BRITISH COLUMBIA

Ministry of Energy & Mines
Energy & Minerals Division
Geological Survey Branch

ASSESSMENT REPORT
TITLE PAGE AND SUMMARY

TITLE OF REPORT [type of survey(s)]: Helicopter-Borne AeroTEM System Electromagnetic Survey

TOTAL COST: 86,077.51

AUTHOR(S): J. Greg Dawson   SIGNATURE(S):

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): NA   YEAR OF WORK: 2007, 2008

STATEMENT OF WORK - CASH PAYMENT EVENT NUMBER(S)/DATE(S): 4191560 2008/JAN/23

PROPERTY NAME: Piebiter

CLAIM NAME(S) (on which work was done): 548801, 548802, 548803

COMMODITIES SOUGHT: Gold, Silver, Copper

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 92JNE011,013,14,15,36, 43, 44, 143, 145

MINING DIVISION: Lillooet   NTS: 092J10

LATITUDE: 50 o 42 ' 00 "   LONGITUDE: 122 o 37 ' 00 " (at centre of work)

OWNER(S)

1) John Chapman (50%)   2) Gerry Carlson (50%)

MAILING ADDRESS

18 - 1480 Foster Street
White Rock, British Columbia,V4B 3X7

1740 Orchard Way
West Vancouver,British Columbia
Canada V7V 4E8

OPERATOR(S) [who paid for the work]

1) Covenant Resources Inc.   2)

MAILING ADDRESS

500 - 625 Howe Street Vancouver,
British Columbia V6C 2T6

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):

Triassic, Fergusson Group, Cadwallader Group, Coast Plutonic Complex, Bralorne Intrusions, Diorites, Quartzites, Quartz-biotite schists, Pyrite, Pyrrhotite, Arsenopyrite, Chalcopyrite, Gold, Copper, Silver, Tungsten

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 105, 8001, 8657, 8878, 10211, 11944, 13232, 14453, 14628, 15292, 15341, 15871, 16595, 16725, 19828

(OVER)

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne	331.8	All	$86,077.51
GEOCHEMICAL (number of samples analysed for ...)			
Soil			
Silt			
Rock			
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY/PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
		TOTAL COST	$86,077.51

Assessment Report

Helicopter-Borne AeroTEM System Electromagnetic Survey

On The

Piebiter Property

Lillooet Mining Division
Bralorne Area, British Columbia

NTS 92J 067, 068, 077 and 078

Centred at:

Latitude: 50° 42’ North and Longitude 122° 37’ West

For

Covenant Resources Inc.
500 - 625 Howe Street
Vancouver, BC V6C 2T6

By

J. Greg Dawson, P.Geo
1810 Rideau Avenue
Coquitlam, British Columbia
V3J 3G8

April 18, 2008

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Appendix I: Report on A Helicopter-Borne AeroTEM Electromagnetic and Magnetic Survey, Piebiter Block, Tasco Area, British Columbia

Summary

The Piebiter Property is a 2,887-hectare mineral tenure located approximately 175 kilometers north of Vancouver, British Columbia. It is strategically located in highly prospective ground along strike (approximately 10 kilometers) from the famous Bralorne/Pioneer mining camp. Exploration programs on the Piebiter Property in the past have identified numerous anomalous zones which require further exploration work to identify their mineral potential. In addition, there are nine known BC GSB MINFILE occurrences on the Property (092JNE011, 092JNE013, 092JNE014, 092JNE015, 092JNE036, 092JNE043, 092JNE044, 092JNE143 and 092JNE145).

This report documents a 331.8 line kilometer airborne electromagnetic and magnetic survey flown over the Piebiter Property in south-western British Columbia by Areoquest International. The survey was based out of the Tyax Resort some 50 km north of the property area and flown between the dates of December 18, 2007 and January 13 to 23rd, 2008. The report was compiled by J. Greg Dawson, P.Geo, who has not been to the project area.

The survey successfully collected high resolution electromagnetic and magnetic data over the Piebiter Property. This data can now be included in a property wide compilation of previous work on the property and used to focus ongoing exploration on the property.

Introduction

This report documents an Airborne Electromagnetic and Magnetic survey flown over the Piebiter Property in south-western British Columbia by Areoquest International. The survey was based out of the Tyax Resort some 50 km north of the property area and flown between the dates of December 18, 2007 and January 13 to 23rd, 2008. The report was compiled by J. Greg Dawson, P.Geo, who has not been to the project area.

The total cost of the program as reported for assessment credits was $86,077.51

Property Description and Location

The Piebiter Property is located 175 kilometers (straight-line) northeast of Vancouver, British Columbia, near the communities of Gold Bridge and Bralorne (Figure 1). The property is in the Lillooet Mining Division and lies approximately 50 kilometers due west of Lillooet.

The Piebiter Property is comprised of three Mineral Titles Online (MTO) mineral claim blocks, which total 2,886.495 hectares (Figure 2). The claims are owned jointly by Gerald George Carlson, who holds 50% of the Property in trust for KGE Management Ltd., and John A. Chapman (50 %). The claim statistics are listed in Table 1.

Table 1 - Piebiter Property Claims

Tenure No.	Claim Type	Claim Name	Ha	Expiry Date
548801	MTO mineral claim	NEWCOMSTOCK ONE	389.135	March 1, 2013
548802	MTO mineral claim	NEWCOMSTOCK TWO	593.768	March 1, 2013
548803	MTO mineral claim	NEWCOMSTOCK THREE	1903.592	March 1, 2013
Total			2886.495	

Note : Pending the acceptance of the assessment work documented in this report.

Pursuant to an agreement dated February 23, 2007 between the Issuer and John A. Chapman and KGE Management Ltd. (the “Optionors”), the Covenant Resources Inc. acquired the right to earn an undivided one hundred percent interest in the Piebiter Property, subject to a 3% net smelter return royalty. The terms of the Option Agreement provide that Covenant will have earned a 100% undivided interest in the Piebiter Property, subject only to the Royalty Interest, upon making cash payments to the Optionors of a total of $450,000, incurring $1,000,000 in exploration work on the Piebiter Property and issuing 1,000,000 common shares to the Optionors as follows:

Table 2 - Piebiter Agreement Terms

Date	**Cash Payment ($)**	**Expenditures ($)**	**Number of Common Shares to be Issued**
Within 10 days of signing the Agreement	10,000 (paid)	-	-
Within 30 days of signing the agreement	-	-	50,000 (issued)
October 31, 2007	10,000	100,000	50,000
October 31, 2008	25,000	100,000	150,000
October 31, 2009	35,000	200,000	150,000
October 31, 2010	70,000	200,000	200,000
October 31, 2011	125,000	200,000	200,000
October 31, 2012	175,000	200,000	200,000
Subtotal	$450,000	$1,000,000	1,000,000
Upon Positive Feasibility Study	-	-	250,000
Upon Commercial Production	-	-	350,000
Total	$450,000	$1,000,000	1,600,000

Covenant will issue an additional 250,000 common shares to the Optionors on the completion of a positive feasibility study and issue an additional 350,000 common shares to the Optionors upon achieving commercial production on the Piebiter Property.

The Optionors will retain a 3% NSR royalty on the Piebiter Property. Covenant will have the right to purchase 2.0% of the NSR royalty for $1 million per percentage point any time prior to the commencement of commercial production. Beginning on October 31, 2013 and annually thereafter, the Issuer will make an annual advance minimum royalty payment of $35,000, increasing to $50,000 annually on October 31, 2017 and thereafter. The payments will be adjusted annually according to the CPI with a base of October 31, 2012. Annual advance minimum royalty payments are deductible from future NSR royalty payments.

Accessibility, Climate, Local Resources, Infrastructure and Physiography

There are 4 different routes to the nearest populated full-service community (Gold Bridge) from Vancouver (Figure 1).

The shortest travel distance from downtown Vancouver to Gold Bridge is approximately 230 kilometers or 4 hours. Access to Gold Bridge is via paved Provincial Highway Number 99 to Pemberton. The gravel-based Hurley River Forest Service Road (HRFSR) is open over the summer. The HRFSR starts approximately 25 kilometers north of Pemberton on the Pemberton Meadows Road. The HRFSR is approximately 65 kilometers and is rough in some sections. There are several bridges along the route that are being upgraded with I-beam superstructures. At approximately 50 kilometers there is a bypass gravel road that leads directly to the small town of Bralorne which can eliminate approximately 5 kilometers from the direct route to the property.

An alternative route is via the Pemberton-D'Arcy Road (approximately 40 kilometers), then along Anderson Lake and Seton Lake to Shalalth and then over the ridge to

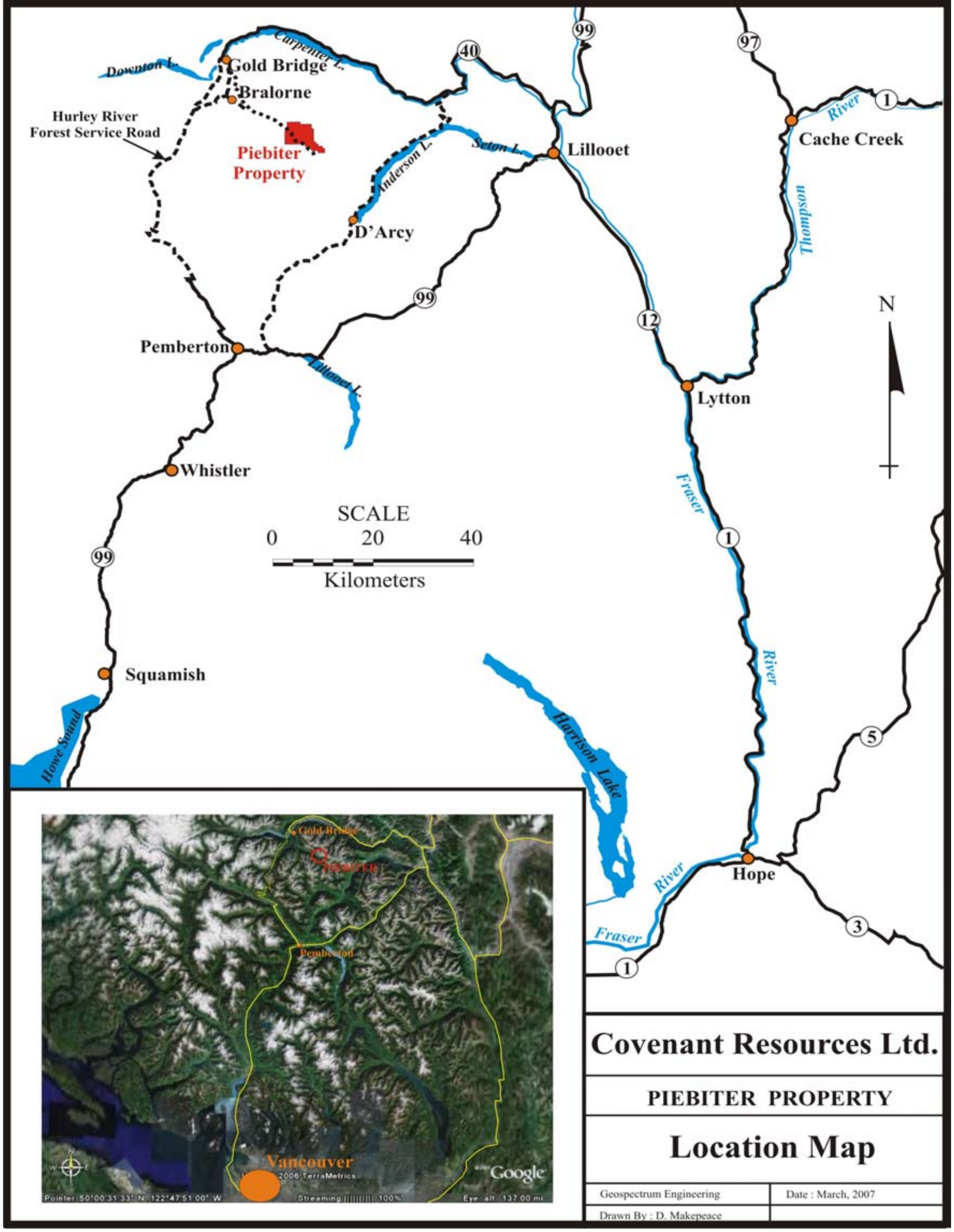
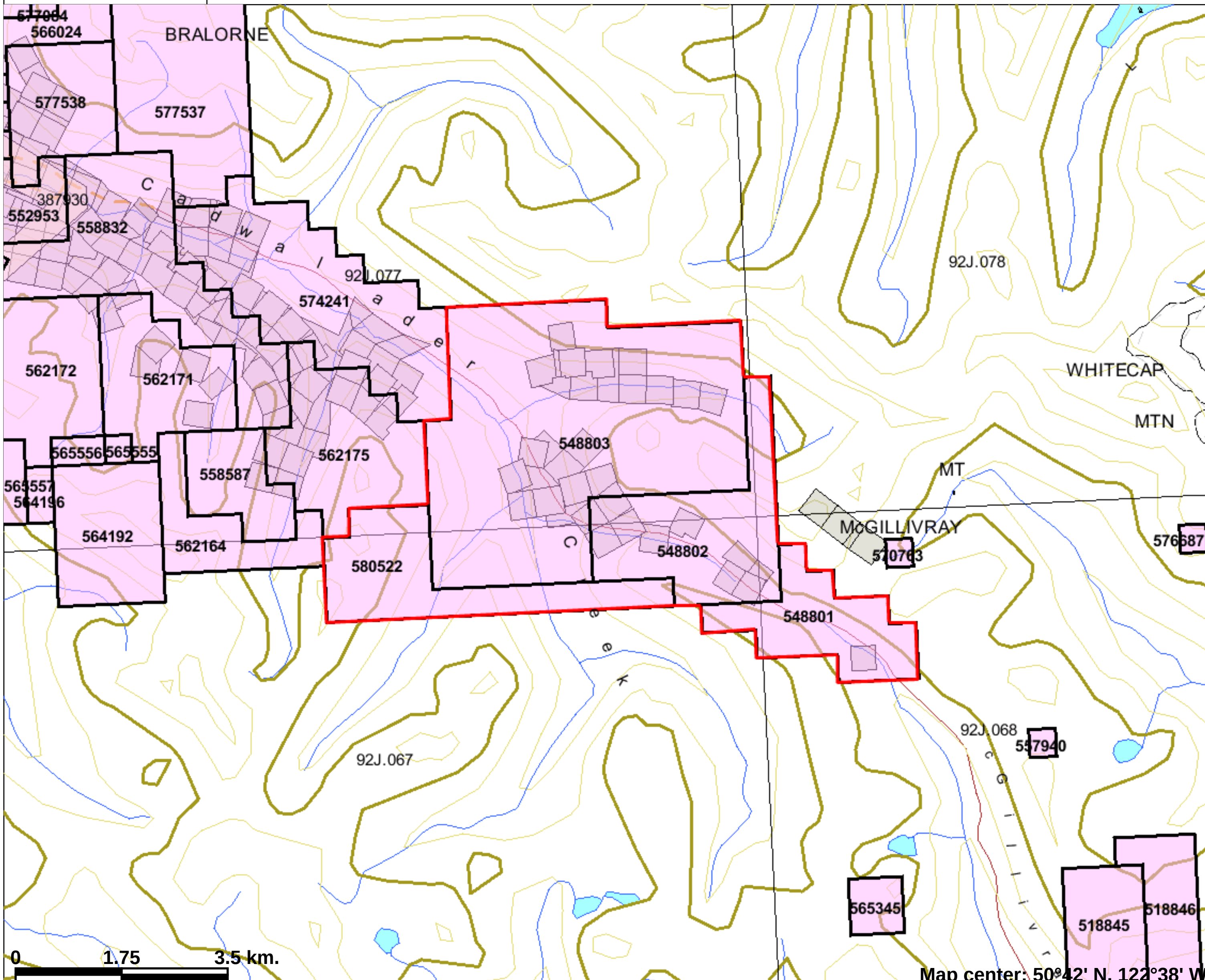


FIGURE 1: Property Location

Carpenter Lake (approximately 50 kilometers). The road connects with paved Highway 40 at the southeast end of Carpenter Lake and continues along the north side of the Lake to Gold Bridge (approximately 54 kilometers). The total distance is approximately 280 kilometers or 6 hours.

The shortest, completely all-weather and paved access route to Gold Bridge is to continue along Highway 99 from Pemberton to the town of Lillooet (approximately 80 kilometers). The junction with Highway 99 and 40 is a further 10 kilometers to the north. Highway 40 leads eventually to Gold Bridge (approximately 90 kilometers). The total distance is approximately 316 kilometers or 7 hours.

