## Atkinson Project

# Report on Line Cutting and Ground Geophysical Surveys 

Completed During 2005
Lipton and Horner Claims

Claim: 3009099<br>Line cutting completed between March 1, 2005 and March 3, 2005 30318<br>Max Min Survey completed between March 1, 2005 and March 4, 2005<br>Magnetometer Survey completed between March 4, 2005 and May 27, 2005

Claims: 1205417, 1205418, 1214303, 1214341, 1214342, 1214343
Line cutting completed between March 8, 2005 and March 15, 2005

Magnetometer Survey completed on May 27, 2005

prepared by:
N.T.S. : $32 \mathrm{E} / 13$

Latitude $\quad: 49^{\circ} 50^{\circ} \mathrm{N}$
Longitude $: 79^{\circ} 36^{\prime} \mathrm{W}$

Paul R. J. Nicholls, P.Eng
July 25, 2005

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### 1.0 Summary

Dentonia Resources Ltd. holds four properties ( 3680 hectares) in the Detour - Atkinson area of northern Ontario. During the period March 1 to May 31, 2005 line cutting and ground geophysical surveys were completed on the Lipton, and Horner properties that are located approximately 150 kilometres north of Cochrane at the northern margin of the Abitibi Greenstone Belt. The program completed on the Lipton claims consisted of line cutting, and ground magnetometer surveys; and line cutting, ground magnetometer, and MaxMinll (horizontal loop electromagnetic) surveys were completed on the Horner claim block.

On the Lipton claims the magnetometer survey defined the extension of a magnetite sulphide chemical sedimentary unit on the southern portion of the grid and also defined a discrete magnetic feature at the northern limit of the survey. On the Horner property the surveys defined a folded magnetic high (approximately 300 gammas) in the central portion of the property. Moderate to strong electromagnetic conductors were defined associated with and flanking the magnetic anomaly.

### 2.0 Recommendations

To follow-up on the 2005 surveys it is recommended that Induced Polarization surveys ( 14.5 km ) be completed on the Lipton claims to define conductive zones associated with the magnetic anomalies defined by the 2005 magnetometer survey. One drill hole ( 125 metres) is also proposed to test the magnetic high and strong electromagnetic conductor ( $400 \mathrm{E}, 400 \mathrm{~N}$ ) that was defined on the Horner property.

### 3.0 Introduction

The Atkinson Project area is underlain by volcanic rocks of the Abitibi Greenstone Belt. Previous diamond drilling by Amoco Petroleum, Getty Canadian Metals Limited and Better Resources Limited intersected anomalous base and precious metal concentrations in several locations on the claim groups. Significant gold mineralization was intersected in 1996 by Better Resources Limited on the Lipton Claim group ( 10.7 grams per ton over a core length of 9.0 metres) within a well developed zone of hydrothermal alteration. In 2004 Dentonia Resources Ltd. optioned the Atkinson properties to further explore this prospective area for gold and or base metal deposits. This report was prepared to summarize line cutting and ground geophysical surveys completed on the Lipton and Horner claim blocks during 2005.

### 3.1 Accessibility, and Physiography

The Atkinson project area is located approximately 150 kilometres north-east of Cochrane, Ontario (N.T.S 32E/13) near the border between Ontario and Quebec (Figure 1), and is approximately 20 kilometres south of the past producing Detour Lake Mine. Access to the Detour Lake Mine from Cochrane is via Highway 652. For the 2005 program access to the Horner and Lipton programs was by skidoo for the line cutting, MaxMinll, and part of the magnetometer survey. A helicopter was needed to provide access in order to complete the magnetometer surveys.

Topographic relief in the Atkinson Project Area is low ranging between 255 and 265 metres above sea level. The area is predominantly open muskeg with a sparse cover of black spruce and tamarack. Locally the area is well forested with black spruce and poplar. Drainage in the area is to the north.

### 3.2 Property Description and Location

The 2005 program was carried out on two separate claim blocks (Figure 2) located in the Porcupine Mining Division (Claim Maps G-1626 and G-1647), totalling 16 mineral claims covering an area of approximately 2352 hectares (Table 1). The property is currently in good standing and is covered by an option agreement between Dentonia Resources Ltd. and R. H. McMillan.

