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**Ministry of Energy, Mines & Petroleum Resources**
Mining & Minerals Division
BC Geological Survey

**Assessment Report**
**Title Page and Summary**

**TYPE OF REPORT [type of survey(s)]:** technical

**TOTAL COST:** $64050.81

**AUTHOR(S):** Raymond Xie P.Geo

**SIGNATURE(S):**

**NOTICE OF WORK PERMIT NUMBER(S)/DATE(S):** N/A

**YEAR OF WORK:** 2016

**STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S):** 5626151

**PROPERTY NAME:** Kalum Gold Claims

**CLAIM NAME(S) (on which the work was done):** 1041103, 1041107, 1041110, 1041112, 1041113, 1041118, 1041120,1041121, 1041122, 1041123, 1041124, 1041125, 1041126, 1041127, 1041129, 1041130, 1041131, 1041132, 1041133,1041134,1041135, 1041138, 1041139, 1041140, 1041141, 1041142, 1041143, 1041144, 1041228, 1047584, 1047585, 1047589, 1047590

**COMMODITIES SOUGHT:** gold

**MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN:**

**MINING DIVISION:** Skeena

**NTS/BCGS:** 103I10, 103I11, 103I14 & 103I15

**LATITUDE:** 54 ° 46 '22 " **LONGITUDE:** 128 ° 55 '35 " **(at centre of work)**

**OWNER(S):**
**1)** Gold Fountain Resources Inc. **2)**

**MAILING ADDRESS:**

213-11020 No 5 Road, Richmond,BC,V7A 4E7

**OPERATOR(S) [who paid for the work]:**
**1)** Gold Fountain Resources Inc. **2)**

**MAILING ADDRESS:**

213-11020 No 5 Road, Richmond,BC,V7A 4E7

**PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):**
Property is centered upon a Cretaceous granodioritic- dioritic- granitic intrusive rocks of Coast Crystalline Complex that has intruded Jurassic to Cretaceous sedimentary rocks of the Bowser Lake group. Gold-bearing quartz veins or stockwork swarms occurred associated with the contact zone which belong to intrusion-related gold system (IRGS). Numerous high-grade quartz vein type mineralization have been work.

**REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:** 33752, 31279, 28462

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| TYPE OF WORK IN THIS REPORT | EXTENT OF WORK (IN METRIC UNITS) | ON WHICH CLAIMS | PROJECT COSTS APPORTIONED (incl. support) |
|---|---|---|---|
| **GEOLOGICAL (scale, area)** | | | |
| Ground, mapping | | | |
| Photo interpretation | | | |
| **GEOPHYSICAL (line-kilometres)** | | | |
| Ground | | | |
| Magnetic | | | |
| Electromagnetic | | | |
| Induced Polarization | | | |
| Radiometric | | | |
| Seismic | | | |
| Other | | | |
| Airborne | | | |
| **GEOCHEMICAL (number of samples analysed for...)** | | | |
| Soil | 27 | | |
| Silt | | | |
| Rock | | | |
| Other | | | |
| **DRILLING (total metres; number of holes, size)** | | | |
| Core | | | |
| Non-core | | | |
| **RELATED TECHNICAL** | | | |
| Sampling/assaying | | | |
| Petrographic | 4 | | |
| Mineralographic | | | |
| Metallurgic | | | |
| **PROSPECTING (scale, area)** | 4km2 | | |
| **PREPARATORY / PHYSICAL** | | | |
| Line/grid (kilometres) | | | |
| Topographic/Photogrammetric (scale, area) | | | |
| Legal surveys (scale, area) | | | |
| Road, local access (kilometres)/trail | | | |
| Trench (metres) | | | |
| Underground dev. (metres) | | | |
| Other | | | |
| | | TOTAL COST: | $64050.81 |

Print Form

**TITLE PAGE**

# Assessment Report

## On Kalum Gold Claims

**(For the work in April 01-Sep 10, 2016)**

**Skeena Mining Division**

**BRITISH COLUMBIA, CANADA**

Latitude 54°46' North; Longitude 128°55' West

NTS 1:50,000 map sheets: 103I10, 103I11, 103I14 & 103I15

**Claims Worked on:** 1041103, 1041107, 1041110, 1041112, 1041113, 1041118, 1041120, 1041121, 1041122, 1041123, 1041124, 1041125, 1041126, 1041127, 1041129, 1041130, 1041131, 1041132, 1041133, 1041134, 1041135, 1041138, 1041139, 1041140, 1041141, 1041142, 1041143, 1041144, 1041228, 1047584, 1047585, 1047589, 1047590

**SOW Event Number:** 5626151

Owner and operator

*Gold Fountain Resources Inc.*

**203-11020 No 5 Road, Richmond, BC, V7A 4E7**

**Prepared by:**

Raymond Xie, P. Geo.

**Submitted:** Feb 04, 2017

**CONTENTS**

# 1 Introduction

*Gold Fountain Resources Inc* acquired Kalum Gold property in January 2016. The mineral tenures are located 40 kilometers northwest of Terrace, British Columbia.

The Property is centered upon a Cretaceous granodioritic stock of the Coast Crystalline Complex that has intruded Jurassic to Cretaceous-age sedimentary rocks of the Bowser Lake Group. Numerous gold-bearing quartz veins occurred associated with the contact zone and magnetic signature of the granodioritic- dioritic-granitic intrusive rocks. Many of the gold occurrences in this area have not been drilled, while others have been tested with only a few drill holes.

