Report of Conclusions and Recommendations Arsenault Property, Atlin Mining Division, British Columbia. NTS 104 – 0 – 06, 09

Arsenault Belt – tenure no. 578274, Arsenault West – tenure no. 579008, VMS – tenure no. 601808, Arsenault E – tenure no. 605622, Arsenault Z – tenure no. 605623.

Owner: Farshad Shirvani in trust for Casa Minerals Inc.

Operator: Casa Minerals Inc.

Report prepared by Erik Ostensoe, P. Geo. and John Buckle, P. Geoph., P. Geo.

Date of Report: April 9, 2010.

Report submitted in fulfillment of Event No. 4534071.

# **Table of Contents**

0.0	SUMMARY	3
1.0	INTRODUCTION	4
2.0	ACKNOWLEDGEMENTS	4
3.0	PROPERTY DESCRIPTION AND LOCATION	5
4.0	ACCESS	6
5.0	PHYSIOGRAPHY	6
6.0	CLIMATE	6
7.0	INFRASTRUCTURE AND LOCAL RESOURCES	6
8.0	HISTORY	6
9.0	GEOLOGICAL SETTING	9
10.0	DEPOSIT TYPES 1	0
11.0	MINERALIZATION 1	2
12.0	MMI (Mobile Metal Ion) SURVEY DATA 1	2
13.0	JOHN BUCKLE PROPERTY EXAMINATION – July, 2009 1	4
14.0	STATEMENT OF EXPENDITURES 1	6
15.0	REFERENCES 1	8
16.0	STATEMENTS OF QUALIFICATIONS	9

# Illustrations

Figure 1: Project Location in BC	. 7
Figure 2: Mineral Tenures	. 8
Figure 3: Property with ARIS Reports	11

Table 1: Mineral Tenures	. 5
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#### 0.0 SUMMARY

The Arsenault property, located in the Swift River area of northwestern British Columbia, comprises five mineral tenures with area 3565.81 hectares. It is held by Farshad Shirvani, in trust for Casa Minerals Inc., a private stage mineral exploration company with offices in Vancouver, British Columbia.

The Arsenault property is situated in "Big Salmon" formation metasedimentary rocks of Early Mississippian age in proximity to a major granodiorite pluton, the Simpson batholith. The principal rock formation has been complexly folded and faulted and metamorphosed to regional grade amphibolite stage. Mineralization has been classified variously as "volcanogenic massive sulphide" and as "skarn, replacement" or "copper skarn". Principal sulphides are chalcopyrite, pyrrhotite and pyrite and associated alteration minerals are mainly chlorite, epidote and sericite. The property was discovered by prospectors in the1940s and subsequently has been explored by several different operators. Historic work includes broad coverage with geochemical soil sampling methods, magnetic and induced polarization geophysical surveys and by diamond drilling (possibly six holes). Current owners have conducted MMI soil surveys and magnetic surveys in the field and computer-based satellite imaging of landforms and spectral surveys.

The Arsenault property may host a significant volcanogenic massive sulphide-type copper-gold deposit: current exploration is directed to acquiring technical and drilling data from historic sources, mainly ARIS files, and combining such material with data from the 2008 program of work, including MMI analyses and magnetic surveys to further develop an exploration concept. The geological model for such exploration derives from field observations and drill core records that report sulphide mineralization in fold hinge areas in association with mafic-rich members. A second exploration model, favoured in the past by some observers, is of a copper-gold skarn-type deposit. The distinction is apparently between copper-gold deposition in a volcanic-sedimentary environment or copper, et al. introduced as part of an alteration/metamorphic event.

Analyses from historic drill hole data include numerous intersections with 0.20% to 0.75% copper and trench samples have returned similar copper values and small but possibly significant values of molybdenum (up to 0.059% Mo) and gold (up to 0.10 opt). Exploration attention has largely been directed to two areas, Arsenault and Arsenault East, where copper mineralization has been found in outcrops. Initial observations include a gold-copper-silver relationship, with silver weak overall. Molybdenum is similar in distribution to copper and there is an apparent inverse relationship of copper with lead in the northwestern part of the grid. The available data are supportive of an exploration model of a volcanogenic massive sulphide and/or gold-copper skarn environment.

This report documents a site-visit to the Arsenault property in July, 2009 by John Buckle, P. Geoph., P. Geol., consulting geophysicist/geologist, accompanied by Farshad Shirvani, M.Sc., geologist, and includes the text of his observations and recommendations, and presents his belief that a volcanogenic massive sulphide deposit may be present on the property. Mr. Buckle based his opinion on the field examination, his review of property data and his familiarity with geological and geophysical signatures of volcanogenic massive sulphide deposits. He recommended continuation of exploration at the Arsenault property and offerred his opinion that an exploration model should include Kuroko-type VMS multiple lenses, tabular bodies and en-echelon layers of base metal rich semi-massive to massive sulphide bodies. He recommended using a five frequency helicopter-borne electromagnetic and magnetic survey followed by ground follow-up exploration by grid-based soil (MMI) sampling and induced polarization surveys and geological and structural mapping.