Table 1: Land Status

| Claim Group | Claim | Recording Date | Due Date | Claim Units | Area |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Lipton | 1205417 | Sept. 28, 1994 | Sept. 28. 2005 | 12 | 192 |
|  | 1205418 | Sept. 28, 1994 | Sept. 28, 2005 | 9 | 144 |
|  | 1205419 | Sept. 28.1994 | Sept. 28, 2005 | 9 | 144 |
|  | 1214303 | Sept. 06.1996 | Sept. 06, 2005 | 9 | 144 |
|  | 1214304 | Sept. 06.1996 | Sept. 06. 2005 | 16 | 256 |
|  | 1214305 | Sept. 06.1996 | Sept. 06. 2005 | 16 | 256 |
|  | 1214306 | Sept. 06, 1996 | Sept. 06. 2005 | 6 | 96 |
|  | 1214309 | Sept. 06. 1996 | Sept. 06, 2005 | 8 | 128 |
|  | 1214341 | Sept. 19,1996 | Sept. 19. 2006 | 2 | 32 |
|  | 1214342 | Sept. 19.1996 | Sept. 19. 2006 | 2 | 32 |
|  | 1214343 | Sept. 19,1996 | Sept. 19. 2005 | 14 | 224 |
|  | 1199716 | Apr. 15. 2004 | Apr. 15, 2006 | 9 | 144 |
|  | 1199717 | Apr. 15. 2004 | Apr. 15,2006 | 4 | 64 |
|  | 1199718 | Apr. 15. 2004 | Apr. 15, 2006 | 12 | 192 |
|  | 1199719 | Apr. 15. 2004 | Apr. 15, 2006 | 9 | 144 |
| Horner Lake | 3009099 | Jan. 28. 2004 | Jan. 28, 2006 | 10 | 160 |



Figure 1


### 3.3 Previous Work

### 3.3.1 Regional

Prior to 1959 there was little or no prospecting or exploration activity recorded in the area. In 1959 and in the early 1960's Conwest Exploration, Selco, Kesagami Syndicate, and Rio Tinto conducted limited exploration for base metals. During the early $1970^{\circ}$ s exploration resulted in the discovery of the Detour Lake Mine by Amoco (1974), and in the discovery of the Selbaie Mine by Selco at approximately the same time. Following the discoveries exploration activity in the area increased with several companies including Noranda, Hudson Bay Exploration, Pennaroya, Dome Mines and Westmin Resources completing extensive programs. In the Atkinson Lake area the most extensive work was completed by Getty Canadian Metals who completed airborne and ground geophysical surveys, and diamond drilling. In 1998 the entire area was covered by a Geotem airborne electromagnetic and magnetic survey completed by the Ontario Government. In the 1989 and 1990 Westmin Resources completed limited geophysical surveys in the Atkinson Lake area; and in 1996 Better Resources Limited tested numerous geophysical targets on several properties which resulted in the discovery of significant gold mineralization on the Lipton lake property ( 10.7 grams per tonne Au over a core length of 9.0 metres). Follow up drilling was completed on the Lipton claims.

### 3.3.2 Lipton Claims

The earliest work recorded in the area covered by the current Lipton claims was conducted in 1959 by the Kesagami Syndicate who completed drill hole 10-1 (possibly near the area of gold mineralization). The precise location of the hole is not known. Hole 10-1 was completed to a depth of $72.5 \mathrm{~m}\left(238^{\prime}\right)$ and intersected felsic to mafic metavolcanic rocks, iron formation, graphitic units, and metasedimentary rocks. No assays were recorded but trace amounts of magnetite, sphalerite and chalcopyrite were intersected.

In 1959 Conwest Exploration Company completed a ground electromagnetic survey on the area west of Vandette Lake to locate airborne anomalies on the ground. The survey identified several conductive zones which were tested in 1960 by a series of 9 diamond drill holes totalling 1097.6 metres ( $3600^{\prime}$ ). The drilling intersected pyrite - pyrrhotite mineralization hosted in graphitic horizons, sulphide magnetite bearing cherts, mafic and felsic volcanic rocks. No assay results were reported.

In 1976 Amoco Petroleum Company completed hole $9-1$ approximately 500 m south west of Vandette Lake. The hole was completed to a depth of 215 m ( $706^{\prime}$ ) and intersected felsic flows and tuffs with anomalous zinc concentrations ( $0.71 \% \mathrm{Zn}$ over a core length of 1.5 m ) present within graphitic rocks.

During the period 1981 to 1986 Getty Canadian Metals Limited completed airborne and ground geophysical surveys, and 11 diamond drill holes ( 1910.2 m ) in the area currently covered by the Lipton group. Several of the drill holes intersected anomalous Au (up to $5.3 \mathrm{~g} / \mathrm{t}$ over a core length of 0.5 metres) and zones of anomalous Zn and Cu mineralization (up to 8.5 metres wide).

