# **TECHNICAL REPORT**

on the

## **VINES LAKE PROPERTY**

Liard Mining District British Columbia

**Prepared for** 

LOMIKO METALS INC. Vancouver, B.C. Canada

Prepared by

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Kirkham Geosystems Ltd.

April 30, 2009

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### **SECTION 1.0 SUMMARY**

#### 1.1 **Purpose of Report**

President and CEO of Lomiko Metals Inc. (the "Company" or "Lomiko"), Paul Gill requested this report to be prepared as a NI43-101 report to disclose technical information on Lomiko's claims covering the Vines Lake Property in the Cassiar Gold District in northwestern British Columbia.

#### 1.2 **Results**

The report provides an independent geophysical and geological evaluation, an updated review of recent work (2008) conducted on the property, and an evaluation of the potential for the property to host an economic mineral resource. The results of this evaluation reveal that potential does exist on the Vines Lake property for discovering new high-grade gold vein systems, and other intrusion related mineralization simply due to the proximity to the proven mining history in the Sylvester Allocthon and the presence of the Cassiar Batholith and its contact with the autochthonous Cassiar Terrane rocks, over which Lomiko's Vines Lake property claims are located.

An exploration program is recommended. This program is outlined in Table 20.1, and is targeted at both high-grade gold vein systems and intrusion related mineralization. Phase I should begin as soon as weather and snow conditions permit. Phase II would explore followup targets resulting from the geological mapping, geochemical and ground geophysical surveys. A total budget for the exploration program as outlined is \$391,500 for Phase I. Phase II are estimated at approximately \$580,000 for a total for all phases of \$971,500.

#### 1.3 **Data Used For Technical Report**

Work conducted for this technical report entailed a review of property tenure, adjacent property geology, recent exploration work, and interpreting exploration potential.

Mr. Garth Kirkham has not specifically visited the property itself due to deep snow cover and the fact that the property is in the early stages exploration. This visit is planned once the snow cover has diminished to a level that would make a site visit meaningful. However, Mr. Kirkham visited the adjacent property, recently acquired by Hawthorne Gold Corp. several times in 2005 through 2006 as a director and Qualified Person for the former owners Cusac Gold Mines Ltd., and remains the Qualified Person for Table Mountain for Hawthorne Gold Corp. Mr. Kirkham is also the author of the most recent Update of Technical Report on the adjacent Table Mountain property and is therefore familiar to the property's exploration potential, and the overall physical status of the property with regard to road access, reclamation, and state of service facilities in addition to resources potential on the property.

The Lomiko claims cover the rocks of the Sylvester Allocthon as does the adjacent Table Mountain property. Mr. Kirkham is therefore very familiar to the property with regard to exploration potential, geology, and the overall physical status of the property with regard to road access, reclamation, and state of service facilities in addition to resources potential on the Lomiko Claims.

Metric units are used throughout this report.

#### **1.4 Property Description**

Lomiko Metals Inc. holds the rights to three contiguous mineral tenures, totaling 1,169 Ha, (2,888 Acres) located in the south western corner of the Cassiar Gold District or 'Cassiar Gold Camp' as it is often referred in the Liard Mining District, NTS 104P, (Figure 4.2). The Vines Lake property's northern boundary crosses Hwy 37N 7 kilometers south of the unincorporated settlement of Jade City. Highway 37 N bisects the property north to south.

The claims cover rocks of the Sylvester Allocthon, the Cassiar Platform and the Cassiar Batholith. The Cassiar Gold Camp hosts both the Table Mountain Gold Property and the Taurus Property both owned by Hawthorne Gold Corp. On these properties are located a number of past-producing high grade gold mines, the majority of which are underground and a few small open pits. Total documented lode and placer gold production to date from the Cassiar Gold District is about 425,100 oz (13,222 kg) of gold.

### SECTION 2.0 INTRODUCTION

#### 2.1 Scope of Work

This Technical Report on the Vines Lake Property is to comply with the disclosure and reporting requirements as set forth in the National Instrument 43-101, Companion Policy 43-101CP and Form NI 43-101F, revised December 2005. The report provides an independent geological evaluation and an updated review of the most recent work conducted on the property.

The results of this compilation and evaluation reveal that the Vines Lake Property has potential to host several types of deposits such as porphyry and skarn-type deposits related to the Cassiar Batholith and high-grade gold vein deposits like those mined on the adjacent Table Mountain property. The property includes three major lithological contacts between the intrusive Cassiar Batholith, the volcanic sedimentary package of the Sylvester Allocthon and the Cassiar Platform.

Work conducted for this report entailed a review of recent exploration work, and exploration potential.

This independent Technical Report represents the author's observations, conclusions and recommendations.

Garth Kirkham visited the property several times in 2005 and 2006 as a director and Qualified Person for Cusac Gold Mines Ltd., former owners of the Table Mountain Property. Mr. Kirkham is also the author of the most recent Update of Technical Report on the adjacent Table Mountain property and is therefore familiar to the property's exploration potential, and the overall physical status of the property with regard to road access, reclamation, and state of service facilities in addition to resources potential on the property.

Metric units are used throughout this report.

#### 2.2 Project Management

This report was commissioned by Paul Gill, President and CEO of Lomiko Metals Inc. with offices at #439-7231 120th Street, Delta, British Columbia, V4C 6P5 and was prepared by Kirkham Geosystems Ltd.. Lesley Hunt, as an independent consultant with more than 15 years experience in the Cassiar Gold Camp, compiled much of the data contained within the report under the direction of Garth Kirkham, P.Geo., Project Manager for Kirkham Geosystems Ltd.

#### 2.3 Team Members

Kirkham Geosystems Ltd. has compiled this report and it is authored by **Garth Kirkham**, **P.Geo.**, **P.Geoph.**, Principal of Kirkham Geosystems Ltd., Project Manager, Geophysicist and Geoscientist.

### 2.4 Data Supplied By Lomiko Metals Inc.

The author has relied upon verification by Lomiko of the title to these claims and the underlying agreements. Claim locations are as indicated by the Mining Recorder and MT Online.

Lomiko supplied a copy of the "Report on a Helicopter-Borne Magnetic Gradiometer & VLF-EM" on the Vines Lake Property (October 21st, 2008) prepared by CMG Airborne to the author of this report. This is the only known exploration to date done by Lomiko on the property.

Lomiko supplied a copy of the Vines Lake Property sale and purchase agreement.

### SECTION 3.0 RELIANCE ON OTHER EXPERTS

Much of the regional and local geology discussion contained in this report has been sourced from the report titled "Technical Report on the Table Mountain Gold Property, Liard Mining District, British Columbia, Canada", dated June 1, 2008 and publically available on SEDAR. This report was prepared for Hawthorne Gold Corp., current owner of the Table Mountain Property, authored by Garth Kirkham, P.Geo. and Beacon Hill Consultants. Garth Kirkham of Kirkham Geosystems Ltd. is the author of this Technical Report.

Additional historical and geological report information was obtained from digital reports, maps and knowledge obtained from Lesley Hunt, B.Sc. Geol., who has worked throughout the Cassiar area especially on the Table Mountain property as a consulting geologist for the majority of the last twenty years. The author believes the data and the interpretations contained in this report to be a current and an accurate representation of the property's geology.

For claims and tenure, the author is relying on the MT on-line for this data and with respect to outstanding royalty arrangements; the author is relying on the Sale and Purchase Agreement.

#### SECTION 4.0 PROPERTY DESCRIPTION AND LOCATION

#### 4.1 **Property Location**

The Vines Lake Property is located in northwest British Columbia, 143 km southwest of Watson Lake, Yukon Territory and 115 km north of Dease Lake, British Columbia (Figure 4.1). Access to the property is via the Stewart Cassiar Highway (Hwy 37N) which bisects the property north to south. The abandoned mining town of Cassiar is approximately 10 kilometres northwest of the property as the crow flies and is accessed by the Cassiar Highway which begins at the Stewart Cassiar highway 8.5 km north of the property. The unincorporated settlement of Jade City is on Highway 37N, 7.6 kilometres north of the property.

The property is located on NTS map sheet 104P05E and BCGS map sheets 104P022 and 104P012. The northern boundary of the claim block where it intersects Hwy 37N is located at 59° 13' 14" latitude and 129° 44' 30" longitude or UTM Zone 09 NAD 83; 6564837N and 457663E.

#### 4.2 **Property Description**

Lomiko Metals Inc. currently owns three mining claims in the Liard Mining District, NTS 104P. The Lomiko claims cover the majority of a large, local lake, Vines Lake, hence the name of the property (Figure 4.2).

Lomiko Metals Inc. controls the mineral rights to ground totaling 1,169 Hectares (2,888 Acres). The properties have been acquired by outright purchase from Amrit P. S. Gill, currently CFO of Lomiko for 600,000 shares at a deemed price of \$0.10 per share and \$10,000 in cash. These obligations have been met. There remains a 2% NSR (net smelter return) payable to Mr. Gill. To the best of the author's knowledge, this is the only commitment that remains on the property.

The claim tenure numbers, names, expiry dates, and areas that comprise the property are all currently in good standing are listed in the following Table 4.1. Figures 4.2 and 4.3 illustrate the Vines Lake Property and its regional and local relationships to adjacent tenures, mining properties and infrastructure.

It must be noted that in the Purchase and Sale agreement the total area is listed as 1,195.4 hectares with the individual claims having areas of 377.1 Ha, 411.7 Ha and 407.6 Ha for Tenure numbers 528541, 528545 and 528550, respectively. These areas defer from those as listed in MTO on-line have a total area of 1,209.74 Ha with individual claim areas as listed in Table 4.1. This differential is negligible and it is unclear as to why there is a discrepancy however, the claims and tenure numbers are in agreement. In all cases, MT On-line is the recognized authority and Table 4.1 is taken as actual irrespective of conflicting areas listed.

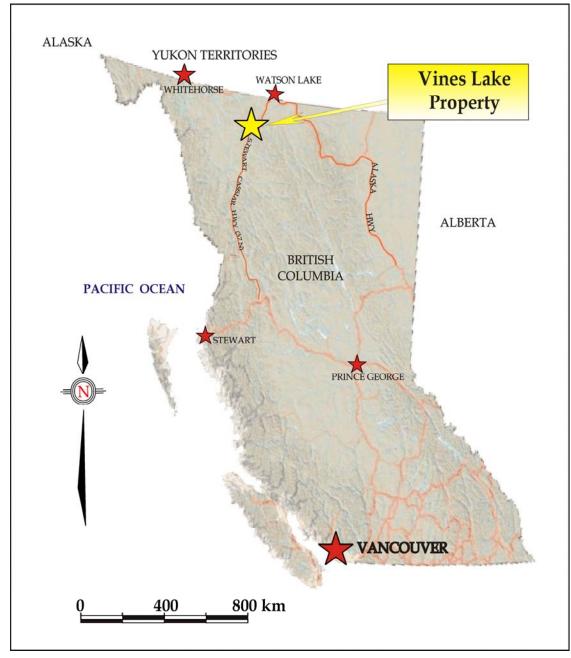
There are private land survey lots along the lakeshores of Vines, Cook and Lang Lakes within the Vines Lake Property tenure boundaries.