Piebiter Claims



Legend

- Indian Reserves
- National Parks
- Parks

Mineral Tenures (Mineral - LRDW)

- Mineral Claim
- Mineral Lease

Reserves (Mineral - LRDW Sites)

- Placer Claim Designation
- Placer Lease Designation
- No Staking Reserve
- Conditional Reserve
- Release Required Reserve
- Surface Restriction
- Recreation Area
- Others
- Mining Division (MTO)
- Survey Parcels
- BCGS Grid

Contours (1:250K)

- Contour - Index
- Contour - Intermediate
- Areaof Exclusion
- Areaof Indefinite Contours

Annotation (1:250K)

Transportation - Points (1:250K)

- Airfield
- Anchorage - Seaplane
- Ferry Route
- Heliport
- Seaplane Base
- Air Field
- Airport
- Air Feature - Condition Unknown

Scale: As Shown

Figure 2. Piebiter Property Claim Map

A second all-weathered and paved access route to Gold Bridge is via Trans-Canada Highway (Number 1) from Vancouver to the town of Lytton. Highway 12 connects Lytton with Lillooet. The total distance is approximately 405 kilometers or 8 hours.

The well-maintained Bralorne Road heads south from Gold Bridge for approximately 4.5 kilometers to the junction of the Kingdom Lake Forest Service Road (KLFSR). Access to the property is via the KLFSR which reverse-swithchbacks away from the Bralorne Road. The KLFSR continues along a bench above the old Bralorne and Pioneer mines to the property. The Piebiter Creek Road intersects the KLFSR at 13 kilometers and the Standard Creek Road intersects the KLFSR at 13.4 kilometers. The Piebiter Road is overgrown with alders but is in good structural shape. It could easily be cleared out with either a small bulldozer or excavator. The Standard Road has been de-commissioned by the Ministry of Forests. The condition of this road is uncertain.
Helicopter service is available from Williams Lake, Pemberton (approximately 15 to 20 minutes) or Gold Bridge.
The climate is cold in winter and hot in the summer with limited precipitation. Work season is normally June to September-October. Many areas are prone to avalanches during the winter months.

Vegetation consists of new-growth Lodgepole Pine, Engelmann Spruce and Whitebark Pine with minor poplar and birch. Alder and willow occur in talus areas.

Local Resources and Infrastructure

The Kingdom Lake Forest Service Road provides access to the property. A series of roads fan out to the periphery of the property at approximately 13 kilometers. The Piebiter Creek road will require either a new bridge or well-designed river ford, if access to the Upper Piebiter showings is required. There are several flat areas in the valley floors which would provide good camp locations. The old Piebiter/Chalco camp along Piebiter Creek has deteriorated to the point where it is unsalvagable.

The nearest settlement is Bralorne (population 44). This old mining camp has power and telephone but there are more services available at Gold Bridge. Major or specialty items would need to be obtained from either Pemberton, Lillooet or Vancouver, all of which are relatively easy to access from the property.

Physiography

The property is situated in the Bridge River watershed bounded on the west by Coast Range and on the northeast by Shulaps Range. The area exhibits typical U-shaped valleys and ragged ridge-lines. The lowest elevation is 650 meters on Carpenter Lake while on the property the elevation ranges from 1,310 meters at Cadwallader Creek to 2,350 meters at Royal Peak on the south flank of Piebiter Creek. The relief is steep to rugged except in the Cadwallader Creek valley floor.

History

The reader should be aware that the information contained in this section contains various resource estimates that are considered historical in nature, as they are based on prior data and reports prepared by or on behalf of prior property owners in the area. The work necessary to verify the classification of these mineral resources estimates has not been completed and the resource estimates therefore, cannot be treated as NI 43-101 defined resources verified by a qualified person. The historical estimates should not be relied upon and there can be no assurance that any of the resources, in whole or in part, will ever become NI 43-101 defined resources verified by a qualified person or become economically viable.

The Bralorne-Gold Bridge area has been one of the most prolific mining camps in British Columbia. The initial activity in the area, placer gold mining, started in 1863 and lead to the discovery of gold-bearing quartz veins in 1897. The largest historical mining operations are illustrated in the following table.

Table 2 -Historical Production

Mine	MINFILE No.	Production	Tonnes	Au (kg)
Bralorne	092JNE001	1932-1971	4,981,419	87,643
Pioneer	092JNE004	1914-1962	2,313,552	41,477
Minto	092JNE075	1934-1940	80,650	546
Wayside	092JNE030	1915-1937	39,094	166

The Piebiter Property is a compilation of several smaller showings and prospects explored by numerous different companies. There are nine known BC GSB MINFILE occurrences on the Property (092JNE011, 092JNE013, 092JNE014, 092JNE015, 092JNE036, 092JNE043, 092JNE044, 092JNE143 and 092JNE145).

Standard Showing

The Standard Showing (L.1940, Unicorn, Bulldog, Lion, Standard Creek) was explored by a number of trenches and two adits (No. 1 Adit – 3.7 meters, No. 2 Adit – 204.2 meters). Standard No. 2 Adit apparently intersected 4.29 g Au/t over 21 meters (65 to 86 meters from the portal). Cairnes examined the property in 1937.

There was no further recorded work on the Standard Showing until Hillside Energy explored this area in 1980 to 1982. Soil geochemistry was run on the area but anomalies were never followed up. Trans Atlantic Resources Inc. acquired the property in 1984. A & M Exploration was hired to explore the property from 1984 to 1986. Geochemical and geophysical surveys were completed and the Standard No. 2 Adit was partially rehabilitated and sampled. A three-hole core drill program in 1986 was unsuccessful at penetrating the highly fractured ground. Trans Atlantic Resources Inc. ("Trans Atlantic") and Armeno Resources Inc. ("Armeno") undertook a large program in 1987, which included geochemical and geophysical (VLF/EM, magnetometer and resistivity) surveys, re-opening of the Standard No. 2 Adit, sampling and mapping the adit and drilling a series of diamond drill holes along strike of and down dip of the Standard No. 2 Adit.

Standard West

The Standard West area is centered at the Standard No. 1 Adit which is approximately 1,000 meters northwest and on strike with the Standard No. 2 Adit. The adit is collapsed but a series of rusty seeps identify potential mineralized zones. A series of overgrown trenches were dug on the structure at the same time as the adit was collared.

Hillside Energy carried out soil geochemical sampling over the Standard West portion of the property as part of a large survey in 1980 to 1982. The 1987 program of Trans Atlantic and Armeno covered this area with a soil geochemical, a geophysical (VLF/EM and magnetometer) and geological mapping survey.

Standard West Extension

The Standard West Extension area was covered in the 1987 exploration program of Trans Atlantic and Armeno to cover the area between the Standard West and the Royal Showing area. It is due west of the Standard West area and southeast of the Royal Showing. A VLF/EM and magnetometer survey was undertaken on this area but a soil geochemical sampling and geological mapping survey were cancelled due to snow and were never re-initiated.

Royal Showing

The Royal (Royal [L.5650], Jana) Showing is a series of gold and tungsten-bearing quartz veins in diorite. In 1932, Cadwallader Gold Mines carried out small scale hydraulic/placer mining, trenching and established a short adit (Royal Adit) and exposed the veins from 1932 to 1934. The veins are up to 1.5 meters in true thickness but are generally 2 to 4 centimeters. The vein stockwork covered an area of at least 1,800 by 1,000 meters (Royal Quartz Vein Zone).

Hillside Energy carried out soil geochemical sampling over the Standard West portion of the property as part of a larger survey in 1980 to 1982. In 1984-1985 Trans Atlantic undertook a magnetometer and VLF/EM survey over the Royal Showing area. In 1986, with Armeno, Trans Atlantic completed 2 diamond drill holes which intersected some quartz veins and minor mineralization. In 1986, Allen identified an area of anomalous molybdenum in soils near the junction of Standard and Cadwallader Creeks and suggested the possibility of the occurrence of a porphyry molybdenum deposit with peripheral lead-zinc-precious metal mineralization. The 1987 program of Trans Atlantic and Armeno completed an additional two diamond drill holes which also encountered some quartz veins and minor mineralization.

Royal/Piebiter Extension

This area is north of the main Royal showing and southwest of the Upper Piebiter showing. A short caved adit was dug, probably in the 1930’s. The area was partially covered by the geophysical and geochemical surveys carried out on behalf of Trans Atlantic, in 1986. This was followed up by a magnetometer and a VLF/EM geophysical survey as well as a geological mapping and prospecting of the area.

Chopper Showing

The Chopper (Empire, Peak, June, Mac, Tom, Pat) Showing is a well mineralized silver-rich vein system that extends at least 2,400 meters on the eastern side of the property and immediately east of Royal Peak.

The earliest workings on this system were several short adits completed in the 1930's (Hazard and Empire crown-granted claims). Cairns mentioned the showing in his report on the area (Cairnes, 1937, pg. 67). The vein was sampled and mapped in 1980 by Chopper Mines Ltd. (Goldsmith, 1980). Trans Atlantic and Armeno completed a geological mapping of the vein's extension followed by a 3-hole diamond drill program and a surface vein sampling program in 1987.

Upper Piebiter Showing

The earliest recorded work on this showing was undertaken by Hillside Energy Corporation. They partially covered this area in their 1985 soil and rock sampling program. The resultant discovery of a geochemical gold anomaly lead to an 11-hole (2,413.8 meter) drill program in 1986. The holes which defined the gold zone was at least 700 meters long and was trending in a northwest direction.

Trans Atlantic and Armeno completed detailed geological mapping, geochemical survey and geophysical (VLF/EM and magnetometer) survey of the mineralized structure in 1987. A 2.3-kilometer road was also constructed in 1987 to the Upper Piebiter to allow track and 4-wheeled vehicle access to the showing. Two additional diamond drill holes were completed (420.6 meters) in January 1988. Trans Atlantic and Armeno completed an Induced Polarization (IP) survey followed by nine (9) Reverse Circulation (RC) drill holes (1,192 meters) in 1990.

Lower Piebiter Showing

The Lower Piebiter showings are a series of tungsten-copper-silver-gold-molybdenum skarn-type deposits that have formed in limestone beds within 300 meters of a large diorite intrusive (Bendor Pluton) to the northeast.

Chalco 12

The Chalco 12 skarn-type deposit was initially reported in the 1948 B.C. Minister of Mines Report.

Hat Creek Energy Corporation explored this area in 1979. Trans Atlantic and Armeno completed a geochemical survey and geophysical (VLF/EM and magnetometer) survey of all the skarn deposits in 1987.

Piebiter Creek

This limestone showing was initially reported in the 1948 B.C. Minister of Mines Report. A narrow scheelite-chalcopyrite-rich skarn was identified along the margin of a limestone lens in contact with volcanics. The showing is primarily limestone with a 55% CaO content.

Hat Creek Energy Corporation explored this area in 1979. Trans Atlantic and Armeno completed a geochemical survey and geophysical (VLF/EM and magnetometer) survey of all the skarn deposits in 1987.

Lower Piebiter

Scheelite, chalcopyrite and molybdenum were reported on the Lower Piebiter (Chalco 5 [L7700], Piebiter Creek, Lime Creek) showing in the 1948 B.C. Minister of Mines Report.

In 1969, an exploration program consisting of prospecting, mapping and drilling was completed on this showing. It defined a 50-meter long by 4-meter wide copper-tungsten-silver-gold mineralized zone. Molybdenum was also noted in the skarn. Hat Creek Energy Corporation explored this area in 1979. They completed a drill program. Trans Atlantic and Armeno completed a geochemical survey and geophysical (VLF/EM and magnetometer) survey of all the skarn deposits in 1987. In 1988, two diamond drill holes (approximately 438 meters) were completed on the Lower Piebiter to test coincident gold and arsenic anomalies. Trans Atlantic and Armeno completed one Reverse Circulation (RC) drill hole (94.5 meters) in 1990.

Bramoose

Mineralization was first reported on the Bramoose (Peridot) showing in 1933. Gold and scheelite were reported by Cairnes in 1937.

Trans Atlantic and Armeno completed a geological mapping, geochemical survey and geophysical (VLF/EM and magnetometer) survey of this showing as part of their Chalco Grid program in 1987.

Butte-IXL Showing

The Butte-IXL (Butte, IXL) showing is a series of mineralized quartz veins in sediments and volcanics along strike with the Royal Adit and on the west side of Cadwallader Creek.

In 1933 and 1934 the Butte IXL Adit was driven 244.8 meters with an associated 50.3-meter shaft following 2 mineralized quartz veins. Cairns in 1937 reported that the veins contained pyrrhotite, chalcopyrite, sphalerite with minor pyrite and galena and trace gold. Hillside Energy Corp. conducted geological and soil sampling programs on the Butte-IXL area from 1980 to 1982 (Melrose et. al., 1982). Trans Atlantic Resources Inc. and

Armeno Resources Inc. completed geological mapping, a geochemical survey and a geophysical (VLF/EM and magnetometer) survey in 1987.

Butte-X-Cal

The first workings done in this area were trenches constructed in 1933 and 1934. X-Calibre Resources undertook geological and geochemical surveys in 1984. During the period 1985-88, Hudson Bay Exploration and Development completed geological mapping and geochemical sampling on the Butte-X-Cal prospect (Lancaster, 1985). Trans Atlantic and Armeno completed geological mapping, a geochemical survey and a geophysical (VLF/EM and magnetometer) survey in 1987. This was followed up by minor prospecting and a detailed VLF/EM survey over identified anomalous areas.

Geological Setting

Regional Geology

The geology of the Bridge River area includes an assemblage of Paleozoic, Mesozoic and Tertiary volcanic and sedimentary rocks and igneous intrusions. The district lies at the western margin of the Intermontane Belt where it abuts against the Coast Plutonic Complex to the west.

The oldest rocks in the area are the Paleozoic age Fergusson Group ocean-floor ribbon cherts intercalated with graphitic argillite, greenstone and thin limestone layers (Church, 1995). Quartz veinlets are common in the cherts. This unit is sometimes referred to as the Bridge River Complex (Potter, 1983). A chloritic/quartz-rich mica schist is associated with the Fergusson Group rocks and occurs near the contact with the Bendor intrusive (northern edge of the Piebiter Property) and the Coast Plutonic Complex.

The Triassic age Cadwallader Group is an island-arc assemblage which was accreted to the Bridge River Complex. The oldest unit within the Cadwallader Group is the Pioneer Formation. This unit is primarily a basaltic volcanic sequence with minor small limestone lenses and tephra beds. The Pioneer Formation is characterised by pillow lavas, volcanic breccias and massive flows and sills. The overlying Noel Formation includes thin-bedded argillite, chert, conglomerate and minor greenstone and thin-bedded turbidites. The Hurley Formation is the youngest unit and comprises green, brown and black argillite and cherty argillite. Intercalated with this are gritty siltstone, sandstone, conglomerate and fossiliferous limestone lenses.

The Jurassic/Cretaceous age Relay Mountain and Taylor Creek Groups are part of the Tyaughton Trough that was deposited above the Bridge River/Cadwallader sequences. The Relay Mountain Group is a series of fossiliferous shales, silstones and greywackes. The Taylor Creek Group is a distinct sequence of pebble and boulder conglomerate with minor siltstone and shale layers.

The Tertiary age Big Sheep Mountain volcanics is present only as a few minor outliers of felsic lava and breccia.

The youngest rocks in the area are the Miocene age Chilcotin Group basalt lavas. There are only small remnants of these volcanics in the area due to major uplift of the coast range and subsequent erosion.

The oldest intrusions in the area are the Permian/Carboniferous Bralorne Intrusions. These gabbro to diorite intrusives occur along major faults and are sometimes accompanied by ultramafic bodies. They also occur as small granitic stocks.

There is a large number of Ultramafic, intrusive bodies in the Bridge River area. These ultramafics are a series of serpentinite and talc-carbonate rocks of dunite, pyroxenite and peridotite composition which are associated with deep-seated faults in the area. The largest ultramafic bodies are the Shulaps Complex and the Sunshine and President Intrusions. Some of these bodies have been interpreted as 'alpine-type' and ophiolitic. The ultramafics are thought to be of Cretaceous age. Chromite and listwanites are associated with this unit.

The Late Cretaceous/Early Tertiary age Coast Plutonic Complex forms the southwest edge of the above sequence. This intrusive unit's composition is soda granite to diorite and forms numerous plutons and smaller satellite intrusive stocks in the area. The Bendor (northern edge of the Piebiter Property) and Eldorado plutons are thought to be late-stage events in the Complex's history. The youngest intrusive in the area is the Middle Eocene age Rexmount porphyry. Crosscutting basic to felsic dikes in the area are related to this unit.

Local Geology

Allen et. al. (1986) and Carpenter et. al. (1988) report that the Piebiter Property is underlain by rocks of the Fergusson Group, the Pioneer and Noel Formations of the Cadwallader Group, Bralorne diorite, President ultramafics and rocks of the Coast Plutonic Complex. The most common lithologies include chert, black argillite, quartz biotite schist, limestone, greenstone, ultramafic rocks, serpentinite and diorite. The greenstone includes massive layers, agglomerates and tuffs, with local metamorphic equivalents including biotite schist and phyllite, which may represent a more felsic unit.