In 1989 and 1990 Westmin Resources completed line cutting, magnetometer and Max Min II surveys over the area. At this time Westmin Resources sampled core drilled by Getty and whole rock analyses from these samples showed that hole 83-51 intersected high silica rhyolites, and hole 83-30 (west of Vandette lake) intersected $\mathrm{Na}_{2} \mathrm{O}$ depleted high silica rhyolites.

In the summer of 1996 Better Resources completed 3 diamond drill holes ( 487.0 metres) on the Lipton claims to test geophysical targets. Hole 96-03 intersected 10.7 grams per tonne Au over a core length of in 9.0 metres hosted within a sequence of felsic tuffs, felsic intrusive
rocks, and cherty graphitic chemical sedimentary rocks. In the fall of 1996 a total of 19 diamond drill holes totalling 2140.1 metres were completed as follow up to the significant intersection. The closely spaced drill holes tested an area approximately 80 metres wide along the strike of the mineralized units. In 1997 Better Resources completed a program of line cutting, ground magnetometer and Induced polarization surveys that defined a number of targets.

### 3.3.3 Horner Property

The earliest work reported on the current Horner Lake claim is a diamond drill hole ( 103 m ) completed in 1959 by the Kesagami Syndicate. The hole ( $2-1$ ) tested a conductor in Horner Lake and intersected mafic to felsic volcanic rocks and sedimentary units. No assays were reported and the hole only intersected approximately 50 m of the stratigraphy.

In 1980 the area was covered by an Input Mark VI airborne electromagnetic and magnetic survey completed by Westmin Resources (Konings, 1980). The Input survey located four isolated, easterly trending, moderate strength conductors ( 3 to 5 channel anomalies) in the area of a 200 to 300 gamma magnetic anomaly. The conductors were interpreted to have a bedrock source.

In 1988 the area was covered by a Geotem airborne electromagnetic and magnetic survey flown by the Ontario Government. The survey essentially confirmed the results of the previous survey locating moderate strength conductive zones associated with a magnetic anomaly.

### 4.0 Geological Setting

### 4.1 Regional Geology

The Atkinson Project area (Figure 3) is located in the northern portion of the Abitibi Greenstone Belt and is underlain by Archean aged volcanic, sedimentary, and intrusive rocks that have been deformed and metamorphosed from greenschist to almandine-amphibolite rank. The volcanic - sedimentary sequence in the Detour Atkinson Lake Area (Johns, 1982) consists of a basal unit of felsic to intermediate volcanic rocks overlain by a thin clastic sedimentary unit which is in turn overlain by mafic to intermediate flows and pyroclastic rocks. This sequence is capped by a mixed succession of felsic to intermediate volcanic rocks, mafic volcanic rocks, and clastic sedimentary rocks. Graphitic and cherty interflow sediments are common near the breaks between the major units and near the top of the stratigraphic section. The volcanic sedimentary sequence has been intruded by mafic to intermediate intrusive rocks and by later diabase dykes and is surrounded by quartz-monzonite batholiths. Whole rock geochemical analyses completed by Ontario Geological Survey (Johns, 1982) indicate that the mafic volcanic rocks are high iron tholeiitic basalts, and that the felsic volcanic rocks are predominantly calc-alkaline rhyolites and dacites.

Structurally the volcanic sedimentary sequence may have been subjected to two phases of deformation. The best defined feature is an antiformal structure that trends east west south of the Detour Lake Mine. The fold appears to plunge at $35^{\circ}$ to $45^{\circ}$ degrees to the west. Airborne magnetic results suggest that additional folding and deformation has taken place in the southern portion (Atkinson Lake Area) of volcanic sedimentary belt (Figure 4).

The Archean rocks have been extensively covered by pleistocene age glacial deposits that consist of tills, varved clays, silt, and gravel. The area has been subjected to four periods of ice movement (Veillette, 1989), and associated interglacial periods. The thickness of the glacial overburden in the Atkinson Project area ranges up to approximately 35 metres (Johns, 1982).



