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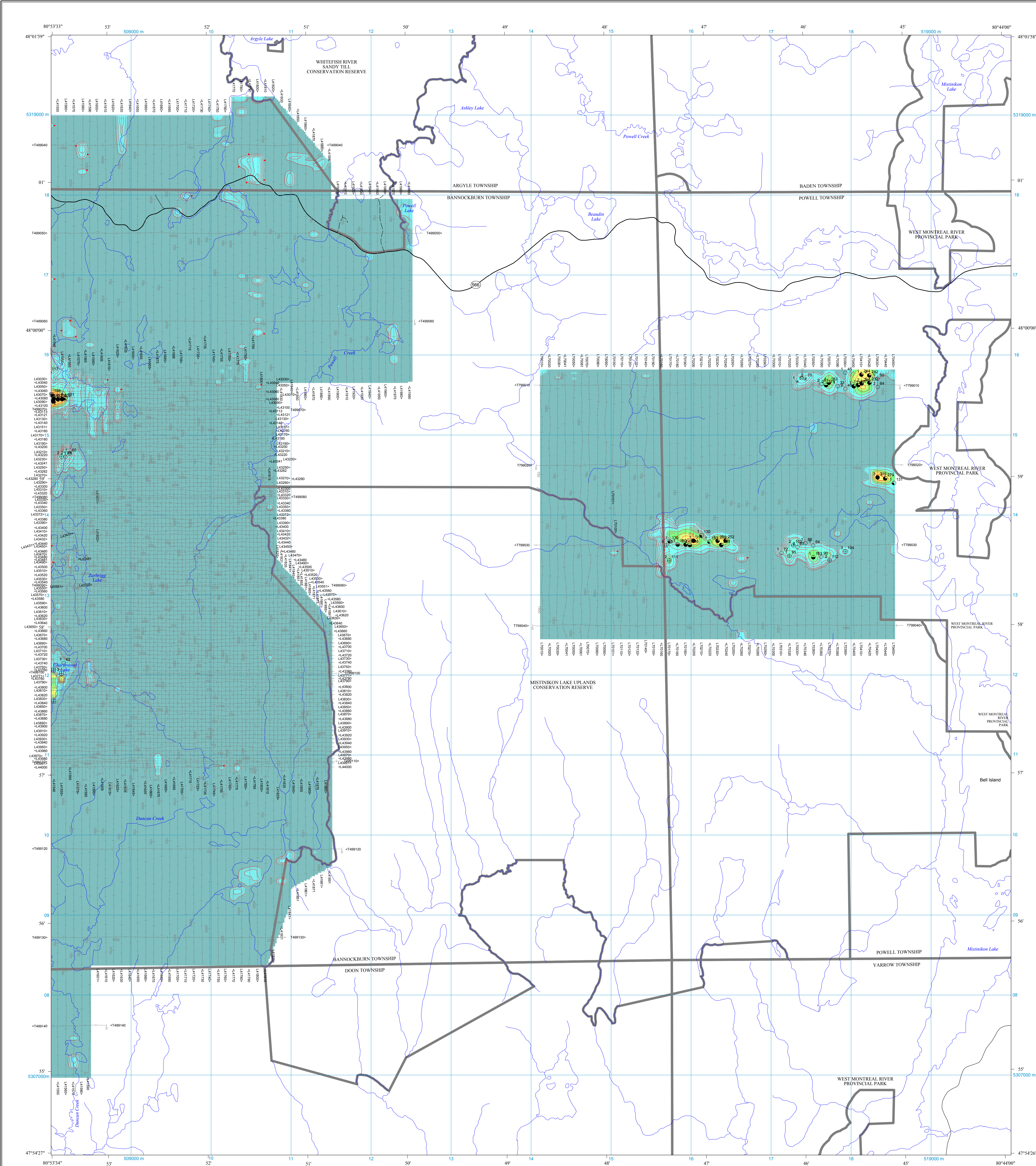
It is recommended that reference to the Content be made in the following form:

Ontario Geological Survey 2015. Airborne magnetic and electromagnetic surveys, colour-filled contours of the EM decay constant and electromagnetic anomalies, Matachewan–Timmins area—Purchased data; Ontario Geological Survey, Map 60 437, scale 1:20 000.

