

## **2010 SOIL GEOCHEMICAL ASSESSMENT REPORT**

on the

### **MARIPOSA PROPERTY**

*Owned by Pacific Ridge Exploration and Optioned from G. Richards*

#### **QUARTZ CLAIMS**

**Cigar 1-12 (YC63021-YC63032)**

**Rum Run 3-13 (YC17660-YC17670)**

**Rum Run 1,15,17,19 (YC17658, YC17672, YC17674, YC17676)**

**Rum Run 43-45 (YC20214, YC36188, YC20216)**

**Rum Run 46-49 (YC36189, YC20218, YC36190, YC20220)**

**Rum Run 53-58 (YC20222-YC20227)**

**Rum Run 21-24 (YC20192-YC20195)**

**Rum Run 25-36 (YC20196-YC20207)**

**Rum Run 37-40 (YC20208-YC20211)**

**Toluamide 1-22 (YC75987-YC76008)**

**Toluamide 23-58 (YC76009-YC76044)**

**Toluamide 59-64 (YC76045-YC76050)**

**Toluamide 65-138 (YD12601-12674)**

**Toluamide 139-143 (YD12675-YD12679)**

**Dora 1-12 (YD08187-YD08198)**

**Flora 1-36 (YD08101-YD08136)**

**Gertie 1-4 (YD08141-YD08144)**

**Gertie 5-16 (YD08145-YD08156)**

**Gertie 17-20 (YD08145-YD08156)**

**Gertie 21-46 (YD08157-YD08186)**

**Claim Sheets No 115O/01, 115O/02, 115J/15 and 115J/16**

**Latitude 63° 00' N, Longitude 138° 32' W**

**Dawson Mining District, Yukon**

**For Work Performed between June 15<sup>th</sup> and August 24<sup>th</sup>, 2010  
conducted by Future Metals Inc.**

*by*

*Janice Fingler, P. Geo.*

*February 21<sup>st</sup>, 2011*

## TABLE OF CONTENTS

	<b>Page No.</b>
<b>SUMMARY</b>	<b>4</b>
<b>INTRODUCTION</b>	<b>6</b>
<b>LOCATION AND ACCESS</b>	<b>6</b>
<b>CLAIMS</b>	<b>7</b>
<b>HISTORY</b>	<b>9</b>
<b>REGIONAL GEOLOGY</b>	<b>10</b>
<b>LOCAL GEOLOGY</b>	<b>11</b>
<b>PREVIOUS WORK</b>	<b>14</b>
<b>2010 SOIL GEOCHEMICAL PROGRAM</b>	<b>17</b>
<b>2010 PROGRAM RESULTS</b>	<b>18</b>
<b>CONCLUSIONS and RECOMMENDATIONS</b>	<b>22</b>
<b>REFERENCES</b>	<b>24</b>
<b>CERTIFICATE OF QUALIFICATIONS</b>	<b>25</b>

## LIST OF TABLES

<b>Table 1 2010 Soil Sample Results-Summary Statistics</b>	<b>19</b>
<b>Table 2 2010 Soil Sample Results-Correlation Coefficients</b>	<b>20</b>

## LIST OF APPENDICES

<b>Appendix 1 Statement of Costs</b>
<b>Appendix 2 Listing of Contractors and Service Providers</b>
<b>Appendix 3 Mariposa Property Claim Holdings</b>
<b>Appendix 4 Analytical Certificates</b>

## LIST OF FIGURES

<b>Figure 1</b>	<b>Property Location</b>	<b>7</b>
<b>Figure 2a</b>	<b>Property Claim Holdings</b>	<b>8</b>
<b>Figure 2b</b>	<b>Property Claim Holdings-Detail</b>	<b>in pocket</b>
<b>Figure 3</b>	<b>Local Geology</b>	<b>12</b>
<b>Figure 4</b>	<b>Soil Sample Locations and Certificate Index</b>	<b>in pocket</b>
<b>Figure 5a</b>	<b>Soil Geochemical Results-Gold</b>	<b>in pocket</b>
<b>Figure 5b</b>	<b>Soil Geochemical Results-Molybdenum</b>	<b>in pocket</b>
<b>Figure 5c</b>	<b>Soil Geochemical Results-Copper</b>	<b>in pocket</b>
<b>Figure 5d</b>	<b>Soil Geochemical Results-Bismuth</b>	<b>in pocket</b>
<b>Figure 5e</b>	<b>Soil Geochemical Results-Silver</b>	<b>in pocket</b>
<b>Figure 5f</b>	<b>Soil Geochemical Results-Antimony</b>	<b>in pocket</b>
<b>Figure 5g</b>	<b>Soil Geochemical Results-Arsenic</b>	<b>in pocket</b>
<b>Figure 5h</b>	<b>Soil Geochemical Results-Mercury</b>	<b>in pocket</b>
<b>Figure 5i</b>	<b>Soil Geochemical Results-Barium</b>	<b>in pocket</b>
<b>Figure 5j</b>	<b>Soil Geochemical Results-Thorium</b>	<b>in pocket</b>
<b>Figure 6</b>	<b>Compilation of 2010 Soil Geochemical Results</b>	<b>in pocket</b>

## SUMMARY

The original Mariposa Property (“Mariposa”), which was acquired in September 2009, by way of an option agreement with the Tintina Syndicate (“Tintina”), granted Pacific Ridge the right to earn a 100% interest subject to a 2% NSR through making cash and shares payments. With the success of the 2010 YMIP supported exploration program, Pacific Ridge expanded the property to comprise 967 mineral (quartz) claims covering an area of approximately 265 square kilometers.

The property is located 120 kilometres southeast of Dawson City, Yukon. It is also 15 kilometres southeast of the Underworld/Kinross Whitegold discovery and 12 kilometres east-northeast of Kaminak’s Coffee property. The quartz claims held by Pacific Ridge now cover a 30 x 10 km area which lies within a regional major northwest trending structural corridor which hosts numerous gold and copper deposits.

The local geological setting of the Mariposa Property is analogous to the Whitegold style of gold mineralization, in the host lithologies and brittle style of deformation. Prior exploration identified an open-ended 7 kilometres long horizon of altered sulphide bearing quartz mica schist. This unit is locally flanked by intrusive and mafic rock units, a setting favorable for hosting a gold-mineralizing system.

Prior geochemical soil sampling at the western exposed end of the host schist has defined an open ended 2 kilometre long gold-in-soil anomaly containing values above 20 ppb gold and ranging up to 1300 ppb gold. Additional soil sampling by Tintina also outlined a second open-ended gold target, measuring a kilometer square and overlying nearby intrusive rocks. Samples collected from bedrock exposed by placer mining have returned gold values up to 3 grams /tonne from sulphide-bearing rocks.

All streams draining the Mariposa property are known to contain placer gold, of which Scroggie Creek has had a long history of placer gold production which continues today. The placer miners recovered rough, pristine gold nuggets (“hackly gold”), in the headwaters of Mariposa Creek. This may suggest the presence of nearby lode gold sources. Within Geological Survey of Canada Current Research Report 2003-A1, it is noted that “The fragility of the pristine gold crystals system is, consequently, a source on adjacent hillsides is suggested “.

The Mariposa Property has seen placer mining for over 100 years and sporadic prospecting, geochemical sampling and minor geophysical work over the past 12 years directed to exploring for the bedrock gold source. The exploration work has been on a limited scale utilizing ridge and spur prospecting and geochemical sampling (rock, soil and silt) and more recently with several localized soil grids throughout the claims.

During 2010, in preparation for establishment of future drilling and trenching targets, auger soil sampling was conducted over a 9 x 3 km grid centered on a south facing slope to the immediate north of Mariposa Creek. A total of 2952 samples were collected over the grid area. This report presents all of the results of the program; however, only the costs of soil sampling program up to August 24<sup>th</sup> are relevant for this assessment filing. Related costs of \$168,167 from these activities have been applied to 297 quartz claims (Group 1-277 claims, Group 2-20 claims) for credits of 1151.75 and 81 claim years, respectively.

