# Candorado Operating Co. Ltd

# Report on Airborne Magnetic And XDS VLF-EM Survey Completed in March 2007

Aurora Extension Property Lower Detour Lake Area Ontario

Claims: 1199742, 1199762, 1199763, 1199765



N.T.S.: 32E/13

Latitude: 49 58'N

Longitude: 79 38'W

Paul R. J. Nicholls P.Eng October 15, 2008

Survey Flown By Terraquest between February 28 and March 17, 2007 Terraquest Report with maps Delivered January 7, 2008

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## 1.0 Summary (Figure 1)

The Aurora Extension Property is underlain by volcanic rocks of the Abitibi Greenstone Belt and is located approximately eight kilometres south of the Detour Lake Gold Mine. The Detour Lake Gold Mine produced approximately 1.6 million ounces of gold during the period 1983 and 1998.

In February 2006 Candorado Operating Co. Ltd. completed 450 metres of diamond drilling in three holes to test induced polarization anomalies defined by surveys completed in 2004. The diamond drill holes intersected a steeply dipping sequence of mafic volcanic rocks (flows and tuffs) and a thin chalcopyrite bearing chemical sedimentary unit. Hole A-06-03 intersected 0.52 g/t Au over a core length of 1.0 metres in a banded mafic volcanic rock with thin quartz calcite veins. The induced polarization anomaly that hole A-06-03 tested is over one kilometre long and will require further drilling along strike from the intersection. In addition a total of five induced polarization anomalies defined by the 2004 survey remain to be tested and also will require work.

During March 2007 Terraquest Ltd. completed a high resolution magnetic, and XDS VLF-EM airborne survey (340 line kilometres) over the property. The airborne magnetometer and XDS-VLF survey helped to further the understanding of the geological structure and stratigraphy, and has located one VLF feature on claim 1199765 that will require additional ground geophysical surveys in order to establish if it does represent a bedrock conductor.

#### 2.0 Recommendations

To further evaluate the Aurora extension property a program approximately 1050 metres of diamond drilling in seven holes is recommended. Diamond drill holes in the western portion of the property should be drilled from the south (360° azimuth). This program would test the remaining induced polarization anomalies as well as testing along strike from hole A-06-03. In addition ground geophysical surveys should be completed on claim 1199765 in order to further evaluate the VLF-EM anomaly located by the ground survey.

The program is estimated to cost in the order of \$250,000.00.

#### 3.0 Introduction

The Aurora Extension Property of Candorado Operating Co. Ltd is located approximately eight kilometres south of the Detour Lake Gold Mine (past producer) which produced approximately 1.6 million ounces of gold during the period 1983 and 1998. The property is underlain by volcanic rocks of the Abitibi Greenstone Belt which hosts a number of significant gold deposits (Figure 2).

During March 2007 Terraquest Ltd. completed a high resolution magnetic, and XDS VLF-EM airborne survey (340 line kilometres) over the property. The following report is based on this program and its results.

#### 4.0 Location, Access, and Topography

The Aurora Extension Property is located approximately 140 kilometres north of Cochrane, Ontario and approximately 8 kilometres south of the former Detour lake Mine. The property is accessible via highway 652 and the Detour Mine access road to the mine site and southeasterly from the mine site via a winter road which leads to the property (Figure 3). During the 2007 airborne survey the plane was based in Cochrane, Ontario.

Topographic relief on the property is low ranging from 252m to approximately 260m above sea level. Drainage is to the east to Lower Detour Lake which is located on the eastern limit of the property. The area is covered by forests of black spruce and areas of open muskeg.

# 5.0 Property Status

The Aurora Extension Property consists of four mineral claims totalling 704 hectares, located in the Lower Detour Lake Area (G-1647), Porcupine Mining District, Ontario (Figure 4). The claims are currently in good standing and the current land status is summarized in Table 1.

Claim Number of Units Size (ha) Recording Date Work Due 1199762 15 240 July 16, 2002 July 16, 2009 July 16, 2002 July 16, 2009 1199763 11 176 1199742 96 April 15, 2004 April 15, 2009 6 12 1199765 192 April 15, 2004 April 15, 2009 704 Total

Table 1 - Land Status

#### 6.0 Previous Work

Prior to 2004 the property had been covered airborne surveys completed by Western Mines Limited (Konings, 1980), and by the Ontario Government (1988). These surveys did not delineate any strong electromagnetic conductors on the property. Regional geological mapping was completed by the Ontario Geological Survey (Johns, 1981) and by Western Mines Limited (Rockingham, 1980).

In 2004 Candorado Operating Co. Ltd completed a program of linecutting; and ground magnetometer and induced polarization surveys on the property. The surveys defined a series of easterly to southeasterly magnetic magnetic highs, and several induced polarization phase anomalies. The induced polarization anomalies were interpreted to indicate the presence of disseminated to fracture controlled sulphides.

In February 2006 Major Drilling Group (Val D'Or, Quebec) completed three diamond drill holes totalling 450.0 metres on the Aurora Extension Property for Candorado Operating Co. Ltd. (Table 2). The BQ sized core was logged with respect to lithology and mineralization and then sampled. The samples (389) were subjected to a standard fire assay preparation and analyzed by Atomic Absorption (Appendices 2 and 3).

