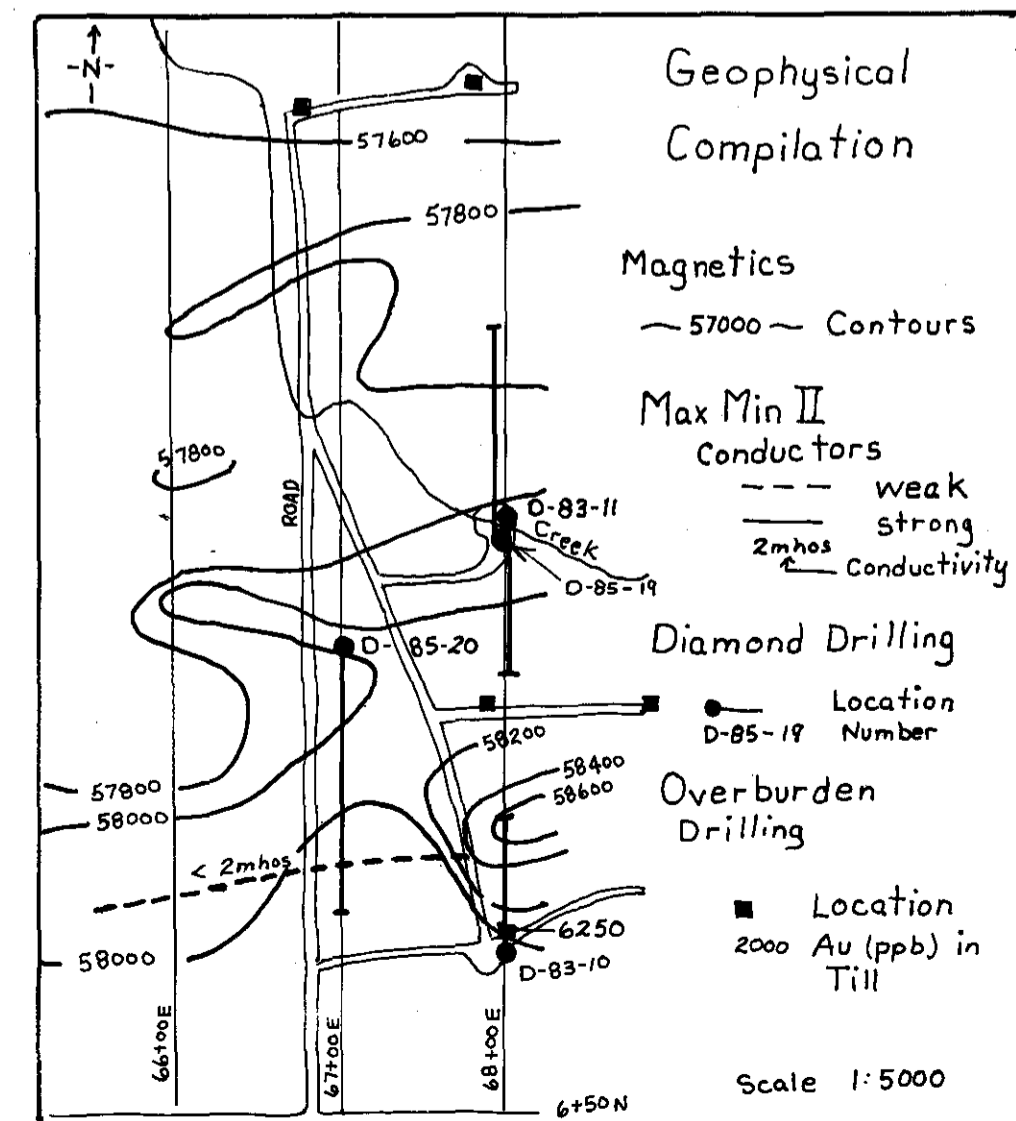
- 1a Serpentinized
- 1b Comulate texture
- 1c Pyroxenite
- 1d Talk carbonate
- 1e Biotite bearing
- 1f Chlorite bearing

**CHEMISTRY**

- A - Andesite
- B - Basalt
- C - Calc Alkaline
- D - Dacite
- F - Iron
- K - Komatite
- M - Magnesium
- R - Rhyolite
- T - Tholeiite

**SYMBOLS**

- Vein, with dominant minerals listed
- Sulphide mineralization with minerals listed
- Stratigraphic facing direction
- Foliation, schistosity, bedding (core angle)