During the program, encouraging soil geochemical results were received. As a result, the company was able to secure additional financing, expand the soil program and initiate trenching. The geochemical survey detected seven multi-element targets for followup: Skookum Jim, Skookum Extension, Big Alex, Maisy May, Gertie, Hackly Gold and NW Hackly. The most prominent of these targets, Skookum Jim and its extension, is a 3500m long x 600m wide gold and multi-element trend which remains open. Peak gold-in-soil results returned up to 1540 ppb. This target was largely blind before this survey. A single MMI line to the west was anomalous.

## **INTRODUCTION**

This report is written for assessment reporting purposes, to fulfill tenure obligations of selected claims of the current Groups 1 and 2 of the Mariposa Property.

The 2010 auger soil sampling program on the Mariposa property was supported by grant funds made available through the Yukon Mining Incentives Program (YMIP). The survey covered an approximate 8 km long by 4km wide area which was centered on the south facing slope of Mariposa Creek and straddled the north-south trending valley of Scroggie Creek. Up to the date of this work period (August 24<sup>th</sup>, 2010), 2100 of a total of 2952 grid soil samples had been collected and submitted for analysis. For ease of interpretation, the results of all the grid samples are presented in this report. The collection and analysis of the additional 852 grid samples will be formally reported and applied for credit with other activities, in a subsequent report.

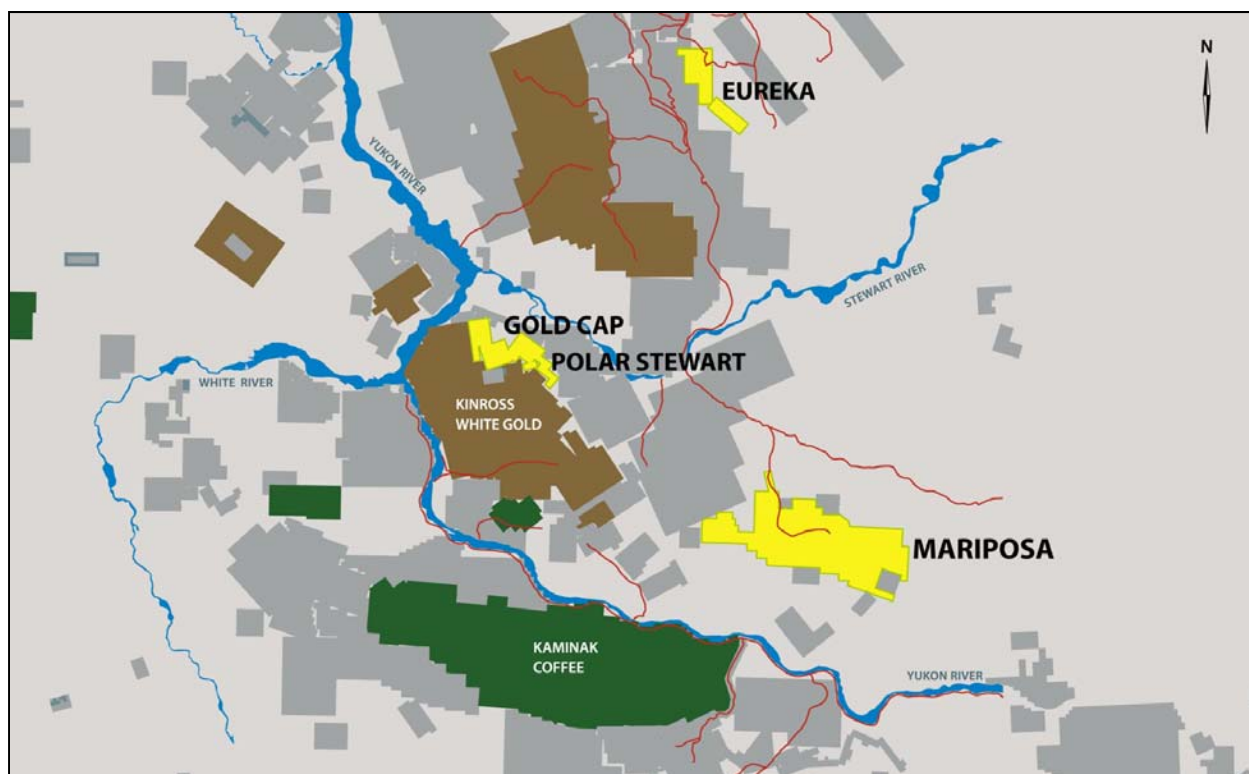
Access challenges resulted in approximately 2952 samples being collected, including soil samples collected from later trenched areas. With the positive results from the soil samples, however, the program changed scope and trenching was used to test the new anomalies.

## **LOCATION AND ACCESS**

The Mariposa Property is located 120 km south of the Dawson City, Yukon, in the area of four NTS topographic mapsheets: 115O/1 & 2, 110J/15 & 16 (Figure 1). The property is accessible by fixed-wing aircraft from Dawson City or Whitehorse, to a 750-meter long north-south airstrip located beside Scroggie Creek, in the west-center of the claims. The property is also accessible in summer by ATV from Pelly Farm on the north side of Pelly River, 40 km west of Pelly Crossing and south along Scroggie Creek. Access by ATV is possible along existing placer mining roads which flank Scroggie and Mariposa Creeks.

The property lies within an unglaciated portion of the Yukon Plateau. The topography is moderate, with low sinuous plateaus cut by narrow valleys and creeks that drain into broader flat-bottomed valleys of Scroggie and Mariposa Creeks. These drainages are lined with gravels of past and present placer mining workings. Elevations in the area range between 3000ft (915m) and 3800 ft (1150m) above sea level. The south-facing slopes are moderately treed with spruce and lesser poplar, while the north-facing slopes grasslands are sparsely treed with dwarf spruce. Permafrost is limited to north-facing slopes and valley bottoms. Much of the property was burned during the 2009 forest fire.

There is less than 5% outcrop exposed on the property. Recent soil sampling in the Mariposa Grid area indicates that overburden is relatively shallow at <1 metre (generally 20-60cm). Much of the central Yukon is covered by a blanket of volcanic ash and tephra that resulted from recent (up to 1147 Ma ago) eruptions in Alaska.