Hole	Grid Co-ordinates		U.T.M. Co-ordinates		Length	Bearing	Dip
	Easting	Northing	Easting	Northing	(m)		
A-06-1	20800	31725	598074	5531780	150	180	-60
A-06-2	19000	32488	596258	5532509	150	180	-60
A-06-3	19000	32625	596254	5532643	150	180	-60
Total					450		

Table 2 - 2006 Diamond Drill Holes

Anomalous concentrations of Au (>100 ppb) were intersected in holes A-06-02 and 3. Hole A-06-02 intersected 121 ppb Au over 1.0 metres (93.0 to 94.0 metres; sample number 5404) hosted by a feldspar porphyry intrusive with thin quartz veins. Hole A-06-03 intersected anomalous concentrations of Au at three different stratigraphic levels (Table 3).

Sample	from	to	Length	Au	Au	Lithology
Number	(m)	(m)	(m)	(ppb)	(g/t)	
5499	60.0	61.0	1.0	507	0.52	Mafic volcanic
20295	105.0	106.0	1.0	284		Mafic volcanic flow
20329	139.0	140.0	1.0	101		Chemical Sediment
20330	140.0	141.0	1.0	111		Chemical Sediment
20336	145.2	146.2	1.0	109		Chemical Sediment

Table 3: Samples with Anomalous Gold Concentrations Hole A-06-03

# 7.0 Geology

### 7.1 Regional Geology

The Aurora Extension property (Figure 5) is located near the northern margin of the Abitibi Greenstone Belt. In this area the Abitibi Greenstone Belt consists of mafic to felsic volcanic rocks and associated sedimentary rocks of Archean age. the volcanic - sedimentary sequence consists of a basal sequence of felsic to intermediate volcanic rocks that are overlain by a thin clastic sedimentary unit which is in turn overlain by mafic to intermediate flow and pyroclastic rocks. The volcanic - sedimentary succession is capped by a sequence of felsic to intermediate volcanic rocks, mafic volcanic rocks and clastic sedimentary rocks. Graphitic chemical sedimentary units are common near the top of the stratigraphic section. The volcanic - sedimentary sequence has been intruded by mafic to intermediate plutonic rocks and diabase dykes.

The Archean rocks have been extensively covered by pleistocene 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 area ranges up to approximately 35 metres (Johns, 1982).

# 7.2 Property Geology

Regional mapping by Johns (1981) indicates that much of the property is underlain by massive to pillowed mafic volcanic rocks that have been intruded by a gabbro near the eastern limit of the claim block. Foliations measured by Johns indicate that the volcanic sequence has an easterly to south-easterly trend on the property.

The three diamond drill holes completed by Candorado in 2006 intersected an easterly to south-easterly trending sequence of mafic volcanic flows and tuffs. The volcanic rocks are steeply dipping with dips ranging from approximately 80° to the north in hole A-06-01 to approximately 70° to the south in the area of holes A-06-02 and 3. Disseminated magnetite is common in the volcanic sequence and is probably the cause of the magnetic highs defined by the geophysical surveys.

Gold mineralization (0.52 g/t Au over a core length of 1.0 metres) intersected is hosted by a banded volcanic rock (probable tuff), that is associated with a one kilometre long induced polarization anomaly the was defined in 2004.

## 8.0 2007 Work Program (Figure 6, Appendix 1)

During March 2007 Terraquest Ltd. completed a high resolution magnetic, and XDS VLF-EM airborne survey (340 line kilometres). Of the 340 line kilometres of surveying 157.66 line kilometres was completed over the claims (1199762 - 50.21 km; 1199763 - 39.33 km; 1199742 - 22.3 km; 1199765 - 45.82 km) and 182.34 line kilometres was completed over the surrounding area. Lines were completed at 50 metres intervals at azimuths of 150° or 330°. Control lines were completed at 500 metre intervals at azimuths of 060° or 240°. Detailed survey and equipment specifications; black and white (1:10,000 scale) maps; and a disk with all the data and maps are provided in Appendix 1.

#### 9.0 Results

#### 9.1 Magnetics

The magnetic field (Figures 7 and 8) in the area of the Aurora Extension Property ranges from 56,691 to 59984 nT. Based on the 2006 drilling and regional mapping previously completed on the property and surrounding area the following observations can be made:

- 1) In the south-western portion of the survey area and including the southern part of claim 1199765 a large magnetic low (<57200 nT) has been defined. This probably represents the later diorite intrusive mapped by Johns (1983). Within this broad magnetic low a weak northerly trending linear magnetic feature (relative magnetic high) has been defined and this may represent a late diabase dyke similar to others mapped in the area.
- 2) In the central portion of the survey area a similar magnetic low has been outlined. Mapping in this area has located mafic volcanic rocks. The magnetic signature may indicate that the diorite is present at depth under the mafic volcanic rocks.
- 3) The magnetic field in the remaining portions of the survey area range from 57200 nT to 59984 nT. The magnetic responses >58000 nT may indicate the presence of gabbroic mafic intrusives similar to those mapped along the western shore of Lower Detour Lake. The magnetic responses between 57200 and 58000 nT appear to represent the mafic volcanic sequence. A series of easterly to south-easterly trending magnetic highs (>57600 nT) located in claims 1199762 and 1199763 outline the magnetite bearing mafic tuff unit intersected in the 2006 drill holes.
  - 4) Linear magnetic lows in claims 1199762 and 1199763 may represent faults.