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DEVELOPMENT AND MINES  
RESIDENT GEOLOGIST  
59IMMINS

**WESTMIN**      **Westmin Resources Limited**  
EASTERN CANADA MINING DIVISION

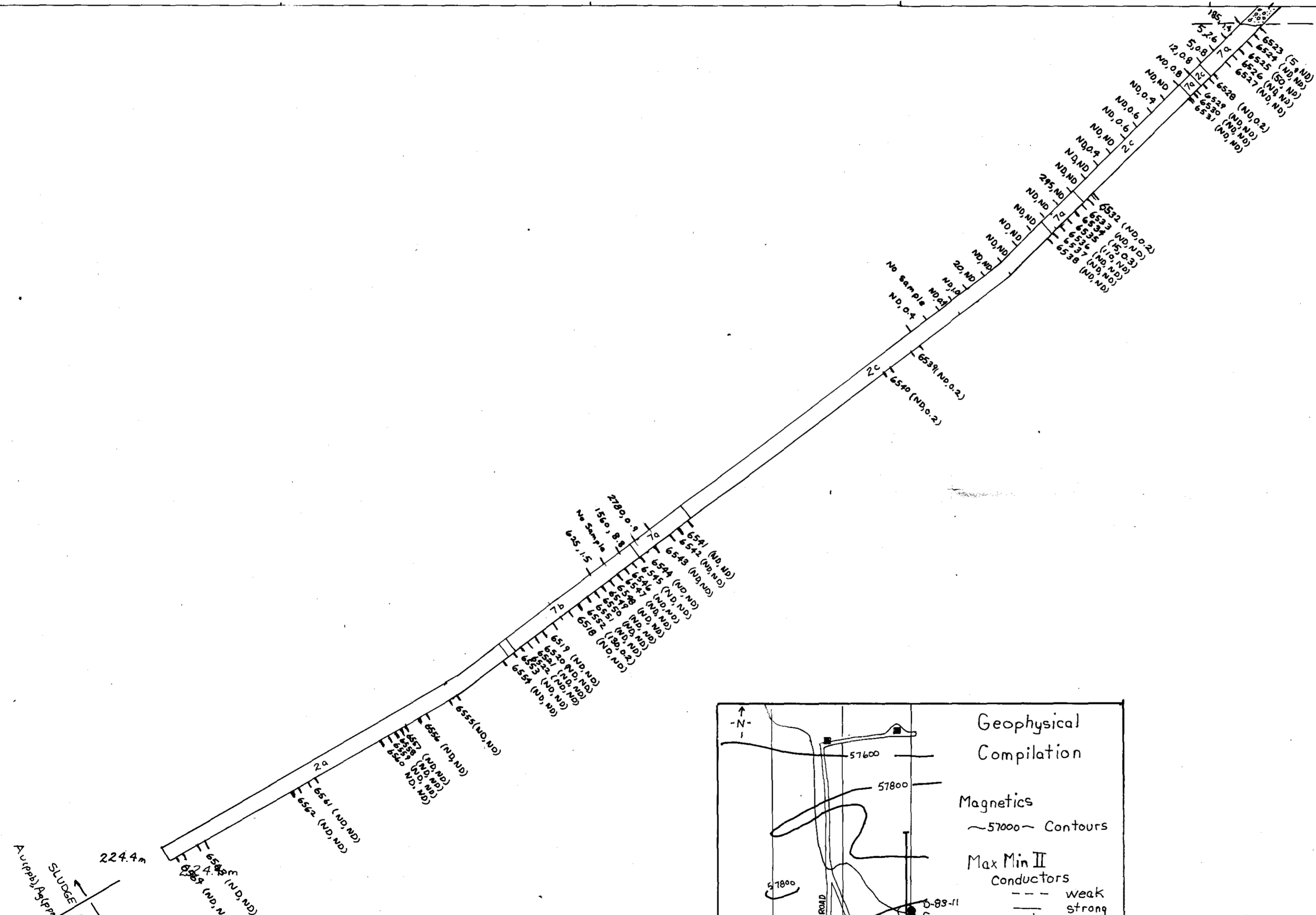
SOUTH DETOUR CLAIMS  
1985

63.4622  
Section 67+00E (Looking West)