#### 1.0 INTRODUCTION

This report is a supplemental report to a comprehensive technical report titled "Technical Report and Recommendations, Arsenault Property, Atlin Mining Division, British Columbia, Canada" by Erik Ostensoe, P. Geo., that was submitted in 2008 to the Mineral Titles Branch as Event No. 4247346. The purpose of this report is to place in the public record the observations and recommendations of John Buckle, P. Geoph., P. Geo., who visited the Arsenault Property in the period July 3, to July 6, 2009. Mr. Buckle is a qualified, independent consulting geophysicist and geologist who was engaged by Casa Minerals Inc. to provide an opinion concerning the geological characteristics of the historic property and to provide recommendations for further exploration work.

Subsequent to the property visit, Mr. Buckle submitted his recommendations (see elsewhere in this document) and co-authored a National Instrument 43-101-compliant technical report titled *"Technical Report – Arsenault Property, Atlin Mining Division, British Columbia, Canada" dated July 21, 2009.* 

In order to complete the property examination Mr. Buckle travelled from Vancouver to Whitehorse, thence to Atlin, B. C. and thence by helicopter from Atlin to the Arsenault tenures. Farshad Shirvani, a principal of Casa Minerals Inc., and Peter Burjoski, prospector and bush worker, accompanied Mr. Buckle in all or part of his examination. No expenditures of Shirvani have been included in the Statement of Expenditures that forms part of this supplemental report; Burjoski is included as working two days as a driver and field assistant. Consulting fees and expenditures incurred by Mr. Buckle, including but not limited to, air travel, vehicle travel, helicopter travel, accommodation in Whitehorse, YT and Atlin, B. C., supplies, and living costs, as detailed elsewhere in this report, totaled more than \$9651.73 of which \$4000 was applied by a Statement of Work dated March 24, 2010, event no. 4534071, to extend the expiry date of VMS claim, mineral tenure no. 601808, to June 1, 2014. Excess work was applied to the PAC of Erik Ostensoe.

The Arsenault mineral prospect, located in the Swift River area of northwestern British Columbia, comprises five mineral tenures with area 3339.51 hectares. Copper-gold skarn-type mineral occurrences hosted in Early Mississippian Big Salmon Complex terrane have been explored historically by several programs of prospecting, technical surveys and diamond drilling. Mineral tenures are recorded in the name of Farshad Shirvani who holds titles in trust for Casa Minerals Inc., a Vancouver, B. C.-based junior mineral exploration company.

North Bluff Exploration Inc., during the 2008 field season, conducted programs of soil and rock sampling and geophysical surveys on parts of the Arsenault property. The author of this report completed a property visit on October 1, 2008 and viewed the areas of historic work, including bulldozer trenches and diamond drilling and also the areas of 2008 work. He is the principal author of a report of work filed in support of a Statement of Work (Event No. 247346) and titled Technical Report of work on the Arsenault Property" (ARIS No. 30836). The 2008 program of MMI (mobile metal ion) sampling revealed several locations with elevated metal values that should be confirmed by additional sampling and tested by drilling. Several hundred MMI samples were not analysed due to budget considerations but should be processed prior to commencement of additional field work.

North Bluff Exploration Inc. in 2009 conveyed its interests in the Arsenault Property to Casa Minerals Inc.

### 2.0 ACKNOWLEDGEMENTS

The author in preparing this report has relied on technical data obtained from government assessment report files (ARIS), government geological survey publications, and on a comprehensive compilation report prepared in 2005 for Decoors Mining Corporation by J. Fingler, MSc, P. Geo. An assessment report, ARIS

#2976, by Turnbull and Simpson, in 1970 for Bolivar Mining Corporation includes data from 2430 soil samples that were analysed for copper and molybdenum. Assessment Report, ARIS #25882, titled "Evaluation Report on the Arsenault Property (WIN and TWIN Claims)" dated March, 1999, by S. Traynor, BSc., geologist, includes useful data concerning that author's prospecting and geochemical sampling work. A review was conducted of technical data pertaining to the Kudz Ze Kayah and Wolverine volcanogenic massive sulphide deposits that are located 200 km north of Arsenault in Yukon-Tanana Terrane, a possible geologic analog in Yukon of the Big Salmon Complex. Other historic data, largely from ARIS\* files maintained by the British Columbia Department of Energy and Mines, have been reviewed and, where appropriate, quoted. Data, where incorporated into this report, have been attributed to the source.

\*Assessment Report Index Service, an online reference library of technical reports that is maintained by the British Columbia Geological Survey Branch.

John Buckle, P. Geo., P. Geoph., on July 12, 2009 visited the Arsenault property and provided comments and recommendations concerning his observations and also his conclusions concerning an exploration model for the property. His suggestions have been incorporated into this report and are acknowledged in the text. A statement of John Buckle's Qualifications is included in Section 13.0.