**FIGURE 1: Mariposa Property Location**

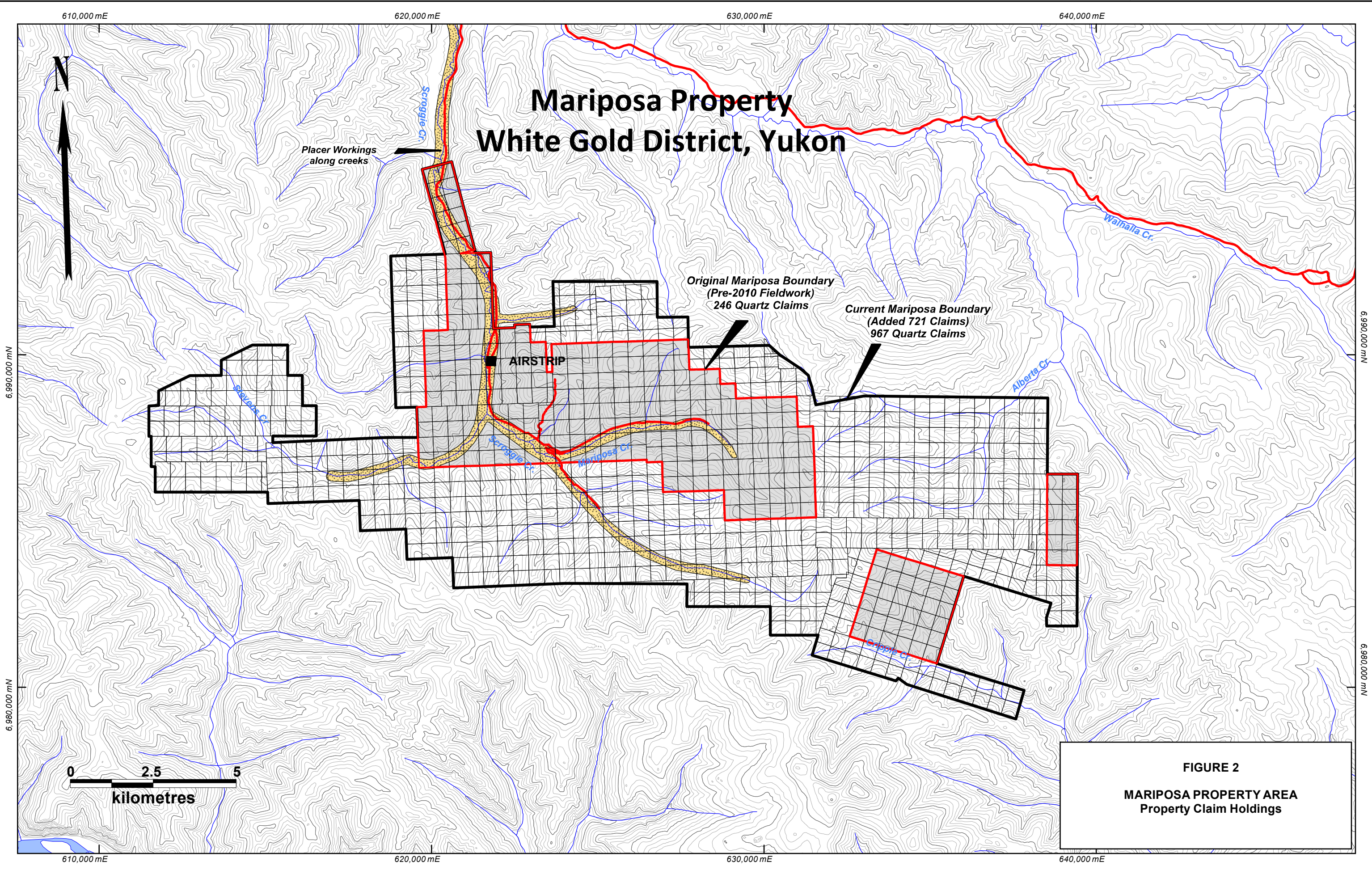
## **CLAIM HOLDINGS**

At the beginning of the 2010 field season, the Mariposa property consisted of 246 quartz claims. The property then included the 200 original claims optioned from Gordon G. Richards (Tintina Syndicate) on September 17, 2009, and an additional 46 claims added to the property by Pacific Ridge, in September 2009. The property was then comprised of four claim series: 12 Cigar (# 1- #12 inclusive), 45 Rum Run (#1 to #58 not inclusive), 143 Toluamide (#1 - #143 inclusive) and 46 Gertie claims (#1 - #46 inclusive). The 2010 soil sampling program reported on in this report was conducted within these original claim holdings. With the receipt of encouraging soil results during the summer of 2010, Pacific Ridge expanded the Mariposa property by staking, to a total of 967 quartz claims covering an area of 265 sq kilometers.

Figure 2a is a summary of the current claim holdings for the Mariposa property, as well as the original claim group. The claim group to which this assessment work has been applied is also indicated. Figure 2b provides further detail with relevant grant numbers for the claims. A complete claim listing is presented in Appendix 3.



# Mariposa Property White Gold District, Yukon



**FIGURE 2**  
**MARIPOSA PROPERTY AREA**  
**Property Claim Holdings**



## **HISTORY**

*(Adapted from Gordon G. Richard's Jan 27, 2010 Geochemical Report on the Mariposa Property and G. Norman's 2010 YMIP proposal for the Mariposa Property)*

Placer gold was first discovered in 1898 in Scroggie and Mariposa Creeks and was extensively mined by hand with the aid of steam boilers and points in the early 1900's (Refer to GSC Memoir 97). Two small cuts were mined by tractor, equipped with cable dozer blade in the mid-1950s and caterpillar mining began in 1980 initiated due to high gold prices and has continued uninterrupted until today. Although early records have not been thoroughly researched, approximately 100,000 ounces of gold with a fineness of 905 has been produced from Mariposa and Scroggie Creeks.

A granite batholith mapped by H S Bostock in 1935-37 and shown on GSC Map 711A, Ogilvie, occurs north of the area of placer mining. Schists and gneisses of the Yukon Group underlie the placer mining area. A large body of pyroxenite underlies Pyroxene Mountain to the northeast.

During 1988, mining cuts along Scroggie Creek downstream from Stevens Creek yielded abundant arsenopyrite crystals in the sluice-concentrates over about 300 meters. No source for the arsenopyrite was ever found during the course of excavation for placer mining. In 1990 a black-sand sluice-concentrate, with coarse gold recovered, was analyzed by Chemex Labs for multi-element analyses to determine if other significant metals that might be present in the Scroggie drainage. This concentrate was highly anomalous for several elements including Au, Ag, Bi, Pb, W and Sn. which are indicative of intrusion-related gold deposits. Pt and Pd values were also anomalous. Common minerals found in sluice concentrates include gold, magnetite, garnet and kyanite.

Over 100 WINE and FISH Quartz Claims were staked in 1987 over the area encompassing the significant placer gold production area described above. A weak gold anomaly was described in soils north of upper Mariposa Creek. Quartz veins staked in 1917 are described as being located along Mariposa Creek in this same area (Minfile O-075). Other Minfile occurrences, in the general include a copper-molybdenum occurrence in upper Scroggie Creek, a uranium occurrence in upper Stevens Creek and a PGM-gold occurrence near Pyroxenite Mountain.

Gordon Richards initiated prospecting the area in 1999 and staked the RUM RUN 1-20 quartz claims in Sept 1999. The following gives a summary of work by Gordon Richards from June 2000 to 2006 on the RUM RUN claims: June 2000: Prospected the general area, conduct representation work on the RUM RUN 1-20 and staked the RUM RUN 21-50 and 53-59 and completed a preliminary examination; July and August 2001: Geochemical sampling, mapping and a VLF – EM geophysical survey was conducted over a portion of the claims; July – August 2003: Magnetometer surveys were initiated in three separate areas and some limited geochemical surveying; Summer of 2005: Infill magnetometer surveying near the south end of the Scroggie airstrip and additional magnetic survey work on the east side of the property. A VLF-EM survey was initiated to locate Scroggie fault; Summer 2006: An

orientation MMI soil survey was completed along selected lines throughout the property. A large portion of the exploration work completed by Gordon Richards has been with the assistance of YMIP grubstake and target evaluation grants.

In 1988, D. Waugh completed work on the Fish 49-62, 81-94 and Wine 25- 57 claims. Most of the work (prospecting and rock sampling) was completed on the FISH 94 claim in an area at the intersection of two structural lineaments. During 2001 Vern Matovitch and Tom Morgan completed prospecting and geochemical rock, soil and silt sampling on the Wolf 1-42 and Pyrex 1-4 claims.

In 2009, Gordon Richards completed geochemical soil sampling and rock sampling was completed over selected areas within the Toluamide 1-64 claims.

## **REGIONAL GEOLOGY**

The Mariposa Property is located within the Yukon Tanana Terrane (YTT), within the Intermontane physiographic belt of the northern Canadian Cordillera (Colpron, 2006; Nelson and Colpron, 2007). The YTT terrane includes a broad area of the Yukon and east-central Alaska, and is bounded to the northeast and southwest by the regional scale Tintina-Kaltag and Denali-Farwell dextral strike-slip fault systems.

During the late Paleozoic to early Cenozoic, continental scale subduction accreted a collage of island arc, oceanic, and older pericratonic terranes of the Canadian Cordillera to the western margin of the North American craton. The polydeformed and metamorphosed metasedimentary and meta-igneous rocks of the YTT are considered by Colpron (2006) to be pericratonic in origin, with source regions from the older craton to the east.