**G E O L O G Y**                      **T. 2331**

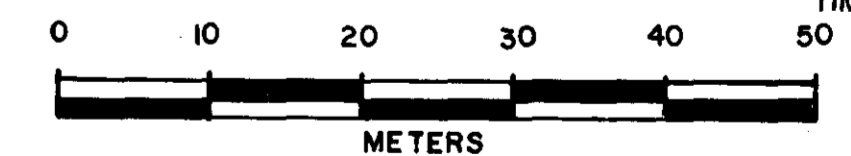
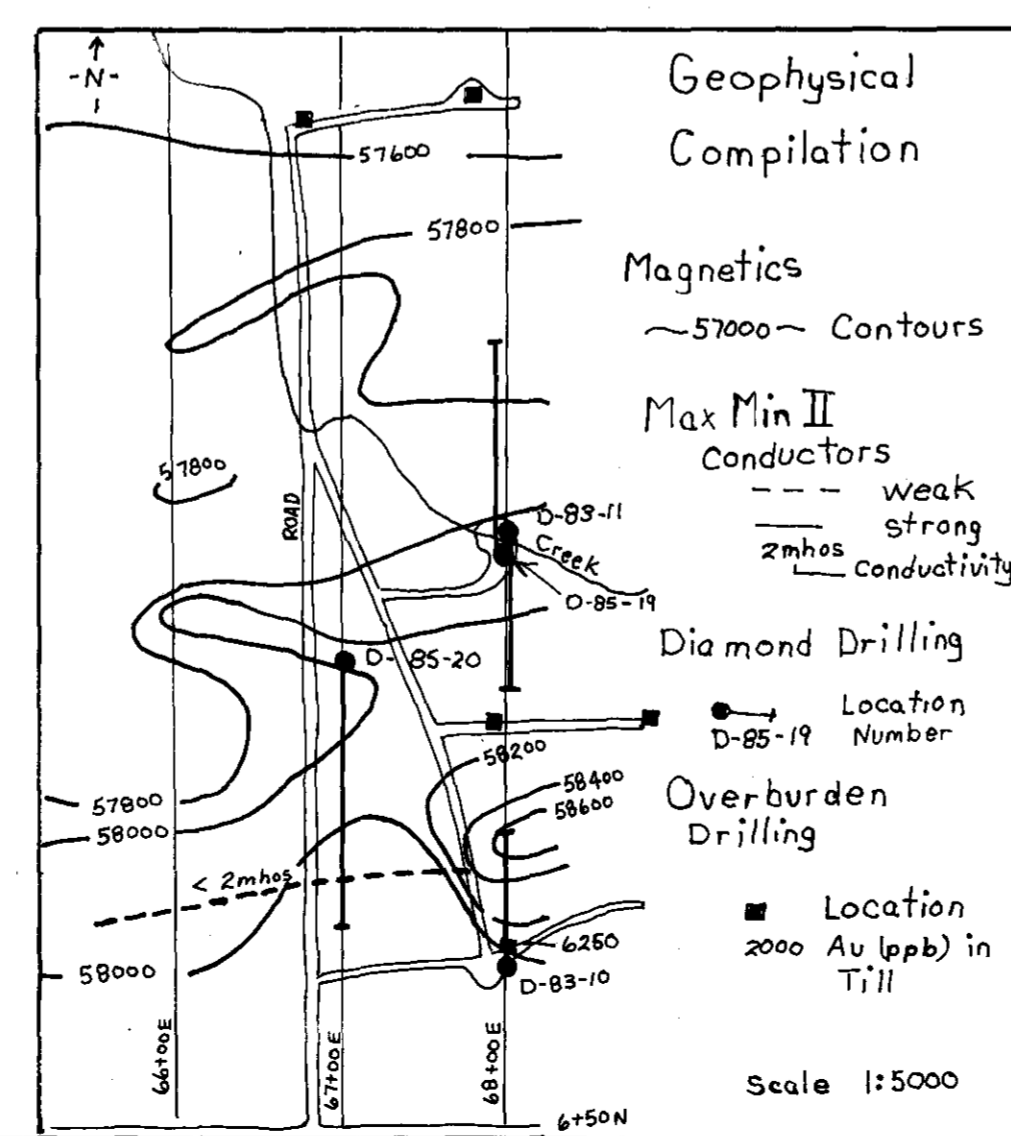
Work by PRJN	Scale 1:500
Date April 1985	NTS 32-E-13

8+00N 8+50N 9+00N 9+50N D-85-20 10+00N 10+50N



224.4m  
SLUDGE Core Samples  
Au (ppb), Ag (ppm) (Au (ppb), Ag (ppm))

