### Assessment Report for the

### **IRONY Claim Group**

Kamloops Mining Division N.T.S. 82M/15W

Latitude: 51° 46' 40", Longitude: 118° 58' 30"

for

Jasper Mining Corporation 1020, 833 - 4<sup>th</sup> Ave South Calgary, Alberta T2P 3T5

Submitted by:

Rick Walker Dynamic Exploration Ltd. 656 Brookview Crescent Cranbrook, BC V1C 4R5

Date: October 19th, 2006

### **SUMMARY**

A 5 million ton Zn-Pb deposit grading 7.5% Zn and 2.5% Pb had been previously documented at Ruddock Creek (Minfile 082M 084), located approximately 100 km north-northwest of Revelstoke and 15 km southwest of Mica Creek on the west side of McNaughton Reservoir / Lake Revelstoke (Fig. 1 and 2). The IRONY claims are located south of, and are immediately adjacent to, Selkirk Metals Corp's Ruddock Creek claims, which cover the previously identified deposit. The property lies on N.T.S. mapsheet 82 M/15W (BC Mapsheet 082M076), east of the Adams Plateau at approximately 51° 45′ 35" N Latitude, 118° 54′ 00" W Longitude. The claims are located in the Monashee Mountains at the headwaters of Oliver Creek, immediately west of the headwaters of Ruddock Creek. Access to the core of the property is by helicopter based in Revelstoke or Clearwater on the Yellowhead Highway. Over the past several years, a road has been gradually extended south toward the headwaters of Oliver Creek and now provides access to, and through, the claims on the western edge of the property.

Recently Cross Lake Minerals Ltd obtained an option on the Ruddock Creek property. Based on an initial review of previous information, Cross Lake Minerals revised the resource estimate downward. "A preliminary mineral resource estimate based on 5,781 metres of diamond drilling by Falconbridge Limited, and 3,162 metres by Cominco suggested that an inferred resource of 1.5 million tonnes grading approximately 8.4% zinc and 1.6% lead is indicated within the drilled area of the E Zone and that a further resource of 1.2 million tonnes could be inferred to the E Zone fault. (Doublestar Resources Ltd. Annual Information Form, May 13, 2003) The resource calculations were completed before the implementation of National Instrument 43-101 and the CIM Guidelines for ore definitions and, therefore, do not meet current regulatory requirements. Until the Company has completed an independent reserve and resource calculation, which will conform with the regulatory requirements as outlined in NI 43-101, all categories should be considered a mineral resource".

At this point in time, Selkirk Metals interprets the deposit to be a sedimentary exhalative (SEDEX)-type deposit, being a zinc + lead occurrence hosted in high grade, calcium-rich metamorphosed sediments in the hinge zone of a large scale, recumbent Phase 1 fold. The host rocks consist of marble- and calc-silicate-rich strata underlying the pelitic upper pelite unit and overlying the amphibolite and semi-pelite bearing semipelite-amphibolite unit of the Horsethief Creek Group (now arguably better assigned to the informally named Mica Creek Assemblage). Two mineralized horizons have been previously mapped, extending westward from the hinge zone into the east side of the Oliver Creek valley. These horizons were interpreted as a single mineralized horizon exposed on opposing limbs of the recumbent syncline. However, based on analysis of data available in existing reports, the author believes they represent two separate and distinct mineral horizons exposed on the upper, overturned limb of the syncline. This hypothesis is based on the fact that the horizons, as mapped, both lie to the west of the surface trace of the axial plane of the Phase 1 fold, as measured by Fyles (1970).

The 2006 program, reported herein, consists of an Aeroquest Limited AeroTEM II time domain survey of the Irony property between May 13<sup>th</sup> and May 30<sup>th</sup>, 2006. A total of approximately 586.2 line km were flown, comprised of magnetics and electromagnetics to cover the property in its entirety. The survey returned a number of very interesting, broadly coincident magnetic and/or resistivity anomalies.

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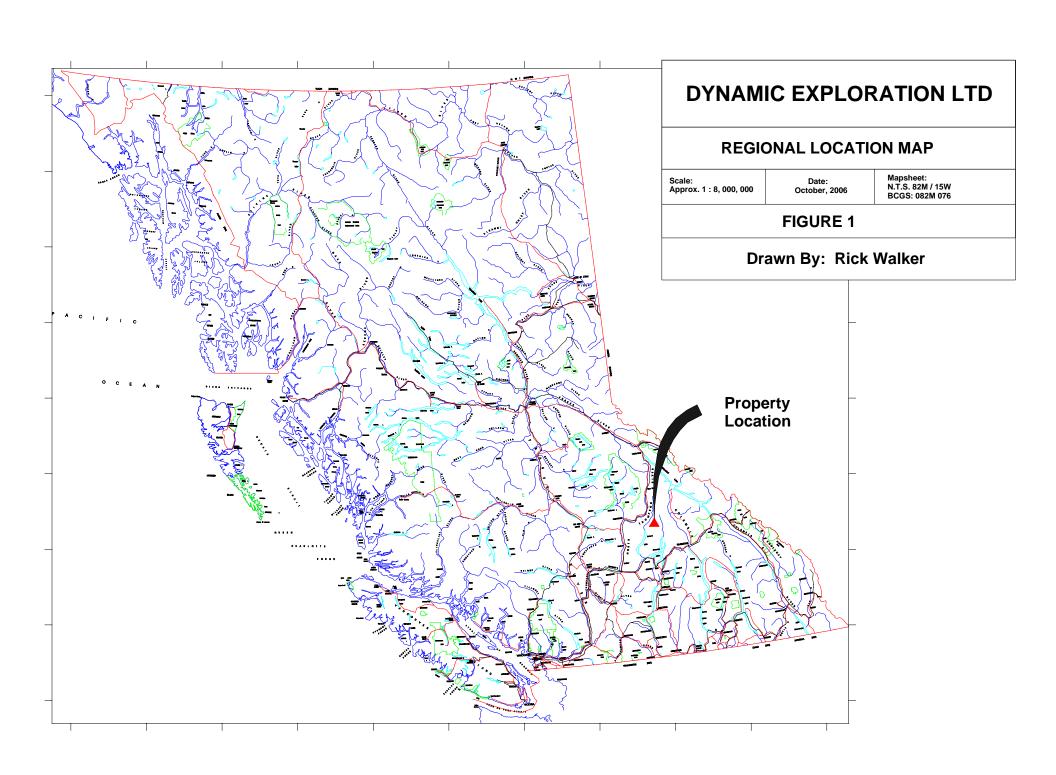
### **INTRODUCTION**

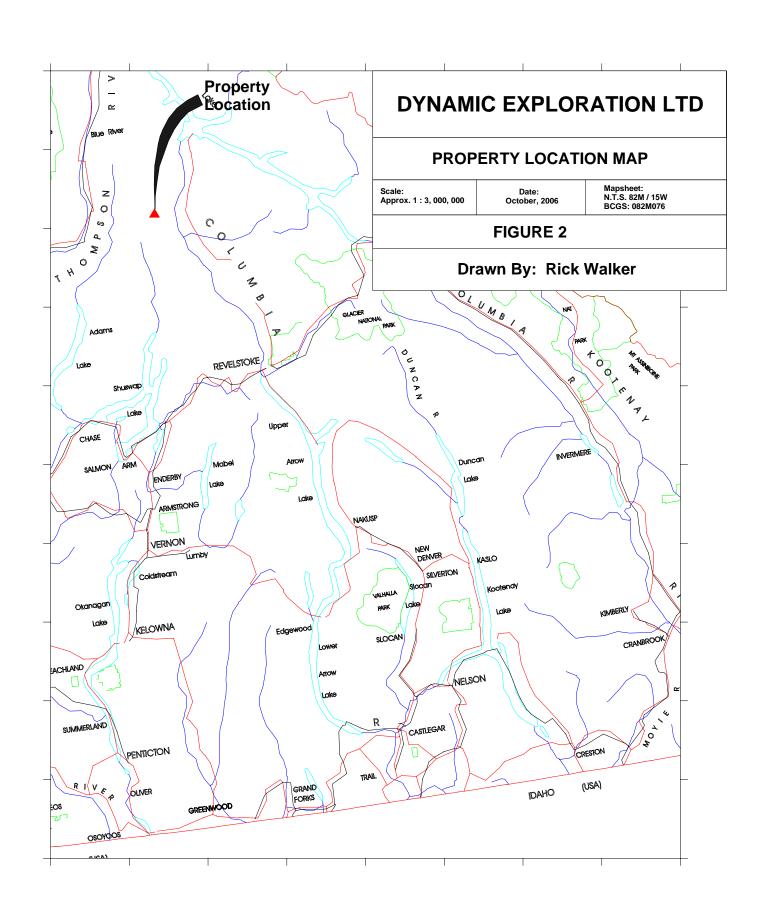
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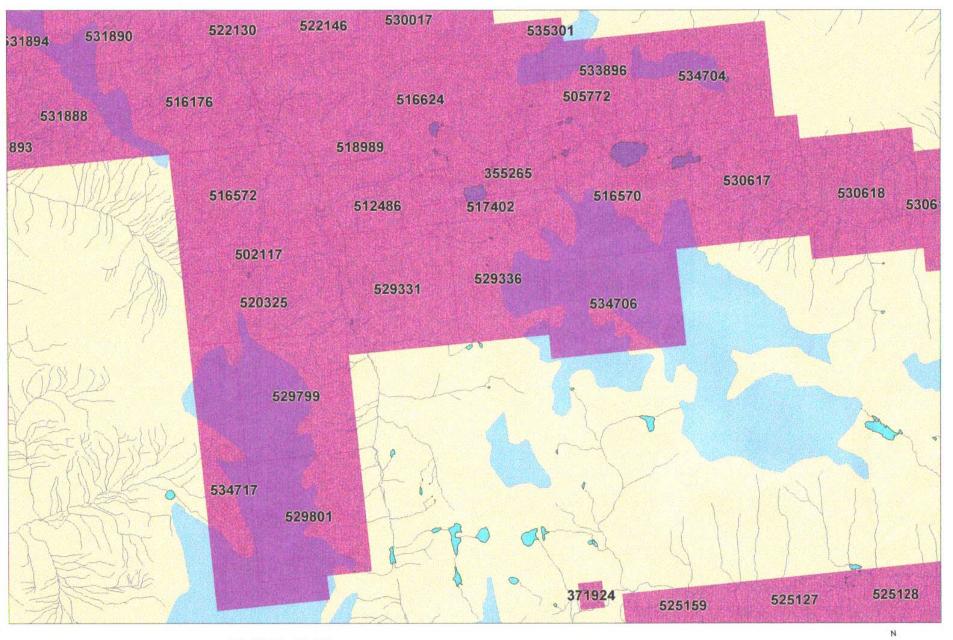
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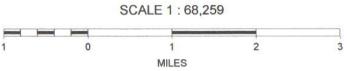
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The 2006 program, reported herein, consists of an Aeroquest Limited AeroTEM II time domain survey of the Irony property between May 13<sup>th</sup> and May 30<sup>th</sup>, 2006. A total of approximately 586.2 line km were flown, comprised of magnetics and electromagnetics to cover the property in its entirety. The survey returned a number of very interesting, broadly coincident magnetic and/or resistivity anomalies.

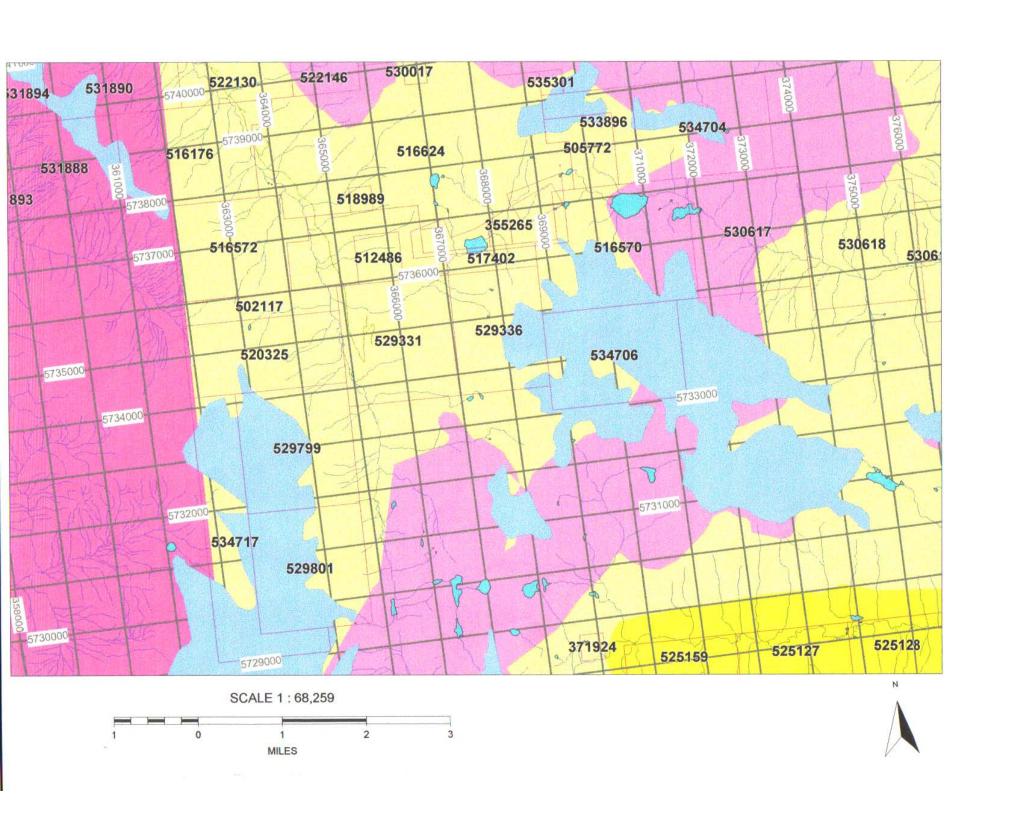












### **LOCATION AND ACCESS**

The claims are located at the common headwaters of Oliver Creek and Ruddock Creek on the west side of McNaughton Reservoir / Lake Revelstoke, located in the Monashee Mountains (Fig. 1 and 2). The claims lie on NTS mapsheet 082M/15W at approximately 118° 54' 00" Longitude, 51° 46' 35" Latitude. The UTM coordinates are 368916 E, 5737657 N on TRIM map 082M76. The property consists of one 4-post (Legacy) claim and twelve Mineral Tenure Online (MTO) mineral tenures, totaling 4,572 hectares.