### 4.2 Geological Setting - Lipton property

The Lipton claims are completely covered by glacial overburden, and the geology has been interpreted from the geophysical and diamond drill hole data (Figure 4). The property is underlain by a predominantly felsic to intermediate volcanic sequence containing thin mafic volcanic and chemical sedimentary sections. Concordant to crosscutting felsic intrusive rocks have also been intersected in the drilling. The felsic volcanic rocks range from light to medium grey pyroclastic tuff to white massive silica rich rhyolites with quartz eyes up to 3 mm . Felsic tuffs overlying the chemical sedimentary horizon contain abundant biotite, chlorite, amphibole, and garnet that generally occurs as irregular patches. Mafic volcanic flows and tuffs have been intersected by the drilling. The flows are generally fine to medium grained massive amphibole rich rocks that contain trace amounts of biotite. These units locally contain minor disseminated sulphides, and minor quartz and carbonate veins. The mafic tuffs are commonly fine grained banded amphibolite chlorite rich units that may contain significant concentrations of garnets. The chemical sedimentary units are cherty units ranging from 1 to 9 metres in thickness that contain variable amounts of graphite, pyrite, pyrrhotite, chalcopyrite, sphalerite, magnetite, and garnet. The units are generally strongly magnetic and conductive which allows them to be traced by geophysical surveys. Two distinct types of felsic intrusive rocks are hosted in the volcanic sequence. A typical feldspar porphyry with a light grey brown quartz feldspar biotite matrix and white feldspar phenocrysts up to 5 mm has been intersected at various positions in the stratigraphy. Near Lipton Lake a fine grained pale green siliceous quartz feldspar rock (green porphyry) with up to $5 \%$ small white feldspar phenocrysts has been intersected by numerous drill holes and is usually found in close proximity to the chemical sedimentary horizon. The unit commonly contains trace to $5 \%$ pyrrhotite and pyrite, and has a brecciated appearance due to the presence of numerous irregular patches and veins of pink alteration (potassium feldspar). Trace amounts of chalcopyrite and sphalerite may also be present.

### 4.3 Geological Setting - Horner Property

The Horner property is completely covered by overburden with no outcrop exposed. Geological information from outcrops located to the north of the property and from drill holes to the south and west of the claims (Johns, 1982) indicate that the property is at or near a geological contact between predominantly mafic volcanic rocks to the north and felsic volcanic rocks to the south (Figure 4). Hole 2-1 completed in 1959 intersected mafic to felsic volcanic rocks and chemical sedimentary units.

### 5.02005 Program

During the period from March 1, 2005 to May 31, 2005 a total of 32.6 kilometres of line cutting and ground magnetometer surveys; and 14.4 line kilometres (approximately 11.7 line kilometres of readings) of MaxMinII horizontal loop electromagnetic surveys were completed on the Lipton and Horner claim blocks (Figure 5). Detailed discussions of the surveys are presented in Appendices 1 and 2. The distribution of the surveys is shown in Table 2.

Table 2: Distribution of Surveys

| Claim Group | Claim | Line cutting (km) | Magnetometer Survey (km) | MaxMinII Survey (km) |
| :---: | :---: | :---: | :---: | :---: |
| Lipton | 1205417 | 0.4 | 0.4 |  |
|  | 1205418 | 6.8 | 6.8 |  |
|  | 1214303 | 5.4 | 5.4 |  |
|  | 1214341 | 2.2 | 2.2 |  |
|  | 1214342 | 0.4 | 0.4 |  |
|  | 1214343 | 1.4 | 1.4 |  |
| Horner Lake | 3009099 | 16.0 | 16.0 | 14.4 |
| Totals |  | 32.6 | 32.6 | 14.4 |

### 5.1 Line cutting

On the Lipton property the work was completed in three areas to extend the 1997 grid In Area A the grid was extended to the north and lines $1500 \mathrm{~N}, 1600 \mathrm{~N}$, and 1700 N were cut at 100 metre spacing with stations picketed at 25 metre intervals along the lines. In Area B lines 300 to 900 N were extended approximately 1000 metres to the west with stations at 25 metre intervals. In Area C the baseline was extended from 500 S to 1200 S and lines were turned off the baseline at 100 metre intervals with stations at 25 metre intervals.

On the Horner Property a grid consisting of north-south cut lines at every 100 meters intervals with stations every 25 meters. The grid extends from line 0 to line 1700 E and from 0 to station 800 N .

### 5.2 Magnetometer Surveys

The magnetometer survey was conducted along the base line, tie lines and survey lines, using GEM-systems GSM-19 proton-precession magnetometers, capable of reading the earth's magnetic field with a precision of 0.01 gamma. Readings were taken every 12.5 meters along all the survey lines and the total magnetic field measurements were corrected for diurnal drift by using the data from an automatic base station, monitoring and recording the earth's magnetic field variations every 10 seconds. Within the survey area, the earth's magnetic inclination is about $78^{\circ}$ and its declination is about $13^{\circ} \mathrm{W}$.

### 5.3 Max Min II Survey

The Horizontal loop survey was conducted on the Horner claim, using an Apex Parametrics MaxMin-II E.M. system, operated in the maximum coupled (horizontal coplanar loops) mode using frequencies $222 \mathrm{~Hz}, 888 \mathrm{~Hz}$ and 3555 Hz . The nominal separation between the transmitter and the receiver was 150 meters which should allow the detection of bedrock conductors to a depth of approximately 60 to 80 meters. Readings of the In-phase and Quadrature components of the secondary field were taken at 25 meter intervals along the survey lines.