According to Colpron (2006), the Yukon Tanana Terrane consists of four unconformity-bounded tectonic assemblages: the basal siliciclastic Snowcap Assemblage, and three volcanic and volcanoclastic sequences of the Upper Devonian to Upper Mississippian Finlayson Assemblage, the Mid Mississippian to Lower Permian Klinit Assemblage and the Mid to Upper Permian Klondike Assemblage. A coeval oceanic sequence of chert, argillite and mafic volcanic rocks of the Slide Mountain Terrane is preserved discontinuously along the eastern margin of the YTT. A sequence of immature fine grained clastic rocks and polymictic conglomerate of Permian to late Triassic age overlie the strata of the Yukon Tanana and Slide Mountain Terranes, as well as the Selwyn basin to the east.

The products of multiple intrusive events, ranging from large batholiths to metre scale, dykes, cut the entire stratigraphic succession. These magmatic episodes are associated with penetrative deformation and metamorphic events ranging in age from late Paleozoic to Tertiary.

## LOCAL GEOLOGY

*(Derived from Gordon G. Richard's Jan 27, 2010 Geochemical Report on the Mariposa Property)*

The geology of the Mariposa property area has been only partially mapped by the Geological Survey of Canada. Figure 3 is a general compilation of the local geological units. Additional details are derived from G. G. Richards:

“The large granitic body exposed on either side of Scroggie and Walhalla Creeks is a coarse white granite near the junction of these creeks but, farther south and east, is more nearly a granodiorite and carries large pink feldspar crystals. Along its southern contact is a zone composed mainly of hornblende and pink feldspar. The body contains numerous xenoliths of the Yukon Group and innumerable pegmatitic intrusions that, in places, make up fully 30 percent of the volume of the rock.” (H.S. Bostock, 1942, Map 711A, OGILVIE). Mr. Jim Ryan and others of the Geological Survey of Canada have recently remapped some of the batholith and adjacent areas throughout the Stewart Map Sheet. Based on initial mapping of part of the batholith, Mr. Ryan describes the batholith as a composite intrusive complex with many phases often with diffuse contacts with country rock (personal communication). The area described in this report lies along the southern contact of this batholith. “Granite” in this area contains pink feldspar phenocrysts up to two cm long, plagioclase and quartz. It is often foliated and contains hornblende and lesser biotite of 10 to 20 percent. This fits with Bostock’s description of the granodiorite, which term is used throughout this report.








A stock of “granite”, separated from the main batholith by three to five km of metamorphic rocks is a coarse-grained, moderately foliated granite composed of one-half cm long quartz grains set in coarse to medium-grained pink feldspar with five to ten percent variably chloritized hornblende and biotite. About 20 percent of the feldspars are white. Mafic biotite-hornblende rich xenoliths are common locally.

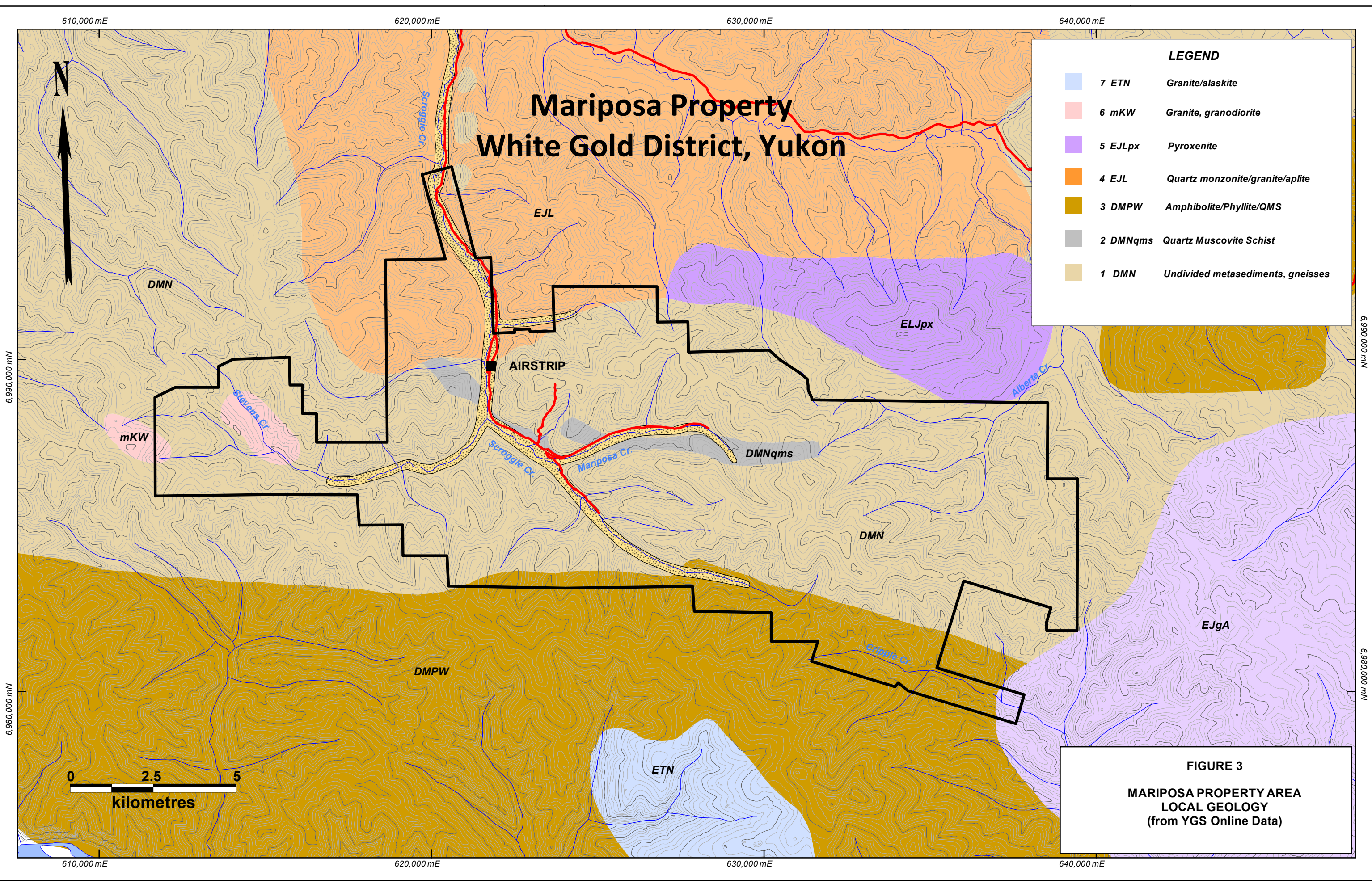
A large poorly defined body of pegmatite occurs northwest of the airstrip within the granite batholith. This may be a single large body or more likely an area of intense dyking (see below). It measures three by four km as defined by chips in soil pits, float in creeks, boulders on hillsides and a few outcrops. Dykes of pegmatite can be seen cutting granodiorite outcrop near the miner’s camp and along adjacent Scroggie Creek. Pegmatite is typically comprised of 20 – 30 percent quartz, 50 percent Kspar, 20 percent plagioclase and <5 percent biotite plus muscovite. Miaryolytic cavities are present but rare. Pegmatite can also be seen as narrow dykes within the country rocks at numerous locations. Pale buff-colored aplite is occasionally seen within the batholith as outcrop and float particularly east and northeast of the miner’s camp.

Country rock to the batholith includes schists and gneisses. Float and outcrop of metamorphic rocks along Scroggie and Mariposa Creeks display a wide variety of textures. Most common by far are quartz-feldspar-hornblende gneisses of highly variable grain size and texture in places containing garnet of quite variable size and content.