Mineral tenure data was obtained by reference on April 1, 2010 to BC Mineral Titles On-Line.

#### 3.0 PROPERTY DESCRIPTION AND LOCATION

The Arsenault copper-gold prospect is located on the Nisutlin Plateau in northern British Columbia, 78 km southeast of Teslin, YT and 30 km southwest of Swift River hamlet on the Alaska Highway (Figures 1 and 2). It is awkwardly configured, extending approximately 14 km south of Km 1204 (Mile 753) of the Alaska Highway. The property is about 265 km east of Whitehorse, population 24,900, and 190 km west of Watson Lake (population 1600). Atlin, located 130 km west-southwest of the property, is the nearest British Columbia community.

The Arsenault property comprises five mineral tenures as detailed in Table 1.

Tenure No.	Name	Size – hectares	Located	Current Expiry
578274	Arsenault Belt	2441.745	March 11, 2008	June 1, 2014
579008	Arsenault West	130.235	March 23, 2008	June 1, 2014
601808	VMS	179.09	March 29, 2009	June 1, 2014
605622	Arsenault E	407.27	June 7, 2009	June 7, 2010
605623	Arsenault Z	407.47	June 8, 2009	June 8, 2010

#### Table 1: Mineral Tenures

Tenure titles are held by Farshad Shirvani for Casa Minerals Inc. Geographic coordinates of the central part of the tenures are 59° 49' North latitude, 131° 43' West longitude. The property is in the northwestern part of Jennings River Map Sheet (NTS 1040/13).

The Arsenault property lies within the traditional territories of the Teslin-Tlingit First Nation.

### 4.0 ACCESS

Historically, the Arsenault property was accessed from the Alaska Highway by a 16 km overland route suitable for use by four wheel drive equipped vehicles. That route required a bridge crossing of the Swift River that is no longer in place, and the entire route is now mostly overgrown and in disrepair. The river crossing and a crude access route presumably could be re-established at moderate cost: construction of an engineered bridge and rehabilitation of several km of now-overgrown bush roads would be required. Overland access in winter when marshes are frozen would likely be practical. Property work in 2008 and 2009 field seasons was supported by helicopter service.

The Alaska Highway (Highway 97) passes within 12 km of the Arsenault mineral tenures and during the 2008 field season exploration personnel and gear were mobilized by truck to a site at Km 1204 from whence they were transported by helicopter to a temporary camp on the property.

# 5.0 PHYSIOGRAPHY

The Arsenault property is located in the Nisitulin Plateau of the Stikine Ranges of the northern Cassiar Mountains of the Canadian Cordillera (Bostock, 1948), a terrain that is characterized by glaciated ridges, some of which are surmounted by unglaciated peaks, and broad valleys with meandering streams and extensive muskeg bogs.

# 6.0 CLIMATE

The Arsenault tenures are situated above or close to treeline and consequently may experience severe weather conditions at any time. Summers are generally pleasantly warm, with interludes of storms, including violent thunderstorms, and prolonged rainy periods. Winters are cold and snowy, with occasional blizzards. Snow accumulations are believed to exceed one metre but strong winds often remove the snow from exposed slopes. Average January temperature at Teslin, YT, 78 km northwest of Arsenault is -19.2° C., July temperature, 11.4° C. Average annual precipitation is 34 cm. The property, being at higher elevation and in a more mountainous location, likely experiences colder temperatures and more precipitation than are reported at Teslin.

### 7.0 INFRASTRUCTURE AND LOCAL RESOURCES

The Arsenault property is relatively remote from services and infrastructure: several small hamlets located along the Alaska Highway rely upon highway traffic for their existence and offer limited accommodations and food services. All services required by the mineral exploration industry, with the exception of analytical services, can be obtained in Whitehorse, Yukon.

### 8.0 HISTORY

Much historical information, including analytical data from several episodes of exploration, derived in part from ARIS reports, and summarized by J. Fingler, M.Sc., P. Geo., in a summary report dated June 2005, was included in ARIS #30836.

North Bluff Exploration Inc. in 2008 completed MMI sampling, and simple geophysical surveys on parts of the Arsenault property. Mssrs. Buckle, P. Geoph., P. Geo. and Farshad Shirvani, MSc., geologists, conducted field examinations for Casa Minerals Inc. in summer 2009.





### 9.0 GEOLOGICAL SETTING

#### 9.1 Introduction

The most recent geological work in the vicinity of the Arsenault property was regional scale reconnaissance by a BCGS field party (Mihalynuk, Nelson and Friedman, 1998) who assigned the area to the Early Mississippian Big Salmon Complex, similar to the pericratonic Yukon-Tanana Terrane of the Yukon. The latter is host in the Finlayson Lake area to the Kudz Ze Kayah and Wolverine volcanogenic massive sulphide (Zn-Pb- Ag-Cu-Au) deposits.