A Forest Service Road extends from Vavenby on the Yellowhead Highway approximately 92 km north to Tum Tum Lake, at which point a new Forest Service Road can be followed approximately 19 km south toward the headwaters of Oliver Creek. The road is in relatively good condition and can be driven in a vehicle with high ground clearance. Since the 1999 program, the Oliver Creek Forest Service Road has been extended to the north side of the creek flowing out of the informally named "Light Lake". In 2002, the road could be driven to a point approximately 100 metres south of the end of the road as of 1999. The remaining 2 km of the road, however, was easily accessed using ATVs but not available for larger vehicles.

### PHYSIOGRAPHY AND CLIMATE

The claims are located east of the Adams Plateau, north of Shuswap Lake and west of McNaughton Reservoir / Lake Revelstoke in the Monashee Mountains. The topography of the region is very rugged, characterized by very steep slopes and cliff faces, particularly at middle elevations and in areas underlain by the semipelite - amphibolite unit.

The snowfall in the area is very heavy during the winter months, easily exceeding 1-2 metres in most years at high elevation. As a result, the field season available for exploration extends from mid-June to early October for the middle to upper elevations currently of interest. Vegetation in the area consists predominantly of coniferous trees over most of the claims with highly subordinate deciduous trees near lakes and streams. Undergrowth is locally very thick, particularly in avalanche chutes, and consists of slide alder and Devil's Club.

### **CLAIM STATUS**

The claims comprising the IRONY property were acquired by Jasper Mining Corporation in Feb. 2005 and consists of 4,572.394 ha units (Fig. 3 and 4), comprised of one 4-post Legacy claim, staked in accordance with existing government claim location regulations, and 12 MTO (Mineral Tenure Online) claims. Significant claim data are summarized below:

| Claim Name    | Tenure # | <b>Good To Date*</b> | Area (ha) |
|---------------|----------|----------------------|-----------|
| Irony 2       | 355265   | Jan. 31, 2011        | 450       |
| Irony 7       | 502117   | Jan. 31, 2011        | 140.056   |
| Irony 3       | 505772   | Jan. 31, 2011        | 139.99    |
|               | 512486   | Jan. 31, 2011        | 80.021    |
|               | 512487   | Jan. 31, 2011        | 280.062   |
|               | 516570   | Jan. 31, 2011        | 660.21    |
|               | 516572   | Jan. 31, 2011        | 420.072   |
| IRONY CENTRAL | 517402   | Jan. 31, 2011        | 80.025    |
| IRONY 1       | 520325   | Jan. 31, 2011        | 420.247   |
| IRONY 4       | 529331   | Jan. 31, 2011        | 500.294   |
| IRONY 5       | 529336   | Jan. 31, 2011        | 400.234   |
| IRONY 6       | 529799   | Jan. 31, 2011        | 500.477   |
| IRONY 8       | 529801   | Jan. 31, 2011        | 500.706   |
|               |          | Total                | 4,572.394 |

<sup>\*</sup> Subsequent to recording 2006 Assessment Work .

Note: Figure 3 and 4 have been taken from the provincial government's MapPlace web-site.

### **HISTORY**

"The showings were discovered in the summer of 1960 near the end of a season of systematic prospecting of this part of the Monashee Mountains by Falconbridge Nickel Mines Limited (then Ventures Limited), prospectors M. Donahue and T. Cross, under the supervision of E. Dodson.

They were drilled, sampled, and mapped in the summers of 1961, 1962, and 1963. Geological work was under the direction of H.R. Morris, who made detailed and accurate maps which formed the basis of deep drilling done in 1963. As a result of this work, several million tons of ore grading 10 per cent combined lead and zinc was discovered and the possibility of much more was indicated. No further exploratory work has been done" (Fyles 1970).

As part of his report, Fyles (1970) spent three weeks mapping and reviewing Falconbridge data to aid in his report.

In 1973, an airborne geophysical program was completed on the property by Aerodat Limited. A total of 69 line-miles was flown for Westrob Mines Limited with both EM and Magnetic data recovered (Brown and Fraser 1973).

Subsequently, Cominco Ltd, acting as operator under an option agreement with Falconbridge, undertook a series of programs between 1975 and 1982 (BC MEMPR Exploration in BC, 1975 - 1982) modified as follows:

- 1975 Surface diamond drilling, one hole totaling 683.1 m on claim IT4 (C-1-75).
- 1976 Surface diamond drilling, one NQ hole totaling 259.8 m (C-76-1) on claim IT27 (Hodgson 1976).
- 1977 Geological mapping (1:500) covering IT 3-7; drilling six BQ holes (UG-77-9 to 12, LG-77-7&8) totaling 812 m and 25 X-ray holes totaling 770 m on IT 3, 4, 8 & 10 (LG-77-3 to 6; F-77-1 to 5, UG-77-1 to 8, LG-77-1 & 2, T-77-1-6) (Nichols 1977).
- 26.0 line kilometres of ground EM (UTEM), 9.2 line kilometres of ground magnetometer survey and 10.1 kilometre of line-cutting. Downhole pulse EM (PEM) survey (Lajoie 1982).

There are no Assessment Reports or other documentation known to the author pertaining to exploratory work subsequent to 1982 and before acquisition of the Ruddock Creek property by Doublestar Resources Ltd.

Over the previous years, prospecting, limited geological mapping and geochemical sampling were undertaken on the northwest portion of the claims. Prospecting was undertaken to: 1) locate the extensions of one or both mineralized horizons at lower to mid-slope levels on the east side of Oliver Creek and 2) locate old Falconbridge claim posts and/or claim lines, particularly for the IF 4 and 5 claims. Prospecting attempted to determine the stratigraphy of the immediate area and to identify

the structural position relative to mineralized horizons and the host fold. Limited geological mapping was completed in that most outcrops were examined and structural measurements taken as well as a brief description made of the lithologies. Evidence of high grade mineralization was found in outcrop in the core of a small parasitic fold, in outcrop in Avalanche Creek and in float in two high gradient watercourses.

In 1997, the author undertook a brief program to locate old Falconbridge claim posts, confirm stratigraphic correlations, examine the "E" showing and associated mineralization, locate old drill sites and determine if any recoverable core remained on the property. Several attempts have been made to locate evidence of old Falconbridge claims, some of which are believed to have been staked in the 1960's. No old claim posts were identified, however, some posts for the previous IRONY claims were located, with locations ascertained using a hand-held GPS. In addition, prospecting was undertaken to locate outcrop occurrences to determine the stratigraphy of the area and attempt to identify the structural position relative to the mineralized horizons and the host fold. Limited geological mapping was completed in that most outcrops were examined and several structural measurements taken as well as a brief description of the lithologies.

Preliminary results were very encouraging in that strong geochemical anomalies were returned from analysis of soils (Walker 1999) and, together with visually anomalous rock samples, suggest the presence of one (or more) mineralized horizons where expected on the basis of structuring contouring Falconbridge data. A total of 102 soil samples were taken on the property. Soil samples were taken along two lines, one at 1200 m and a second along the Oliver Creek Forest Service Road at approximately 1000 m. The soil samples were dried and subsequently submitted to Eco-Tech Laboratories in Kamloops for 28 element ICP analysis. Results document highly anomalous values for both lead and zinc south of Avalanche Creek. To the north, the proportion of anomalous values is substantially lower, with no lead values identified above a qualitative background value of 50 ppm and only a few scattered zinc values above a qualitative background of 150 ppm. A fault is interpreted along Avalanche Creek, juxtaposing strata of the structurally overlying SPA to the north of the fault against stratigraphically higher strata of the middle marble to the south, on the overturned limb of the Phase 1 fold. Therefore, the fault is interpreted to have north-side down dip-slip offset, with the strike-slip component unknown. These mineralized horizons may be present at deeper levels north of the fault, where the middle marble unit should be present structurally below the SPA unit. In addition, on the basis of structure contouring, the mineralized horizons should also be present on the west side of Oliver Creek, on the IRONY 7 claim, and are expected to project to higher elevations to the south.

The 2002 program was intended to continue evaluation of the western portion of the Ruddock Creek claims and the potential for previously identified, mineralized horizons to extend onto the Irony claims (Walker 2002). A short soil line (16 samples) was sampled along the extension of the Oliver Creek Forest Service Road, extending from the southern margin of the IF claims southward to "Light Creek". In addition, continued effort was made to locate the IF claim posts so as to determine their actual position on the ground, which is the subject of considerable uncertainty. Finally, the provincial GPS regulations were utilized to determine precise coordinates for the Irony 7 and 18 to 22 (submitted in a separate report dated August 27, 2002).

The 2004 program was intended to secure claims covering the "E Zone" and continue evaluation of the western portion of the Ruddock Creek claims and the potential for previously identified, mineralized horizons to extend onto the Irony claims. A short traverse was undertaken, extending from the vicinity of the "E Zone" south and east toward a small lake at the headwaters of Ruddock Creek. In addition, the road along Oliver Creek was accessed to determine the extent of new construction completed and the extent to which the road provides access to the property.

### **GEOLOGY**

The Regional and Local Geology has been well described in previous reports (Lewis 2001, Walker 1999) and will not be duplicated here.

Mapping by R. Scammell (1991, 1990, 1989) in the Horsethief Creek Group west of McNaughton Reservoir confirmed the presence of the semipelite-amphibolite unit (SPA, his unit 3) and the overlying middle marble (his unit 4 and host of the sulphide horizon(s)) in the Ruddock Creek area (Fig. 3a and 3b). Furthermore, on the basis of his mapping and that of Fyles (1970) the structural nature of the Ruddock Creek deposit appears to be controlled by the trend and plunge of  $F_2$  folds, which gently plunge to the west-northwest. This interpretation suggests the sulphide layer, hosted by the middle marble within a refolded  $F_1$  fold controlled by  $F_2$ , should extend across, and to the west side of, Oliver Creek.

"An upright stratigraphic sequence lies in the immediate hangingwall of the Monashee Décollement, and dips moderately west to northwest. Structures generally plunge moderately to the west.

At the headwaters of Ruddock Creek, Pb-Zn-bearing and calcareous horizons of unit 4 outline a kilometre-scale type-3 fold interference pattern ... The  $F_1$  structure at Ruddock Creek is inferred to have been originally southwesterly-verging based on long limb - short limb relationships. It is refolded by several reclined  $F_2$  folds which can have kilometre-scale wavelengths and amplitudes, and plunge gently to the west-northwest" (Scammell 1991).

Furthermore, based on an interpretive cross section of Fyles (1970), the sulphide layer is interpreted to wrap the southern margin of an  $F_2$  fold to a termination against a shallow to moderately south dipping fault. The sulphide horizon is interpreted to be offset and continue structurally above the fault. However, a possible marker horizon structurally below the fault appears to pass into a deeper  $F_2$  fold and extends to deeper levels to the south.

### 2006 PROGRAM

During the summer of 2006, Jasper Mining Corporation undertook an Aeroquest Limited geophysical program to provide further information with which to evaluation of the property. A total of approximately 586.2 line km were flown, comprised of magnetics and electromagnetics to cover the property in its entirety. The survey returned a number of very interesting, broadly coincident magnetic and/or resistivity anomalies.

An Aeroquest Limited AeroTEMII time domain geophysical program was undertaken on the property between May 13<sup>th</sup> and May 30<sup>th</sup>, 2006. A total of 586.2 line km of Magnetic and Electromagnetic (EM) data were collected. The data were plotted at a scale of 1:10,000.

A report and graphical plots of the data have been included in Appendix B.