Property Geology

The Bridge River area is on the boundary between the Cache Creek and Stikine terranes. These island-arcs were accreted to the North American craton in Middle Jurassic age. The Tyaughton Trough is a major subsidence marine sedimentary basin that developed from Late Jurassic to Middle Cretaceous time. The western margin of the trough was uplifted and subsequently eroded which exposed the Coast Plutonic Complex in Early Cretaceous time.

Late Cretaceous and Tertiary age structural activities include major uplifting, thrust faulting and strike-slip faulting with intermittent magmatic intrusions. A system of northwest-trending faulting develops at this time dominated by the Yalakom fault transecting the Tyaughton Trough. Block faulting and further magmatic intrusions follow the strike-slip faulting.

The Cadwallader Break is the fracture system on which the major mines in the Bridge River mining camp are located. Fault slivers within the zone include diorite, greenstone, chert, ultramafic and clastic sedimentary rocks. The fault system is approximately 50 kilometers in length and bisects the Piebiter Property. The movement and displacement of the Cadwallader Break is complex and unclear.

The Cadwallader Break strikes northwest and dips steeply to the southwest through the Piebiter Property but at the Bralorne Mine the Cadwallader Break changes orientation and strikes north and dips westerly. This deflection may have reactivated an older thrust fault (Fergusson Fault) that created a wedge shaped lens of rock which in-turn created major tension fractures and shears in the wedge. The majority of the producing mines in the camp are within this wedge. Other such wedges may occur along the Cadwallader Break creating similar facture patterns and hence mineral potential.

Airborne Geophysical Survey

Aeroquest International completed a 331.8 line kilometer electromagnetic (EM) and magnetic survey over the property on December 18th, 2007 and January 13-23rd, 2008. Due to poor weather conditions, a total of 6 stand by days were incurred during the survey.

A full technical report of the survey including colour maps is included as Appendix I.

Conclusions and Recommendations

The survey successfully collected high resolution electromagnetic and magnetic data over the Piebiter Property. This data can now be included in a property wide compilation of previous work on the property and used to focus ongoing exploration on the property.

Statement of Costs

331.8 line kilometers @ $149.81 per line kilometer:	$55,877.51
6 days stand by @ $3,500 per day:	$21,000
Mob, flat rate:	$8,000
Report, 2 days @ $600 per day:	$1,200
Total:	**$86,077.51**

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Statement of Qualifications

I, John Gregory Dawson, do hereby declare that;

1) I am currently Vice President of Exploration for Copper Ridge Explorations Inc., with an office at 500 – 625 Howe Street Vancouver, British Columbia V6T 2T6. I also serve as a Director of Copper Ridge Explorations Inc, Anderson Gold Inc and Covenant Resources Inc.

2) I graduated with a Bachelor Science degree from the University of British Columbia in 1987 and a Masters of Science degree from Queens' University in 1991.

3) I am a member of the Association of Professional Engineers and Geoscientists of British Columbia, Registration Number 19882.

4) I have worked as a geologist for a total of 21 years since graduation from University, and prior to graduation, as a student and or geotechnician for a period of 11 additional years.

5) I am not aware of any material fact or material change with respect to the subject matter of this report, the omission to disclose which makes this report misleading.

6) I am not independent of the issuer applying all tests in Section 1.5 of NI 43-101 in that I have options in Copper Ridge Explorations Inc. and shares in Covenant Resources and am classified as an insider in those companies.

Dated this 18th day of March, 2008

John Gregory Dawson, P. Geo.

Appendix I:

Report on A Helicopter-Borne AeroTEM Electromagnetic and Magnetic Survey, Piebiter Block, Tasco Area, British Columbia. Aeroquest Surveys International

Report on a Helicopter-Borne AeroTEM System Electromagnetic & Magnetic Survey

Aeroquest Job # 08062

Piebiter Block

Tasco Area
British Columbia
NTS 092J10

For

Covenant Resources Ltd.

500-625 Howe Street
Vancouver, BC
V6C-2V6

by

AEROQUEST INTERNATIONAL
ADVANCED AIRBORNE GEOPHYSICS

7687 Bath Road,
Mississauga, ON, L4T 3T1
Tel: (905) 672-9129
Fax: (905) 672-7083
www.aeroquest.ca

Report date: March 2008

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- TMI – Reduced to Pole coloured Total Magnetic Intensity (TMI) with line contours and EM anomaly symbols.
- TDR – Tilt Derivative of TMI with line contours and EM anomaly symbols.
- ZOFF1 – AeroTEM Z1 Off-time with line contours and EM anomaly symbols

1. INTRODUCTION

This report describes a helicopter-borne geophysical survey carried out on behalf of Covenant Resources Ltd. over the block Piebiter, in the Tasco Area, British Columbia.

The principal geophysical sensor is Aeroquest's exclusive AeroTEM II (Echo) time domain helicopter electromagnetic system which is employed in conjunction with a high-sensitivity cesium vapour magnetometer. Ancillary equipment includes a real-time differential GPS navigation system, radar altimeter, video recorder, and a base station magnetometer. Full-waveform streaming EM data is recorded at 36,000 samples per second. The streaming data comprise the transmitted waveform, and the X component and Z component of the resultant field at the receivers. A secondary acquisition system (RMS) records the ancillary data.

The total survey coverage is 331.8 line-km, of which 319.3 line-km fell within the defined project area (Appendix 1). The survey was flown at 200 metre line spacing and line direction of NE-SW (29º azimuth). The survey flying described in this report took place on December 18th, 2007 and January 13-23rd, 2008. This report describes the survey logistics, the data processing, presentation, and provides the specifications of the survey.

2. SURVEY AREA

The Project area (Figure 1) is located in British Columbia, 200 km north of Vancouver. The closest towns are Gold Bridge, 20km to the northwest and Seton Lake 20 km to the east. The survey was made up of a single block, the Piebiter block (54 km²) over mountainous terrain with elevations ranging from 1300- 2600 m above sea level (Figure 2). Access to the property was by helicopter. There was one limited use road running through the project area and a number of local roads in the surrounding area. There were 5 mining claims covered either wholly or partially by the survey area. Details are in Appendix 2. The base of survey operations and crew accommodation was at Tyax Lodge.

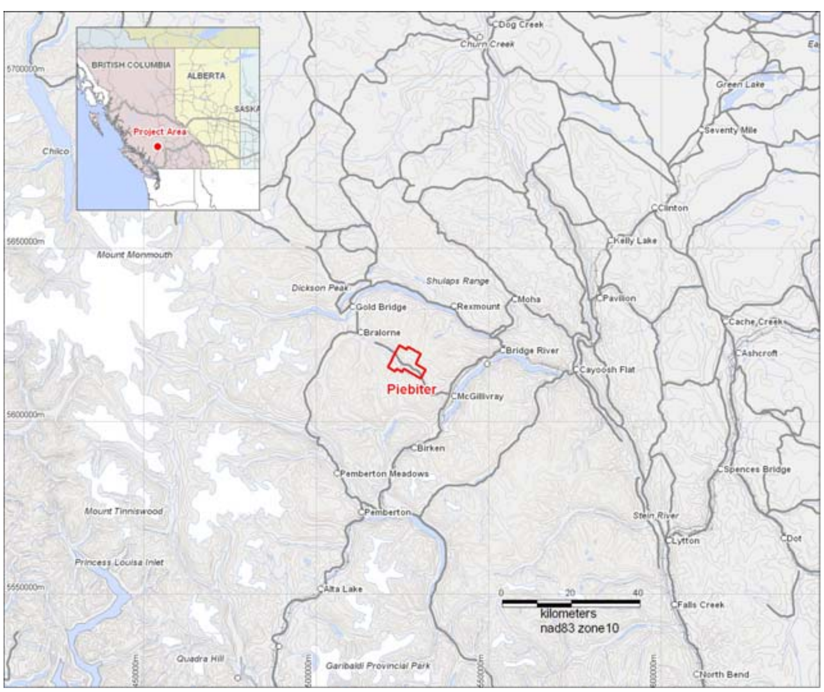


Figure 1. Project Area

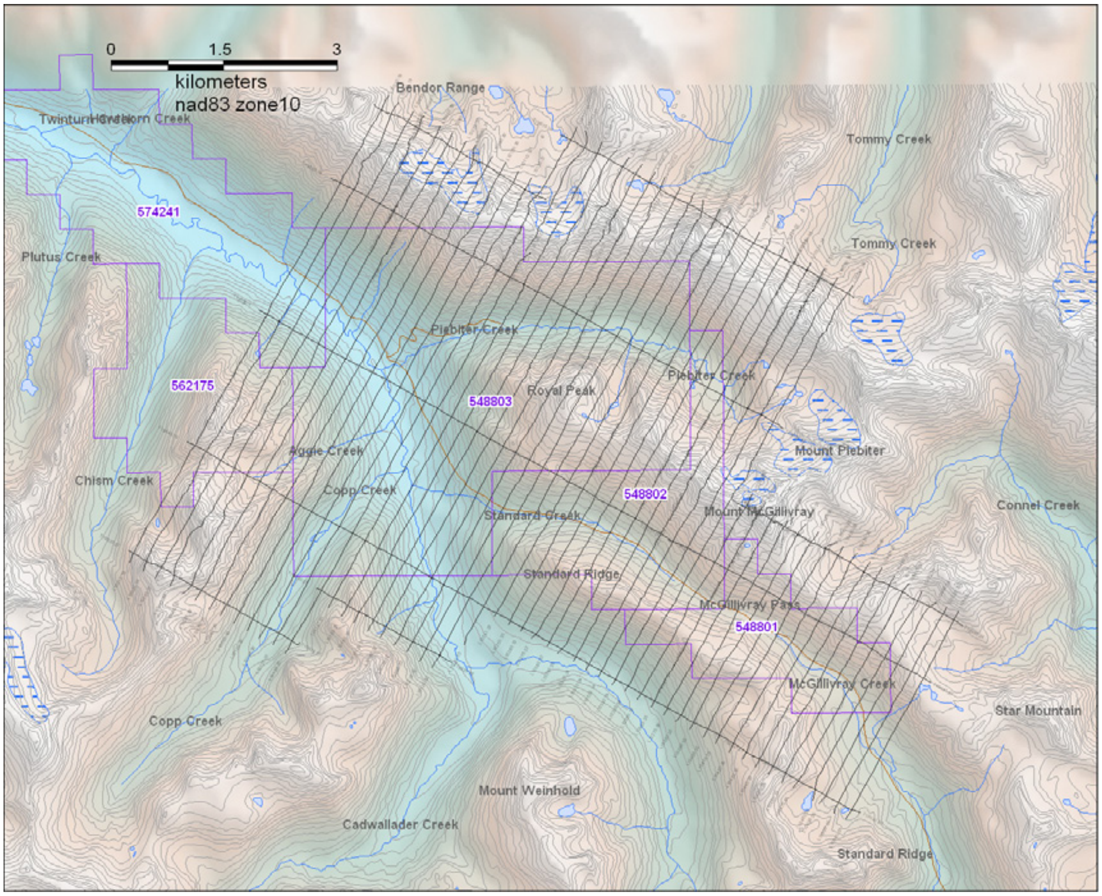


Figure 2. Project flight path and mining claims.

3. SURVEY SPECIFICATIONS AND PROCEDURES

The survey specifications are summarised in the following table:

Project Name	Line Spacing (metres)	Line Direction	Survey Coverage (line-km)	Date flown
Piebiter	200	NE-SW (29º)	319.3	December 18th, 2007 and January 13-23rd, 2008

Table 1. Survey specifications summary

The survey coverage was calculated by adding up the along-line distance of the survey lines and control (tie) lines as presented in the final Geosoft database. The survey was flown with a line spacing of 200 metres. The control (tie) lines were flown perpendicular to the survey lines with a spacing of 2000 metres.

The nominal EM bird terrain clearance is 30 metres, but can be higher in more rugged terrain due to safety considerations and the capabilities of the aircraft. The magnetometer sensor is mounted in a smaller bird connected to the tow rope 17 metres above the EM bird and 21 metres below the helicopter (Figure 4). A second magnetometer is installed on the tail of the EM bird. Nominal survey speed over relatively flat terrain is 75 km/hr and is generally lower in rougher terrain. Scan rates for ancillary data acquisition is 0.1 second for the magnetometer and altimeter, and 0.2 second for the GPS determined position. The EM data is acquired as a data stream at a sampling rate of 36,000 samples per second and is processed to generate final data at 10 samples per second. The 10 samples per second translate to a geophysical reading about every 1.5 to 2.5 metres along the flight path.

3.1. NAVIGATION

Navigation is carried out using a GPS receiver, an AGNAV2 system for navigation control, and an RMS DGR-33 data acquisition system which records the GPS coordinates. The x-y-z position of the aircraft, as reported by the GPS, is recorded at 0.2 second intervals. The system has a published accuracy of less than 3 metres. A recent static ground test of the Mid-Tech WAAS GPS yielded a standard deviation in x and y of under 0.6 metres and for z under 1.5 metres over a two-hour period.

3.2. SYSTEM DRIFT

Unlike frequency domain electromagnetic systems, the AeroTEM II system has negligible drift due to thermal expansion. The operator is responsible for ensuring the instrument is properly warmed up prior to departure and that the instruments are operated properly throughout the flight. The operator maintains a detailed flight log during the survey noting the times of the flight and any unusual geophysical or topographic features. Each flight included at least two high elevation 'background' checks. During the high elevation checks, an internal 5 second wide calibration pulse in all EM channels was generated in order to ensure that the gain of the system remained constant and within specifications.

3.3. FIELD QA/QC PROCEDURES

On return of the pilot and operator to the base, usually after each flight, the AeroDAS streaming EM data and the RMS data are carried on removable hard drives and FlashCards, respectively and transferred to the data processing work station. At the end of each day, the base station magnetometer data on FlashCard is retrieved from the base station unit.

Data verification and quality control includes a comparison of the acquired GPS data with the flight plan; verification and conversion of the RMS data to an ASCII format XYZ data file; verification of the base station magnetometer data and conversion to ASCII format XYZ data; and loading, processing and conversion of the steaming EM data from the removable hard drive. All data is then merged to an ASCII XYZ format file which is then imported to an Oasis database for further QA/QC and for the production of preliminary EM, magnetic contour, and flight path maps.

Survey lines which show excessive deviation from the intended flight path are re-flown. Any line or portion of a line on which the data quality did not meet the contract specification was noted and reflown.

4. AIRCRAFT AND EQUIPMENT

4.1. AIRCRAFT

A Eurocopter (Aerospatiale) AS350B2 "A-Star" helicopter – registration C-FPTG was used as survey platform (Figure 3). The helicopter was owned and operated by Hi-Wood Helicopters, Calgary, Alberta. Installation of the geophysical and ancillary equipment was carried out by Aeroquest personnel in conjunction with a licensed aircraft engineer. The survey aircraft was flown at a nominal terrain clearance of 220 ft (65 metres).

Figure 3. Aircraft registration C-FPTG used in the survey

4.2. MAGNETOMETER

The AeroTEM II airborne survey system employs the Geometrics G-823A cesium vapour magnetometer sensor installed in a two metre towed bird airfoil attached to the main tow line, 24 metres below the helicopter (Figure 4). The sensitivity of the magnetometer is 0.001 nanoTesla at a 0.1 second sampling rate. The nominal ground clearance of the magnetometer bird is 51 metres (170 ft.). The magnetic data is recorded at 10 Hz by the RMS DGR-33.

4.3. MAGNETOMETER II

In addition to the main magnetometer bird on the main tow line, the AeroTEM II system includes an additional G-828A magnetometer installed on the tail of the EM bird (Figure 4). The sensor is located 34 metres below the helicopter and has a superior nominal terrain clearance of 31 m. Data is recorded at 300 samples a second and down sampled to 10 Hz by the AeroDAS acquisition system.

Figure 5 AeroTEM II EM bird. Arrow indicates the location of the second cesium magnetometer sensor.

4.4. ELECTROMAGNETIC SYSTEM

The electromagnetic system is an Aeroquest AeroTEM II time domain towed-bird system (Figure 5, Figure 6). The current AeroTEM II transmitter dipole moment is 38.8 kNIA. The AeroTEM bird is towed 35 metres (125 ft) below the helicopter. More technical details of the system may be found in Appendix 4.

The wave-form is triangular with a symmetric transmitter on-time pulse of 1.10 ms and a base frequency of 150 Hz (Figure 6). The current alternates polarity every on-time pulse. During every Tx on-off cycle (300 per second), 120 contiguous channels of raw X and Z component (and a transmitter current monitor, itx) of the received waveform are measured. Each channel width is 27.78 microseconds starting at the beginning of the transmitter pulse. This 120 channel data is referred to as the raw streaming data. The AeroTEM system has two separate EM data recording streams, the conventional RMS DGR-33 and the AeroDAS system which records the full waveform (Figure 7).