# Mariposa Property White Gold District, Yukon

LEGEND	
	7 ETN Granite/alaskite
	6 mKW Granite, granodiorite
	5 EJLpx Pyroxenite
	4 EJL Quartz monzonite/granite/aplite
	3 DMPW Amphibolite/Phyllite/QMS
	2 DMNqms Quartz Muscovite Schist
	1 DMN Undivided metasediments, gneisses



**FIGURE 3**  
**MARIPOSA PROPERTY AREA**  
**LOCAL GEOLOGY**  
 (from YGS Online Data)



Kyanite, common in placer gold concentrates, is seen in float along most of Scroggie Creek as subround disc-shaped boulders of kyanite-muscovite  $\pm$  garnet,  $\pm$  magnetite  $\pm$  staurolite (?) gneiss and locally in outcrop such as on both sides of Scroggie Creek at the south end of the airstrip. Float of pegmatite, granite and chlorite and biotite rich gneisses is also common. Quartz-eye rhyolite float can be seen in minor amounts along much of Scroggie and Mariposa Creeks.

A quartz-muscovite  $\pm$  garnet schist unit, QMS, up to a few hundred meters thick has been mapped across the area from Mariposa Creek to Cabin Creek. The unit is not massive as intercalations of other schists and gneisses do occur within it as can best be seen on the placer-mined bench opposite the mouth of Stevens Creek. Its muscovite content, generally five to twenty percent but locally over 90 percent, characterize it. Weathering of pyrite, usually forming less than one percent, has produced a distinctive orange surface. The unit strikes northwest and dips about 45 degrees northeast except near Scroggie Creek. Nearing Scroggie Creek from the east, strikes become progressively more northerly and dips steepen to near vertical. This change could be caused by drag along an unexposed north-south fault with right lateral sense of movement. In 1986 during placer mining, the unit along Lower Mariposa Creek was seen by the writer (Gordon Richards) to terminate against a sharp fault. The similar rock type mapped further north of this point may be a faulted offset of the same unit and not a repetition. The unit continues east along Mariposa Creek drainage for several km.

South of the QMS unit along Scroggie Creek, from Mariposa Creek to north of Stevens Creek, a dark green to grey chlorite-biotite gneiss with fine laminations and locally with augen of pink feldspar makes a distinctive unit at least several hundred meters thick. It outcrops across the floor of Scroggie Creek as seen during the course of placer mining in the late 1980's and now evidenced by the abundance of angular pieces of this rock type on the placer tailing piles. A typical specimen shown to Mr. J. Ryan of the G.S.C. was identical to rocks mapped as diorite orthogneiss further west along Barker Creek and elsewhere in the general area.

North of the quartz-muscovite schist, outcrops of quartzo-feldspathic gneiss containing variable amounts of hornblende and garnet make up the bulk of the exposed country rock.

The Scroggie Creek drainage in the area of this report is described as unglaciated (Duk-Rodkin 1999, G.S.C. O.F.3694). Mr. Lionel Jackson of the G.S.C. suggested glacial periods older than greater than 1 million years could have affected the area. During a placer test in the late 1980s of a bench immediately above the southwest corner of RUM RUN 59 (now lapsed), the writer examined material that looked like till. Large rounded boulders and till-like soils occur in the headwaters of Mariposa Creek. It is curious that oxidation of sulfides is absent or only shallowly developed at best on the property whereas elsewhere in unglaciated terrain it is deeply developed. The Casino porphyry Cu-Mo deposit, 25 km south is deeply leached, in places to over 100 meters. Loess is present on hillsides as was seen in two pits dug in 2001.

Placer gold along the Scroggie airstrip and upstream is very rounded. Along Mariposa Creek the gold is more angular and textured. Placer gold in upper Mariposa where it was mined in the late 1980's was reported as rough and hackly possibly indicating a nearby bedrock source. Gold collected in 2009 at the bend in Mariposa Creek about one-half way up the creek is intermediate between these textures. The Toluamide claims were staked in to cover this exploration target.''

## **PREVIOUS WORK**

*(With reference to Gordon G. Richard's Jan 27, 2010 Geochemical Report on the Mariposa Property)*

Previous work, described in previous assessment reports by Gordon Richards, subdivided the property into three areas named the Pegmatite Zone, the QMS Zone and the East Zone.

“The Pegmatite Zone occurs on the RUM RUN 1-20. Gold mineralization occurs associated with pegmatite dykes along Scroggie Creek. Gold values up to 3020 ppb Au occur associated with very fine sulfide in quartz breccias within dykes of pegmatite cutting the foliated medium-grained hornblende granodiorite. Immediately to the west, on a moderate sloping hillside devoid of outcrop, soil samples are geochemically anomalous for gold over a one-km diameter area. The rocks and some soils are moderately anomalous for Mo, Pb and Sb. Rock chips in soils and float in creeks indicate this area occurs within a large pegmatite body or intense dyke swarm about three km in diameter. A north trending fault is believed to occur along Scroggie Creek, from evidence collected further south, and may form the east boundary of the large pegmatite body.

This fault and associated splays are targets for gold mineralization. The quartz-breccia sulfide mineralization within pegmatite dykes would have to be more continuous and higher grade if similar mineralization exists under the gold soil anomaly west of Scroggie Creek to be of interest. During June 2001, the placer operator on Scroggie Creek, Mr. Zdenek Bidrman, showed the writer two gold-quartz pebbles measuring about two cm in maximum dimension. Mr. Bidrman described the collection of about fifty other smaller gold-quartz pieces together with the two larger pieces from a small area of placer mining west of C184 tight against the bank. About one-quarter of the volume of the gold-quartz pieces is gold (See Photo 2) Such pieces, though not common, were occasionally seen by the writer in placer concentrates during his mining of Scroggie and Mariposa Creeks from 1985 to 1992. The occurrence of numerous pieces of gold-quartz pebbles in one restricted area could come from several possible sources. They could be caused by gold-quartz weathered from nearby bedrock or from disintegration of a single or few pieces of gold-quartz weathered from a source previously several thousand feet above the present land surface. The first possibility offers a target worthy of pursuing as small volume high-grade veins associated with the north trending fault and has been suggested by others. “The fragility of the pristine gold crystals projecting from the class suggests that they were not transported far following their introduction into the fluvial system. Consequently, a source on adjacent hillsides is suggested.” (Rottweiler, P.N. GSC Current Research 2003-A1).”

The QMS Zone occurs on the RUM RUN 21-40. A quartz muscovite schist unit (QMS) was crudely mapped from chips in soil pits across these claims over a strike length of 1500 m open to the northwest. The unit is eventually terminated against the granite-pegmatite intrusive complex in this direction, but extends over ten-km east along Mariposa Creek where it includes the East Zone. Soil results indicated strong geochemically anomalous patterns for Au, As, Bi, Pb, Te, S and Zn over the QMS Zone. Outcrops are very rare on the hillside within the anomalous patterns but a 45-degree northeasterly dip to foliation within the QMS, and adjacent units nearby, has been well documented. Attitudes steepen to near vertical with a northerly strike along Scroggie Creek. This change of attitude is believed to be related to drag along a north-south fault along Scroggie Creek. Well-formed arsenopyrite crystals were abundant within gold placer concentrates along the portion of Scroggie Creek underlain by the QMS unit as seen by the writer in the late 1980's. The placer gold collected from this area of Scroggie Creek was also unique in being coated by a fine, deep-blood-red powder. The arsenopyrite could be related to gold mineralization associated with the north trending fault or to mineralization related to the anomalous geochemical patterns

In the QMS target, the occurrence of anomalous Au-Bi-As-Pb in soils with Sn-W in Au placer concentrates within high-grade metamorphic rocks, in association with granite and pegmatite suggests an intrusive event may be related to the gold mineralization in the area. The broad, anomalous geochemical patterns are evidence that a large scale mineralizing system has affected the rocks of the property area.