#### **RESULTS**

Aeroquest Limited provided Jasper Mining Corporation with the following products:

- (1) A final report with limited interpretation of the results.
- (2) Geophysical survey results at a scale of 1:10,000, consisting of:
  - a. Total Magnetic Intensity (TMI)
  - b. Vertical Derivative of TMI
  - c. AeroTEM Off-Line profiles (Z1 Z16) and EM anomalies
- (3) Accompanying analog data, including selected flight profiles, video flight recorder
- (4) Digital data in Geosoft format

The geophysical survey was contracted specifically to Aeroquest so as to allow comparison of any resulting anomalies with those described and released by Selkirk. The survey completed for Selkirk resulted in identification of a prominent magnetic anomaly which is spatially associated with, and appears to correlate well to, the mapped and projected trace of the RCMSH, encompassing previously identified surface mineralization at the E, F, G, M, Q, R, T, U and V zones. As a result, a comparison can be made between the final, processed data released by Selkirk (<a href="www.selkirkmetals.com">www.selkirkmetals.com</a>) and preliminary data received by the Company. Furthermore, a combination of the geophysical signature of the RCMSH and previously reported soil geochemistry appears to be consistent with the recent discovery of high grade zinc-lead-silver mineralization along the east side of Oliver Creek, approximately 5 km west of the "E Zone".

The above is a brief summary of the information available in the public domain with regard to the mineralization and extent of the RCMSH prior to the Aeroquest airborne geophysical survey flown for the Company.

### **DISCUSSION**

A 2.7 million ton Zn-Pb resource has been documented on Falconbridge's claims (Fyles 1970, Lajoie 1982), located primarily at the "E" showing. The Ruddock Creek deposit has been alternatively interpreted as a metamorphosed sedimentary exhalative, a carbonate hosted lead-zinc deposit and as a Broken Hill Type deposit. The deposit is a zinc-lead massive sulphide occurrence hosted within predominantly sedimentary strata interpreted to be of Windermere age and deposited in a rift dominated environment. Therefore, the deposit identified to date can be assigned to a number of different categories, dependent upon the bias of the individual. For practical purposes, assignment as a sedimentary exhalative (SEDEX) (Pb-Zn-Ag) deposit may be the most satisfactory.

In his report, Fyles (1970) interpreted the Ruddock Creek deposit to be hosted by sediments in the hinge zone of a syncline. More recent work on the stratigraphic and structural relations of the area (Raeside 1982; Raeside and Simony 1983; Scammel 1991, 1989, 1988) confirm the structure is a recumbent syncline. The exposed strata in the area have been correlated from the semipelite-amphibolite (SPA), stratigraphically upward to the upper pelite unit. The 2.7 million ton resource is hosted by the middle marble unit which immediately underlies the upper pelite in the core of the large scale Phase 1 syncline.

The presence of westward trending F<sub>1</sub> and F<sub>2</sub> fold axes and the surface trace of the mineralized horizons as mapped on the property (Fyles 1970, Lewis 2001) strongly suggest potential for additional mineralization to be identified to the west. Specifically, the horizon hosting the "T" showing on the southern margin of the Falconbridge claims would appear to have potential to continue to the southwest toward Oliver Creek. The horizon hosting the "Q", "R", "V" and "U" showings is located within the claims forming the northern margin of the Falconbridge claims, and similarly may continue into the Oliver Creek valley.

Based on structure contouring, both mineralized horizons identified and previously mapped are interpreted to extend into the Oliver Creek valley where they are truncated by a fault along Avalanche Creek. The horizons are interpreted to be present south of the fault along the west side of Oliver Creek, extending to the south toward and into the Irony J and Irony 1 claims (where a large gossan has been identified immediately below the glacier). This interpretation was described in a little more detail in Walker (2002).

Exposures of road cut and float within creeks and adjacent to the road, interpreted to be proximal float, has identified the presence of amphibolite, marble and semi-pelitic rocks. On the basis of this very limited information, a position in the upper Semi-Pelite-Amphibolite (SPA) unit is interpreted for much of the road north of Light Creek, with the presence of marble immediately north of Light

Creek interpreted as possible evidence of the Middle Marble Unit. If correct, then the road crosscuts the contact between the SPA and the Middle Marble, confirming stratigraphic proximity to the mineralized horizons.

In an earlier exercise, the author structure contoured the mineralized horizons westward to determine where they might be located along the Oliver Creek valley. In addition, the author structure contoured the axial plane of the fold mapped at the "E Zone". Structure contouring assumed that both the mineralized horizons and the axial plane were planar and involved no deviation from the structural measurements from the point at which they were structure contoured (both unreasonable, but made for a general understanding of relationships). As discussed previously (Walker 2002), the results of structure contouring indicate that the two mineralized horizons previously documented to the west of the "E Zone" are not the same horizon on opposing limbs of the recumbent fold, but more likely two separate and distinct horizons on the structurally upper limb of the fold as they both lie to the west (i.e structurally above) the trace of the axial plane.

If correct, this has important implications for exploration of the Oliver - Ruddock Creek area, particularly given the surface gossans exposed in the area (i.e. underlying the glacier on both the Irony 1 and Irony 12 claims). The gossan exposed on the Irony 1 claim lies at high topographic elevations and is located in the vicinity of the trace of the mineralized limbs structurally above the axial plane. As such, the gossan **may** represent correlatives of the mineralization previously identified at the "E", "G", "M", "U", "V", "R" and "Q" zones and/or the horizon hosting the "E", "F" and "T" zones.

The gossan identified within the Irony 12 claim, however, lies at a structurally lower position and therefore has to underlie the axial plane. As such, it may represent mineralization in a parasitic fold to the larger recumbent fold hosting the "E Zone" closure, a similar Phase 1 closure underlying the "E Zone" closure or (probable) sulphide mineralization spatially associated with, but unrelated to, that at the "E Zone".

The presence of high grade fluorite associated with the "E Zone" suggests a potentially powerful means of identifying new occurrences of mineralization and tracing known mineralized horizons. If consistently present at levels above the detection limit and closely associated with mineralization, then consistent analysis for Fluorine should allow determination of proximity to mineralization. For preliminary purposes, a series of soil lines (accompanied by rock samples from outcrop) straddling the projected traces of mineralized horizons should allow determination of the presence or absence of such horizons.

The presence of the new road allows access to claims comprising the western portion of the property. The soil lines previously completed in the area (Walker 1999) should be extended southward along the road, together with careful examination of outcrop (again utilizing the presence or absence of fluorine), to allow evaluation of the interpreted stratigraphic location and, therefore, possible proximity to mineralization.

### **Airborne Geophysical Survey Results**

The magnetic expression of the RCMSH, from the E Zone and westward through the other identified mineralized occurrences, is surprisingly similar between the final results released by Selkirk and the preliminary results received by the Company. **On the basis of this similarity in geophysical signatures** between the two separate geophysical surveys, the RCMSH is interpreted to extend westward across, and farther south, along the west side of Oliver Creek. Mineral tenures on the west side of Oliver Creek were initially acquired so as to cover an extensive gossan at surface, exposed below a glacier, and the trend of the mineralized horizon, as projected from structural information available at the time.

The geophysical results document at least four prominent, and relatively numerous less prominent geophysical (particularly magnetic), anomalies. For the purposes of initial interpretation, only the four most prominent anomalies (or closely spaced groups of anomalies) from the **preliminary geophysical data** are being discussed.

The data appears to document two strong linear anomalies on the west side of Oliver Creek. These anomalies are tentatively interpreted to correlate to the RCMSH, extending southward along the west side of Oliver Creek, in a position generally consistent with that previously projected. Furthermore, the position of the RCMSH in this location may possibly be supported by the discovery, recently reported by Selkirk, of a mineralized occurrence on the east side of Oliver Creek. These anomalies, both geophysical and geochemical, are generally consistent with previous projections made from available structural data for the possible location of the mineralized horizon within the Oliver Creek valley.

These linear anomalies extend southward through an interval characterized by a weak magnetic response toward a relatively large magnetic anomaly. This large anomaly extends approximately 2.3 km east-west and 2.7 km north-south and is spatially associated with a prominent gossan. The gossan is believed to have developed from underlying sulphides exposed since the joint Cominco / Falconbridge program in the late 1980's as the glacier receded. The gossan, and subsequently identified magnetic anomaly, are, again, generally consistent with structural projections made for the possible location of the RCMSH.

There are also prominent magnetic signatures in the vicinity of the E Zone. The third prominent geophysical anomaly is a linear magnetic anomaly 450 m wide and 1.90 km in length, located approximately 900 m southeast of that associated with the E Zone. As currently mapped and/or projected, this anomaly is unlikely to correlate to the RCMSH. However, given interpreted offset of the RCMSH immediately west of the E Zone across the F Fault, one possibility is that the eastern termination of the E Zone is fault related. Alternatively, the magnetic signature may represent a second mineralized horizon, an interpretation previously made on the basis of limited prospecting completed (Walker 2005).

A fourth prominent magnetic anomaly underlies Tenure 516570, comprising the easternmost tenure of the Irony property, which was acquired to cover another prominent gossan exposed below a

glacier at the headwaters of Ruddock Creek. Based on the available information, this magnetic anomaly is unlikely to correlate to the RCMSH, however, the presence of an extensive surface gossan is interpreted to indicate the presence of underlying sulphides.

The preliminary data received from Aeroquest documents four large, prominent magnetic anomalies (together with relatively abundant less prominent anomalies), two of which are spatially associated with surface gossans, interpreted to be indicative of underlying sulphides. The magnetic anomalies are believed to document the presence of pyrrhotite (iron sulphide), possibly in association with galena and sphalerite, analogous to the mineralized occurrences comprising the RCMSH.

The RCMSH has been documented to comprise the following sulphide minerals, some or all of which may be present in a given occurrence: sphalerite, galena, pyrrhotite, pyrite, chalcopyrite. The magnetic response documented in the airborne geophysical surveys completed by both Selkirk and Jasper Mining Corporation are interpreted to document the presence of pyrrhotite.

With Selkirk Metals having traced the mineralized horizon, characterized by a prominent magnetic signature westward into, and along, Oliver Creek, it is believed there is sufficient geophysical and/or geochemical evidence suggesting the RCMSH extends onto the Irony property (consistent with projections previously made). Given the presence of a prominent gossan along the projections of the mineralized horizon in the headwaters of Oliver Creek, and a similar gossan in the headwaters of Ruddock Creek, the Irony property is interpreted to have potential for identification of mineralized horizons similar to, and/or correlated with, the Ruddock Creek Massive Sulphide Horizon (RCMSH) identified east of Oliver Creek.

### **CONCLUSIONS**

The geophysical survey was successfully completed, resulting in geophysical (magnetic and EM) data plotted at a scale of 1:10,000. The survey area covers the height of land between McNulty and Isintok Creeks. The Aeroquest Limited geophysical survey resulted in a number of very well developed, particularly magnetic, anomalies within the property. Based upon the results of this geophysical survey, three of the most prominent magnetic anomalies were selected for diamond drilling. The results of the diamond drill program will be reported separately at a later date.

### RECOMMENDATIONS

- 1. Undertake additional research on the Ruddock Creek area for any additional information regarding mineralization. Research should include locating any Regional Geochemical Survey (R.G.S.) results, Minister of Mines Reports, Geological Survey of Canada mapping and/or reports, etc.;
- 2. Compile all available information regarding surface geology and geochemistry, as well as information from diamond drilling into a digital database for subsequent use in exploration;
- 3. Evaluate the possibility of additional mineralization in the area east of the "E" showing and west of Gordon Horne Peak, assuming an elongated, isoclinal anticlinal closure;
- 4. Evaluate the potential for near- to sub-surface mineralization along the mineralized horizons on the right-way-up lower limb of the syncline extending to the southwest from both the "E" and "F" showings, east of the projected surface trace of the axial plane;
- 5. Undertake geological mapping to determine the stratigraphy and structural features south and southwest of Light Lake;
- 6. Undertake a series of geochemical soil lines south of Light Lake to evaluate the possibility that the mineralized horizons extend through these claims from the "E" and "F" showings into the IRONY 1 and J claims;
- 7. Undertake helicopter-supported evaluation of the gossans on the recently acquired Irony 1 and 12 claims; and
- 8. Assess the usefulness of Fluorine to identify and trace mineralized horizons in the immediate area of the Ruddock Oliver creek drainages through soil and rock samples.

# PROPOSED BUDGET

# **Geological Mapping**

| Geologist - 30 days @ \$450 / day:                            |                  | 500.00                     |
|---|------------------|----------------------------|
| Soil Sampling   |                  |                            |
| Two Assistants - 60 man-days at \$150 / day                   | \$ 9,            | 00.00                      |
| Food and Accommodation - 120 man-days at \$125 / day:         | \$15,            | 00.00                      |
| Vehicle Rental - 2 trucks - 30 days at \$75 / day:            | \$               | 500.00<br>800.00<br>200.00 |
| GPS - 30 days at \$50 / day:                                  | \$ 1,            | 500.00                     |
| Field Supplies - 120 man-days at \$20 / day:                  | \$ 2,            | 400.00                     |
| Analyses / Assay Costs - 1,000 soil samples at \$13 / sample: | \$13,            | 00.00                      |
| Shipping:   | \$               | 200.00                     |
| Travel: Helicopter - 4 hours at \$1,000 / hour:               | \$ 4,            | 00.00                      |
| Report Preparation / Drafting: 8 days at \$450 / day:         |                  | 600.00<br><b>700.00</b>    |
| Contingen   | cy at 10% \$ 8,0 | 00.00                      |
| Total   | <u>\$85,</u>     | 700.00                     |

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# Appendix A Statement of Qualifications

### STATEMENT OF QUALIFICATIONS

- I, Richard T. Walker, of 656 Brookview Crescent, Cranbrook, BC, hereby certify that:
- 1) I am a graduate of the University of Calgary of Calgary, Alberta, having obtained a Bachelors of Science in 1986.
- 2) I obtained a Masters of Geology at the University of Calgary of Calgary, Alberta in 1989.
- 3) I am a member of good standing with the Association of Professional Engineers and Geoscientists of the Province of British Columbia.
- 4) I am a consulting geologist with offices at 656 Brookview Crescent, Cranbrook, British Columbia.
- 5) I am the author of this report which is based on an Aeroquest Limited airborne geophysical survey flown between May 13<sup>th</sup> and 30<sup>th</sup>, 2006.