Areas covered by 2005 Surveys

## Dentonia Resources Ltd <br> Atkinson Project <br> 2005 Survey Areas

### 6.0 Results

### 6.1 Lipton Property

The results of the magnetic surveys are presented on Figures $6,7,8,9,10$, and 11, at a scale $1: 5,000$. The total field magnetic readings and coloured contours for each of the areas are presented in these figures; profiles and colour contours of the total field magnetic data for the total property (including 1997 data) are presented in Appendix 1. In the three areas a total of 3940 readings that ranged from 55240 to greater than 72,000 gammas. In Area A (Figure 9) the survey defined a roughly circular magnetic high of approximately 800 gammas centred on line 1500 N at approximately 400 W . In Area B (Figure 10) the magnetometer survey defined a series of northerly trending magnetic features (both magnetic highs and lows). The magnetic highs are disjointed and may represent thin local chemical sedimentary horizons. In Area C (Figure 11) the survey located a strong ( 58,000 to greater than 70,000 gammas) well defined northerly trending magnetic high. This magnetic feature appears to separate into two magnetic highs at the southern end of the survey area. Additional electromagnetic and / or Induced polarization surveys will be required to define drill targets associated with the magnetic features located by the 2005 surveys.

### 6.2 Horner Property

The results of the 2005 surveys are presented on Figures 12, 13, and 14, at a scale $1: 5,000$. The total field magnetic readings and coloured magnetic contours, and the interpretation of the Max Min II survey are presented in these figures; profiles and colour contours of the total field magnetic data, profiles of the inphase and quadrature data for each frequencies used in the Max Min II survey are presented in Appendix 2.

The surveys defined Max Min II conductors coincident with and flanking a discrete magnetic high of 200 to 400 gammas. The survey results indicate that the electromagnetic and magnetic features have been folded and possibly faulted and have defined two areas ( $400 \mathrm{E}, 425 \mathrm{~N}$ and $1400 \mathrm{E}, 450 \mathrm{~N}$ ) on the property that will require drill testing for potential gold and/or base metal mineralization.


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## CERTIFICATION

I, Paul R. J. Nicholls of Stouffville, Ontario, do hereby certify that:

1) I am an independent geologist and have no financial interest in the properties covered by this report.
2) I am a graduate of Queens University, Kingston, Ontario, B.Sc. (1976), and a member of the Association of Professional Engineers of Ontario. I have practised my profession for over 25 years.
3) I am the author of this report which is based on extensive experience in exploring the Detour Lake Area and a review of the exploration data available from various published and unpublished sources
4) I supervised diamond drilling programs completed on the properties in 1996, and reviewed some of the core from the Lipton Property in October 2003.


## Appendix 1

Lipton Lake Claims - Report on Ground Magnetometer Survey

## Dentonia Resources Ltd.

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## Atkinson Project

Lipton Lake Claims

Cochrane District, Ont.
N.T.S. 32E/13

## Report on ground Magnetometer surveys

Claims: 1205417, 1205418, 1214303, 1214341, 1214342, 1214343
Line cutting completed between March 8, 2005 and March 15, 2005 Magnetometer Survey completed on May 27, 2005

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## Introduction

In May 2005, ground geophysical investigations consisting namely in Total Field magnetic surveys were carried out over portions of the Atkinson Project, Lipton Lake Grid in northeastern Ontario, by Services Exploration Reg'd, for Dentonia Resources Ltd.

The purpose of these surveys was to extend the 1997 magnetometer survey coverage to the north, south and west and to map with better detail the distribution of magnetic minerals in the bedrock and thus assist in the mapping of altered and unaltered mafic volcanic units or structures hosting a number of significant gold occurrences on the property.

This report describes the geophysical work performed and discusses the results and the interpretation of the data. Recommendations for any future work are presented in the conclusion.

## Property description, location and access

The Atkinson Project is located in northeastern Ontario Township, Ont., at about 200 kilometers (as the crow flies) to the north of Kirkland Lake around Lat $49^{\circ} 53^{\prime} \mathrm{N}$, Long $79^{\circ} 35^{\prime}$ W. The survey area is readily accessible by logging and forestry roads leading south from the Detour Lake mine area, traveling a distance of about 25 km from the mine site. Please refer to Figures 1., 2.(1:250,000 in NTS 32E) and 3. (1:50,000 in NTS 32E/13) on the next pages, showing location maps of the project and the survey area.