#### 9.2 XDS VLF-EM

The VLF-EM method can be useful in defining near surface conductive units, shear zones, and geological contacts. The Terraquest XDS-VLF system is in the developmental stage and utilizes frequencies in the 22.0 to 26.0 kHz range. These frequencies include signals from the Cutler, Maine and the Seatle, Washington transmitter stations. The results from the line component of the XDS-VLF survey range from -248 to 447 mv and are shown on Figure 9. Southerly to south-westerly trending VLF-EM features may reflect variability in the overburden topography as these trends are similar in direction to ice flow directions from the Pleistocene glaciation. The easterly to south-easterly trending features may reflect the trend of volcanic stratigraphy in the area. On claims 1199762 and 1199765 two VLF-EM features of interest have been defined. Feature A is locate in the northern portion of both claims and is approximately three kilometres long. This

feature appears to trace the contact between the magnetite bearing mafic tuffs and the mafic volcanic flows drilled in 2006. Feature B located in claim 1199765 is approximately 800 metres long and is coincident with a single point 8 channel TDEM anomaly located by the 1988 Ontario Government airborne survey of the area. Other easterly to south-easterly trending VLF-EM features were defined by the survey and may require follow up.

## 10.0 Interpretation and Conclusions (Figure 1)

The three diamond drill holes completed in 2006 intersected an easterly to south-easterly trending sequence of mafic volcanic flows and tuffs. The volcanic rocks are steeply dipping with dips ranging from approximately 80° to the north in hole A-06-01 to approximately 70° to the south in the area of holes A-06-02 and 3. Disseminated magnetite is common in the volcanic sequence and is probably the cause of the magnetic highs defined by the geophysical surveys.

Gold mineralization (0.52 g/t Au over a core length of 1.0 metres) intersected is hosted by a banded volcanic rock (probable tuff), that is associated with a one kilometre long induced polarization anomaly the was defined in 2004.

The airborne magnetometer and XDS-VLF survey completed over the property in 2007 has helped to further the understanding of the geological structure and stratigraphy, and has located one VLF feature on claim 1199765 that will require additional ground geophysical surveys in order to establish if it does represent a bedrock conductor.

Additional work is required to test the remaining induced polarization anomalies and to follow up on the gold mineralization intersected in hole A-06-03.

Respectively Submitted,

Paul R. J. Nicholls, P.Eng.

October 15, 2008

#### References

Chartré, E. (2004): Geophysical Surveys, Lower Detour Project, Aurora Extension Property, Candorado Operating Co. Ltd. report.

Johns, G. W. (1982): Geology of the Burntbush-Detour Lakes Area, District of Cochrane; Ontario Geological Survey Report 199, 82p.

Konings, M. H. (1980): Airborne Electromagnetic Survey, Detour Lake Area; report prepared for Western Mines Limited by Questor Surveys Limited

Ontario Geological Survey (1996): Erlis Data Sets 1007 and 1008, Ontario Airbourne Magnetic and Electromagnetic Surveys, Detour Burntbush Abitibi Area

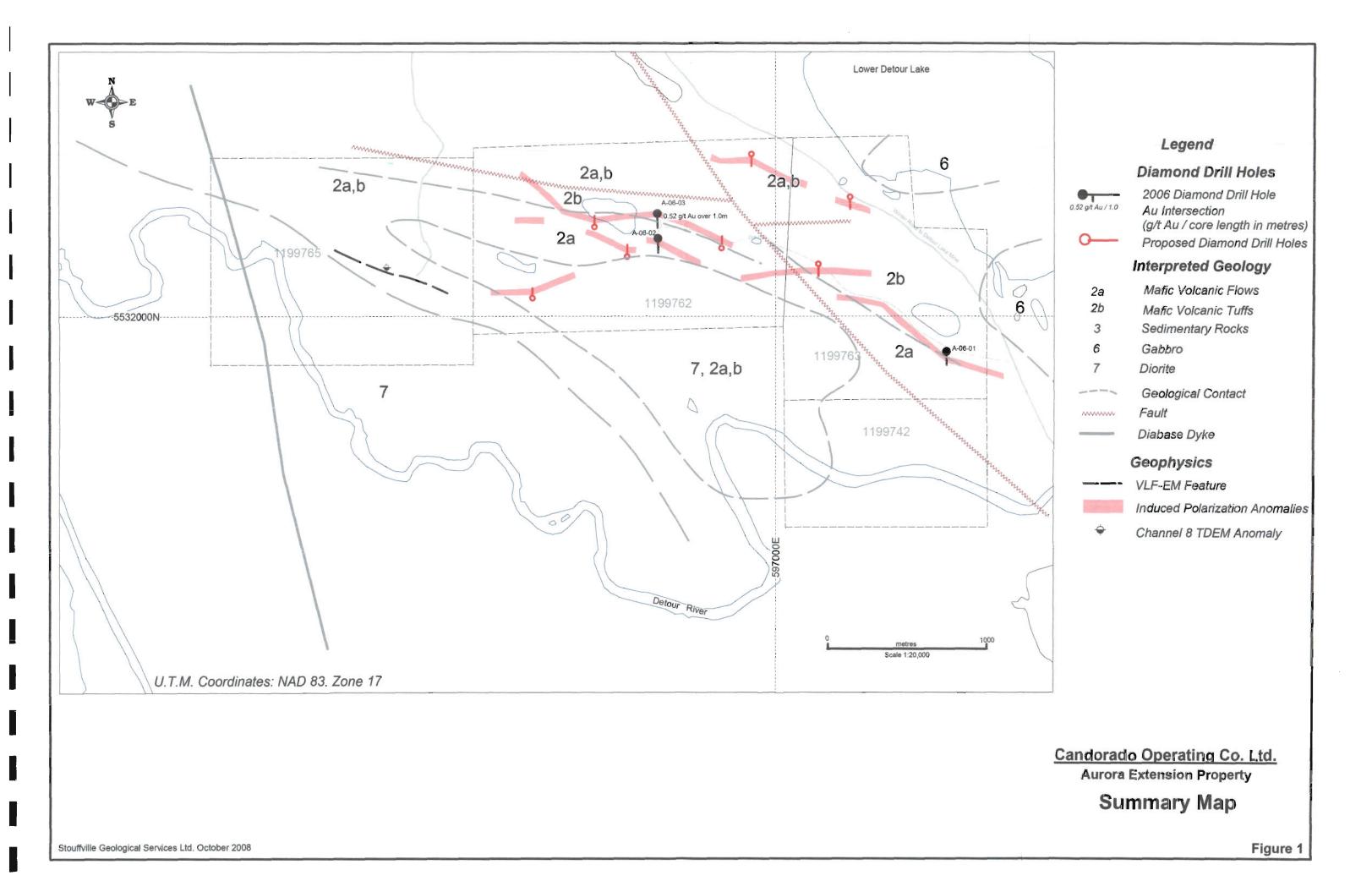
Veillette, J. J. (1989): Ice Movements, Till Sheets and Glacial Transport in Abitibi - Timiskaming, Quebec and Ontario. G.S.C. Paper 89-20, p139 - 154