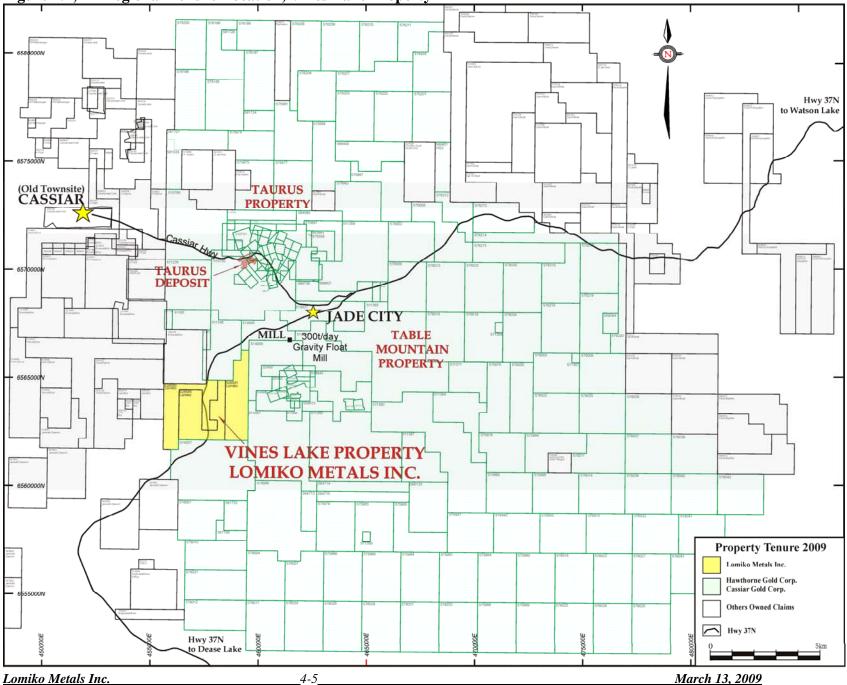
Lomiko Management is aware of the changes to the Mineral Tenure Act and the Mineral Tenure Act Regulation governing notice requirements for mining activities on private land and Land Act leases that came into force on June 2, 2008.

Tenure Number	Claim Name	Good To Date	Area (Ha)
528541	NOME 2	2010/Feb/17	381.15
528545	NOME 3	2010/Feb/17	414.36
528550	NOME 4	2010/Feb/18	414.33

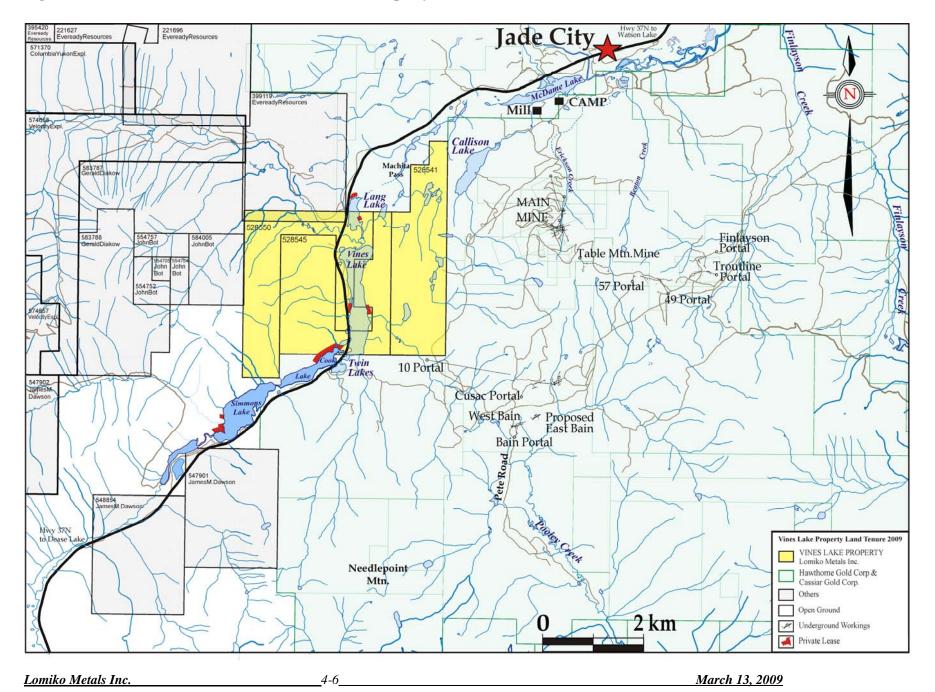
#### Table 4.1; Vines Lake Tenure Record, March 31, 2009







#### Figure 4.2; Regional Tenure Location, Vines Lake Property



#### Figure 4.3; Local Tenure Location, Vines Lake Property

### 4.2.1 Permits

Exploration work permits are required on an as-needed basis in advance of the work being conducted on the property.

The authors know of no environmental liabilities on the property.

#### SECTION 5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

There is excellent paved road access to the property. The Stewart-Cassiar Highway (Hwy 37N) passes through the center of the property in a north south direction. There are few access roads to the property besides the paved Hwy37N. Four-wheel-drive all terrain vehicles and boats are required to access more remote areas of the property. The adjacent property to the east is the Table Mountain Property owned by Hawthorne Gold Corp. On the Table Mountain Property, the main access road to the mine workings in the southern part of the property passes through the south east corner of the Vines Lake Property. Permission could be obtained from Hawthorne by Lomiko to use this road to access the south east portion of the Vines Lake Property.

Most general supplies and services are available in Watson Lake, Yukon Territories and limited supplies are available in Dease Lake, British Columbia. Commercial air service is available to Dease Lake by Northern Thunderbird Air (NTAir). The Cassiar airstrip is available for use by charter aircraft. Alkan Air out of Whitehorse has flown numerous charters into Cassiar in the last few years. NTAir has also flown charters from Vancouver to Cassiar returning the same day.

The nearest major centers are Whitehorse, Yukon with a population of 25,000, located approximately 560 kilometres via Hwy 37N and the Alaska Highway and Smithers, BC which services a population of 20,000, located 720 kilometres south via Hwy 37N and Hwy 16 east.

Only a few residents (10) remain in the nearby townsite of Jade City. Power for the region has historically been and will in the future be provided by privately owned diesel generators, unless the B.C. Hydro grid is extended north.

There is a small but highly skilled population base in the area however most personnel needed for an exploration program would have to be hired from elsewhere. The former townsite of Cassiar was purchased in 1996 and a few buildings remain. In the past the buildings have been leased out to various local exploration companies to serve as base camp facilities.

There are numerous creeks and small lakes on the Vines Lake property that have sufficient yearround water supply and flow for any exploration or mining operations.

The Vines Lake property covers the majority of Vines Lake a narrow north south trending lake, 2.2 kilometres long with an area of 73 Ha. The eastern half of the property is bound on the north by the broad northeasterly trending McDame Creek Valley. The valley floor is up to one kilometer wide, featuring swampy areas separated by low hills with elevations between 900 and 1,000 metres. To the east and west of Vines Lake, the valley slopes rise steeply to local peaks over 1,500 metres in elevation.

Vegetation consists of forests of jackpine, lodgepole pine, black spruce, and poplar thinning to buckbrush and alpine meadows above treeline at 1,400 to 1,500 metres. Valley bottoms comprise shallow lakes and swamps with thick, stunted growths of pine and spruce.

The climate is characterized by short, warm summers and long, cold winters. Underground mining, can be conducted year round. Smaller bulk tonnage tests and open pit mining, is most successfully conducted in the summer. Daily mean temperatures recorded at Jade City range from  $-20^{\circ}$ C in January to  $+15^{\circ}$ C in July. Snowfall between October and May has an average total accumulation of 227 centimetres.

#### SECTION 6.0 HISTORY

The Lomiko Claims history is limited to the initial acquisition of the claims via on-line staked by Mr. Gill on February 18, 2006. The property was then purchased by Lomiko on March 23, 2006. For the subsequent years ending on the anniversary date, in 2007, 2008 and 2009 the property was kept in good standing via payment in lieu of work completed.

In 2008, Lomiko commissioned a Helicopter-borne Magnetic Gradiometer and VLF-EM Survey by CMG Airborne.

#### SECTION 7.0 GEOLOGICAL SETTING

#### 7.1 Regional Geology

The Cassiar Gold Camp is in the Sylvester Allochthon of the Slide Mountain Terrane (Gabrielse 1963; Gordy et *al.* 1982; Harms 1984, 1986, 1989; Harms et *al.* 1989; Nelson and Bradford 1989, 1993). The allochthon occupies the flat-bottomed McDame synclinorium, which lies on autochthonous rocks of the Cassiar Terrane.

The Cassiar batholith intruded the Cassiar Terrane to the west. It is the single largest plutonic body in the hinterland of the Canadian Cordillera and is part of widespread middle Cretaceous to Eocene magmatism that occurred in the Omineca crystalline belt (Driver et al).

The internal structure of the Sylvester Allochthon is characterized by many interleaved tectonic slices, bounded by subhorizontal, layer-parallel faults. These lithotectonic slices are an order of magnitude smaller than the terrane itself, and they consist of a single rock type, or a few repeated rock types. Small numbers of slices occur together in larger second-order packages, which are also fault-bounded and or lensoidal (Harms 1986).

Nelson and Bradford (1989, 1993) divided the allochthon into three stacked, structurallithological packages. Division I, the lowest, is a sedimentary sequence that occurs along the margins. The middle, Division II, is an ophiolitic assemblage that occupies the central portion and contains two major ultramafic sheets. Division III, the uppermost, known as the Huntergroup Massive in the Cassiar Gold camp is an island-arc unit that caps the Division II at higher elevations. The Sylvester Allocthon is within Division II.

The Sylvester Allochthon responded to Jurassic compressional tectonics by thrusting along easterly-directed thrusts rather than regional-scale folding. This resulted in the stacking of the three divisions into their present arrangement (Nelson and Bradford 1989, 1993). The synclinal geometry resulted from the formation of anticlinal stacks on either side during compression. In addition, the emplacement of the Cassiar batholith, a quartz monzonite/granodiorite to the west, uplifted the pile, contributing to the consistent northeastward dip along its western margin.

#### 7.2 Property Geology

#### 7.2.1 Property Geology

There has been very limited geological mapping done on the Vines Lake Property to date. Hence this section will primarily deal with the Sylvester Allocthon Rocks which comprise approximately the eastern half of the property area. The Cassiar Terrane rocks underlie approximately one third of the property area to the west of the allocthonous rocks and comprises gabbro, pillowed and massive basalt, banded chert, carbonate, argillite, ultramafics, and minor arenite.