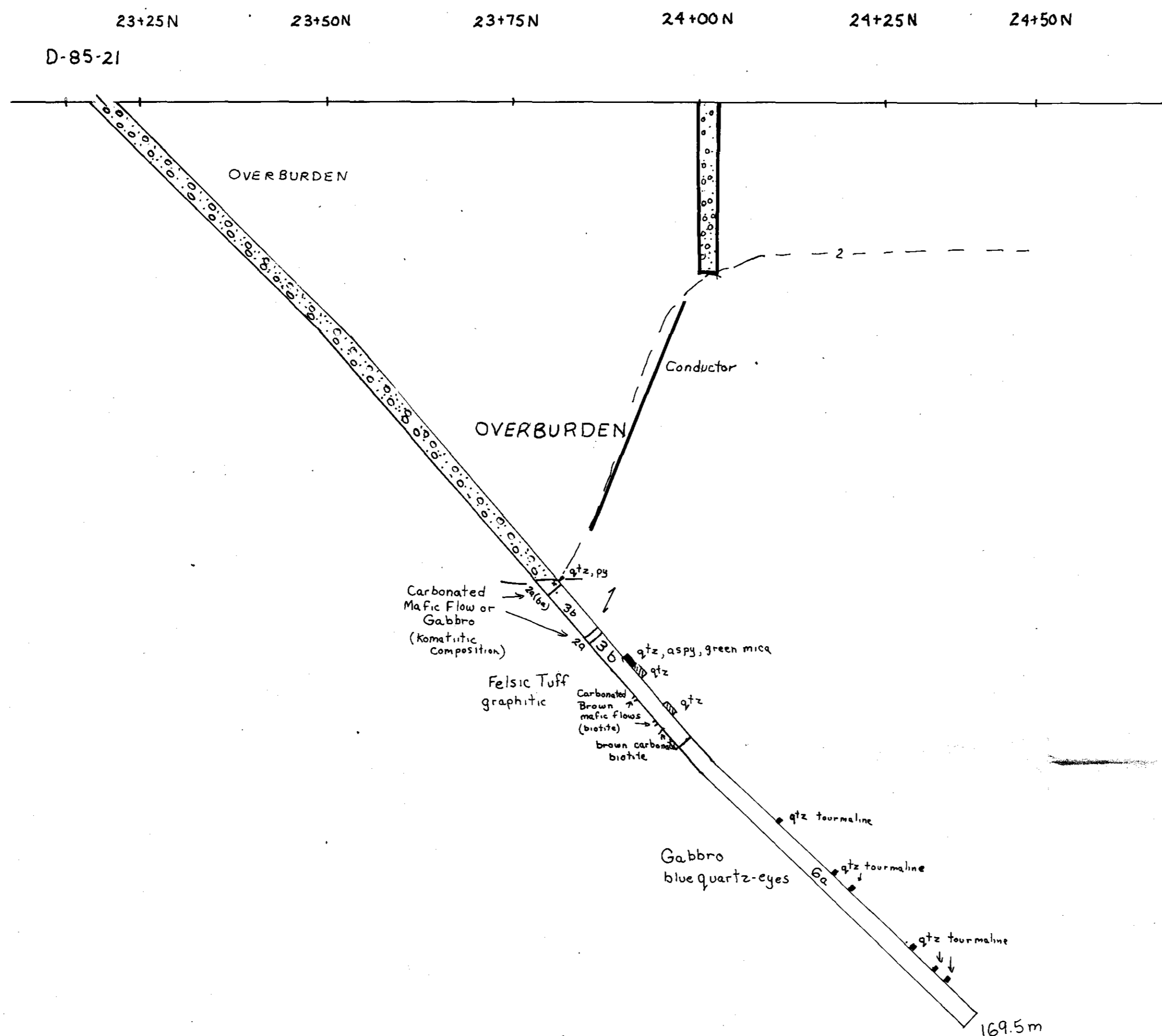
ND - means below detection Limits  
Au < 5 ppb  
Ag < 0.2 ppm



PROPERTY OF  
MINISTRY OF NORTHERN  
DEVELOPMENT AND MINES  
RESIDENT GEOLOGIST  
TIMMINS

<b>Westmin Resources Limited</b> EASTERN CANADA MINING DIVISION	
SOUTH DETOUR CLAIMS 1985 Section 67+00E (Looking West) <b>GEOCHEMISTRY T. 23 31</b>	
Work by	PRJN
Date	April 1985
Scale	1:500
NTS	32-E-13

FIGURE 12



**LEGEND**

**INTRUSIVE ROCKS**

- 8 DIORASE
- 7 GRANITE  
7a Quartz and/or feldspar porphyry
- 6 MAFIC AND ULTRAMAFIC IGNEOUS ROCKS  
6a Gabbro  
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6d Pyroxenite  
6e Porphyritic gabbro

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2d Autoclastic breccia  
2e Pillow  
2f Amphibolite  
2g Porphyritic/feldspar phenocrysts  
2h Recrystallized  
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2k Biotite-bearing  
2m Varolitic  
2n Gabbroic textured flow  
2o Vesicular  
2p Polytextured