Dated at Cranbrook, British Columbia this 19th day of October, 2006.

\_\_\_\_

Richard T. Walker, P.Geo.

# Appendix B

**Statement of Expenditures** 

## STATEMENT OF EXPENDITURES

| The following expenses were   | incurred on the IF | RONY claim               | as an Aeroquest          | Limited AeroTEM |
|-------------------------------|--------------------|--------------------------|--------------------------|-----------------|
| II airborne geophysical surve | y flown between N  | May 13 <sup>th</sup> and | 30 <sup>th</sup> , 2006. |                 |

Aeroquest Limited airborne geophysical survey

<u>\$85,000.00</u>

# Appendix C

# **Aeroquest Limited**

Report

# Report on a Helicopter-Borne AeroTEM II Electromagnetic & Magnetometer Survey



# Aeroquest Job # 05094 Irony Property

Clearwater, British Columbia NTS 082M10,15

for

Jasper Mining Corporation 1020-833 4<sup>th</sup> Ave SW Calgary, Alberta Canada T2P 3T5

by

# =AEROQUEST LIMITED

4-845 Main Street East Milton, Ontario, L9T 3Z3 Tel: (905) 693-9129 Fax: (905) 693-9128 www.aeroquestsurveys.com July, 2006

# Report on a Helicopter-Borne AeroTEM II Electromagnetic and Magnetic Survey

### Aeroquest Job # 05094 Irony Property

Clearwater, British Columbia NTS 082M10,15

For

Jasper Mining Corporation 1020-833 4<sup>th</sup> Ave SW Calgary, Alberta Canada T2P 3T5

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Appendix 1: Survey Block Co-ordinates

Appendix 2: Description of Database Fields

Appendix 3: Technical Paper: "Mineral Exploration with the AeroTEM System"

Appendix 4: Instrumentation Specification Sheet

Appendix 5: AeroTEM EM Anomaly Listing

### 1.3. List of Maps (1:10,000)

- Coloured Total Magnetic Intensity (TMI) with line contours and EM anomalies
- Coloured Vertical Derivative of the TMI with line contours and EM anomalies
- AeroTEM Off-Time Profiles (Z1-Z16) and EM anomalies



### 2. INTRODUCTION

This report describes a helicopter-borne geophysical survey carried out on behalf of Jasper Mining Corporation on the Irony Property, near Clearwater, British Columbia.

The principal geophysical sensor is Aeroquest's exclusive AeroTEM II 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 38,400 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 line kms presented in the maps and data totalled 586.2, of which 585.3 km fell within the project area. The survey flying described in this report took place on May 13<sup>th</sup> to 30<sup>th</sup>, 2006.

### 3. SURVEY AREA

The project area is located in south central BC, 75 kms east of Clearwater and 100km northwest of Revelstoke (NTS 082M10,15) (Figure 1). The survey terrain is mountainous with high peaks and icefields and deep river valleys. Elevations range from appox. 1000-2800m. The area is quite remote and was accessed by helicopter. The nearest roads are the road 20km to the east running north from Revelstoke, and another 30 km to the west at Avola. There are also a number of small tracks near the block. The surveying comprised a single block of 51.25 km² (5125ha) and the mining claims in the area are outlined in Table 1 (Figure 2).

The field crew was based at the Clearwater Lodge and Clearwater was the base of operations. The helicopter company was Hi-Wood Helicopters, based out of Okotoks, Alberta.



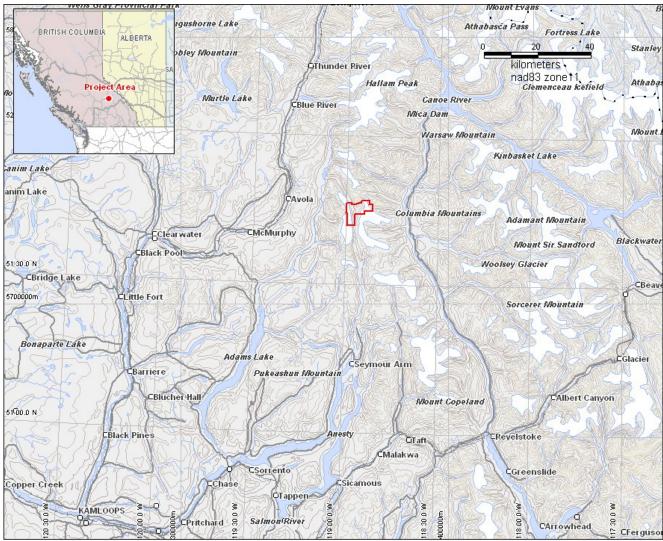
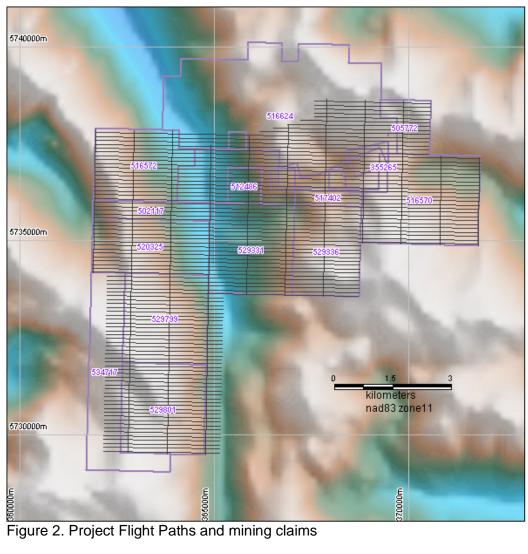


Figure 1. Regional location map of the project area.





| Tenure Number | Claim Name    | Owner                         | Area (ha) |
|---------------|---------------|-------------------------------|-----------|
| 517402        | Irony Central | Mountain Star Resources Ltd.  | 80.025    |
| 529799        | Irony 6       | Mountain Star Resources Ltd.  | 500.477   |
| 529801        | Irony 8       | Mountain Star Resources Ltd.  | 500.706   |
| 529331        | Irony 4       | Mountain Star Resources Ltd.  | 500.294   |
| 529336        | Irony 5       | Mountain Star Resources Ltd.  | 400.234   |
| 520325        | Irony 1       | Mountain Star Resources Ltd.  | 420.247   |
| 534717        | Irony 11      | Mountain Star Resources Ltd.  | 496.141   |
| 502117        | Irony 7       | Mountain Star Resources Ltd.  | 140.056   |
| 505772        | Irony 3       | Mountain Star Resources Ltd.  | 139.99    |
| 512486        |               | Mountain Star Resources Ltd.  | 80.021    |
| 512487        |               | Mountain Star Resources Ltd.  | 280.062   |
| 355265        | Irony 2       | Mountain Star Resources Ltd.  | 450       |
| 516570        |               | Mountain Star Resources Ltd.  | 660.21    |
| 516572        |               | Mountain Star Resources Ltd.  | 420.072   |
| 516624        |               | Selkirk Metals Holdings Corp. | 1579.8    |

Table 1. Mining Claims in the project area



### 4. SURVEY SPECIFICATIONS AND PROCEDURES

The survey specifications are summarized in the following table:

| Survey Block | Line Spacing (m) | Line direction      | Survey<br>Coverage (line-<br>km) | Dates Flown        |
|--------------|------------------|---------------------|----------------------------------|--------------------|
| Irony        | 100              | N-S (0°)& E-W (90°) | 586.2                            | May 13 to 30, 2006 |

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 100 m. The control (tie) lines were flown perpendicular to the survey lines with a spacing of 1 km. The nominal EM bird terrain clearance is 30m, 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). 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 38,400 samples per second and is processed to generate final data at 10 samples per second. The 10 samples per second translates to a geophysical reading about every 1.5 to 2.5 metres along the flight path.

### 4.1. 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 under 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.

### 4.2. 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.



## 4.3. 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.

# 5. AIRCRAFT AND EQUIPMENT

#### 5.1. Aircraft

A Eurocopter (Aerospatiale) AS350B2 "A-Star" helicopter - registration C-GPTY was used as survey platform (**Error! Reference source not found.**). The helicopter was owned and operated by Hi-Wood Helicopters, Okotose, Alberta. The survey aircraft was flown at a nominal terrain clearance of 220 ft (70 m).



Aeroquest Limited - Report on an AeroTEM II Airborne Geophysical Survey



Figure 3. Survey helicopter C-FETQ.

## 5.2. Magnetometer

The Aeroquest 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, 17 metres below the helicopter. 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 10Hz by the RMS DGR-33.

#### **5.3.** Electromagnetic System

The electromagnetic system is an AeroQuest AeroTEM II time domain towed-bird system. The current AeroTEM transmitter dipole moment is 38.8 kNIA. The AeroTEM bird is towed 38 m (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 5). The current alternates polarity every on-time pulse. During every Tx on-off cycle (300 per second), 128 contiguous channels of raw x and z component (and a transmitter current monitor, itx) of the received waveform are measured. Each channel width is 26.04 microseconds starting at the beginning of the transmitter pulse. This 128 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.



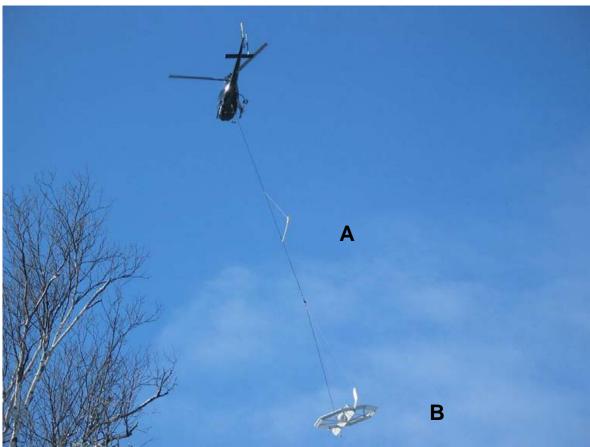


Figure 4. The magnetometer bird (A) and AeroTEM II EM bird (B)

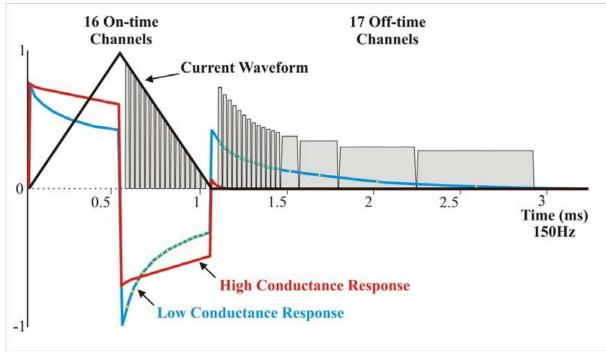


Figure 5. Schematic of Transmitter and Receiver waveforms



# 5.4. AERODAS Acquisition System

The 128 channels of raw streaming data are recorded by the AeroDAS acquisition system (Figure 6) 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:

| Channel: | Start Gate | End Gate | Start  | Stop   | Mid    | Width |
|----------|------------|----------|--------|--------|--------|-------|
|          |            |          | (us)   | (us)   | (us)   | (us)  |
| 1 ON     | 25         | 25       | 651.0  | 677.0  | 664.0  | 26.0  |
| 2 ON     | 26         | 26       | 677.0  | 703.1  | 690.1  | 26.0  |
| 3 ON     | 27         | 27       | 703.1  | 729.1  | 716.1  | 26.0  |
| 4 ON     | 28         | 28       | 729.1  | 755.2  | 742.1  | 26.0  |
| 5 ON     | 29         | 29       | 755.2  | 781.2  | 768.2  | 26.0  |
| 6 ON     | 30         | 30       | 781.2  | 807.2  | 794.2  | 26.0  |
| 7 ON     | 31         | 31       | 807.2  | 833.3  | 820.3  | 26.0  |
| 8 ON     | 32         | 32       | 833.3  | 859.3  | 846.3  | 26.0  |
| 9 ON     | 33         | 33       | 859.3  | 885.4  | 872.3  | 26.0  |
| 10 ON    | 34         | 34       | 885.4  | 911.4  | 898.4  | 26.0  |
| 11 ON    | 35         | 35       | 911.4  | 937.4  | 924.4  | 26.0  |
| 12 ON    | 36         | 36       | 937.4  | 963.5  | 950.5  | 26.0  |
| 13 ON    | 37         | 37       | 963.5  | 989.5  | 976.5  | 26.0  |
| 14 ON    | 38         | 38       | 989.5  | 1015.6 | 1002.5 | 26.0  |
| 15 ON    | 39         | 39       | 1015.6 | 1041.6 | 1028.6 | 26.0  |
| 16 ON    | 40         | 40       | 1041.6 | 1067.6 | 1054.6 | 26.0  |
| 0 OFF    | 44         | 44       | 1145.8 | 1171.8 | 1158.8 | 26.0  |
| 1 OFF    | 45         | 45       | 1171.8 | 1197.8 | 1184.8 | 26.0  |
| 2 OFF    | 46         | 46       | 1197.8 | 1223.9 | 1210.9 | 26.0  |
| 3 OFF    | 47         | 47       | 1223.9 | 1249.9 | 1236.9 | 26.0  |
| 4 OFF    | 48         | 48       | 1249.9 | 1276.0 | 1262.9 | 26.0  |
| 5 OFF    | 49         | 49       | 1276.0 | 1302.0 | 1289.0 | 26.0  |
| 6 OFF    | 50         | 50       | 1302.0 | 1328.0 | 1315.0 | 26.0  |
| 7 OFF    | 51         | 51       | 1328.0 | 1354.1 | 1341.1 | 26.0  |
| 8 OFF    | 52         | 52       | 1354.1 | 1380.1 | 1367.1 | 26.0  |
| 9 OFF    | 53         | 53       | 1380.1 | 1406.2 | 1393.1 | 26.0  |
| 10 OFF   | 54         | 54       | 1406.2 | 1432.2 | 1419.2 | 26.0  |
| 11 OFF   | 55         | 55       | 1432.2 | 1458.2 | 1445.2 | 26.0  |
| 12 OFF   | 56         | 56       | 1458.2 | 1484.3 | 1471.3 | 26.0  |
| 13 OFF   | 57         | 60       | 1484.3 | 1588.4 | 1536.4 | 104.2 |
| 14 OFF   | 61         | 68       | 1588.4 | 1796.8 | 1692.6 | 208.3 |
| 15 OFF   | 69         | 84       | 1796.8 | 2213.4 | 2005.1 | 416.6 |
| 16 OFF   | 85         | 110      | 2213.4 | 2890.4 | 2551.9 | 677.0 |



# 5.5. 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 (microsec) | End time (microsec) | Width (microsec) | 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 6. AeroTEM II Instrument Rack.