The Cassiar Batholith comprises approximately one fifth of the property in the southwestern corner. The Cassiar batholith is dominated by muscovite-biotite granite and biotite  $\pm$  muscovite granodiorite along with subordinate biotite  $\pm$  hornblende granodiorite, quartz monzodiorite, and quartz monzonite (Driver et al).

The Sylvester Allochthon was emplaced sometime between the Late Triassic and Mid-Cretaceous (Gordey 1982). The lowermost thrust sheet (Division I) is composed predominantly of sub-greenschist facies meta-andesites, cherts and cherty volcanics. Discontinuous tectonic slivers of listwanite, generally interpreted to be metasomatized serpentinites, occupy the Table Mountain Thrust. The middle thrust sheet, (Division II) less than 500 metres thick, is composed of graphitic argillite with minor interbedded siltstones and sandstones. The uppermost thrust sheet (Division III) consists of pyroxene porphyritic altered volcanic rocks with minor intercalated metasediments. These rocks range in age from Late Devonian to Late Triassic (Gordey 1982). The youngest rocks in the area are the Cretaceous and Tertiary lamprophyre and diabase dikes which intrude locally. Gold mineralization occurs in quartz vein systems within the lowermost thrust sheet proximal to the Table Mountain thrust. The high grade veins mined at the adjacent properties, Table Mountain and Taurus, are located just below and within the Table Mountain Thrust (TMT), which divides Division.

Dating of sericite, associated with auriferous quartz veining, indicates an Early Cretaceous age (120 -130 Ma). This postdates emplacement of the Sylvester Allochthon and pre-dates the Middle to Late Cretaceous emplacement of the Cassiar Batholith (100 Ma). This fact and the absence of exposures of contemporaneous intrusives have lead M. Ball, a former property geologist, to suggest that the property "could be situated over hidden intrusives localized by early transcurrent faults and associated transtensional zones" (Matt Ball, Personal Communication 1997). Auriferous polyphase quartz veining is spatially and genetically related to the Table Mountain Thrust. The thrust formed an impermeable structural discontinuity localizing hydrothermal fluid flow. Productive veining is concentrated along a north-south trending zone of faulting known as the Erickson Creek Fault Zone (ECFZ), which is not considered a major crustal break. Clusters of alteration zones, veins, and faults, which occur intermittently along the ECFZ, are interpreted to represent separate

hydrothermal centers. Mineralized veins and alteration zones also occur distal to the ECF, however, none of these structures have yielded economic mineralization to date.

Figure 7.1 illustrates the general geology of the property area. Rocks of the Sylvester Allochthon to the east, autochthonous Cassiar Terrane rocks in the center and the Cassiar Batholith rocks to the southwest, underlie the Vines Lake property. In fact at the far centraleastern edge of the Vines Lake Property exists excellent exploration potential for high grade gold vein deposits like those found on the adjacent Table Mountain property.

In this area, the Table Mountain Thrust (TMT) along which gold bearing quartz veins of the Table Mountain property are known to be associated swings prominently northwestward toward and into the Vines Lake Property, (see Figure 7.1). It is thought by former Table Mountain geologists that a major left lateral fault may have moved the thrust contact several hundred metres to the west and would have also moved any north-trending vein controlling faults in the same manner.

#### 7.2.2 Lithological Units

Rocks in the Cassiar area have been informally divided into lower, middle, and upper thrust sheets for Table Mountian mine geology purposes (Figure 7.1). These thrust sheet names (lower, middle, upper) should not be confused with the Sylvester Allochthon division names (I, II, III) by Nelson and Bradford (1989, 1993). The lower and middle thrust sheets belong to Division II of Nelson and Bradford (1989, 1993); the upper, to Division III.

The lower thrust sheet comprises three volcanic-sedimentary subunits; the middle, Table Mountain Sediments (TMS); and the upper, Huntergroup Volcanics. A major ultramafic sheet separates the lower and middle thrust sheets (Harms et *al.* 1989; Nelson and Bradford 1989, 1993).

The lower thrust sheet, which covers the eastern third of the Vines Lake Property comprises three volcanic-sedimentary subunits. The basal volcanic-sedimentary subunit of the lower thrust sheet comprises basalt, pillow-basalt breccias, and tuff interbedded with black clastics. It is exposed along the margins of the allochthon and has been intersected at depth in drill holes in the western and northwestern part of the camp. The unit does not host any of the veins in the camp. It does host three known massive sulphide occurrences and a silica-pyrite replacement body on Mt. McDame.

The middle subunit of the lower thrust sheet comprises mafic volcanic rocks interlayered with bedded chert and argillite. This subunit crops out along the northeastern and southwestern margins of the camp along ridges and valley sides. Although it does not crop out extensively within the camp, it underlies much of the camp. Correlations are made using green to maroon and red chert, bedded rhodonite northeast of Taurus Mine, and bedded magnetite in lower portion of the Main Mine. The unit does not host significant veins and is more amenable to development of silicification because the rocks are brittle and shatter as noted in the lower levels of the Main Mine.

The upper subunit of the lower thrust sheet is the most widespread and crops out over most of the camp. It comprises massive and pillowed basalt with rare chert intercalations. The lower portion of this unit in the Taurus area is marked by magnetite and jasper-rich basalt. The presence of magnetite-rich basalt elsewhere in the camp suggests that this rock type is more widespread than recognized. The non-magnetic and non-jasper-bearing basalt sequence hosts most of the vein systems in the camp and has been the focus of exploration. It is the upper subunit of the lower thrust sheet that is exposed in the far eastern central part of Lomiko's claim block where potential does exist for high grade gold bearing quartz veins.

The middle thrust sheet comprises the Table Mountain Sediments (TMS) and they cap the basalts of the upper subunit of the lower thrust sheet. These sediments also crop out on the Vines Lake Property in the far eastern central portion of the claim block where the Table Mountain Thrust swings westward onto the property. They comprise thin-bedded slaty siltstone, sandstone, calcareous mudstones, and grey limestone. Veins rarely extend up into these rocks, however when they do, following these vein structures back under the Table Mountain Thrust into the upper volcanics of the lower thrust sheet, can lead to the discovery of mineralized zones within the veins. An example of this is the recent discovery of the Oro Vein located at the eastern edge of the klippe of argillite just to the north of Hwy 37, northeast of the Vines Lake Property.

The Table Mountain Thrust (TMT), separates the lower thrust sheet and the middle thrust sheet. A thin discontinuous sheet of ultramafic rocks occurs at the base of the TMS. The sheet locally thickens to large bodies in the order of hundreds of metres. Near vein systems, these ultramafic rocks are altered to a quartz-carbonate-fuchsite assemblage, referred to as listwanite. Some of the carbonate-mica alteration extends up into the overlying black sedimentary rocks.

The upper thrust sheet (also Division III) is composed of the Huntergroup volcanic rocks. These volcanic are exposed in the southeastern portion of the camp known as the Huntergroup Massif. This unit does not expose itself on the Vines Lake property. It comprises augite porphyry flows, tuffs, breccias, tuffaceous sandstones, and scattered limestone pods. The unit does not host any of the veins in the camp.

Diabase and lamprophyre dykes crosscut all lithologies, including veins. Dykes are steeply dipping and strike easterly. Xenoliths of granitic rock occur in several dykes throughout the camp.

#### 7.2.3 Vein Stages

Veins in the Cassiar Gold Camp consist of early barren quartz veins without visible alteration; main stage barren and gold-bearing quartz veins with sericite-ankerite alteration envelopes; and late barren quartz-carbonate veins with kaolinite-ankerite alteration envelopes. Early veins are widespread; main stage veins are generally confined to well-defined vein systems; and late veins locally crosscut and brecciate earlier veins.

Main stage white quartz veins form a continuum from barren to strongly mineralized. Barren and weakly-mineralized veins are usually single stage with minor sulphides, whereas strongly-mineralized veins are multi-phased, composite structures with abundant banding and varying amounts of sulphides. Several stages of white quartz veins are present: barren; silver-rich with low Au:Ag ratios; and gold-rich varieties with Au:Ag ratios about one. Clear quartz veins, containing pyrite, sphalerite and tetrahedrite with uncommon chalcopyrite, galena and arsenopyrite, crosscut gold-bearing white quartz veins. Gold is usually associated with sulphides.

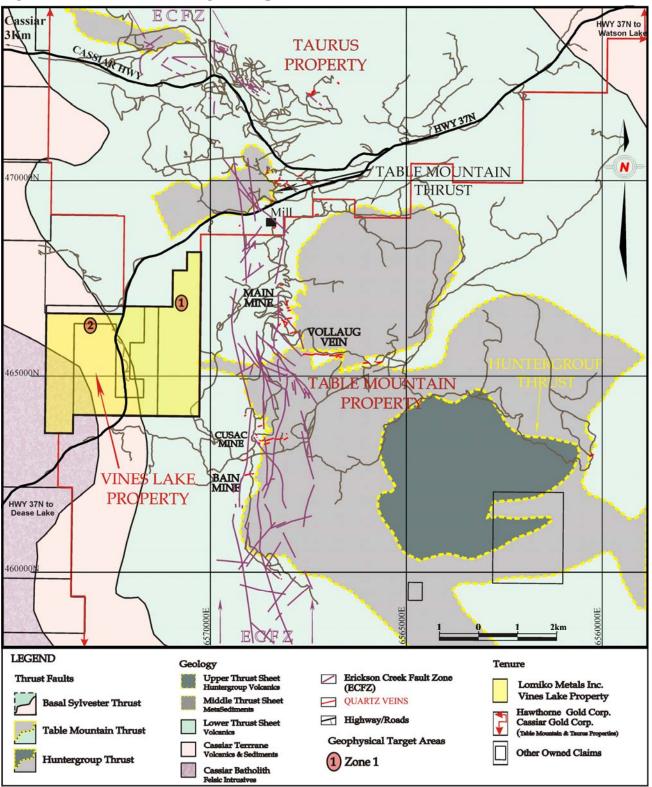


Figure 7.1; Generalized Geological Map

LOMIKO Metals Inc.

April 30, 2009

#### 7.2.4 Structural Features

Structural features are divided into two groups: an early one related to the formation of the allochthon with pre-and syn-mineralization structures; and a late one with postmineralization structures. The early group contains thrust faults and related folds along with accompanying foliations and joints that parallel veins. The post mineralization group contains high-angle faults that offset veins. Although they are clearly associated with mineralization, movement is post-mineralization.

The structural regime of the Table Mountain Property is extremely complex however there is one major zone of faults that to date host the vast majority of the mineralized vein systems.

#### Erickson Creek Fault Zone (ECFZ)

Prominent late structures occur in a northerly-trending belt, which extends for 15 km from south of Cusac Mine, through Main Mine to north of the Taurus Mine. They are collectively referred to as the Erickson Creek Fault Zone (ECFZ). Movement along the ECFZ is dextral with the eastern side down-dropped (Ey 1986).