### **ADDITIONAL PREVIOUS WORK**

*(Excerpt from G. Norman's 2010 YMIP Proposal for the Mariposa Property)*

"In 1988, D. Waugh completed work on the Fish 49-62, 81-94 and Wine 25- 57 claims. Most of the work (prospecting and rock sampling) was completed on the FISH 94 claim in an area of the intersection of two structural lineaments. Rock chip samples (179) were collected along two control lines. Samples were analyzed by Katz River Lab with most samples returning very low results, except for 3 samples which gave 3.1, 2.6 and 2.0 g/t gold.

During 2001 Vern Matovitch and Tom Morgan completed prospecting and geochemical rock, soil and silt sampling on the Wolf 1-42 and Pyrex 1-4 claims. Sampling of a 2 meter chip sample (WF-21-R-018) located at UTM 07V 0625486E and 6987507N returned 2530 ppb Au. This sample is located proximal to the mouth of the first southerly flowing tributary of Mariposa Creek.

Work in 2009 performed by Gordon Richards was designed to further evaluate the strength and extent of the QMS multi-element geochemical anomaly and initiate the geochemical assessment of the Toluamide 1-64 claims staked in 2008. Subsequent to this work, the Property was optioned to Pacific Ridge Exploration who has initiated a compilation of all previous work.

The 2009 soil geochemical surveying work on the QMS multi-element anomaly confirmed that anomalous gold extends north of Cabin Creek, the east flowing creek that enters Scroggie Creek at the south end of the airstrip. Anomalous soil samples returned up to 164 ppb gold, with locally elevated values for bismuth, arsenic and lead. The anomalous soil results in this area lie to the immediate north of the previously mapped extent of the QMS horizon.

Rock and soil samples were also collected from the east facing hillside above Scroggie Creek, to the immediate west of the airstrip. The hillside was laid visually open after an intense fire swept across the hillside in 2009. White quartz rich boulders stood out against the fire-blackened earth and were sampled along a contour traverse. More similar boulders occurred uphill but were not sampled. Best rock sample results returned 787.4 ppb Au, 4222.4 ppm Cu and 351 ppm Pb. Anomalous gold soils were collected near the quartz-rich boulders with values to 26 ppb Au and a higher value of 97 ppb Au about 50 m north of the area of quartz-rich boulders.

To the east of the headwaters of Mariposa Creek, anomalous gold in soil values up to 256 ppb were obtained. The extent of this anomalism is unknown. Many of the soil pits in this area were frozen and thus soils collected were sub-standard and included minor amounts of organic material.

The several rock samples collected from the Western Claims area. Two were samples of a fault gouge exposed in the floor of a 25 m wide placer mining cut that has exposed limonitic QMS along Mariposa Creek. No anomalous gold values were returned.



## 2010 WORK PROGRAM

The proposed 2010 work program consisted of a 14 km x 1.5 km deep auger soil survey that would systematically cover the original claims and the areas of previous sporadic work. The budget for this Phase I program was estimated to be approximately \$160,000, to collect 4200 samples over a period of one month.

On-site field conditions indicated that the estimated production of 32 sample per person, per day was not achievable, unless a helicopter was used. Crews were transported by ATVs and in many areas, then had to walk several kilometers to the start of sampling traverses. As well, the combination of sooty ash and permafrost slumping made some local slopes difficult to climb. For safety and for support carrying samples during longer traverses, crews often worked in teams. Figure 4 shows the survey area and the distribution of sample sites. All stations along the 100 x 50 metre grid were reviewed and gaps (non-sample sites) along the grid lines are stations where samples could not be collected due to permafrost, roads, disturbance. Attempts were made to sample the permafrost with a gas-powered auger and by pre-stripping the moss cover; however these methods were neither cost nor time efficient. While costs for the proposed program were higher than budgeted, the positive results received from the sampling resulted in additional funding being secured and an expansion of the program to include trenching of the anomalous zones.

Within the Mariposa grid area, a total of 2952 soil samples were collected during the program, of which 2100 are applied for credit in this report. The program was designed and supervised by George Norman, P.Geol, and executed by field crews of Future Metals Inc., under the direction of Michael Renning. The coordinates of planned grid stations (datum UTM83zone7) at 50m intervals along 100m spaced lines, were uploaded dialed to handheld Garmin 60C GPS units. Crews used these to navigate in the field. All samples were collected with one metre long Edelman Dutch hand augers. Soil samples were gathered from depths ranging between 20-60cm depth and were marked in the field with blue/pink flagging and tyvex tags.

The sample numbers used are shortened versions of the actual GPS coordinates, assigning only the last 5 digits of both the east and the north UTM coordinate. Sample numbers therefore had 10 digits, with a space separator. A total of 400-500 grams of soil was collected and placed in well marked kraft soil bags. These were packaged into sealed rice bags, flown to Dawson City by charter, and were delivered to the Acme Analytical freight service by Small's Expediting. Soil samples were received and processed by the Acme Lab facility in Whitehorse and pulps were forward to Vancouver for analysis. Samples were analyzed for 36 elements using an Aqua Regia digestion and an ICP-MS finish (IDX). Acme Analytical Labs is an ISO9001 accredited facility which conducted full internal QA-QC with the insertion and monitoring of standards, blanks and duplicates.

## 2010 SOIL RESULTS

Statistical soil geochemical data and geochemical correlation coefficient data are displayed in Tables 1 and 2 respectfully. The sample locations, color coded by analytical certificate, are shown in Figure 4. The corresponding certificates are included in Appendix 3. The results for 10 elements (Au, Mo, Cu, Bi, Ag, Sb, As, Hg, Ba, Th) are shown on Figures 5a-5j. A compilation of the geochemical trends is presented in Figure 6. On each of the maps, 7 areas of notable geochemical anomalism are noted: Skookum Jim, Skookum Extension, Hackly Gold, NW Hackly, Gertie, Maisy May, Big Alex.

Tables 1 and 2 below present the summary statistics and correlation coefficients. The statistical analysis for the 2952 data points shows that the 98% percentile for gold is 83 ppb and that an anomalous value for gold at the mean (10.3 ppb) plus 2 standards of deviation (49 ppb) would be 108 ppb. Since it is generally accepted that in the White Gold District, gold values in the 10 - 20 ppb range are of interest, the traditional statistical treatment of anomalous would be too high to identify trends. The 90% percentile for gold at 15 ppb, is more consistent with values of regional significance. This discrepancy suggests that caution should be exercised in using only a statistical treatment of data to find meaning. Relief in the data, as demonstrated with profiles, may be more useful to targeting.

In Table 2 of the correlation coefficients, gold shows a moderate correlation with molybdenum (0.26). Among the stronger multi-element correlations are for the element groupings of lead-silver-bismuth-tellurium-mercury, and antimony-molybdenum-arsenic-mercury. Barium also shows stronger correlations nickel (0.54) and cobalt (0.41). While there is a lack of strong correlations between elements for the entire dataset, the distribution of element trends on the individual maps (Fig 5a-5j) and the compilation (Fig 6), indicate that stronger correlations occur within the seven domains.

The gold-in-soil results shown in Figure 5a define a broad area with peak gold values to 1570 ppb at the Skookum Jim anomaly. The anomaly is 600 wide x 1100 metres long and is open to the north and west, in unsampled areas of permafrost. The anomalism persists to the southwest as a prominent 3500 metre long trend, to include the Skookum Extension. Significant gold results in this area up to 512 ppb warrant additional followup and infill sampling to better define this trend. To the east of Skookum Jim, there are locally elevated gold results in areas of sporadic permafrost. Soil samples in the Hackly Gold, Maisy May and Big Alex areas also returned elevated gold results, which corroborate the anomalism noted by previous work.