# NOTE: The following discussion of regional and property geology is repeated from ARIS #30836. That report includes maps showing geology of the area.

### 9.2 Regional Geology

The 1998 BCGS publication "Regional Geology and Mineralization of the Big Salmon Complex (104N NE and 104O NW)" (Mihalynuk, et al., 1998) defines the geological setting of the Arsenault property. The Big Salmon Complex is a northwest-trending volcano-sedimentary sequence of Early Mississippian age that has been variously deformed and metamorphosed and in the area immediately south of the Arsenault property has been intruded by the Early Jurassic age Coconino quartz diorite and the Simpson Peak granodiorite plutons. Mihalynuk, et al. in the Arsenault area describe a core zone of the Complex comprising quartzite, shale, limestone and dolomite altered to amphibolite grade gneisses and schists; the enclosing rocks are greenschist metamorphic grade. Four phases of folding were recognized and there are at least two stages of intrusive emplacement: earlier tonalite, diorite and leucogranite (minor) have been metamorphosed and are collectively styled as "Hazel Orthogneiss". The Simpson Peak Batholith dominates the area southeast of Arsenault and imposes hornfelsing and skarn development on the previously deformed and metamorphosed strata.

The Big Salmon Complex abuts on its southwest flank the Teslin Fault, (aka "Teslin Tectonic Zone") a profound, crustal scale, structure that separates pericratonic, continental Yukon-Tanana Terrane from the allochthanous Cache Creek Terrane to the southwest. The east side of the Complex is sliced by at least two lesser faults that are sub-parallel to the Teslin Fault. Mihalynuk, et al., present comparative stratigraphic columns that convincingly illustrate the affinity of Big Salmon and Yukon-Tanana Terranes and the contrasting nature of Slide Mountain Terrane of north-central British Columbia.

Figure 3 illustrates locations of prospects for which ARIS reports have been filed with the provincial Ministry of Energy, Mines and Petroleum Resources.

### 9.3 Property Geology

Detailed scale mapping and geophysical surveys have defined the local geology of much of the Arsenault property. Ridges provide good bedrock exposures and valleys are occupied by streams and extensive areas of muskeg bogs and are filled with thick deposits of unconsolidated glacial drift, rubble and clay. The 2008 program of work did not include any geological mapping and the following information is derived from ARIS reports and government publications.

The Arsenault property lies on the southern limb of a northwest trending anticlinorium that is developed in an interbedded sequence of marine and clastic sediments with local intercalations of intermediate to marine tuffs (Mihalynuk, et al.). The "East" Fault lies east of the principal Arsenault showings, trends north-south, and divides the property into two domains of distinct stratigraphic and structural trends. The west domain

includes the Arsenault occurrence and comprises interbeds of actinolite/chlorite schists, recrystallized limestones, quartzite with garnet-mica schists and micaceous, pyritic quartzite. East of the fault the stratigraphy features thick successions of east-northeast trending quartzite and quartz mica schist, with local interbeds of marble and chloritic-actinolitic schists. The change in trend across the East Fault has been interpreted as reflecting a broad regional fold.

Interpretation of stratigraphy and structure in Big Salmon Complex rocks at Arsenault is aided by the presence of three distinctive members: an orange weathering felsic lapilli ash tuff, notably present in the southeast part of Arsenault Belt tenure, coarse, quartz-eye dacite tuff, a white to green-grey weathering mappable marker horizon, and a pink-weathering, thinly bedded chert unit that is styled by Mihalynuk, et al. as "Crinkle Chert". The Simpson Peak Batholith that dominates the area southeast of Arsenault, and truncates the Big Salmon Complex, is presented as Early Jurassic and therefore pre-dating the Seagull and Cassiar Batholiths that occur to the northeast. Its relationship to the nearby base metal mineralization is unknown.

Mihalnyuk, et al. (ibid. 1998) recorded at least three phases of folding/deformation and speculated concerning their derivation and preservation and their relationship to base metal mineralization. Folding in the carbonaceous schist and quartzite unit of the Big Salmon Complex is emphasized by an interbedded distinctive white to grey coloured quartz-eye dacite (termed "Arsenault dacite"). The so-called "Crinkle Chert" is a second distinctive marker horizon but despite some superficial similarity to the dacite unit, is finely laminated and crenulated. Speculatively, both horizons may be volcanogenic, having originated as tuffaceous units. The mineral occurrences at the Arsenault property are proximal to the markers and Traynor (1999) quoted unpublished mapping and field notes by Mihalynuk that reported the actinolite-chlorite schist "...has been found in mineralized outcrop (high Cu and elevated Au) over an extended strike length and occurs over the entire 2+ km. length of the main ridge".