In the central and southern portion of the camp, south of McDame Lake, the ECFZ is dominated by a duplex fault and photo linear system spaced about 500 to 1,000 metres apart. Prominent structures that comprise the system are the Eileen and Lily Faults in the Cusac Mine, the 30-40 Fault, 2810 Fault, and Maura East Fault in the Main Mine. Within the ECFZ, northwesterly and northeasterly-trending structures that offset veins are present locally.

In the northern portion of the camp, north of McDame Lake, the ECFZ swings slightly west of north as it is offset by sinistral northeasterly-trending faults in the McDame Lake region, (Read and Psutka 1983). The system is not as well-defined in this area; however, the presence of strong northerly-trending structures along Wings Canyon, the Decline Fault, Taurus West Fault and adjacent faults in the Taurus Mine area indicate a zone of disruption (Read and Psutka 1983; Broughton and Masson 1996).

#### 7.2.5 Alteration

Strong wallrock alteration of the basalts in the Sylvester Allochthon can be an important exploration guide as it is strongly associated with gold-bearing veins. Within mafic rocks, basalt is altered to a sericite-ankerite-quartz assemblage, generally extending less than 15m from veining and increasing in intensity towards the vein. This alteration is characterized by bleaching. An iron enrichment halo within the more intensely carbonate altered volcanics is evidenced by the presence of ankerite and of up to 10% coarse subhedral to euhedral pyrite. Crackle brecciation, a distinctive fine multi-phase brittle breccia with a silica/carbon fracture filling accompanies the higher degrees of carbonate alteration. These ankeritic envelopes are in turn surrounded by a widespread propylitic halo defined by veinlet stockworks of calcite, chlorite, epidote and quartz with accessory pyrite and rare chalcopyrite.

At the Taurus Mine, ankeritic/pyritic alteration envelopes contain enough gold to constitute a potentially-mineable resource. Within ultramafic rocks that are associated with mineralized veins, serpentinite is altered to talc, talc-breunerite (iron rich magnesite)-quartz, and in the most altered ultramafic rocks, breunerite-quartz-fuchsite assemblages (Dussel 1986).

#### SECTION 8.0 DEPOSIT TYPE

The Vines Lake Property is located covering three major lithological contacts. To date no geological mapping has been done so only potential deposit types are discussed in this report. Various deposits in the immediate area of the Vines Lake property are discussed at the end of this section.

The property has potential for a few different deposit types such as intrusion driven hydrothermal emplacement, intrusion related skarn type and porphyry-type deposits. The adjacent Table Mountain Property hosts numerous high grade gold vein deposits. There is much documentation available on the deposit model of these veins, and is discussed below.

The following section has been taken mostly from the "Update of Technical Report on the Table Mountain Property" (June 2008) by the author of this report.

The veins at Table Mountain have been well-described by Mandy (1935, 1937), Diakow and Panteleyev (1981), Grant (1981), Panteleyev and Diakow (1982), Fjetland (1982), Hooper (1984), Dussel (1986), Ball (1985, 1989), Sketchley (1986, 1989), Gunning (1988), Broughton and Masson (1986), and Panteleyev et *al.* (1997).

Panteleyev et *al.* (1997) developed a general model for mesothermal gold-bearing quartz veins of the Cassiar Gold Camp that illustrates the spatial relationships of the various vein types within lithotectonic units and a possible genetic connection to a cryptic intrusion (Nelson 1990; Nelson and Bradford (1989, 1993).

Nelson (1990), Nelson and Bradford (1989, 1993), and Panteleyev et al. (1997) discussed formation of the mesothermal gold-quartz vein deposits of the Cassiar Gold Camp. Although the system has characteristics that resemble classic mesothermal lode gold deposits, major structures within and bounding the Sylvester Allochthon are flat in contrast to regional breaks associated with mesothermal major camps. Northerly-trending structures that control the distribution of veins like the Erickson Creek Fault Zone, although significant, are not major crustal breaks. Similarly, east-northeasterly structures that host and are associated with the veins are minor without significant offsets. Suggestions that these structures developed in an extensional environment related to dextral movement on major northwesterly-trending regional faults are not compatible with vein system geometry. The geometric pattern of these structures is that of a box-shaped array, not the expected en echelon pattern. In addition, the veins are considered to have formed at about 130 Ma (Panteleyev 1982; Sketchley 1986; Sketchley et al. 1986) when the regional strain pattern was compressive, not extensional. This age, which was confirmed by Panteleyev (personal communication 1998), postdates emplacement of the Cassiar Batholith (100Ma), which might have contributed to development of the host fractures.

An alternative proposal for development of the veins in the camp by Nelson (1990) and Nelson and Bradford (1989, 1993) is that of an intrusion driven hydrothermal system. Evidence for a cryptic (buried) intrusion beneath the camp comes from the 130 Ma date of

formation, granite clasts that occur in a number of post-mineralization lamprophyre dykes, and the spatial disposition of the actinolite-epidote isograd. The granite clasts occur in dykes from the Table Mountain area to north of Snowy Creek and contrast with dykes north of the camp that contain clasts of subjacent miogeoclinal units, but not granite (Read and Psutka 1983; Sketchley 1986; Nelson 1990; Nelson and Bradford 1989, 1993). The actinolite-epidote isograd generally follows the eastern edge of the Cassiar batholith, but swings significantly east around the camp in an anomalously-wide arc. Based on textural and age relationships, actinolite that formed within the isograd is not related to the Cassiar Batholith.

The development of Type II veins along the Table Mountain Thrust is related to shearing with a southerly vergence of the middle thrust sheet, i.e. tops to south movement (Ey 1987). Doming from emplacement of a buried intrusion would account for this movement, create dilatant zones for Type I veins, and explain the sigmoidal shape of some structures. Further evidence is provided by vein dips throughout the camp, which suggest uplifting. In the southern part of the camp, veins tend to dip steeply north, whereas in the northern part of the camp at the Taurus Mine, veins tend to dip steeply south (Broughton and Masson 1996).

There is potential for other deposit types on the Vines Lake Property, those being intrusion driven hydrothermal emplacement deposits, intrusion related skarn type and porphyry-type deposits.

The property covers ground over two lithological contacts of different origin. One between the Sylvester Allocthon rocks and the authocthonous Cassiar Platform, a thrust contact and the other between the Cassiar Batholith and Cassiar Platform rocks, an intrusive contact. Contact areas and their associated faults often provide channel ways for mineralizing fluids to pass through. Any reactivation of these zones allow for additional alteration and mineralizing fluid transport. These contact regions have not been explored to date.

Both historical, non-43-101 compliant mineral estimates and current 43-101 resources such as Columbia Yukon's "Storie" Molybdenum deposit, Pacific Bay Minerals' "Haskins-Reed" skarn, replacement and porphyry-style mineral occurrences, and Velocity Minerals' "Cassiar Moly" molybdenite showings and "Mt. Haskins" intrusive hosted porphyry-type molybdenite deposit and at least two other skarn-type mineral zones are all associated with the Cassiar batholith in the immediate vicinity of the Vines Lake Property.

#### SECTION 9.0 MINERALIZATION

Two distinct geometries of auriferous veining are recognized on the adjacent Table Mountain Property (Panteleyev & Diakow).

#### 9.1 Type 1 Veins

Type 1 Veins, (e.g., Maura and Eileen), are moderate to steeply dipping and occupy shear structures in the lower thrust sheet immediately below the thrust and generally terminate at the top against the thrust. Generally striking  $060^{\circ}$ -  $080^{\circ}$ , segments of these veins are typically 0.5m to 2m thick and average 200m in length. Late crosscutting faults have broken veins into numerous segments that appear to be separate structures. Vein systems typically can reach 1.8 km. Ore shoots generally occur within the top 30m of the vein. Gold grades are generally higher >0.4 oz/t up to 100 oz/t locally and more consistent in the upper portions, decrease and become more erratically distributed down dip into the roots of the system.

### 9.2 Type 2 Veins

Types 2 Veins, (e.g., Vollaug, Jennie) occupy the shallowly-dipping plane of the thrust fault that occurs at the bottom of the middle thrust sheet comprising TMS. Most veins are along the footwall of the ultramafic sheet, which is generally altered to listwanite, or extend up into it. These veins have a characteristic ribboned appearance due to the presence of graphitic stylolites. The Vollaug Vein, striking east-west, has a known length of 2.7 km. Thicknesses reach up to 4m but are generally less than 2m. Shallowly plunging elongate ore shoots are localized by flexures or rolls in the thrust plane and thicker, productive vein segments appear to be related to rolls along the contact or anomalous thickening of listwanite.

The steeply dipping Type 1 veins are more abundant, contain higher-grade gold mineralization, and are often easier to mine than the Type 2 veins due to their steeper dips being more amenable to typical shrink stope mining methods.

Mineralized veins are polyphase and commonly tectonically banded. Fine-grained mineralized quartz frequently cuts pre-existing early barren, coarse-grained, quartz veining. Gold occurs freely or is found intimately associated with clots of medium-grained euhedral pyrite. Increased sulphide concentrations generally indicate higher gold grade however some of the more spectacular free gold specimens from the property contain minimal sulphides. The common sulphide assemblage is pyrite, tetrahedrite, and sphalerite. Chalcopyrite and galena are less common. Arsenopyrite is rare.

Vein structures are offset by cross-faulting and dikes occasionally cut through the ore bodies. With the exception of areas where the erosional surface is below the Table Mountain Thrust, (e.g., Katherine), listwanites are spatially associated with, but not restricted to, every known economic auriferous quartz vein system on the property. Three mineral assemblages characterize progressively increasing degrees of metasomatism within the Listwanites; Serpentine-Carbonate, Talc-Carbonate, and Quartz-Mariposite-Carbonate.

Ore has been produced from four vein systems on the property. Offset segments of a single structure have frequently been individually named. In the Main Mine area, the Jennie, Maura and Alison veins represent a single fault disrupted structure. Similarly, at Cusac, the Eileen, Big, Michelle High Grade, and Lily may be interpreted to be the same vein. This is also the case for the Katherine-Bonanza-Bain System. The various mine openings on the Vollaug are all working the same vein.