### 5.6. Magnetometer Base Station

The base magnetometer was a Geometerics G-858 cesium vapour magnetometer. Data logging and UTC time syncronisation was carried out within an external data logging computer, with an external GPS providing the timing signal. That data logging was configured to measure at 0.1 second intervals (10Hz). Digital recording resolution was 0.001 nT. The sensor was placed on a tripod in an area 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 levels.

#### 5.7. 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. The recorded data represents the height of the antenna, i.e. helicopter, above the ground. The Terra altimeter has an altitude accuracy of +/- 1.5 metres.

#### 5.8. Video Tracking and Recording System

A high resolution colour digital video camera (Figure 7Error! Reference source not found.) 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 7. Digital video camera typical mounting location.

## 5.9. 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 under 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.

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 11N 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 second intervals.

#### 5.10. Digital Acquisition System

The AeroTEM received waveform sampled during on and off-time at 128 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 26.04 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 128Mb capacity FlashCard. The RMS output was also directed to a thermal chart recorder.

#### 6. PERSONNEL

The following AeroQuest personnel were involved in the project:

- Manager of Operations: Bert Simon
- Field Data Processors: Geoff Plastow
- Field Operator: Mike Blondin
- Data Interpretation and Reporting: Jonathan Rudd, Marion Bishop

The survey pilot Remi Fashanu was employed directly by the helicopter operator – Hi-Wood Helicopters, Okotoks, Alberta.

#### 7. DELIVERABLES

The report includes a set of six (6) geophysical maps plotted at a scale of 1:10,000. Three data products are presented on 2 map sheets that cover the survey area.

- Coloured Total Magnetic Intensity (TMI) with line contours and EM anomalies
- Coloured Vertical Derivative of the TMI with line contours and EM anomalies
- EM AeroTEM Off-Time Profiles (Z1-Z16) and EM anomalies



The coordinate/projection system for the maps is NAD83 Universal Transverse Mercator Zone 11 (for Canada; Central America; Mexico; USA (ex Hawaii Aleutian Islands)). 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 on-time conductance. The anomaly symbol is accompanied by postings denoting the calculated on-time conductance, a thick or thin classification and an anomaly identifier label. The anomaly symbol legend is given in the margin of the maps. The magnetic field data is presented as superimposed line contours with a minimum contour interval of 10 nT. Bold contour lines are separated by 250 nT.

The geophysical profile data is archived digitally in a Geosoft GDB binary format database. The database contains the processed streaming data, the RMS data, the base station data, and all processed channels. A description of the contents of the individual channels in the database can be found in Appendix 3. This digital data is archived at the Aeroquest head office in Milton.

#### 8. 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.

## 8.1. Base Map

The geophysical maps accompanying this report are based on positioning in the datum of NAD83. The survey geodetic GPS positions have been projected using the Universal Transverse Mercator projection in Zone 11N. A summary of the map datum and projection specifications are as follows:

- 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 11 (Central Meridian 117°W)
- Central Scale Factor: 0.9996
- False Easting, Northing: 500,000m, 0m

## 8.2. 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 (5Hz) 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 to WGS84 (GPS) altitude and are not tied in to surveyed geodetic heights.



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.

## 8.3. Electromagnetic Data

The raw streaming data, sampled at a rate of 38,400 Hz (128 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, leveled and split up into the individual line segments. Further base level adjustments may be carried out at this stage.

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 mergered into array format; channels in the final Geosoft database as Zon, Zoff, Xon, and Xoff.

The filtering of the stacked data is designed to remove or minimize high frequency noise that can not be sourced from the geology. Apparent bedrock EM anomalies were interpreted with the aid of an auto-pick from positive peaks and troughs in the on-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.

#### 8.4. Magnetic Data

Prior to any leveling 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 random



grid technique with a grid cell size of 25 metres. The final leveled grid provided the basis for threading the presented contours which have a minimum contour interval of 10 nT.

In order to enhance subtle magnetic trends a first vertical derivative was calculated from the total magnetic intensity (TMI) grid. The vertical derivative of the TMI enhances low amplitude and small wavelength magnetic features which define shallow basement structures at the expense of deeper sources.

# 9. Results and Interpretation

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.

### 9.1. 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.

#### 9.2. EM Anomalies – General Comments

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 8). For a vertically orientated thick source (say, greater than 10m), the response is a single peak in the z-component response and a negative to positive crossover in the x-component response (Figure 9). 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 10). 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.



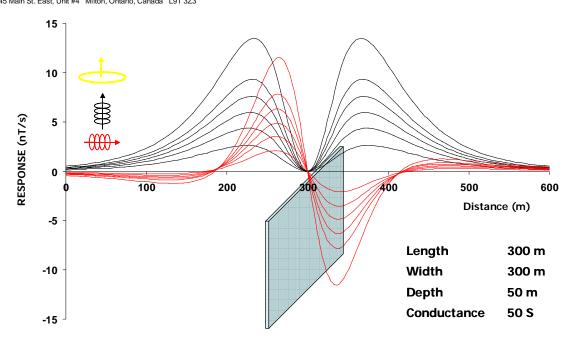


Figure 8. AeroTEM response to a 'thin' vertical conductor.

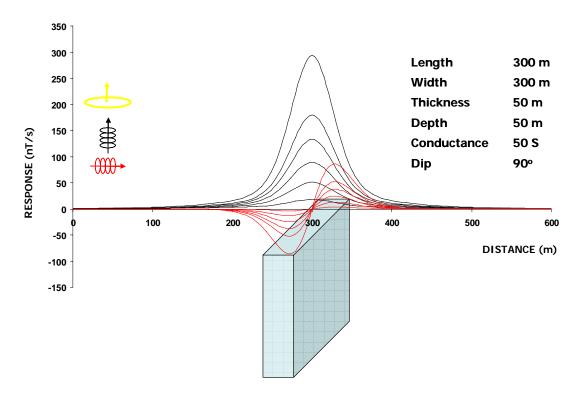


Figure 9. AeroTEM response for a 'thick' vertical conductor.



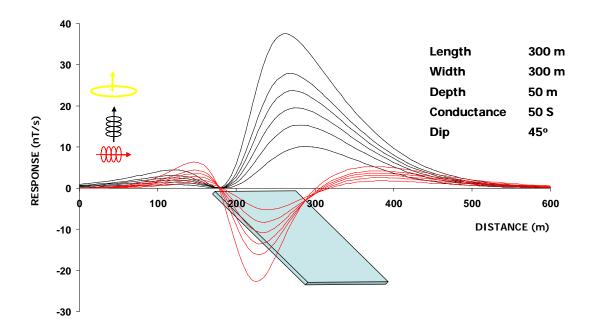


Figure 10. AeroTEM response over a 'thick' dipping conductor.

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,

Jonathan Rudd, P.Eng.

Geophysicist Aeroquest Limited July, 2006



# APPENDIX 1 – PROJECT CORNER COORDINATES

The Project consists of an irregular shaped block with boundaries as defined in the following table. Positions are in UTM Zone 11 - NAD83.

| X        | Y         |
|----------|-----------|
| 361940.0 | 5737888.0 |
| 364093.0 | 5737845.0 |
| 364080.0 | 5737382.0 |
| 364512.0 | 5737370.0 |
| 367575.9 | 5738189.3 |
| 367577.0 | 5738680.1 |
| 370584.9 | 5738601.0 |
| 370538.0 | 5737220.0 |
| 371874.0 | 5737166.0 |
| 371792.0 | 5734863.0 |
| 368795.0 | 5734945.0 |
| 368726.0 | 5733555.0 |
| 365244.8 | 5733653.2 |
| 365154.0 | 5729464.6 |
| 362147.0 | 5729575.5 |
| 362246.8 | 5734168.9 |
| 361860.0 | 5734180.0 |



# **APPENDIX 2 - 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".

Database (Irony\_AeroTEM\_05094\_FINAL.gdb):

| Column       | Units       | Description  |
|--------------|-------------|--|
| emfid        |             | AERODAS Fiducial   |
| utctime      | hh:mm:ss.ss | UTC time   |
| X            | m           | UTM Easting (NAD83, zone 11N)                                  |
| у            | m           | UTM Northing (NAD83, zone 11N)                                 |
| bheight      | m           | Terrain clearance of EM bird                                   |
| dtmf         | m           | Digital Terrain Model  |
| magf         | nT          | Final leveled total magnetic intensity                         |
| basemagf     | nT          | Base station total magnetic intensity                          |
| ZOn1-ZOn16   | nT/s        | Processed Streaming On-Time Z component Channels 1-16          |
| ZOff0-ZOff16 | nT/s        | Processed Streaming Off-Time Z component Channels 0-16         |
| XOn1-XOn16   | nT/s        | Processed Streaming On-Time X component Channels 1-16          |
| XOff0-XOff16 | nT/s        | Processed Streaming Off-Time X component Channels 0-16         |
| Anom_labels  |             | Letter label of conductor pick                                 |
| Anom_ID      |             | Letter label of conductor thickness (N or K)                   |
| off_tau      | S           | Off-time decay constant  |
| on_con       | S           | On-time conductance  |
| grade        |             | Classification from 1-7 based on conductance of conductor pick |

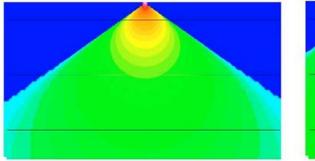


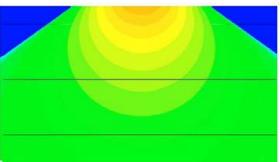
#### APPENDIX 3: AEROTEM DESIGN CONSIDERATIONS

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 favor 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.



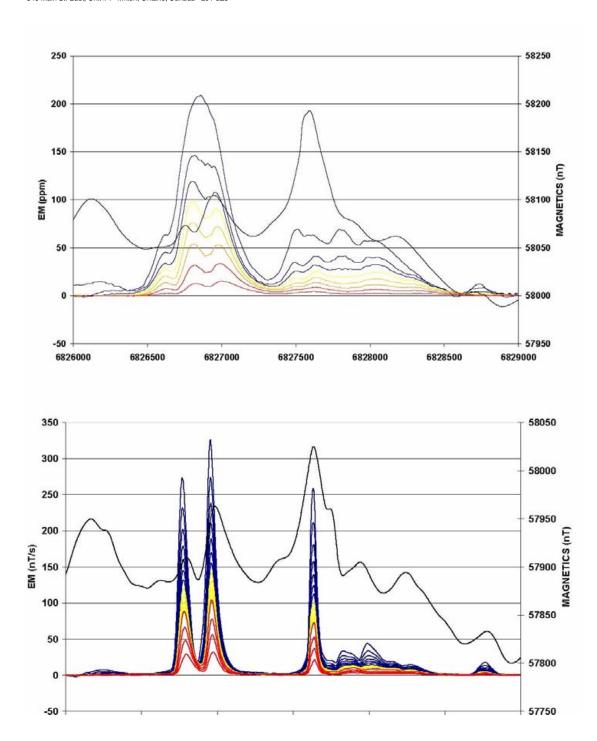


Figure 2. Fixed-wing (upper) and AeroTEM (lower) comparison over the eastern limit of the Mesamax Deposit, a Ni-Cu-PGE zone located in the Raglan nickel belt and owned by Canadian Royalties. Both systems detected the Deposit further to the west where it is closer to surface.

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.