**METAVOLCANIC & METASEDIMENTARY**

- 5 IRON FORMATION  
5a Sulphide  
5b Silicates  
5c Oxide
- 4 CLASTIC METASEDIMENTS  
4a Greywacke  
4d Conglomerate  
4f Graphitic sediments  
4n Turbidites

- 1 ULTRAMAFIC  
1a Serpentinized  
1b Comulite texture  
1c Pyroxenite  
1d Talk carbonate  
1e Biotite bearing  
1f Chlorite bearing

**FELSIC TO INTERMEDIATE VOLCANICS**

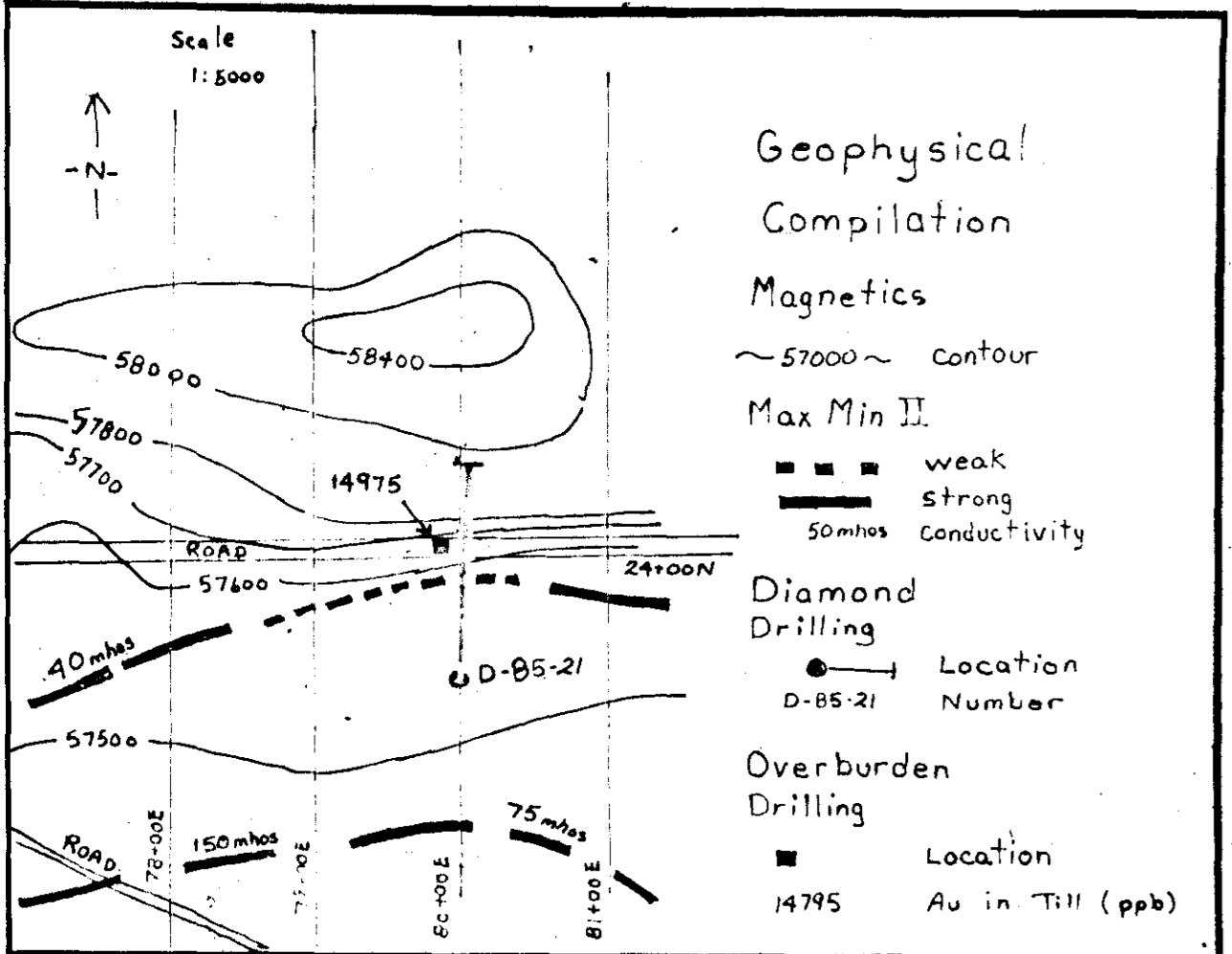
- 3a Flow  
3b Tuff  
3c Lapilli tuff  
3d Pyroclastic breccia  
3e Tuff breccia  
3f Porphyritic  
3g Garnet-bearing  
3h Quartz-eyes  
3j Agglomerates