#### 9.3 Mineralization Controls

Mineralization controls are features that characterize productive structures throughout the camp. They are useful in guiding exploration for extensions to known vein systems and in anomalous gaps between productive areas. Sketchley (2003) has listed the important mineralization controls as follows:

- 1. Proximity to antecedent northerly-trending structures. Prominent northerly-trending structures in order of importance are ECFZ, BCFZ, and BLFZ. Less prominent structures include faults along the Christine and Huntergroup veins. Productive veins occur within the ECFZ duplex and generally within one kilometer of the bounding faults.
- 2. Northeasterly-trending fracture zones. Dominant fracture systems may be related to faults that offset allochthon margins. Several vein systems that extend under TMS are marked by prominent photo lineaments.
- 3. An apparent periodicity between vein systems. In the northern portion of the camp, this is about 1,500 m; in the southern portion, about 400 to 600 m.
- 4. A cap of incompetent carbonaceous rocks such as TMS.
- 5. Rolls in the lower contact of the TMS. Productive sections of the Vollaug Vein are adjacent to a roll that defines the Table Mountain Anticline.
- 6. An apparent thickening of listwanite. Prominent listwanite bodies occur adjacent to the Pete Vein, the Bain Vein, the Eileen-Michelle-Lily Vein, and the Jennie-Maura-Alison Vein systems. Listwanite isopachs along the Vollaug vein suggest productive zones are spatially related to thicker sections of listwanite.
- 7. An apparent periodicity of ore shoots along veins. Along the Eileen-Michelle-Lily Vein system, the ore shoots are about 80 to 130 m long with barren gaps of 65 to 110 m (Downie 1997).
- 8. Rake of veins. The Eileen-Michelle-Lily Vein system appears to rake to the east. This may be related to a sinistral movement along shears hosting veins, coupled with a the convergence of the middle thrust sheet in the south (i.e. north side of the structures move upward and to the west). This hypothesis suggests exploration should be initiated on the western side of the controlling, northerly-trending structures under caps of TMS

#### SECTION 10.0 EXPLORATION

#### 10.1 **Exploration Procedures**

#### Methodology

Exploration throughout the Vines Lake Property is at a grassroots level. An airborne geophysical survey has been done over the property is the only documented exploration work to date.

The survey, consisting of 327 line-kilometers (l-km), was started on July 12th, 2008 and was completed on July 22nd, 2008. The survey was flown using the WGS-84 Datum and UTM Projection, Zone 9 North. The final database was converted to the NAD-83 Datum and UTM Projection, Zone 9 North using Geosoft Oasis Montaj. All map products were processed and are presented in the NAD-83 Datum.

The CMG magnetic gradiometer consists of three (3) potassium magnetometer sensors separated approximately three (3) meters (m) apart. Measured gradients include the vertical and transverse (cross-line) horizontal. The parallel (in-line) horizontal gradient is calculated and is possible because of the close separation of the magnetometer readings (~3 m) along the flight line.

The CMG system also records two VLF-EM measurements from approximately orthogonal VLF transmitting stations – normally Cutler, Maine and Jim Creek, Seattle, both in the United States.

#### **Exploration Practices**

The exploration practices of the CMJ Airborne Geophysics survey were reviewed during the preparation of this report. These practices were found to be to industry standards with respect to the "Exploration Best Practices Guidelines", which are included with the CIM Standards on Mineral Resources and Reserves (2000). This survey consisted of the acquisition of high resolution magnetic gradiometer data along with VLF EM data in an effort to identify the geologic units and to target potential mineralized structures. Figure 10.1 shows the topographic contours and DTM (digital terrain model shaded by elevation) along with the claim boundary and flight lines for reference.

#### 10.2 2008 Helicopter Magnetic Gradiometer & VLF-EM Survey

As noted in the CMG Report, the VLF EM as shown in Figure 10.2 is strongly influenced by topography and therefore it is of very limited use for identifying geologic features and does not enhance targeting of mineralization. The author was also involved with VLF surveys performed on the Table Mountain property which, in the opinion of the author, were of very limited use for targeting or geologic characterization.

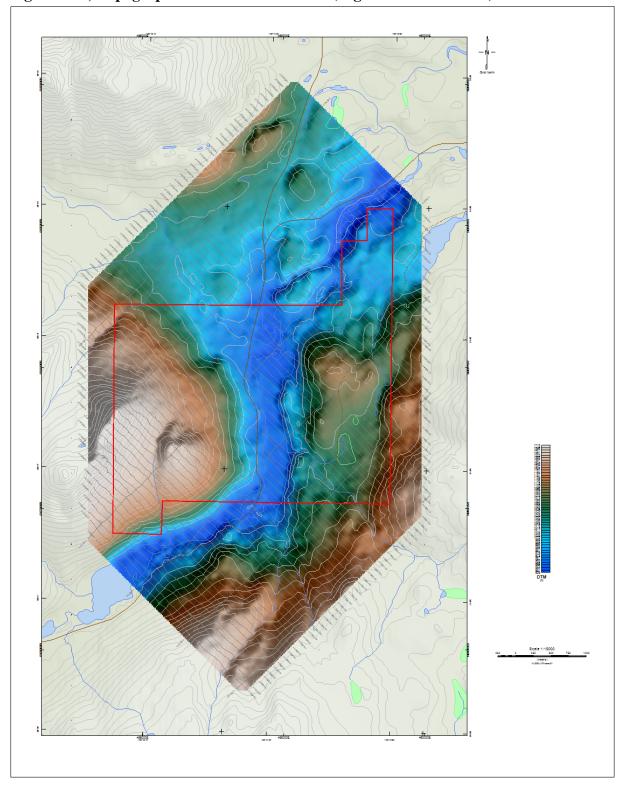
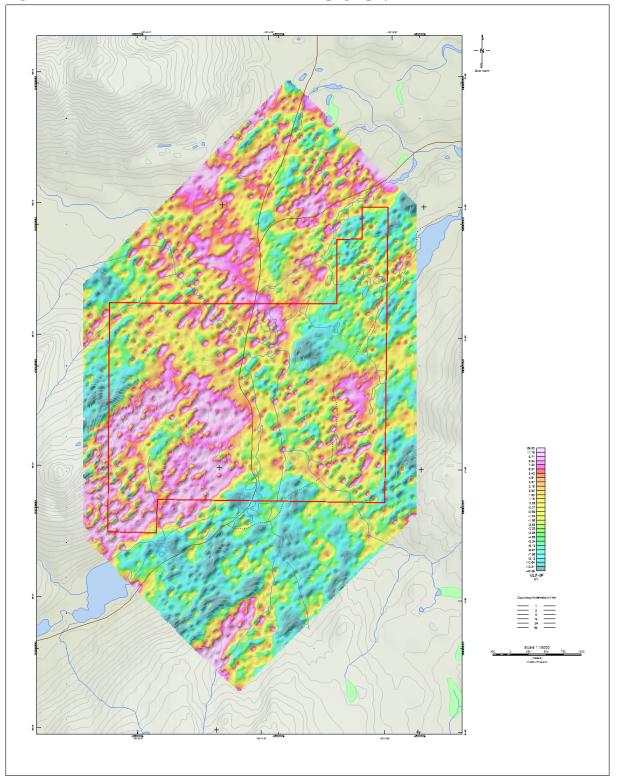
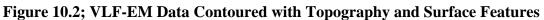


Figure 10.1; Topographic Contours with DTM (Digital Terrain Model)





However, the magnetic gradiometer data is highly effective, not only for clearly delineating the local geologic units but also extremely useful for identifying potentially mineralized structures and targets.

Figure 10.3 illustrates all of the units identified using the Total Magnetics Field Data namely, the east-west structures green dashed lines, north south structures in red dashed lines and north-east-south west in blue dashed lines. It is very evident that the predominately positive response is to the east of the geological contact in the black solid line and negative response to the west.

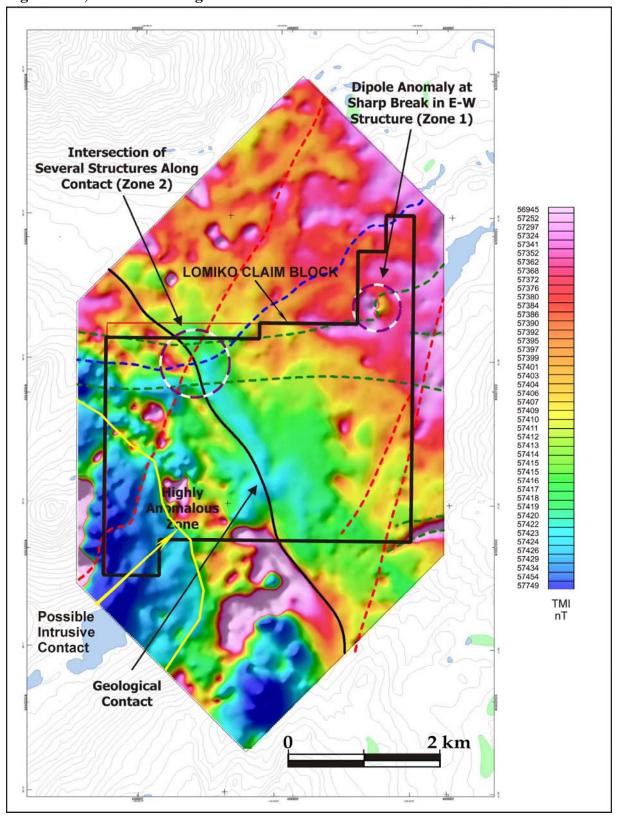
Therefore, the major identifiable structures in the claim block are the intrusive rocks of the Cassiar batholiths to the southwest as shown a solid line line and the autochthonous Cassiar Terrane shown a solid black line. In addition, two zones in particular stand out as higher priority exploration targets (see Figure 10.3) identified as Zone 1 and Zone 2.

Zone 1 occurs at the inflection point of an apparent offset in an east-west trending structure. At this inflection point, a strong (compared to surrounding) magnetic dipole occurs. In a hydrothermal environment, a "kink" such as this may disrupt fluid flow and result in the deposition of economic mineralization. This feature, located at 459069 E and 6565071 N, should be considered a target of interest and followed up with detailed surveys on the ground.

The second zone (Zone 2) of interest occurs in the area of the geologic contact between the autochthonous Cassiar Terrane and the Sylvester Allochthonous rocks in the general area of 456728 E and 6564381 N. This area has been flagged as a potential region of interest due to the intersection of several interpreted structures with the regional contact. The ASIG grid shows a few anomalous features within this area suggesting mineralized accumulations may exist at these intersections. This region should be followed up in order to better define the location of the contact and potentially sample any surface showings that may exist.

To the west of the geologic contact, there some very interesting magnetic anomalies that suggests the potential for a mineralized system adjacent to the intrusive complex. Further investigation is warranted. It is the authors opinion that, based on the Total Magnetic Field results combined with site knowledge, that there is potential for vein type or hydro-thermal mineralization on the east of the geologic contact in addition to the potential for mineralization related to an intrusive complex on the west side of the contact such as a porphyry or skarn related system.

In addition, there are a number of magnetic anomalies that lie adjacent and to the east of the batholith. Within the Cassiar Terrane these may indicate mineral accumulation of significance. These Highly Anomalous Zones warrant further investigation.





### SECTION 14.0 DATA VERIFICATION

The data referred to in relation to the Table Mountain Property has been verified by the author as Qualified Person for the Table Mountain Property for Hawthorne Gold Corp. The author has not verified the geophysical data supplied by the client from CMG Airborne however the author believes that this data is accurate and complies with industry standards and the author accepts this data as valid.