TABLE 1: SOIL GEOCHEMICAL DATA STATISTICAL SUMMARY

Field	No.	Min	Max	Mean	Median	Range	Var	StdDev	25 pct	50 pct	75 pct	90 pct	95 pct	98 pct
Mo_ppm	2952	0.049	42.60	1.54	1.1	42.55	3.10	1.76	0.80	1.10	1.70	2.90	4.00	5.90
Cu_ppm	2952	3	751	33	24	748	1322	36	17	24	36	55	80	134
Pb_ppm	2952	1	1403	17	9	1401	2158	46	7	9	14	25	46	87
Zn_ppm	2952	18	1337	89	77	1319	2957	54	63	77	97	127	163	221
Ag_ppm	2952	0.049	5.60	0.12	0.049	5.55	0.05	0.21	0.05	0.05	0.10	0.30	0.40	0.60
Ni_ppm	2952	2.2	452.90	19.32	16	450.70	358.81	18.94	11.90	16.00	21.30	29.50	40.10	60.99
Co_ppm	2952	1.1	57.10	12.21	11.1	56.00	28.88	5.37	8.80	11.10	14.60	18.80	22.35	26.80
Mn_ppm	2952	29	4970	513	456	4941	75940	276	338	456	624	843	1014	1290
Fe%	2952	1.09	10.59	3.52	3.35	9.50	0.76	0.87	2.93	3.35	3.96	4.63	5.18	5.76
As_ppm	2952	0.249	558.60	8.07	5.5	558.35	253.08	15.91	3.90	5.50	7.80	13.00	21.55	36.50
U_ppm	2952	0.1	15.50	1.04	0.8	15.40	0.91	0.95	0.50	0.80	1.20	2.00	2.75	3.80
Au_ppb	2952	0.249	1570.40	10.32	2.6	1570.15	2435.00	49.35	1.20	2.60	5.90	15.10	32.85	83.26
Th_ppm	2952	0.3	40.10	5.84	4.4	39.80	20.10	4.48	2.90	4.40	7.50	11.60	14.95	18.80
Sr_ppm	2952	4	790.00	28.78	24	786.00	582.12	24.13	18.00	24.00	32.00	46.00	58.00	81.00
Cd_ppm	2952	0.049	2.10	0.12	0.049	2.05	0.02	0.15	0.05	0.05	0.10	0.20	0.35	0.50
Sb_ppm	2952	0.049	4.10	0.33	0.3	4.05	0.06	0.24	0.20	0.30	0.40	0.50	0.60	0.80
Bi_ppm	2952	0.049	46.00	0.34	0.1	45.95	2.03	1.42	0.05	0.10	0.20	0.50	1.10	2.60
V_ppm	2952	8	296	67	63	288	838	29	48	63	80	102	121	143
Ca%	2952	0.03	6.21	0.41	0.34	6.18	0.11	0.33	0.23	0.34	0.50	0.69	0.85	1.08
P%	2952	0.012	0.80	0.07	0.059	0.79	0.00	0.05	0.04	0.06	0.09	0.13	0.17	0.21
La_ppm	2952	1	158.00	17.84	15	157.00	155.50	12.47	10.00	15.00	22.00	31.00	39.00	51.00
Cr_ppm	2952	3	479.00	31.19	26	476.00	707.56	26.60	19.00	26.00	34.00	49.00	67.00	102.98
Mg%	2952	0.05	6.14	0.91	0.78	6.09	0.30	0.54	0.56	0.78	1.14	1.56	1.96	2.41
Ba_ppm	2952	70	3335	319	280	3265	32622	181	210	280	380	504	606	770
Ti%	2952	0.002	0.47	0.12	0.103	0.47	0.01	0.07	0.07	0.10	0.15	0.21	0.25	0.31
B_ppm	2952	0.49	10.00	1.04	1	9.51	0.58	0.76	0.49	1.00	1.00	2.00	2.00	3.00
Al%	2952	0.34	4.97	2.01	1.95	4.63	0.28	0.53	1.66	1.95	2.30	2.68	2.94	3.29
Na%	2952	0.002	0.18	0.02	0.014	0.18	0.00	0.01	0.01	0.01	0.02	0.03	0.03	0.06
K%	2952	0.04	3.81	0.32	0.21	3.77	0.09	0.29	0.12	0.21	0.40	0.70	0.93	1.17
W_ppm	2952	0.049	0.70	0.09	0.049	0.65	0.00	0.06	0.05	0.05	0.10	0.20	0.20	0.20
Hg_ppm	2952	0.0049	0.14	0.02	0.01	0.14	0.00	0.01	0.00	0.01	0.02	0.03	0.04	0.05
Sc_ppm	2952	0.8	28.00	4.87	4.1	27.20	8.12	2.85	3.00	4.10	5.80	8.40	10.60	13.50
Tl_ppm	2952	0.049	1.90	0.16	0.1	1.85	0.02	0.14	0.05	0.10	0.20	0.30	0.40	0.50
S%	2952	0.0249	0.87	0.04	0.0249	0.85	0.00	0.06	0.02	0.02	0.02	0.05	0.11	0.24
Ga_ppm	2952	1	21.00	6.64	6	20.00	4.42	2.10	5.00	6.00	8.00	9.00	10.00	12.00
Se_ppm	2952	0.249	18.30	0.43	0.249	18.05	0.52	0.72	0.25	0.25	0.25	0.70	1.00	2.30
Te_ppm	2952	0.099	15.80	0.28	0.099	15.70	0.51	0.71	0.10	0.10	0.20	0.99	0.99	1.00

**TABLE 2: SOIL GEOCHEMICAL DATA CORRELATION COEFFICIENTS**

	Mo	Cu	Pb	Zn	Ag	Ni	Mn	Fe	As	Au	Th	Sb	Bi	Ba	W	Hg	Te
Mo	1.00	0.18	0.18	0.11	0.19	-0.01	-0.07	0.01	0.12	0.26	0.18	0.27	0.16	-0.01	0.03	0.12	0.12
Cu	0.18	1.00	0.04	0.38	0.15	0.12	0.09	0.24	0.02	0.12	0.06	0.13	0.17	0.14	0.10	0.07	0.05
Pb	0.18	0.04	1.00	0.30	0.50	-0.04	-0.08	0.01	0.24	0.02	0.29	0.07	0.52	-0.07	-0.04	0.14	0.53
Zn	0.11	0.38	0.30	1.00	0.26	0.01	0.28	0.37	0.09	0.08	0.12	-0.03	0.24	0.08	0.01	-0.01	0.24
Ag	0.19	0.15	0.50	0.26	1.00	-0.04	-0.06	0.02	0.17	0.11	0.16	0.05	0.54	-0.03	-0.05	0.34	0.41
Ni	-0.01	0.12	-0.04	0.01	-0.04	1.00	0.19	0.23	-0.02	-0.01	0.07	0.06	-0.05	0.54	0.04	0.11	-0.04
Mn	-0.07	0.09	-0.08	0.28	-0.06	0.19	1.00	0.58	-0.09	0.00	-0.13	-0.09	-0.10	0.39	0.00	0.00	-0.07
Fe	0.01	0.24	0.01	0.37	0.02	0.23	0.58	1.00	-0.08	0.01	-0.12	-0.10	0.02	0.35	-0.02	-0.15	0.05
As	0.12	0.02	0.24	0.09	0.17	-0.02	-0.09	-0.08	1.00	0.02	0.24	0.22	0.18	-0.09	-0.02	0.07	0.17
Au	0.26	0.12	0.02	0.08	0.11	-0.01	0.00	0.01	0.02	1.00	0.02	0.11	0.04	0.03	0.01	0.15	0.04
Th	0.18	0.06	0.29	0.12	0.16	0.07	-0.13	-0.12	0.24	0.02	1.00	0.13	0.26	-0.04	-0.06	0.03	0.25
Sb	0.27	0.13	0.07	-0.03	0.05	0.06	-0.09	-0.10	0.22	0.11	0.13	1.00	0.05	0.03	0.12	0.24	0.03
Bi	0.16	0.17	0.52	0.24	0.54	-0.05	-0.10	0.02	0.18	0.04	0.26	0.05	1.00	-0.07	-0.03	0.13	0.63
Ba	-0.01	0.14	-0.07	0.08	-0.03	0.54	0.39	0.35	-0.09	0.03	-0.04	0.03	-0.07	1.00	-0.01	0.19	-0.06
W	0.03	0.10	-0.04	0.01	-0.05	0.04	0.00	-0.02	-0.02	0.01	-0.06	0.12	-0.03	-0.01	1.00	0.11	-0.04
Hg	0.12	0.07	0.14	-0.01	0.34	0.11	0.00	-0.15	0.07	0.15	0.03	0.24	0.13	0.19	0.11	1.00	0.02
Te	0.12	0.05	0.53	0.24	0.41	-0.04	-0.07	0.05	0.17	0.04	0.25	0.03	0.63	-0.06	-0.04	0.02	1.00