### 10.0 DEPOSIT TYPES

The Arsenault property hosts several chalcopyrite-pyrite mineral occurrences. The principal prospects have been explored by several episodes of technical surveys, including induced polarization, magnetics and VLF-EM methods, soil geochemistry surveys, geological mapping and diamond drilling (? Six holes, 2000 m.). The main Arsenault prospect zone, in addition to copper and iron sulphides has a suite of associated minerals, specifically epidote, garnet, actinolite, magnetite, wollastonite and tourmaline, and textures are typical of skarn deposits but Mihalynuk, et al. note the lack of nearby intrusions that commonly accompany such deposits. The Arsenault dacite, a tuff and ash unit, is present in proximity to the principal outcroppings of copper mineralization and commonly is host to small amounts of chalcopyrite as disseminations and veinlets. Absent any other compelling evidence, Sawyer (1979) proposed, and Mihalynuk, et al. (1998) provisionally accepted, a syngenetic origin for the copper mineralization, presumably with dacite being both the parent and the collector. That origin is consistent with an accepted volcanogenic massive sulphide genetic model coupled with tectonic and/or post-tectonic remobilization of a portion of the sulphides into foliated and schistose structures at the hinge area of broad folds.

The Arsenault East occurrence, situated 1.5 km northeast of the principal deposit, is a "....vein replacement zone..." (Mihalynuk, et al.) with a skarn-like mineral assemblage of garnet, epidote, quartz, calcite, magnetite, actinolite and chalcopyrite.



#### 11.0 MINERALIZATION

The Arsenault and Arsenault East occurrences are copper-rich calcsilicate-sulphide zones dominated by chalcopyrite and pyrite, with trace amounts of bornite and molybdenite and associated skarn assemblage minerals, including epidote, garnet, actinolite and wollastonite. Where exposed in bulldozer trenches, mineralization is distinctly dark coloured due to manganese staining and is in contrast to the nearby white coloured dacite and carbonate formations. Sulphide minerals are fine-to medium-grained and have subhedral to euhedral textures. Sulphides are present in reticulating veinlets that in places in drill cores form a web-like pattern. [Note that the authors examined only a portion of drill cores and due to weathering effects and the passage of time since the cores were placed in storage, it was not possible to identify the drill holes and depths represented.]

#### 12.0 MMI (Mobile Metal Ion) SURVEY DATA

Results obtained from the 2008 program of work on the Arsenault property, along with historic geochemical data and magnetic survey data, were compiled and presented in ARIS #30836. Although 1160 MMI soil samples were taken in the field, the Company to date has received analytical data from only 580 samples.

The Arsenault property has a variety of terrains that influence the quality of the MMI samples: lower slopes have irregularly occurring patches of muskeg and permafrost, whereas higher slopes are rocky and have immature and thin soils. Some parts of the property have long talus slopes that are not suitable for MMI sampling.

Analyses were performed by SGS Laboratories is a full service, ISO certified analytical laboratory with international operations: its laboratory services are monitored in several ways, both external and internal. Quality control measures are maintained by a series of procedures including replicate sample preparation, duplicate sample pulps (if appropriate), repeated analyses, internal standard samples, external standard samples, and "blanks". North Bluff, however, in 2008, in view of the early stage of its work, did not attempt to establish any quality assurance measures but on the basis of its long service in the mining industry and its good reputation, was confident of the laboratory's overall competence.

### 12.1 Discussion of Geochemical Data

These comments apply only to that part of Arsenault's 2008 grid for which analyses are available and are a summary of those presented and illustrated in ARIS #30836. Reference is to the sampling grid that is illustrated in Figure 4, et al., of this report. Six metals, gold, copper, lead, zinc, silver and molybdenum, were selected for initial investigation due to their common association with VMS, skarn and porphyry-type mineral deposits. Briefly, gold, copper and silver plots show good correlation in three areas of the grid whereas lead values are erratically distributed and zinc is only moderately elevated within a poorly defined northwesterly trend that includes in the central part of the grid an area with dimensions about 600 m by 200 m. Molybdenum is strongest in the central-western part of the grid where it is associated with strong MMI copper values. Details of MMI data are presented in Figures 12 to 17 inclusive of ARIS #30836 and are not included in this report.

Gold MMI response is strong in several areas of the grid, particularly near the southmost lines where an anomaly extends across approximately 400 metres with maximum gold analyses of 7.2 ppb. Several other areas, coloured purple shades, are better defined and only slightly lower in intensity.

Copper MMI response is particularly strong in the northwest part of the grid with a large area of elevated values. An area with similar values lies a short distance to the south and east and is assumed to be a folded

or faulted offset. Copper in the gold/silver anomalous area at the south limit of the grid is only weakly elevated, suggesting that a different factor is present.

Lead MMI response is particularly strong in the southeast part of the grid and its distribution is somewhat similar to, but not identical to, that of silver. There is an apparent inverse lead – copper relationship in the northwest part of the grid.

Silver MMI response is weak overall, with particular weakness in the central - west part of the grid.

