

Assessment Report for the  
**McFarlane Property**  
**Aeroquest Re-Interpretation**

Fort Steele Mining Division  
N.T.S. 82 F/ 10E  
Latitude 49° 35' N, Longitude 116° 44' W

for

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of

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Submitted: July 23<sup>rd</sup>, 2007

## SUMMARY

The MCFARLANE property comprises a total of 3,057.84 ha (7,556 acres), consisting of 8 Mineral Tenure Online (MTO) Mineral Tenures, located immediately east of Kootenay Lake. Access is available along the relatively well maintained Grey Creek Pass Forest Service Road for a total of approximately 75 km west from Cranbrook. Access is also available to the western portion along Anderson Road south of the Grey Creek Pass Forest Service Road. Several clear cuts are present on the property, together with a number of old logging roads which provide good access to both the eastern and western portions of the property. Active logging can be expected by Wynndel Box and Lumber north of McFarlane Creek. Tembec Industries is currently in the process of selling their private land interest south of McFarlane Creek.

The claims comprising the property were acquired to cover ground immediately west of Eagle Plains Resources Ltd Sphinx property, for which an Inferred Resource of 62,005,615 tonnes grading 0.035% Mo, using a cut-off grade of 0.01% Mo, has recently been announced. The resource is associated with an interpreted Cretaceous age intrusive body, with mineralization occurring as “disseminations and within quartz-pyrite stockwork veins hosted by both sedimentary and intrusive rocks”.

The claims acquired are located along the eastern edge of a prominent aeromagnetic anomaly associated with the Crawford Stock, a biotite granite intrusion of Cretaceous age correlated to the Bayonne Magmatic Belt. Felsic intrusive lithologies correlated to the Bayonne Magmatic Suite typically have a prominent magnetic signature, either associated with the intrusion or as a halo in the immediately surrounding host rocks. Recent work on the Mount Skelly Pluton, interpreted as a model for the McFarlane property, has distinguished a three phase intrusive complex that consists of fine- to coarse-grained granites correlated to the Cretaceous Bayonne Magmatic Suite. Near contacts with sedimentary strata, the granite appears to be both finer grained and perhaps more mafic, having a darker colour. In addition, there are more xenoliths of (an) earlier phase(s) of intrusive material and rounded sedimentary inclusions. Phenocrysts of alkali feldspar are present, ranging in size from less than a centimetre to approximately 2 centimetres in diameter, within a matrix of plagioclase feldspar, quartz and biotite  $\pm$  hornblende. The granite has local iron-stained veins with variable amounts of iron sulphide, predominantly as pyrite. The veins appear to occupy apparent discontinuous brittle shear zones which trend essentially north-south ( $\pm 20^\circ$ ). The Mount Skelly Pluton (Complex) comprises the exploration model for the properties of the Cretaceous Granite Project.

In addition, recent work on mineralization associated with intrusions has resulted in the Intrusion-Related Gold (IRG) Model. Examples include numerous examples in Alaska (i.e. Fort Knox, Pogo) and continue southeastward through the Tintina Gold Belt. Several occurrences in B.C. have been examined in a preliminary manner to evaluate Intrusion-Related Gold potential, including the Baldy Batholith and the Mt. Skelley Pluton. With reference to this model, elevated As, Bi, Sb, W are considered as “pathfinder” elements for potential IRG deposits. In this context, the locally moderately to highly anomalous Bi ( $\leq 344$  ppm) and W ( $\leq 7100$  ppm), associated with high grade

arsenic (1.02%) and gold (14.4 g/t, or 0.42 oz/t) in mineralized veins within a granitic intrusion is of potential interest. Furthermore, the Sanca Stock and Mount Skelly Pluton are of Cretaceous age with a prominent magnetic halo, both features characteristic of many occurrences along the Tintina Gold Belt. Several locations, including many of the documented MINFILE occurrences, may be compatible with an IRG-type model, particularly those associated with the northwestern lobe (Sanca Stock) of the exposed granitic phases.

Anomalous molybdenum, copper, lead, zinc and limited tungsten anomalies have been identified between McFarlane and Birkbeck creeks in a number of programs by different operators since 1979. A total of 1,127 soil samples have been documented from the area now underlain by the MCFARLANE property, with analysis for molybdenum  $\pm$  copper  $\pm$  lead  $\pm$  zinc  $\pm$  manganese and/or tungsten. At least 9 diamond drill holes have been documented to test anomalous soil results associated with two reported exposures of quartz monzonite.

The 2007 program reported herein consists of a re-interpretation of the Aeroquest airborne geophysical survey results for the western portion of the property by Sean Walker, of Aeroquest Limited. The purpose was to make more aggressive picks of subtle anomalies, specifically those that might comprise linear arrays, possibly indicating molybdenum-bearing horizons and/or pods preparatory to a diamond drill program later in the season, reported separately.

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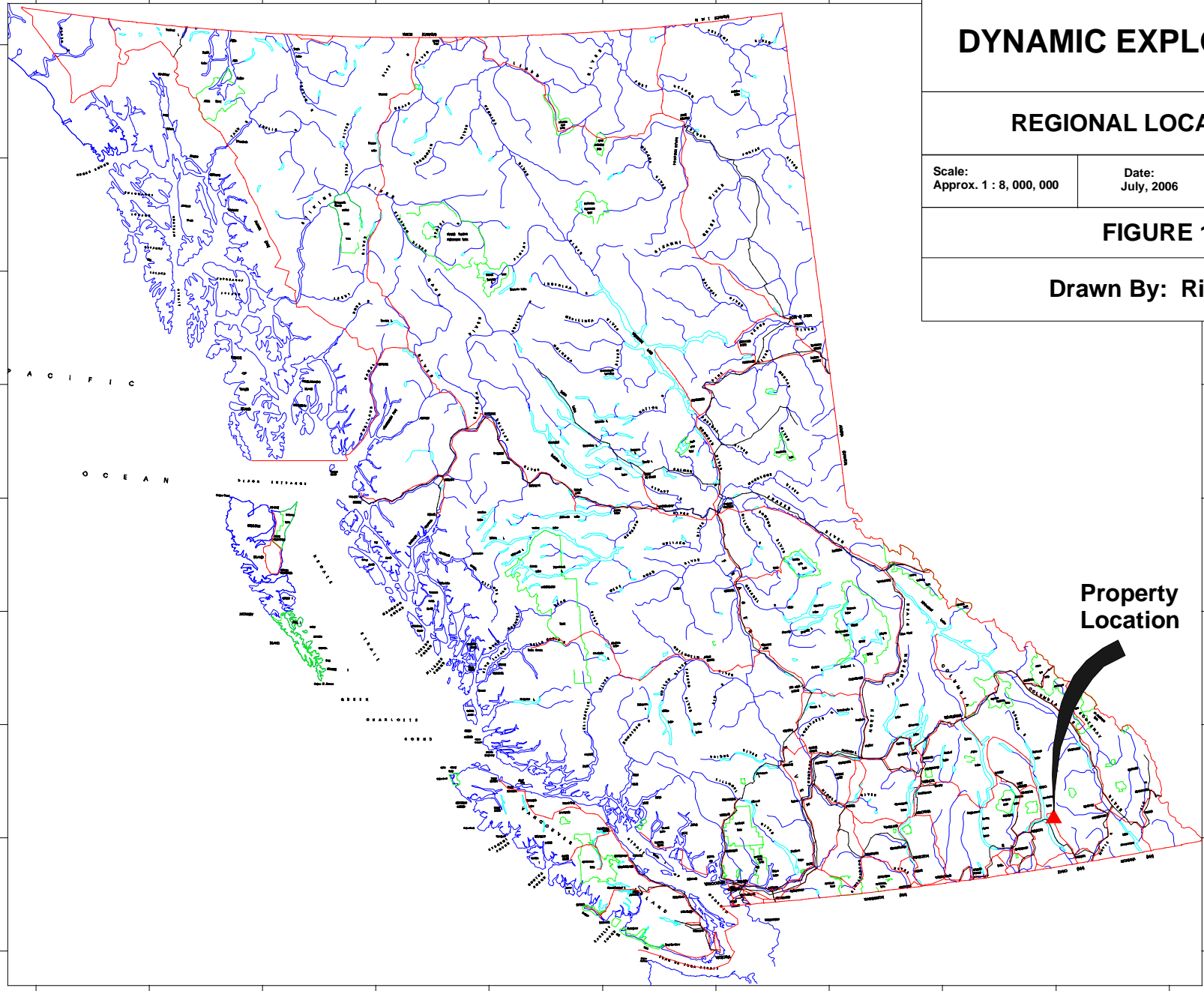
## INTRODUCTION

The MCFARLANE property comprises a total of 3,057.84 ha (7,556 acres), consisting of 8 Mineral Tenure Online (MTO) Mineral Tenures, located immediately east of Kootenay Lake (Fig. 1 and 2). Access is available along the relatively well maintained Grey Creek Pass Forest Service Road for a total of approximately 75 km west from Cranbrook. Access is also available to the western portion along Anderson Road south of the Grey Creek Pass Forest Service Road. Several clear cuts are present on the property, together with a number of old logging roads which provide good access to both the eastern and western portions of the property. Active logging can be expected by Wynndel Box and Lumber north of McFarlane Creek. Tembec Industries is currently in the process of selling their private land interest south of McFarlane Creek.

The claims comprising the property were acquired to cover ground immediately west of Eagle Plains Resources Ltd Sphinx property, for which an Inferred Resource of 62,005,615 tonnes grading 0.035% Mo, using a cut-off grade of 0.01% Mo, has recently been announced (Eagle Plains 2005a and 2005b). The resource is associated with an interpreted Cretaceous age intrusive body, with mineralization occurring as “disseminations and within quartz-pyrite stockwork veins hosted by both sedimentary and intrusive rocks”.

The claims acquired are located along the eastern edge of a prominent aeromagnetic anomaly associated with the Crawford Stock (Walker 2006), a biotite granite intrusion of Cretaceous age correlated to the Bayonne Magmatic Belt (Fig. 3). Felsic intrusive lithologies correlated to the Bayonne Magmatic Suite typically have a prominent magnetic signature, either associated with the intrusion or as a halo in the immediately surrounding host rocks. Recent work on the Mount Skelly Pluton, interpreted as a model for the McFarlane property, has distinguished a three phase intrusive complex (Logan and Mann 2000) that consists of fine- to coarse-grained granites correlated to the Cretaceous Bayonne Magmatic Suite. Near contacts with sedimentary strata, the granite appears to be both finer grained and perhaps more mafic, having a darker colour. In addition, there are more xenoliths of (an) earlier phase(s) of intrusive material and rounded sedimentary inclusions. Phenocrysts of alkali feldspar are present, ranging in size from less than a centimetre to approximately 2 centimetres in diameter, within a matrix of plagioclase feldspar, quartz and biotite  $\pm$  hornblende. The granite has local iron-stained veins with variable amounts of iron sulphide, predominantly as pyrite. The veins appear to occupy apparent discontinuous brittle shear zones which trend essentially north-south ( $\pm 20^\circ$ ). The Mount Skelly Pluton (Complex) comprises the exploration model for the properties of the Cretaceous Granite Project.