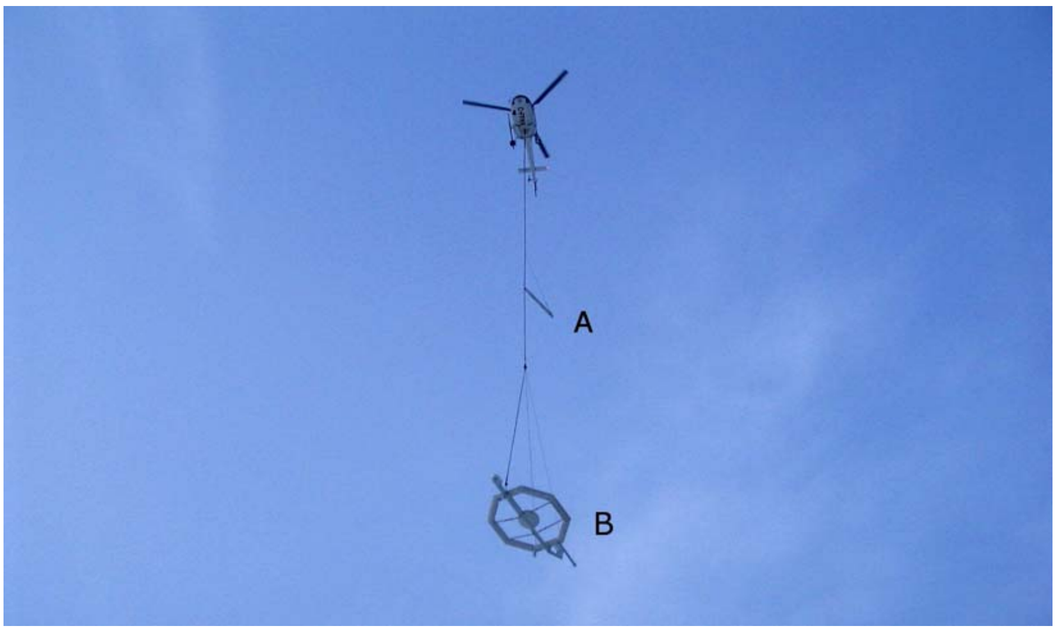


Figure 6 The magnetometer bird (A) and AeroTEM II EM bird (B)

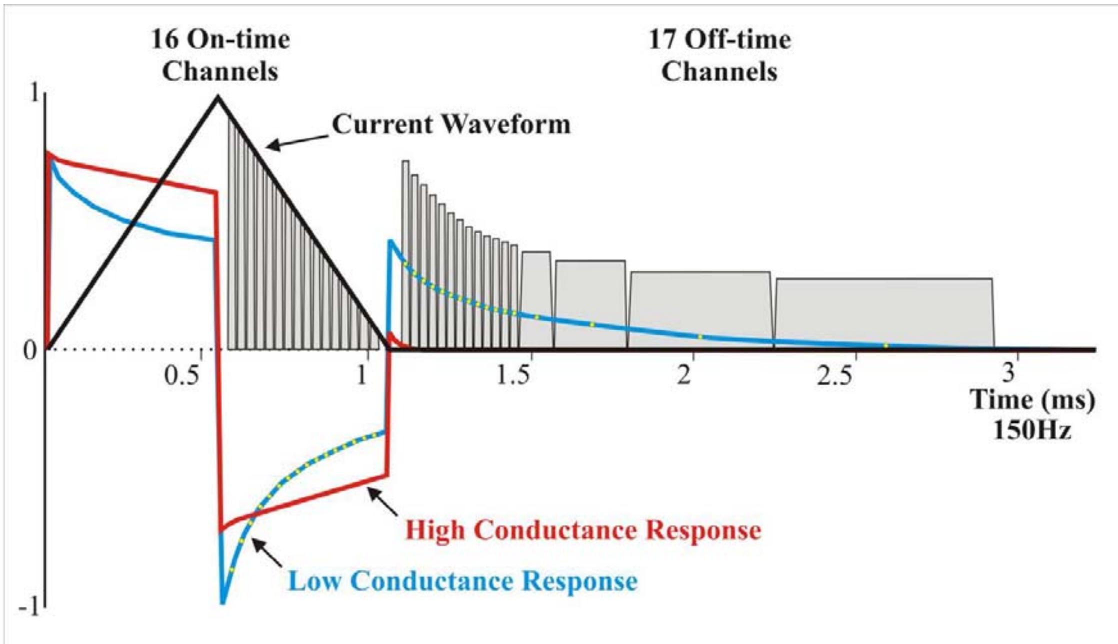


Figure 7. Schematic of Transmitter and Receiver waveforms

4.5. AERODAS ACQUISITION SYSTEM

The 120 channels of raw streaming data are recorded by the AeroDAS acquisition system (Figure 8) onto a removable hard drive. The streaming data are processed post-survey to yield 33 stacked and binned on-time and off-time channels at a 10 Hz sample rate. The timing of the final processed EM channels is described in the following table:

Average TxOn	8.3697 us
Average TxOff	1141.0077 us

Channel	Sample Range	Time Width (us)	Time Center (us)	Time After TxOn (us)
On1	3 - 3	27.778	69.444	61.075
On2	4 - 4	27.778	97.222	88.853
On3	5 - 5	27.778	125.000	116.630
On4	6 - 6	27.778	152.778	144.408
On5	7 - 7	27.778	180.556	172.186
On6	8 - 8	27.778	208.333	199.964
On7	9 - 9	27.778	236.111	227.741
On8	10 - 10	27.778	263.889	255.519
On9	11 - 11	27.778	291.667	283.297
On10	12 - 12	27.778	319.444	311.075
On11	13 - 13	27.778	347.222	338.853
On12	14 - 14	27.778	375.000	366.630
On13	15 - 15	27.778	402.778	394.408
On14	16 - 16	27.778	430.556	422.186
On15	17 - 17	27.778	458.333	449.964
On16	18 - 18	27.778	486.111	477.741

Channel	Sample Range	Time Width (us)	Time Center (us)	Time After TxOff (us)
Off0	43 - 43	27.778	1180.556	39.548
Off1	44 - 44	27.778	1208.333	67.326
Off2	45 - 45	27.778	1236.111	95.103
Off3	46 - 46	27.778	1263.889	122.881
Off4	47 - 47	27.778	1291.667	150.659
Off5	48 - 48	27.778	1319.444	178.437
Off6	49 - 50	55.556	1361.111	220.103

Off7	51 - 52	55.556	1416.667	275.659
Off8	53 - 54	55.556	1472.222	331.215
Off9	55 - 56	55.556	1527.778	386.770
Off10	57 - 59	83.333	1597.222	456.215
Off11	60 - 62	83.333	1680.556	539.548
Off12	63 - 66	111.111	1777.778	636.770
Off13	67 - 71	138.889	1902.778	761.770
Off14	72 - 79	222.222	2083.333	942.326
Off15	80 - 92	361.111	2375.000	1233.992
Off16	93 - 112	555.556	2833.333	1692.326

4.6. RMS DGR-33 Acquisition System

In addition to the magnetics, altimeter and position data, six channels of real time processed off-time EM decay in the Z direction and one in the X direction are recorded by the RMS DGR-33 acquisition system at 10 samples per second and plotted real-time on the analogue chart recorder. These channels are derived by a binning, stacking and filtering procedure on the raw streaming data. The primary use of the RMS EM data (Z1 to Z6, X1) is to provide for real-time QA/QC on board the aircraft.

The channel window timing of the RMS DGR-33 6 channel system is described in the table below.

RMS Channel	Start time (µs)	End time (µs)	Width (µs)	Streaming Channels
Z1, X1	1269.8	1322.8	52.9	48-50
Z2	1322.8	1455.0	132.2	50-54
Z3	1428.6	1587.3	158.7	54-59
Z4	1587.3	1746.0	158.7	60-65
Z5	1746.0	2063.5	317.5	66-77
Z6	2063.5	2698.4	634.9	78-101

Figure 8. AeroTEM II Instrument Rack., including AeroDAS and RMS DGR-33 systems, AeroTEM power supply, data acquisition computer and AG-NAV2 navigation system.

4.7. MAGNETOMETER BASE STATION

The base magnetometer was a Geometrics G-859 cesium vapour magnetometer system with integrated GPS. Data logging and UTC time synchronisation was carried out within the magnetometer, with the GPS providing the timing signal. The data logging was configured to measure at 1.0 second intervals. Digital recording resolution was 0.001 nT. The sensor was placed on a tripod in an area of low magnetic gradient and free of cultural noise sources. A continuously updated display of the base station values was available for viewing and regularly monitored to ensure acceptable data quality and diurnal variation.

4.8. RADAR ALTIMETER

A Terra TRA 3500/TRI-30 radar altimeter is used to record terrain clearance. The antenna was mounted on the outside of the helicopter beneath the cockpit. Therefore, the recorded data reflect the height of the helicopter above the ground. The Terra altimeter has an altitude accuracy of +/- 1.5 metres.

4.9. VIDEO TRACKING AND RECORDING SYSTEM

A high resolution digital colour 8 mm video camera is used to record the helicopter ground flight path along the survey lines. The video is digitally annotated with GPS position and time and can be used to verify ground positioning information and cultural causes of anomalous geophysical responses.

Figure 9. Digital video camera typical mounting location.

4.10. GPS Navigation System

The navigation system consists of an Ag-Nav Incorporated AG-NAV2 GPS navigation system comprising a PC-based acquisition system, navigation software, a deviation indicator in front of the aircraft pilot to direct the flight, a full screen display with controls in front of the operator, a Mid-Tech RX400p WAAS-enabled GPS receiver mounted on the instrument rack and an antenna mounted on the magnetometer bird. WAAS (Wide Area Augmentation System) consists of approximately 25 ground reference stations positioned across the United States that monitor GPS satellite data. Two master stations located on the east and west coasts collect data from the reference stations and create a GPS correction message. This correction accounts for GPS satellite orbit and clock drift plus signal delays caused by the atmosphere and ionosphere. The corrected differential message is then broadcast through one of two geostationary satellites, or satellites with a fixed position over the equator. The corrected position has a published accuracy of less than 3 metres.

Survey co-ordinates are set up prior to the survey and the information is fed into the airborne navigation system. The co-ordinate system employed in the survey design was WGS84 [World] using the UTM zone 10N projection. The real-time differentially corrected GPS positional data was recorded by the RMS DGR-33 in geodetic coordinates (latitude and longitude using WGS84) at 0.2 s intervals.

4.11. Digital Acquisition System

The AeroTEM received waveform sampled during on and off-time at 120 channels per decay, 300 times per second, was logged by the proprietary AeroDAS data acquisition system. The channel sampling commences at the start of the Tx cycle and the width of each channel is 27.78 microseconds. The streaming data was recorded on a removable hard-drive and was later backed-up onto DVD-ROM from the field-processing computer.

The RMS Instruments DGR33A data acquisition system was used to collect and record the analogue data stream, i.e. the positional and secondary geophysical data, including processed 6 channel EM, magnetics, radar altimeter, GPS position, and time. The data was recorded on 128 Mb capacity FlashCard. The RMS output was also directed to a thermal chart recorder.

5. PERSONNEL

The following Aeroquest personnel were involved in the project:

- Manager of Operations: Bert Simon
- Manager of Data Processing: Gord Smith
- Field Data Processor: Huy Huynh
- Field Operator: Rafal Starmach
- Data Interpretation and Reporting: Matt Pozza, Marion Bishop, Ericka Alinne Solano

The survey pilot, Ted Slavin, was employed directly by the helicopter operator – Hi-Wood Helicopters.

6. DELIVERABLES

6.1. HARDCOPY DELIVERABLES

The report includes a set of three1:20,000 maps. The survey area is covered by a single map plate and three geophysical data products are delivered as listed below:

- TMI – Reduced to Pole coloured Total Magnetic Intensity (TMI) with line contours and EM anomaly symbols.
- TDR – Tilt Derivative of TMI with line contours and EM anomaly symbols.
- ZOFF1 - AeroTEM Z1 Off-time with line contours and EM anomaly symbols.

The coordinate/projection system for the maps is NAD83 – UTM Zone 10N. For reference, the latitude and longitude in WGS84 are also noted on the maps.

All the maps show flight path trace, skeletal topography, and conductor picks represented by an anomaly symbol classified according to calculated off-time conductance. The anomaly symbol is accompanied by postings denoting the calculated off-time conductance, a thick or thin classification and an anomaly identifier label. The anomaly symbol legend and survey specifications are displayed on the left margin of the maps.

6.2. DIGITAL DELIVERABLES

6.2.1. Final Database of Survey Data (.GDB, .XYZ)

The geophysical profile data is archived digitally in a Geosoft GDB binary format database. A description of the contents of the individual channels in the database can be found in Appendix 3. A copy of this digital data is archived at the Aeroquest head office in Mississauga.

6.2.2. Geosoft Grid files (.GRD)

Levelled Grid products used to generate the geophysical map images. Cell size for all grid files is 40 metres.

- Total Magnetic Intensity from Mag sensor on EM bird (Piebiter_MagL_TMI)
- Total Magnetic Intensityfrom Mag sensor on upper bird (Piebiter_MagU_TMI)
- Reduced to Pole TMI from Mag sensor on EM bird (Piebiter_MagL_RTP)
- Tilt Derivate of TMI from Mag sensor on EM bird (Piebiter_MagL_TDR)

- AeroTEM Z Offtime Channel 1 (Piebiter_ATEM_zoff1)

6.2.3. Digital Versions of Final Maps (.MAP, .PDF)

Map files in Geosoft .map and Adobe PDF format.

6.2.4. Google Earth Survey Navigation Files (.kml, .kmz)

Flight navigation lines, EM anomalies and geophysical grids in Google earth KML format. Double click to view in Google Earth.

6.2.5. Free Viewing Software

- Geosoft Oasis Montaj Viewing Software
- Adobe Acrobat Reader
- Google Earth Viewer

6.2.6. Digital Copy of this Document (.PDF)

Adobe PDF format of this document.

7. DATA PROCESSING AND PRESENTATION

All in-field and post-field data processing was carried out using Aeroquest proprietary data processing software and Geosoft Oasis Montaj software. Maps were generated using 36-inch wide Hewlett Packard ink-jet plotters.

7.1. BASE MAP

The geophysical maps accompanying this report are based on positioning in the NAD83 datum. The survey geodetic GPS positions have been projected using the Universal Transverse Mercator projection in Zone 10 North. A summary of the map datum and projection specifications is given following:

- Ellipse: GRS 1980
- Ellipse major axis: 6378137m eccentricity: 0.081819191
- Datum: North American 1983 - Canada Mean
- Datum Shifts (x,y,z) : 0, 0, 0 metres
- Map Projection: Universal Transverse Mercator Zone 10 (Central Meridian 123ºW)
- Central Scale Factor: 0.9996
- False Easting, Northing: 500,000m, 0m

For reference, the latitude and longitude in WGS84 are also noted on the maps.

The background vector topography was sourced from Natural Resources Canada 1:50000 National Topographic Data Base data and the background shading was derived from NASA Shuttle Radar Topography Mission (SRTM) 90 metre resolution DEM data.

7.2. Flight Path & Terrain Clearance

The position of the survey helicopter was directed by use of the Global Positioning System (GPS). Positions were updated five times per second (5 Hz) and expressed as WGS84 latitude and longitude calculated from the raw pseudo range derived from the C/A code signal. The instantaneous GPS flight path, after conversion to UTM co-ordinates, is drawn using linear interpolation between the x/y positions. The terrain clearance was maintained with reference to the radar altimeter. The raw Digital Terrain Model (DTM) was derived by taking the GPS survey elevation and subtracting the radar altimeter terrain clearance values. The calculated topography elevation values are relative and are not tied in to surveyed geodetic heights.

Each flight included at least two high elevation 'background' checks. These high elevation checks are to ensure that the gain of the system remained constant and within specifications.

7.3. Electromagnetic Data

The raw streaming data, sampled at a rate of 36,000 Hz (120 channels, 300 times per second) was reprocessed using a proprietary software algorithm developed and owned by Aeroquest Limited. Processing involves the compensation of the X and Z component data for the primary field waveform. Coefficients for this compensation for the system transient are determined and applied to the stream data. The stream data are then pre-filtered, stacked, binned to the 33 on and off-time channels and checked for the effectiveness of the compensation and stacking processes. The stacked data is then filtered, levelled and split up into the individual line segments. Further base level adjustments may be carried out at this stage. The filtering of the stacked data is designed to remove or minimize high frequency noise that can not be sourced from the geology.

The final field processing step was to merge the processed EM data with the other data sets into a Geosoft GDB file. The EM fiducial is used to synchronize the two datasets. The processed channels are merged into 'array format; channels in the final Geosoft database as Zon, Zoff, Xon, and Xoff.