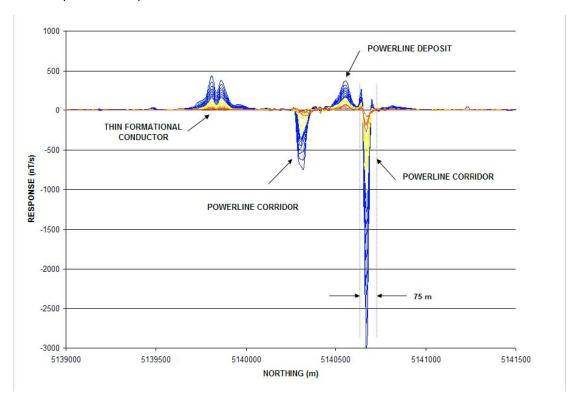


Figure 3. The Powerline Deposit is located between two major power line corridors, which make EM surveying problematic. Despite the strong response from the power line, the anomaly from the Deposit is clearly detected. Note the thin formational conductor located to the south. The only way to distinguish 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

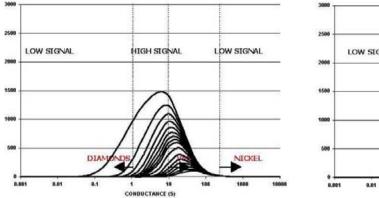


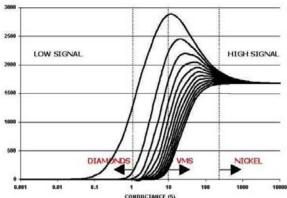
the base frequency were lowered from 150 Hz to 30 Hz there would be a fivefold increase in conductance at which the peak response of an EM occurred.

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:



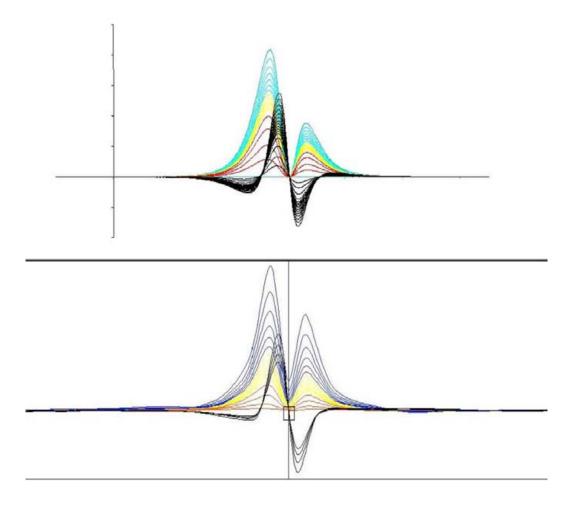


Figure 5. Measured (lower) and modeled (upper) AeroTEM responses are compared for a thin steeply dipping conductor. The response is characterized by two peaks in the Z-axis coil, and a cross-over in the X-axis coil that is centered between the two Z-axis peaks. The conductor dips toward the higher amplitude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

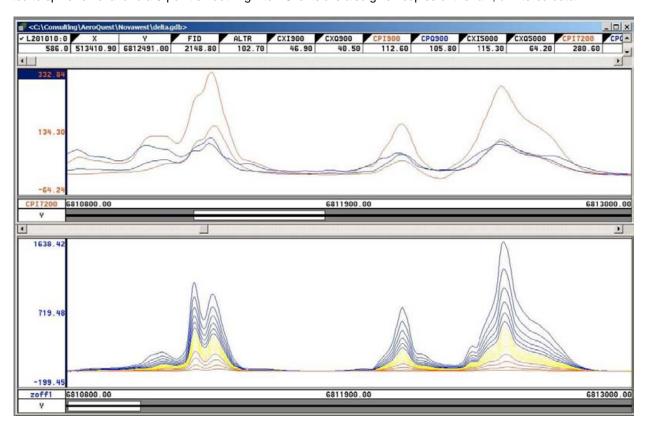


Figure 6. Comparison between Dighem HEM (upper) and AeroTEM (lower) surveys flown in the Raglan area. The AeroTEM responses appear to be more discrete, suggesting that the data is not as heavily filtered as the HEM data. The S/N advantage of AeroTEM over HEM is about 5:1.

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 4: AeroTEM Instrumentation Specification Sheet**

# **AEROTEM Helicopter Electromagnetic System**

#### **System Characteristics**

- Transmitter: Triangular Pulse Shape Base Frequency 30 or 150 Hz
- Tx On Time 5,750 (30Hz) or 1,150 (150Hz) μs
- Tx Off Time 10,915 (30Hz) or 2,183 (150Hz) μs
- Loop Diameter 5 m
- Peak Current 250 A
- Peak Moment 38,800 NIA
- Typical Z Axis Noise at Survey Speed = 8 ppb peak
- Sling Weight: 270 Kg
- Length of Tow Cable: 40 m
- Bird Survey Height: 30 m or less nominal

#### Receiver

- Three Axis Receiver Coils (x, y, 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**

- PROTODAS Digital recording at 126 samples per decay curve at a maximum of 300 curves per second (26.455 µs 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.

Tel: +1 905 878-5616. Fax: +1 905 876-0193.

Email: <u>sales@aeroquestsurveys.com</u>



# **APPENDIX 5: AeroTEM EM Anomaly Listing**

|                  |         |          | Thick/ |        |       |         |          |         |         |        |         |
|------------------|---------|----------|--------|--------|-------|---------|----------|---------|---------|--------|---------|
| Line             | Easting | Northing | Thin   | Label  | Grade | emfid   | utctime  | Off_Con | Off_Tau | dtm    | bheight |
| L20011           | 368097  | 5738572  | K      | A      | 1     | 378423  | 0:09:34  | 0.2     | 46      | 2469.5 | 38.6    |
| L20020           | 368130  | 5738487  | K      | A      | 1     | 605553  | 5:12:24  | 0.9     | 95      | 2461.6 | 51.2    |
| L20030           | 367981  | 5738385  | K      | A      | 1     | 648783  | 6:10:02  | 0.5     | 75      | 2394.2 | 39.8    |
| L20040           | 368055  | 5738295  | K      | Α      | 3     | 847173  | 10:34:31 | 5.1     | 227     | 2399.7 | 44.2    |
| L20050           | 369621  | 5738151  | K      | A      | 1     | 920553  | 12:12:22 | 1.0     | 100     | 2395.1 | 33.0    |
| L20050           | 369728  | 5738146  | K      | В      | 2     | 923463  | 12:16:14 | 3.0     | 174     | 2341.1 | 49.4    |
| L20060           | 369732  | 5738051  | N      | A      | 4     | 997323  | 13:54:43 | 13.7    | 370     | 2314.0 | 31.6    |
| L20060           | 369637  | 5738053  | K      | В      | 4     | 999933  | 13:58:12 | 13.7    | 370     | 2345.0 | 30.1    |
| L20060           | 369586  | 5738054  | K      | C      | 3     | 1001073 | 13:59:43 | 8.6     | 294     | 2352.5 | 32.5    |
| L20060           | 369485  | 5738057  | K      | D      | 3     | 1003083 | 14:02:24 | 9.1     | 302     | 2361.2 | 34.2    |
| L20060           | 368834  | 5738072  | K      | E      | 1     | 1015083 | 14:18:24 | 0.5     | 72      | 2385.0 | 46.0    |
| L20070           | 368793  | 5737966  | K      | A      | 5     | 1154853 | 17:24:46 | 20.7    | 455     | 2322.4 | 53.0    |
| L20070           | 368853  | 5737970  | K      | В      | 4     | 1156473 | 17:24:46 | 14.7    | 384     | 2349.6 | 28.0    |
| L20070           | 369292  | 5737975  | K      | C      | 4     | 1167363 | 17:41:26 | 10.6    | 326     | 2345.3 | 40.7    |
| L20070<br>L20070 | 369481  | 5737952  | K      | D      | 4     | 1170753 | 17:41:20 | 16.2    | 403     | 2345.3 | 48.1    |
|                  | 369271  | 5737862  | K      |        | 3     | 1253643 |          |         | 296     |        | 40.1    |
| L20080           |         |          |        | A      |       |         | 19:36:29 | 8.8     |         | 2308.8 |         |
| L20080           | 369142  | 5737867  | K      | B<br>C | 4     | 1256253 | 19:39:58 | 14.2    | 377     | 2323.5 | 35.1    |
| L20080           | 369019  | 5737860  | K      |        | 5     | 1258773 | 19:43:19 | 27.4    | 524     | 2323.1 | 39.5    |
| L20080           | 368829  | 5737863  | K      | D      | 3     | 1262733 | 19:48:36 | 6.4     | 253     | 2313.0 | 39.5    |
| L20090           | 367493  | 5737779  | K      | A      | 2     | 1390173 | 22:38:31 | 1.1     | 106     | 2065.7 | 30.3    |
| L20090           | 368814  | 5737751  | K      | В      | 2     | 1426473 | 23:26:55 | 1.6     | 125     | 2268.1 | 33.1    |
| L20090           | 369097  | 5737755  | K      | С      | 2     | 1434093 | 23:37:05 | 1.5     | 123     | 2279.8 | 36.6    |
| L20090           | 370264  | 5737750  | K      | D      | 2     | 1458933 | 0:10:12  | 2.7     | 163     | 2104.1 | 31.4    |
| L20100           | 370065  | 5737628  | K      | A      | 1     | 1498293 | 1:02:41  | 0.3     | 52      | 2059.7 | 36.2    |
| L20100           | 368760  | 5737675  | K      | В      | 2     | 1530723 | 1:45:55  | 2.1     | 145     | 2232.3 | 28.0    |
| L20100           | 368693  | 5737675  | K      | С      | 2     | 1532463 | 1:48:14  | 3.7     | 193     | 2219.5 | 40.8    |
| L20100           | 367420  | 5737680  | N      | D      | 1     | 1557213 | 2:21:14  | 0.9     | 96      | 2064.9 | 25.6    |
| L20100           | 367398  | 5737679  | K      | E      | 1     | 1558413 | 2:22:50  | 0.9     | 96      | 2072.5 | 28.4    |
| L20100           | 367357  | 5737682  | K      | F      | 1     | 1560423 | 2:25:31  | 1.0     | 98      | 2087.3 | 28.6    |
| L20101           | 363710  | 5737761  | K      | Α      | 2     | 1679583 | 5:04:24  | 1.4     | 116     | 1153.4 | 43.9    |
| L20101           | 363595  | 5737759  | K      | В      | 3     | 1683183 | 5:09:12  | 7.3     | 271     | 1204.4 | 41.8    |
| L20101           | 363531  | 5737766  | K      | С      | 2     | 1686363 | 5:13:26  | 1.1     | 104     | 1257.2 | 41.2    |
| L20110           | 370041  | 5737555  | N      | Α      | 1     | 372813  | 3:58:12  | 0.2     | 45      | 2042.6 | 24.3    |
| L20110           | 369959  | 5737558  | K      | В      | 1     | 374463  | 4:00:24  | 0.2     | 45      | 2039.2 | 31.5    |
| L20110           | 368706  | 5737567  | K      | С      | 2     | 402393  | 4:37:38  | 3.6     | 189     | 2175.1 | 42.4    |
| L20111           | 363696  | 5737668  | K      | Α      | 4     | 520413  | 7:15:00  | 18.6    | 431     | 1229.5 | 50.0    |
| L20111           | 363552  | 5737666  | K      | В      | 4     | 524253  | 7:20:07  | 10.1    | 317     | 1284.3 | 54.7    |
| L20111           | 363489  | 5737667  | K      | С      | 4     | 525843  | 7:22:14  | 14.5    | 381     | 1317.7 | 50.5    |
| L20120           | 363499  | 5737589  | K      | Α      | 4     | 668313  | 10:32:12 | 11.4    | 337     | 1338.6 | 58.8    |
| L20120           | 363576  | 5737594  | K      | В      | 4     | 669993  | 10:34:26 | 10.2    | 319     | 1297.4 | 61.7    |
| L20120           | 363689  | 5737591  | K      | С      | 3     | 672213  | 10:37:24 | 6.9     | 263     | 1267.3 | 51.6    |
| L20120           | 364071  | 5737558  | K      | D      | 2     | 682593  | 10:51:14 | 1.1     | 105     | 1033.0 | 56.1    |
| L20121           | 365392  | 5737534  | K      | Α      | 2     | 713433  | 11:32:22 | 1.0     | 102     | 1397.3 | 43.9    |
| L20121           | 365467  | 5737535  | K      | В      | 2     | 717033  | 11:37:10 | 1.5     | 122     | 1481.8 | 35.5    |
| L20121           | 365695  | 5737521  | K      | С      | 2     | 726453  | 11:49:43 | 1.2     | 111     | 1656.6 | 41.4    |
| L20121           | 365814  | 5737519  | K      | D      | 2     | 730563  | 11:55:12 | 1.0     | 101     | 1728.0 | 43.0    |