Other geochemical soil trends of interest include:

- 1) Molybdenum (Mo) (Figure 5b): Elevated molybdenum up to 25 ppm is characteristic of the Skookum Jim anomaly. Local highs in the Skookum Extension area returned a peak value of 43 ppm. Moderate values in the order of 3-6 ppm define a 3 kilometre long, WNW trend in the Gertie area.
- 2) Copper (Cu) (Figure 5c): Elevated copper up to 328 ppm is also characteristic of the Skookum Jim anomaly. Local highs in the Skookum Extension area returned up to 244 ppm. The highest copper values of up to 751 ppm are clustered in the NW Hackly area. More sporadic results occur in the Maisy May (to 587 ppm) and the Big Alex areas.
- 3) Bismuth (Bi) (Figure 5d): Strong bismuth values up to 12.3 ppm define > 2 kilometre long, parallel trends in the Gertie area. Moderate to strong bismuth values occur over a 500 x 800 metre area at Maisy May, and across Camp Creek to the northwest. Moderate to strong values up to 18 ppm also cluster in the NW Hackly area. Weak to moderate bismuth values in the Skookum Jim area define a narrow NNW trend.
- 4) Silver (Ag) (Figure 5e): Moderate silver values to 1.1 ppm are characteristic of both the Skookum Jim and NW Hacky areas. Towards the southeast end of the grid, at Hackly Gold, silver values are notably higher, as well. The northern WNW linear trend of the Gertie area is also well defined over 2 kilometres and a strong cluster to 5.6 ppm at Maisy May is similar to the distribution of Bismuth. Variably elevated silver results also appear to map the EW trending intrusive contact to the north of Camp Creek.



- 5) Antimony (Sb) (Figure 5f): Moderately strong antimony values up to 2.6 ppm are clustered over a 600 x 200 m trend in the NW Hackly area. Antimony up to 3.6 ppm occurs in the Maisy May area.
- 6) Arsenic (As) (Figure 5g): Elevated arsenic values are only associated with soils in the NW Hackly, Gertie and Maisy May areas. In the Gertie area, arsenic results up to 558 ppm outline two converging WNW trends which extend over 3 kilometres in length. Into the Maisy May area, moderate arsenic values of up to 402 ppm occur over a 500 x 800 area which is similar to the extent of anomalous Bismuth.
- 7) Mercury (Hg) (Figure 5h): Anomalous mercury of up to 0.11 ppm was found in soils of the Maisy May area. A single site across Camp Creek returned 0.14 ppm.
- 8) Barium (Ba) (Figure 5i): Barium is widely distributed across the grid. Notable are the areas lacking in barium: Hackly Gold, the Gertie linears and Maisy May.
- 9) Thorium (Th) (Figure 5j): The strongest Thorium-in-soil values in the grid area coincide with the Gertie linear trends and the broader Maisy May trend. Values up to 43 ppm Th occur in an elevated background of 10 ppm. Higher thorium values also occur over a broad area to the NE of Skookum Jim, and into the NW Hackly area. In the Skookum Jim anomaly, weak thorium values of 4-10 are widespread.

## CONCLUSIONS

- 1) The 2010 soil geochemical program has successfully identified several multi-element gold-in-soil anomalies over a 10 x 5 km grid area. To date, the widely spaced grid sampling has defined 7 areas of anomalism. The largest is the Skookum Jim anomaly, which is now 3500 metres long and up to 600 metres wide, and remains open in several directions.
- 2) The level of gold anomalism at Skookum Jim and the peripheral targets is very good, in comparison to the results from other companies working the district. Untested permafrost areas on the flanks leave this anomaly open in several directions.
- 3) The Mariposa grid area represents less than 25% of the entire property area. There remains more untested upside in the rest of the property, as well.
- 4) From the results of other exploration programs in the area (Kaminak, Kinross), we know that gold is mostly hosted in brittle structures. In such a setting, single point anomalies within the 100 x 50 metre spaced sampling can be significant. Follow-up and infill sampling is warranted to get a clearer picture of trends.
- 5) There is little outcrop exposure in the area of the Mariposa grid. The soil geochemical results will therefore be an expression of the underlying lithology and/or the effects of hydrothermal/mineralizing events. The permeability/porosity of units, as well as level of superimposed strain will have affected paleo fluid paths and related soil signatures.
- 6) The soil results in the area of the mapped QMS unit identified a very prominent multi-element trend which continues WNW-ESE, over a length of 5 kilometres. Elevated gold-in-soil sites are sporadic along these trends. The significance of this anomalism remains uncertain.
- 7) The complex form and extent of the multi-element trends can be used together with magnetic and lineament data, to build testable structural models. Reconstructions can help to identify key traps to gold mineralization. The edges and offsets of some of the geochemical trends coincide with topographic and/or airborne magnetic lineaments which can be interpreted as structures.
- 8) The Skookum Jim anomaly is unique in its element signatures, when compared with other targets in the grid area: it lacks elevated levels of arsenic, but is anomalous in molybdenum and lesser copper.
- 9) The Pb-Ag-As-Te-Bi-Sb+/-Hg multi-element signatures along the Gertie/Maisy May trends, compared with those of the Skookum Jim anomaly may reflect different elevations within, or temporarily distinct, hydrothermal episodes of epithermal to high level porphyry styles.

## RECOMMENDATIONS

- 1) Compilation of topographic and airborne magnetic data is recommended, in conjunction with interpretation of the 2010 soil results.
- 2) Use the above data to plan first and/or second stage sampling programs with more focus than widely spaced soil grids. Use local trenching to generate exposure, to get a template for geochemical and geophysical signatures.
- 3) Conduct an orientation survey using different geochemical leaches, sample material, to test permafrost areas. Test portable XRF units and their calibrations with 2010 soil pulps.
- 4) Implement data collection and field QAQC procedures for soil sampling.
- 5) Consider isolated spot highs as potentially important. Follow up on anomalous values with prospecting and infill/detailed soil sampling in the NW Hackly, Skookum Extension, Skookum Jim and Maisy May areas. Soil sample along some spaced EW lines, to assess possible line bias.
- 6) Conduct geophysical surveying of the Mariposa Grid, either airborne magnetic or ground magnetic-VLF, EM to detect possible structures. Follow-up with detailed soil profiles over prospective signatures.
- 7) Conduct initial ridge and spur soil sampling over the new areas of the property.

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## CERTIFICATE OF QUALIFICATIONS

I, Janice Fingler, of business address 1100-1199 West Hastings St, Vancouver, British Columbia, certify that:

1. I am a professional geologist registered with the association of Professional Engineers and Geoscientists of BC (21566)
2. I am a graduate of the University of Manitoba with a Bachelor of Science (Honors) degree in Geology (1985) and a Master of Science degree in Geology (1991).
3. I have practiced my profession continuously since 1985 and have been involved in projects and evaluations conducting exploration for precious and base metal deposits in Canada, Central and South America, and Russia.
4. I am responsible for the review of data and its presentation in the report entitled "2010 SOIL GEOCHEMICAL ASSESSMENT REPORT, MARIPOSA PROPERTY, YUKON TERRITORY".

Dated at Vancouver, BC, this 21<sup>st</sup> day of February, 2011

  
Janice Fingler, M.Sc, P. Geo.