Zinc MMI response is erratic, with strongest responses in the southeast of the grid where incompletely described anomalous areas prevail. Gold and silver have similar distributions. Low silver values were returned from samples taken from an 800 metre area in the central – west part of the grid where copper, lead and molybdenum values are moderately strong.

Molybdenum MMI response closely mirrors that of copper.

The MMI data for other elements has not been investigated

# 12.2 Magnetic and Induced Polarization Surveys

Peter E. Walcott and Associates Limited in 1970 carried out magnetic and induced polarization surveys over part of the present Arsenault property (Walcott, 1970) and reported that the surveyed area was underlain by two magnetically distinct rock types: metamorphic rocks and a later non-outcropping intrusive. Irregular magnetic patterns in the metamorphic rocks were attributed to magnetite-rich skarn complexes. The induced polarization survey showed several zones with anomalous chargeability characteristics in the region of assumed skarn complexes that generally coincided with copper geochemical anomalies.

Magnetometer observations, in summer 2008, were recorded in the field by Geotronics personnel and delivered to the client, North Bluff, in a semi-processed format without logistics or interpretive reports. The vertical component of the magnetic field was measured over the property MMI grid using a Geometrics Proton Precession Magnetometer, Model G-856. Field observations were recorded at 25 metre intervals on east-west oriented grid lines with 100 metre spacings. The survey grid had dimensions 1.4 km north-south and 1.2 km east-west and total length of lines was 18 km. Total number of observations was 720. A similar instrument with continuous recording capabilities was positioned at the campsite in order to capture details of diurnal variations and incidental magnetic storms that may have distorted data from the field survey and the data sets were reconciled each evening.

Magnetic data from the 2008 survey was presented in ARIS #30836. Of particular interest are a strong eastwest zone of elevated magnetic response between lines 32100N and 32400N, and a large number of "spot" highs to the north. The southmost line, L31600N, has low magnetic readings that extend with less intensity to L31800N. Where bedrock data were scarce or lacking it was possible to extrapolate and speculate concerning the source and possible significance of magnetic patterns. The magnetic data are incomplete – much of the northern part of the property, where few outcrops have been found, comprises a broad "high" magnetic anomaly that, speculatively, may be either an area of mafic flows or an intrusive body. Historic magnetic data from the southwest part of the MMI grid show a striped pattern of northwest trending linear magnetic features: a profound "low" that is mirrored on its southwest side by a band of high magnetic observations. There are no reported mineral showings in that area and no details of the rock types.

#### 13.0 JOHN BUCKLE PROPERTY EXAMINATION – July, 2009

Casa Minerals Inc., as part of a "due diligence" review of the Arsenault property, engaged John Buckle, P. Geo, P. Geoph., consulting geophysicist and geologist, to review the property data, visit the property and conduct ground examinations as he deemed appropriate, and to make recommendations, if warranted, concerning further geophysical investigations. His discussion and recommendations are included this report. The Buckle exploration model is "...a Kuroko-type volcanic hosted massive sulphide deposit" and recommendations include (1) helicopter-borne frequency domain electromagnetic, magnetic followed by ground-based geophysical surveys, including induced polarization and magnetic surveys, and geochemical surveys with Mobile Metal Ion (MMI) sampling.

Mr. John Buckle, P. Geoph., P. Geo., accompanied by Farshad Shirvani, MSC., geologist and GIS specialist, President of Casa Minerals Inc., traveled from Vancouver to Whitehorse, Yukon, by commerial air carrier and then to Atlin, B. C. by private vehicle. A Jet Ranger helicopter, model 205B, took them to several sites on the Arsenault property and returned them to Atlin. Costs incurred are detailed in Section 14 "Statement of Expenditures". Mr. Buckle's observations follow:

# Recommendations (prepared for Casa Minerals Inc. by John Buckle, P. Geoph., P. Geo., Independent QP):

The exploration model for the Arsenault project is a Kuroko type volcanic hosted massive sulphide deposit, similar to the deposits in the Tanana terrane of the southern Yukon. VMS camps typically include multiple lenses, tabular bodies and en-echelon layers of base metal rich semi-massive to massive sulphides, often underlain or surrounded by zones of disseminated sulphide. Dr. Mihalynuk (Mihalynuk et. al. 1998) suggests that the Big Salmon complex that hosts the Arsenault mineralization, is at least equivalent to the Finlayson Lake area, which host the Kud Ze Kayah and Wolverine deposits, among others. It is therefore possible that the mineralization identified on the Arsenault property is part of larger area of massive sulphide bodies in the surrounding area of the Arsenault project that a target area of approximately ten by ten kilometres be assessed.