Apparent bedrock EM anomalies were interpreted with the aid of an auto-pick from positive peaks and troughs in the off-time Z channel responses correlated with X channel responses. The auto-picked anomalies were reviewed and edited by a geophysicist on a line by line basis to discriminate between thin and thick conductor types. Anomaly picks locations were migrated and removed as required. This process ensures the optimal representation of the conductor centres on the maps.

At each conductor pick, estimates of the off-time conductance have been generated based on a horizontal plate source model for those data points along the line where the response amplitude is sufficient to yield an acceptable estimate. Some of the EM anomaly picks do not display a Tau value; this is due to the inability to properly define the decay of the conductor usually because of low signal amplitudes. Each conductor pick was then classified according to a set of seven ranges of calculated off-time conductance values. For high conductance sources, the on-time conductance values may be used, since it provides a more accurate measure of high-conductance sources. Each symbol is also given an identification letter label, unique to each flight line. Conductor picks that did not yield an acceptable estimate of off-time conductance due to a low amplitude response were classified as a low conductance source. Please refer to the anomaly symbol legend located in the margin of the maps.

7.4. MAGNETIC DATA

7.4.1. Total Field

Prior to any levelling the magnetic data was subjected to a lag correction of -0.1 seconds and a spike removal filter. The filtered aeromagnetic data were then corrected for diurnal variations using the magnetic base station and the intersections of the tie lines. No corrections for the regional reference field (IGRF) were applied. The corrected profile data were interpolated on to a grid using a bi-directional grid technique with a grid cell size of 40 metres. The grid was then reduced to the magnetic pole (RTP), using Geosoft's FFT pole reduction routine. The final levelled RTP grid provided the basis for threading the presented contours which have a minimum contour interval of 5 nT.

7.4.2. Tilt Derivative

In order to map shallow basement response the tilt derivative (TDR) was calculated from the RTP grid. This derivative product enhances smaller wavelength magnetic features which define shallow basement structures at the expense of deeper-seated sources. The tit derivative also has the added advantage of gain controlling the dynamic range of the data, allowing subtle magnetic trends to be identified. The tilt derivative is presented at a colour-shaded map with line contours.

8. GENERAL COMMENTS

The survey was successful in mapping the magnetic and conductive properties of the geology throughout the survey area. Below is a brief interpretation of the results. For a detailed interpretation please contact Aeroquest Limited.

8.1. MAGNETIC RESPONSE

The magnetic data provide a high resolution map of the distribution of the magnetic mineral content of the survey area. This data can be used to interpret the location of geological contacts and other structural features such as faults and zones of magnetic alteration. The sources for anomalous magnetic responses are generally thought to be predominantly magnetite because of the relative abundance and strength of response (high magnetic susceptibility) of magnetite over other magnetic minerals such as pyrrhotite.

8.2. EM ANOMALIES

The EM anomalies on the maps are classified by conductance (as described earlier in the report) and also by the thickness of the source. A thin, vertically orientated source produces a double peak anomaly in the z-component response and a positive to negative crossover in the x-component response (Figure 9). For a vertically orientated thick source (say, greater than 10 metres), the response is a single peak in the z-component response and a negative to positive crossover in the x-component response (Figure 10). Because of these differing responses, the AeroTEM system provides discrimination of thin and thick sources and this distinction is indicated on the EM anomaly symbols (N = thin and K = thick). Where multiple, closely spaced conductive sources occur, or where the source has a shallow dip, it can be difficult to uniquely determine the type (thick vs. thin) of the source (Figure 11). In these cases both possible source types may be indicated by picking both thick and thin response styles. For shallow dipping conductors the 'thin' pick will be located over the edge of the source, whereas the 'thick' pick will fall over the downdip 'heart' of the anomaly.

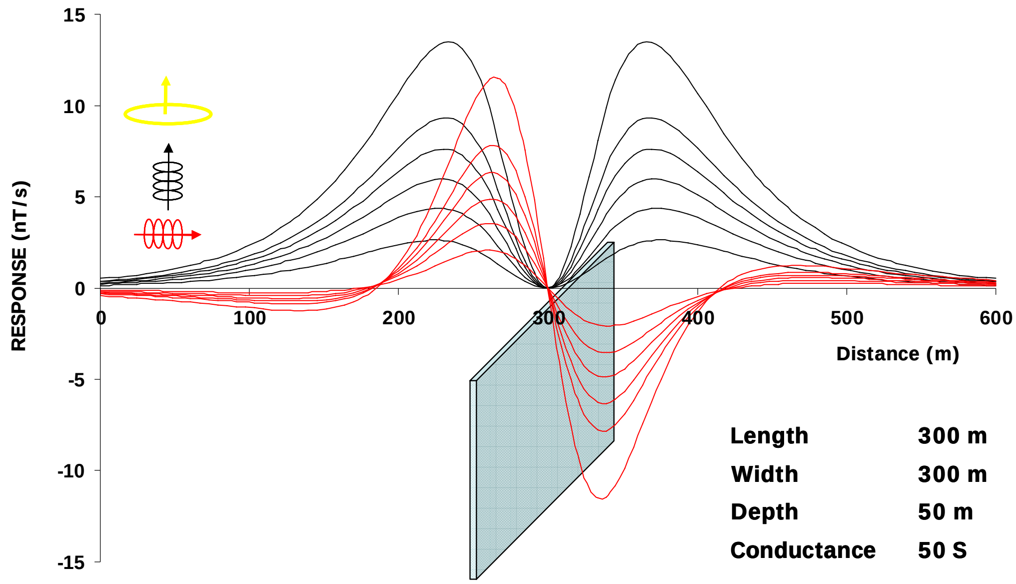


Figure 10. AeroTEM response to a 'thin' vertical conductor.

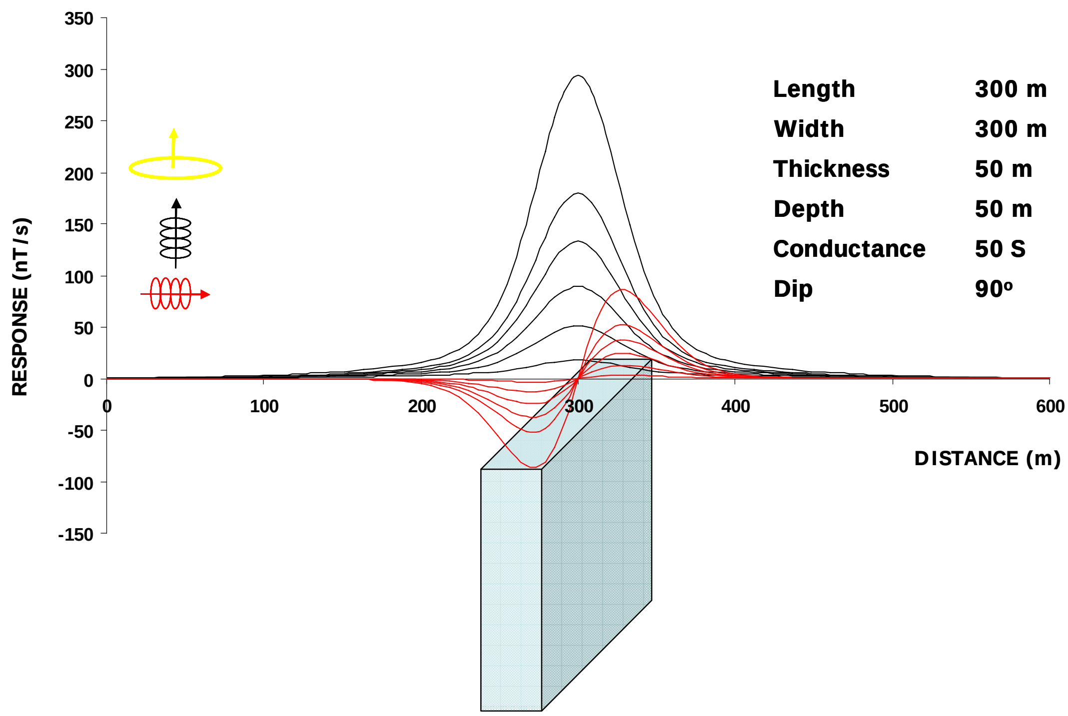


Figure 11. AeroTEM response for a 'thick' vertical conductor.

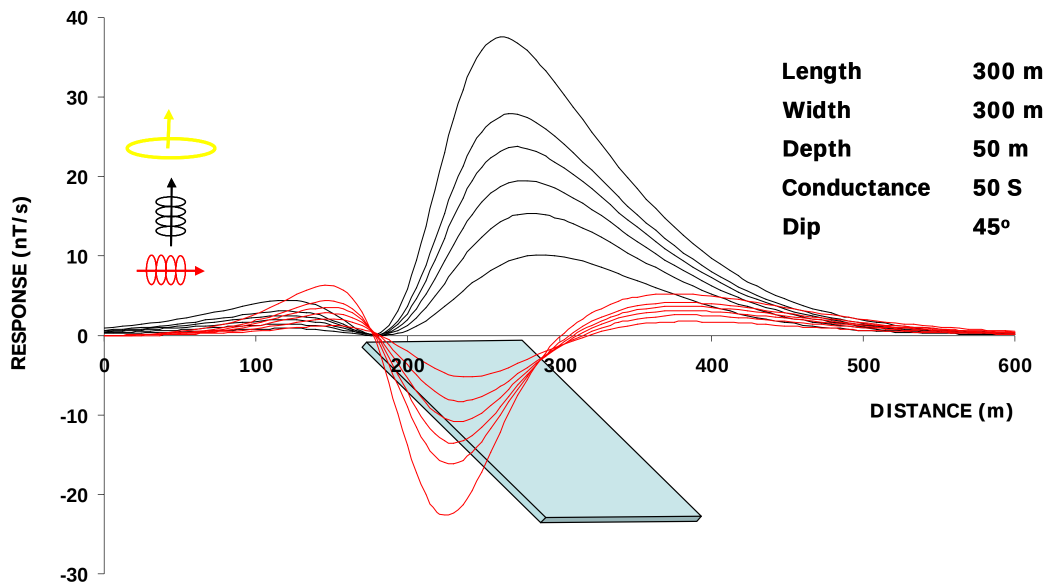


Figure 12. AeroTEM response over a 'thin' dipping conductor.

All cases should be considered when analyzing the interpreted picks and prioritizing for follow-up. Specific anomalous responses which remain as high priority should be subjected to numerical modeling prior to drill testing to determine the dip, depth and probable geometry of the source.

Respectfully submitted,

Matt Pozza, MSc., PGeo.,
Aeroquest Limited
March, 2008

Reviewed By:

Gord Smith,
Aeroquest Limited
March, 2008

APPENDIX 1: SURVEY BOUNDARIES

The following tables present the survey block boundaries. All geophysical data presented in this report have been windowed to 100m outside these outlines. X and Y positions are in metres: NAD83 UTM Zone 10N.

Piebiter Block

X	Y
524035.4	5621913.3
526138.2	5620703.8
526138.2	5620503.8
524035.4	5621713.3

APPENDIX 2: MINING CLAIMS

From Government of British Columbia, Mineral Titles Online

Tenure Number	Claim Name	Good To Date	Area (Ha)	Owner
548801	NEWCOMSTOCK ONE	2013/mar/01	389.135	CHAPMAN, JOHN ARTHUR
548802	NEWCOMSTOCK TWO	2013/mar/01	593.768	CHAPMAN, JOHN ARTHUR
548803	NEWCOMSTOCK THREE	2013/mar/01	1903.592	CARLSON, GERALD GEORGE
562175	NEW BEGINNINGS 12	2008/jul/14	532.226	BILLINGSLEY, RICHARD JOHN
574241	PEACEFUL TEMPLE	2008/mar/22	859.369	ZAMIDA, DAVID ANTHONY

APPENDIX 3: DESCRIPTION OF DATABASE FIELDS

The GDB file is a Geosoft binary database. In the database, the Survey lines and Tie Lines are prefixed with an "L" for "Line" and "T" for "Tie".

COLUMN	UNITS	DESCRIPTOR
Line		Line number
Flight		Flight #
emfid		AERODAS Fiducial
utctime	hh:mm:ss.ss	UTC time
x	m	UTM Easting (NAD83, Zone 35N)
y	m	UTM Northing (NAD83, Zone 35N)
Galtf	m	GPS altitude of Mag bird
Ratlf	M	Terrain Clearance of Helicopter
bheight	m	Terrain clearance of EM bird
dtm	m	Digital Terrain Model
magUf	nT	Final levelled total magnetic intensity from upper mag sensor installed in a bird 17 m above the EM bird.
magLf	nT	Final levelled total magnetic intensity from lower mag sensor installed on the tail of the EM bird.
Basemagf	nT	Base station total magnetic intensity
Zon	nT/s	Processed Streaming On-Time Z component Channels 1-16
Zoff	nT/s	Processed Streaming Off-Time Z component Channels 0-16
Xon	nT/s	Processed Streaming On-Time X component Channels 1-16
Xoff	nT/s	Processed Streaming Off-Time X component Channels 0-16
pwrline		powerline monitor data channel
grade		Classification from 1-7 based on conductance of conductor pick
Anom_ID		Anomaly Character (K= thicK, N = thiN)
Anom_labels		Alphanumeric label of conductor pick
Off_Con	S	Off-time conductance at conductor pick
Off_Tau	µs	Off-time decay constant at conductor pick
Off_allcon	S	Off-time conductance
Off_AllTau	µs	Off-time decay constant
TranOff		Transmitter Off
TranOff		Transmitter On
TranPeak		Transmitter Peak
TranSwitch		Transmitter Switch
Off_Pick		Off-time anomaly picks

APPENDIX 4: AEROTEM ANOMALY LISTING

Piebiter Block Anomalies

Line	Anom Labels	Anom ID	Conductance (S)	Tau (µs)	Flight #	UTC Time	Bird height (m)	Easting (m)	Northing (m)
10010	A	K	1.5	120.9	19	19:14:59	51.6	522756.1	5619520.3
10010	B	N	0.9	96.3	19	19:15:39	40.8	522527.8	5619092.4
10010	A	K	4.9	221.2	19	19:22:20	42.7	521142.6	5616604.8
10020	A	N	4.4	208.6	19	19:29:37	99.3	522676.8	5618963.8
10020	B	K	0.6	80.1	19	19:30:09	58.6	522920.8	5619391.1
10030	A	K	5.7	239.0	27	23:06:04	40.5	521382.4	5616191.8
10030	B	K	4.4	210.1	27	23:06:32	44.4	521464.3	5616328.9
10030	C	N	14.2	376.8	27	23:10:22	75.5	522850.8	5618850.8
10030	D	K	0.5	70.5	27	23:10:51	61.7	523072.5	5619241.2
10030	E	K	*	*	27	23:16:39	140.8	524332.6	5621543.4
10040	A	K	0.4	64.7	30	17:18:55	59.1	523219.6	5619091.5
10040	B	N	3.3	180.6	30	17:19:33	44.0	523012.0	5618723.2
10040	C	K	2.1	143.4	30	17:24:53	101.1	521512.2	5616163.0
10050	A	K	0.8	91.9	30	17:29:20	83.3	521853.1	5616200.7
10050	B	N	2.5	159.5	30	17:31:47	81.4	523179.7	5618637.0
10050	C	K	0.9	92.0	30	17:32:10	73.7	523378.5	5618991.7
10060	A	K	1.3	112.4	30	17:46:00	45.3	523508.5	5618788.1
10060	B	N	2.7	165.6	30	17:46:33	43.4	523325.1	5618456.8
10060	C	K	8.2	286.7	30	17:48:36	80.0	522446.4	5616882.9
10060	D	K	2.6	160.9	30	17:49:19	69.4	522102.6	5616262.9
10070	A	K	3.1	175.1	30	17:52:38	77.8	522331.1	5616243.6
10070	B	K	2.2	149.4	30	17:53:28	85.2	522649.2	5616845.3
10070	C	N	2.6	162.6	30	17:54:56	68.0	523384.1	5618157.5
10070	D	K	2.6	162.6	30	17:55:00	65.8	523419.7	5618219.6
10080	A	K	1.2	108.6	30	18:07:19	47.4	523796.2	5618475.2
10080	B	N	2.9	169.6	30	18:07:51	38.8	523530.6	5618006.1
10080	C	K	0.7	82.3	30	18:08:12	35.6	523364.2	5617699.7
10090	A	K	0.5	69.1	30	18:14:36	61.1	523527.3	5617589.1
10090	B	K	2.9	171.3	30	18:15:04	68.1	523747.5	5618000.1
10090	C	K	1.5	123.2	30	18:15:23	53.7	523929.0	5618314.8
10100	A	K	2.3	152.6	30	18:26:08	48.1	524127.7	5618249.1
10100	B	K	5.6	236.7	30	18:26:32	43.0	523909.5	5617865.6
10100	C	N	5.6	236.7	30	18:26:36	41.7	523883.2	5617805.4
10100	D	K	0.2	45.3	30	18:26:56	51.9	523707.7	5617486.2
10110	A	N	7.9	280.3	30	18:32:39	68.8	524062.3	5617692.2
10110	B	K	7.9	280.3	30	18:32:45	56.2	524128.8	5617808.3
10110	C	K	1.3	114.6	30	18:33:01	52.0	524312.3	5618158.3
10120	A	K	0.6	79.3	31	19:48:58	51.2	524499.5	5618096.8
10120	B	N	2.6	161.2	31	19:49:27	49.4	524248.6	5617645.4
10120	C	K	2.6	161.2	31	19:49:31	47.5	524214.9	5617584.1
10130	A	K	2.9	170.6	31	19:56:01	37.0	524379.7	5617465.1
10130	B	N	2.9	170.6	31	19:56:06	38.1	524436.4	5617560.7
10130	C	K	1.1	104.5	31	19:56:15	37.6	524526.2	5617721.1