In addition, recent work on mineralization associated with intrusions has resulted in the Intrusion-Related Gold (IRG) Model. Examples include numerous examples in Alaska (i.e. Fort Knox, Pogo) and continue southeastward through the Tintina Gold Belt. Several occurrences in B.C. have been examined in a preliminary manner to evaluate Intrusion-Related Gold potential, including the Baldy Batholith and the Mt. Skelley Pluton. With reference to this model, elevated As, Bi, Sb, W are considered as “pathfinder” elements for potential IRG deposits. In this context, the locally moderately to highly anomalous Bi ( $\leq 344$  ppm) and W ( $\leq 7100$  ppm), associated with high grade



# DYNAMIC EXPLORATION LTD

## REGIONAL LOCATION MAP

Scale:  
Approx. 1 : 8, 000, 000

Date:  
July, 2006

Mapsheet:  
N.T.S. 82F / 10  
BCGS: 082F 057 and 067

### FIGURE 1

Drawn By: Rick Walker

Property  
Location

# DYNAMIC EXPLORATION LTD

## PROPERTY LOCATION MAP

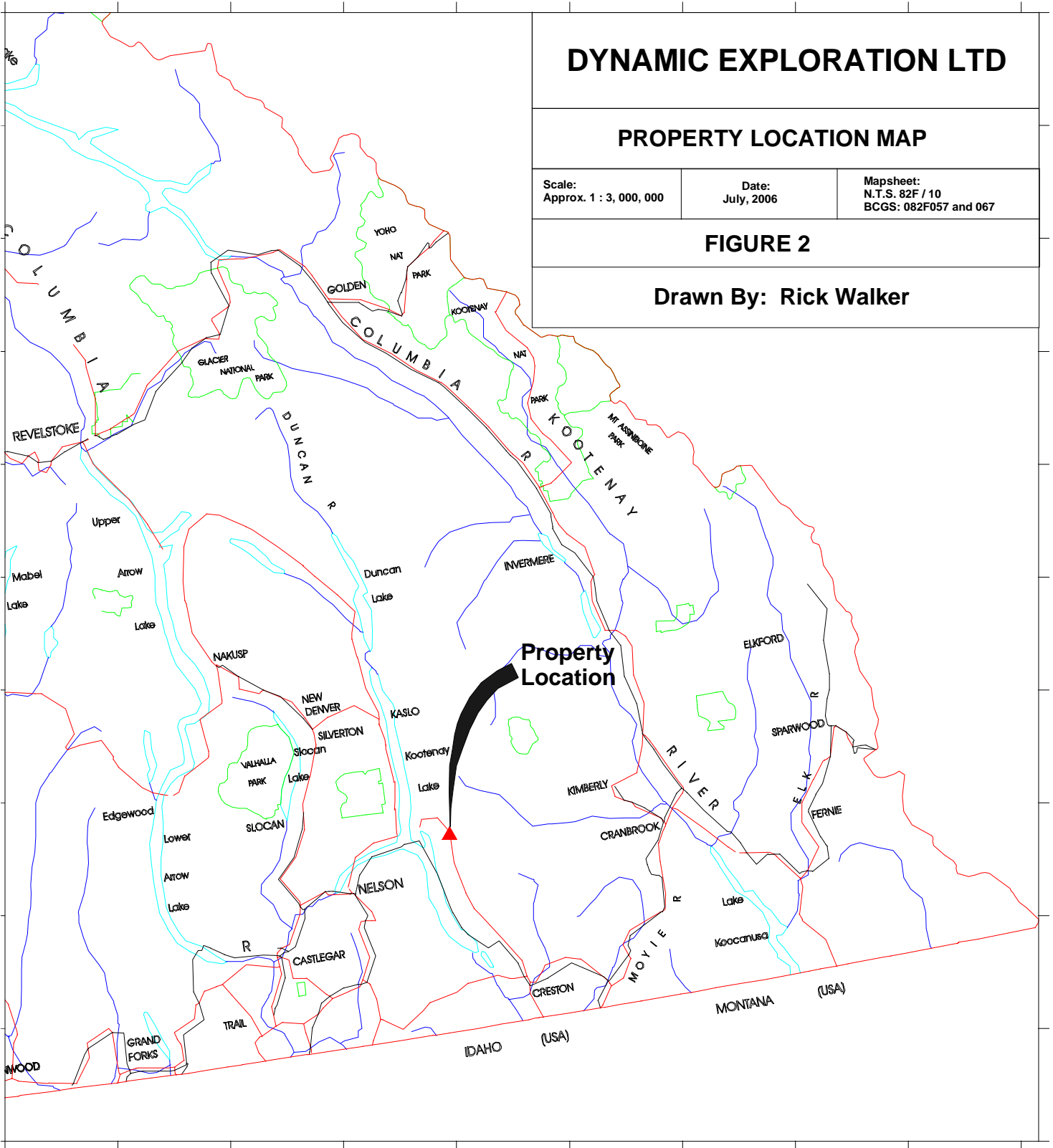
Scale:  
Approx. 1 : 3,000,000

Date:  
July, 2006

Mapsheet:  
N.T.S. 82F / 10  
BCGS: 082F057 and 067

### FIGURE 2

Drawn By: Rick Walker





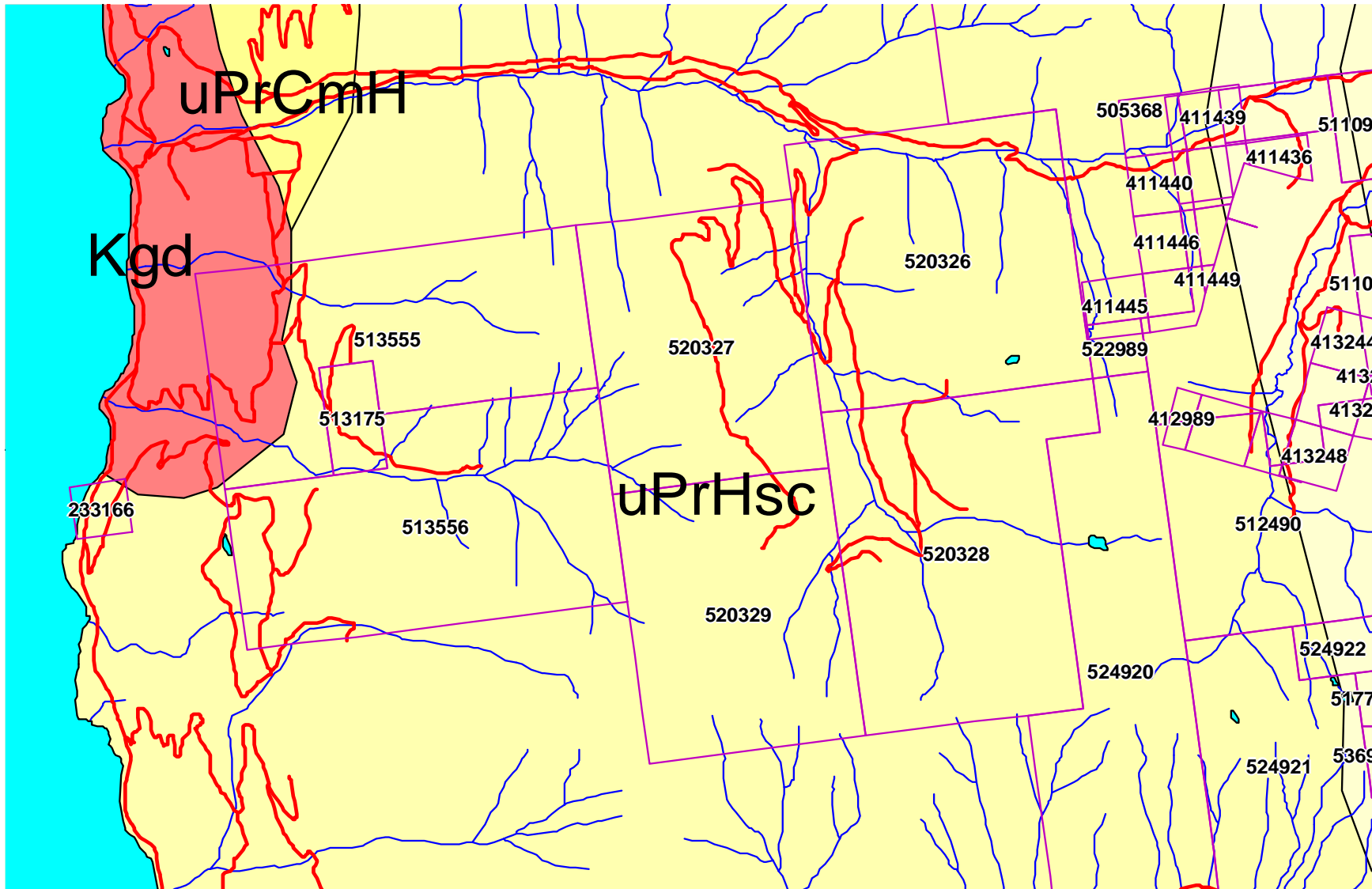
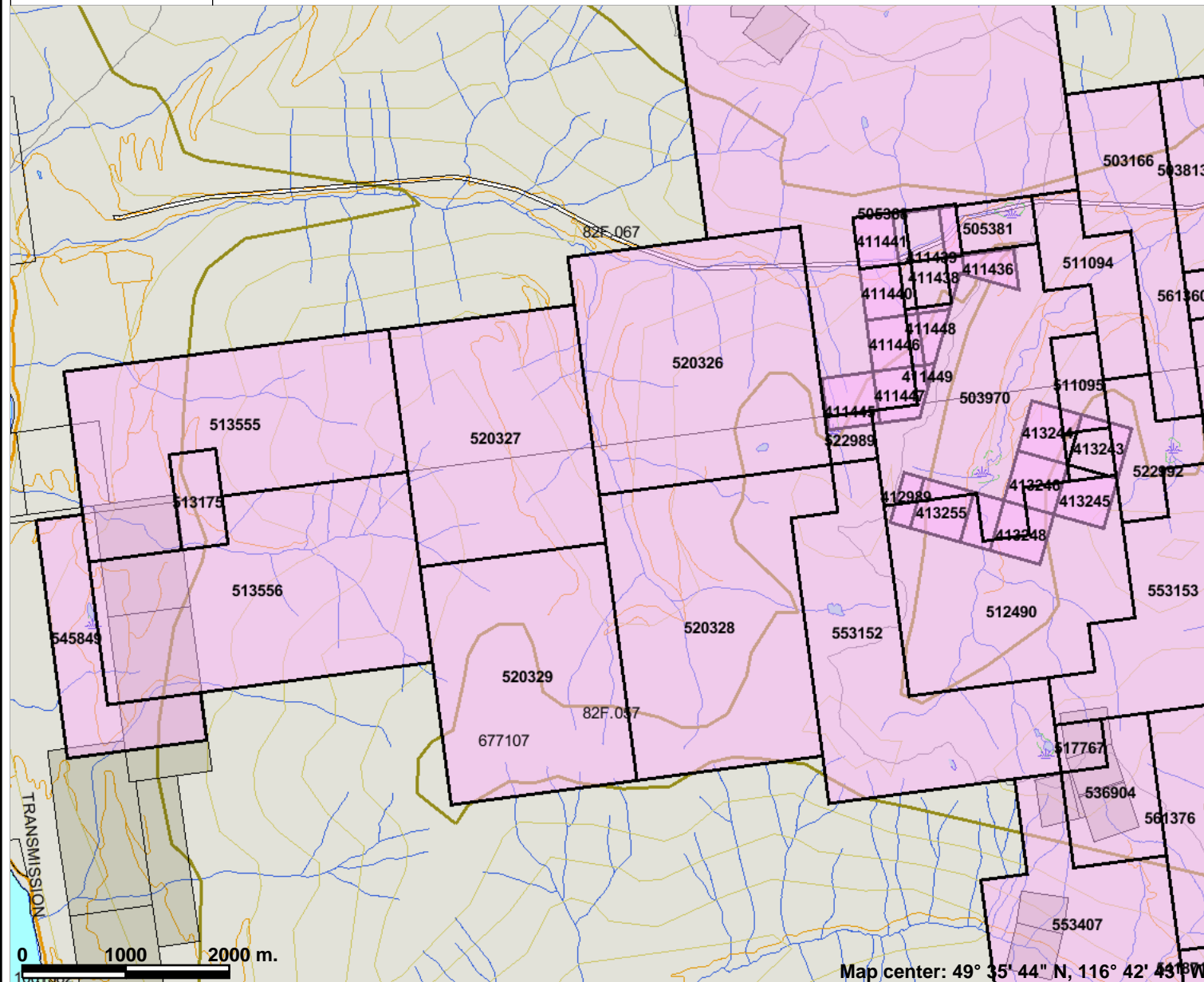