The Kud Ze Kayah deposit was clearly identified by helicopter-borne, frequency domain electromagnetic geophysics, as reported in a case history of the deposit distributed by Dighem Surveys in 1998. The author recommends a similar geophysical survey using a five frequency helicopter-borne electromagnetic system be undertaken. It is also recommended that high-resolution magnetic data be collected simultaneously. Furthermore, radiometric detectors could provide useful geological mapping information, however, inclusion of radiometric instrumentation may not be practical on the same survey platform, due to weight restrictions, if this is the case than radiometrics can be omitted. An airborne survey of the proposed 100 square kilometre target area with lines separated at 100 meters is estimated to cost \$150,000.

Anomalies identified by the airborne survey must be followed-up with ground exploration methods. The author recommends that ground survey grids be established on the airborne targets. Each grid is estimated to be approximately 500m by 1000m, typical dimensions for VMS bodies. The grids should be surveyed with Mobile Metal Ion (MMI) geochemical sampling. Survey grids should be established using Differential Global Positioning System (DGPS) locating of lines and stations. Approximately, 40% of the project area is above the tree line whereby grid preparation would cost approximately \$150 per line kilometre. Grid layout in low lying and boggy areas is considerably more expensive therefore, a budget of \$30,000 is recommended for ground survey gridding. MMI has been demonstrated to be an effective method particularly in areas cover by transported surficial material, as is the majority of the Arsenault project area. Assuming ten such grids, with sampling frequency of 50m on lines 100m apart at \$50 per sample for

collection and analysis, the minimum MMI budget is \$50,000.

Induced polarization geophysical surveying is also recommended on the same grids established for the MMI surveying. Field efficiency may be improved with simultaneous MMI and ground geophysical surveying. Induced polarization has the advantage of being able to detect semi-massive and disseminated sulphide mineralization that may not respond to electromagnetic methods. In addition, the resistivity parameter calculated from IP surveys provides valuable geological and structural information. Typically, the dipole-dipole IP survey array which is recommended for this project, cost \$1000 per line kilometre giving an estimated budget of \$50,000 for the IP survey. Ground magnetic surveying is also recommended to undertaken in conjunction with the IP survey, estimated cost for magnetic data collection is \$7500 bring the total for ground geophysics to \$57,500.

Geological mapping and structural interpretation is recommended with both on-site and remote sensing data. Field mapping should focus on identification of volcanogenic systems by identification of volcanic exhalative volcanosedimentary statigraphy and alteration with the objective of identifying potential volcanic vent centres. Also, attention should be paid to identifying faults and structural chronology. Interpretation of satellite imagery is a precursor to ground geological mapping.

Helicopter-borne FEM/mag	\$150,000
Gridding	30,000
MMI	50,000
IP	57,500
Helicopter support	100,000
Camp and administration	30,000
Data processing, interpretation	13,000
Geological mapping	20,000
Total	450,500

NOTE: End of John Buckle report.

A 15% contingency for unforseen costs, amounting to \$67,575, should be added to the John Buckle estimate of \$450,500 to give a Total Estimated Cost of proposed Phase 1 of **\$518,075**.

The following, "PHASE 2" Recommendations are prepared by Erik Ostensoe, P. Geo., a NON-independent Qualified Person and a Director of Casa Minerals Inc., to estimate the cost of an initial, Phase 2, program of diamond drilling to follow the John Buckle recommendations.

Obtain permits, select contractor, mobilize drill outfit and crew to site (from Alaska Highway	\$15,000
Drill 2500 metres in 8 drill holes @ \$150/metre, including core processing, analyses and quality control	\$375,000
Helicopter support for drill moves and servicing, allow two hours per day for twenty-five	
days @ \$1100/hour plus fuel @ \$500/hour	\$80,000
Camp costs, including cook, groceries, propane, miscellaneous supplies - one month -	\$25,000
Total	\$495,000
15% Contingency	\$ 74,250
Total with Contingency	\$569,250

The estimated combined cost of tenure acquisition and maintenance and Phase 1 and Phase 2 work is **\$1,127,325**.

### 14.0 STATEMENT OF EXPENDITURES

The following expenditures were incurred in support of the field examination of Arsenault property by John Buckle, P. Geoph., P. Geo., in July, 2009:

July 3, 2009	Supplies (Staples)	118.60
	Travel by air – Vancouver-Whitehorse – return ticket	888.65
	Klondike Inn, Whitehorse	53.92
	Meals	21.98
July 4, 2009	Travel Whitehorse – Atlin	
	Meal	25.00
	Meal	20.69
July 5, 2009	Helicopter to Arsenault Property, reconnaissance	
	per Discovery Helicopters invoice	5059.89
	Pinetree Services – Atlin - food, supplies, diesel	411.00

TOTAL EXPEND	\$9651.73			
July 3 – 6, 2009	Peter Burjoski, driver, field assistant – 2 days @ \$300/day		<u>600.00</u>	
	report preparation -	4 days @ \$600/day	2400.00	
July 3 – 6, 2009	John Buckle, professional fees – travel, property work,			
	Parking – Vancouver airport		52.00	
July 6, 2009	Travel – Atlin – Whitehorse – Vancouver			