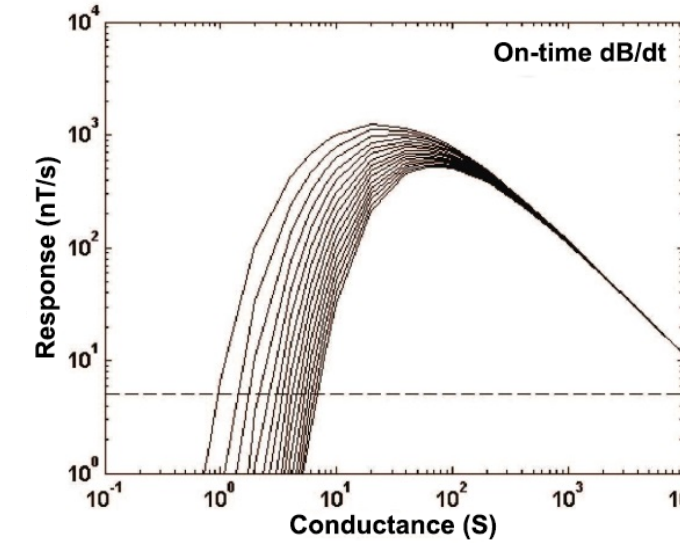
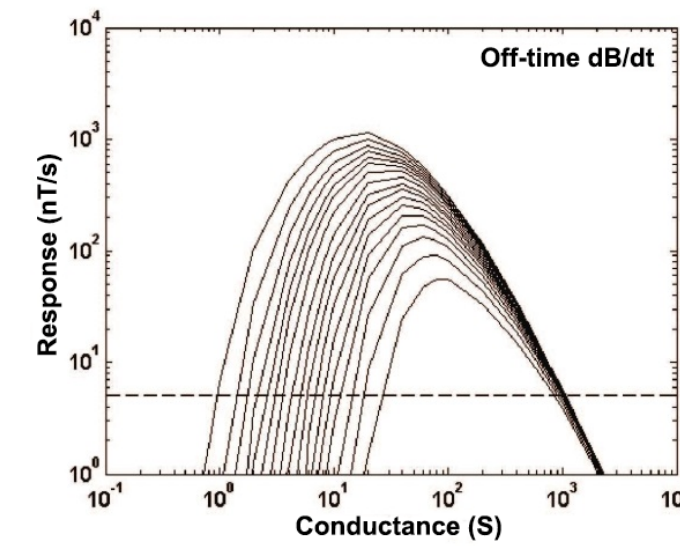
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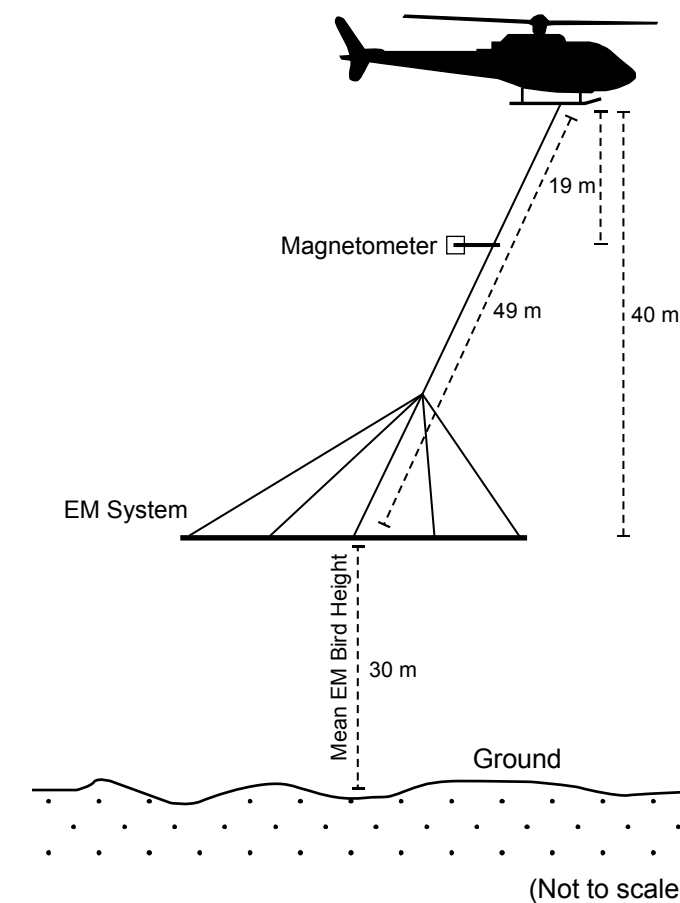
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VERTICAL PLATE NOMOGRAM

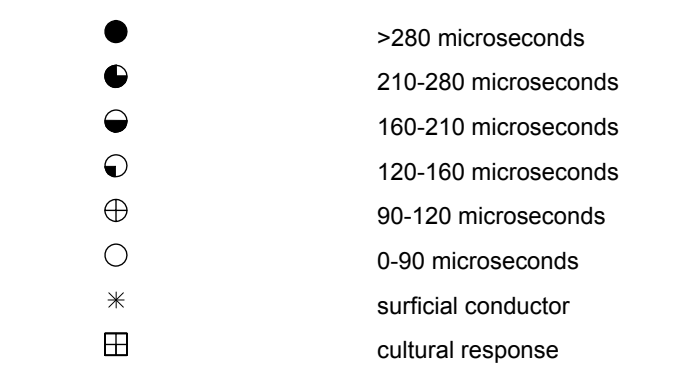


SYSTEM CONFIGURATION

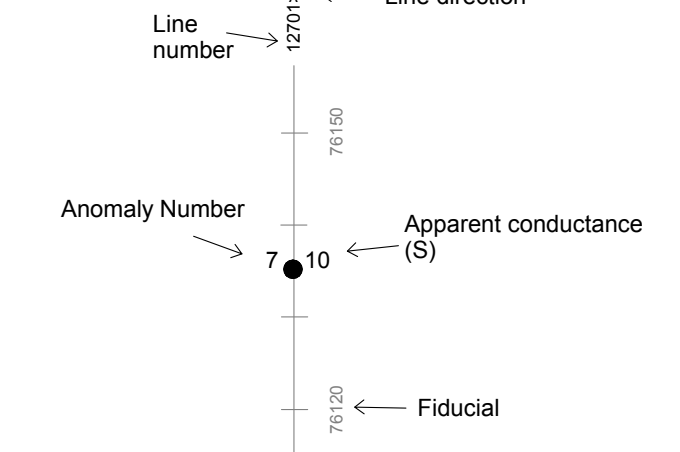


LEGEND

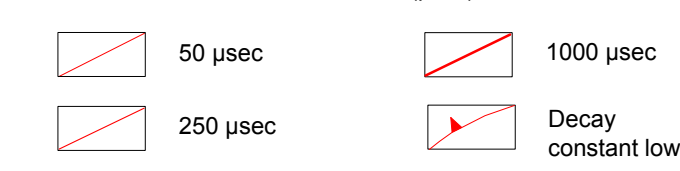
ELECTROMAGNETIC ANOMALY SYMBOLS



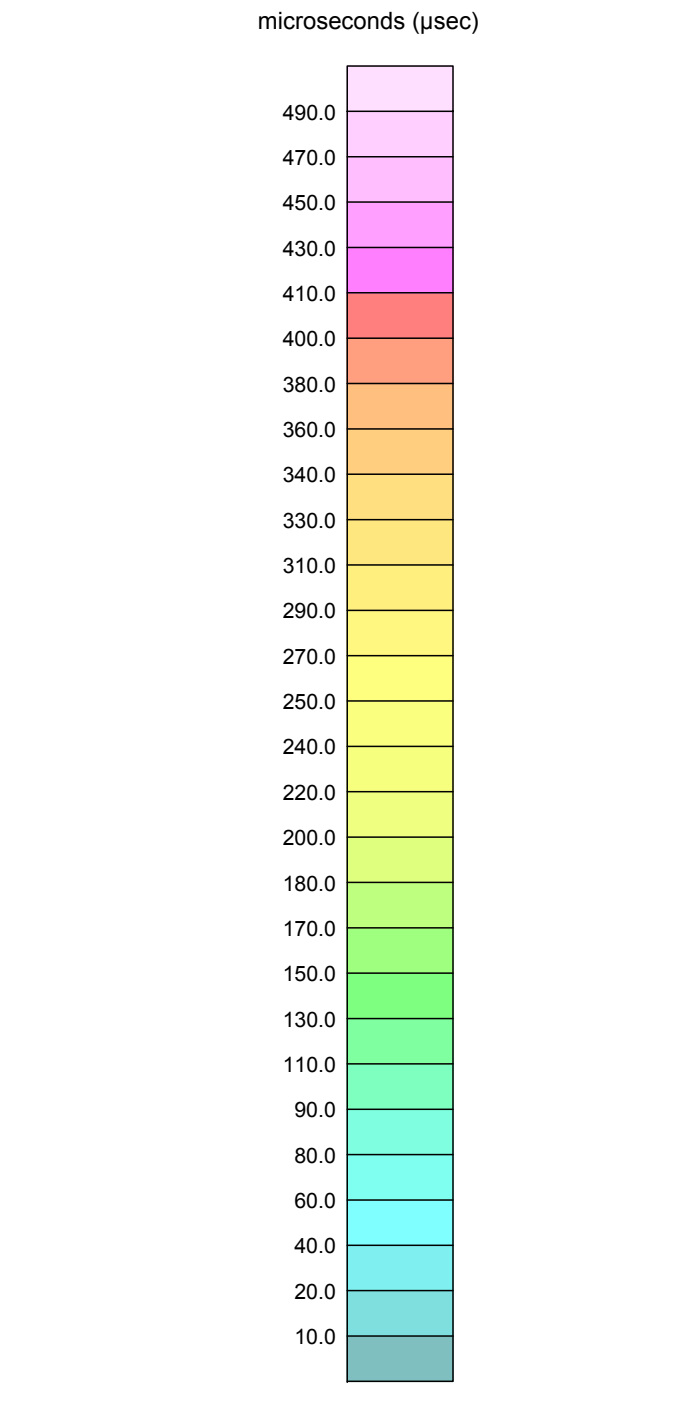
FLIGHT LINE INFORMATION



DECAY CONSTANT (TAU)



EM DECAY CONSTANT



DESCRIPTIVE NOTES

This survey was flown using the Aeroquest AeroTEM™ helicopter-borne magnetic and electromagnetic system. The aircraft was also equipped with a GPS navigation system and a digital data acquisition system.

EM Decay Constant

EM decay constant values were calculated for each time channel of the Z-coil response, based on the response amplitude at the particular channel and the amplitude of a later channel, either immediately successive or further down the decay curve to ensure the signal levels and signal difference are suitably above signal noise threshold. The longest time constant value in the array was favoured. For each sample, only those channels with sufficient amplitude above the noise level were used in the calculation. In semi-log space, the slope of this function will reflect the decay rate of the transient and therefore the strength of the conductivity. A slow rate of decay, reflecting a high conductivity, will be represented by a high decay constant value.

The computed decay constant values were filtered using a 21 point Hanning filter and interpolated onto a 20 m regular grid, using the bi-cubic spline algorithm. The grid was subsequently smoothed, by applying 2 passes of a 3 x 3 point Hanning filter.

EM Anomalies

The AeroTEM™ system will respond to conductive overburden, near-surface horizontal conducting layers, man-made sources and bedrock conductors. Identification of natural conductors is based on the rate of transient decay, magnetic correlation and response shape, together with the response pattern and topography. Man-made responses are identifiable by examining the power line monitor.

Conductors having direct association with magnetic anomalies, as well as conductors interpreted to be steeply or moderately dipping were classified as being bedrock in origin. Interpreted broad conductors, with no correlation to the magnetic data were classified as surficial in origin. For each picked EM anomaly, the associated decay constant value was assigned and posted on the map.

SURVEY PARAMETERS

AIRCRAFT
Type: Aerospatiale AS350B2
Registration: C-FAV1

MAGNETOMETER
Type: Geometrics® G823A cesium-vapour
Sensitivity: 0.001 nT
Sample interval: 10 readings per second
Sensor location: 19 m below aircraft

ELECTROMAGNETIC SYSTEM
Type: AeroTEM™
Base frequency: 150 Hz
Current waveform: bipolar triangular
Peak dipole moment (NIA): 38 800 Am²
Pulse width: 1150 usec
Off-time: 2183 usec
Parameters: X- and Z-components of dB/dt
Sample interval: 10 readings per second
Bird Location: 40 m below aircraft

NAVIGATION SYSTEM
GPS receiver: Trimble® AgGPS8132
GPS sample interval: 5 readings per second
Radar altimeter: Terra 3500TR-30
Video flight path recorder: 8 mm high resolution colour video
Guidance system: Ag Nav Inc. AG-NAV2
Digital acquisition system: AeroDAS, RMS Instruments DGR33A

BASE STATION
Magnetometer: Scintrex® CS-2 cesium
GPS receiver: Leica® MX2012
Sample interval: 1 reading per second

SURVEY SPECIFICATIONS
Survey date: April 24 to May 12, 2004
Nominal aircraft terrain clearance: 70 m
Traverse line spacing: 50 and 100 m
Control line spacing: 200 m
Traverse line direction: North-South and East-West
Control line direction: East-West

CO-ORDINATE SYSTEM
Projection: Universal Transverse Mercator
Datum: NAD83
Central meridian: 93°00'W (UTM zone 17)
Central scale factor: 0.9996
False easting: 500 000 m
False northing: 0 m

Fiset, N. 2004. Report on a helicopter-borne magnetic and electromagnetic survey, featuring the Aeroquest AeroTEM™ system, Montrose Property, Montrose Township, Matachewan area, Ontario; unpublished report for Mustang Minerals Corp., assessment file AFRO# 2.2867, AFRI# 41P14NE2014, 42p.

Fiset, N. 2004. Report on a helicopter-borne magnetic and electromagnetic survey, featuring the Aeroquest AeroTEM™ system, Powell Property, Powell Township, Matachewan area, Ontario; unpublished report for Mustang Minerals Corp., assessment file AFRO# 2.2869, AFRI# 41P14NE2014, 52p.

Fiset, N. 2004. Report on a helicopter-borne magnetic and electromagnetic survey, featuring the Aeroquest AeroTEM™ system, Serpentine Property, Serpentine and Sothman townships, Matachewan area, Ontario; unpublished report for Mustang Minerals Corp., assessment file AFRO# 2.2863, AFRI# 41P14NE2014, 52p.

Fiset, N. 2004. Report on a helicopter-borne magnetic and electromagnetic survey, featuring the Aeroquest AeroTEM™ system, Montrose Property, Montrose Township, Matachewan area, Ontario; unpublished report for Mustang Minerals Corp., assessment file AFRO# 2.2867, AFRI# 41P14NE2014, 42p.

Fiset, N. 2004. Report on a helicopter-borne magnetic and electromagnetic survey, featuring the Aeroquest AeroTEM™ system, Montrose Property, Montrose Township, Matachewan area, Ontario; unpublished report for Mustang Minerals Corp., assessment file AFRO# 2.2867, AFRI# 41P14NE2014, 42p.

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Ontario Geological Survey

MAP 60 437

AIRBORNE MAGNETIC AND ELECTROMAGNETIC SURVEYS

Colour-filled contours of the EM decay constant and electromagnetic anomalies

MATACHEWAN-TIMMINS AREA

Purchased Data

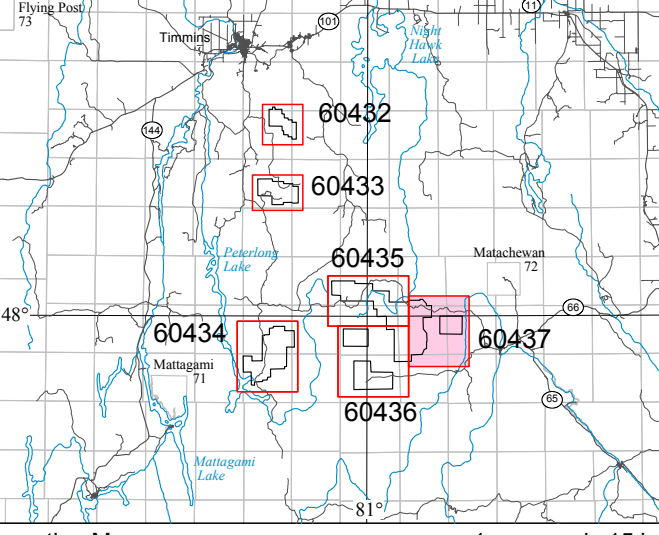
Scale 1:20 000

500 m 0 0.5 1 km

NTS References: 41 P15; 42 A2

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Location Map

1 cm equals 15 km

SOURCES OF INFORMATION

Base map information derived from the Land Information Ontario Data Warehouse, Land Information Ontario, Ministry of Natural Resources and Forestry, scale 1:50 000.

Magnetic declination for the centre of the map area was approximately 10°45'W in 2015.

Fiset, N. 2004. Report on a helicopter-borne magnetic and electromagnetic survey, featuring the Aeroquest AeroTEM™ system, Redstone Property, Adams Township, Timmins area, Ontario; unpublished report for Mustang Minerals Corp., assessment file AFRO# 2.2867, AFRI# 41P14NE2014, 42p.

Fiset, N. 2004. Report on a helicopter-borne magnetic and electromagnetic survey, featuring the Aeroquest AeroTEM™ system, McArthur Property, McArthur Township, Timmins area, Ontario; unpublished report for Mustang Minerals Corp., assessment file AFRO# 2.2867, AFRI# 41P14NE2014, 42p.

Fiset, N. 2004. Report on a helicopter-borne magnetic and electromagnetic survey, featuring the Aeroquest AeroTEM™ system, Montrose Property, Montrose Township, Matachewan area, Ontario; unpublished report for Mustang Minerals Corp., assessment file AFRO# 2.2867, AFRI# 41P14NE2014, 42p.

Fiset, N. 2004. Report on a helicopter-borne magnetic and electromagnetic survey, featuring the Aeroquest AeroTEM™ system, Montrose Property, Montrose Township, Matachewan area, Ontario; unpublished report for Mustang Minerals Corp., assessment file AFRO# 2.2867, AFRI# 41P14NE2014, 42p.

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