Line	Anom Labels	Anom ID	Conductance (S)	Tau (μs)	Flight #	UTC Time	Bird height (m)	Easting (m)	Northing (m)
10130	D	K	0.8	88.2	31	19:56:29	48.7	524653.3	5617961.5
10140	A	K	0.4	59.6	31	20:14:05	53.3	524873.5	5617960.3
10140	B	K	5.2	227.0	31	20:14:38	46.3	524535.0	5617334.1
10140	C	K	2.2	146.9	31	20:15:10	52.5	524193.7	5616742.7
10140	D	N	2.2	146.9	31	20:15:15	55.4	524158.5	5616675.0
10150	A	N	1.7	131.2	31	20:19:48	80.4	524338.7	5616593.8
10150	B	K	1.7	131.2	31	20:19:52	61.1	524378.4	5616661.3
10150	C	K	0.9	92.0	31	20:20:49	42.0	524872.6	5617523.5
10150	D	K	1.0	98.7	31	20:21:07	44.0	524991.8	5617748.2
10160	A	K	0.8	90.0	31	20:35:08	45.4	525233.3	5617772.2
10160	B	K	2.3	152.2	31	20:35:30	76.7	525052.9	5617446.7
10160	C	N	15.2	389.9	31	20:36:33	52.2	524524.6	5616501.2
10170	A	N	7.5	274.1	31	20:41:42	65.3	524742.4	5616472.9
10170	B	K	7.5	274.1	31	20:41:47	57.8	524786.5	5616553.5
10170	C	K	*	*	31	20:42:30	40.0	525197.0	5617293.6
10181	A	K	1.3	113.0	32	22:08:16	62.9	525593.5	5617609.7
10181	B	N	0.9	96.3	32	22:09:38	54.2	524924.1	5616391.4
10190	A	N	0.3	58.2	32	22:14:18	46.0	525049.0	5616181.4
10210	A	K	1.1	105.7	32	22:45:24	49.8	526116.4	5617323.6
10220	A	K	0.6	76.8	32	23:02:03	97.1	526249.6	5617131.1
10230	A	K	0.8	87.7	32	23:08:51	57.6	526451.3	5617101.8
10240	A	K	1.0	98.9	33	17:37:37	103.2	526480.8	5616730.6
10250	A	K	0.6	74.6	33	17:42:45	68.3	526678.9	5616662.9
10260	A	K	0.5	72.0	33	18:02:51	89.6	526822.9	5616516.1
10270	A	K	0.6	79.0	33	18:08:29	63.2	526952.5	5616359.8
10270	B	K	*	*	33	18:16:01	95.6	528877.3	5619803.2
10280	A	K	1.1	104.3	33	18:23:38	67.7	527151.7	5616292.3
10290	A	K	1.2	108.1	33	18:29:10	50.6	527319.8	5616179.7
10300	A	K	2.2	147.0	34	19:42:09	83.3	527487.6	5616070.6
10310	A	K	1.1	106.2	34	19:49:30	45.8	527651.5	5615947.6
10320	A	K	1.7	130.3	34	20:17:16	74.4	527828.2	5615875.5
10330	A	K	1.5	121.7	34	20:23:24	44.6	527975.9	5615697.7
10330	B	N	1.5	121.7	34	20:27:55	59.5	529054.2	5617667.2
10340	A	N	0.2	42.1	34	20:37:08	74.5	529242.5	5617610.9
10340	B	K	1.0	98.3	34	20:40:39	61.9	528138.1	5615613.2
10350	A	K	1.6	127.4	34	20:46:00	40.3	528314.2	5615491.9
10370	A	K	0.5	69.2	36	18:43:28	50.0	528694.8	5615358.8
10382	A	K	0.7	83.4	35	23:01:43	48.3	528852.4	5615252.2
10390	A	K	0.9	92.2	35	22:56:47	71.5	529016.5	5615112.0
10390	B	K	0.6	77.5	35	22:58:51	88.3	528192.6	5613627.1
10400	A	K	0.4	66.6	35	22:52:20	59.7	529157.4	5614950.3
10420	A	N	0.1	28.6	35	22:46:05	37.4	529921.8	5615867.2
10420	B	K	0.6	76.4	35	22:47:43	73.8	529341.8	5614878.0
10420	A	K	1.1	105.6	35	22:43:12	52.6	529513.3	5614735.5
10420	B	N	0.2	47.3	35	22:44:45	68.4	529892.7	5615475.0
10420	C	K	0.2	47.3	35	22:44:50	61.6	529939.6	5615543.5
10420	D	N	0.3	50.1	35	22:45:04	51.5	530065.0	5615757.0

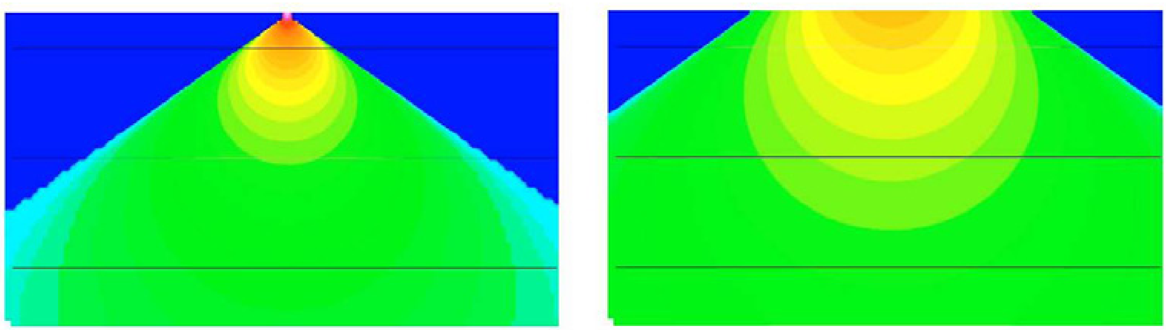
Line	Anom Labels	Anom ID	Conductance (S)	Tau (μs)	Flight #	UTC Time	Bird height (m)	Easting (m)	Northing (m)
10430	A	N	0.4	64.7	35	22:38:00	68.1	530228.9	5615651.5
10430	B	K	0.5	68.9	35	22:38:12	53.2	530108.6	5615421.1
10430	C	K	2.0	139.9	35	22:39:22	75.6	529666.0	5614634.7
10440	A	K	1.7	132.0	35	22:35:03	42.8	529857.1	5614569.7
10440	B	N	0.4	66.6	35	22:37:01	68.6	530436.5	5615584.7
10450	A	N	0.6	75.1	35	22:28:03	48.8	530597.0	5615510.3
10450	B	K	1.1	104.5	35	22:30:21	82.0	530002.2	5614445.8
10460	A	K	1.4	119.6	35	22:24:41	50.5	530184.9	5614342.2
10470	A	K	1.1	106.7	35	22:19:50	83.6	530379.8	5614279.3
10480	A	K	1.1	103.8	35	22:15:28	51.1	530535.3	5614145.3
10490	A	K	0.4	61.7	35	22:12:08	63.6	530612.1	5613892.3
10500	A	K	1.4	116.6	35	22:07:08	52.1	530786.6	5613759.6
10500	B	N	0.3	49.7	35	22:09:12	45.8	531340.9	5614768.0
10510	A	N	17.4	417.3	35	22:03:10	52.5	531465.0	5614622.6
10510	B	K	0.5	68.8	35	22:04:29	72.6	530852.7	5613502.1

APPENDIX 5: AEROTEM DESIGN CONSIDERATIONS

Helicopter-borne EM systems offer an advantage that cannot be matched from a fixed-wing platform. The ability to fly at slower speed and collect data with high spatial resolution, and with great accuracy, means the helicopter EM systems provide more detail than any other EM configuration, airborne or ground-based. Spatial resolution is especially important in areas of complex geology and in the search for discrete conductors. With the advent of helicopter-borne high-moment time domain EM systems the fixed wing platforms are losing their *only* advantage – depth penetration.

Advantage 1 – Spatial Resolution

The AeroTEM system is specifically designed to have a small footprint. This is accomplished through the use of concentric transmitter-receiver coils and a relatively small diameter transmitter coil (5 m). The result is a highly focused exploration footprint, which allows for more accurate "mapping" of discrete conductors. Consider the transmitter primary field images shown in Figure 1, for AeroTEM versus a fixed-wing transmitter.



The footprint of AeroTEM at the earth's surface is roughly 50m on either side of transmitter

The footprint of a fixed-wing system is roughly 150 m on either side of the transmitter

Figure 1. A comparison of the footprint between AeroTEM and a fixed-wing system, highlights the greater resolution that is achievable with a transmitter located closer to the earth's surface. The AeroTEM footprint is one third that of a fixed-wing system and is symmetric, while the fixed-wing system has even lower spatial resolution along the flight line because of the separated transmitter and receiver configuration.

At first glance one may want to believe that a transmitter footprint that is distributed more evenly over a larger area is of benefit in mineral exploration. In fact, the opposite is true; by energizing a larger surface area, the ability to energize and detect discrete conductors is reduced. Consider, for example, a comparison between AeroTEM and a fixed-wing system over the Mesamax Deposit (1,450,000 tonnes of 2.1% Ni, 2.7% Cu, 5.2 g/t Pt/Pd). In a test survey over three flight lines spaced 100 m apart, AeroTEM detected the Deposit on all three flight lines. The fixed-wing system detected the Deposit only on two flight lines. In exploration programs that seek to expand the flight line spacing in an effort to reduce the cost of the airborne survey, discrete conductors such as the Mesamax Deposit can go undetected. The argument often put forward in favour of using fixed-wing systems is that because of their larger footprint, the flight line spacing can indeed be widened. Many fixed-wing surveys are flown at 200 m or 400 m. Much of the survey work performed by Aeroquest has been to survey in areas that were previously flown at these wider line spacings. One of the reasons for AeroTEM's impressive discovery record has been the strategy of flying closely spaced lines and finding all the discrete near-surface conductors. These higher resolution surveys are being flown within existing mining camps, areas that improve the chances of discovery.

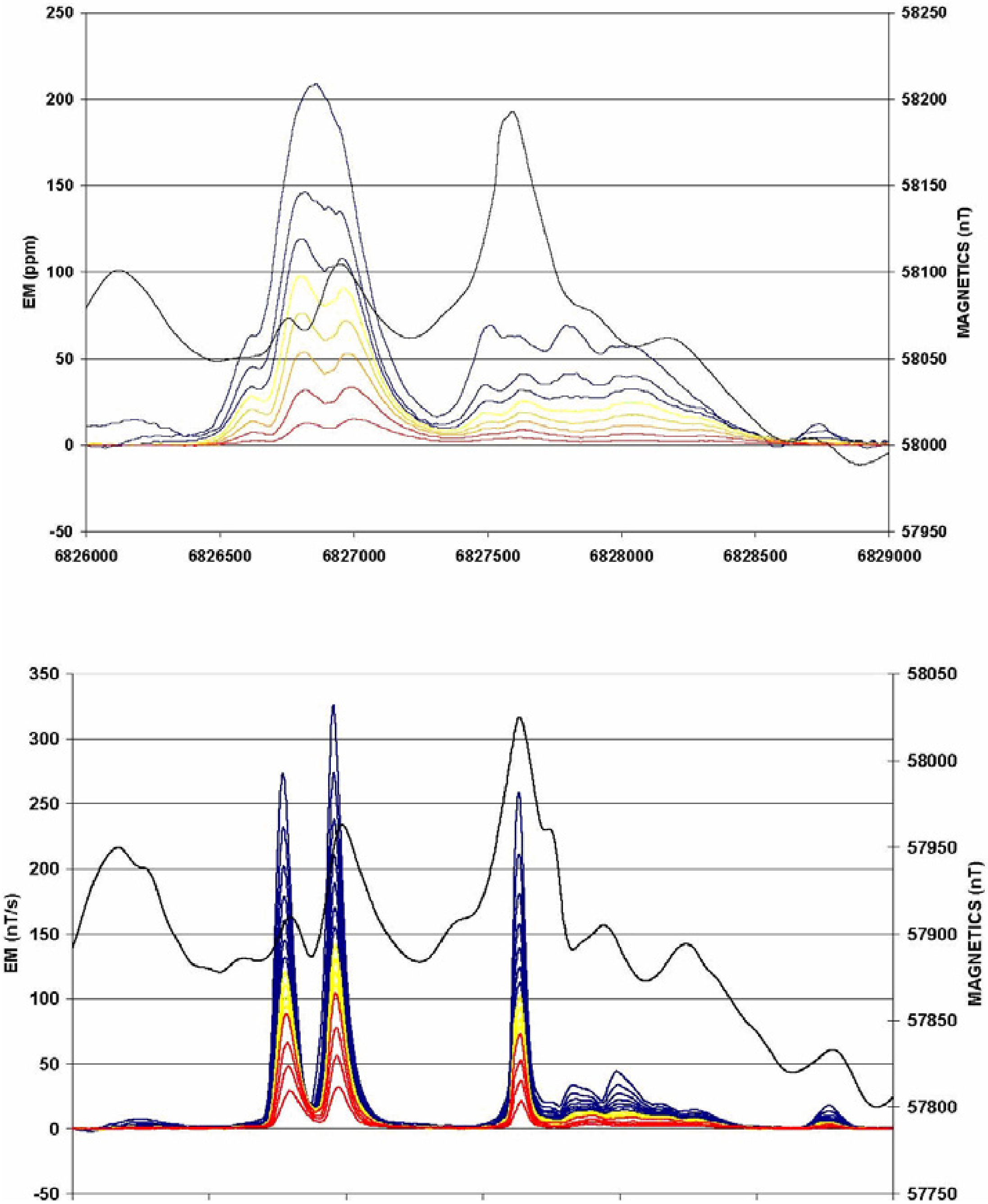


Figure 2. Fixed-wing (upper) and AeroTEM (lower) comparison over the eastern limit of the Mesamax Deposit, a Ni-Cu-PGE zone located in the Raglan nickel belt and owned by Canadian Royalties. Both systems detected the Deposit further to the west where it is closer to surface.

The small footprint of AeroTEM combined with the high signal to noise ratio (S/N) makes the system more suitable to surveying in areas where local infrastructure produces electromagnetic noise, such as power lines and railways. In 2002 Aeroquest flew four exploration properties in the Sudbury Basin that were under option by FNX Mining Company Inc. from Inco Limited. One such property, the Victoria Property, contained three major power line corridors.

The resulting AeroTEM survey identified all the known zones of Ni-Cu-PGE mineralization, and detected a response between two of the major power line corridors but in an area of favorable geology. Three boreholes were drilled to test the anomaly, and all three intersected sulphide. The third borehole encountered 1.3% Ni, 6.7% Cu, and 13.3 g/t TPMs over 42.3 ft. The mineralization was subsequently named the Powerline Deposit.

The success of AeroTEM in Sudbury highlights the advantage of having a system with a small footprint, but also one with a high S/N. This latter advantage is achieved through a combination of a high-moment (high signal) transmitter and a rigid geometry (low noise). Figure 3 shows the Powerline Deposit response and the response from the power line corridor at full scale. The width of power line response is less than 75 m.