Figure 4 – Geological Map for the MCFARLANE property. uPrHsc – Upper Proterozoic Horsethief Creek Group, uPrCmH – Upper Proterozoic – Cambrian Hamill Group, Kgd – Cretaceous granodiorite. Scale 1 : 50,000

# Figure 4: Claim Map



### Legend

- Indian Reserves
- National Parks
- Parks
- Mineral Tenures (Mineral - LRDW)
- Mineral Claim
- Mineral Lease
- Reserves (Mineral - LRDW Sites)**
- Placer Claim Designation
- Placer Lease Designation
- No Staking Reserve
- Conditional Reserve
- Release Required Reserve
- Surface Restriction
- Recreation Area
- Others
- Mining Division (MTO)
- Survey Parcels
- BCGS Grid
- Contours (1:250K)**
- Contour - Index
- Contour - Intermediate
- Area of Exclusion
- Area of Indefinite Contours
- Transportation - Points (TRIM)**
- Helipad
- Transportation - Lines (TRIM)**
- Airfield
- Airport
- Airstrip
- Airport.Abandoned
- Ferry Route
- Road (Gravel Undivided) - 1 Lane
- Road (Gravel Undivided) - 2 Lanes

0 1000 2000 m.

Map center: 49° 35' 44" N, 116° 42' 43" W



Scale: 1:58,246

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

Notes: The McFarlane property lies west of, and includes, Mineral Tenures 520326 and 520328.

arsenic (1.02%) and gold (14.4 g/t, or 0.42 oz/t) in mineralized veins within a granitic intrusion is of potential interest. Furthermore, the Sanca Stock and Mount Skelly Pluton are of Cretaceous age with a prominent magnetic halo, both features characteristic of many occurrences along the Tintina Gold Belt. Several locations, including many of the documented MINFILE occurrences, may be compatible with an IRG-type model, particularly those associated with the northwestern lobe (Sanca Stock) of the exposed granitic phases.

Anomalous molybdenum, copper, lead, zinc and limited tungsten anomalies have been identified between Mcfarlane and Birkbeck creeks in a number of programs by different operators since 1979 (Ayer 1981, Buckley 1980, Jury 1967, Wright 1980). A total of 1,127 soil samples have been documented from the area now underlain by the MCFARLANE property, with analysis for molybdenum ± copper ± lead ± zinc ± manganese and/or tungsten. At least 9 diamond drill holes have been documented to test anomalous soil results associated with two reported exposures of quartz monzonite.

The 2007 program reported herein consists of a re-interpretation of the Aeroquest airborne geophysical survey results for the western portion of the property by Sean Walker, of Aeroquest Limited. The purpose was to make more aggressive picks of subtle anomalies, specifically those that might comprise linear arrays, possibly indicating molybdenum-bearing horizons and/or pods preparatory to a diamond drill program later in the season, reported separately.

## **LOCATION AND ACCESS**

The MCFARLANE property is located in the western Purcell Mountains (latitude 49° 35' N, longitude 116° 44' W), approximately 75 kilometres west of Cranbrook, B.C. on N.T.S. mapsheet 82 F/10E ( Fig. 1 and 2). The property consists of 6 Mineral Tenure Online (MTO) Mineral Tenures, located between Kootenay Lake and Gray Creek Pass.

The property can be accessed by gravel Forest Service Roads (FSR) from Cranbrook / Kimberley along the St. Mary's Road. The road is well maintained west of St. Mary's Lake to Km 45. At km 45, take the Redding Creek - St. Mary's FSR for approximately 25 km along a moderately rough gravel road to km 25, then take the right fork to Grey Creek Pass. The eastern boundary of the MCFARLANE property is at approximately 13 km along the Baker Creek / Grey Creek Pass road.

Alternatively, the western portion of the property can be accessed using the Grey Creek Pass (Anderson) road from the community of Grey Creek, immediately east of Kootenay Lake. The northern and eastern portions of the property can be accessed from the road along Grey Creek, and then south up a tributary of Grey Creek to Grey Creek Pass.

Access to the south-central portion of the property is available by turning right approximately 1 km up the Gray Creek Road on Jasper Road and following the logging road south across Birkbeck Creek. This road provides access to the area between Birkbeck and McFarlane Creeks. Road access to the area south of McFarlane Creek, immediately east of Kootenay Lake is indicated on TRIM mapsheet 082F057 but appears to have been taken over by local residents and/or overgrown and indistinguishable.

All roads are negotiable using a 2WD vehicle although 4WD is recommended for better clearance.

## **PHYSIOGRAPHY AND CLIMATE**

The MCFARLANE property is located between Kootenay Lake and Grey Creek Pass (Fig. 2), on the east side of Kootenay Lake. Relief in the area varies from 680 metres (2,230 feet) along the western slopes above Kootenay Lake to approximately 2,360 metres (7,745 feet) on the eastern edge of the property. Vegetation in the area consists predominantly coniferous, with deciduous trees preferentially located along the creeks bottoms. Undergrowth consists largely of small deciduous shrubs.

The claims are located east of Kootenay Lake in a regional topographic high, comprising the local drainage divide, and are therefore subject to heavier precipitation. As a result, the region is characterized by heavy snowfall during the winter months. The property is available for vehicle based, geological exploration from June to late October.

## CLAIM STATUS

The property consists of 8 Mineral Tenure Online (MTO) Mineral Tenures (Fig. 3). The property comprises a total of 3,058 ha (7,556 acres). Significant claim data are summarized below:

Tenure Number	Tenure Name	Good To Date	Area (ha)
513175	BEN DERBY	2017 / MAY / 22	41.88
520326	MCFARLANE	2016 / SEP / 22	523.531
520327	MCFARLANE 2	2016 / SEP / 22	418.847
520328	MCFARLANE 3	2016 / SEP / 22	523.717
520329	MCFARLANE 4	2016 / SEP / 22	418.986
513555	MCFARLANE NORTH	2016 / DEC / 31	460.637
513556	MCFARLANE SOUTH	2016 / DEC / 31	523.627
545849	MCFARLANE 5	2007 / NOV / 24	146.614
<b>TOTAL</b>			<b>3,057.839</b>

\*After 2006 assessment credit applied.

## HISTORY

The area currently underlying the MCFARLANE property was evaluated as the FORD, MOLY and GREY claims by previous operators. A brief summary of these programs follows:

- 1916 - 1919 - two adits driven on easterly striking quartz veins with disseminated molybdenite and pyrite
- 1966 - 1969 - Soil sampling, trenching and diamond drilling on Benderby Claims by United Fortune Mines Ltd.
- 1979 - 23 km line cutting, soil sampling (460 samples) on Moly Claims by Dekalb Mining Corporation
- 1980 - Soil sampling (337 soil, 4 silt samples) and geological mapping by Cominco Ltd
- 1981 - Dekalb Mining Corporation completed 12 km line cutting, 330 soil samples, 20.5 line km of IP survey, 1:5,000 scale geological mapping and diamond drilling (9 holes  $\leq$  125 m deep).
  - identification of surface soil anomalies for molybdenum, copper, lead, zinc and limited tungsten between Mcfarlane and Birkbeck creeks resulted in diamond drilling, which

returned anomalous molybdenum values, including:

Hole	From (m)	To (m)	Molybdenum (ppm)	Interval (metres)
DK - 81 - 2	34.14	35.66	2060	1.5
DK - 81 - 7	42.37	43.13	2336	0.76
DK - 81 - 8	102.87	103.94	1991	1.07
DK - 81 - 9	27.43	28.65	8000	1.22

The best hole was DK - 81 - 9, in which a 12 m interval from 26.52 to 38.40 returned an average grade of 1,200 ppm (0.12%) Mo. Molybdenum mineralization is reportedly hosted by quartz veins between 1 and 100 cm thick which are most abundant along the "... eastern contact of the main quartz monzonite intrusion ...". A total of ten diamond drill holes were completed in the 1981 program to test surface geochemical and/or geophysical (Induced polarization) anomalies.

- 1987 - time domain IP survey on Ford Property for Amarado Resources Limited
  - recommend 6 drill holes to test resulting anomalies

2005 - Property acquired by Jasper Mining Corporation. Preliminary soil program comprised of 300 samples taken along existing road network.

2006 - soil sampling (road and contours; 188 samples), diamond drilling (7 BTW size holes from three separate pads, totaling 1,822.77 metres) and an Aeroquest International airborne geophysical survey of entire property (455.8 line km (flown jointly with the Lydy property) or 40.2 km<sup>2</sup>). The survey included magnetic, electromagnetic (EM) and radiometric data.

- acquisition of the Ben Derby MTO Mineral Tenure

## **REGIONAL GEOLOGY**

The only previous regional mapping undertaken pertaining to the general area of the MCFARLANE claims was that of Reesor (1993) for the east side of Kootenay Lake. The stratigraphy of the Windermere Supergroup (in the Toby Creek area to the north) has been well described by Pope (1990).

### **Stratigraphy**

#### **Proterozoic**

#### **Windermere Supergroup**

#### **Horsethief Creek Group**

The Toby Formation is gradational into the overlying Horsethief Creek Formation, in which five lithofacies have been identified. These lithofacies define a rudimentary stratigraphy of facies within the Horsethief Creek Formation as individual lithological units are inconsistent due to rapid lateral thickness and facies variations.