Figure 2.
Atkinson Project
Scale 1:250,000
NTS 32E
Location map


The Lipton Claim group of the Atkinson Project consists of thirteen contiguous mining claims. A claim map for the property is shown on the next page. Also, the geophysical maps appended to this report show the property claim lines and license numbers in the immediate vicinity of the survey area.

## Description of the Geophysical surveys

The magnetic surveys were carried out along previously cut and chained survey lines. The main 1997 grid, with lines oriented East-West, was extended to the north (lines $1500 \mathrm{~N}, 1600 \mathrm{~N}$ and 1700 N ), to the west (lines 300 N to 900 N incl, west of T.L. 1000W) and to the south (lines 600 S to 1200 S incl.)

The magnetometer survey was conducted along all the new lines, using a Gem-Systems GSM-19 proton-precession magnetometer, capable of reading the earth's magnetic field with a precision of 0.01 gamma.

Readings of the earth's magnetic field were taken every 12.5 meters along the survey lines. The magnetic field measurements were corrected for diurnal drift by using the data from a fixed base station monitoring, reading and recording the diurnal variations at 20 -second intervals, thus allowing for compensations of natural short-term variations of the earth's magnetic field.

The 2005 survey data was leveled and merged with the 1997 survey data in order to produce a uniform magnetic relief map. The results of the global magnetic surveys are presented on the maps appended to this report, at the scale $1: 5,000$. Posted readings, magnetic profiles and also the color contours of the magnetic data are presented on these maps. A total of approximately 17 line-km of magnetic data was gathered on May 27, 2005. during the course of this survey

The 2005 field surveys were carried out by crews of Services Exploration from RouynNoranda, Québec.


Dentonia Resources Ltd. Land Status - Atkinson Project

## Results and interpretation

The magnetic relief is characterized by a background level of about $57,250 \pm 50$ gammas. This background level and everything below it probably reflects lithologies of felsic to intermediate composition or sediments.

The magnetic activity is concentrated mostly in the southern and northern portions of the survey area. Within the new area to the north, a rather deep-seated magnetic feature was mapped between L-1400N and L-1600N at about 380W. It appears to be the extension to the north of an existing unit mapped earlier in 1997. Its interpreted depth to top on line 1500 N would be about 60 meters below surface

The magnetic relief in the western extensions of L-300N to L-900N is quite active and noisy, the probable result of nearby bedrock and a heterogeneous magnetism within that bedrock To the south, the strongly magnetic unit mapped at about 200 W down to line 500 S is confirmed to extend toward at least L-1200S and further. This strongly magnetic horizon probably contains between one and four individual layers of variable thickness, possibly an ultramafic sill or an iron formation.

## Conclusion and recommendations

The additional ground magnetometer surveys which were recently completed for Dentonia Resources Ltd. on the Lipton Lake, grid part of the Atkinson Project, have successfully mapped a rather deep-seated magnetic feature between L-1400N and L-1600N at about 380W. It appears to be the extension to the north of an existing unit mapped earlier in

## Dentonia Resources Ltd.

 Atkinson Project (Lipton Claims), Magnetometer survey1997. Its interpreted depth to top would be about 60 meters below surface. The magnetic relief in the western extensions of L-300N to L-900N is active, the probable result of nearby bedrock and a heterogeneous magnetism within that bedrock. Toward the south, the strongly magnetic unit mapped at about 200 W down to line 500S in 1997 was confirmed to extend by at least 600 m toward the south. This strongly magnetic horizon probably contains between one and four individual layers of variable thickness, possibly an ultramafic sill or an iron formation.

The present geophysical results should therefore be examined in the light of any other possible source of geoscientific information, particularly detailed geological mapping, a drill hole compilation and geochemical data if available, in order to better evaluate their economic and metallogenic significance. Possible drill targets may emanate from this study.

St-André-Avellin, Québec
June 25, 2005


Consulting Geophysicist



Appendix 2

Horner Claims - Report on Ground Magnetometer and MaxMinII H.L.E.M. Surveys

## Dentonia Resources Ltd.



## Atkinson Project Horner Claims

Cochrane District, Ont.

# Report on ground Magnetometer and MaxMin II H.L.E.M. surveys 

## Claim: 3009099

Line cutting completed between March 1, 2005 and March 3, 2005
Max Min Survey completed between March 1, 2005 and March 4, 2005
Magnetometer Survey completed between March 4, 2005 and May 31, 2005

St-André-Avellin, Québec
June 25, 2005

Gérard Lambert, P.Eng.
Consulting Geophysicist

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## Introduction

In April and May 2005, ground geophysical investigations consisting namely in Total Field magnetic and Horizontal Loop Electromagnetic (MaxMin II, H.L.E.M.) surveys were carried out over the Atkinson Project, Horner Grid in northeastern Ontario, by Services Exploration Reg'd, for Dentonia Resources Ltd.