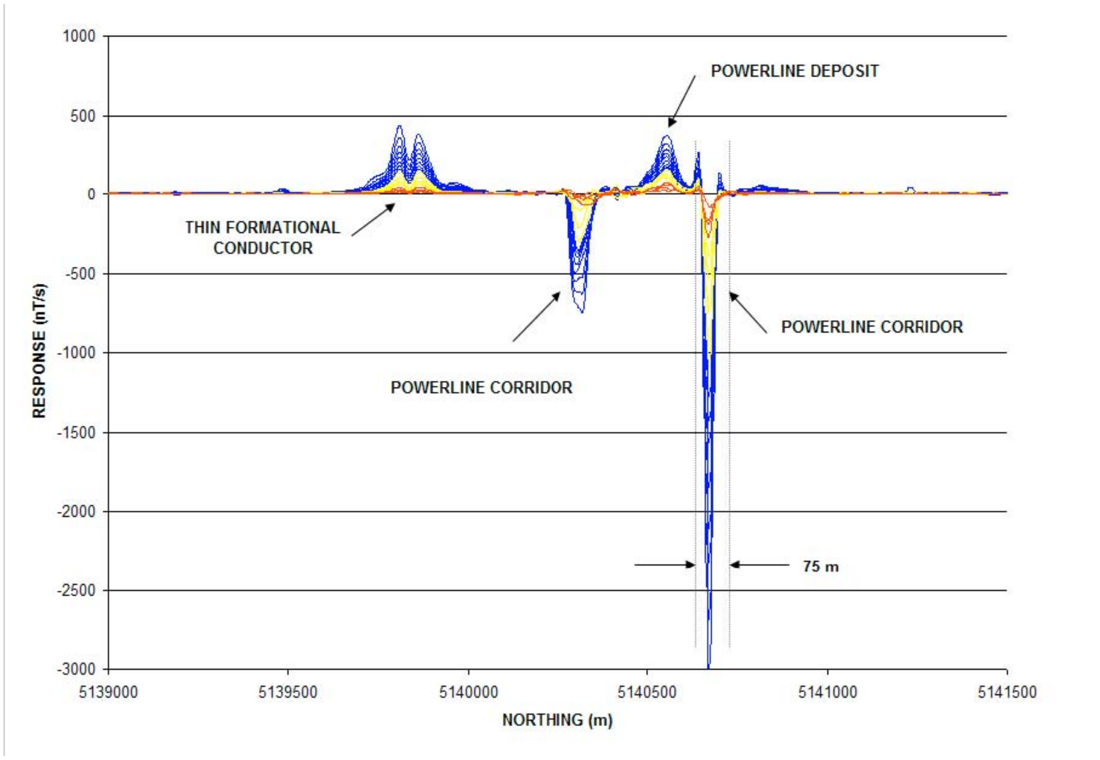


Figure 3. The Powerline Deposit is located between two major power line corridors, which make EM surveying problematic. Despite the strong response from the power line, the anomaly from the Deposit is clearly detected. Note the thin formational conductor located to the south. The only way to distinguish this response from that of two closely spaced conductors is by interpreting the X-axis coil response.

Advantage 2 – Conductance Discrimination

The AeroTEM system features full waveform recording and as such is able to measure the on-time response due to high conductance targets. Due to the processing method (primary field removal), there is attenuation of the response with increasing conductance, but the AeroTEM on-time measurement is still superior to systems that rely on lower base frequencies to detect high conductance targets, but do not measure in the on-time.

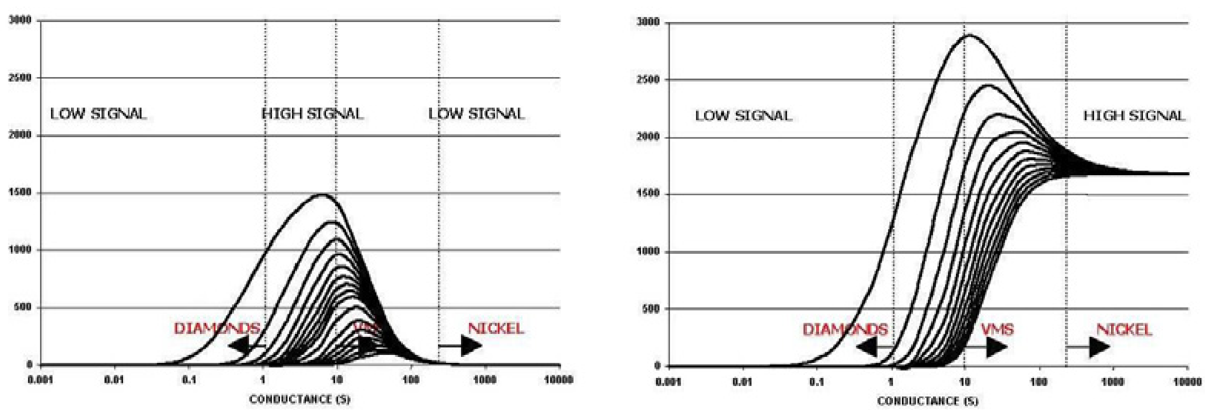
The peak response of a conductive target to an EM system is a function of the target conductance and the EM system base frequency. For time domain EM systems that measure only in the off-time, there is a drop in the peak response of a target as the base frequency is lowered for all conductance values below the peak system response. For example, the AeroTEM peak response occurs for a 10 S conductor in the early off-time and 100 S in the late off-time for a 150

Hz base frequency. Because base frequency and conductance form a linear relationship when considering the peak response of any EM system, a drop in base frequency of 50% will double the conductance at which an EM system shows its peak response. If the base frequency were lowered from 150 Hz to 30 Hz there would be a fivefold increase in conductance at which the peak response of an EM occurred.

However, in the search for highly conductive targets, such as pyrrhotite-related Ni-Cu-PGM deposits, a fivefold increase in conductance range is a high price to pay because the signal level to lower conductance targets is reduced by the same factor of five. For this reason, EM systems that operate with low base frequencies are not suitable for general exploration unless the target conductance is more than 100 S, or the target is covered by conductive overburden.

Despite the excellent progress that has been made in modeling software over the past two decades, there has been little work done on determining the optimum form of an EM system for mineral exploration. For example, the optimum configuration in terms of geometry, base frequency and so remain unknown. Many geophysicists would argue that there is no single ideal configuration, and that each system has its advantages and disadvantages. We disagree.

When it comes to detecting and discriminating high-conductance targets, it is necessary to measure the pure inphase response of the target conductor. This measurement requires that the measured primary field from the transmitter be subtracted from the total measured response such that the secondary field from the target conductor can be determined. Because this secondary field is in-phase with the transmitter primary field, it must be made while the transmitter is turned on and the transmitter current is changing. The transmitted primary field is several orders of magnitude larger than the secondary field. AeroTEM uses a bucking coil to reduce the primary field at the receiver coils. The only practical way of removing the primary field is to maintain a rigid geometry between the transmitter, bucking and receiver coils. This is the main design consideration of the AeroTEM airframe and it is the only time domain airborne system to have this configuration.



The off-time AeroTEM response for the 16 channel configuration.

The on-time response assuming 100% removal of the measured primary field.

Figure 4. The off-time and on-time response nomogram of AeroTEM for a base frequency of 150 Hz. The on-time response is much stronger for higher conductance targets and this is why on-time measurements are more important than lower frequencies when considering high conductance targets in a resistive environment.

Advantage 3 – Multiple Receiver Coils

AeroTEM employs two receiver coil orientations. The Z-axis coil is oriented parallel to the transmitter coil and both are horizontal to the ground. This is known as a maximum coupled configuration and is optimal for detection. The X-axis coil is oriented at right angles to the transmitter coil and is oriented along the line-of-flight. This is known as a minimum coupled configuration, and provides information on conductor orientation and thickness. These two coil configurations combined provide important information on the position, orientation, depth, and thickness of a conductor that cannot be matched by the traditional geometries of the HEM or fixed-wing systems. The responses are free from a system geometric effect and can be easily compared to model type curves in most cases. In other words, AeroTEM data is very easy to interpret. Consider, for example, the following modeled profile:

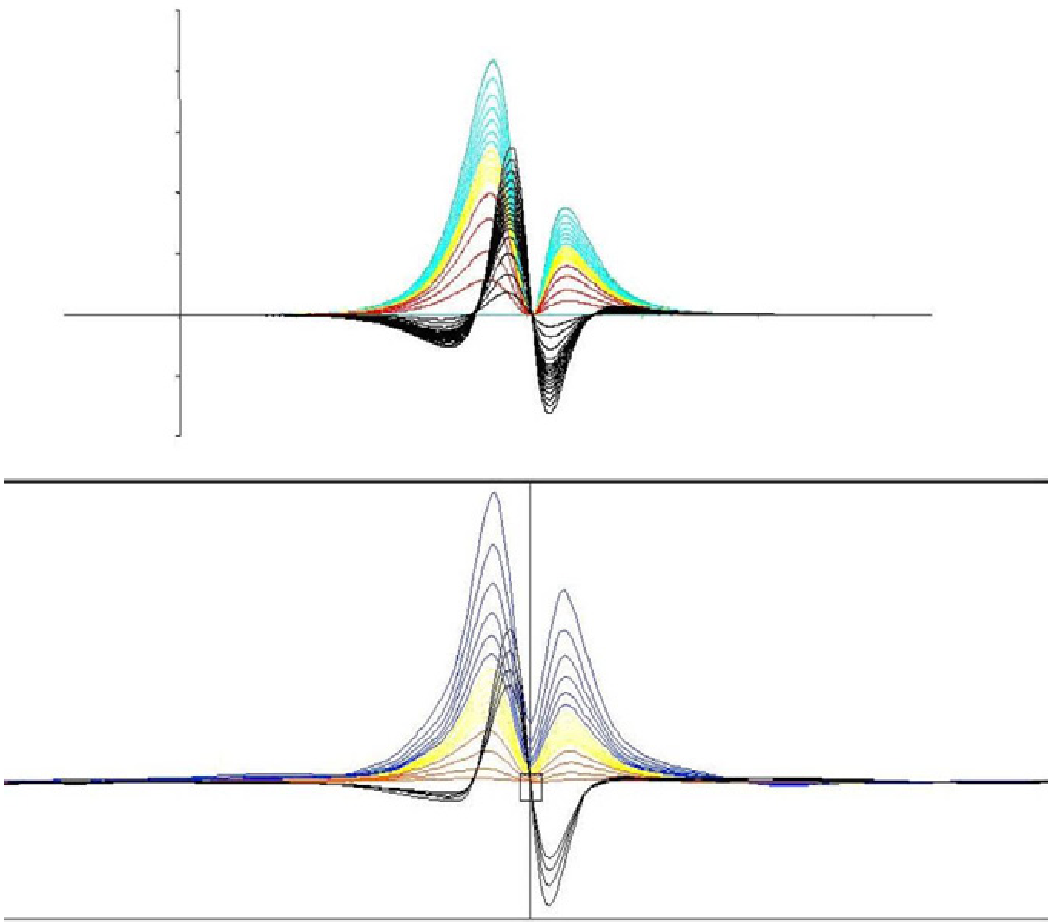


Figure 5. Measured (lower) and modeled (upper) AeroTEM responses are compared for a thin steeply dipping conductor. The response is characterized by two peaks in the Z-axis coil, and a cross-over in the X-axis coil that is centered between the two Z-axis peaks. The conductor dips toward the higher amplitude Z-axis peak. Using the X-axis cross-over is the only way of differentiating the Z-axis response from being two closely spaced conductors.

HEM versus AeroTEM

Traditional helicopter EM systems operate in the frequency domain and benefit from the fact that they use narrowband as opposed to wide-band transmitters. Thus all of the energy from the transmitter is concentrated in a few discrete frequencies. This allows the systems to achieve excellent depth penetration (up to 100 m) from a transmitter of modest power. The Aeroquest Impulse system is one implementation of this technology.

The AeroTEM system uses a wide-band transmitter and delivers more power over a wide frequency range. This frequency range is then captured into 16 time channels, the early channels containing the high frequency information and the late time channels containing the low frequency information down to the system base frequency. Because frequency domain HEM systems employ two coil configurations (coplanar and coaxial) there are only a maximum of three comparable frequencies per configuration, compared to 16 AeroTEM off-time and 12 AeroTEM on-time channels.

Figure 6 shows a comparison between the Dighem HEM system (900 Hz and 7200 Hz coplanar) and AeroTEM (Zaxis) from surveys flown in Raglan, in search of highly conductive Ni-Cu-PGM sulphide. In general, the AeroTEM peaks are sharper and better defined, in part due to the greater S/N ratio of the AeroTEM system over HEM, and also due to the modestly filtered AeroTEM data compared to HEM. The base levels are also better defined in the AeroTEM data. AeroTEM filtering is limited to spike removal and a 5-point smoothing filter. Clients are also given copies of the raw, unfiltered data.

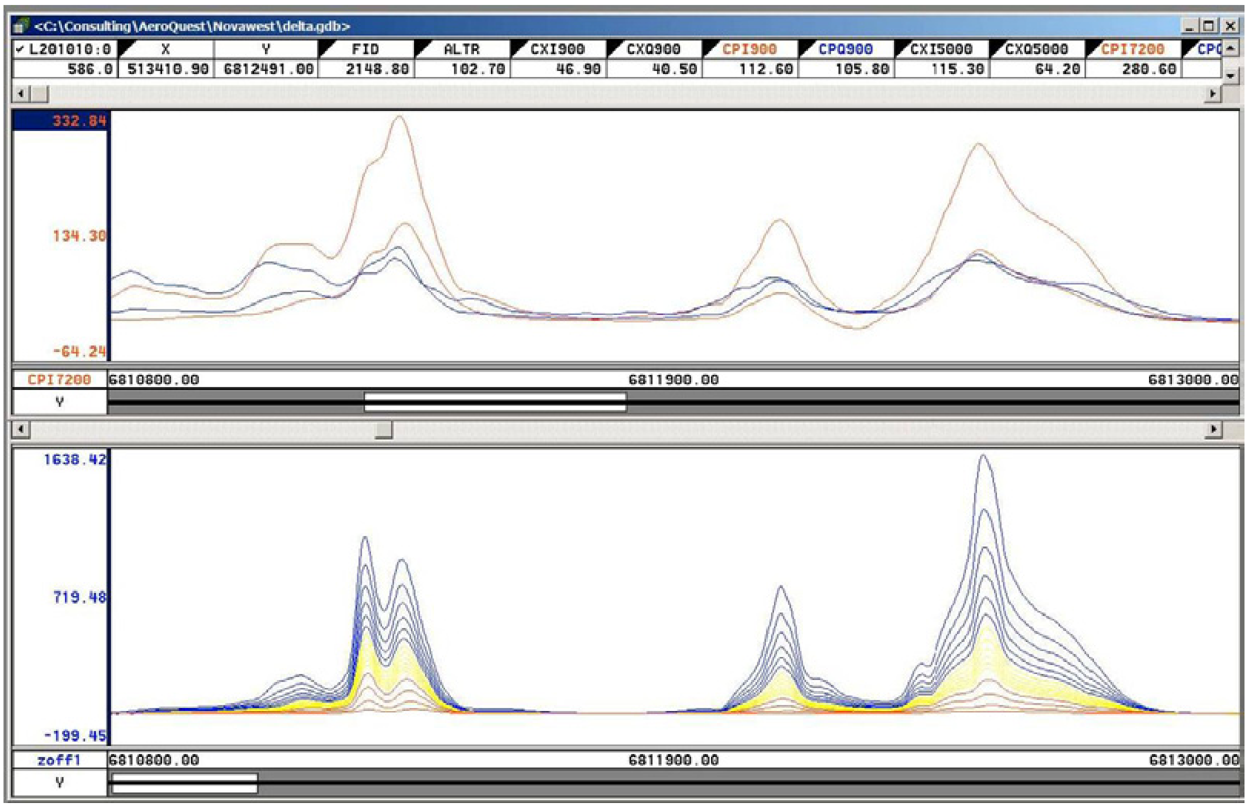


Figure 6. Comparison between Dighem HEM (upper) and AeroTEM (lower) surveys flown in the Raglan area. The AeroTEM responses appear to be more discrete, suggesting that the data is not as heavily filtered as the HEM data. The S/N advantage of AeroTEM over HEM is about 5:1.

Aeroquest Limited is grateful to the following companies for permission to publish some of the data from their respective surveys: Wolfden Resources, FNX Mining Company Inc, Canadian Royalties, Nova West Resources, Aurogin Resources, Spectrem Air. Permission does not imply an endorsement of the AeroTEM system by these companies.