#### 15.0 REFERENCES

Christopher, P. A., (1990), Geological, Geochemical, Geophysical and Trenching Report on the Fidelity Prospect, Assessment Report submitted to Geological Survey Branch, Ministry of Energy, Mines and Petroleum Resources, ARIS #20137

Fingler, J., (2005), Summary Report on the Arsenault Property, Atlin M. D., British Columbia, private report to DeCoors Mining Corporation

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Mihalnyuk, M. G., Nelson, J., and Friedman, R. M., (1998), Regional Geology and Mineralization of the Big Salmon Complex (104N NE and 1040 NW), in Geological Fieldwork1997, B.C. Ministry of Employment and Investment, Paper 1998-1

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Phendler, R. W., 1982, Report on Assessment Work (Diamond Drilling) on the Arsenault #1, #2 and #3 Claims; Assessment Report submitted to Geological Survey Branch, Ministry of Energy, Mines and Petroleum Resources, ARIS #1 0411

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Traynor, Steve, (1999), Evaluation Report on the Arsenault Property (Win and Twin Claims), Swift River Area, British Columbia, Assessment Report submitted to Geological Survey Branch, Ministry of Energy, Mines and Petroleum Resources, ARIS #25882

Turnbull, I., and Simpson, I. G., (1970), Report on a Geochemical Survey and Physical Work on the Top Claim Group, B. C. Ministry of Energy, Mines and Petroleum Resources, Assessment Report, ARIS #02976

Walcott, P. (1970), A Report on Ground Magnetic and Induced Polarization Surveys; B. C. Ministry of Energy, Mines and Petroleum Resources, Assessment Report, ARIS #03014

Walcott, P. (1972), A Report on Ground Magnetic and Induced Polarization Surveys; B.C. Ministry of Energy, Mines and Petroleum Resources, Assessment Report, ARIS #03502.

#### 16.0 STATEMENTS OF QUALIFICATIONS

#### 16.1 Certificate – John Buckle, P. Geo., P. Geoph.

I, John Buckle, certify that:

I reside at 20 Segwun Rd., Waterdown, Ontario, L0R 2H6.

This certificate applies to the observations and recommendations included in Section 13.0 of this report that are attributed to me and originally were included in the technical report entitled "Technical Report – Arsenault Property, Atlin Mining Division, British Columbia, Canada" dated July 21, 2009 (the "Technical Report").

I am a graduate from Cambrian College (1972) in Geological Technology and a B. Sc. in Earth and Environmental Science from York University, Toronto, Ontario (1980) and I have practiced my profession continuously since 1972.

I am a geophysicist member of the Association of Professional Engineers and Geoscientists of British Columbia (member #31027) and a geoscientist member of the Association of Professional Geoscientists of Ontario (member #0017)

I am a geophysicist/geologist engaged as a consultant for Geological Solutions.

I conducted a field inspection of the Arsenault Property in the period July 3 – July 6, 2009. I assisted and advised on preparation of the above-referenced Technical Report and I am responsible for the preparation of an independent recommendation and budget for a helicopter-borne geophysical survey, followed by ground-based geophysical surveys, a Mobile Metal Ion geochemical soil survey, and geological mapping and structural interpretation, as the recommended means of exploring the Arsenault property that is included *in Section 21, Recommendations,* of the Technical Report. The preferred exploration model is a Kuroko-type volcanic hosted massive sulphide deposit.

I consent to the inclusion of my report of observations and recommendations regarding the Arsenault property in an assessment report that will be submitted to the Ministry of Energy, Mines and Petroleum Resources of British Columbia.

Dated this 9th day of April, 2010.

John Buckle, P. Geoph., P. Geo.

### 16.2 ERIK A. OSTENSOE, P. Geo. is

1. a consulting geologist with an office at 310 - 675 West Hastings Street, Vancouver, British Columbia, Canada, V6B 1N2

2. a 1960 graduate of the University of British Columbia with the degree of Bachelor of Science in Honours Geology

3. registered as a Professional Geoscientist with the Association of Professional Engineers and Geoscientists of the Province of British Columbia, member no. 18,727 and with the Association of Professional Engineers and Geoscientists of Northwest Territories and Nunavut, licence no. L1943.

4. has been engaged in mineral exploration for more than forty years and have worked in most regions of western and northern North America, and, to a lesser extent, in overseas countries and I am familiar with the geology and other characteristics of mineral deposits that may be present on the Arsenault property that is the subject of the accompanying report.

5. in the period September 29 to October 1, 2008, examined in the field parts of the Arsenault mineral property.

6. the co-author of a technical report titled "TECHNICAL REPORT ARSENAULT PROPERTY, ATLIN MINING DIVISION, BRITISH COLUMBIA, CANADA", dated July 21, 2009, and is the author of the accompanying report of work that is submitted in fulfillment of a Statement of Work, event no. 4534071.

Dated this 9th day of April, 2010.

Erik A. Ostensoe, P. Geo.