### SECTION 15.0 ADJACENT PROPERTIES

Adjacent to the east of the Vines Lake Property, Hawthorne Gold Corp. and Cassiar Gold Corp. own the majority of the mineral claims comprising the Table Mountain and Taurus Properties as illustrated in Figures 4.2 and 4.3. This report contains much information on the Table Mountain and Taurus Properties as the Vines Lake Property is underlain by the much of the same geology. In addition, Cassiar Asbestos is also in very close proximity and should be kept in mind whilst evaluating the potential of mineralization and deposits other than those focused on gold.

Figure 4.2 and 4.3 illustrates the close proximity of the Lomiko Claims to the Table Mountain Mine, Taurus Deposit and the Cassiar Asbestos Mine located immediately adjacent to the Cassiar Townsite. Figure 7.1 indicates the potential for high grade vein mineralization considering the close proximity of the adjacent Table Mountain property (i.e. 1–2 kilometers). In addition, the Lomiko Claims are directly on trend with the Cassiar Mine and shows excellent potential for intrusive related mineralization. The air-borne geophysics as shown in Figure 10.3 has been exceptionally effective in delineating targets which will be the focus of future studies.

#### 15.1 Chronology

The following Chronology was taken from "Update of Technical Report on the Table Mountain Property" (June, 2008) written by the author for the adjacent Table Mountain Property. Portions on the history of the Taurus Property have been extracted from Cavey et al. (2005) and the "Technical Report on the Taurus Deposit", (May, 2007) by Wardrop for Cusac Gold Mines Ltd.

The majority of historical exploration in the area of the Vines Lake Property has been focused on gold bearing quartz veins. Although there is potential for copper-gold, molybdenum or any intrusion related metal deposits on the Vines Lake property. Locally, Columbia Yukon Exploration Ltd. and Velocity Minerals Ltd. have successfully explored for porphyry and highgrade molybedenum. There has been no previous exploration recorded for this type of deposit on the Vines Lake property.

Placer gold was first discovered in the McDame area in 1874. The town of Centerville was established during the ensuing rush from placer workings on McDame, Snow, Troutline, and Quartzrock Creeks. The district developed into one of British Columbia's major placer camps; most of its production occurred between 1874 and 1895. The largest nugget discovered in British Columbia, 73 oz, came from McDame Creek, just downstream from the Table Mountain Property. Minor small-scale placer mining continues today. The total placer gold production from the area to date has been estimated at 108,000 ounces.

Although placer production in the district was significant, little was done prior to 1933 to locate lode gold deposits. In 1934, the first gold-bearing quartz veins were found in Quartzrock & Troutline Creeks and the first mineral claims were staked. A small exploration rush developed over the next few years as most of the near-surface, gold-bearing veins were discovered. The higher-grade portions of these veins were exploited by small-scale mining over the next forty years. At one point, half-a-dozen abandoned mill sites with capacities of less than 12 tons per day existed in the area.

The Vollaug vein was discovered in 1935 by John Vollaug and his partner Hans Erickson. Vollaug and Erickson also staked the Agnes and Jennie claims covering the original exposure of the Jennie vein in what is now known as the Main Mine area. Cominco completed a prospecting, trenching, and drilling program on the Vollaug vein structure in 1937. Around this time, an unknown group brought a small mill to the Jennie vein location and drove a short crosscut to the vein. No significant values were encountered and work was terminated. These early workers stopped only a few rounds short of a high-grade shoot on the Jennie vein.

Between 1942 and 1946, a prospector named Pete Hamlin exposed auriferous quartz veins in trenches in what is known as "The Pete". This area is located at the far south end of the original Table Mountain property in the Pooley Pass. Pete Hamlin introduced the Brett brothers to the Table Mountain and Pooley Pass areas in the late 50s. The Brett's staked several claim blocks in the area during this period. In the early 1950s, Silver Standard Mines Limited explored the Vollaug vein.

In 1973, Table Mountain Mines opened an adit and drove a decline on an ore shoot on the west end of the Vollaug vein based on results from the 1937 Cominco drilling and the Silver Standard work from the 1950s. They eventually followed up this work in 1977 with an adit extension and two raises which proved up an encouraging ore shoot within the Vollaug structure. They did not mine this ore shoot.

In 1974, David and Kristian Ross of the Agnes and Jennie Mining Company Limited, trenched and sampled the original high grade outcrop of the Jennie vein exposed on Erickson Creek. Subsequent drilling during 1975-76 defined a high-grade ore shoot within the structure. On January 1, 1977, the Ross's collared a portal at the 1350-meter elevation (35 Level) to test the vein by drifting along strike. By March 1978, Nu-Energy Development Corp. had become a 50% partner in the project. Underground development had defined a high-grade ore shoot with a reserve of 8,800 tons grading 1.55 oz/t Au\*. The Jennie vein eventually produced more than 62,000 oz Au from 113,000 tons of ore.

As noted, Cusac's interests in the area originated with the prospecting efforts of brothers Guilford and Fred Brett in the mid 1950s. These and other efforts, initially seasonal, eventually became full-time with the formation of Glen Copper Mines Ltd. in 1965. Glen Copper evolved, into Cusac Industries, to become Cusac Gold Mines Ltd. in 1995. Guilford Brett staked Cusac's key claims in the area in 1977.

In 1979, Cusac Industries Ltd. conducted a program of mapping, geochemistry, geophysics, and drilling on the Pete claim. A road was built into the area and three holes were drilled in 1980 with no significant intersections.

In 1980, Plaza Mining Corporation acquired the claims along the strike extension of the Vollaug vein to the east of the Table Mountain Mine property. They erected a 150-ton per day mill and commenced production from two small open pits. Esso, through a 5-year option agreement, explored portions of the area in the early 1980s. Exploratory work in the Main Mine area during 1981-82 defined a second significant gold-bearing structure, the Maura vein. Both the Jennie and Maura veins were developed down dip by a second adit at the 1280-meter elevation (the 28 Level). A third adit was driven at an elevation of 1210 metres (the 21 Level) to develop the Maura structure at greater depth. The Devine, Bear, Goldie, and Dease veins were discovered during this development.

In 1982, surface drilling resulted in the discovery of a third significant gold-bearing structure, the Alison vein, located in the footwall of the Maura and Jennie zones. In December of 1982, the Agnes and Jennie Mining Co. and Nu-Energy were amalgamated to form the Erickson Creek Gold Mining Co. (Erickson). Cusac Industries discovered the high-grade Dino vein and explored the Hot vein. Development of a crosscut, 300 feet of drift on the Hot vein and a raise to surface were completed. Low grades discouraged further work.

In September 1983, Plaza Mining Corporation went into receivership. Erickson acquired the Plaza assets, which included the mineral rights to the remaining known strike length along the Vollaug vein. Erickson started a new adit at the 1420-meter elevation, approximately 3 km east of the Main Mine workings to develop some of the reserves on the Vollaug structure. Known as the "Troutline", this adit had reached the vein by year-end. In the same year, Erickson also initiated work on a new adit below the Main Mine workings known as the 14 Level.

In 1984, the original mill capacity was expanded to 300 tons per day. This mill was subsequently destroyed in a fire in January 1986. A new mill was built and the mine was brought back into production in October 1986.

In 1984, Cusac optioned its claims to Erickson. Over the years, further mineral rights were obtained on adjacent ground by staking, purchase, and under option agreements. Then in 1985, Erickson discovered the Eileen vein, just south of the Dino vein, on the Cordoba claim. Drilling resulted in the definition of an economic ore body, which was developed via the Cusac Mine decline. Total Compagnie Francaise des Petroles, a French government-affiliated energy company, acquired operating control of Erickson Gold Mining Co. in 1985.

Ore production from the Eileen commenced during the summer of 1986. Underground mapping and drilling resulted in the discovery of the Michelle vein.

Prospecting conducted in 1987 uncovered the Katherine vein on the NuTara claim. The Katherine vein was the target of a subsequent percussion and diamond-drilling program.

In late 1987, an underground diamond drill program, testing east of the Eileen workings, discovered the vein system known as the Michelle High Grade zone (MHG). Attempts to further define the MHG from surface were ineffective. Definition drilling from underground was limited to available drill station locations as further development was halted by heavy

water flows. A preliminary estimate of the potential of this zone indicated 24,337 tons at a grade of 1.019 oz/T Au\*. These results encouraged Total Energold to embark on an ambitious exploration and development program.

A 2.5 km adit (the 10 Level) was collared in the fall of 1988 to investigate the MHG. At this point, reserves were depleted and production from the Cusac Mine and the Main Mine had ceased. Some production continued from the Vollaug through the end of the year. In late 1989, after completing 1.7 km of drift from the 10 Level adit, work was terminated due to unexpectedly high costs and heavy ground water flows.

In 1989, Erickson conducted an integrated program of trenching, mapping, geophysics, and diamond drilling in the Cusac area. The Bain vein was discovered and a small mineral inventory was defined via further trenching and drilling.

Surface exploration in 1990 resulted in discovery of the Christine vein and a mineralized zone on the Theresa vein in the Hunter area. The Christine Vein is located on the east flank of Table Mountain, and the Hunter area in which the Theresa vein is located is 7.6 km east of Table Mountain.

Additional geophysics, geochemistry and diamond drilling conducted in 1990 and 1991 resulted in the definition of two significant reserve blocks on the Bain vein.

In 1991, the West Bain contained a Drill Indicated Probable Reserve estimate of 34,741 tons grading 0.687 oz/ton (0.502 oz/ton Au cut to 2 oz/ton) totaling 23,881 ounces (17,423 ounces Au cut to 2 oz/ton). The East Bain Vein contained a Drill Possible Reserve estimate of 22,120 tons grading 0.565 oz/ton Au (no cut required), totaling 12,498 ounces Au. (Westervelt 1993). Both of these estimates are historical in nature and regarded as an order-of-magnitude because they do not follow the CIM Standards on Mineral Resources and Reserves (2000).

In April 1991, Total Energold elected to divest themselves of their North American mineral assets to focus on their oil and gas interests. All of the assets pertaining to the Erickson Gold operation near Cassiar were assigned to Energold Minerals Inc. and were subsequently purchased outright by Cusac Industries Ltd., free and clear of any royalties to Energold.

In 1993, Cusac reopened the Bain mine and 300 ton per day milling operation at Table Mountain with the main production target being the West Bain structure.

Some infill drilling was conducted on the West Bain Vein during 1993, which confirmed the initial estimate from 1991, and it was subsequently mined from 1994 to 1995 with production of 60,000 tons grading 0.4 oz/ton Au, totaling 24,000 ounces compared to the original estimate of 23,881 ounces uncut or 17,423 ounces cut. It is noteworthy that although there was a large increase in tonnage and a lower grade, a similar number of ounces were obtained, which is primarily related to mining dilution.

Also in 1993 limited surface exploration program was completed in an area to the west of the West Bain Vein and East of the Katherine Vein which resulted in the discovery of the

Bonanza zone. This zone is structurally complex and no resource has hence been defined. During this period the old Cusac Portal workings were reopened and examined. Remarkably, no water was encountered in the workings. The development of the 10 level had lowered the water table and drained the water that had prevented the former owners from developing the MHG.