#### **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 property 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.
- 4) I supervised the diamond drilling completed on the Aurora Extension property during February 2006, which included logging the core and preparing maps and sections.
- 5) I have reviewed the results of the 2007 Airborne survey completed over the Aurora Extension Property.

Paul R. J. Nicholls, P.Eng.

October 15, 2008



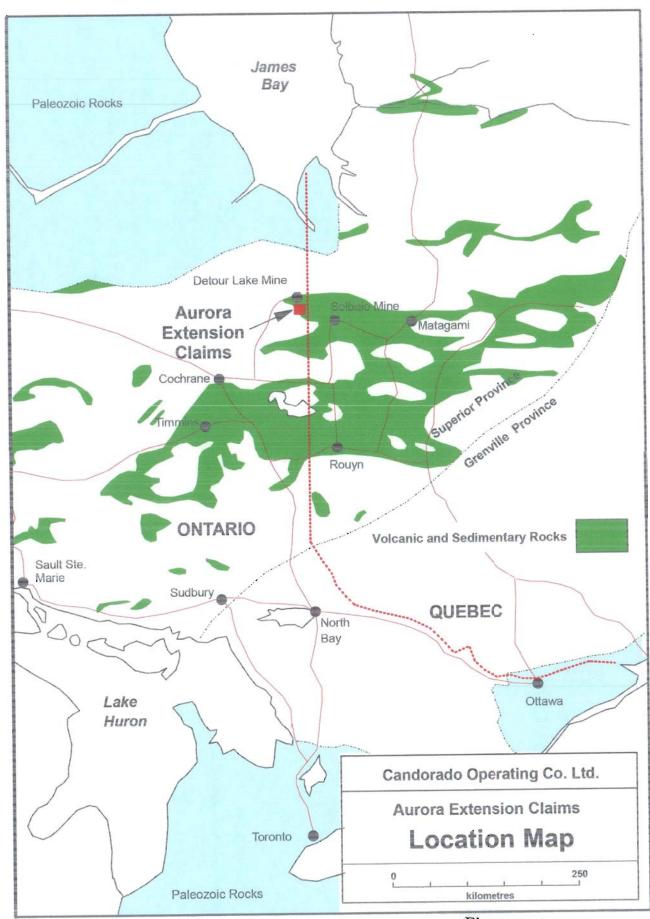
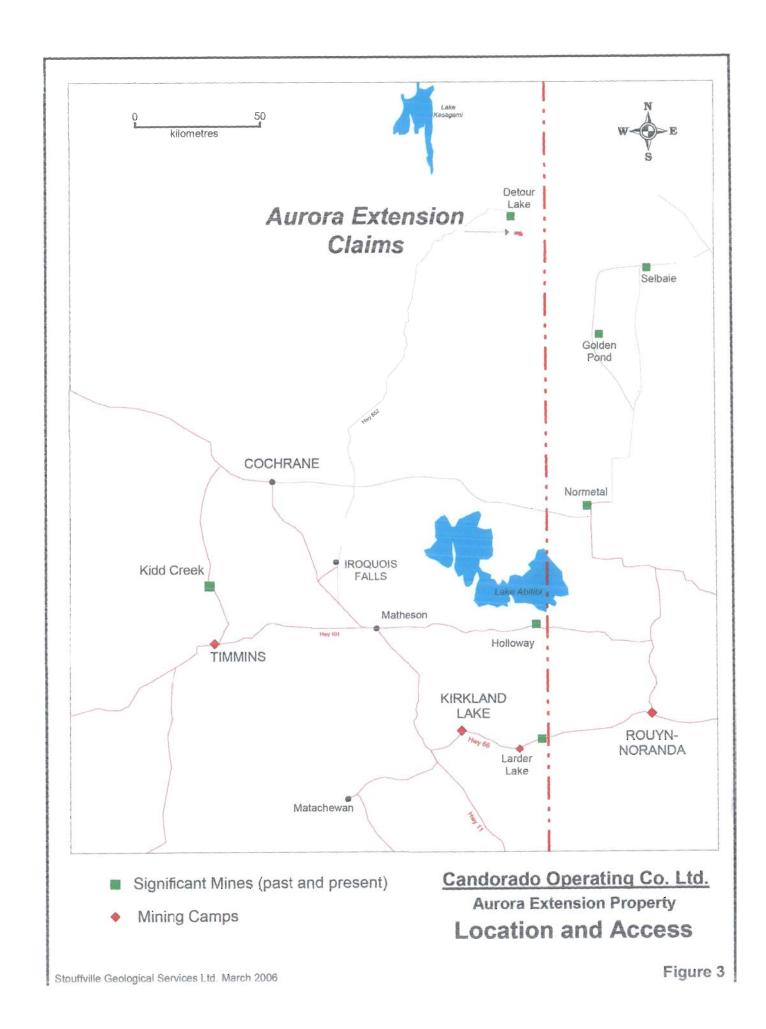
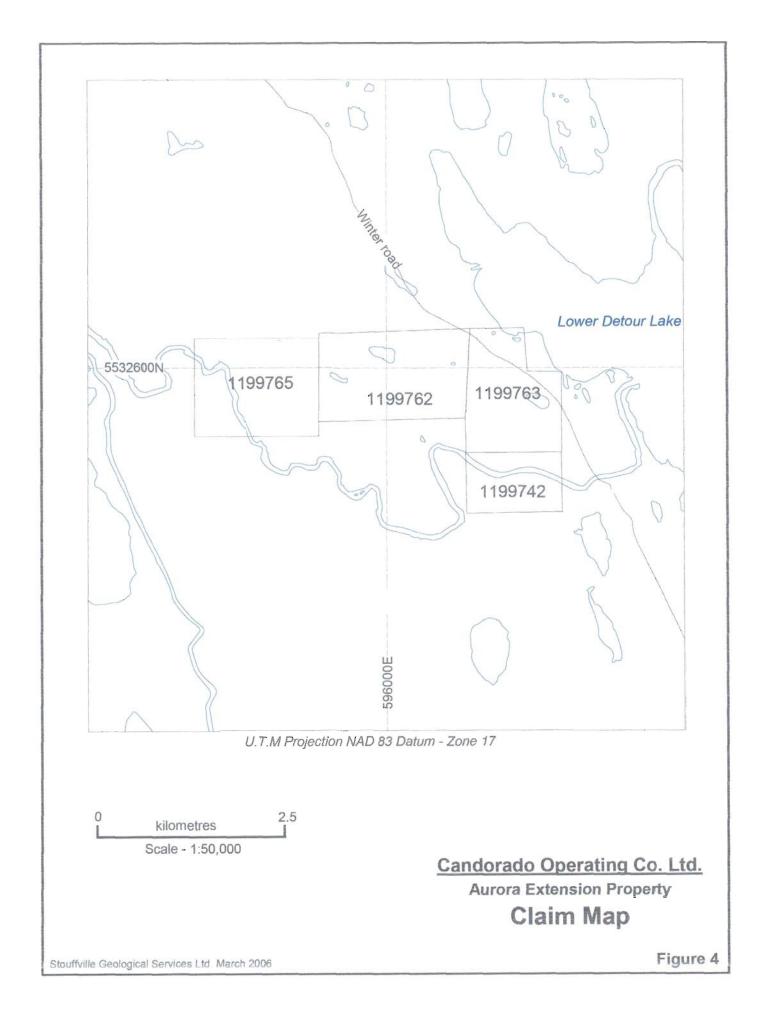
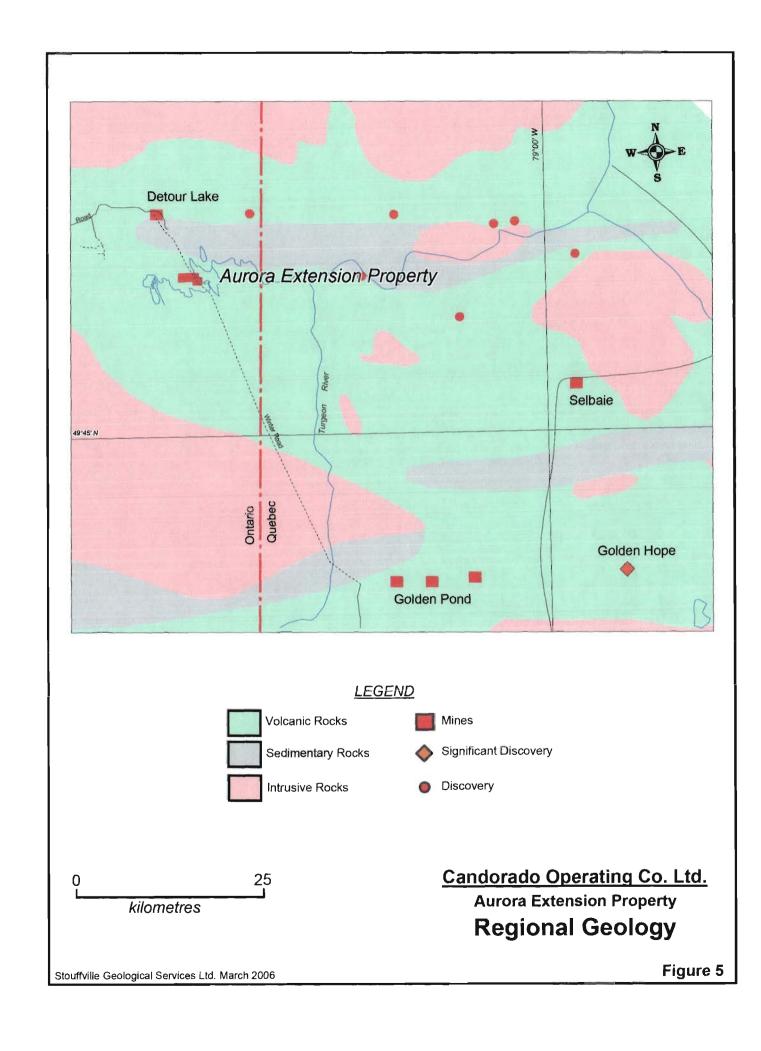
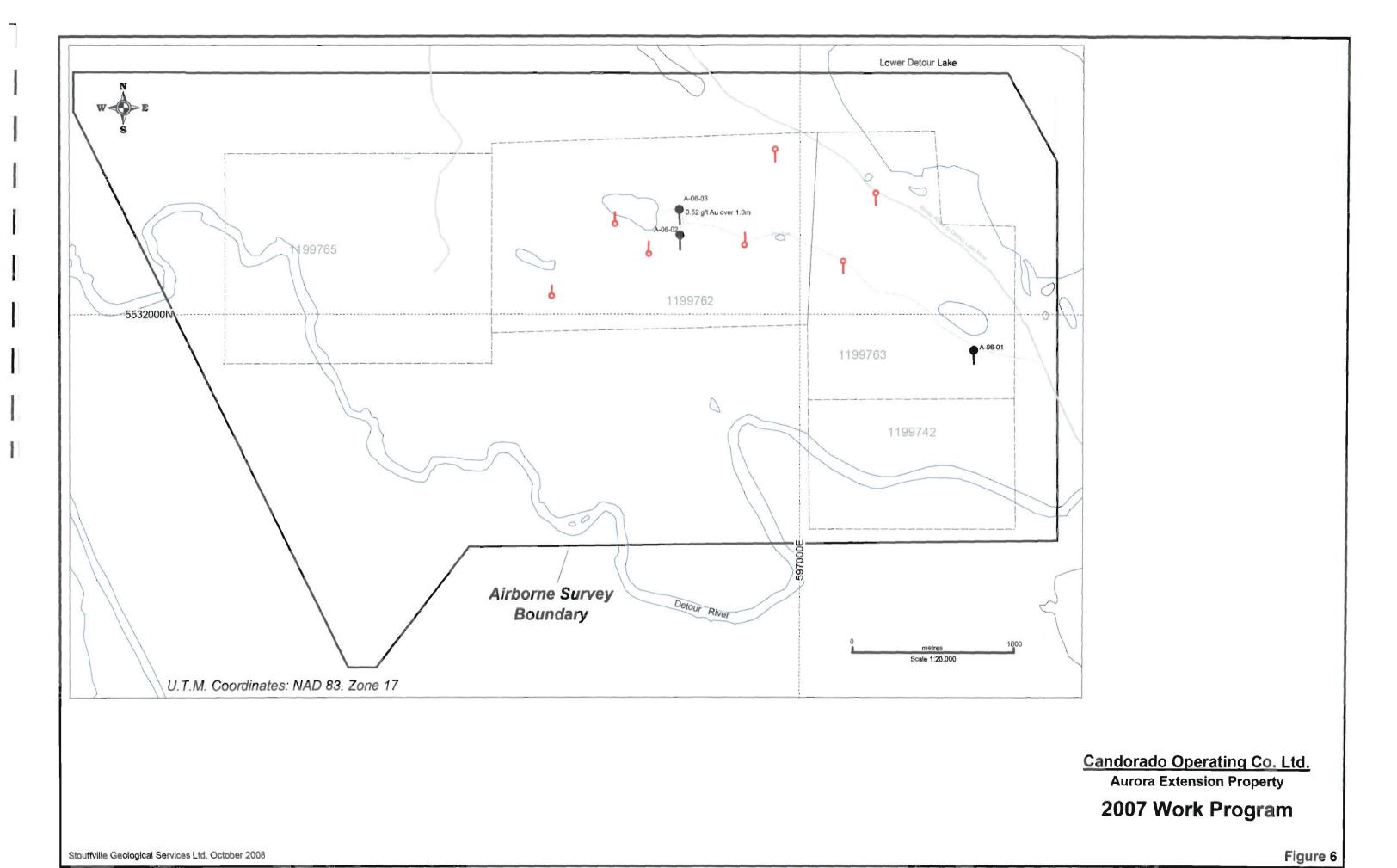