|        |         |          | Thick/ |       |       |         |          |         |        |        |         |
|--------|---------|----------|--------|-------|-------|---------|----------|---------|--------|--------|---------|
| Line   | Easting | Northing | Thin   | Label | Grade | emfid   | utctime  | Off_Con | Off_Ta | u dtm  | bheight |
| L20121 | 367313  | 5737473  | 3 K    | Е     | 1     | 798453  | 13:25:43 | 0.7     | 82     | 2060.4 | 29.5    |
| L20121 | 368283  | 5737490  | ) K    | F     | 1     | 824223  | 14:00:05 | 0.6     | 80     | 2126.0 | 33.5    |
| L20121 | 369843  | 5737446  | 6 K    | G     | 1     | 855243  | 14:41:26 | 0.6     | 75     | 2018.1 | 42.0    |
| L20121 | 370017  | 5737449  | 9 K    | Н     | 1     | 858633  | 14:45:58 | 0.2     | 43     | 2044.6 | 36.2    |
| L20130 | 369808  | 5737352  | 2 K    | Α     | 2     | 897483  | 15:37:46 | 1.5     | 122    | 2042.1 | 31.3    |
| L20130 | 367461  | 5737381  | l N    | В     | 1     | 941793  | 16:36:50 | 0.8     | 89     | 1971.3 | 41.6    |
| L20130 | 367311  | 5737386  | 6 K    | С     | 1     | 945153  | 16:41:19 | 0.8     | 89     | 2027.5 | 40.1    |
| L20130 | 365932  | 5737399  | 9 K    | D     | 1     | 989793  | 17:40:50 | 0.7     | 85     | 1731.7 | 46.5    |
| L20130 | 365748  | 5737409  | 9 K    | Е     | 3     | 994473  | 17:47:05 | 7.2     | 268    | 1646.5 | 31.0    |
| L20131 | 363548  | 5737460  | ) K    | В     | 1     | 1053273 | 19:05:29 |         |        | 1386.5 | 54.4    |
| L20140 | 369720  | 5737258  | 3 K    | Α     | 2     | 429273  | 11:43:41 | 3.7     | 191    | 2045.2 | 39.3    |
| L20140 | 368201  | 5737266  | 6 K    | В     | 2     | 452373  | 12:14:29 | 2.2     | 150    | 1956.4 | 58.4    |
| L20140 | 367417  | 5737291  | l K    | С     | 1     | 469713  | 12:37:36 | 0.3     | 55     | 2013.3 | 42.5    |
| L20140 | 367358  | 5737292  | 2 K    | D     | 2     | 472443  | 12:41:14 | 1.2     | 110    | 2027.6 | 48.3    |
| L20140 | 366885  | 5737319  | ) K    | Е     | 4     | 493083  | 13:08:43 | 10.4    | 323    | 2223.7 | 29.5    |
| L20140 | 366730  | 5737294  |        | F     | 2     | 507093  | 13:27:22 | 2.5     | 158    | 2295.5 | 37.5    |
| L20140 | 366573  | 5737295  | 5 K    | G     | 2     | 512523  | 13:34:38 | 1.7     | 131    | 2268.8 | 43.4    |
| L20140 | 366572  | 5737295  |        | Н     | 2     | 512583  | 13:34:46 | 1.7     | 130    | 2268.3 | 43.0    |
| L20150 | 364480  | 5737233  |        | Α     | 1     | 169833  | 22:58:38 | 0.8     | 89     | 1027.8 | 80.0    |
| L20150 | 366207  | 5737207  |        | В     | 2     | 229833  | 0:18:38  | 1.5     | 124    | 1944.1 | 47.4    |
| L20150 | 366281  | 5737208  |        | С     | 4     | 233523  | 0:23:34  | 16.3    | 404    | 2001.2 | 40.5    |
| L20150 | 366307  | 5737207  |        | D     | 4     | 235083  | 0:25:38  | 19.0    | 436    | 2023.2 | 37.9    |
| L20150 | 366409  | 5737199  |        | Е     | 2     | 244023  | 0:37:34  | 1.9     | 139    | 2121.8 | 39.3    |
| L20150 | 366466  | 5737199  |        | F     | 1     | 249213  | 0:44:29  | 0.7     | 83     | 2174.2 | 37.8    |
| L20150 | 366607  | 5737197  |        | G     | 2     | 257643  | 0:55:43  | 3.0     | 172    | 2243.3 | 56.3    |
| L20150 | 366756  | 5737202  |        | Н     | 3     | 263463  | 1:03:29  | 7.7     | 278    | 2261.8 | 41.2    |
| L20150 | 366828  | 5737201  |        | 1     | 3     | 265443  | 1:06:07  | 7.0     | 264    | 2244.4 | 35.6    |
| L20150 | 366963  | 5737182  |        | J     | 2     | 268893  | 1:10:43  | 2.5     | 158    | 2175.3 | 56.4    |
| L20150 | 367020  | 5737183  |        | K     | 2     | 270183  | 1:12:26  | 2.5     | 158    | 2172.9 | 41.5    |
| L20150 | 367352  | 5737191  |        | L     | 2     | 276243  | 1:20:31  | 1.8     | 134    | 2061.0 | 55.2    |
| L20150 | 367974  | 5737176  |        | М     | 2     | 284643  | 1:31:43  | 1.2     | 109    | 1897.9 | 79.9    |
| L20150 | 368265  | 5737163  |        | N     | 2     | 289143  | 1:37:43  | 1.5     | 122    | 1904.0 | 60.8    |
| L20160 | 369493  | 5737043  |        | Α     | 1     | 413793  | 4:23:55  |         |        | 2049.0 | 45.9    |
| L20160 | 367173  | 5737087  |        | В     | 2     | 451833  | 5:14:38  | 1.2     | 112    | 2106.3 | 57.9    |
| L20160 | 367043  | 5737088  |        | С     | 3     | 454713  | 5:18:29  | 8.9     | 299    | 2158.3 | 42.2    |
| L20160 | 366759  | 5737110  |        | D     | 3     | 461043  | 5:26:55  | 5.4     | 233    | 2222.3 | 37.2    |
| L20160 | 366653  | 5737102  |        | Е     | 2     | 463533  | 5:30:14  | 3.2     | 180    | 2210.3 | 58.6    |
| L20170 | 364519  | 5737043  |        | Α     | 2     | 464103  | 0:53:00  | 2.0     | 140    | 1007.7 | 86.8    |
| L20170 | 364806  | 5737016  |        | В     | 1     | 468363  | 0:58:41  | 0.8     | 88     | 1042.6 | 72.6    |
| L20170 | 365614  | 5737019  |        | C     | 1     | 492483  | 1:30:50  | 0.1     | 25     | 1486.3 | 51.7    |
| L20171 | 367061  | 5736995  |        | A     | 1     | 582063  | 3:30:17  | 0.5     | 69     | 2118.0 | 49.2    |
| L20171 | 369359  | 5736956  |        | В     | 1     | 630633  | 4:35:02  | 0.5     | 67     | 2053.9 | 37.3    |
| L20171 | 369517  | 5736974  |        | C     | 2     | 632703  | 4:37:48  | 1.6     | 127    | 2035.0 | 44.0    |
| L20180 | 369807  | 5736855  |        | A     | 2     | 718863  | 6:32:41  | 1.1     | 103    | 2011.8 | 44.3    |
| L20180 | 368435  | 5736865  |        | В     | 1     | 738663  | 6:59:05  | 0.6     | 79     | 1831.7 | 68.6    |
| L20180 | 367127  | 5736901  |        | C     | 1     | 762003  | 7:30:12  | 0.9     | 94     | 2032.2 | 49.0    |
| L20180 | 365068  | 5736947  |        | D     | 1     | 801843  | 8:23:19  | 0.7     | 84     | 1138.9 | 61.4    |
| L20180 | 364815  | 5736957  |        | E     | 1     | 806193  | 8:29:07  | 0.6     | 78     | 1044.7 | 69.8    |
| L20180 | 364609  | 5736946  |        | F     | 2     | 809493  | 8:33:31  | 1.6     | 127    | 1018.2 | 80.9    |
| L20180 | 363297  | 5736975  |        | G     | 1     | 839013  | 9:12:53  | 1.0     | 100    | 1568.6 | 53.1    |
| 0100   | 000201  | 0100010  | , 11   | 5     |       | 555015  | 0.12.00  | 1.0     | 100    | 1000.0 | JJ. 1   |

|        |           |          | Thick/ |       |       |         |          |         |        |        |         |
|--------|-----------|----------|--------|-------|-------|---------|----------|---------|--------|--------|---------|
| Line   | Easting I | Northing | Thin   | Label | Grade | emfid   | utctime  | Off_Con | Off_Ta | u dtm  | bheight |
| L20190 | 364262    | 5736831  | K      | Α     | 2     | 331983  | 8:57:12  | 2.7     | 163    | 1203.0 | 49.4    |
| L20190 | 368021    | 5736775  | K      | В     | 2     | 436143  | 11:16:05 | 1.1     | 104    | 1773.7 | 53.0    |
| L20200 | 362301    | 5736794  | K      | Α     | 1     | 948273  | 11:38:34 | 0.1     | 25     | 2184.1 | 38.5    |
| L20200 | 362942    | 5736787  | K      | В     | 1     | 964323  | 11:59:58 | 1.0     | 100    | 1828.1 | 34.4    |
| L20200 | 363296    | 5736777  | K      | С     | 1     | 972153  | 12:10:24 | 0.9     | 93     | 1618.3 | 60.2    |
| L20200 | 363395    | 5736774  | K      | D     | 1     | 974103  | 12:13:00 | 0.6     | 79     | 1552.5 | 69.8    |
| L20200 | 364044    | 5736741  | K      | Е     | 1     | 989403  | 12:33:24 |         |        | 1327.2 | 47.5    |
| L20200 | 364342    | 5736744  | N      | F     | 1     | 996273  | 12:42:34 | 0.6     | 77     | 1173.3 | 67.1    |
| L20200 | 364602    | 5736734  | K      | G     | 1     | 1002423 | 12:50:46 | 0.6     | 77     | 1002.0 | 67.7    |
| L20210 | 363304    | 5736678  | K      | Α     | 2     | 1337913 | 20:18:05 | 4.0     | 199    | 1636.5 | 60.1    |
| L20220 | 363302    | 5736577  | K      | Α     | 2     | 1429563 | 22:20:17 | 1.7     | 130    | 1641.5 | 55.0    |
| L20220 | 364585    | 5736542  | K      | В     | 1     | 1455093 | 22:54:19 | 0.5     | 74     | 1000.4 | 81.8    |
| L20220 | 368016    | 5736504  | K      | С     | 1     | 1522683 | 0:24:26  | 0.3     | 55     | 1780.5 | 52.4    |
| L20231 | 364694    | 5736433  | K      | Α     | 1     | 503853  | 21:13:02 | 0.5     | 70     | 1009.1 | 81.2    |
| L20250 | 369084    | 5736164  | K      | Α     | 1     | 653523  | 0:32:36  | 0.2     | 48     | 2308.8 | 48.9    |
| L20250 | 370938    | 5736112  | K      | В     | 3     | 683373  | 1:12:24  | 6.8     | 260    | 1908.0 | 45.0    |
| L20251 | 364680    | 5736249  | K      | Α     | 1     | 276453  | 1:45:41  | 0.1     | 26     | 1003.6 | 71.3    |
| L20260 | 364748    | 5736152  | K      | Α     | 1     | 519003  | 7:09:05  | 0.3     | 57     | 1014.9 | 66.6    |
| L20260 | 366870    | 5736090  | K      | В     | 1     | 567123  | 8:13:14  | 0.2     | 39     | 1675.1 | 64.7    |
| L20260 | 370947    | 5736044  | K      | С     | 2     | 686313  | 10:52:10 | 2.9     | 170    | 1930.9 | 45.9    |
| L20270 | 368219    | 5735990  | K      | Α     | 1     | 801423  | 13:25:38 | 0.2     | 46     | 1917.2 | 53.9    |
| L20270 | 366853    | 5735993  | N      | В     | 2     | 824463  | 13:56:22 | 2.0     | 141    | 1619.3 | 61.1    |
| L20270 | 366754    | 5735999  | K      | С     | 2     | 826053  | 13:58:29 | 2.0     | 141    | 1625.9 | 65.6    |
| L20270 | 364743    | 5736028  | K      | D     | 1     | 863613  | 14:48:34 | 0.1     | 37     | 1016.4 | 70.2    |
| L20283 | 364829    | 5735941  | K      | Α     | 2     | 1071753 | 19:26:05 | 1.0     | 102    | 1023.6 | 65.4    |
| L20283 | 366792    | 5735892  | K      | В     | 2     | 1113393 | 20:21:36 | 2.7     | 164    | 1614.4 | 62.4    |
| L20283 | 370260    | 5735859  | K      | С     | 1     | 1204773 | 22:23:26 | 0.3     | 51     | 2195.9 | 64.2    |
| L20283 | 370723    | 5735801  | K      | D     | 2     | 1215333 | 22:37:31 | 4.9     | 222    | 2089.5 | 31.5    |
| L20283 | 370768    | 5735810  | Ν      | E     | 2     | 1216323 | 22:38:50 | 4.9     | 222    | 2080.5 | 27.8    |
| L20290 | 370794    | 5735736  | Ν      | Α     | 3     | 1269333 | 23:51:29 | 5.1     | 226    | 2087.7 | 23.4    |
| L20290 | 370755    | 5735734  | K      | В     | 3     | 1270173 | 23:52:36 | 5.1     | 226    | 2107.1 | 24.2    |
| L20290 | 366582    | 5735800  | K      | С     | 4     | 1357173 | 1:48:38  | 17.5    | 418    | 1569.0 | 56.8    |
| L20290 | 364835    | 5735841  | K      | D     | 1     | 1397073 | 2:41:50  | 0.2     | 47     | 1019.3 | 72.0    |
| L20301 | 364878    | 5735738  | K      | Α     | 1     | 245913  | 23:57:58 | 0.7     | 84     | 1021.7 | 67.2    |
| L20301 | 366474    | 5735710  | K      | В     | 1     | 278913  | 0:41:58  | 0.7     | 85     | 1550.8 | 50.3    |
| L20301 | 366735    | 5735699  | K      | С     | 2     | 281943  | 0:46:00  | 1.0     | 102    | 1597.1 | 57.4    |
| L20310 | 366435    | 5735604  | K      | Α     | 2     | 576453  | 7:18:41  | 2.6     | 163    | 1546.8 | 57.3    |
| L20310 | 366372    | 5735602  | Ν      | В     | 2     | 577503  | 7:20:05  | 2.6     | 163    | 1532.2 | 52.6    |
| L20310 | 366298    | 5735599  | K      | С     | 2     | 578763  | 7:21:46  | 1.3     | 113    | 1510.2 | 53.5    |
| L20310 | 364883    | 5735636  | K      | D     | 1     | 606243  | 7:58:24  | 0.6     | 80     | 1031.3 | 63.6    |
| L20310 | 364234    | 5735654  | K      | E     | 1     | 625893  | 8:24:36  |         |        | 1277.9 | 58.3    |
| L20320 | 364871    | 5735549  | K      | Α     | 5     | 862533  | 13:40:07 | 32.8    | 572    | 1042.1 | 60.2    |
| L20320 | 366468    | 5735511  | K      | В     | 1     | 894063  | 14:22:10 | 0.8     | 90     | 1561.0 | 47.8    |
| L20321 | 371045    | 5735417  | K      | Α     | 1     | 1023483 | 17:14:43 | 0.5     | 71     | 2024.4 | 55.0    |
| L20331 | 366178    | 5735417  | K      | Α     | 1     | 260463  | 18:41:22 | 0.2     | 44     | 1452.2 | 46.1    |
| L20331 | 364921    | 5735446  |        | В     | 2     | 280953  | 19:08:41 | 4.5     | 212    | 1028.0 | 60.9    |
| L20332 | 363065    | 5735470  |        | Α     | 1     | 361833  | 20:56:31 | 0.3     | 50     | 1942.3 | 42.8    |
| L20342 | 364919    | 5735323  |        | Α     | 2     | 593163  | 2:04:58  | 4.9     | 221    | 1031.4 | 79.4    |
| L20342 | 366081    | 5735321  |        | В     | 1     | 614463  | 2:33:22  | 0.3     | 54     | 1435.8 | 58.0    |
| L20351 | 366782    | 5735207  |        | A     | 2     | 869313  | 8:13:10  | 1.6     | 125    | 1710.7 | 49.6    |
|        |           | •        |        |       |       | _       | _        |         |        |        |         |