The lithofacies identified in the Horsethief Creek Formation are as follows:

- a) siltstone-argillite - dominant in the lower half of the Horsethief Creek Formation and separate the remaining lithofacies throughout the formation. This lithofacies consists of thick sequences of thin bedded (1 to 10 cm), graded siltstone and argillite and finely laminated (1 to 5 mm), black, green and grey argillite.
- b) black carbonate - an easily traced marker used to identify and map the base of the Horsethief Creek Formation consisting of thin bedded (5 to 20 cm), dark grey to black limestone, with variable quartz sand and silt in a calcitic matrix, and thin calcareous quartz-arenite beds.
- c) dolomite - buff weathering dolomite, up to 30 metres thick, dolomite pebble-conglomerate beds and dolomite supported quartzite occur throughout the Horsethief Creek Formation.
- d) quartz feldspar arenites and pebble conglomerates - consist of pebble conglomerates comprised of grain-supported, moderately sorted crystalline quartz and quartz feldspar clasts with variable red jasper, green to grey argillite, quartzite and dolomite clasts in a quartz, feldspar, carbonate, sericite and chlorite matrix. Clasts are generally 1 to 2 centimetres in diameter but may exceed 10 centimetres in length. Coarse arenite beds are similar to the pebble conglomerates but have a greater proportion of matrix and are generally poorly sorted.
- e) red and varicoloured argillites - are present at the top of the Horsethief Creek Formation and consist of variably coloured argillites with interbedded pink carbonate, and varicoloured

impure arenites (Pope 1990).

## **Mesozoic**

### **Granitic Intrusions**

Cretaceous intrusives of broadly “granitic” composition are present in a belt extending from the westernmost Rocky Mountains to Kootenay Lake, northward to the Baldy Batholith. Intrusions range from small dykes and sills to larger intrusive complexes such as the Mt. Skelly Batholith and are collectively referred to as the Bayonne Magmatic Belt (or Suite) (Logan 2002).

“Intrusive rocks ... include a number of small post kinematic mesozonal quartz monzonite, monzonite and syenitic plutons, numerous small quartz monzonite to syenite dikes and sills probably related to these stocks, and late mafic dikes. The Kiakho and Reade Lake stocks, two of the larger of the mesozonal plutons, cut across and apparently seal two prominent east-trending faults that transect the eastern flank of the Purcell anticlinorium, and hence place constraints on the timing of latest movement on these faults.

The Kiakho stock is exposed on the heavily wooded slopes of Kiakho Creek approximately 10 kilometres (west-southwest) ... of Cranbrook ... Exposures consist mainly of large, fresh angular boulders of boulder fields. Although contacts with country rock were not observed, regional mapping indicates that it intrudes clastic rocks of the Aldridge and Creston formations. The distribution of outcrops and a pronounced aeromagnetic anomaly indicate that it cuts the east-trending Cranbrook normal fault with no apparent offset. ...

The Kiakho stock is similar to the Reade Lake stock with the dominant phase being a light grey, medium-grained quartz monzonite. It is generally equigranular but grades into a hypidiomorphic granular porphyritic phase with prominent plagioclase and light grey to flesh-coloured potassic feldspar phenocrysts; both are up to several centimetres in diameter in a granular groundmass of white subhedral plagioclase, light grey potassic feldspar, quartz and black hornblende” (Höy 1993).

The Bayonne Granitic Suite is a composite batholith comprised of a number of smaller Jurassic to Cretaceous age granitoid stocks and plutons which extends from near the International Boundary across Kootenay Lake. On the east side of the Kootenay Lake, the Bayonne Granitic Suite locally includes the Mount Skelly Pluton, a biotite (hornblende) monzogranite with megacrysts of potassium feldspar (Reesor 1996). Rice (1941) grouped these granitoids under the broad heading of the Bayonne Batholith, as described below.

#### **Bayonne Batholith (Rice 1941)**

“The Bayonne batholith varies in composition from a granite to a calcic granodiorite; the average composition is that of a fairly alkaline granodiorite. ... Much of the rock



has an equigranular texture, but a porphyritic phase occurs in many places, at some of which phenocrysts of potash feldspar 2 or 3 inches long are present. The potash feldspar may be orthoclase or microcline and in some specimens both occur. The plagioclase is oligoclase, generally well twinned and frequently in zoned crystals. Dark brown biotite is the only ferromagnesian mineral abundant, but grains of hornblende occur in rare instances. The usual accessories are present. Sericite and epidote are the commonest secondary minerals, but neither occur in significant amounts except where the rock has been altered.

A marked feature of the Bayonne batholith is its highly variable nature. This is observable not only in the range of composition but in the appearance of the rock. Coarse-grained and fine-grained, porphyritic and non-porphyritic, pink and light or dark grey phases may occur in a single exposure, in some places in streaks and patches. Masses of pegmatite and dykes of pegmatite and aplite occur everywhere. Some of the pegmatite dykes are over 100 feet wide. A few large crystals of blue-green beryl, pink garnet, magnetite, and a little black tourmaline were seen in these pegmatites.

Large inclusions of granitized sediments are locally abundant. ... These inclusions vary in size from a foot to some hundreds of feet. Alteration is severe, but the sedimentary nature of the original rock is, in most cases, still recognizable and the boundary between the granite and the inclusion is generally fairly sharp. Other inclusions or xenoliths (sic.) from a few inches to a foot long also occur, which can readily be distinguished from the first type mentioned. They parallel one another, are darker coloured, their original texture and composition has been more or less completely altered, they are fairly uniform in size, and they usually grade imperceptibly into the granite. They are more widely distributed, indeed very few exposures of any size were examined that did not contain some of these xenoliths (sic.), and in places they are extremely abundant. The xenoliths (sic.) are often most common in the porphyritic phases and scarcer in the non-porphyritic phases of the granite ...“.

Cretaceous intrusions interpreted to underlie the properties comprising the Cretaceous Granitic Project are interpreted to be exemplified by the Mount Skelly Pluton, located southwest of the Baribeau property along the east shore of Kootenay Lake. Recently there has been limited mapping undertaken on the pluton as part of a regional study of the Bayonne Magmatic Belt (Logan 2002), with local sampling and mapping of the Mount Skelly Pluton and Sanca Stock (Lett et al. 2000, Logan and Mann 2000).

### **Mount Skelly Pluton / Sanca Stock**

The dominant lithology comprising the Mount Skelly Pluton is that of a biotite granite. In areas proximal to the mapped contact between the pluton and host sediments, the grain size is slightly

reduced to that of a medium- to coarse-grained granite. At low to middle elevations along the eastern portion of Sanca Creek, the granite assumes a porphyritic texture due to the presence of megacrystic alkali feldspar phenocrysts. Individual, equant crystals of white to pinkish alkali feldspar phenocrysts up to 2 cm in diameter were noted in a finer grained matrix of medium- to coarse-grained white plagioclase and biotite  $\pm$  hornblende. Xenoliths are rare to absent at deeper levels within the pluton, becoming more abundant and larger both at higher elevations and along Sanca Creek to the west. Xenoliths are predominantly sedimentary, however, inclusions of finer grained, more mafic granite were noted and may have been derived from an earlier phase of the intrusion or a separate, deeper intrusion altogether.

Recent mapping and geochronology by Logan and Mann (2000) have resolved the granite exposures of the Sanca Creek area into three separate phases, specifically, the Mount Skelly Pluton and the Sanca Stock. The Mount Skelly Pluton is further sub-divided into:

- 1) Granite - "Fine to medium grained, equigranular biotite monzogranite. Minor aphanitic, leucocratic phases and dikes", and
- 2) Granodiorite - "Coarse grained biotite-hornblende granodiorite. Common euhedral megacrystic potassium feldspar and mafic (hornblende-biotite-titanite-rich) inclusions. Biotite, K-AR dates of 97.1 to 98.7 Ma

The younger Sanca Stock is described as a "Medium to coarse grained biotite granodiorite. Characteristic coarse, sub-rounded violet to grey quartz crystal aggregates. Biotite, K-Ar dates of 78.9 to 80.9 Ma". Therefore, the granites of the Sanca Creek area can be differentiated into three phases, the older Mount Skelly Pluton (at 97.1 to 98.7 Ma) and the younger Sanca Creek Stock (at 78.9 to 80.9 Ma).

## **Structure**

Four major phases of deformation have been identified in the Toby Creek area (to the northeast of the Baribeau property), Helikian-Devonian extension (D1), Jurassic-Paleocene contraction (D2-D3) and Eocene extension (D4) (Pope 1990).

The first phase of deformation resulted in unconformities at the base of the Dutch Creek and Mount Nelson Formations (D1a) and the unconformity at the base of the Windermere Supergroup (D1b). Thinning of Paleozoic strata onto the Windermere High is interpreted to reflect the effects of D1c deformation together with the development of small fault-bounded sub-basins.

Contraction during the Columbian (D2) and Laramide (D3) orogenies resulted in a series of northeast vergent thrust faults and the development of a regional foliation (S1). Three major thrust sheets are evident in the Toby Creek area with one, the Mount Nelson thrust sheet, comprised of four smaller fault panels. The three major thrust sheets represent out-of-sequence faults, having propagated

toward the hinterland, carried in the hanging wall of the Purcell Thrust.

Contraction during D2 and D3 produced east-vergent imbricate thrust faults and west vergent backthrusts. Many of these faults were subsequently reactivated during the fourth phase (D4) of deformation. High angle brittle faults are also a result of D4.

## **LOCAL GEOLOGY**

### **Stratigraphy**

The MCFARLANE property is underlain by south striking, steeply west dipping, Late Proterozoic age strata correlated to lower Windermere Supergroup on the western limb of the Purcell Anticlinorium. Correlations indicate the strata belong to a continuous succession comprising the Horsethief Creek Group (Fig. 4).

### **Structure**

The structure of the McFarlane Creek area is dominated by its position on the western flank of the Purcell Anticlinorium, a north plunging fold of regional significance. The Purcell Anticlinorium is allochthonous with respect to North American cratonic basement, having been transported northeastward in the hanging wall of the Purcell Thrust. This major structure has been complicated slightly by a number of regional and local faults, discussed below with reference to the Kootenay Lake mapsheet of Reesor (1996). An early folding event has been proposed for early structures interpreted to have developed in the Late Proterozoic during the Goat River Orogeny (Höy 1993).

The prominent faults in the Baker Creek area are interpreted to be predominantly the result of the Laramide orogeny, characterized by east-verging, west-dipping thrust faults. The major fault system of the area is the St. Mary / Hall Lake fault system, interpreted to be a long lived fault initiated in the Late Proterozoic as a growth fault and periodically active at least into the Laramide orogeny. Eastward directed movement across the St. Mary / Hall Lake fault resulted in steeply dipping strata on the western limb of the Purcell Anticlinorium being juxtaposed against relatively shallowly to moderately dipping strata closer to the hinge axis.