Underground mining of the West Bain Vein was completed in July 1995, and crown pillar extraction, in August, of 1995.

The Bain Gap, an area between the East and West Bain blocks, was drill tested with inconclusive results.

Surface diamond drilling of the Katherine vein to the west of the Bain vein resulted in the definition of a small open-pit reserve. This block was subsequently mined.

In the summer of 1995 on the Van claims, I.P. surveying was completed designed to test for zones of low grade gold mineralization over broader widths amenable to bulk mining methods, similar to that being investigated at Taurus. Follow up drilling to this I.P. work did not yield any significant disseminated mineralization. The final hole on the Van claim, 95VAN-5, designed to test coincident weak geochemical anomalies and interpreted fault structures, intersected a quartz stringer yielding 1.679 oz/T Au over 0.2m.

During the development of the Cusac decline to the Michelle High-grade Vein (MHG), the Big Vein was defined and mined. Definition drilling of the MHG continued in May 1995. Mining of the MHG commenced in June 1995 from the top of, what proved to be, a complex faulted series of high-grade ore blocks. Sporadic production from this zone continued through 1997.

In January of 1995, Cusac entered into a joint venture agreement with Cyprus Canada Inc. (Cyprus), known as the Taurus Project. This project, involving a 40 square km group of claims in the northern portion of the property, regarded a mineralised zone straddling the boundaries of claims held by International Taurus Resources Inc. (Taurus) and Cusac. In August of 1996, after spending approximately \$3 million, Cyprus elected to withdraw from the Taurus project. Subsequent to Cyprus' withdrawal, Cusac entered into an option agreement with Taurus regarding the same group of claims. As a result of exploration completed by Cyprus and Taurus on the Taurus/Cusac project, Taurus geologists have estimated drillindicated and geologically drill-inferred resources of approximately 1 million ounces of gold at a grade of 1g/T gold\*. The bulk of mineralization on Cusac's portion of the project is in the inferred category. This low-grade, near surface, potentially bulk mineable resource is associated with shear zones and disseminated sulphide mineralization.

In early 1996, the 10 Level development, dormant since late 1989, began and was extended by 250m. Also in 1996, underground drilling at the Cusac Mine discovered the Lily vein, the eastern extension of the MHG. Mining of the Lily from the 1160m Level commenced in March 1996. The Lily was eventually mined between the 1130 and 1170 levels over a strike length of 150m. Underground drill testing of the ground north of the Lily resulted in the discovery of the Melissa structure. Access was driven but fault disruption of the structure rendered the vein sub-economic.

A compilation of Vollaug data undertaken in the summer of 1996 led to the re-evaluation of existing reserves and drilling of selected targets. Rehabilitation of the 57 (1570) Level portal and decline was undertaken and mining began in October of 1996. Mining from the 57 Portal was completed in February of 1997 and work commenced on rehabilitation of the 49 Level drift and production commenced in April 1997. Dilution, due to poor hanging wall conditions, and erratic grade distribution combined to result in lower than anticipated recovered grades. Lowered grade and low gold prices combined to make the zone sub-economic. The mining was halted in July 1997.

The Cusac decline was extended east between May and July of 1997 to permit drill testing of the Lily vein further to the east. This drilling yielded mineralized quartz vein with a significant result of 1.038oz/t over 0.5 metres is included in a weighted composite of 0.636 oz/t Au over 1.56 metres.

Also in 1997, an exploration drill program was undertaken to test the area east of the Erickson Creek Fault Zone (ECFZ) near the Main Mine. Initial attempts to follow up isolated intersections from previous drilling met with mixed results. Drilling the Bear vein extension, east of the Main Mine, resulted in the partial definition of a near surface ore shoot.

Between July and September of 1997, open-pit mining of an ore panel on the Vollaug vein in the Table Mountain Mine area, initially discovered by Cominco in 1937, and subsequently upgraded by drilling in 1996, was completed.

Portions of the Melissa and narrow vein sections of the Lily on the 1600 level were mined during September through November 1997.

An overburden trenching and vein sampling program was conducted in July and early August of 1998 on the Sun Claim. The objectives of this work were to expose the Bear Vein, intersected and partially defined by diamond drilling in 1997, and evaluate the lateral distribution and continuity of Au grade within the structure. A portion composed of 36m strike length exposed vein material which yielded a cut composite grade of 1.155 oz/T Au over an average vein width of 0.57m. Widely spaced diamond drill hole intersections suggested that this grade might carry 15m down-dip locally. The decision was made to extract and process a portion of the vein from surface to 6-7m down dip employing an air-track and 235 Excavator. Mining of this portion of the Bear Vein took place in late 1998 and 1999.

A surface diamond drill program was undertaken in the fall of 2002 which was designed to explore and further define the East Bain Vein that was initially intersected and partially defined by diamond drilling from 1989 to 1991. A total of 2,395 metres of drilling was completed in eleven NQ surface diamond drill holes.

An original NI 43-101 resource estimate on the East Bain Vein was reported by Cusac Gold Mines Ltd. which was subsequently updated by Hawthorne Gold Corp. The East Bain Vein on Table Mountain hosts an NI 43-101 compliant indicated resource estimate of approximately

17,000 ounces consisting of 22,157 tons at a grade of 0.77 oz/ton and an inferred resource consisting of 6,600 ounces consisting of 1,276 tons at a grade 5.19 oz/ton (please refer to: Update of Technical Report on the Table Mountain Property, Liard Mining District, BC on the Table Mountain Property prepared by Beacon Hill Consultants (1988) Ltd. - June 1, 2008).

In late 2008, Hawthorne completed a fifteen (15) HQ/NQ diamond drill hole exploration program at Table Mountain totaling 2,536 metres.

#### 15.2 **Taurus Gold Property Historical Exploration**

The Taurus Mine was originally covered by seven claims of the Cornucopia Group staked by J.C. Simpson in 1935. Simpson carried out stripping, trenching and rock sampling until 1944. The following year, Benroy Gold Mines Ltd. optioned the property and completed more than 700 meters of trenching and 1500 meters of diamond drilling.

The claims were restaked in 1959 by Couture and Copeman who hand-mined 25tons of highgrade gold ore from a short adit. In 1960, Cornucopia Explorations Ltd. was incorporated to acquire the property. The following year, Cornucopia changed names to Hanna Gold Mines Ltd. and proceeded with 1180 m of drifting and crosscutting, and 1000 meters of diamond drilling.

By the end of 1963, an "indicated reserve" of 72,500 tonnes grading 22.6 grams/tonne gold had been outlined (Gunning, 1988). The methodology and reliability of that resource figure has not been verified, and it is likely that mineral inventory was subsequently mined out. These resource estimates do not follow the required disclosure practices for reserves and resources outlined in NI 43-101. The resource estimates have been obtained from reliable sources and are relevant. No effort has been made to refute or confirm these estimates, and they are only stated here for historical completeness. The historical estimates are no longer relevant as they have been long since replaced with current NI 43-101 compliant resource calculations.

In 1964, Newconex Canadian Exploration Ltd. optioned the property and completed an additional 180 meters of drifting and crosscutting, and 210 meters of drilling.

In 1972, Hanna Gold Mines became Dorchester Resources Ltd. and rehabilitated and resampled the main 3600 level adit, and completed another 223 meters of underground diamond drilling between 1973 and 1975.

In 1978, Ashlu Gold Mines Ltd. optioned the property and completed 7.2 km of ground-based magnetometer and electromagnetic surveys. In 1979, United Hearne Resources Ltd. optioned the property and continued underground development and drilling, confirming a "reserve".

In 1980-81, a 135 tonne per day gravity float mill was constructed at the Taurus Mine. A CIP (Carbon Infiltration Process) circuit was added to the mill in the last few years of it's operation. Approximately 220,000 tonnes of ore were treated with an average grade of 5.14 g/t gold prior to closing in 1988.

During this time the Erickson Mine also maintained a similar operation, which is now known as the Table Mountain Mine, owned by Hawthorne Gold Corp.

The Taurus Property has three independent underground mine workings; Plaza, Sable and Taurus. The Plaza and Sable workings, south of the Cassiar Highway, were developed between 1980 and 1994 but recorded no production.

After the closure of the Taurus mine, several companies explored other mineralized areas of the property that were not actively explored during the time of operations. Geochemistry, geophysics, and more than 25,000 meters of drilling were completed between 1993 and 1997. Companies involved included Sable Resources Ltd., International Taurus Resources Inc., Hera Resources Inc., Cyprus Canada, Cusac Gold Mines, Navasota Resources in 2003, and again and finally Cusac Gold Mines in 2007.

In 1988, drilling in the 88 Hill area discovered the 1988-1 and 1988-2 vein systems. Hole 88-5 intersected 5.99 g/t over 12.34 meters and subsequently, a small open pit extracted 2,600 tonnes grading 2.06 g/t from the 1988-2 vein.

The 1994-drill program, completed by International Taurus, totaled 7,592 meters in 88 drill holes, predominantly on the north side of the Cassiar Highway, west along strike from the Taurus workings. This area is now known as the Taurus West zone. Drilling, mainly NQ size, encountered a mineralized zone locally over 200 feet in width, consisting of a quartz stockwork system in a broad zone of carbonate/pyritic altered basalt. An example of this mineralization is recorded in drill hole, 94-56 which intersected 1.6 g/t over 44.5 meters core length.

In March 1995 Cyprus Canada Inc. initiated an extensive diamond drilling program of 12,692 meters in 79 holes concentrated in the Taurus West, 88 Hill, and Taurus Mine zones. Four drill holes on section 1100W in the Taurus West area intersected long intervals of disseminated pyrite mineralization. Diamond drill hole T95-29 returned 2.47 g/t over 86 meters.

In late 2003, Navasota Resources Limited conducted a two-phase program consisting firstly of general geological compilation with some geochemistry, as well as limited remapping and relogging of specific core. Phase II consisted of a drill hole program made up of 13 NW holes totaling 1,974 meters in length. The holes were designed to test the zones identified in post-1994 work. In general terms, these results confirmed the results reported in previous programs on the Taurus Deposit. The zones intersected in the 2003 program do not seem to match up identically with those from previous work; therefore, more work is needed to understand the nature of the zones on the property.

Two NI43-101 Resource Reports have been published on the Taurus property, the latest being an update to the original resource estimate. As stated in the press release dated March 19, 2009 by Hawthorne there is a resource of 33.055 MT with 0.99 Au g/t grade at a 0.5 Au g/t cut-off.