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- A - Andesite
- B - Basalt
- C - Calc Alkaline
- D - Dacite
- F - Iron
- K - Komatiite
- M - Magnesium
- R - Rhyolite
- T - Tholeiite

**SYMBOLS**

- Vein, with dominant minerals listed
- Sulphide mineralization with minerals listed
- Stratigraphic facing direction
- Foliation, schistosity, bedding (core angle)

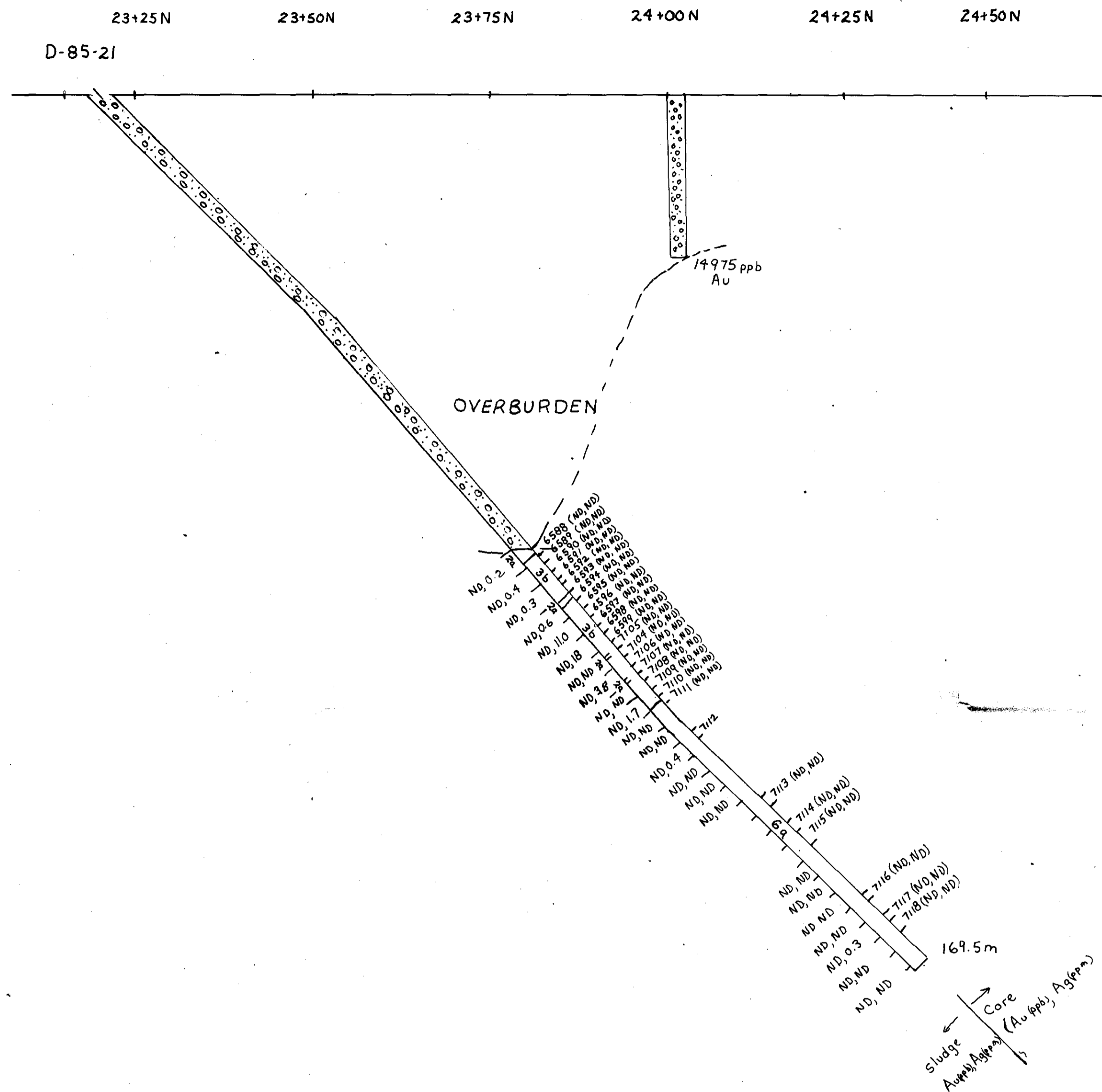


PROPERTY OF  
MINISTRY OF NORTHERN  
DEVELOPMENT AND MINES  
RESIDENT GEOLOGIST  
TIMMINS

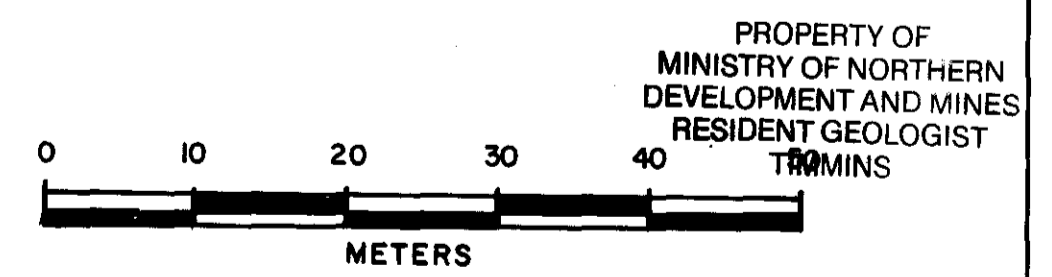
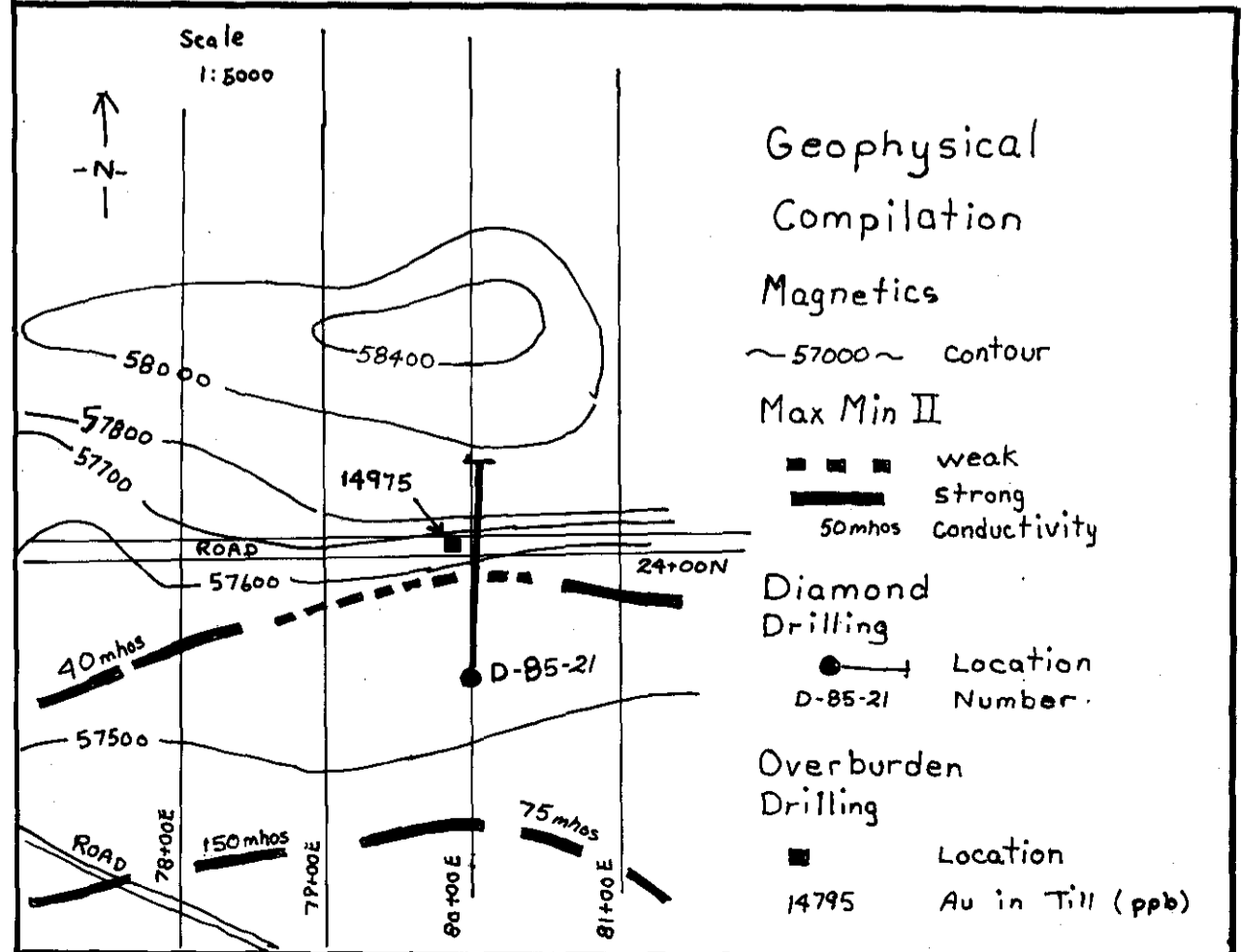
10 0 10 20 30  
METERS