Significant dip displacement is indicated across the fault east of Sanca Creek where Proterozoic lower Creston strata has been juxtaposed against early Paleozoic Cambrian Eager Formation strata. Later thrust faults are evident in the hanging wall of the St. Mary / Hall Lake fault. The Redding Creek fault is locally significant fault. It is a west dipping, east verging thrust fault that juxtaposes middle Creston strata against the lower member of the Coppery Creek group. A number of smaller, normal faults are indicated in the hanging wall of the Redding Creek Fault, all of which appear to have minor dip (and probably strike-slip) movement. All of the faults in the hanging wall of the St.

Mary / Hall Lake fault are interpreted to be older than the Cretaceous Mount Skelly Pluton (Bayonne Magmatic Belt) as all are truncated at the contact of the pluton.

## **PROPERTY GEOLOGY**

No geological mapping has been completed on the property by the Company. As such, the following description of the geology characterizing the MCFARLANE property has been taken from Ayer (1981).

“The (MOLY) property has limited exposure with an estimated 5% outcrop over the total area. ...The claims are underlain by Proterozoic metasedimentary rocks of the Horsethief Creek Group intruded by Cretaceous (?) stocks of quartz monzonite. Rocks of the Horsethief Creek Group occur in the eastern half of the property and consist of fine-grained mica schists, schistose metasandstone, metaconglomerates and amphibolites. Locally these metasediments have been altered to garnet and epidote-bearing, laminated skarn rocks, where they occur adjacent to the quartz monzonite stock in the south-central corner of the property.

The quartz monzonite is predominantly light grey and medium-grained with 5 to 10% biotite in a subhedral-granular textured groundmass with occasional coarse-grained alkali feldspar phenocrysts. Minor younger phases of equigranular and leucocratic (less than 5% biotite) medium-grained alaskite and fine-grained aplite are also present. In several drill holes (DK-81-2 & 3) porphyry dykes with fine-grained alkali feldspar phenocrysts were observed cutting metasediments.

The foliation and bedding in the metasediments are generally northerly striking with gentle easterly dips in the northern portion and steep easterly and westerly dips in the south. No major folds have been identified but minor folds are visible in outcrops and drill core. Jointing is best developed in the quartz monzonite with the dominant direction being northeasterly. Quartz veins commonly occupy northeast to east-west trending joints and fractures.

## **ECONOMIC GEOLOGY**

Disseminated molybdenite and pyrite occur in quartz veins which range from less than 1 cm to over 1 m in thickness. The molybdenite bearing veins appear to be most abundant in the vicinity of the stock in the south-eastern corner of the property and at the eastern contacts of the main quartz monzonite intrusion in the central portion of the claim.

Alteration appears to be best developed in quartz monzonite rock. Alteration zones consist of potassic, propylitic and phyllic assemblages. Potassic alteration results in a pink coloured quartz monzonite with a relatively high proportion of potassium feldspar and biotite altered to chlorite. Propylitic alteration results in a greenish grey quartz monzonite with epidotization of plagioclase and biotite altered to chlorite. Potassic and propylitic alteration zones are pervasive, however no systematic zonation has been recognized. Phyllic alteration of quartz monzonite is texture destructive, resulting in an equigranular rock rich in quartz and muscovite. This type of alteration has only been recognized in the selvages of quartz veins” (Ayer 1981).

The following has been taken from Wright (1980):

“The most widespread unit is schist which consists of varying amounts of muscovite, biotite, plagioclase, quartz, cordierite and andalusite. An average composition is muscovite 50%, plagioclase 35%, quartz 12% and biotite 3%, with cordierite or andalusite constituting up to 30% of the rock in some samples. These rocks normally have a light silvery-grey colour, weathering light grey-brown. Toward the contact with the quartz monzonite intrusions, the quartz-muscovite plagioclase schist becomes coarser-grained.

A thin, 400 metre-long lens of quartzite trends NS within the schists in the southeastern portion of the property. It is a medium to coarse-grained, light grey quartzite weathering light pinkish-grey.

Within the schists is a unit of meta-andesite. This rock is very fine-grained, light to medium greenish-grey, weathering dark grey. Near the intrusive contact this unit is altered to skarn, which consists of bands of dark grey-green meta-andesite alternating with bands of idocrase and garnet. These bands are spaced at 20-26 cm intervals. There are also narrower 3-5 cm bands of diopside and quartz at less regular intervals. The meta-andesite grades into chlorite-muscovite plagioclase schist toward the west, this unit having an average composition of 45% plagioclase, 35% muscovite and 20% chlorite.

A 30-metre wide band of quartz-feldspar pebble conglomerate trends NS within the schists in the southwestern part of the property. This unit is light reddish-brown, weathering light brown to grey with small rusty patches of disseminated pyrite. Quartz and feldspar clasts average 4 mm in size. Muscovite-plagioclase schist layers are interbedded with the conglomerate every 1-2 metres.

To the west of the quartz feldspar pebble conglomerate are several 15-20 m wide lenses of marble which extend 200-300 m along strike. These are medium to coarse-grained, with alternating 1 cm light and dark grey bands.

A NS trending 300-600 m wide amphibolite unit occurs in the southwestern portion of the property. The unit is typically fine to medium-grained, dark greenish-black, and weathers a medium dark grey. In places it takes on a streaky appearance with thin bands of white plagioclase alternating with black amphibole. The composition is quite variable, with 60-90% amphibole (hornblende?), 10-40% plagioclase, 1-3% biotite in places and occasionally up to 1% pyrote.

A 10-15 m wide diorite dike intrudes the muscovite-plagioclase schists in the southwestern part of the property. The diorite is medium-grained, a dark grey colour, weathering medium grey, and is composed of 50-60% plagioclase, 30-40% biotite and 5-10% hornblende. Manganese staining and epidote alteration are common along fracture surfaces.

There are two quartz monzonite intrusions. Part of the major intrusive covers the northwestern portion of the map area, while the smaller, elliptical stock intrude the meta-andesites in the east. The rocks within the two intrusions are very similar in appearance. The quartz monzonite is typically medium to coarse-grained, white to pinkish-grey, weathering light pinkish-grey. An averae samples consists of 30-38% K-feldspar, 30-35% plagioclase, 25-30% quartz, and 5% biotite. K-feldspar phenocrysts may range from ½-2 cm in size. Small rusty patches of disseminated pyrite make up less than 1% of the rock in many outcrops. Towards the eastern edge of the smaller quartz monzonite stock, the rock becomes more leucocratic with less than 1% mafic mineras. These rocks have been shown as adamellite ...

## MINERALIZATION

Most of the mineralization of economic importance is found within the quartz monzonite intrusions and the skarn within the meta-andesite unit. In the major intrusive, only a few tiny specks of  $\text{MoS}_2$  were located in quartz monzonite float along the road ... In the northern part of the smaller stock ... a 10 cm thick quartz vein striking 120/90 contains small disseminated flakes of  $\text{MoS}_2$ .

Within the skarn, a few grains of scheelite ( $\text{WO}_3$ ) were located ...”.

## **2007 PROGRAM**

The 2007 program reported herein consists of a re-interpretation of the Aeroquest airborne geophysical survey results for the western portion of the property by Sean Walker, of Aeroquest Limited (Appendix B). The purpose was to make more aggressive picks of subtle anomalies, specifically those that might comprise linear arrays, possibly indicating molybdenum-bearing horizons and/or pods preparatory to a diamond drill program later in the season, reported separately.

## **RESULTS**

The following has been taken from Walker (2006):

The Aeroquest International airborne geophysical survey documents a strong magnetic signature, interpreted to represent the Crawford Stock, extending from Kootenay Lake into the western portion of the claims, consistent with interpretations from previous limited mapping in which intrusive lithologies were identified at surface on the property. Prominent magnetic and EM anomalies are evident, oriented north-south, sub-parallel to the previously mapped geology. There is a strong association between magnetic and corresponding EM anomalies, although generally not coincident, which is interpreted to reflect anomalies within individual stratigraphic formations underlying the property. At this time, it remains uncertain whether these anomalies are inherent to the strata or if they reflect anomalies associated with alteration and/or mineralization due to proximity to Cretaceous intrusive bodies correlated to the Bayonne Magmatic Belt.

In general, the data documents prominent magnetic and EM, generally elongate to linear anomalies within the north-trending mapped geology. Eagle Plains has reported their Inferred Resource to be associated with a quartz monzonite having a very small surface exposure approximately 1,300 m north of the Lydy property. The sub-surface projection of the mineralized quartz monzonite and surface geochemistry, as documented on Eagle Plains web-site, extends south-southwest along the west side of Baker Creek toward the adjacent Lydy property.

A prominent and very strong magnetic anomaly is evident on the ... data, extending essentially north-south and may have a sharp (faulted?) eastern termination. Underlying the majority of the property is a broad magnetic low, sub-parallel to the geology as previously mapped. However, a spatially coincident EM high is oriented slightly oblique to the magnetic anomaly and has a subtle anomaly trending south-southwest which may represent a response to the mineralized Cretaceous intrusive.

The following has been taken from the accompanying Aeroquest (see Appendix B):

A total of 84 potential targets were selected. The location of these targets is plotted on the map that is included with this report. The filled black circles on the map correspond to the new targets selected during this interpretation. The number beside each circle is the target label. The labels start at 1 on each line. The description of the anomalies in the comments column of the target list are very general and are intended to provide a feeling for the possible nature of the target.

## DISCUSSION

The property has had previous work completed, which resulted in identification of surface soil anomalies for molybdenum, copper, lead, zinc and limited tungsten, between McFarlane and Birkbeek creeks. Subsequent diamond drilling in 1981 returned similarly narrow, high grade molybdenum-bearing intervals grading up to 8,000 ppm over 1.22 m. The results of the Company's 2006-07 program has confirmed similar high grade mineralization over small intervals (1.993% over 1.70 m).

Previous soil and diamond drill programs have documented anomalous Mo ( $\pm$  W) in the area currently covered by the property. Furthermore, the property's western boundary is located approximately 1 km west-southwest of the Sphinx property, for which an Inferred Resource of 62,005,615 tonnes grading 0.035% Mo, using a cut-off grade of 0.01% Mo, was recently announced (Eagle Plains 2005a and 2005b). The resource is associated with an interpreted Cretaceous age intrusive body, with mineralization occurring as "disseminations and within quartz-pyrite stockwork veins hosted by both sedimentary and intrusive rocks".

Subsequent review of the 2006 drill hole data with regard to the airborne geophysical results confirmed that the holes were collared along the eastern fringe of the Crawford Stock. There appears to be several prominent EM anomalies evident on the  $Z_{\text{OFFTIME}}$  plot (see Appendix B) in the vicinity of the Ben Derby (MINFILE 082FNE125) molybdenite occurrence (see Fig. 4).

In addition, the more aggressive picks from the subsequent Aeroquest interpretation (Appendix B) results in a number of anomalies (signified by circular black dots), with accompanying brief description in the accompanying report. Several of the picks are aligned in possible linear arrays along the trend of the EM anomalies, whereas others are single anomalies. The nature of these anomalies remains unknown at this time but follow-up ground evaluation has been proposed.