|          |         |          | Thick/ |       |       |         |          |         |        |        |         |
|----------|---------|----------|--------|-------|-------|---------|----------|---------|--------|--------|---------|
| Line     | Easting |          | Thin   | Label | Grade | emfid   | utctime  | Off_Con | Off_Ta | u dtm  | bheight |
| L20351   | 364853  | 5735250  | K      | В     | 2     | 901503  | 8:56:05  | 1.3     | 113    | 1023.4 | 91.9    |
| L20360   | 362247  | 5735178  |        | Α     | 2     | 1034583 | 11:53:31 | 1.1     | 125    | 1845.0 | 52.9    |
| L20371   | 366782  |          |        | Α     | 2     | 576333  | 14:45:29 | 2.8     | 168    | 1740.1 | 57.3    |
| L20371   | 364925  |          |        | В     | 2     | 607563  | 15:27:07 | 2.6     | 162    | 1075.7 | 58.1    |
| L20371   | 364635  |          |        | С     | 2     | 612093  | 15:33:10 | 3.3     | 181    | 1122.1 | 43.7    |
| L20372   | 362330  |          |        | A     | 3     | 735363  | 18:17:31 | 6.6     | 258    | 1942.8 | 53.7    |
| L20372   | 362184  |          |        | В     | 4     | 739023  | 18:22:24 | 18.0    | 424    | 1794.4 | 61.5    |
| L20372   | 362079  |          |        | С     | 2     | 741243  | 18:25:22 | 3.9     | 199    | 1731.5 | 57.4    |
| L20372   | 361929  |          | K      | D     | 2     | 743763  | 18:28:43 | 2.6     | 161    | 1643.2 | 81.2    |
| L20381   | 362096  |          |        | A     | 3     | 976293  | 7:42:58  | 8.5     | 291    | 1775.2 | 47.0    |
| L20381   | 362381  |          |        | В     | 1     | 988863  | 7:59:43  | 1.0     | 98     | 1977.8 | 36.8    |
| L20391   | 364893  |          |        | Α     | 2     | 1416813 | 17:30:19 | 2.9     | 169    | 1044.3 | 84.8    |
| L20391   | 364235  |          |        | В     | 1     | 1436793 | 17:56:58 | 0.4     | 66     | 1444.3 | 35.5    |
| L20391   | 362029  |          |        | С     | 3     | 1497813 | 19:18:19 | 6.3     | 251    | 1779.2 | 56.3    |
| L20400   | 364945  |          |        | A     | 1     | 297093  | 14:04:50 | 0.7     | 81     | 1067.6 | 78.3    |
| L20400   | 364279  |          |        | В     | 2     | 318303  | 14:33:07 | 3.3     | 182    | 1419.5 | 40.9    |
| L20400   | 364242  |          | K      | С     | 2     | 319623  | 14:34:53 | 3.3     | 182    | 1446.8 | 38.8    |
| L20410   | 364956  |          |        | A     | 2     | 525663  | 19:09:36 | 1.1     | 103    | 1063.9 | 92.5    |
| L20410   | 366856  |          |        | В     | 1     | 562653  | 19:58:55 | 0.3     | 58     | 1858.5 | 37.8    |
| L20420   | 366975  |          | K      | A     | 1     | 669453  | 22:21:19 | 0.3     | 54     | 1927.1 | 55.0    |
| L20420   | 365284  |          |        | В     | 1     | 698043  | 22:59:26 | 0.1     | 37     | 1203.9 | 63.1    |
| L20420   | 364959  |          |        | С     | 1     | 704583  | 23:08:10 | 1.0     | 99     | 1077.3 | 65.3    |
| L20420   | 364420  |          |        | D     | 1     | 717603  | 23:25:31 | 0.6     | 78     | 1334.3 | 40.9    |
| L20420   | 364388  |          |        | E     | 1     | 718713  | 23:27:00 | 0.6     | 78     | 1356.2 | 40.0    |
| L20430   | 364947  |          |        | A     | 2     | 907143  | 3:38:14  | 2.4     | 150    | 1060.3 | 77.1    |
| L20440   | 364959  |          |        | A     | 1     | 1104273 | 8:01:05  | 0.4     | 63     | 1052.7 | 85.7    |
| L20440   | 364614  |          |        | В     | 1     | 1114053 | 8:14:07  | 0.4     | 61     | 1226.5 | 60.2    |
| L20440   | 364560  |          |        | C     | 1     | 1115193 | 8:15:38  | 0.4     | 61     | 1262.1 | 45.8    |
| L20440   | 364196  |          |        | D     | 2     | 1131333 | 8:37:10  | 1.8     | 135    | 1525.4 | 41.5    |
| L20450.1 |         |          |        | A     | 2     | 1283643 | 12:00:14 | 1.7     | 132    | 1250.5 | 72.2    |
| L20463   | 364321  |          |        | Α     | 1     | 197253  | 12:39:31 | 0.0     | 0      | 1483.4 | 51.6    |
| L20471   | 365945  |          |        | Α     | 1     | 431223  | 17:51:29 | 0.3     | 50     | 1474.9 | 44.3    |
| L20480   | 364677  |          |        | Α     | 1     | 647703  | 22:40:10 | 0.6     | 80     | 1346.5 | 45.8    |
| L20480   | 364521  |          |        | В     | 2     | 655863  | 22:51:00 | 1.3     | 114    | 1458.9 | 39.8    |
| L20480   | 364475  |          |        | C     | 2     | 659403  | 22:55:43 | 1.1     | 103    | 1503.4 | 40.3    |
| L20490   | 365940  |          |        | A     | 2     | 870993  | 3:37:50  | 2.2     | 147    | 1460.9 | 49.9    |
| L20490   | 366013  |          |        | В     | 2     | 872373  | 3:39:41  | 3.4     | 183    | 1495.8 | 44.1    |
| L20500   | 364647  |          |        | A     | 1     | 1065333 | 7:56:58  | 0.8     | 87     | 1511.1 | 51.1    |
| L20500   | 364576  |          |        | В     | 1     | 1068453 | 8:01:12  | 0.8     | 87     | 1568.6 | 36.4    |
| L20530   | 362530  |          |        | A     | 1     | 863883  | 16:23:31 | 1.0     | 99     | 2469.1 | 31.8    |
| L30260   | 364641  |          |        | A     | 1     | 865413  | 2:06:53  | 0.7     | 81     | 1764.2 | 55.8    |
|          | 55.511  | 3. 32000 | - •    |       | •     | 555115  |          | ÷       | 0.     |        | 33.0    |

# Appendix D Program Related Documents



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**B.C. HOME** 

**Mineral Titles** 

Mineral Titles Online

**Mineral Claim Exploration and** Development Work/Expiry Date Change

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- ☑ Input Lots
- ✓ Data Input Form
- Review Form Data
- Process Payment
- Confirmation

- Main Menu
- Search Tenures
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MTO Help Tips

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MOUNTAIN STAR RESOURCES

LTD (139398)

Recorded: 2006/JUL/11

D/E Date: 2006/JUL/11

Mineral Claim Exploration and Development Work/Expiry Date

Confirmation

Submitter: MOUNTAIN STAR RESOURCES LTD (139398)

Effective: 2006/JUL/11

Your report is due in 90 days. Please attach a copy of this confirmation page to the front of

your report.

Event Number: 4091595

Work Start Date: 2006/MAY/01

Work Stop Date: 2006/MAY/31

Total Value of Work: \$85000.00

Mine Permit No:

Work Type: Technical Work

Technical Items: Geophysical, PAC Withdrawal (up to 30% of technical work performed)

#### Summary of the work value:

| Tenure<br># | Claim<br>Name/Property | Issue<br>Date | Good<br>To<br>Date | То          | # of<br>Days<br>For-<br>ward | Ha     | Work<br>Value<br>Due | Sub-<br>mission<br>Fee |
|-------------|------------------------|---------------|--------------------|-------------|------------------------------|--------|----------------------|------------------------|
| 516570      |                        |               | 2007/SEP/21        |             |                              |        |                      |                        |
| 516572      |                        | 2005/JUL/10   | 2006/SEP/21        | 2011/jan/31 | 1593                         | 420.07 | \$ 9952.83           | \$ 733.34              |
| 512486      |                        | 2005/MAY/12   | 2006/SEP/21        | 2011/jan/31 | 1593                         | 80.02  | \$ 1947.69           | \$ 139.70              |
| 512487      |                        | 2005/MAY/12   | 2006/SEP/21        | 2011/jan/31 | 1593                         | 280.06 | \$ 6816.63           | \$ 488.92              |
| 520325      | IRONY 1                | 2005/SEP/22   | 2006/SEP/22        | 2011/jan/31 | 1592                         | 420.25 | \$ 9611.57           | \$ 733.19              |

|                      | 2005/FEB/03 |             |             |             |             |        |
|----------------------|-------------|-------------|-------------|-------------|-------------|--------|
| 529331 IRONY 4       | 2006/MAR/03 | 2007/MAR/03 | 2011/jan/31 | 1430 500.29 | \$ 9665.95  | 784.02 |
| 529336 IRONY 5       | 2006/MAR/03 | 2007/MAR/03 | 2011/jan/31 | 1430 400.23 | \$ 7732.74  | 627.22 |
| 529799 IRONY 6       | 2006/MAR/09 | 2007/MAR/09 | 2011/jan/31 | 1424 500.48 | \$ 9603.67  | 781.02 |
| 502117 Irony 7       | 2005/JAN/12 | 2007/JAN/12 | 2011/jan/31 | 1480 140.06 | \$ 3419.67  | 227.16 |
| 529801 IRONY 8       | 2006/MAR/09 | 2007/MAR/09 | 2011/jan/31 | 1424 500.71 | \$ 9608.07  | 781.38 |
| 517402 IRONY CENTRAL | 2005/JUL/12 | 2006/JUL/12 | 2011/jan/31 | 1664 80.03  | \$ 1956.56  | 145.93 |
| 355265 IRONY 2       | 1997/APR/08 | 2006/SEP/21 | 2011/jan/31 | 1593450.00  | \$ 15701.92 | 785.59 |

Total required work value: \$ 102369.48

PAC name: mountain star resources Itd **Debited PAC amount:** 17369.48 Credited PAC amount: 0.00 **Total Submission Fees:** 7339.61

**Total Paid:** 7339.61

The event was successfully saved.

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