<b>WESTMIN</b> Westmin Resources Limited EASTERN CANADA MINING DIVISION	
634621 SOUTH DETOUR CLAIMS 1985	
Section 80+00E (Looking West)	
G E O L O G Y <span style="float: right;">T. 2331</span>	
Work by	PRJN
Date	April 1985
Scale	1:500
NTS	32 E-13

FIGURE 14



ND means below detection limits  
Au < 5 ppb  
Ag < 0.2 ppm



<b>Westmin Resources Limited</b> EASTERN CANADA MINING DIVISION	
63-4622 SOUTH DETOUR CLAIMS 1985	
Section 80+00E (Looking West)	
GEOCHEMISTRY T. 2331	
Work by	PR J N Scale 1:500
Date	April 1985 NTS 32 E-13

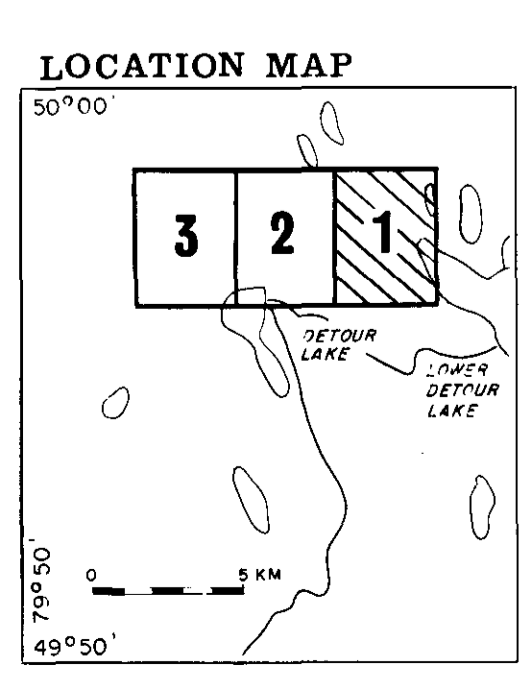
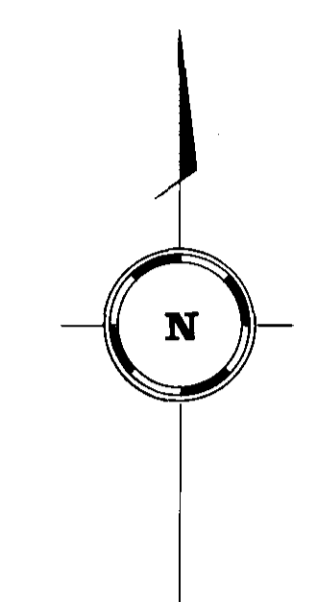
FIGURE 15



Zn	Pb	Zn	Pb
77.14	47.10	77.33	50.29
40.10	72.28	37.48	61.5
78.4	147.20	57.22	107.4
78.16	67.81	78.3	78.3
63.10	104.23	108.46	64.1
62.14	41.14	64.6	75.17
58.6	96.7	77.17	104.30
58.16	78.23	78.14	104.41
49.11	78.25	96.10	82.10
42.18	71.25	89.28	79.14
64.32	49.12	78.16	61.13
67.17	48.14	67.16	67.28
120.48	78.17	67.20	73.15
	78.17	67.20	62.22

Zn	Pb	Zn	Pb
120.115	91.48	62.25	44.7
87.110	67.22	74.74	36.17
110.48	27.38	16.1	76.29
100.118	120.80	76.35	64.23
100.45	93.25	64.65	31.4
64.78	130.15	78.28	71.16
12.32	44.33	81.32	46.13
32.46	110.41	104.17	67.49
33.46	20.43	120.19	33.14
	110.58	73.28	100.25
	0.121	33	76.74

Lower Detour Lake



Av	ppb
1	3
2	1
3	1
4	1
5	1
6	1
7	1
8	1
9	1
10	1
11	1
12	1
13	1
14	1
15	1
16	1
17	1
18	1
19	1
20	1
21	1
22	1
23	1
24	1
25	1
26	1
27	1
28	1
29	1
30	1
31	1
32	1
33	1
34	1
35	1
36	1
37	1
38	1
39	1
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PROPERTY OF  
 MINISTRY OF NORTHERN  
 DEVELOPMENT AND MINES  
 RESIDENT GEOLOGIST  
 TIMMINS

**WESTMIN Resources Limited**  
 EASTERN CANADA MINING DIVISION

DETOUR - LOWER DETOUR LAKE CLAIMS

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**HUMUS GEOCHEMISTRY**  
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Work by C.R. Scale 1:5,000  
 Date JUNE 1983 NTS 32E/13