The potential for intrusion-related and/or other magmatic related mineralization continues to be suggested by:



- 1) the general association of molybdenum with Cretaceous intrusions of the Bayonne Magmatic Belt,
- 2) possible association of a weakly (to moderately) anomalous “intrusion-related gold” suite of metals including arsenic, antimony, bismuth, tungsten and tin,
- 3) spatial association between silver-bearing to silver-rich base metal veins and documented intrusions (i.e. Perry Creek - Moyie River area, Rose Pass area (Welcome-Enterprise) and, in particular, the Sanca - Akokli Creek area),
- 4) the documented presence of relatively small felsic intrusions in the general area (i.e. Hall Lake Stock, Sawyer Stock, Ailsa Lake, Mount Skelly Complex, Fry Creek Batholith, etc), and
- 5) an arguably higher grade metamorphic grade evident in the limited exposures along the road network between Birkbeck and McFarlane Creeks with respect to the regional metamorphic grade.

Potential for identification of porphyry-style mineralization is interpreted to be supported by:

1. proximity of the McFARLANE property to the Sphinx property of Eagle Plains Resources Ltd on which an Inferred Resource of 62,005,615 tonnes grading 0.035% Mo, using a cut-off grade of 0.01% Mo has been identified (Eagle Plains 2005a and 2005b),
2. identification of a number of anomalous to highly anomalous molybdenum values in both soils and drill core, together with a relatively large number of weakly through strongly anomalous Mo values, and
3. Widespread and weakly to arguably moderately anomalous copper mineralization identified in a number of areas on the property, albeit not generally coincident with molybdenum.

## CONCLUSIONS

The 2006 drill program returned a relatively large number of high grade, narrow molybdenum intercepts, with the thickest intercept returning a weighted average values of 0.217 ppm Mo over 7.71 m (25.30 feet). Furthermore, many of the intervals for which weighted average values were calculated returned high grade silver as well, to a maximum of 354.24 oz/t over 0.74 m in hole # 6. The results of this preliminary drill program confirm previous reports of narrow, high grade molybdenum values previously reported from the property. Descriptions of the host rock around these high grade veins suggests there may be lower grade, molybdenum bearing haloes around some or all of the intervals sampled.

On the basis of these results, a re-interpretation of the 2006 Aeroquest airborne geophysical survey was undertaken by Aeroquest Limited. The intent was to try to identify whether the narrow, but high grade, molybdenum veins and veinlets (with or without sericite altered haloes) might be apparent on the survey. To this end, more aggressive picks were sought from Aeroquest, particularly those that might form an array of similar responses. This re-interpretation was undertaken as a prelude to the 2007 drill progra, which will be reported in a subsequent report.

Weakly anomalous analytical values and moderate to high correlation coefficients in both soil and drill samples for arsenic, bismuth, tungsten and/or tin may indicate potential for intrusion-related gold mineralization. The property is located between mapped exposures of the Crawford Stock, correlated to the Bayonne Magmatic Suite (Logan 2002), and an unnamed intrusion which is host to an Inferred Resource of 62,005,615 tonnes grading 0.035% Mo, using a cut-off grade of 0.01% Mo (Eagle Plains 2005a and 2005b). Strongly anomalous molybdenum reported from previous programs (both soil and from drilling), as well as anomalous molybdenum documented from the 2005 field program, taken together with proximity to a documented resource suggests the MCFARLANE property may have potential for identification of analogous mineralization.

Similarly, anomalous values for the “intrusion-related gold” suite of metals (except gold) may indicate potential for identification of mineralization under this model. Previous reports of tungsten skarn and Mo ± W ± Cu porphyry-type mineralization, as well as a general correlation between Mo, Cu and other “magmatic” metals is further taken as support for mineralization derived from a magmatic source. The information documented to date from the various programs on the property preclude none of these mineral deposit models at this time, however, evidence for high grade, narrow vein-hosted molybdenum seems to be most dominant.

## RECOMMENDATIONS

1. Compilation of previous results from previous programs should be undertaken to build a database of all available data from both the McFARLANE and LYDY properties, as well as the immediately adjacent Sphinx property to the north;
2. Continue soil sampling on the property, extending the current coverage from the existing road network to contour lines. Samples should be taken along major contours to provide coarse coverage of the property. Additional soil lines through the middle and upper elevations of the property are also recommended;
3. Creeks draining the property should be silt sampled;
4. Geological mapping should be undertaken to:
  - a) identify and/or re-establish known mineralized horizons from previous drilling,
  - b) identify and/or confirm the stratigraphy present on the property and identify possible marker horizons,
  - c) provide better structural control for the property;
- 5) Consider a ground-based Induced Potential (IP) geophysical survey to identify possible sub-surface anomalies associated with a possible porphyry-type deposit;
- 6) Undertake further diamond drilling to test surface anomalies identified on the basis of soil and rock sampling and sub-surface anomalies identified from airborne and/or ground-based geophysical surveys.

## REFERENCES

- Ayer, J.A. 1981. Geological, Geochemical and Drilling Report, Moly Claims, Gray Creek, BC. Assessment Report 10,307 for Dekalb Mining Corporation, filed December 14 1981, 59 p.
- Buckley, R.A. 1980. Geochemical Report, Grey Creek, Assessment Report 16,150 for Dekalb Mining Corporation, filed March 1980, 40 p.
- Eagle Plains Resources Ltd. 2005a. Press Release dated May 9, 2005, 4 pg.
- . 2005b. Press Release dated October 25, 2005, 4 pg.
- Høy, Trygve. 1993. Geology of the Purcell Supergroup in the Fernie West-Half Map Area, Southeastern British Columbia, Ministry of Energy, Mines and Petroleum Resources, Bulletin 84, 157 p.
- Jury, R.G. 1967. Geochemical Soil Survey, Assessment Report 1,176 for Kootenay Moly Mines Ltd, filed October 4 1967, 9 p.
- Lloyd, J. 1987. A Geophysical Report on a Time Domain Induced Polarization Survey on the Ford Property, Gray Creek Area, Assessment Report 16,150 for Amarado Resources Ltd, filed May 1987, 19 p.
- Logan, J.M. 2002. Intrusion-related Mineral Occurrences of the Cretaceous Bayonne Magmatic Belt, Southeastern British Columbia (NTS 82 E, F, G, J, K, L, M and N), Geoscience Map 2002-1, 1:500,000 scale.
- Pope, A. 1990. The Geology and Mineral Deposits of the Toby-Horsethief Creek Map Area, Northern Purcell Mountains, Southeast British Columbia (82K), Ministry of Energy, Mines and Petroleum Resources, Open File 1990-26, 54 p.+
- Reesor, J. E. 1996. Geology, Kootenay Lake, British Columbia. Geological Survey of Canada, Map 1864A, scale 1: 100 000
- Rice, H.M.A. 1941. Nelson Map-Area, East Half, British Columbia. Geological Survey of Canada Bulletin 228, 83p.
- Walker, R.T. 2006. Assessment Report for the McFarlane property, Assessment Report 28,909, dated January, 2007.
- Wright, R.L. 1980. Geological Mapping and Soil Geochemical Survey on the Grey Mineral Claims, Crawford Bay Area, Assessment Report 8,239 for Cominco Ltd, filed August 5 1980, 15 p.

## **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 the Vice President - Exploration for Jasper Mining Corporation, with an office at 2601 42<sup>nd</sup> Avenue, Crescent, Cranbrook, British Columbia.
- 5) I am the author of this report which is based on a re-interpretation of the 2006 Aeroquest survey results and was completed in March, 2007.
- 6) I was personally involved in the acquisition of the claims described herein.

Dated at Cranbrook, British Columbia this 23<sup>rd</sup> of July, 2007.



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Richard T. Walker, P.Geo.

**Appendix B**  
**Aeroquest Report**

# Summary of Interpretation of Electromagnetic Data

**Aeroquest Job # c2007-503**

**McFarlane Property**  
Nelson area, British Columbia

For

**Jasper Mining Corporation**

by

 **AEROQUEST LIMITED**

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Report date: March 2007



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## List of Maps

- ZOFF AeroTEM Off-Time Z1 colour grid with line contours, original EM anomalies and recently interpreted anomalies

## List of Digital Products

- ZOFF AeroTEM Off-Time Z1 colour grid with line contours, original EM anomalies and recently interpreted anomalies (Oasis Montaj Geosoft Map File and Adobe DPF File)
  - ZOFF\_tau\_picks\_McFarlane.map
  - ZOFF\_tau\_picks\_McFarlane.pdf
- List of interpreted anomalies (Oasis Montaj Database and Geosoft XYZ File)
  - mcfarlane\_interp\_targets.gdb
  - mcfarlane\_interp\_targets.XYZ
- Compiled results from interpretation code (Oasis Montaj Database)
  - mcfarlane\_tau estimates.gdb
- Raw data from three runs of the interpretation code (Geosoft XYZ files)
  - decays\_above\_2.5\_nTs.xyz
  - decays\_above\_5\_nTs.xyz
  - decays\_above\_10\_nTs.xyz
- One copy of this Interpretation Report (Adobe PDF File)
  - Report - Jasper Mining Interpretation.pdf

## 1. INTRODUCTION

This report is a summary of interpretative work performed on electromagnetic (EM) data acquired by Aeroquest over Jasper Mining's McFarlane Property near Nelson, BC. A list of conductor picks were provided to Jasper Mining as deliverables from the initial survey. The goal of this interpretation was to locate and evaluate the presence of weakly conductive targets that form linear trends which may have been overlooked during the first pass of the data. The interpretation will focus on western portion of the McFarlane survey. The hope was that these trends may represent pods of molybdenum mineralization.

## 2. METHODOLOGY

The basis of the interpretation was profile EM data. The data was collected along 100m spaced survey lines oriented EW (90°). At each location the character of the decay was evaluated by attempting to fit an exponential decay to the data from each time gate containing a measured value above a given threshold.

The exponential function we are trying to fit the data is defined as

$$Ae^{-\frac{t}{\tau}},$$

where  $A$  is the amplitude of the decay,  $t$  is the measurement time in  $\mu\text{s}$  and  $\tau$  is the time constant in  $\mu\text{s}$ . The value we are interested in is  $\tau$  since it gives us a measure of how quickly or slowly the currents decay within a conductive target. A response with a larger value of  $\tau$  can be interpreted as being caused by a more conductive target than a response with a smaller value of  $\tau$ .

The code we wrote to process the data generates the following information at each measurement location: number of time gates above noise, the calculated amplitude ( $A$ ), the calculated time constant ( $\tau$ ) and a measure of the misfit between the observed and calculated decay ( $R$ ). We ran the code three times with noise threshold values of 10, 5 and 2.5 nT/s.

The results of each run were tabulated in a Geosoft data base and were examined line by line. Preliminary target locations were selected on the basis of the number of time gates above the noise threshold, the consistency of calculated  $\tau$  values from separate runs and the misfit values. The profile EM data at each preliminary target location was examined to ensure that the calculated values were due to valid signal present in the data. In most cases large amplitude responses and targets that had already been picked were ignored. Only in cases where previously selected targets looked like they may be related to a newly interpreted trend were the original targets re-picked. In some cases weak responses that were not picked by the algorithm, but appeared to be of interest were manually added to the target list. Comments based on the nature of the anomaly and the relationship to targets close by were recorded.