# **15.3** Cassiar Asbestos Property History

In 1949, a GSC mapping crew first encountered the Cassiar asbestos deposit on McDame Mountain. A small 500 ton per day plant was built and in operation by 1952. The asbestos fibre produced was shipped from Whitehorse in the Yukon and all of the supplies for the mine were brought in along the Alaska Hwy to Cassiar. Eventually, Highway 37 was constructed between Stewart and Cassiar, which gave access to supplies from Smithers or Terrace. Chrysotile fibre ore was shipped from Stewart with backhauls of diesel for power and heat.

Between 1960 and 1992, Cassiar became the best infrastructure north of Stewart and west of Fort Nelson with the exception of Whitehorse. Unfortunately, the town was sold off when government loan guarantees were not extended and the mine was forced to close in February 1992.

More recently and directly related to the Vines Lake Property, a Helicopter Magnetic Gradiometer and VLF-EM survey, consisting of 327 line-kilometres, was started on July 12th, 2008 and was completed on July 22nd, 2008. The survey was completed by CMG Airborne and a final report was issued October 21, 2008.

There is no other reported exploration on the Vines Lake Property to date, with the exception of limited geological mapping done by Total Energold Ltd. in the late 1980's.

## 15.4 Production History of the Cassiar Gold Camp

The Cassiar Gold Camp is one of British Columbia's major placer districts with recorded production of about 74,500 oz of gold (2,317 kg) between 1874 and 1895 (Holland 1950).

The first hard rock production occurred in 1934 when one ton of rock, containing four ounces of gold, was shipped out. In 1939, 114 oz (3.5 kg) of gold were recovered from 130 tons of rock taken from the Jennie Vein. During the 1940's, 1950's and 1960's, a maximum of 100 tons of ore was mined from the main deposits in the camp (Diakow and Panteleyev 1981).

The largest producer in the camp, the Main Mine, was in operation from 1979 until 1988. Approximately 150,000 oz (4,666 kg) of gold were produced from the Jennie-Maura-Alison and Bear Vein systems in the Main Mine (Glover 1998). The Vollaug Vein was mined from various open pits and underground workings between 1980 and 1997. Approximately 50,000 oz (1,555 kg) of gold was produced from this structure. Mining commenced in the Cusac Mine on the Eileen-Michelle-Lily Vein system in 1986, and continued until 1997, with about 90,000 oz (2,799 kg) of gold produced. Production from the Bain Vein system spanned the period from 1993 to 1995, and totaled 24,000 oz (746 kg) of gold (Glover 1998). Surface production from the Bear Vein in 1998 totaled approximately 1,000 oz (31 kg) of gold. The recorded production from the entire Cassiar Gold camp totals about 423,500 oz (13,172 kg) of gold.

The Taurus Mine operated between 1981 and 1988, and it produced 35,000 oz (1,089 kg) of gold (Trenaman 1997). A small amount of this production came from the Plaza Mine and open cuts on 88 Hill.

Previous operators of the Table Mountain Property report production figures of 226,900 oz Au and 167,054 oz Ag from 572,411 tons of ore at an average recovered grade of almost 0.40 oz/T Au and 0.29 oz/T Ag for the period 1978-1988. The bulk of this production came from the Alison, Jennie, and Maura veins in the Main Mine area and the Eileen and Michelle veins at the Cusac Mine. The Vollaug also contributed to this production. Between 1994 and 1997, Cusac produced 59,619oz Au from 112,155 tons of ore milled for an average grade of 0.55 oz/t Au. This production came from the Big, Michelle High-grade, and Lily veins at the Cusac Mine, the West Bain Vein, the Vollaug Vein, and from the Katherine Vein open pit.

In late 2006 and 2007, Cusac mined the Rory Vein in the north end of the Main Mine and produced 651 ounces of gold from 6,515 tons for an average grade of 0.10 oz/t.

Total hard rock production from the Table Mountain Property to date stands at 315,651 oz Au.

A summary of gold production from major vein systems in the camp is given in Table 6.1 below.

Vein System or Area	Tons (X 1,000)*	Head Grade (oz/ton)*	Ounces Au*	Year Mined
<b>Table Mountain Property</b>				
Jennie-Maura-Alison & Bear	300	0.5	150,000	1979 - 1988
Eileen-Michelle-Lily	150	0.6	90,000	1986 - 1997
West Bain	60	0.4	24,000	1993 - 1995
Vollaug	170	0.3	50,000	1980 - 1997
Bear			1,000	1998
Rory	6.5	0.1	651	2006 - 2007
Total		315,651		
Taurus Property	320	0.12	35,000	1981 - 1988
McDame Creek Placer	N/A	N/A	74,500	1874 - 1988
Total Cassiar Gold Camp			425,151	

### Table 15.1; Cassiar Gold Camp Historical Gold Production

\*Approximate values obtained from internal company records

\* It should be noted that the resources and reserves utilized within this section are historical and not related directly to the Lomiko Claims however this information is important to report from the standpoint that the Lomiko Claims lie within the district and the camp. Furthermore, the author believes that these estimates were calculated using valid estimation techniques and were done in a professional manner. Exact documentation is not available as to the precise date and author which is typical in an operating mine environment as the resources and reserves are commonly estimated by staff geologists. These resources and reserves are given only for historical context and should not be relied upon for any purpose.

No information on adjacent properties to the west was discovered by the author.

## SECTION 18.0 OTHER RELEVANT DATA AND INFORMATION

The Government of British Columbia appears to be proceeding with the electrification of the Highway 37 corridor. It is unclear at this point how far this development and infrastructure will proceed north and the time-line has not been set however, this development would certainly benefit the project if it proceeded to Dease Lake and beyond.

# SECTION 19.0 INTERPRETATION AND CONCLUSIONS

The author concludes that the Vines Lake Property hosts significant potential for discovering new mineral showings. Lomiko's claims that comprise the property covers prime exploration ground along the intrusive/volcanic contact of the Cassiar Batholith and the Cassiar Terrane and the contact between the autochthonous rocks of the Cassiar Terrane and the allochthonous rocks of the Sylvester Allocthon. These rocks are known to host mineral resources and reserves and significant mineralized showings in the immediate area. There has been very little exploration to date in this area focused on these contact rocks.

Figure 10.3 illustrates, very clearly, the potential on the Lomiko Property. The Total Field Magnetics has delineated two high interest areas and priority which must be followed up with detailed surveys as reported in the following section. Section 8.0 details the Deposit Types that an exploration program should focus on. It is clear there is significant potential for high grade vein type gold mineralization as shown in Figure 10.3 as Zone 1 and Zone 2. In addition, the anomalies that exist between the geological contact and the intrusive contact indicate the potential for larger tonnage, polymetalic mineralization that should also be investigated.

A further work and exploration program are warranted in the author's opinion.

## SECTION 20.0 RECOMMENDATIONS

Geological mapping, soil and lithogeochemistry surveys, trenching programs and diamond drilling programs will help to bring any potential mineralization into focus. Follow-up ground geophysics will help further define broad airborne anomalies.

Detailed geological mapping on GPS north-south oriented lines at 200 meter spacing is of utmost priority to accurately locate the Cassiar batholith, Cassiar Terrane and the Sylvester allochthonous rocks and their associated relationships and potential mineralization. The primary areas to concentrate on will be the Table Mountain Thrust contact between the metabasalts in the lower thrust sheet and the metasediments (argillites) of the middle thrust sheet. This is the thrust along which the Table Mountain auriferous quartz veins are known to be associated. The other area of primary exploration interest is the Cassiar Batholith and its contact with the Cassiar Terrane in the southwest portion of the property.

Figure 10.1, illustrates the location of two priority targets interpreted by the CGM Airborne Helicopter Magnetic Gradiometer & VLF-EM survey using airborne geophysics identified as Zone 1 and 2. Follow-up ground EM and Magnetometer surveys on 100 meter line spacing will help to further define potential anomalously mineralized zones.

Some of the northern portions of the claims were covered by a Lidar Survey (Light Detection And Ranging) completed for Cusac Gold Mines in 2006 by Terra Remote Surveying out of Victoria, B.C. These photos may be available for purchase from Hawthorne Gold Corp. and would assist in the structural interpretation in that area.

Table 20.1 below, outlines a two phase budget for the 2009-2010 Exploration seasons. Note that this is based on a phased approach which includes the current field season. This also includes the first and most necessary step of geological mapping and the completion of a geochemical survey followed by a litho-geochemical study and trenching program to delineate targets. In addition, the author has included the option of performing ground geophysics to focus in on targets if the on-site geology staff feels it will enhance targeting. Furthermore, the author has included the option of a 2,000 meter drill program to test targets once the above has been completed.

Lastly, the budget makes allowance for the compilation of data from the 2009 season and the planning necessary for the 2010 exploration season.

Phase I - 2009 Field Season – Geology and Geochemistry		Totals
1. Acquisition and Compilation of all GIS data available	\$20,000	
2. Detailed Geological Mapping (40 days, 2 Geologists, 2 Techs)	\$100,000	
3. Soil geochemistry Survey, 25m spacing, 200m spaced lines-1,920 samples (survey to be completed in conjunction with mapping)	\$30,000	
4. Support costs for 4 -5 people (food, lodging, 1st aid, vehicle, equipment)	\$35,000	
Total	\$185,000	
2009 Follow-up Program (post soil & lithogeochem results)		
1. Follow-up Lithogeochemistry, mapping	\$10,000	
2. Follow-up Trenching	\$30,000	
3. Data Compilation, Report Writing, Assessment Filing	\$16,500	
Total	\$56,500	
2009 Ground Geophysics Option		
1.Ground IP and Gravity Survey	\$100,000	
2.Geophysical Processing and Interpretation	\$30,000	
3.Data Compilation, Report Writing	\$20,000	
Total	\$150,000	\$391,500
Phase II - 2009-2010 Drilling Program Option		
1. 2,000 meters HQ Drilling (incl. Mob and Demob)	\$400,000	
2. Support Costs	\$15,000	
3. Geologist and Tech Support	\$25,000	
4. Assaying	\$25,000	
Total	\$465,000	
2009-2010 Office Program	, , , , , , , , , , , , , , , , , , ,	
1. GIS Data Compilation and 3D Modeling	\$20,000	
2. Geology Staff	\$40,000	
3. Geological and Geophysical Interpretation	\$30,000	
4. Data Compilation, Report Writing, Assessment Filing	\$25,000	
Total	\$115,000	\$580,000
Grand Total	\$971,500	\$971,500

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## SECTION 22.0 DATE AND SIGNATURE PAGE

This report is effective April 30, 2009.

The undersigned have prepared this report in accordance with National Instrument 43-101F1 guidelines for Technical Reports.

Prepared by:

Signed

Garth Kirkham

April 30, 2009

Date

April 30, 2009

### SECTION 23.0 ADDITIONAL REQUIREMENTS FOR TECHNICAL REPORTS ON DEVELOPMENT PROPERTIES AND PRODUCTION PROPERTIES

Information regarding Mining Operations, Recoverability, Markets, Contracts, Environmental Considerations, Taxes, Capital and Operating Cost Estimates, Economic Analysis, Payback, and Mine Life are beyond the scope of this report.