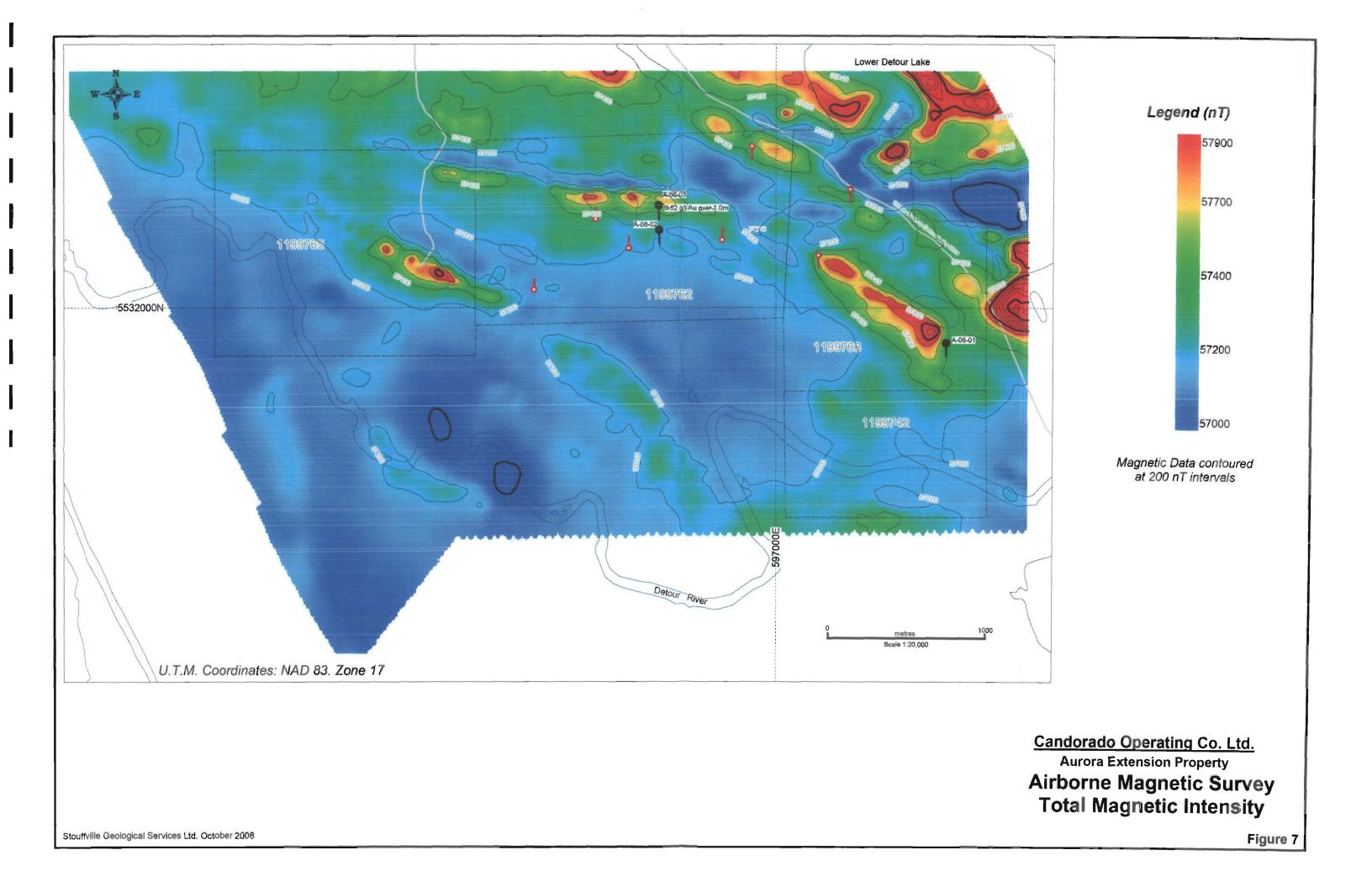
Figure 2

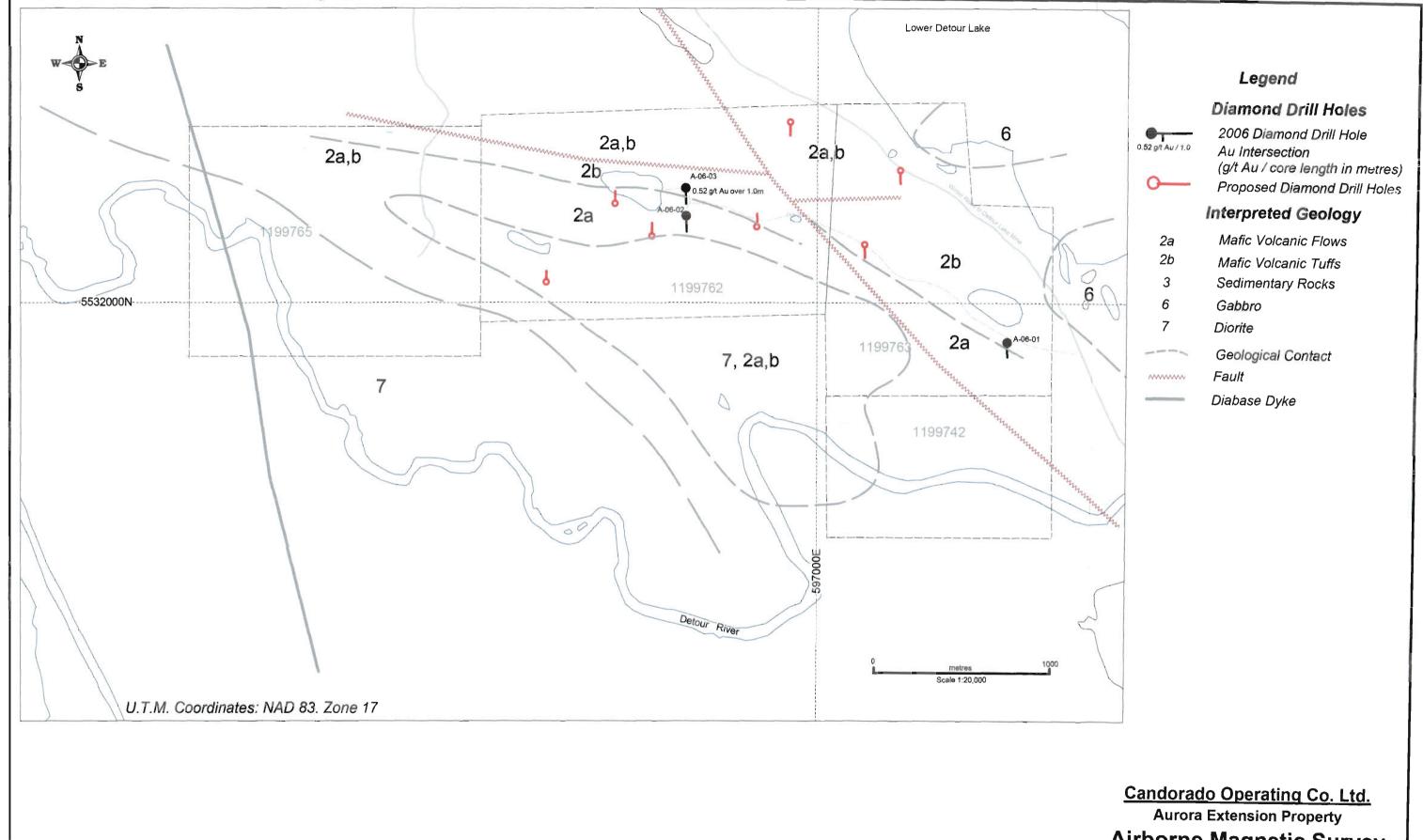






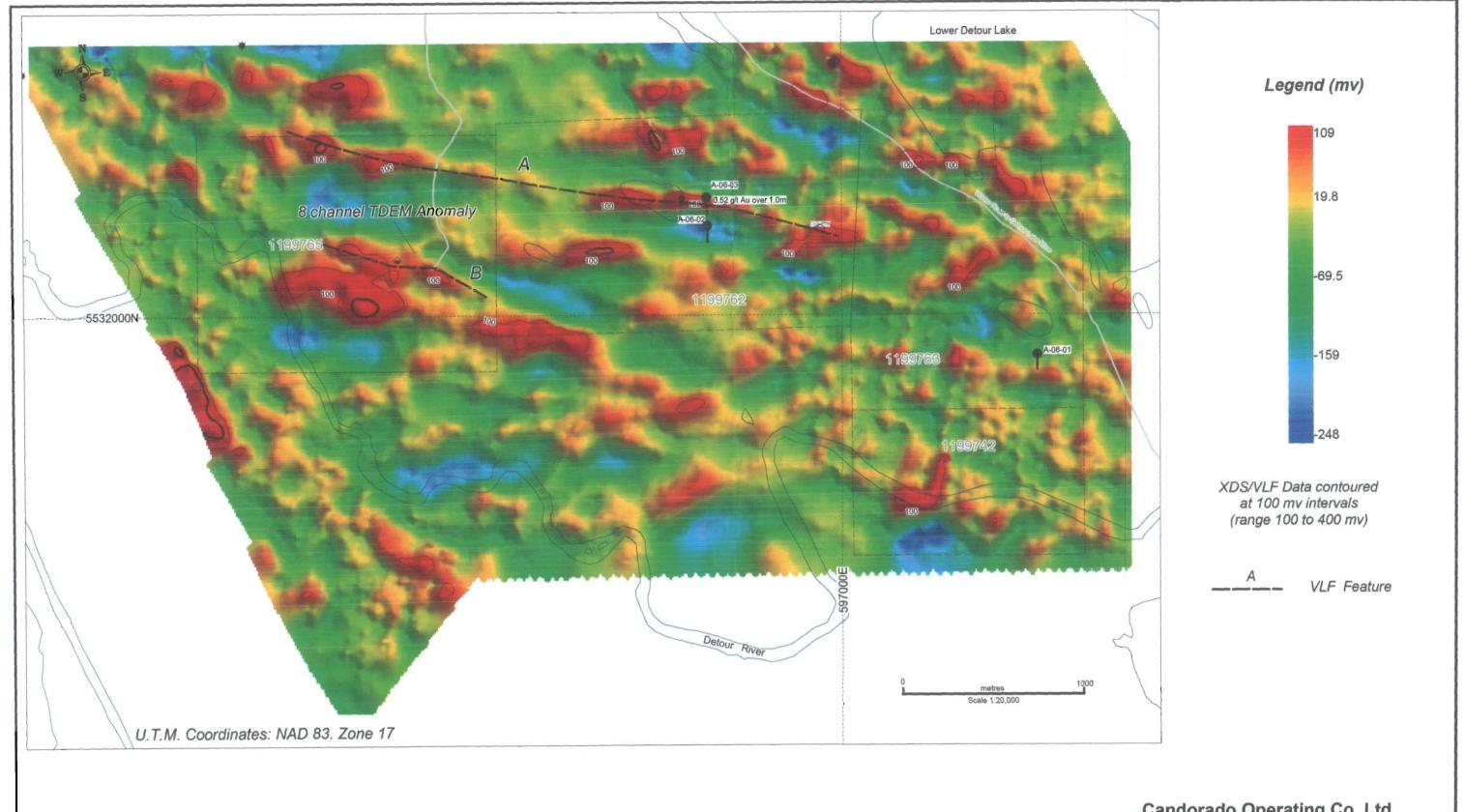






Stouffville Geological Services Ltd. October 2008

Aurora Extension Property
Airborne Magnetic Survey
Interpretation Map



Candorado Operating Co. Ltd.
Aurora Extension Property
Airborne Magnetic Survey
XDS/VLF Line Component

# Appendix 1

Operations Report for Candorado Operating Company Ltd; High Resolution Tri-Sensor Magnetic and XDS VLF-EM Airborne Survey, Detour Lake Area Project