## 3. SUMMARY OF RESULTS

A total of 84 potential targets were selected. The location of these targets is plotted on the map that is included with this report. The filled black circles on the map correspond to the new targets selected during this interpretation. The number beside each circle is the target label. The labels start at 1 on each line. The description of the anomalies in the comments column of the target list are very general and are intended to provide a feeling for the possible nature of the target.

The following groups of targets appear to form the best defined linear trends and should be considered higher priority than some other targets.

- A. 2050-1, 2060-2, 2070-2, 2080-3 and 2090-3
- B. 2060-3, 2070-1, 2080-4 and 2090-2

**4. ANOMALY LIST**

<b>Easting</b>	<b>Northing</b>	<b>emfid</b>	<b>Line</b>	<b>Label</b>	<b>Comments</b>
Line 2050					
518678.7	5495588	873513	2050	1	Part of linear feature
518465.4	5495587	877893	2050	2	Moderate isolated response
Line 2060					
516469	5495494	950253	2060	1	Weak response possibly related to target 2070-4
518669.4	5495490	1005213	2060	2	Part of linear feature
518979.8	5495489	1012653	2060	3	Part of linear feature
Line 2070					
518981.3	5495395	1238853	2070	1	Part of linear feature
518644.9	5495381	1245243	2070	2	Part of linear feature
517179	5495397	1270923	2070	3	Weak response possibly related to target 2080-1
516347.4	5495398	1284903	2070	4	Weak response possibly related to target 2060-1
Line 2080					
517090.7	5495294	1336083	2080	1	Moderate response possibly related to target 2070-3
517600.7	5495284	1348023	2080	2	Weak response possibly related to target 2090-4
518647.2	5495291	1377753	2080	3	Part of linear feature
518968	5495285	1384803	2080	4	Part of linear feature
519669.7	5495283	1407063	2080	5	Part of linear feature
Line 2090					
519698	5495189	1605543	2090	1	Part of linear feature
518979.8	5495196	1624953	2090	2	Part of linear feature
518710.9	5495187	1631643	2090	3	Part of linear feature
517587.7	5495189	1653543	2090	4	Weak response possibly related to target 2080-2
517248.7	5495200	1659513	2090	5	Moderate semi-isolated response.
517051.7	5495195	1662843	2090	6	Weak response maybe along a trend with target 2080-1
516472.2	5495198	1671693	2090	7	Moderate response with two weaker targets on next two lines south
516253.1	5495197	1674873	2090	8	Moderate response.
516059.7	5495189	1677963	2090	9	Weak response in an area with many targets
Line 2100					
516307.5	5495082	314643	2100	1	Weak response maybe related to target 2090-8
516483.4	5495083	319623	2100	2	Weak response that may be related to target 2110-4
516937.6	5495094	331083	2100	3	Weak target may be on trend with target 2090-6
517485.8	5495093	344073	2100	4	Weak response offset from local trends.
Line 2111					
518381.3	5494998	860313	2111	1	Poorly defined isolated response
517662.1	5494981	874443	2111	2	Broad response.
517148.9	5494984	883383	2111	3	Moderate isolated response.
516482.9	5494994	894333	2111	4	Weak response that may be related to target 2100-2
516065.5	5495004	900033	2111	5	Weak response possibly related to Targets 2131-5, 2131-6 and 2120-1
Line 2120					
515835.5	5494888	927453	2120	1	Weak isolated response
516059.4	5494896	933393	2120	2	Weak response possibly related to Targets 2131-5, 2131-6

					and 2111-5
	517650.4	5494887	969543	2120	3 Moderate response within a group of responses
Line 2131					
	519438.3	5494783	1381683	2131	1 Weak isolated response
	517769.9	5494805	1423743	2131	2 Weak response offset from conductive trend.
	517563.8	5494793	1426743	2131	3 Weak response isolated from local conductive trends.
	516648.8	5494788	1440183	2131	4 Isolated moderate response.
	516159.9	5494804	1447653	2131	5 Weak response possibly related to Targets 2131-6, 2120-2 and 2111-5
	516029	5494793	1449603	2131	6 Weak response possibly related to Targets 2131-5, 2120-2 and 2111-5
Line 2170					
	519770.9	5494395	403623	2170	1 Weak isolated response
Line 2210					
	515747	5493985	175383	2210	1 Weak response, but lines up with target 2220-1
Line 2220					
	515805.5	5493887	1311993	2220	1 Weak response possibly on a trend with target 2190-1
Line 2241					
	518555.1	5493692	1547073	2241	1 Isolated two channel decay
	518296	5493704	1550853	2241	2 Two channel decay, lines up with target on line 2261-1
Line 2250					
	516316.9	5493593	544413	2250	1 Marginal response lies on trend with target 2261-2
Line 2260					
	519969.6	5493488	1087803	2260	1 Isolated, poorly defined response.
Line 2261					
	518249.8	5493495	1165233	2261	1 Weak target may be on a trend with target 2241-2
	516305.6	5493492	1197333	2261	2 Weak response, with marginal responses on two adjacent lines.
Line 2270					
	516298.8	5493396	505323	2270	1 Marginal response, but lies on trend with target 2261-2
	516514.4	5493398	510153	2270	2 Weak response lines up with target 2280-1
	518098.5	5493388	543993	2270	3 Target from original survey that is offset from a trend defined by targets 2280-1 and 2261-1
Line 2280					
	516496.3	5493294	329043	2280	1 Good response along a trend with target 2270-2
	518213	5493285	364983	2280	2 Weak response roughly lines up with target 2261-1
Line 2291					
	519620.5	5493203	925473	2291	1 Broad poorly defined target offset from larger trend.
Line 2300					
	516177.5	5493080	368493	2300	1 Moderate response, possibly associated with target 2310-7
	516474.6	5493106	375693	2300	2 moderate response, possibly along trend with 2280-1
	516833.9	5493096	384813	2300	3 Weaker isolated response
	517885	5493058	420183	2300	4 Moderate response at edge of larger conductive zone
	518091.2	5493066	425133	2300	5 Moderate response possibly associated with 2310-2
	518351.1	5493067	435213	2300	6 Moderate response possibly related to target 2310-1
Line 2310					
	518350.3	5492991	1009713	2310	1 Moderate response possibly related to target 2300-6
	518075.7	5492995	1014753	2310	2 Moderate response along possibly related to targets on two adjacent lines
	517923.7	5493004	1018623	2310	3 Target possibly associated with 2300-4
	517195.2	5492988	1040493	2310	4 Weak target at possibly related to target 2320-1

516937	5492998	1047243	2310	5	Weak isolated target offset from larger conductive zone
516642.8	5492992	1053243	2310	6	Moderate response offset from some local trends.
516257.2	5492992	1059873	2310	7	Two channel decay possibly associated with target 2300-1
Line 2320					
517131.3	5492895	276513	2320	1	Weak response possibly related to target 2320-4
517346.8	5492897	285483	2320	2	Weak response at edge of more conductive zone
518064.9	5492881	313803	2320	3	Weak response possibly related to target 2310-2
518370.4	5492896	319743	2320	4	Weak response possibly related to target 2310-1
Line 2332					
518308.8	5492814	833793	2332	1	Weak single channel response offset from target 2320-4
517141.6	5492809	868593	2332	2	Moderate target in line with target 2320-1
Line 2340					
516525.4	5492697	418083	2340	1	Moderate target at end of more conductive zone
Line 2354					
519396.3	5492606	994713	2354	1	Weak isolated target, offset from large conductive trend.
518530.9	5492592	1013073	2354	2	Weak response on trend with target 2360-2
Line 2360					
516843.6	5492500	433743	2360	1	moderate response along trend with target 2371-4
518608.4	5492490	503643	2360	2	Moderate response along trend with target 2371-2
Line 2371					
518966.2	5492392	1073343	2371	1	Moderate isolated response
518639.2	5492423	1080063	2371	2	Moderate response on a trend with target 2360-2
518514.7	5492399	1082193	2371	3	Moderate response possibly associated to trend 2371-2 is on
516900.3	5492416	1112703	2371	4	Moderate response along trend with target 2360-1

## 5. LIMITATIONS

The responses related to the anomalies that have been selected are near and in some cases within the noise levels of the system. Most of these anomalies were not selected during the first pass through the data set and have only been selected because Jasper Mining expressed an interest in aggressively picking weakly conductive targets.

The mathematical model used to evaluate targets within the block is an approximation of the real response of a conductive body and the results from applying it to near noise level responses are highly speculative.

All cases should be considered when analyzing the interpreted picks and prioritizing for follow-up.

Respectfully submitted,



Sean Walker  
Aeroquest Limited  
March, 2007

## **Appendix C**

### **Statement of Expenditures**

## STATEMENT OF EXPENDITURES

The following expenses were incurred on the MCFARLANE property for a re-interpretation of the 2006 Aeroquest airborne geophysical survey results and was completed in March, 2007.

### AIRBORNE SURVEY

Aeroquest International - re-interpretation of Survey results	<u>\$ 3,500</u>
<b>Total</b>	<b><u>\$ 3,500</u></b>



## **Appendix D**

### **Program-related Documents**



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**B.C. HOME**

**Mineral Titles**

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

- Select Input Method
- Select/Input Tenures
- Input Lots
- Data Input Form
- Review Form Data
- Process Payment
- Confirmation

- [Main Menu](#)
- [Search for Mineral /  
Placer / Coal Titles](#)
- [View Mineral Tenures](#)
- [View Placer Tenures](#)
- [View Coal Tenures](#)

[MTQ Help Tips](#)

## Mineral Titles Online

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

Confirmation

Recorder: MOUNTAIN STAR RESOURCES LTD (139398)      Submitter: MOUNTAIN STAR RESOURCES LTD (139398)  
 Recorded: 2007/MAY/07      Effective: 2007/MAY/07  
 D/E Date: 2007/MAY/07

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

**Event Number:** 4147162

**Work Start Date:** 2007/FEB/01  
**Work Stop Date:** 2007/MAR/31

**Total Value of Work:** \$ 2100.00  
**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 #	Claim Name/Property	Issue Date	Good To Date	New Good To Date	# of Days Forward	Area in Ha	Work Value Due	Submission Fee