The purpose of these surveys was to map the underlying lithological units and to locate metallic conductors such as massive, semi-massive or stringer sulfides in the bedrock, in the search for base/precious metals mineralization particularly zinc, copper or gold/silver, within the property and thus assist in the mapping of altered and unaltered mafic volcanic units or structures hosting a number of significant gold occurrences in the immediate area of the property.

This report describes the geophysical work performed and discusses the results and the interpretation of the data. Recommendations for any future work are presented in the conclusion.

## Property description, location and access

The Atkinson Project is located in northeastern Ontario Township, Ont., at about 200 kilometers (as the crow flies) to the north of Kirkland Lake around Lat $49^{\circ} 53^{\prime} \mathrm{N}$, Long $79^{\circ} 35^{\prime}$ W. The survey area is readily accessible by logging and forestry roads leading south from the Detour Lake mine area, traveling a distance of about 25 km from the mine site. Please refer to Figures 1., 2.(1:250,000 in NTS 32E) and 3. (1:50,000 in NTS 32E/13) on the next pages, showing location maps of the project and the survey area.



Figure 2.
Atkinson Project
Scale $1: 250,000$ NTS 32E
Location map


The Horner Claim group of the Atkinson Project consists of a 10 -units mining claim \# 3009099. A claim map for the property is shown on the next page. Also, the geophysical maps appended to this report show the property claim lines and license number.

## Description of the Geophysical surveys

## - Linecutting

The magnetic and H.L.E.M. surveys were carried out on a grid consisting of cut lines oriented north-south, spaced every 100 meters and chained-picketed every 25 meters. The grid lines spread from L-000E to L-1700E and from station 000 N to station 800 N . A total of approximately 16.1 line-km of lines were cut and chained, including BL-0N.

## - Magnetics

The magnetic survey was conducted along the base line, tie lines and survey lines, using GEM-systems GSM-19 proton-precession magnetometers, capable of reading the earth's magnetic field with a precision of 0.01 gamma.

Readings of the earth's magnetic field intensity were taken every 12.5 meters along all the survey lines. The total magnetic field measurements were corrected for diurnal drift by using the data from an automatic base station, monitoring and recording the earth's magnetic field variations every 10 seconds. Within the survey area, the earth's magnetic inclination is about $78^{\circ}$ and its declination is about $13^{\circ} \mathrm{W}$.

The results of the magnetic surveys are presented on the maps appended to this report, at the scale $1: 5,000$. Posted readings, profiles and colour contours of the total field magnetic data are presented on these maps. A total of approximately $\mathbf{1 6 . 1}$ line-km of magnetic data was gathered during the course of this survey between March 1 and May 31, 2005 over this grid by crews of Services Exploration from Rouyn-Noranda, Québec.


## Dentonia Resources Ltd.

Land Status - Atkinson Project

## - Horizontal loop E.M.

The Horizontal loop E.M. survey was conducted along all the survey lines, using an Apex Parametrics MaxMin-II E.M. system, operated in the maximum coupled (horizontal coplanar loops) mode at frequencies $222 \mathrm{~Hz}, 888 \mathrm{~Hz}$ and 3555 Hz . The nominal separation between the transmitter and the receiver was 150 meters. This coil separation should allow the detection of bedrock conductors to a depth of approximately 60 to 80 meters.

Readings of the In-phase and Quadrature components of the secondary field were taken at 25 meter intervals along the survey lines.

A total of approximately 11.7 line-km of H.L.E.M. surveys were carried out on the property between March $1^{\text {st }}$ and March $4^{\text {th }}, 2005$ by crews of Services Exploration from Rouyn-Noranda, Québec.

The results of the MaxMin H.L.E.M. survey are presented in the form of profiles of the In-phase and Quadrature components, on plan maps (one for each frequency) at the scale 1:5,000, which can be found appended to this report.

## Results and interpretation

The combination of the magnetic and H.L.E.M. techniques is probably the most costeffective approach for base-metals and gold prospecting when the target is presumed to be electrically conductive, that is, contains massive to semi-massive metallic sulphide material electrically connected over distances of tens of meters or more. Significant zones of pyrite/pyrrhotite (and graphitic material) in the stratigraphy can be effectively mapped with this technique, commonly causing "good" or "strong" conductors. Sphalerite mineralization, if not accompanied by accessory pyrite or pyrrhotite, may not be detected by MaxMin because this sulphide variety is very seldom conductive. This mineral commonly occurs, however, with pyriteenriched sulphide accumulations.