APPENDIX 6: AEROTEM INSTRUMENTATION SPECIFICATION SHEET

AEROTEM Helicopter Electromagnetic System

System Characteristics

- Transmitter: Triangular Pulse Shape Base Frequency 150 Hz
- Tx On Time - 1,150 (150 Hz) µs
- Tx Off Time - 2,183 (150 Hz) µs
- Loop Diameter - 5 m
- Peak Current - 250 A
- Peak Moment - 38,800 NIA
- Typical Z Axis Noise at Survey Speed = 5 nT peak to peak
- Sling Weight: 270 Kg
- Length of Tow Cable: 40 m
- Bird Survey Height: 30 m nominal

Receiver

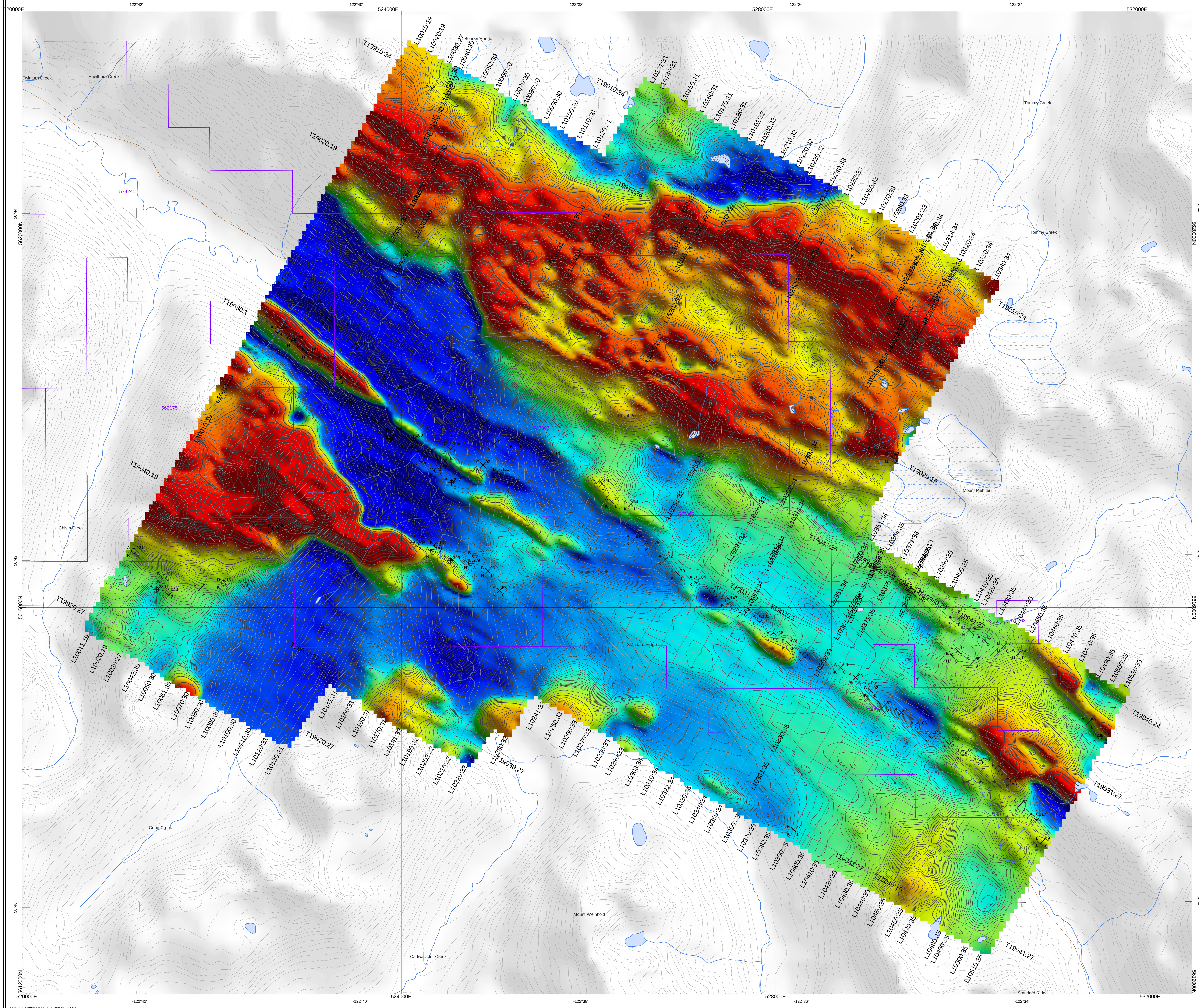
- Two Axis Receiver Coils (x, z) positioned at centre of transmitter loop
- Selectable Time Delay to start of first channel 21.3 , 42.7, or 64.0 ms

Display & Acquisition

- AERODAS Digital recording at 120 samples per decay curve at a maximum of 300 curves per second (27.778µs channel width)
- RMS Channel Widths: 52.9,132.3, 158.7, 158.7, 317.5, 634.9 µs
- Recording & Display Rate = 10 readings per second.
- On-board display - six channels Z-component and 1 X-component

System Considerations

Comparing a fixed-wing time domain transmitter with a typical moment of 500,000 NIA flying at an altitude of 120 m with a Helicopter TDEM at 30 m, notwithstanding the substantial moment loss in the airframe of the fixed wing, the same penetration by the lower flying helicopter system would only require a sixty-fourth of the moment. Clearly the AeroTEM system with nearly 40,000 NIA has more than sufficient moment. The airframe of the fixed wing presents a response to the towed bird, which requires dynamic compensation. This problem is non-existent for AeroTEM since transmitter and receiver positions are fixed. The AeroTEM system is completely portable, and can be assembled at the survey site within half a day.



Grid North
NAD83-Zone10

The topographic data base was derived from 1:50000 NRC (Natural Resources Canada) NTDB data
Topo contours derived from NASA SRTM data
Inset data derived from Natural Resources Canada 'Atlas of Canada Base Maps'

This map accompanies the technical report entitled 'Report on a Helicopter-Borne Magnetic and Electromagnetic Survey, Piebiter Property British Columbia', by Aeroquest Limited, March 2008

Scale 1:10,000,000

TMI Contour Interval

- 5nT
- 250nT
- 1000nT

Off-Time Anomaly Symbols

- >50S
- 35-50S
- 20-35S
- 10-20S
- 5-10S
- 1-5S
- <1S

anomaly label A, decay constant (µs) 125, thicK/thiN source K, off-time conductance (S) 36

TMI(rtp) nT: 58146, 57015, 56440, 56262, 56176, 56108, 56055, 56014, 55973, 55936, 55904, 55875, 55850, 55826, 55803, 55781, 55760, 55741, 55721, 55701, 55682, 55666, 55650, 55632, 55615, 55597, 55578, 55560, 55545, 55530, 55515, 55501, 55488, 55476, 55465, 55453, 55445, 55437, 55432, 55427, 55422, 55418, 55414, 55409, 55405, 55402, 55398, 55395, 55392, 55390, 55388, 55386, 55383, 55380, 55378, 55375, 55373, 55370, 55368, 55365, 55361, 55358, 55354, 55350, 55346, 55342, 55337, 55332, 55326, 55319, 55312, 55303, 55292, 55280, 55267, 55257, 55246, 55234, 55224, 55211, 55195, 55175, 55154, 55116, 55045

SURVEY SPECIFICATIONS:
- Survey flown: Dec. 18, 2007, Jan. 13-23, 2008
- Traverse line spacing: 200 metres
- Traverse line direction: NE-SW (Azimuth 29º)
- Nominal EM bird height: 30 metres
- Aircraft: Aerospatiale A-Star 350B2+ (C-FPTG)

INSTRUMENTATION:
- Data acquisition: ADAS & RMS DGR-33
- Magnetometer: Geometrics G-823A cesium vapour
  - Installation: mounted on EM bird
  - Sensitivity: .001 nanoTesla
- Electromagnetics: AeroTEM II System (ECHO)
  - Configuration: Towed bird

NAVIGATION:
- Navigation: Differential Global Positioning System (DGPS)
- Navigation equipment: AGNAV with MID-TECH RX400p receiver
- Radar Altimeter: Terra TRA3000/TRI-30

DATA PROCESSING
- Magnetics: diurnal, tieline and micro-leveling corrections

POSITIONING
- Datum: NAD83
  - Major Axis: 6378137.000
  - Eccentricity: 0.081819191

MAP PROJECTION
- Projection: Universal Transverse Mercator
- Central Meridian: 123°W (Zone 10)
- Central Scale Factor: 0.9996
- False Easting/Northing: 500,000m/0m

scale 1:20,000

250 0 250 500 750 1000 1250 1500 (meters)
NAD83 / UTM zone 10N

Covenant Resources Ltd.
Gold Bridge Area, British Columbia

TOTAL MAGNETIC INTENSITY (reduced to pole)

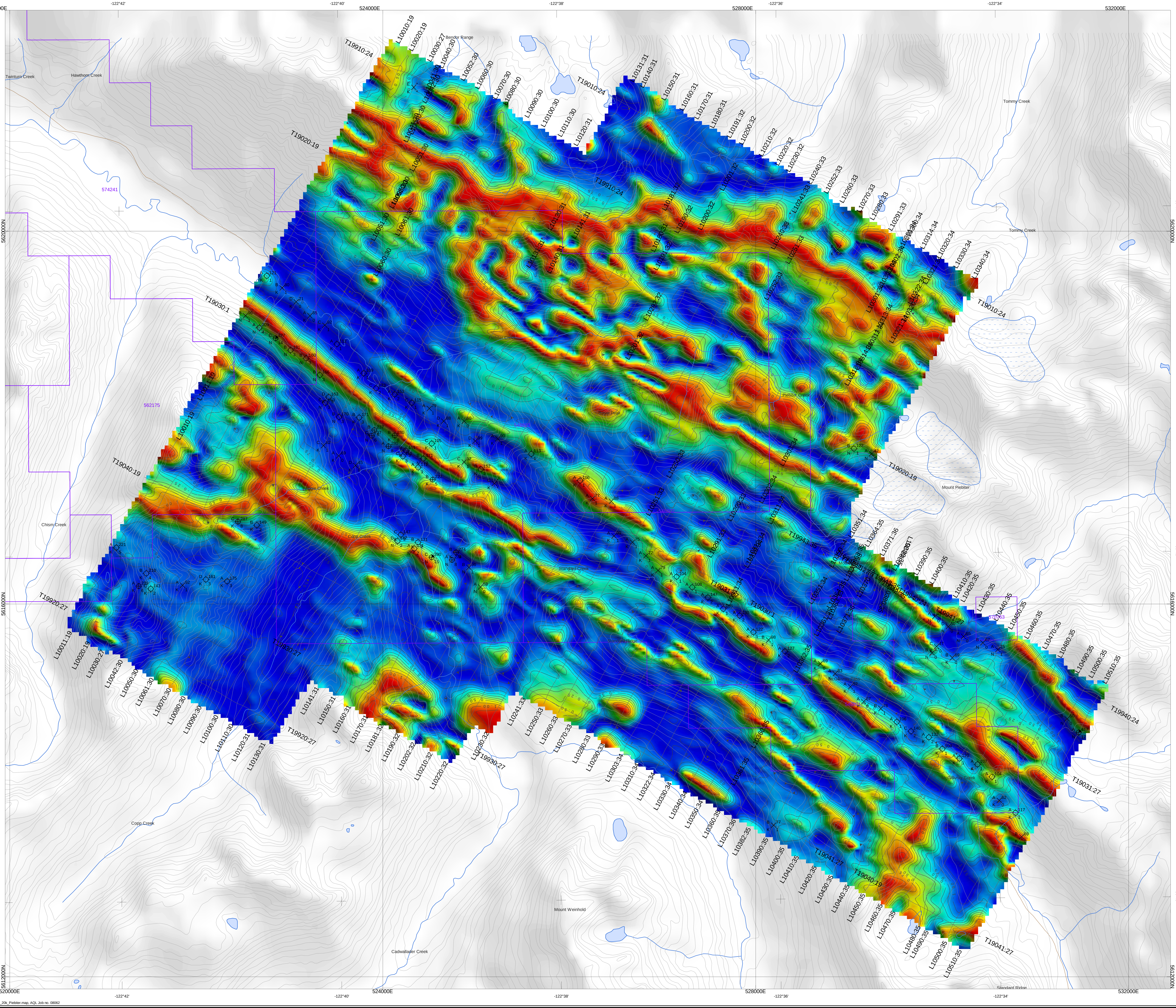
Piebiter Property

NTS 092J10

AEROQUEST
7687 Bath Road, Mississauga, ON, CANADA L4T 3T1
Tel: (905) 672-9129 Fax: (905) 672-7083
www.aeroquest.ca

March 2008

TMI



Grid North
NAD83-Zone10

The topographic data base was derived from 1:50000 NRC (Natural Resources Canada) NTDB data
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Scale 1:10,000,000

TDR Contour Interval

0.25 radians

Off-Time Anomaly Symbols

>50S
35-50S
20-35S
10-20S
5-10S
1-5S
<1S

anomaly label A, 125 decay constant (µs)
thicK/thiN source K, 36 off-time conductance (S)

TDR radians (colour scale −1.54 to 1.55)

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scale 1:20,000

250 0 250 500 750 1000 1250 1500
(meters)
NAD83 / UTM zone 10N

Covenant Resources Ltd.
Gold Bridge Area, British Columbia

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Piebiter Property

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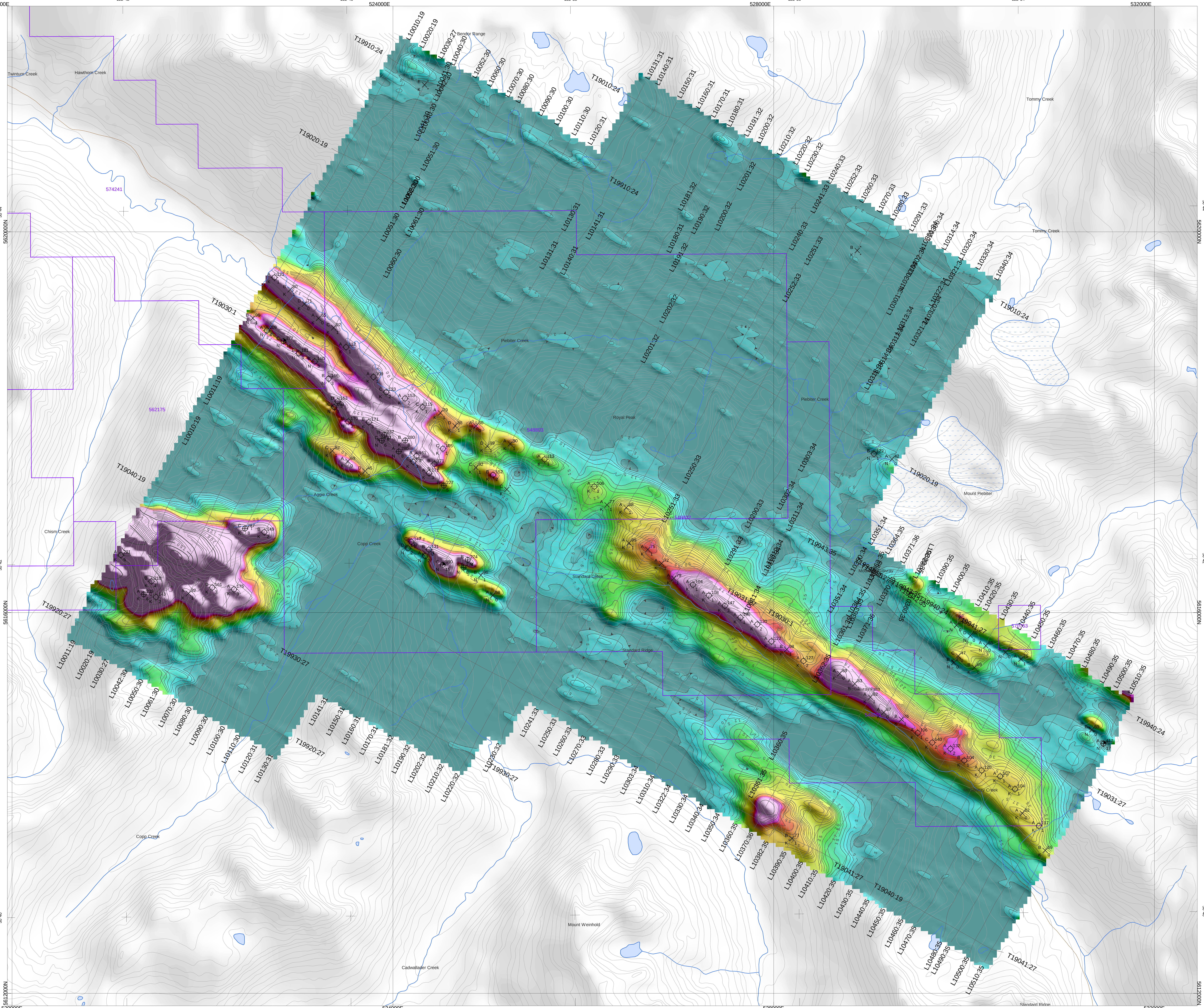
March 2008

TDR

TDR_20k_Piebiter map, AQL Job no. 08062



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Scale 1:10,000,000

ZOFF Contour Interval

5nT/s

Off-Time Anomaly Symbols

>50S ....

35-50S ....

20-35S ....

10-20S ....

5-10S ....

1-5S ....

<1S ....

anomaly label A, 125 decay constant (µs)

thicK/thiN source K, 36 off-time conductance (S)

ZOFF nT/s: 72.5, 67.5, 65.0, 62.5, 60.0, 57.5, 55.0, 52.5, 50.0, 47.5, 45.0, 42.5, 40.0, 37.5, 35.0, 32.5, 30.0, 27.5, 25.0, 22.5, 20.0, 17.5, 15.0, 12.5, 10.0, 7.5, 5.0, 2.5

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scale 1:20,000

250 0 250 500 750 1000 1250 1500

(meters)

NAD83 / UTM zone 10N

Covenant Resources Ltd.
Gold Bridge Area, British Columbia

AEROTEM Z1 OFF-TIME

Piebiter Property

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March 2008

ZOFF