Exit this e-service 

513175 BEN DERBY | 2005/may/22 | 2008/may/22 | 2017/may/22 | 3287 | 41.88 | \$ 2847.84 | \$ 150.86

**Total required work value:** \$ 2847.84

**PAC name:** Mountain Star

**Debited PAC amount:** \$ 747.84

**Credited PAC amount:** \$ 0.00

**Total Submission Fees:** \$ 150.86

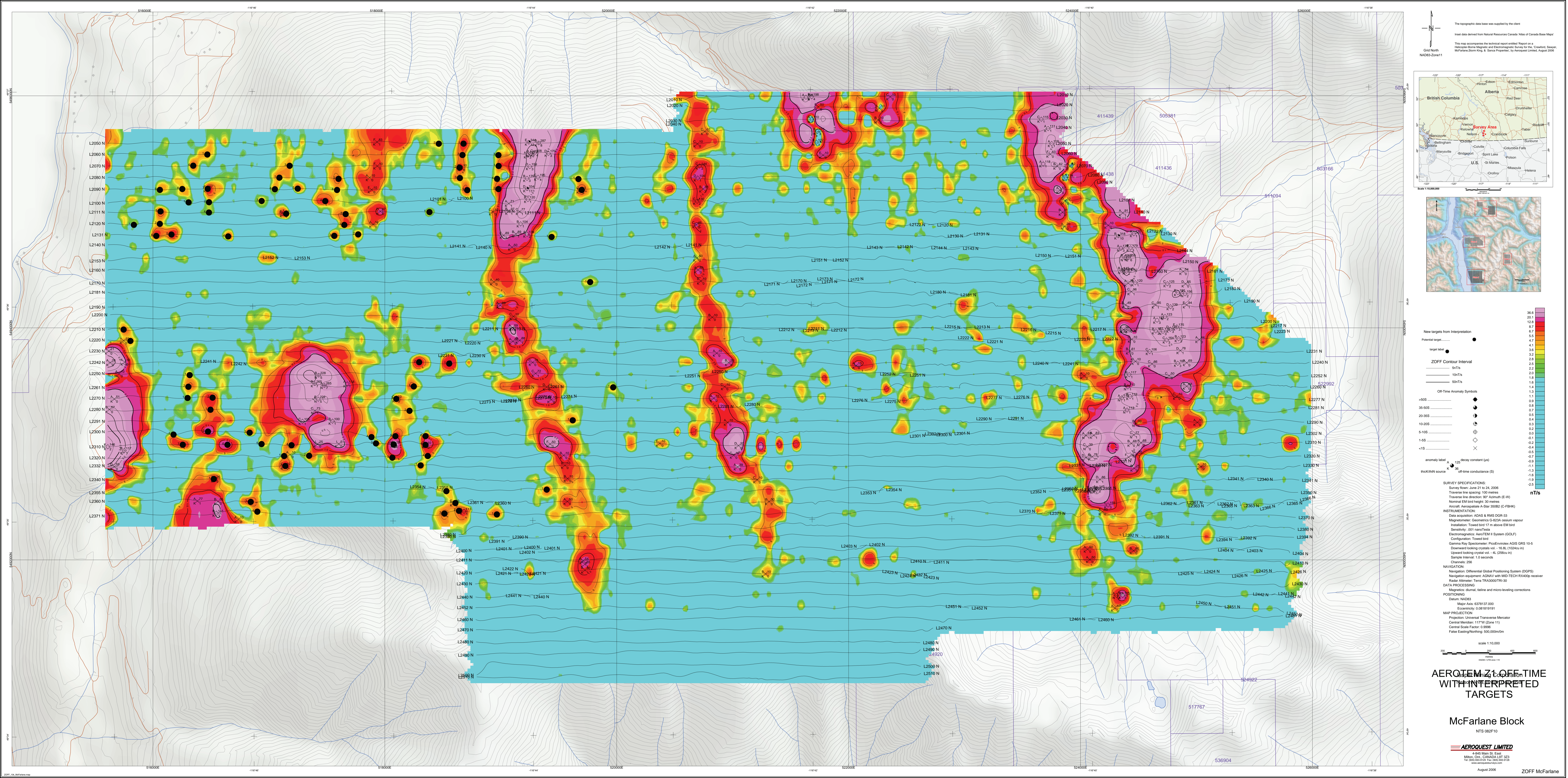
**Total Paid:** \$ 150.86

The event was successfully saved.

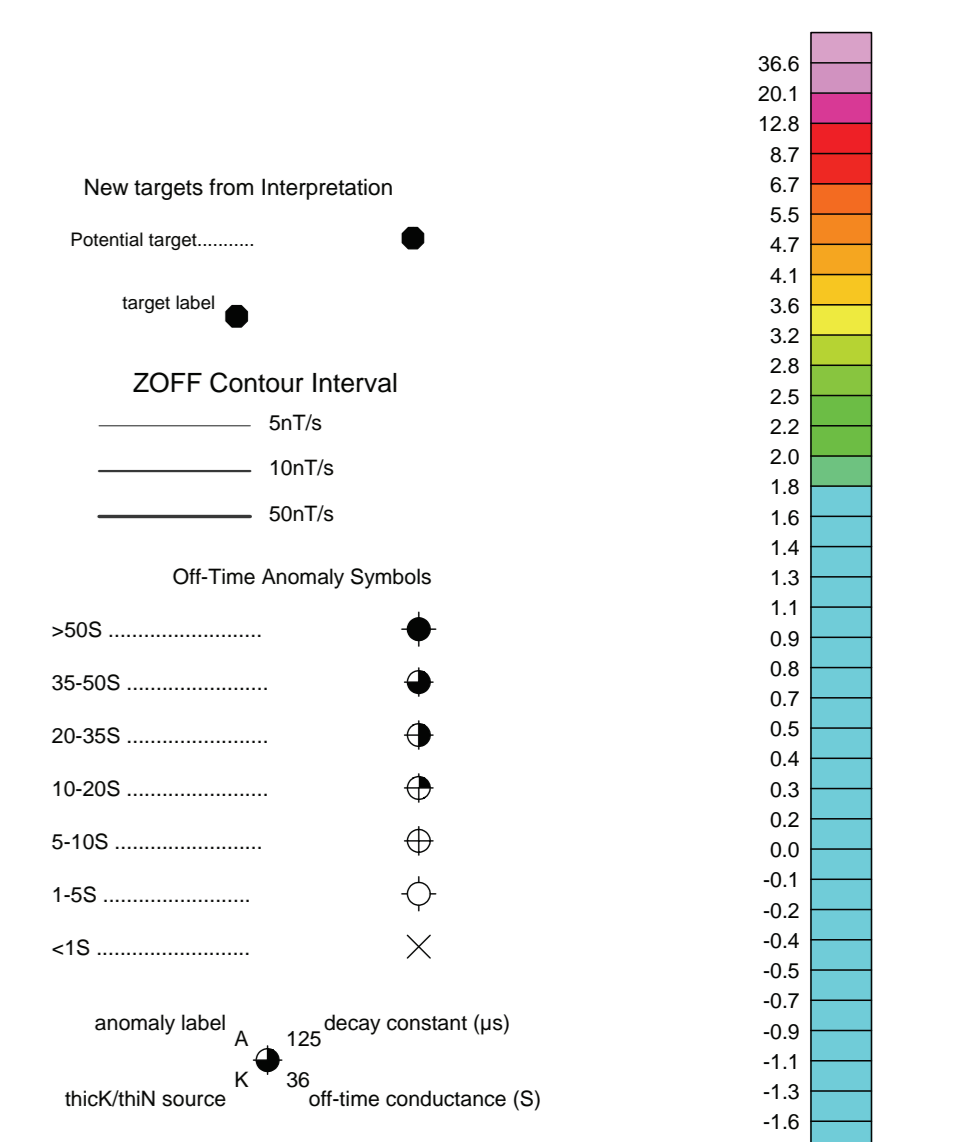
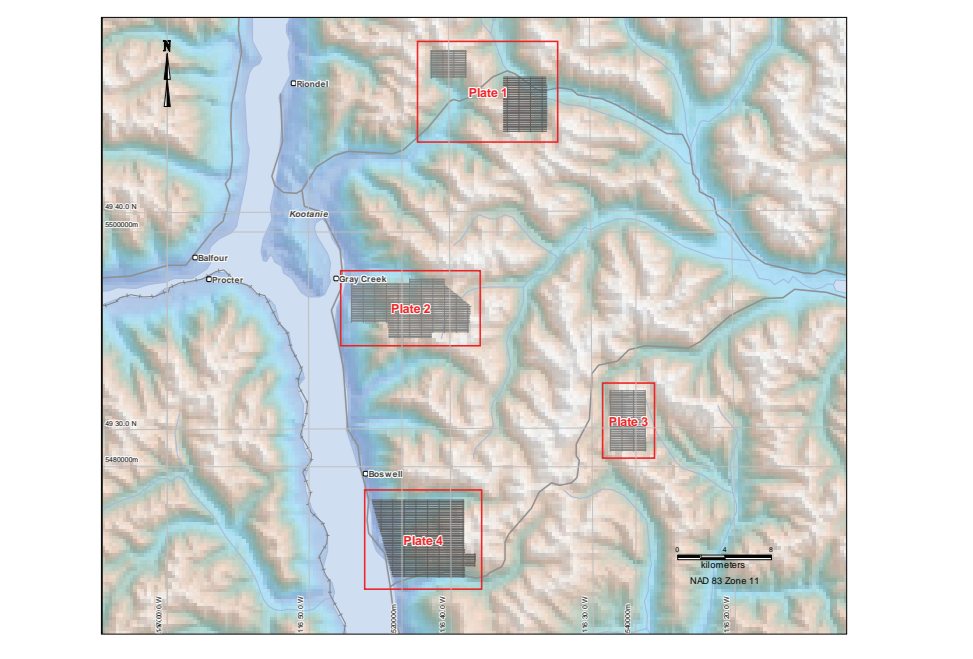
Please use **Back** button to go back to event confirmation index.

Back

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The topographic data base was supplied by the client.  
 Inset data derived from Natural Resources Canada Atlas of Canada Base Map.  
 This map accompanies the technical report entitled Report on a  
 Helicopter-Borne Magnetic and Electromagnetic Survey for the  
 McFarlane Block, King & Sarica Properties, by Aeroquest Limited, August 2006.



**SURVEY SPECIFICATIONS:**  
 Survey from: June 21 to 24, 2006  
 Traverse line spacing: 100 metres  
 Traverse line direction: 90° Azimuth (E-W)  
 Nominal EM bird height: 30 metres  
 Aircraft: Aerospacelab A-Star 350B2 (CFBK)

**INSTRUMENTATION:**  
 Data acquisition: ADAS & RMS DGR-33  
 Magnetometer: Geometrics G-823A cesium vapour  
 Installation: Towed bird 17 m above EM bird  
 Sensitivity: 501 nanotesla  
 Electromagnetics: AeroTEM II System (GOLF)  
 Configuration: Towed bird  
 Gamma Ray Spectrometer: PicoEnvirotox GIS GS 10-5  
 Downward looking crystal vol. - 16.8L (1024cu in)  
 Upward looking crystal vol. - 4L (256cu in)  
 Sample Interval: 0.0 seconds  
 Channels: 256

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

**DATA PROCESSING:**  
 Magnetics: diurnal, tideline and micro-leveling corrections

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

**MAP PROJECTION:**  
 Projection: Universal Transverse Mercator  
 Central Meridian: 117°W (Zone 11)  
 Central Scale Factor: 0.9999  
 False Easting/Northing: 500,000m/0m

Scale: 1:110,000  
 North Arrow

**AEROQUEST LIMITED**  
 AEROTECH Z1 OFF TIME  
 WITH INTERPRETED  
 TARGETS

**McFarlane Block**  
 NTS 082F10