Other materials in the nature which might be electrically conductive include watersaturated bedrock fractures and shear zones, as well as water-soaked overburden material. This family of conductors is usually called "electrolytic" and typically will be interpreted in the "poor" or "weak" conductor category.
"Good" conductors are conductors which will be detected at low frequencies (below $1,000 \mathrm{~Hz}$ ) on an E.M. survey, causing anomalies on both the In-Phase and Quadrature (Out-ofphase) components. "Poor" conductors, on the other hand, will come out only at higher frequencies ( $>3,000 \mathrm{~Hz}$ ) and then possibly on the quadrature component only. So by using a multi-frequency E.M. prospecting instrument, one can differentiate between various types of conductors ("good" and "poor") and therefore determine if a given conductor stands a chance of containing semi-massive or massive sulphides of high conductance.

## - Magnetism

As can be observed on the magnetic colour contour map and magnetic profiles map, the main magnetic feature on the property consists of a linear, semi-continuous but sinuous magnetic anomaly most likely caused by a sub-vertical to steeply south-dipping tabular-shaped and deformed magnetic unit along the central east-west portion of the property. The anomaly displays net magnetic amplitudes of several hundreds of gammas above the local background level of 57,300 gammas $\pm 100$ gammas.

The most likely explanation for the magnetic signatures would be the occurrence of a tabular mafic to ultramafic unit (sill or flow) such as a gabbro-pyroxenite sill or a basaltic flow. The anomaly wavelengths suggest depths to top of 70 meters or more, making outcrop stripping unlikely as a way of explaining the anomalies.

## - Horizontal Loop E.M.

Referring to the MaxMin profiles plotted on the various maps in the appendix, it can be readily observed that one main (and two accessory) "strongly-to-moderately conductive" bedrock horizon were detected and mapped, (see red and orange -colored conductive trends on the E.M. maps). The main conductive feature is located along an east-west axis or corridor transecting the central portion of the property and likely caused by massive metallic material in the bedrock, with its top at depths of no less than 40 to 50 meters and dipping to the south at about $60^{\circ}$ to $85^{\circ}$. Local direct magnetic association is only occasional (e.g. L-1400E/450N), as it is more typically a flanking association, with the strongest magnetic activity just off to the north of the bedrock conductivity (the offset is about 50 meters). But strangely enough, the trace of the main conductive horizon does not totally coincide with the trace of the main magnetic horizon even though they very roughly are located within the same band.

If this conductor constitutes a new feature, then it becomes an immediate exploration target in the search for bedrock sulphide mineralization. Diamond drilling is warranted, with a first hole located on L-400E, drilling toward the north at a normal angle ( $-50^{\circ}$ ) , collared such that it would intersect the conductive unit at a depth of approximately 80 meters vertically below station 425 N .

## Conclusion and recommendations

The magnetic and Horizontal Loop E.M. surveys which were recently completed on the Horner Grid, part of the Atkinson Project for Dentonia Resources Ltd. have indicated the presence of a major moderately to strongly magnetic sub-vertically to southerly dipping magnetic feature on the property.

The magnetic response consists of a linear, semi-continuous but sinuous magnetic anomaly most likely caused by a sub-vertical to steeply south-dipping tabular-shaped and deformed magnetic unit along the central east-west portion of the property.

The most likely explanation for the magnetic signatures would be the occurrence of a tabular mafic to ultramafic unit (sill or flow) such as a gabbro-pyroxenite sill or a basaltic flow. The interpreted depths to top are 70 meters or more, making outcrop stripping unlikely as a way of explaining the anomalies.

One main "strongly-to-moderately conductive" bedrock horizon was mapped as a result of the MaxMin H.L.E.M. survey. The main conductive feature is located along an east-west axis or corridor transecting the central portion of the property and likely caused by massive metallic material in the bedrock, at depths of no less than 40 to 50 meters and dipping to the south at about $60^{\circ}$ to $85^{\circ}$. Local direct magnetic association is only occasional and it is more typically a flanking association, with the strongest magnetic activity just off to the north of the bedrock conductivity. The trace of the main conductive horizon does not always coincide with the trace of the main magnetic horizon even though they very roughly are located within the same band

If this conductor constitutes a new feature, then it becomes an immediate exploration target in the search for bedrock sulphide mineralization. Diamond drilling is warranted, with a first hole located on L-400E, drilling toward the north at a normal angle ( $-50^{\circ}$ ), collared such that it would intersect the conductive unit at a depth of approximately 80 meters vertically below station 425 N .

The present geophysical results should of course be examined in the light of any other possible source of geoscientific information, particularly geological mapping, a drill hole compilation and geochemical data if available, in order to better evaluate their economic and metallogenic significance.








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