Before the acquisition by *Gold Fountain Resources Inc*, the most recent exploration in the area was by *Eagle Plains Resources Ltd*. They completed field programs most years from 2003 to possibly 2014.

Property site visit, geological survey and soil sampling work was applied by *Gold Fountain Resources Inc* on its Kalum Lake claims in 2016. Field work was conducted in May to early June, focused on geological settings, mineralization prospecting and geochemical survey at an area of contact zone of intrusion. Total cost of the project of 2016 was $64,050.81.

This assessment report was prepared by Raymond Xie (P.Geo.) at the request of *Gold Fountain Resources Inc.* in order to satisfy assessment filing requirements by the Mines Branch of the Ministry of Energy and Mines, Government of B.C.

## 2 Property description and location

Kalum Gold claims are at west side of Kalum Lake, centered 40 km northwest of the City of Terrace, NW BC (Figure1). Forest service road at west bank of Kitsumkalum River leads to property directly from Terrace.


There are 29 contiguous mineral claims covering a total area of 10315 ha (Fig.2) at the period of this year's working time. *Gold Fountain Resources Inc* hold 100% claim right. The mineral tenures lie within NTS map sheet: 103I/ 10, 11, 14 and 15, centred at Latitude 54° 46' N and Longitude 128°55' W respectively.


**Fig.1 Property geographical location (on google map)**

*Eagle Plains Resources Ltd.* and another individual retains some claims covering over sixteen hundred hectares from their original property. These claims now sit within the Kalum Gold property (Fig.2).

The number of retained and new staked tenures and current good to dates are listed in Table 1. Because of work in 2016, the retained claims have been with new good to date (Fig.2, Table1, SOW 5626151, Appendix C).

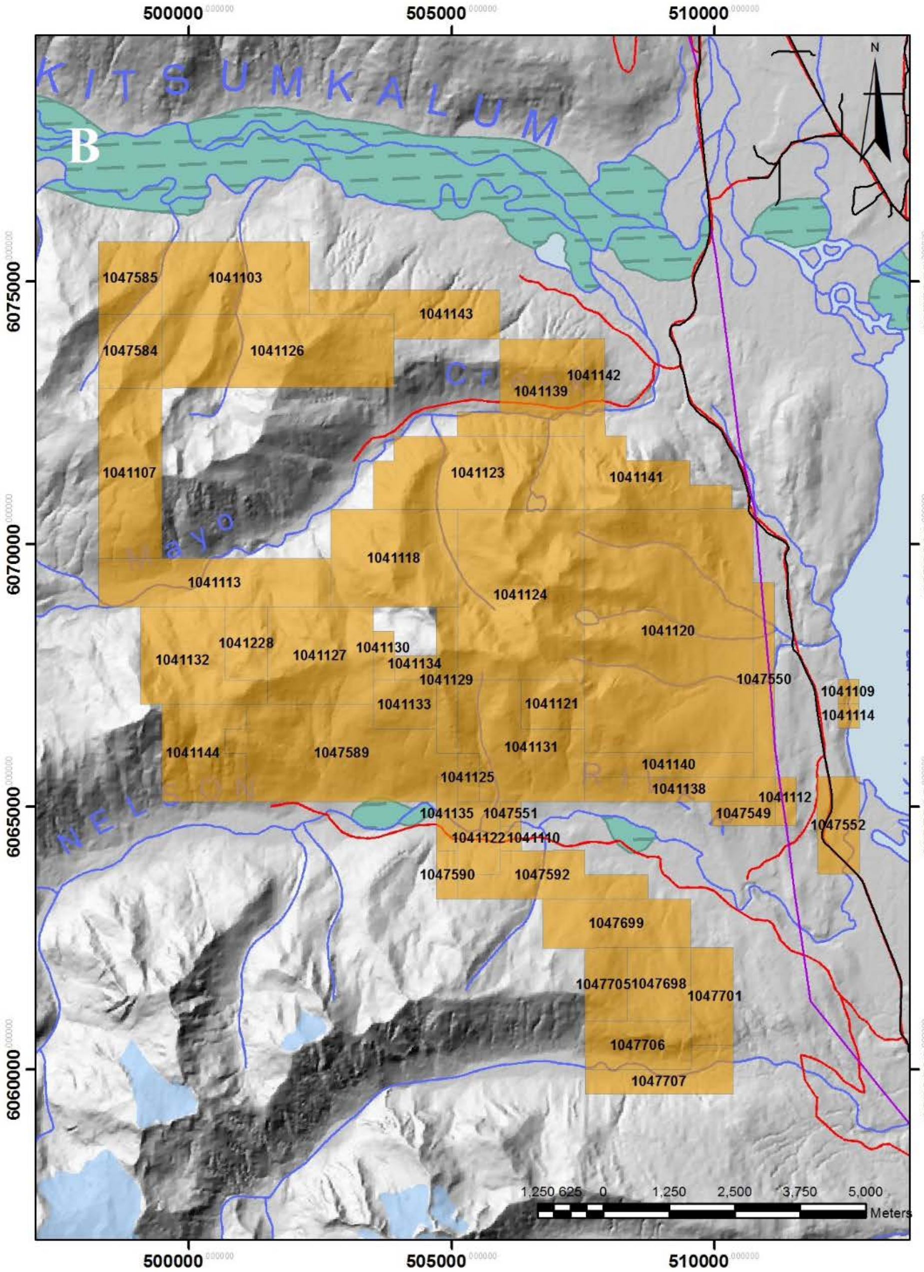



**Fig.2 Kalum Gold property mineral claim map**

(after renewal date of Nov 16, 2016)

**Table1 Tenures list (after renewal date of Nov 16, 2016)**

(Claims in yellow color of this table are in scope of worked area and extended to a new data)

| Title Number | Claim Name | Owner | Title Type | Map No | Issue Date | Good To Date | Status | Area (ha) |
|---|---|---|---|---|---|---|---|---|
| 1041103 | GFR01 | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 391.1381 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1041107 | GFR02 | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 391.4196 |
| 1041109 | KALUM | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jan/09 | GOOD | 18.6604 |
| 1041110 | SILVER | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 18.677 |
| 1041112 | BURN | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 37.3441 |
| 1041113 | GFR03 | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 410.3014 |
| 1041114 | ACTUAL KALUM :) | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jan/09 | GOOD | 18.6641 |
| 1041118 | GFR04 | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 447.5736 |
| 1041120 | GFR26 | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 1492.4591 |
| 1041121 | MISTY | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 111.9785 |
| 1041122 | MISTY | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 112.0622 |
| 1041123 | GFR05 | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 540.6212 |
| 1041124 | GFR27 | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 783.3783 |
| 1041125 | SILVER | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 37.3442 |
| 1041126 | GFR06 | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 614.8477 |
| 1041127 | GFR07 | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 373.1405 |
| 1041129 | GFR28 | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 111.9635 |
| 1041130 | GFR08 | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 37.3138 |
| 1041131 | GFR29 | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 410.7096 |
| 1041132 | GFR09 | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 335.8134 |
| 1041133 | | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 111.9821 |
| 1041134 | GFR30 | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 37.3157 |
| 1041135 | MG | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 56.0253 |
| 1041138 | GFR31 | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 168.0462 |
| 1041139 | GFR11 | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 335.4426 |
| 1041140 | GFR33 | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 149.3584 |
| 1041141 | GFR34 | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 279.6403 |
| 1041142 | GFR35 | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 55.9035 |
| 1041143 | GFR12 | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 260.8022 |
| 1041144 | GFR13 | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 280.0547 |
| 1041228 | TUPPIE | 282410 (100%) | Mineral | 103I | 2016/jan/11 | 2018/jun/18 | GOOD | 111.9367 |
| 1047584 | | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 167.6591 |
| 1047585 | GFR10 | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 167.604 |
| 1047589 | GFR31 | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 653.478 |
| 1047590 | GFR32 | 282410 (100%) | Mineral | 103I | 2016/jan/09 | 2018/jun/18 | GOOD | 37.36 |
| 1047549 | GFR16 | 282410 (100%) | Mineral | 103I | 2016/nov/01 | 2017/nov/01 | GOOD | 56.0202 |
| 1047550 | GFR17 | 282410 (100%) | Mineral | 103I | 2016/nov/01 | 2017/nov/01 | GOOD | 149.2809 |
| 1047551 | GFR18 | 282410 (100%) | Mineral | 103I | 2016/nov/01 | 2017/nov/01 | GOOD | 18.6749 |
| 1047552 | GFR19 | 282410 (100%) | Mineral | 103I | 2016/nov/01 | 2017/nov/01 | GOOD | 149.3906 |
| 1047592 | GFG20 | 282410 (100%) | Mineral | 103I | 2016/nov/02 | 2017/nov/02 | GOOD | 242.8422 |
| 1047698 | GFR23 | 282410 (100%) | Mineral | 103I | 2016/nov/07 | 2017/nov/07 | GOOD | 168.1946 |
| 1047699 | GRF21 | 282410 (100%) | Mineral | 103I | 2016/nov/07 | 2017/nov/07 | GOOD | 261.5685 |
| 1047701 | GFR22 | 282410 (100%) | Mineral | 103I | 2016/nov/07 | 2017/nov/07 | GOOD | 149.5117 |
| 1047705 | GFR24 | 282410 (100%) | Mineral | 103I | 2016/nov/07 | 2017/nov/07 | GOOD | 112.1318 |
| 1047706 | GFR25 | 282410 (100%) | Mineral | 103I | 2016/nov/07 | 2017/nov/07 | GOOD | 186.9355 |
| 1047707 | GFR32 | 282410 (100%) | Mineral | 103I | 2016/nov/07 | 2017/nov/07 | GOOD | 168.2635 |

# 3 Access, climate and physiography

Mineral tenures are 40 km northwest of Terrace, Northwest BC. Terrace is located at the junction of highways 16 and 113. The latter, called the Nisga'a highway, runs along the east side of Kitsumkalum Lake (Figure 3). Terrace supports a regional airport, rail yard, and most other amenities.

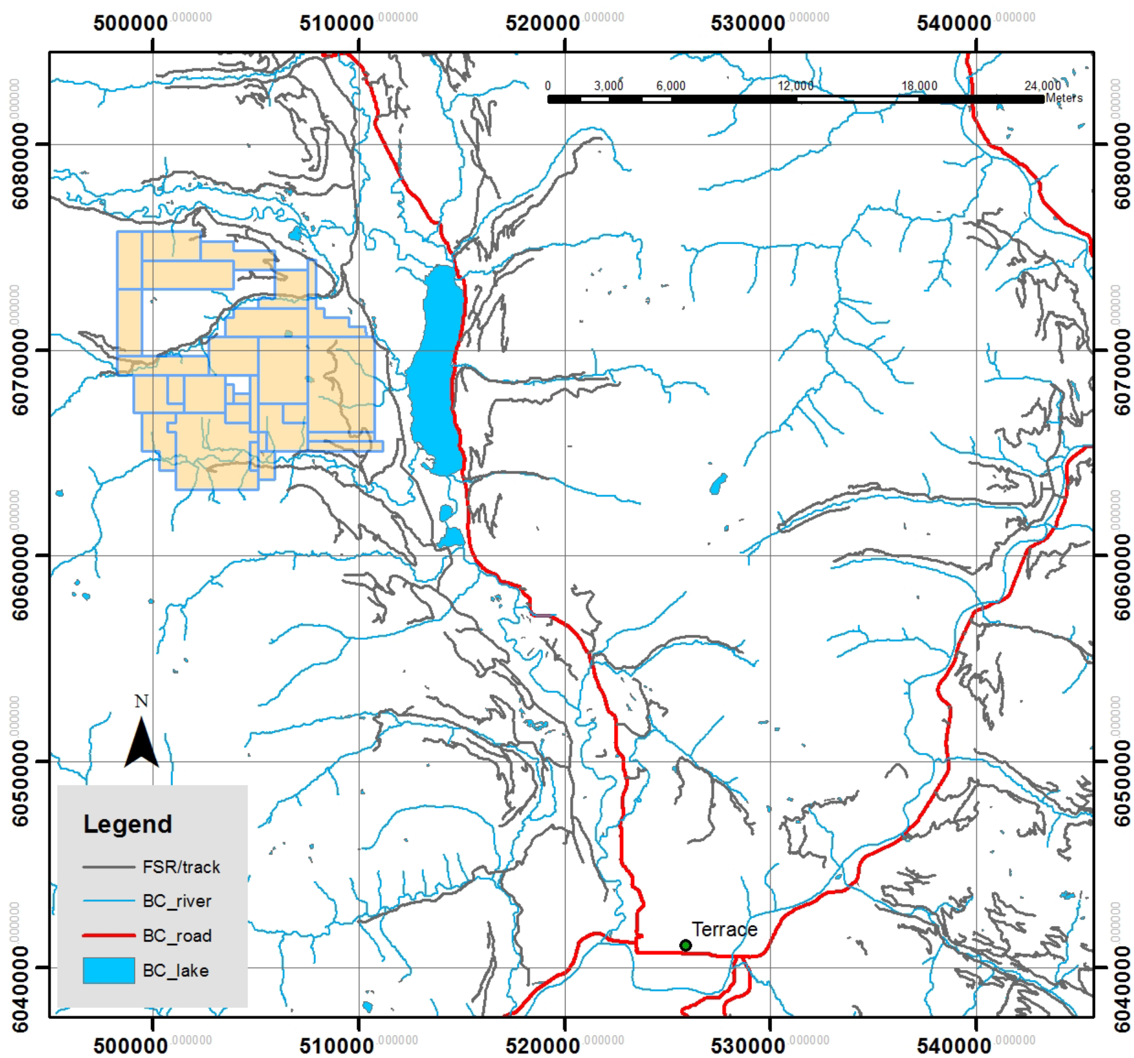



**Fig.3 Road network of Kalum Gold property**

The property is accessed by a network of British Columbia Forest Service and logging roads at the west side of Kalum Lake. The east side Nisga'a highway can not lead to property at north of Terrace due to missing bridge over Kitsum River. There were numerous logging roads within the property, but most of them were abandoned many years before except some major ones, and spreading with thick bushes.

The Property is located just to the east of the Kitimat Range of the Coast Mountains in the area of Mount Allard, the dominant peak at 1,505 meters. Elevation varies from 300 to 1,500 meters above sea level and topography is steep to moderate. Outcrop is present within numerous drainages and along ridges and escarpments, but is sparse on timbered slopes. It was estimated total outcrop exposure at 10 to 20 percent by *Eagle Plains*. Much of the Property has a thin to moderate veneer of glacial till.

Vegetation varies from heather, blueberry and huckleberry on the upper slopes above the tree line to Douglas fir, hemlock, alder and devil's club in the dense temperate rainforest on the lower slopes. Steep alpine topography and the dense forest, both characteristic of the area, can prove challenging for travelling even short distances on foot.

The weather is typical of the North Coast of British Columbia with wet summers and heavy snowfall in the winters. Large snow-drifts cover parts of the property until mid-June, with minor areas of permanent snow found at the highest elevations and in sheltered areas.

# 4 Property exploration history

Mineral exploration north of Terrace started in the late 1800s. Over the years the focus has shifted from placer gold and polymetallic veins to precious metal veins and porphyry copper and molybdenum deposits. The ease of access to the countryside has played a role in the degree of exploration within the region. Areas with roads or relatively easy access by horse and on foot were more explored than others. The introduction of helicopters to mineral exploration in the late 1950s and early 1960s did enable easy, but expensive, transportation to the mountainous areas.

The exploration history can be traced back to over 80 years focused on each showing area by various operators separately. These gold mineralization showings include The Kalum Lake, Chris, Misty, Hat etc. Some of them had been tested by drilling.

*Eagle Plains*' acquisition in 2003 represents the first time these mineral showings have been consolidated and evaluated as a whole by a single owner. *Eagle Plains* has completed 7 significant exploration programs that have included: geological mapping, prospecting, rock, channel, stream sediment and soil sampling, airborne and ground-based geophysical surveys and diamond-drilling. These programs have been very successful and defined numerous new, high-grade zones of Au-Ag mineralization including new showings and confirming that the Kalum property is highly prospective for economically viable Au-Ag epithermal vein-type deposits.

**2003_**Eagle Plains completed a significant exploration program on the Kalum property included geological mapping, prospecting, rock, channel, stream sediment and soil sampling. It was very successful and defined numerous new, high-grade zones of Au-Ag mineralization. In addition, many of the historical showings on the property were located, sampled and surveyed. This work confirmed that the Kalum property is highly prospective for economically viable Au-Ag epithermal vein-type deposits.

**2004_**The 2004 exploration program included an airborne VTEM geophysical survey, an extensive geochemical program and a 19-hole diamond-drill program that intersected high-grade Au mineralization at every showing tested: the Misty, Bling/Rico, Tuppie/Cirque, Chris & Kalum.

**2005_**Exploration indicated the Hat Structural Zone ("HSZ") as having the best potential to host high-grade and bulk-tonnage Au mineralization. Surficial geology, geochemistry and a three-hole drill program tested this theory. Although the limited drill program did not intersect ore grade Au-Ag mineralization, the surface program resulted in the discovery of three new high-grade polymetallic Au – Ag showings.

**2008_**An exploration program consisting of geochemical and geophysical surveying as well as 11 drill holes defined a broad zone of gold mineralization in a granodiorite stock located in the SE area of the property. The results revealed that the granodiorite stock is a thrust-emplaced granodiorite mass overlying a sequence of argillite/greywacke. Weak but pervasive gold mineralization associated with pyritic quartz stringers and veinlets is widespread in the stock.

**2009_**The 2008 ground-based geophysics grid was extended into the area of the Burn showing. Prospecting and geochemical sampling in the areas of the HSZ, Tuppie/Cirque and Misty showings were also conducted. The results were very favourable, with the discovery of a new high-grade gold showing and defining of high-priority geophysical targets.

It is interpreted that most HSZ showings are structurally linked and represent a single large-scale mineralized system over one square kilometre in size. The best sample collected during this program returned 973 g/t Au and 502 g/t Ag. The area is attractive because these zones are structurally repeated on a scale of 50 m over a thickness of 300 m, making it an excellent target for a bulk-tonnage, low-grade, open-pit operation.

**2010_**Geologic mapping and a 6-hole diamond-drill program was conducted at the Tuppie/Cirque Zone. It is interpreted that between this zone and the HSZ, high-grade, shear-hosted quartz-carbonate veins and breccias are continuous and hosted within the cupola of a large intrusion called the Allard Pluton. Although drilling did not confirm the presence of high-grade structurally controlled Au mineralization in the subsurface, it did, however, identify anomalous Au and As values within these weakly developed breccias and their iron carbonate alteration halos.

**2012** - Field Program: Geological reconnaissance and XRF analysis were used to target drilling at the Bling-Rico Structure. A two-hole program intersected a sedimentary package that has been intruded by several porphyry dykes. Alteration was generally very weak except in proximity to the porphyry dykes. Hydrothermally-related sulphide mineralization in the form of pyrite, chalcopyrite and galena was very weak and limited to sub-metre scale shear zones.

# 5 Geological settings and mineralization

**Stratigraphy:** The region is underlain by the southwestern corner of the Bowser Basin which is within the Intermontane Belt of British Columbia.

Lower Cretaceous Skeena Group consists of shales, siltstones, sandstones and conglomerates formed in the Bowser Basin. It overlies Bowser Lake Group.

Upper Jurassic Bowser Lake Group consist of chert pebble conglomerate, sandy turbidites, or silty and carbonaceous argillite, which overlap the volcanic and sedimentary rocks of Hazelton Group.

Hazelton Group volcanic rocks of the Stikine Terrane, exposed near the northern end of Kalum Lake, include pillow basalt and structurally over lying calcareous tuff. These rocks have been affected by at least two phases of deformation and few protolith textures are preserved.

**Intrusives:** Semicircular plutons and associated sills and dykes, mainly of diorite to granodiorite composition, extensively intrude the Skeena Group, Bowser Lake Group and older strata within the Kitsumkalum area. The volume of intrusions increases to the west, toward the Coast Plutonic Complex. The intrusions are listed below in presumed order form oldest to youngest based on field relationships and dating by Mihalynuk and Friedman (2005, 2006) (Fig.4).

The Kalum property is centered on an 8-by-12 km irregularly shaped granodioritic pluton of the Coast Crystalline Complex. This pluton and many associated smaller intrusions were emplaced into Upper Jurassic to Lower Cretaceous Bowser Lake Group sedimentary rocks (Fig.4, 5). Intrusions range in composition from quartz monzonite to granodiorite and diorite and vary in size from small stocks to large batholiths, contacts between the intrusions and sedimentary rocks are generally irregular.

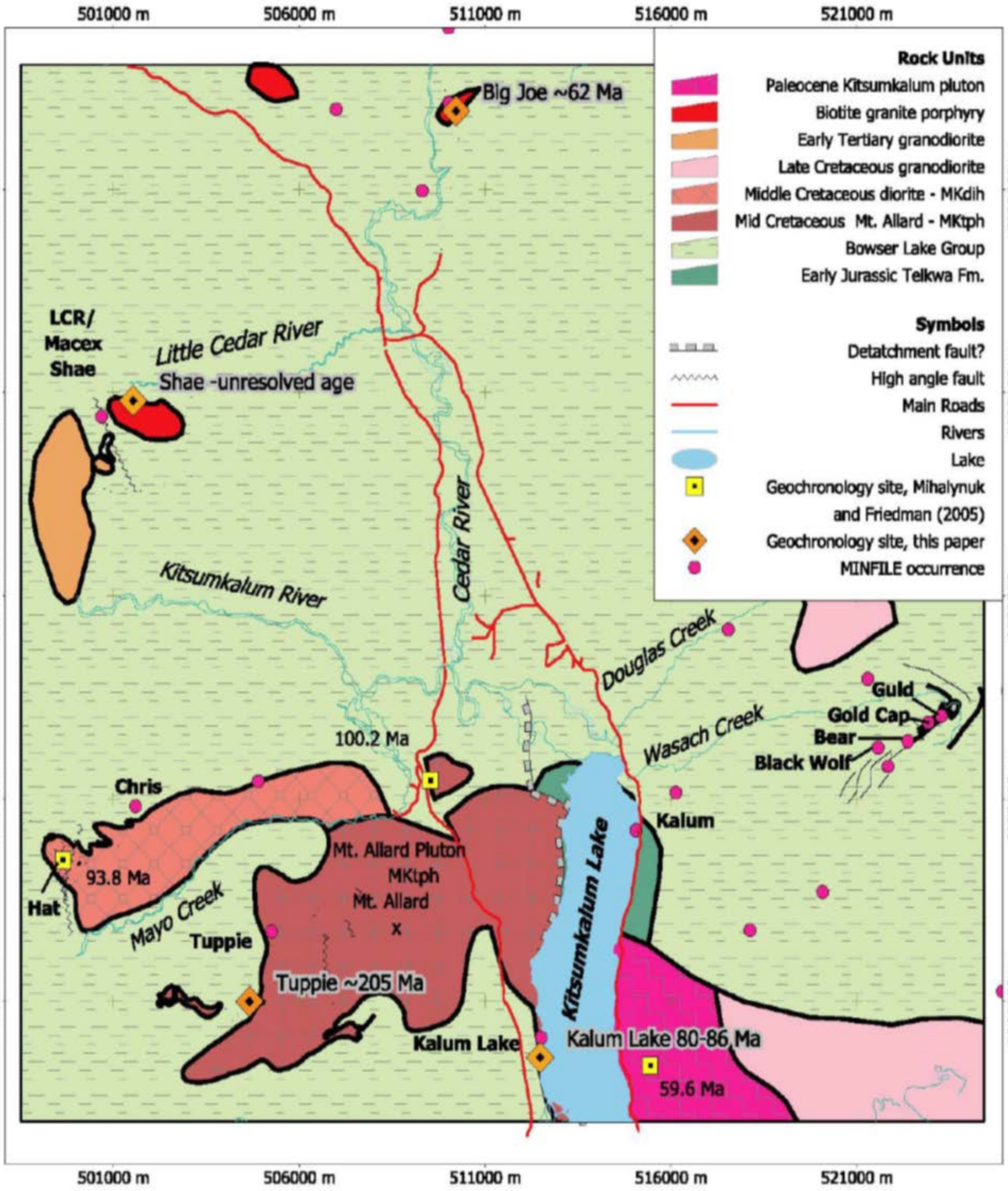



**Fig.4 Intrusion distribution (Mihalynuk and Friedman,2006)**

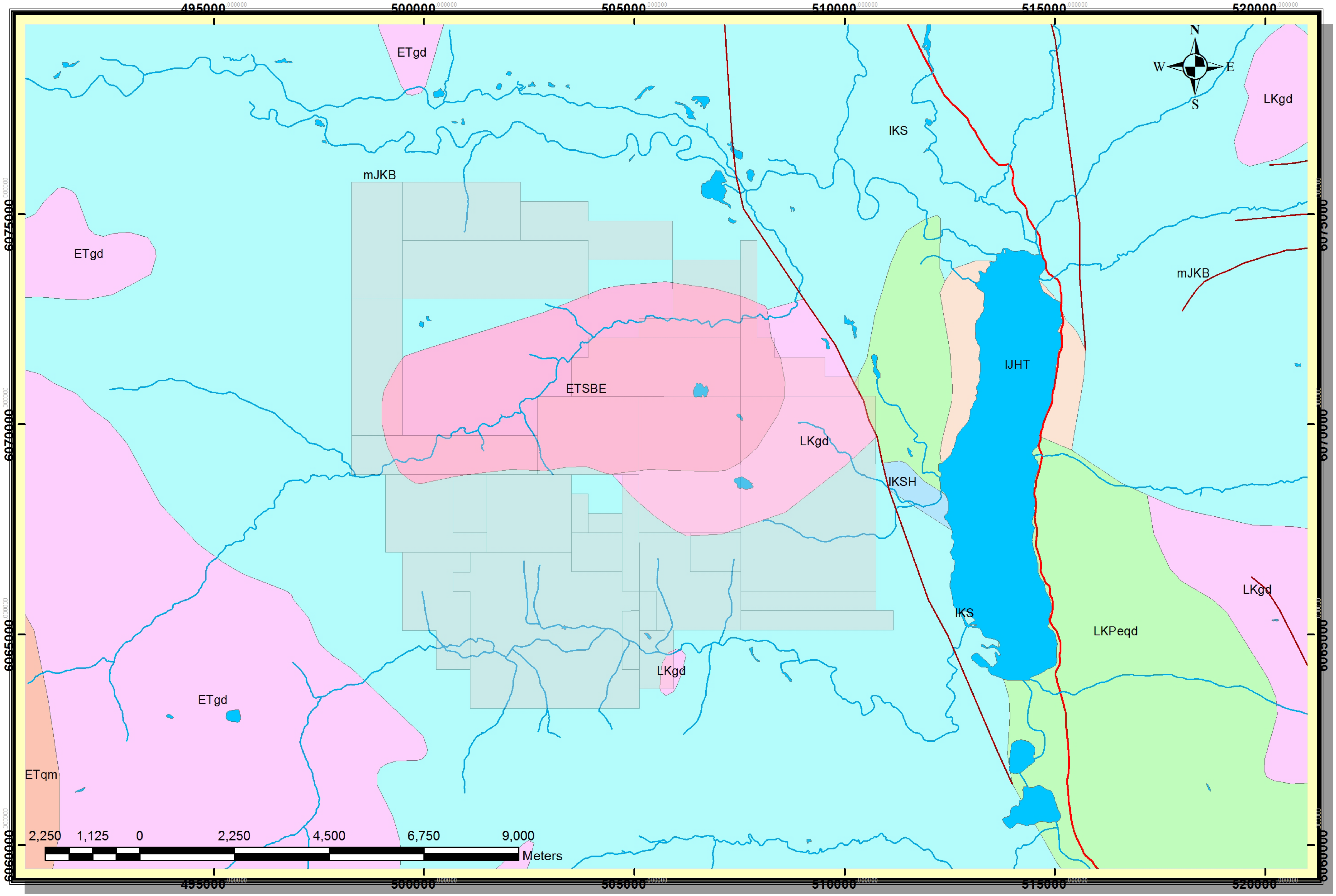



**Fig. 5 Regional geological map** (BC Geological Survey, 2005)

**mJKB** - Mesozoic - Bowser Lake Group undivided sedimentary rocks: interbedded epiclastic feldspathic and volcanic conglomerate, sandstone, siltstone, shale and argillite.

**lJHT** - Mesozoic - Hazelton Group - Telkwa Formation calc-alkaline volcanic rocks: maroon, green and purple subaerial andesitic to dacitic feldspar phyric flows, pyroclastic and epiclastic rocks, augite phyric to aphyric basalt, breccia, welded tuff.

**lKSH** - Mesozoic - Skeena Group - Hanawald Conglomerate conglomerate, coarse clastic sedimentary rocks: chert-pebble conglomerate;

**LKPeqd** - Mesozoic to Cenozoic - Unnamed quartz dioritic intrusive rocks: quartz diorite, diorite, granodiorite, fresh to highly altered, unfoliated to weakly foliated.

**ETSBE** - Cenozoic - Strohn Creek, Mt Bolom and Ear Lake Plutons granite, alkali feldspar granite intrusive rocks:massive, medium-grained hornblende-biotite monzogranite with very coarse K-feldspar phenocrysts -- grey to pink porphyritic to equigranular granodiorite, quartz monzonite, granite.

**LKgd** - Mesozoic - Unnamed granodioritic intrusive rocks: equigranular hornblende-biotite granodiorite and quartz diorite, minor muscovite-garnet granite to granodiorite, weakly foliated to unfoliated.

**ETgd** - Cenozoic - Unnamed granodioritic intrusive rocks;

**ETqm** - Cenozoic - Unnamed quartz monzonitic intrusive rocks: quartz monzonite, quartz-eye porphyry and felsite.

A larger scale geological map in more detail by Higgs is shown in Fig.6 below.

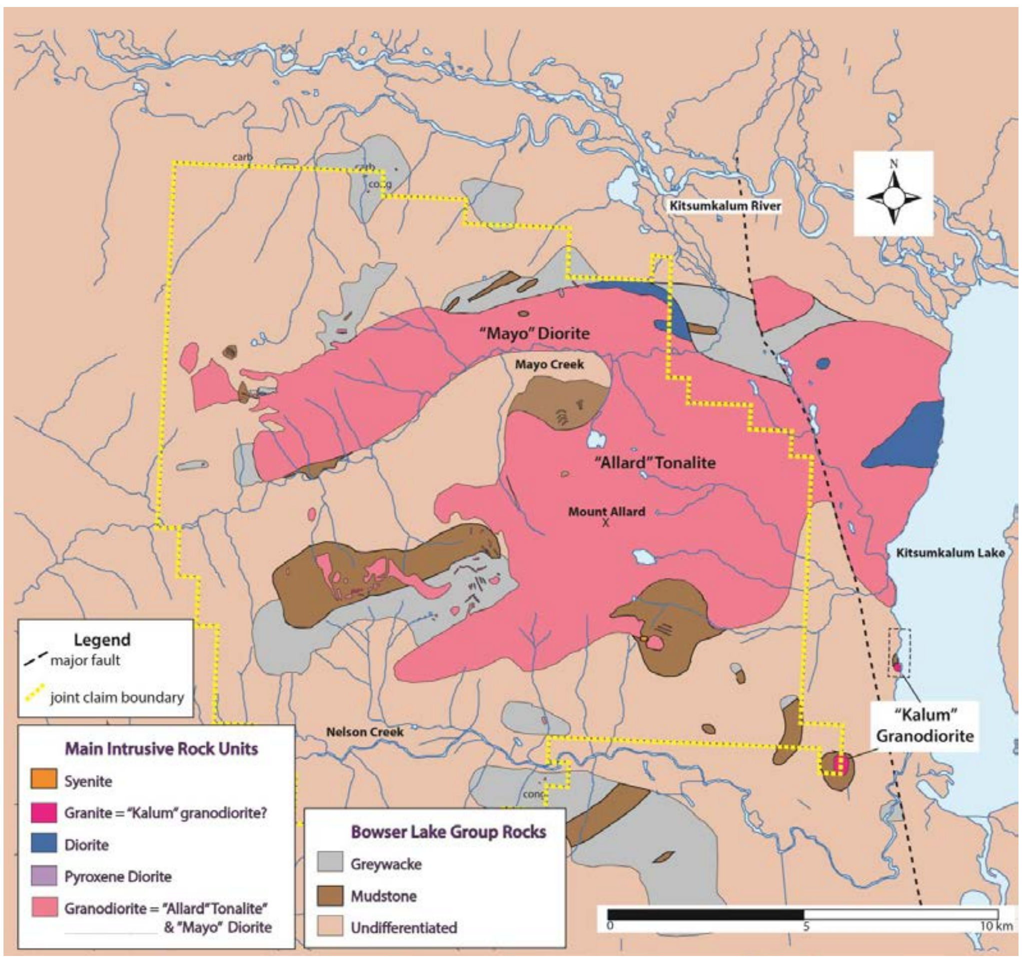



**Figure 6. Geology Map of the Mount Allard Area from Higgs (2009)**

**Structure:** Faulting is common and obvious within both the Bowser Lake strata and the intrusive bodies. A detachment fault is shown along the western shores of Kitsumkalum Lake on Fig.6. Detachment faulting is associated with large-scale extensional tectonics. Detachment faults often have very large displacements (tens of km) and juxtapose unmetamorphosed hanging walls against medium to high-grade metamorphic footwalls. In this case Hazelton group volcanic rocks in the footwall and Bowser Group sedimentary rocks intruded by the Mount Allard pluton in the hanging wall.

All layered rocks within the Kalum Lake area have been affected by at least one phase of folding. This folding likely relates to the Skeena Fold Belt. The fold belt could have initiated as early as earliest Cretaceous time; and it lasted into latest Cretaceous or earliest Tertiary time.

**Mineralization:** Most of the high-grade mineralization on the property is located near the margins of the main Allard Pluton, both within the granodiorite and in the surrounding sedimentary country rocks. This indicates that most fluid-flow was focused near the intrusion margins, and in country-rock roof pendants around the main pluton. This defines where to prospect the Au-Ag deposit in this area. Only a relatively small portion of the sedimentary-intrusive contact zone has been explored to date.

BCGS stream-sediment surveys of creeks draining the Kalum Intrusion and sedimentary-intrusive contact area reveal the presence of highly anomalous values (many in the 95th percentile) for the elements gold, silver, arsenic, tungsten, copper, molybdenum - all considered key pathfinder elements for intrusion-related gold systems ("IRGS"). Review of existing airborne geophysical data for the area confirms the presence of a pronounced magnetic anomaly coincident with the intrusive material, and suggests the presence of a much larger system than is currently outlined. Many of the above-noted mineral occurrences are located within the halo of the magnetic anomaly, which appears to correspond with the sedimentary-intrusive contact area. These individual occurrences have been the focus of exploration efforts since the early 1900s, but were worked individually and targeted for development as low-tonnage, high-grade producers. Many high-grade veins were documented as occurring within a series of veins or within stockwork swarms.

Despite the strong presence of geological, geochemical and geophysical indicators of IRGS mineralization, no exploration efforts have previously been directed towards assessing the occurrences in the Kalum area for their low-grade, bulk-tonnage potential, nor has any exploration activity been documented over the roughly 25km of projected contact area.

IRGS mineralization occurs in two styles:

a. high grade gold veins varying in thickness from centimetres to over 2 metres, and

b. gold zones with areas of multiple veins/veinlets occurring as swarms or sheeted sets.

*Eagle Plain* classified the mineralization within it's former claims into seven zone (Fig.7; Table2):

- Hat Structural Zone (103I173): Polymetallic vein up to 0.5m wide containing up to 41.1 g/t Au and 9,588 g/t Ag.
- Bling/Rico Zone: Discovered in 2002 by Eagle Plains, it is thought to represent a complex structural zone, and interpreted it is structurally related to the Hat Structural Zone.
- Tuppie/Cirque Zone: A shear zones host high-grade Au mineralization in quartz-carbonate veins and breccias.
- Kalum Lake/Burn Zone (103I019): Two intrusive-hosted veins 150m apart described as being 0.15 to 0.60m in width. Reserves reported for the two main veins are estimated at 9,434 tonnes grading 16.1 g/t Au to a depth of 45m. The earliest recorded activity on these showings was in 1919. In 1987 a 395 m drill program tested the known gold-bearing quartz veins establishing continuity and mineralization to a depth of 120 m and 65 m for both veins as well as locating additional mineralized zones.
- Chris Vein (#103I174): Was first staked in 1945 and a number of trenches were completed in the 1950's. In 1962 a 57 m adit was driven into the vein. 1981 work indicated consistent gold and silver values over 300 m of the up to 1.3 m wide Chris vein system.

- Misty Zone(#103I213): A series of intrusion-related polymetallic veins varying from 1.0 to 2.5m in width. Originally staked in 1979, this occurrence was drilled and returned 4.7 g/t Au over 0.77m.
- Martin Zone(#103I020): Polymetallic vein up to 0.5m wide assayed 8.2 g/t Au, 137 g/t Ag and 4% Pb.

Table 2. MINFILE Occurrences in the Mt. Allard Region (from B.C. Geological Survey).

| Minfile No. | Names | Status | Commodities |
|---|---|---|---|
| 103I 018 | Quartz Silver, Qs 1-6, Kalum | Showing | AG, PB, ZN, CU, AU |
| 103I 019 | Kalum Lake, Portland, Bav, Gold Bar | Past Producer | AU, AG, CU, PB, ZN |
| 103I 020 | Martin, Noble, Rex, Glen No.1 | Showing | AU, AG, PB |
| 103I 151 | Allard, Kalum | Showing | CU, MO |
| 103I 173 | Hat, Drum, Km, Kalum | