ASSESSMENT REPORT ON THE
Airborne Geophysical Surveys
BX 1-71, WBX 2-38, GEM 29-39 Claims
Red Mountain Area, Yukon

DAWSON Mining District, Yukon
Work completed on June 1-15, 2006

Claims:	BX 1-8	(YB41142- YB41149)
	BX 13-68	(YB42139- YB42194)
	BX 69-71	(YC20900- YC20908)
	WBX 2-20	(YB48171- YB48189)
	WBX 21-26	(YB48262- YB48267)
	WBX 29-38	(YB48268- YB48277)
	GEM 29-38	(YC48268- YC48277)
	GEM 39	(YC34616)

Location:
1. 380 km NE of Whitehorse, Yukon
2. NTS Map Area 115 P/15
3. Latitude: 63^{o} 58'N
   Longitude: 136^{o} 45'W

For:
Regent Ventures Ltd
Penthouse 8, 1060 Alberni Street
Vancouver, B.C.,
V6E 4K2

By:
R. Allan Doherty, BSc., P.Geo.
Aurum Geological Consultants Inc.
106A Granite Road
Whitehorse, Yukon
Y1A 2V9

June 29, 2007

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1. SUMMARY

A Certificate of Work was filed for work completed on BX, WBX and GEM claims on December 12, 2006. Work costs were incurred from an airborne geophysical survey flown by Geotech Ltd between June 1-15th, 2006. The Survey covered all claims in the Regent Ventures Ltd Red Mountain area as well as the ICE and JC claims held by Acero-Martin Explorations Inc.

The claims are accessible from Mayo (55 km southeast) or Dawson City (135 km west). The property is accessible on a seasonal rough four-wheel drive road that leaves the North Klondike Highway at kilometre 612, crosses Barlow Dome, through the Left Clear Creek drainage, over Josephine pass and along the Big Creek and Hobo Creek drainages to the Regent Ventures Camp on the upper reaches of Hobo Creek on the north side of Red Mountain. The property is a target for Tintina Gold Belt Intrusion related gold deposits. These include both low-grade disseminated gold hosted within the quartz monzonite intrusions and high-grade vein gold-sulphide mineralization.

The claims lie within the Selwyn Basin, part of the Ominica Belt. The Selwyn Basin consists of a prism of sedimentary rocks of Precambrian to Jurassic age deposited along the western margin of ancient North America. A suite of Cretaceous granitoids intrudes the Selwyn Basin as batholiths, plutons, stocks, and plugs. One such stock, and associated sill and dike intrusive, is found to the BX, WBX and Gem claims intruding metasedimentary rocks (slate, phyllite, quartzite) of the Cambrian Gull Lake Formation.

The property covers a regional positive magnetic anomaly (300+ gammas). This anomaly most likely reflects magnetic minerals in a hornfelsed zone surrounding buried portions of the granitic stock exposed elsewhere on the property. The Red Mountain magnetic anomaly is one of the largest on any Tombstone Suite Intrusive gold exploration target or deposit.

The airborne survey was flown by helicopter out of Mayo, Yukon.

2. INTRODUCTION AND TERMS OF REFERENCE

This report was prepared to fulfil the reporting requirements under the Yukon Quartz Mining Act. The author also supervised exploration work conducted previously in 1992, 1993, 1994, 1995, and 2001-2005. The Red Mountain Area 115P-15 was covered by regional 1:50,000 scale mapping completed in 1993 by the Canada/Yukon Geoscience Office (Murphy and Heon, 1994). Previous work is summarized in assessment reports by: Doherty and vanRanden (1993, 1994, and 1995), Doherty and Hulstein (1992), Kidlark (1980), Potter (1988) a summary geological report by Crysi Exploration (1992), and published government reports and maps.

Exploration work, carried out in 2006 on the Regent Ventures Ltd claims consisted of airborne magnetics and VTEM surveys completed by Geotech of Aurora

Ontario. Later in the season, a short five-hole drill program was completed on the Regent saddle.

3. PROPERTY DESCRIPTION AND LOCATION

The BX, WBX and GEM claims are located 135 km east of Dawson City, Yukon (Figure 1, 2). The claims, covering an area of approximately 585 hectares, are centred at approximately 63° 58' N latitude and 136° 45' W longitude within NTS map area 115 P/15.

The Claim data as of May 29, 2007 is shown in Table I below.

TABLE 1 ACERO-MARTIN EXPLORATION INC. – Regent Option Claim Data

CLAIM NAME	GRANT NUMBERS	No. CLAIMS	MINING DISTRICT	EXPIRY DATE* (yr/mo/day)
BX 1-8	YB41142- YB41149	8	DAWSON	2016-11-30
BX 13-68	YB42139- YB42194	56	DAWSON	2014-11-30
BX 69-71	YC20900- YC20908	3	DAWSON	2014-11-30
WBX 2-20	YB48171- YB48189	19	DAWSON	2012-11-30
WBX 21-26	YB48262- YB48267	6	DAWSON	2012-11-30
WBX 29-38	YB48268- YB48277	10	DAWSON	2012-11-30
GEM 29-38	YC48268- C48277	19	DAWSON	2010-09-30
GEM 39	YC34616	1	DAWSON	2010-09-30

- **The expiry dates are subject to approval of this assessment report.**

In accordance with the Yukon Quartz Mining Act, yearly extensions to the expiry dates of quartz claims are dependent upon conducting $100 of work per claim or paying the equivalent cash in lieu of work. Work must be filed in the year the work was completed. Excess work can be used to extend expiry dates up to maximum of four years. Filing a statement of work and costs and submission of an assessment report to the Mayo Mining Recorder verifying completion of the work, are also required no later than six months after the anniversary date of the claim.

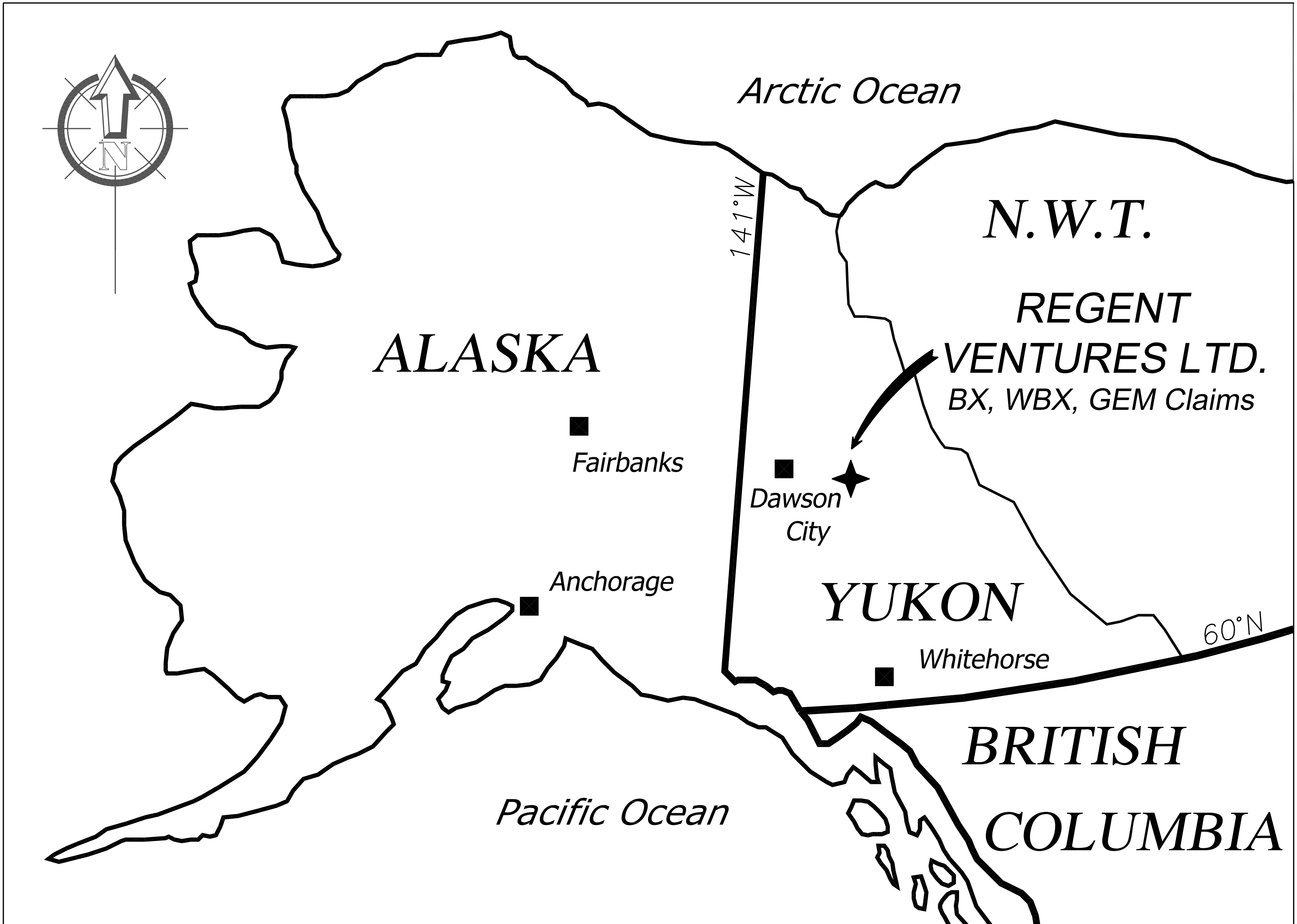


Figure 1. Location Map

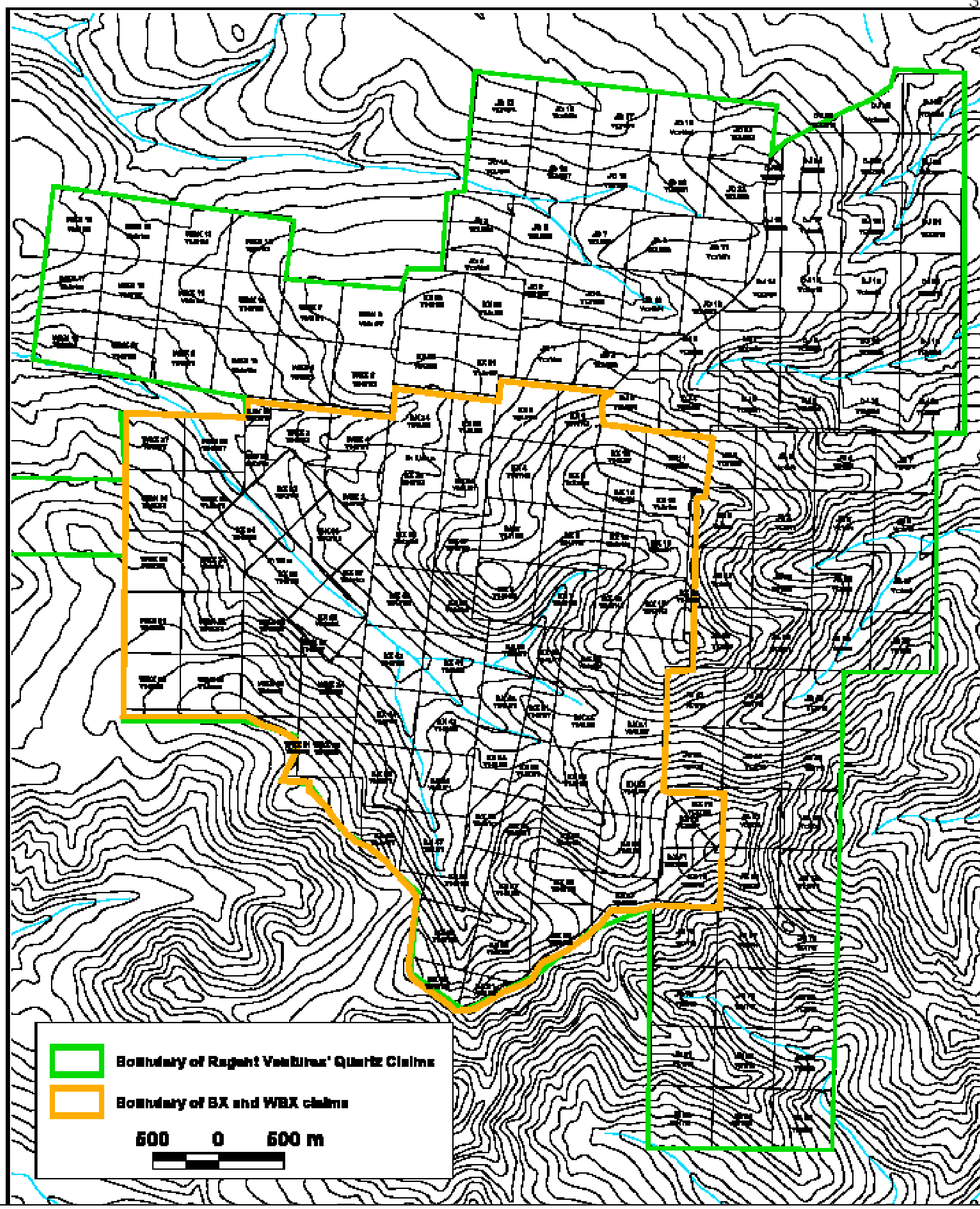


Figure 2: Claim Location Map

4. ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

Access to the property is by helicopter, based in Mayo 55 km to the southeast. Alternatively, helicopters are available in Dawson City. The Clear Creek Road, coming in from the Klondike highway (#2), provides four-wheel drive road access to the area through the adjoining Regent Ventures Ltd claims over Hobo Creek. The Clear Creek Road is not maintained and is usable only during the summer months. During the 2002 field season a new section of roads was constructed to shorten the route and reduce stream crossings.

The BX, WBX and GEM claims are situated in the partly unglaciated Stewart Plateau. Although Pleistocene glaciation scoured the major drainages in the area such as Sprague Creek, most of the property, higher elevations in particular, escaped the effects of glaciation. Topography is moderate to rugged and is characterized by rounded hills, ridges and a dendritic drainage system.

An interior continental climate with precipitation of about 31 cm annually, warm summers and cold winters typifies the area. Permafrost is common, especially on the steeper north and east facing slopes and lower forested areas. Most of the property is above treeline. Below 1200 m (4000') elevation ground cover consists of alpine fur, sparse spruce forest, alder, dwarf willow and birch. The area above treeline is mostly lichen-covered rock with sparse moss and alpine plant cover.

The Town of Mayo (Population 418) is the closest centre for obtaining groceries, fuel, accommodation and some limited rental and contracted exploration services. Trans North Helicopters maintains a summer helicopter base at Mayo airport and there is normally a single engine Otter on floats working out of Mayo. Mayo is also the location of the Mayo District Mining Recorders office, and Mining Land Use Inspections and Land Use and Resource Management Officer. The property is within the Nacho Nyak Dun First Nation traditional territory. There is a 4 Kilowatt Power station just north of Mayo and a transmission line is under construction between Mayo and Dawson.

The exploration season in this part of the Yukon normally extends from late May to late September but cool rainy conditions and snowstorms are not uncommon in late August and September. The months of June through September are normally snow free.

5. HISTORY

The BX claims 1-68 (YB41142), were staked in June 1993 by Brian Lueck and Robert Wondga, based on a gold regional stream silt anomaly in Hobo Creek and because of proximity to known mineralization on adjoining claims to the south. They subsequently optioned the claims to Regent Ventures Ltd. Regent Ventures carried out a soil-sampling program in 1993. In 1994 the company staked BB claims 1-102 (YB42376), WBX claims 1-38 (YB48171), Rev claims 1-86 (YB43179), and JJ claims 1-60, and carried out trenching, geological mapping, and diamond drilling (6 diamond drill holes, or 534 m).

In 1995 Regent Ventures built a winter access road along Ballard Creek, and drilled 9 reverse circulation holes (1233 m) during the spring. In the summer or 1995, the company carried out soil geochemical survey, magnetometer and VLF-EM surveys, silt sampling in the Rev and DLO claims, and drilled 12 diamond drill holes (1,625 m). In 2001, Regent Ventures drilled 5 diamond drill holes (1,281m) in the Saddle Zone (BX claims).

6. GEOLOGICAL SETTING

6.1 Regional Geology

The claims are situated within the Selwyn Basin, part of the Ominica Belt (Wheeler, et al., 1991), Figure 4. The geology of the McQuesten map area has been mapped by H.S. Bostock (1964), at a scale of 1:253,440. More recently the area has been mapped at 1:50,000 scale by the Yukon Geological Survey formerly the Yukon/Canada Geoscience Office (Murphy et al. 1993; Murphy and Heon, 1994).

The Selwyn Basin as described by Abbott, 1986 is used here to define the part of the cordilleran miogeocline comprised of Precambrian to Jurassic sedimentary rocks, deposited along the western margin of ancient North America. The eastern margin of the basin is marked by the Paleozoic shale - carbonate contact while the western margin is defined by the Teslin fault or suture. The sedimentary basin was active from the late Proterozoic to Middle Jurassic time (Abbott, 1986). All of the large stratabound, sediment hosted lead - zinc deposits in the northern Canadian Cordillera are found within the Selwyn Basin.

Two suites of granitoid intrusives, ranging from Paleozoic to Cenozoic age, related to underplating and or subduction, are found on both sides of the Tintina fault. Granite emplacement peaked during the Early - Middle Cretaceous (Tempelman-Kluit, 1981). The Western Suite granitoid intrusives found west and southwest of the Selwyn Basin are predominantly granodiorite in composition and are associated with porphyry copper - molybdenum and copper skarn deposits. The Eastern or Selwyn Plutonic Suite of granitoid intrusives are distributed along a northwest trending arcuate belt within the

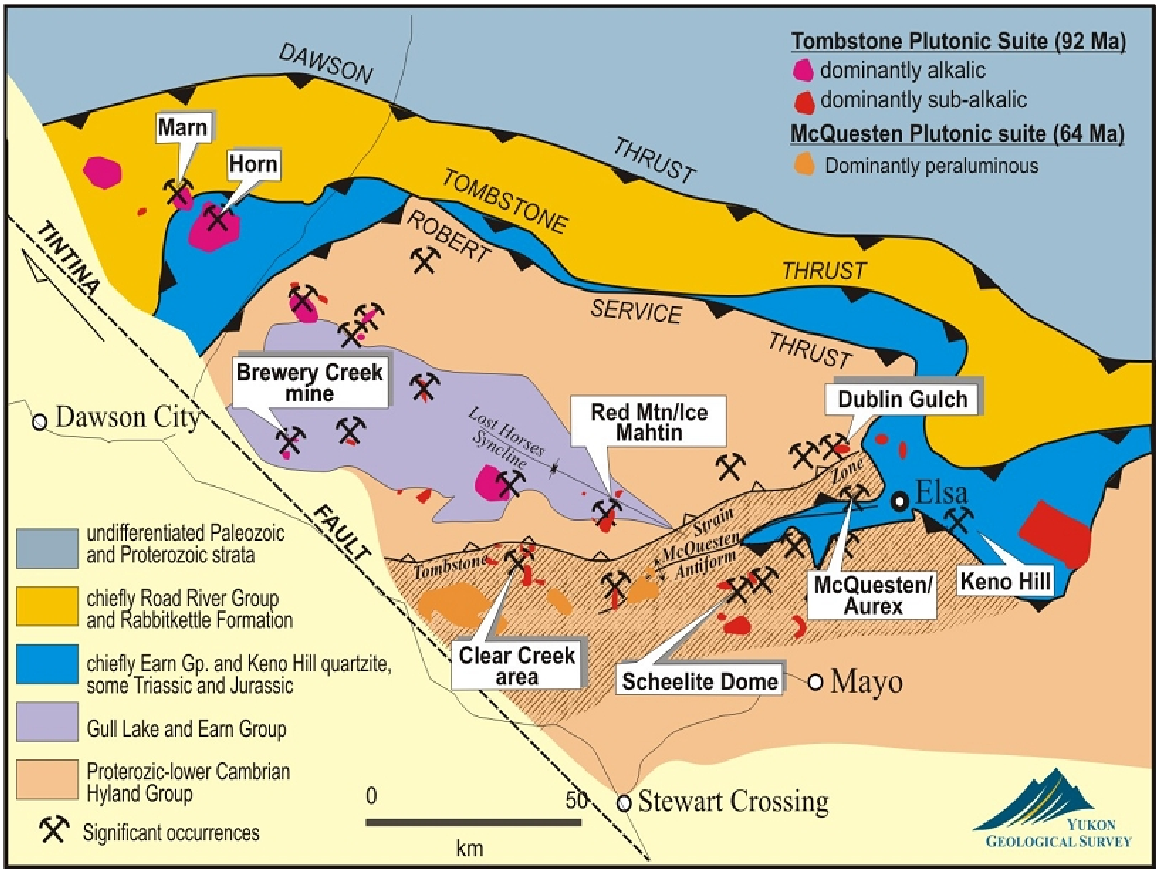


Figure 3. Regional Geology

Selwyn Basin. The granitoids are mainly granitic in composition and are associated with tin, tungsten, and molybdenum mineralization. The Dublin Gulch gold deposit is hosted by a quartz monzonite pluton of the Selwyn Plutonic Suite (Tempelman-Kluit, 1981).

Recent age dating by J. Mortensen at the University of British Columbia, places two nearby Cretaceous granitoid stocks similar in composition to the one underlying the ICE & JC Claims, at 91 and 93 Ma which is within the age range of the Tombstone Plutonic Suite (Murphy and Heon, 1994). The stock, and dikes of similar composition, intrude Cambrian or older metasedimentary rocks.

The Tintina fault generally follows the Mesozoic suture, which separates ancestral North America from the composite accreted terrane, the Yukon - Tanana Terrane. At least 450 km of dextral strike slip movement has taken place along the Tintina fault since latest Cretaceous or Early Tertiary time (Tempelman-Kluit, 1979). This has caused western parts of the Selwyn Basin to be offset and juxtaposed against itself along the Tintina fault.

6.2 Property Geology

The most common sedimentary lithologies on the property are Middle and Lower Cambrian Gull Lake Formation quartzite and phyllite. These rocks have been subdivided into quartzite with minor interbeds of varicoloured phyllite. At the eastern end of the property these rocks are in fault contact with a sequence of green phyllite and mafic volcanic rocks. The phyllite and quartzite units locally contain up to 3% disseminated pyrite.

A series of Cretaceous biotite quartz-monzonite dykes are exposed in the central portion of the claims, specifically within the BX 5-8 claims.

7. MINERALIZATION

Known mineralization is spatially and temporally related to the granitic stock. Arsenopyrite-pyrite-pyrrhotite-quartz veins and fractures are found within the quartz monzonite stock and in locally developed hornfelsed zones. Brecciated and tourmalinized zones are found in the quartz monzonite. Pyrite is disseminated locally within the stock and is ubiquitous in the surrounding hornfels.

As is typical of the Tombstone Plutonic Suite, hornfels is moderately well developed adjacent to the granitic intrusion. The hornfels commonly contains disseminated and blebby pyrite and pyrrhotite, local quartz - sulfide veins and quartz vein stockworks.

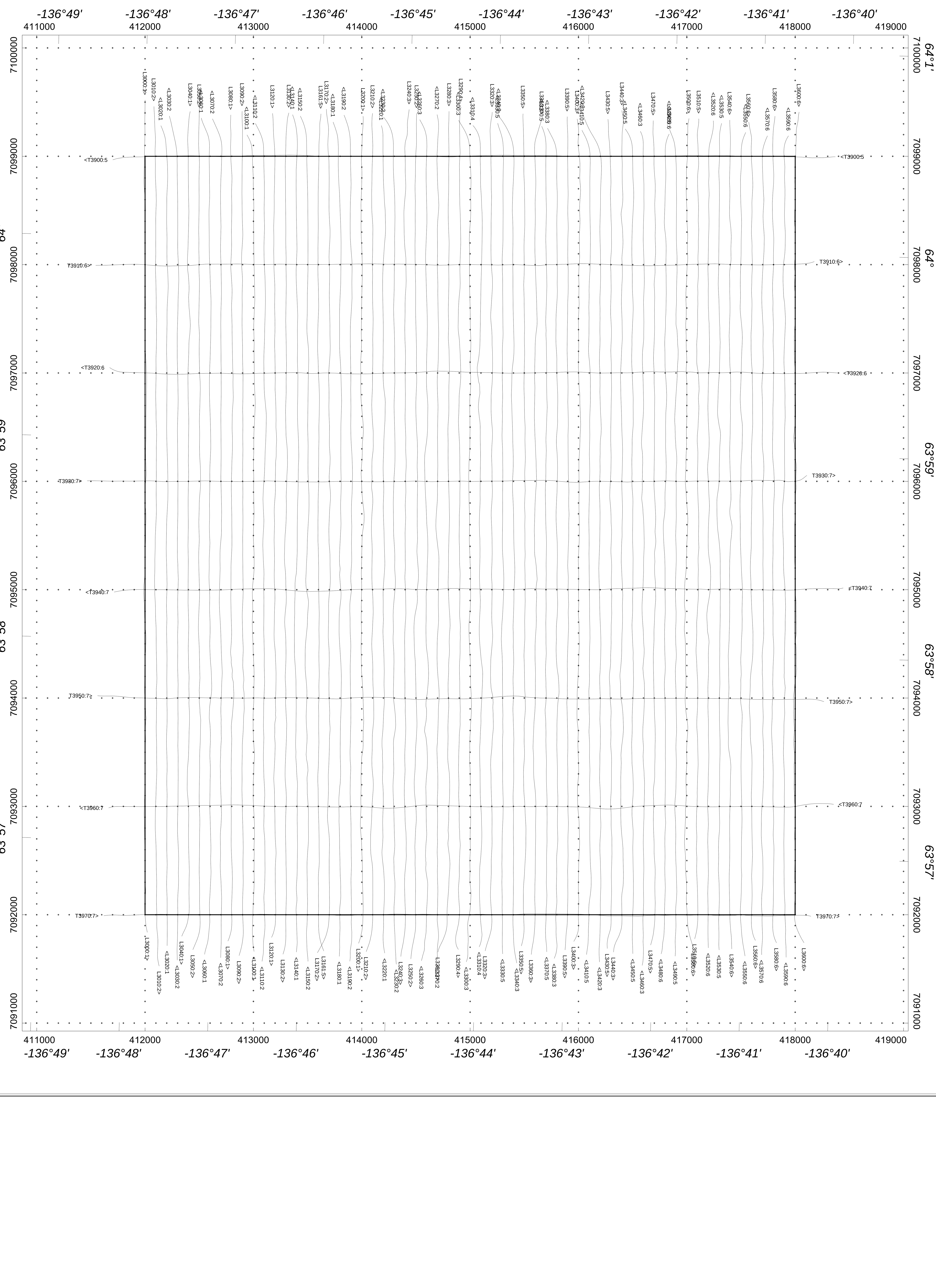
8. Airborne Geophysical Survey

An airborne geophysical survey of the entire Regent claim block as well as the adjoining ICE and JC claims owned by Acero-Martin Explorations Inc was flown by Geotech of Aurora Ontario between June 1-15th. The helicopter-mounted loop was flown from Mayo daily using a Trans North Helicopters Astar helicopter.

Geophysical equipment specifications and survey methodology are detailed in the final report received from Geotech Ltd. The Magnetic Data and VTEM data are shown in Figures 3 and 4.

The Regent Saddle overlies a domain of magnetic relief of approximately 190 nT. This is a much less prominent magnetic high than the one underlying the ICE claims to the south. The white area on the map is the ICE claim block and this data set was excluded from the plot.

The VTEM data has not been interpreted at the time this report was prepared.

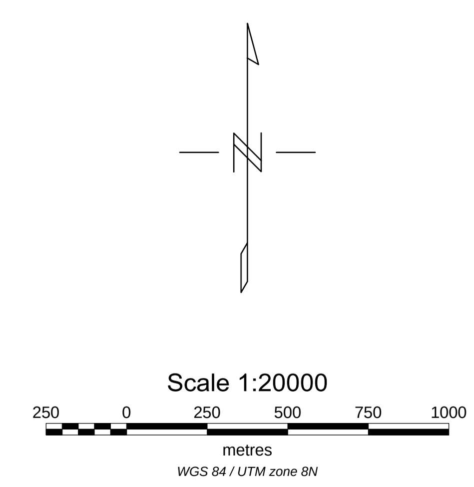


Survey Specifications:

Aircraft: Astar B2 helicopter, Registration C-GTNU
Flight Line Spacing: 100 metres
Nominal terrain clearance 85 metres
EM Loop is 42 metres under helicopter
Magnetic sensor is 42 metres under helicopter

Instruments:

Geotech Time Domain Electromagnetic System (VTEM)
with concentric Rx/Tx geometry
Transmitter Loop Diameter 26 m, Base Frequency 30 Hz
Dipole Moment 370,000 NIA
Transmitter Wave Form: Trapezoid, Pulse Width 7.5 ms
Geometrics Optically-pumped,
High Sensitivity Cesium Magnetometer
Mag Resolution 0.02 nT at 10 samples/sec



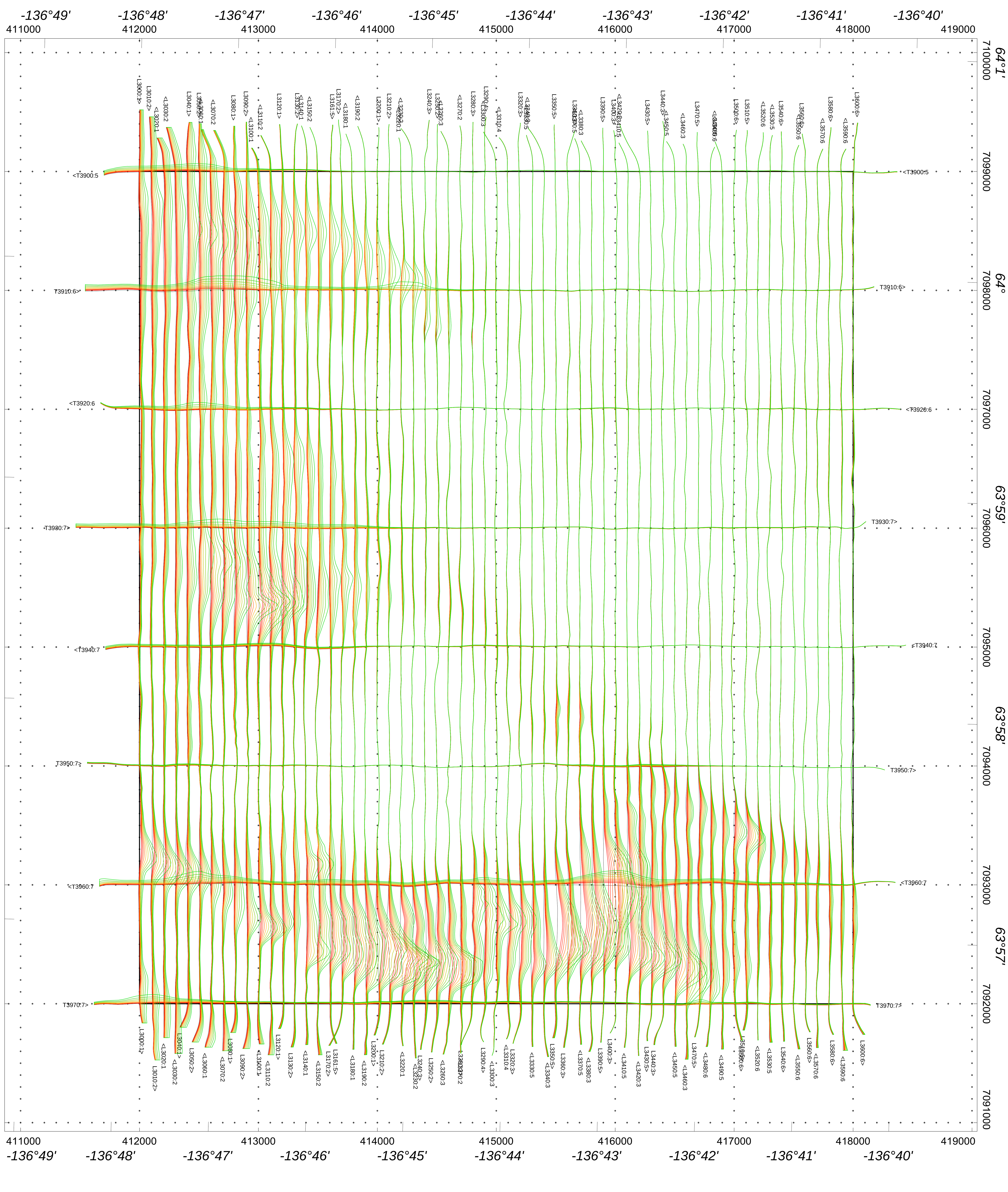
Aurum Geological Consultants Inc.
NOR Block
Yukon, Canada

Geotech VTEM System
VTEM Profiles
Flight Path

Flown and processed by Geotech Ltd.
30 Industrial Parkway S.,
Aurora, Ontario, Canada L4G 3W2
www.geotechairborne.com

July 2006

Project 672



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Mag Resolution 0.02 nT at 10 samples/sec

0.81 ms, 1mm = 0.08 pV/A/m^4
0.96 ms, 1mm = 0.08 pV/A/m^4
1.13 ms, 1mm = 0.08 pV/A/m^4
1.34 ms, 1mm = 0.08 pV/A/m^4
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2.24 ms, 1mm = 0.08 pV/A/m^4
2.66 ms, 1mm = 0.08 pV/A/m^4
3.18 ms, 1mm = 0.08 pV/A/m^4

Aurum Geological Consultants Inc.
NOR Block
Yukon, Canada

Geotech VTEM System
VTEM Profiles
Time Gates 0.81 - 3.18 ms

Flown and processed by Geotech Ltd.
30 Industrial Parkway S.,
Aurora, Ontario, Canada L4G 3W2
www.geotechairborne.com

July 2006

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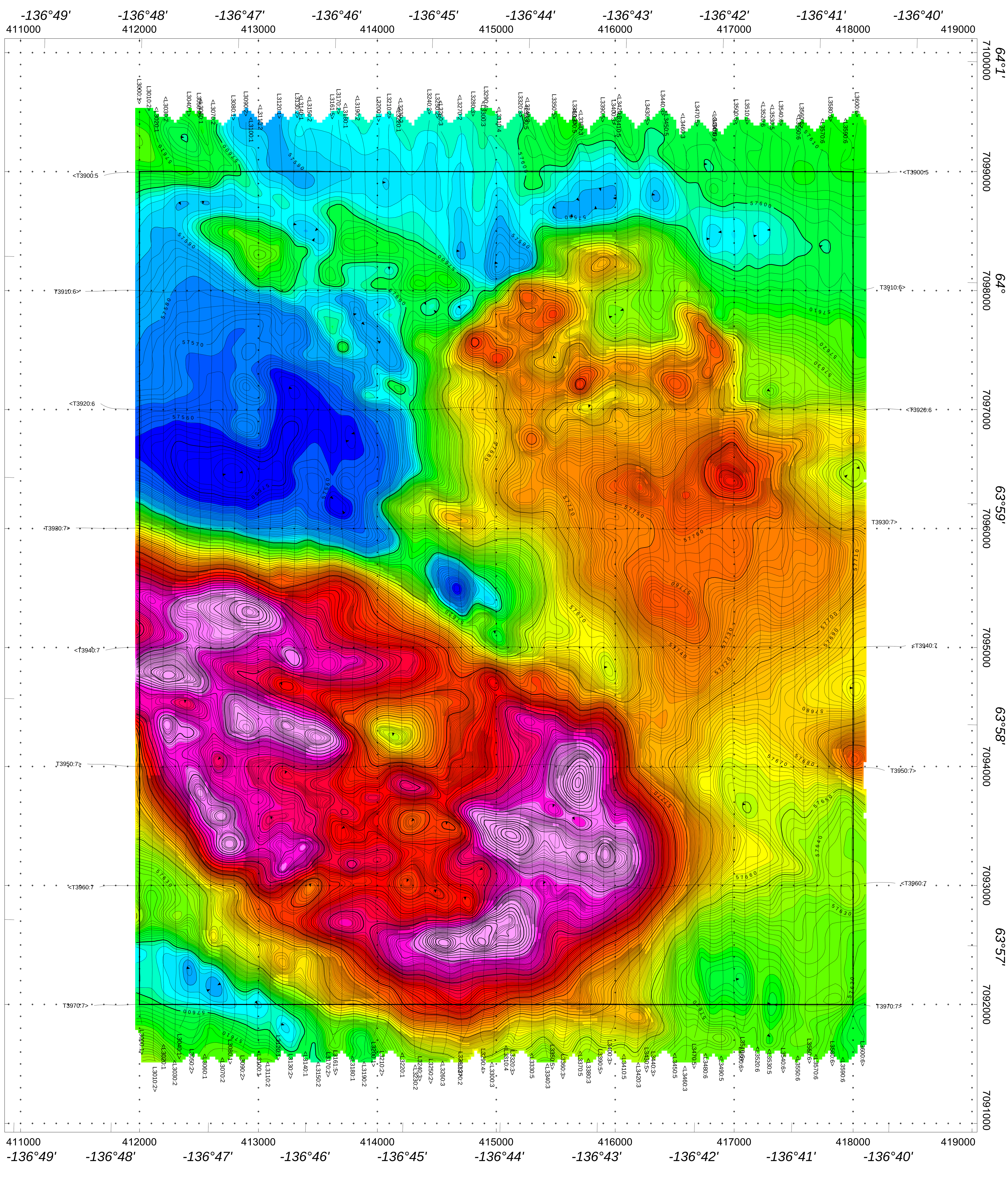
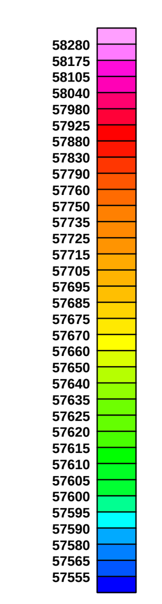
Transmitter Wave Form: Trapezoid, Pulse Width 7.5 ms
Geometrics Optically-pumped,
High Sensitivity Cesium Magnetometer
Mag Resolution 0.02 nT at 10 samples/sec

PRELIMINARY





Scale 1:20000

250 0 250 500 750 1000

metres

WGS 84 / UTM zone 8N

Aurum Geological Consultants Inc.
NOR Block
Yukon, Canada

Geotech VTEM System
Total Field Magnetics

Flown and processed by Geotech Ltd.
30 Industrial Parkway S.,
Aurora, Ontario, Canada L4G 3W2
www.geotechairborne.com

July 2006

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9. INTERPRETATION AND CONCLUSIONS

The airborne magnetic survey clearly defines the areas underlain by Tombstone suite intrusions. The anomalies associated with the Regent saddle are of a lower magnitude than those underlying the ICE claims to the south.

Respectfully submitted,

R. Allan Doherty, P.Geo.
May 29, 2007

11. REFERENCES

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12. CERTIFICATE OF QUALIFICATIONS

I, R. Allan Doherty, hereby certify that:

1. I am a consulting mineral exploration geologist with AURUM GEOLOGICAL CONSULTANTS INC., 106A Granite Road, Whitehorse, Yukon, Y1A 2V9.

2. I am a graduate of the University of New Brunswick, with a degree in geology (Hons. B.Sc., 1977). I attended graduate school at Memorial University of Newfoundland, 1978-80. I have been involved in geological mapping and mineral exploration primarily in the Yukon continuously since 1980.

3. I am a "Qualified Person" as defined in Sec 1.2 of National Instrument 43-101.

4. I am a member in good standing of the Association of Professional Engineers and Geoscientists of the Province of British Columbia, Registration No. 20564, and have been registered as a Professional Geologist since 1993.

5. I am author of this assessment report on the BX, WBX and GEM Claims. The report is based on a literature review and on private company reports and on an airborne magnetic and VTEM survey conducted between June 1-15th, 2006.

6. I am the author of all sections of this report. Except for the Geotech Report contained in Appendix A.

7. I am not aware of any material fact or material change with respect to the subject matter of this technical report, which is not reflected in the technical report; the omission to disclose makes the technical report misleading.

8. I am independent of the Issuer and have no direct or indirect interest in the properties or securities of Regent Ventures Ltd.., or affiliated companies, nor do I expect to receive any.

9. I have had direct involvement with the exploration programs conducted on the area discussed in this report both for prior property owners and for Acero-Martin Exploration Inc. I am familiar with the Tombstone gold deposit model and have experience writing Qualifying Reports and conducting evaluations of mineral properties.

R. Allan Doherty, P. Geo.

May 29, 2007

13. STATEMENT OF COSTS

A Certificate of Work was filed on December 8, 2002 requesting 317 renewal years on the BX, WBX and GEM Claims located in the Dawson Mining District. The required value of work is $31,700.00. Geotech Ltd of Aurora Ontario mobilized and flew an airborne magnetometer and VTEM survey at 100 m line spacing over the entire property. Crew mobilized to the Property on June 10 and demobilized on June 15th, 2006. Work consisted of mobilization and demobilization of helicopter and geophysical bird from Mayo daily. Costs have been prorated per claim.

Airborne Magnetometer and VTEM Survey

Geoteck Invoices

990739	$41.716.63
990744	$33,373.20
990847	$ 9,473.75
Total	**$84,563.68**

Regent Ventures Share @ 57%	$ 48,201.30
Acero-Martin Share @ 43%	$ 36,362.38

Survey was flown over 155 claims in the Dawson and Mayo Mining Districts

Cost per claim is $48,201/155 = $311.00 per claim

Dawson Mining District: BX, WBX and GEM Claims

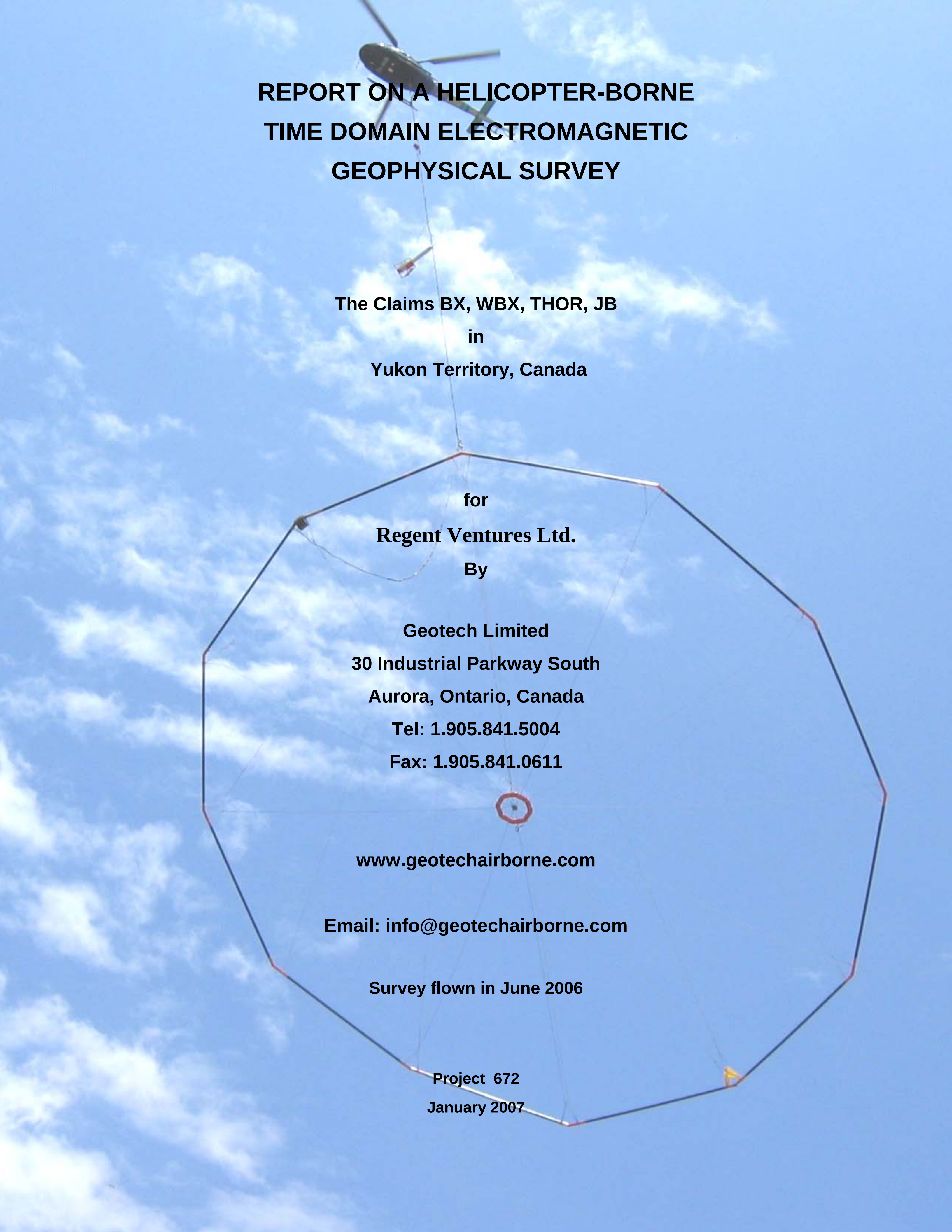
113 claims @ $310/claim	$ 35,030.00
Total Value for Assessment	**$ 35,030.00**

R. Allan Doherty, P. Geo

May 29, 2007

APPENDIX A

GEOTECH FINAL REPORT



REPORT ON A HELICOPTER-BORNE TIME DOMAIN ELECTROMAGNETIC GEOPHYSICAL SURVEY

The Claims BX, WBX, THOR, JB

in

Yukon Territory, Canada

for

Regent Ventures Ltd.

By

Geotech Limited

30 Industrial Parkway South

Aurora, Ontario, Canada

Tel: 1.905.841.5004

Fax: 1.905.841.0611

www.geotechairborne.com

Email: info@geotechairborne.com

Survey flown in June 2006

Project 672

January 2007

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APPENDICES

REPORT ON A HELICOPTER-BORNE
TIME DOMAIN ELECTROMAGNETIC SURVEY

Of the Claims BX, WBX, THOR, BJ, Yukon Territory, Canada

Executive Summary

During the period of June 18th to June 20th, 2006, Geotech Limited carried out a helicopter-borne geophysical survey for Regent Ventures Ltd. over one block located in Yukon Territory, Canada, approximately 50 km. north of Mayo, YT. The block covered several claims: BX, WBX, THOR and JB.

Principal geophysical sensors included a versatile time domain electromagnetic system (VTEM) and a cesium magnetometer. Ancillary equipment included a GPS navigation system and a radar altimeter. A total of 355.02 line-km were flown.

In-field data processing involved quality control and compilation of data collected during the acquisition stage, using the in-field processing centre established at survey base. Preliminary and final data processing, including generation of final digital data products were done at the office of Geotech Ltd. in Aurora, Ontario.

The processed survey results are presented as total magnetic field grid and electromagnetic stacked profiles.

Digital data includes all electromagnetic and magnetic products plus positional, altitude and raw data.

1. INTRODUCTION

1.1 General Considerations

These services are the result of the Agreement made between Geotech Ltd. and Aurum Geological Consultants Inc., to perform a helicopter-borne geophysical survey over one block, located in Yukon Territory, Canada. The block covered several claims: BX, WBX, THOR, JB.

355.02.0 line-km of geophysical data was acquired during the survey.

The survey block is as shown in Appendix A.

The crew was based in Mayo, Yukon Territory for the acquisition phase of the survey.

The helicopter was obtained fom the TransNorth Helicopters for the duration of the survey. Multiple fuel caches were arranged.
Survey flying was completed on June 20th, 2006. Preliminary data processing was carried out daily during the acquisition phase of the project. Final data presentation and data archiving was completed in the Aurora office of Geotech Ltd. in December 2006.

1.2. Survey and System Specifications

The survey block was flown at nominal traverse line spacing of 100 metres.
Tie lines were flown perpendicular to traverse lines at line spacing of 1000 meters, as shown in the Section 2 of this report.

Where possible, the helicopter maintained a mean terrain clearance of 80 metres, which translated into an average height of 45 metres above ground for the bird-mounted VTEM system and 45 metres for the magnetic sensor.

The survey was flown using an Astar B2 helicopter, registration C-GTNU, operated by TransNorth Helicopters Limited. Details of the survey specifications may be found in Section 2 of this report.

1.3. Data Processing and Final Products

Data compilation and processing were carried out by the application of Geosoft OASIS Montaj and programs proprietary to Geotech Ltd.

Database, grid and maps of final products were presented to Regent Ventures Ltd.

The survey report describes the procedures for data acquisition, processing, final image presentation and the specifications for the digital data set.

1.4. Topographic Relief

The survey block location is shown in the location map (Appendix A).

The block is located approximately 60 km. NW of Mayo and 60 km. NE of Mcquesten. This is also 130 km. E of Dawson City.

Topographically, the block exhibited mountainous relief, with a range of elevations from approximately 920 to 1760 meters ASL. The area covers roughly one-third of a very large hill. There is a deep valley immediately to the south which drops sharply 500 metres.

2. DATA ACQUISITION

2.1. *Survey Area*

The survey block (see location maps, Appendix A) and general flight specifications are as follows:

Survey areas	Line /Tie spacing (m)	Area km.[2]	Line / Tie direction	Line number	Line Km.
BX, WBX, THOR, JB	100	31.9	N0E	3000 - 3600	355.0
	1000		N90E	3900 - 3970	

Table 1 - Survey block

Survey block boundaries are as shown in Appendix B.

2.2. *Survey Operations*

Date	Flights	Line Km.	Block	Crew location
18-Jun	1	53.3	BX, WBX, THOR, JB	Mayo
19-Jun	2,3,4	135.2	BX, WBX, THOR, JB	Mayo
20-Jun	5,6,7	166.5	BX, WBX, THOR, JB	Mayo

Table 2 - Survey schedule

2.3. Flight Specifications

The nominal EM sensor terrain clearance was 45 m (EM bird height above ground, i.e. helicopter is maintained 80 m above ground). Nominal survey speed was 80 km/hour. The data recording rates of the data acquisition was 0.1 second for electromagnetics and magnetometer, 0.2 second for altimeter and GPS. This translates to a geophysical reading about every 2 metres along flight track. Navigation was assisted by a GPS receiver and data acquisition system, which reports GPS co-ordinates as latitude/longitude and directs the pilot over a pre-programmed survey grid.

The operator was responsible for monitoring of the system integrity. He also maintained a detailed flight log during the survey, tracking the times of the flight as well as any unusual geophysical or topographic feature.

On return of the aircrew to the base camp the survey data was transferred from a compact flash card (PCMCIA) to the data processing computer.

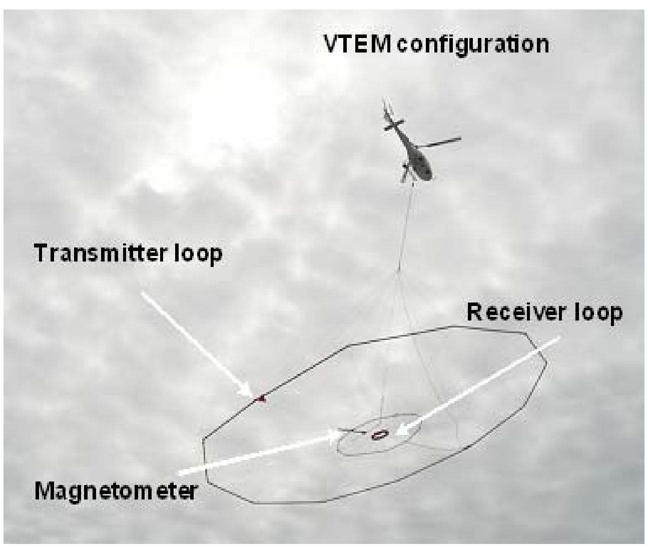
2.4. *Aircraft and Equipment*

2.4.1. Survey Aircraft

An Astar B2 helicopter, registration C-GTNU - owned and operated by Trans North Helicopters Ltd. was used for the survey. Installation of the geophysical and ancillary equipment was carried out by Geotech Ltd.

2.4.2. Electromagnetic System

The electromagnetic system was a Geotech Versatile Time Domain EM (VTEM) system. The layout of the configuration used for this survey is as indicated in Figure 1 below.



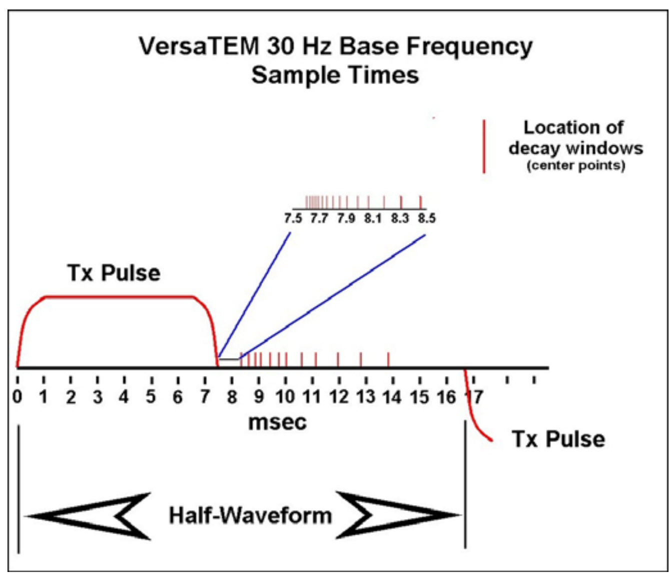


Figure 1 - VTEM Configuration

Figure 2 - VTEM sample times

Receiver and transmitter coils are concentric and Z-direction oriented.

The receiver decay recording scheme is shown diagrammatically in Figure 2.

Twenty-six measurement gates were used in the range from 130 μs to 7540 μs, as shown in the following table.

VTEM Decay Sampling scheme (Microseconds)			
Time gate	**Start**	**End**	**Width**
130	120	140	20
150	140	160	20
170	160	180	20
190	180	205	25
220	205	240	35
260	240	280	40
300	280	325	45
350	325	380	55
410	380	445	65
480	445	525	80
570	525	625	100
680	625	745	120
810	745	885	140
960	885	1045	160
1130	1045	1235	190
1340	1235	1470	235
1600	1470	1750	280
1900	1750	2070	320
2240	2070	2450	380
2660	2450	2920	470
3180	2920	3480	560
3780	3480	4120	640
4460	4120	4880	760
5300	4880	5820	940
6340	5820	6860	1040
7540	6860	8220	1360

Table 3 - VTEM decay sampling scheme

Transmitter coil diameter was 26 metres, the number of turns was 4.

Transmitter pulse repetition rate was 30 Hz.
Peak current was 167 A.
Duty cycle was 37%.
Peak dipole moment was 355,000 NIA.

Receiver coil diameter was 1.2 metres, the number of turns was 100.
Receiver effective area was 113 m^2
Wave form – trapezoid.
Recording sampling rate was 10 samples per second.

The EM bird was towed 35 m. below the helicopter.

2.4.3. Airborne magnetometer

The magnetic sensor utilized for the survey was a Geometrics optically pumped cesium vapour magnetic field sensor, mounted in a separate bird towed at the same altitude as the EM sensor. The sensitivity of the magnetic sensor is 0.02 nanoTesla (nT) at a sampling interval of 0.1 seconds. The magnetometer sends the measured magnetic field strength as nanoTeslas to the data acquisition system via the RS-232 port.

2.4.4. Ancillary Systems

2.4.4.1. Radar Altimeter

A Terra TRA 3000/TRI 40 radar altimeter was used to record terrain clearance. The antenna was mounted beneath the bubble of the helicopter cockpit.

2.4.4.2. GPS Navigation System

The navigation system used was a Geotech PC based navigation system utilizing a NovAtel's WAAS enable OEM4-G2-3151W GPS receiver, Geotech navigate software, a full screen display with controls in front of the pilot to direct the flight and an NovAtel GPS antenna mounted on the helicopter tail.
The co-ordinates of the block were set-up prior to the survey and the information was fed into the airborne navigation system.

2.4.4.3. Digital Acquisition System

A Geotech data acquisition system recorded the digital survey data on an internal compact flash card. Data is displayed on an LCD screen as traces to allow the operator to monitor the integrity of the system. Contents and update rates were as follows:

DATA TYPE	SAMPLING
TDEM	0.1 sec
Magnetometer	0.1 sec
GPS Position	0.2 sec
Radar Altimeter	0.2 sec

Table 4 - Sampling Rates

2.4.5. Base Station

A combine magnetometer/GPS base station was utilized on this project. A Geometrics Cesium vapour magnetometer was used as a magnetic sensor with a sensitivity of 0.001 nT. The base station was recording the magnetic field together with the GPS time at 1 Hz on a base station computer. The base station magnetometer sensor was installed away from electric transmission lines and moving ferrous objects such as motor vehicles. The magnetometer base station's data was backed-up to the data processing computer at the end of each survey day.

3. PERSONNEL

The following Geotech Ltd. personnel were involved in the project.

Field

Crew chiefs / Operators:	Calin Cosma

The survey pilot and the mechanic engineer were employed directly by the helicopter operator – Gateway Helicopters.

Pilot:	Alan Stannard
Mechanical Engineer:	Margo Hager

Office

Data Processing:	Harish Kumar
Data Processing / Reporting:	George Lev
Data Technician:	Maria Jagodkin

Data acquisition and processing phases were carried out under the supervision of Andrei Bagrianski, Data Processing Manager. Overall management of the project was undertaken by Edward Morrison, President, Geotech Ltd.

4. DATA PROCESSING AND PRESENTATION

4.1. *Flight Path*

The flight path, recorded by the acquisition program as WGS 84 latitude/longitude, was converted into the UTM coordinate system in Oasis Montaj.

The flight path was drawn using linear interpolation between x, y positions from the navigation system. Positions are updated every second and expressed as UTM eastings (x) and UTM northings (y).

4.2. *Electromagnetic Data*

A three stage digital filtering process was used to reject major sferic events and to reduce system noise. Local sferic activity can produce sharp, large amplitude events that cannot be removed by conventional filtering procedures. Smoothing or stacking will reduce their amplitude but leave a broader residual response that can be confused with geological phenomena. To avoid this possibility, a computer algorithm searches out and rejects the major sferic events. The filter used was a 16 point non-linear filter.

The signal to noise ratio was further improved by the application of a low pass linear digital filter. This filter has zero phase shift which prevents any lag or peak displacement from occurring, and it suppresses only variations with a wavelength less than about 1 second or 20 metres. This filter is a symmetrical 1 sec linear filter.

The results are presented as stacked profiles of EM voltages for the gate times, in logarithmic scale.

Generalized modeling results of the VTEM system, written by Geophysicist Roger Barlow, are shown in Appendix C.

The VTEM output voltage of the receiver coil is shown in Appendix D.

4.3. Magnetic Data

The processing of the magnetic data involved the correction for diurnal variations by using the digitally recorded ground base station magnetic values. The base station magnetometer data was edited and merged into the Geosoft GDB database on a daily basis. The aeromagnetic data was corrected for diurnal variations by subtracting the observed magnetic base station deviations.

Tie line levelling was carried out by adjusting intersection points along the traverse lines. A micro-levelling procedure was then applied. This technique is designed to remove persistent low-amplitude components of flight-line noise remaining after tie line levelling.

The corrected magnetic data was interpolated between survey lines using a random point gridding method to yield x-y grid values for a standard grid cell size of approximately 0.2 cm at the mapping scale. The Minimum Curvature algorithm was used to interpolate values onto a rectangular regular spaced grid.

5. DELIVERABLES

5.1. *Survey Report*

The survey report describes the data acquisition, processing, and final presentation of the survey results.

The survey report is provided in two paper copies and digitally in PDF format.

5.2. *Maps*

Final maps were produced at a scale of 1: 10,000. The coordinate/projection system used was the WGS84, UTM zone 8 north. All maps show the flight path trace. Latitude and longitude are also noted on maps.

The following maps are presented to Regent Ventures Ltd. on paper as results of the helicopter-borne geophysical survey carried out over the block.

- Total Magnetic Field contours and colour images
- Logarithmic scale VTEM profiles, Time Gates 0.22 - 6.34 ms

5.3. *Digital Data*

There are three (3) main directories,

Data contains a database, grid and maps, as described below.

Report contains a copy of the report and appendixes in PDF format.

VTEM_fp_GoogleEarth
contains a kmz file containing flightpath of the ICE block.
Free version of Google Earth software can be downloaded from,
http://earth.google.com/download-earth.html

- Database in Geosoft GDB format,

regent.gdb containing the following channels:

X:	X positional data (metres – WGS84, utm zone 8 north)
Y:	Y positional data (metres – WGS84, utm zone 8 north)
Z:	GPS antenna elevation (metres - ASL) (on the tail of the helicopter)
Gtime1:	GPS time (seconds of the day)
Radar:	Helicopter terrain clearance from radar altimeter (metres - AGL)
DEM:	Digital elevation model (metres)
Mag1:	Raw Total Magnetic field data (nT)
Basemag:	Base station magnetic data (nT)
Mag2:	Total Magnetic field base station corrected data (nT)
Mag3:	Levelled Total Magnetic field data (nT)
C130f:	Raw 130 microsecond time channel ($pV/A/m^4$)
C150f:	Raw 150 microsecond time channel ($pV/A/m^4$)
C170f:	Raw 170 microsecond time channel ($pV/A/m^4$)
C190f:	Raw 190 microsecond time channel ($pV/A/m^4$)
C220f:	Raw 220 microsecond time channel ($pV/A/m^4$)
C260f:	Raw 260 microsecond time channel ($pV/A/m^4$)
C300f:	Raw 300 microsecond time channel ($pV/A/m^4$)
C350f:	Raw 350 microsecond time channel ($pV/A/m^4$)
C410f:	Raw 410 microsecond time channel ($pV/A/m^4$)
C480f:	Raw 480 microsecond time channel ($pV/A/m^4$)
C570f:	Raw 570 microsecond time channel ($pV/A/m^4$)
C680f:	Raw 680 microsecond time channel ($pV/A/m^4$)
C810f:	Raw 810 microsecond time channel ($pV/A/m^4$)
C960f:	Raw 960 microsecond time channel ($pV/A/m^4$)
C1130f:	Raw 1130 microsecond time channel ($pV/A/m^4$)
C1340f:	Raw 1340 microsecond time channel ($pV/A/m^4$)
C1600f:	Raw 1600 microsecond time channel ($pV/A/m^4$)
C1900f:	Raw 1900 microsecond time channel ($pV/A/m^4$)
C2240f:	Raw 2240 microsecond time channel ($pV/A/m^4$)
C2660f:	Raw 2660 microsecond time channel ($pV/A/m^4$)
C3180f:	Raw 3180 microsecond time channel ($pV/A/m^4$)
C3780f:	Raw 3780 microsecond time channel ($pV/A/m^4$)
C4460f:	Raw 4460 microsecond time channel ($pV/A/m^4$)
C5300f:	Raw 5300 microsecond time channel ($pV/A/m^4$)
C6340f:	Raw 6340 microsecond time channel ($pV/A/m^4$)
C7540f:	Raw 7540 microsecond time channel ($pV/A/m^4$)
PLinef:	Power line monitor (linear trend removed)

- Grids in Geosoft GRD format, as follow,

  regent_magfin: Total Magnetic field (nT)

  A Geosoft .GRD file has a .GI metadata file associated with it, containing grid projection information.

  For traverse line spacing of 100 meters, 10 m grid cell size was used.

- Maps in Geosoft MAP format, as follow,

  regent_magfin: Total Magnetic Field image and contours
  regent _EM-LP: Logarithmic scale profiles, Time Gates 0.22 – 6.34 ms

- ASCII file VTEM_WaveForm.xyz in Geosoft format containing the following channel:

  Volt: output voltage of the receiver coil (volts, sampling rate 20 microseconds)

- A *readme.txt* file describing the content of digital data, as described above.

6. CONCLUSIONS

A versatile time domain electromagnetic helicopter-borne geophysical survey has been completed over one block, ClaimS BA, WBX, THOR, JB, located northwest of the town of Mayo, in Yukon Territory, Canada.

Total survey line coverage is 355.02 line kilometres. The principal sensors included a Time Domain EM system and a magnetometer. Results have been presented as colour contour maps and stacked profiles.

Final data processing at the office of Geotech Ltd. in Aurora, Ontario was carried out under the supervision of Andrei Bagrianski, Data Processing Manager.

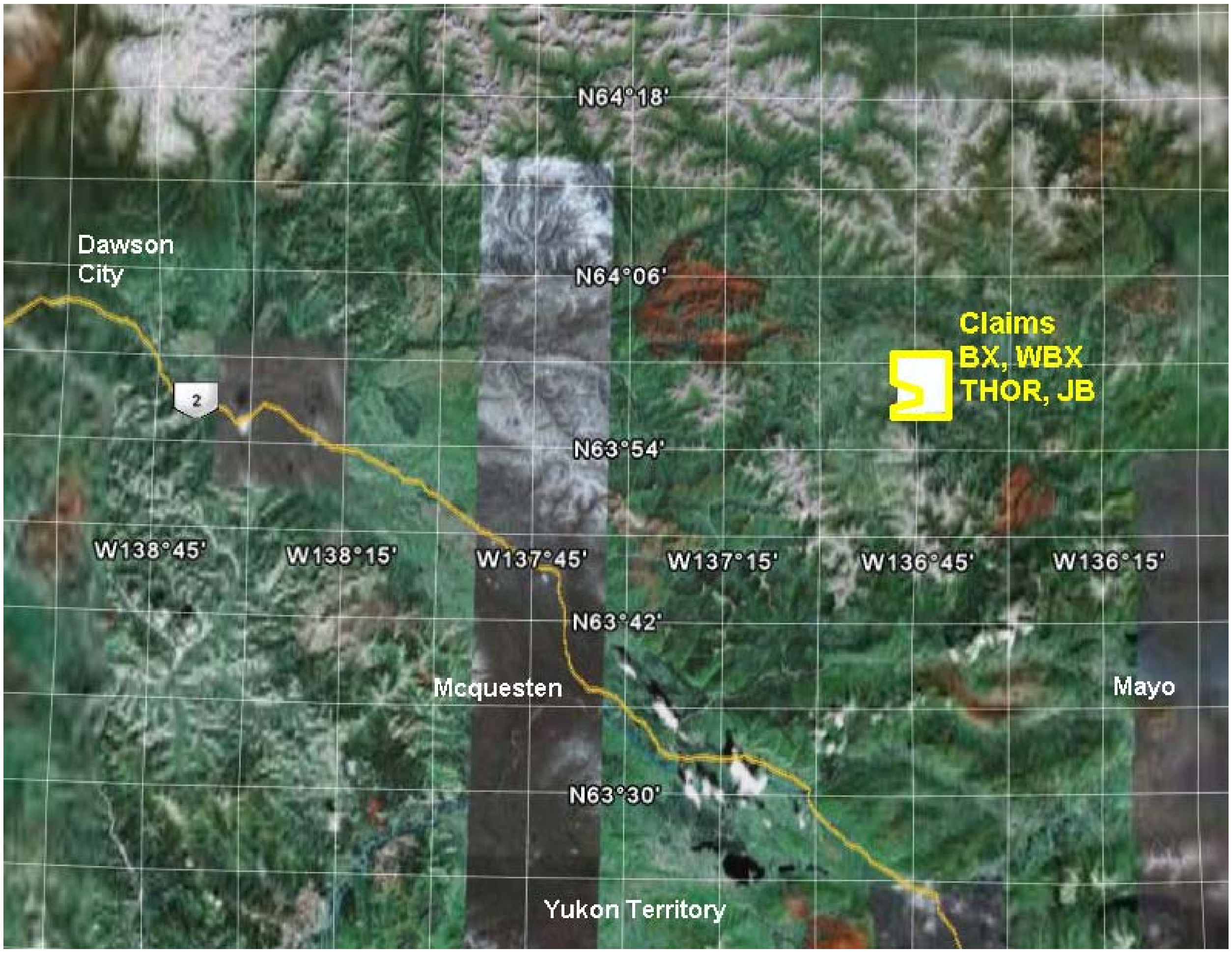
Respectfully submitted,

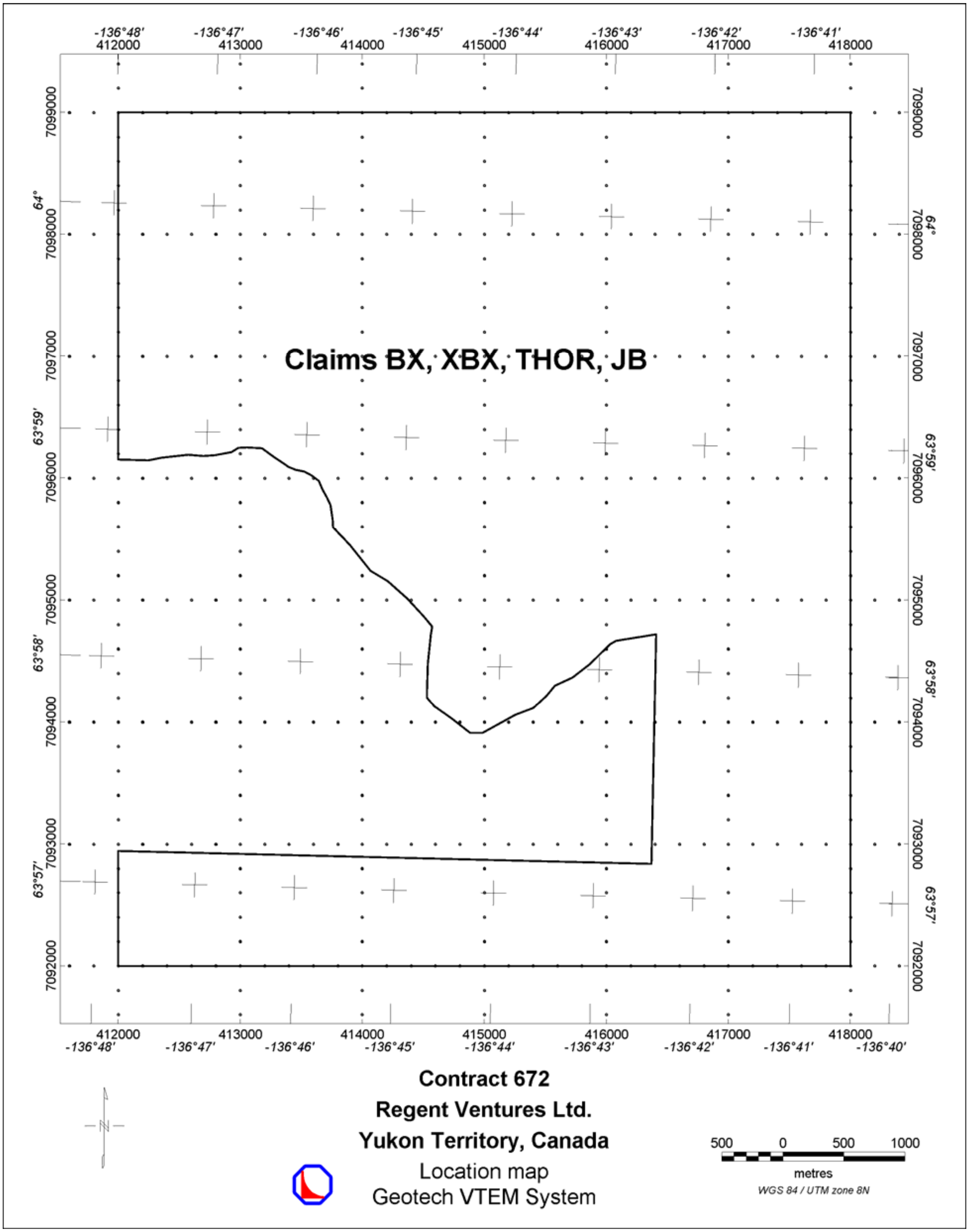
Marta Orta
onbehalf of

George Lev
Geotech Ltd.
January, 2007

APPENDIX A

SURVEY BLOCK LOCATION MAP




Claims BX, XBX, THOR, JB
Contract 672
Regent Ventures Ltd.
Yukon Territory, Canada
Location map
Geotech VTEM System
500 0 500 1000
metres
WGS 84 / UTM zone 8N

APPENDIX B
SURVEY BLOCK COORDINATES
(WGS 84, UTM zone 8N)

Claims BX, WBX, THOR, JB	
415579	7094300
415725	7094369
415865	7094475
416031	7094639
416080	7094667
416408	7094720
416369	7092840
412000	7092944
412000	7092000
418000	7092000
418000	7099000
412000	7099000
412000	7096154
412248	7096147
412352	7096168
412575	7096190
412699	7096180
412792	7096188
412927	7096213
412984	7096247
413056	7096253
413178	7096244
413243	7096194
413293	7096161
413353	7096120
413392	7096093
413452	7096067
413524	7096054
413584	7096023
413644	7095976
413670	7095911
413707	7095847
413740	7095780
413756	7095659
413760	7095596
413900	7095451
414067	7095240
414209	7095155

414369	7095012
414503	7094870
414573	7094783
414562	7094720
414537	7094483
414530	7094257
414528	7094200
414589	7094131
414733	7094026
414882	7093911
414986	7093911
415252	7094059
415400	7094116
415511	7094219

APPENDIX C

General Modeling Results of the VTEM Stysem

GENERALIZED MODELING RESULTS OF THE VTEM SYSTEM

Introduction

The VTEM system is based on a concentric or central loop design, whereby, the receiver is positioned at the centre of a 26.1 meters diameter transmitter loop that produces a dipole moment up to 625,000 NIA at peak current. The wave form is a bi-polar, modified square wave with a turn-on and turn-off at each end. With a base frequency of 30 Hz, the duration of each pulse is approximately 7.5 milliseconds followed by an off time where no primary field is present.

During turn-on and turn-off, a time varying field is produced (dB/dt) and an electro-motive force (emf) is created as a finite impulse response. A current ring around the transmitter loop moves outward and downward as time progresses. When conductive rocks and mineralization are encountered, a secondary field is created by mutual induction and measured by the receiver at the centre of the transmitter loop.

Measurements are made during the off-time, when only the secondary field (representing the conductive targets encountered in the ground) is present.

Efficient modeling of the results can be carried out on regularly shaped geometries, thus yielding close approximations to the parameters of the measured targets. The following is a description of a series of common models made for the purpose of promoting a general understanding of the measured results.

Variation of Plate Depth

Geometries represented by plates of different strike length, depth extent, dip, plunge and depth below surface can be varied with characteristic parameters like conductance of the target, conductance of the host and conductivity/thickness and thickness of the overburden layer.

Diagrammatic models for a vertical plate are shown in figures A and G at two different depths, all other parameters remaining constant. With this transmitter-receiver geometry, the classic **M** shaped response is generated. Figure A shows a plate where the top is near surface. Here, amplitudes of the duel peaks are higher and symmetrical with the zero centre positioned directly above the plate. Most important is the separation distance of the peaks. This distance is small when the plate is near surface and widens with a linear relationship as the plate (depth to top) increases. Figure G shows a much deeper plate where the separation distance of the peaks is much wider and the amplitudes of the channels have decreased.

Variation of Plate Dip

As the plate dips and departs from the vertical position, the peaks become asymmetrical. Figure B shows a near surface plate dipping 80º. Note that the direction of dip is toward the high shoulder of the response and the top of the plate remains under the centre minimum.

As the dip increases, the aspect ratio (Min/Max) decreases and this aspect ratio can be used as an empirical guide to dip angles from near 90º to about 30º. The method is not sensitive enough where dips are less than about 30º. Figure E shows a plate dipping 45º and, at this angle, the minimum shoulder starts to vanish. In Figure D, a flat lying plate is shown, relatively near surface. Note that the twin peak anomaly has been replaced by a symmetrical shape with large, bell shaped, channel amplitudes which decay relative to the conductance of the plate.

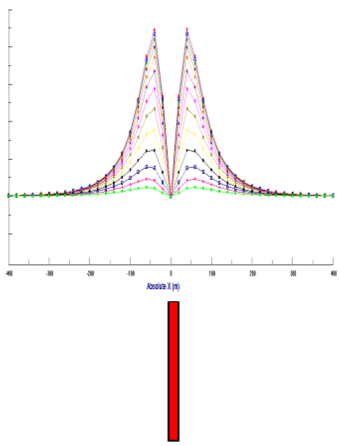
Figure H shows a special case where two plates are positioned to represent a synclinal structure. Note that the main characteristic to remember is the centre amplitudes are higher (approximately double) compared to the high shoulder of a single plate. This model is very representative of tightly folded formations where the conductors where once flat lying.

Variation of Prism Depth

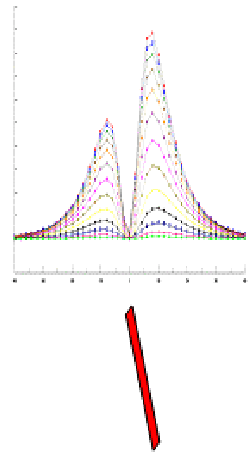
Finally, with prism models, another algorithm is required to represent current on the plate. A plate model is considered to be infinitely thin with respect to thickness and incapable of representing the current in the thickness dimension. A prism model is constructed to deal with this problem, thereby, representing the thickness of the body more accurately.

Figures C, F and I show the same prism at increasing depths. Aside from an expected decrease in amplitude, the side lobes of the anomaly show a widening with deeper prism depths of the bell shaped early time channels.

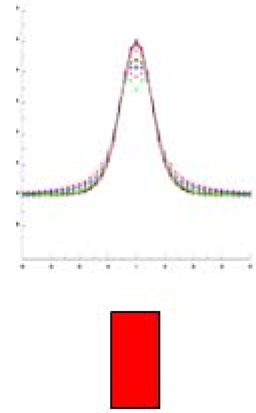
A



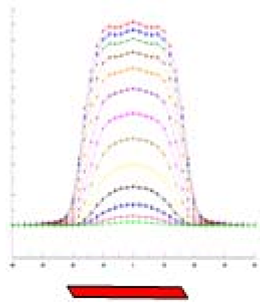
B



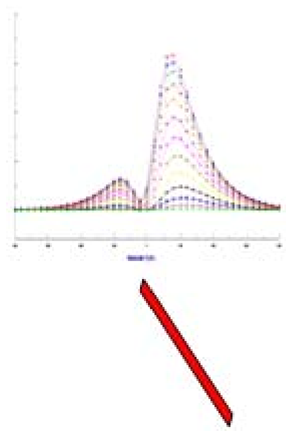
C



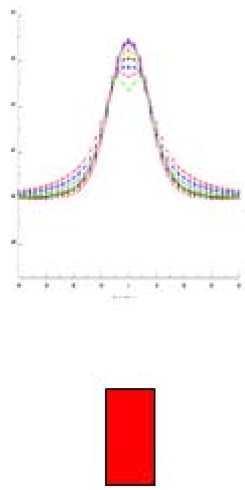
D



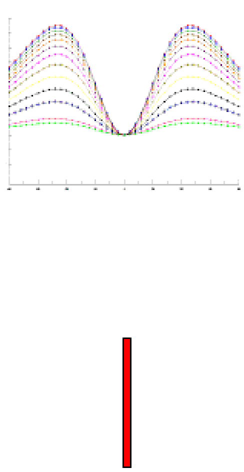
E



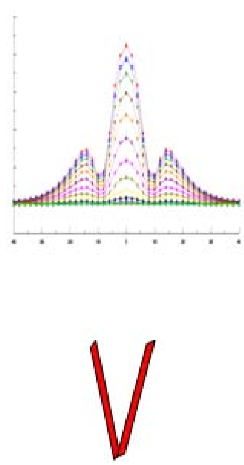
F



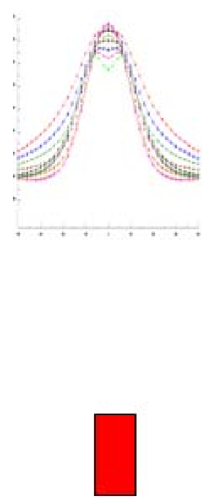
G



H



I



General Modeling Concepts

A set of models has been produced for the Geotech VTEM® system with explanation notes (see models A to I above). The reader is encouraged to review these models, so as to get a general understanding of the responses as they apply to survey results. While these models do not begin to cover all possibilities, they give a general perspective on the simple and most commonly encountered anomalies.

When producing these models, a few key points were observed and are worth noting as follows:

- For near vertical and vertical plate models, the top of the conductor is always located directly under the centre low point between the two shoulders in the classic **M** shaped response.
- As the plate is positioned at an increasing depth to the top, the shoulders of the **M** shaped response, have a greater separation distance.
- When faced with choosing between a flat lying plate and a prism model to represent the target (broad response) some ambiguity is present and caution should be exercised.
- With the concentric loop system and Z-component receiver coil, virtually all types of conductors and most geometries are most always well coupled and a response is generated (see model H). Only concentric loop systems can map this type of target.

The modelling program used to generate the responses was prepared by PetRos Eikon Inc. and is one of a very few that can model a wide range of targets in a conductive half space.

General Interpretation Principals

Magnetics

The total magnetic intensity responses reflect major changes in the magnetite and/or other magnetic minerals content in the underlying rocks and unconsolidated overburden. Precambrian rocks have often been subjected to intense heat and pressure during structural and metamorphic events in their history. Original signatures imprinted on these rocks at the time of formation have, it most cases, been modified, resulting in low magnetic susceptibility values.

The amplitude of magnetic anomalies, relative to the regional background, helps to assist in identifying specific magnetic and non-magnetic rock units (and conductors) related to, for example, mafic flows, mafic to ultramafic intrusives, felsic intrusives, felsic volcanics and/or sediments etc. Obviously, several geological sources can produce the same magnetic response. These ambiguities can be reduced considerably if basic geological information on the area is available to the geophysical interpreter.

In addition to simple amplitude variations, the shape of the response expressed in the wave length and the symmetry or asymmetry, is used to estimate the depth, geometric parameters and magnetization of the anomaly. For example, long narrow magnetic linears usually reflect mafic flows or intrusive dyke features. Large areas with complex magnetic patterns may be produced by intrusive bodies with significant magnetization, flat lying magnetic sills or sedimentary iron formation. Local isolated circular magnetic patterns often represent plug-like igneous intrusives such as kimberlites, pegmatites or volcanic vent areas.

Because the total magnetic intensity (TMI) responses may represent two or more closely spaced bodies within a response, the second derivative of the TMI response may be helpful for distinguishing these complexities. The second derivative is most useful in mapping near surface linears and other subtle magnetic structures that are partially masked by nearby higher amplitude magnetic features. The broad zones of higher magnetic amplitude, however, are severely attenuated in the vertical derivative results. These higher amplitude zones reflect rock units having strong magnetic susceptibility signatures. For this reason, both the TMI and the second derivative maps should be evaluated together.

Theoretically, the second derivative, zero contour or colour delineates the contacts or limits of large sources with near vertical dip and shallow depth to the top. The vertical gradient map also aids in determining contact zones between rocks with a susceptibility contrast, however, different, more complicated rules of thumb apply.

Concentric Loop EM Systems

Concentric systems with horizontal transmitter and receiver antennae produce much larger responses for flat lying conductors as contrasted with vertical plate-like conductors. The amount of current developing on the flat upper surface of targets having a substantial area in this dimension, are the direct result of the effective coupling angle, between the primary magnetic field and the flat surface area. One therefore, must not compare the amplitude/conductance of responses generated from flat lying bodies with those derived from near vertical plates; their ratios will be quite different for similar conductances.

Determining dip angle is very accurate for plates with dip angles greater than 30º. For angles less than 30º to 0º, the sensitivity is low and dips can not be distinguished accurately in the presence of normal survey noise levels.

A plate like body that has near vertical position will display a two shoulder, classic **M** shaped response with a distinctive separation distance between peaks for a given depth to top.

It is sometimes difficult to distinguish between responses associated with the edge effects of flat lying conductors and poorly conductive bedrock conductors. Poorly conductive bedrock conductors having low dip angles will also exhibit responses that may be interpreted as surfacial overburden conductors. In some situations, the conductive response has line to line continuity and some magnetic correlation providing possible evidence that the response is related to an actual bedrock source.

The EM interpretation process used, places considerable emphasis on determining an understanding of the general conductive patterns in the area of interest. Each area has different characteristics and these can effectively guide the detailed process used.

The first stage is to determine which time gates are most descriptive of the overall conductance patterns. Maps of the time gates that represent the range of responses can be very informative.

Next, stacking the relevant channels as profiles on the flight path together with the second vertical derivative of the TMI is very helpful in revealing correlations between the EM and Magnetics.

Next, key lines can be profiled as single lines to emphasize specific characteristics of a conductor or the relationship of one conductor to another on the same line. Resistivity Depth sections can be constructed to show the relationship of conductive overburden or conductive bedrock with the conductive anomaly.

APPENDIX D

VTEM WAVE FORM

VTEM Waveform, May - July 2006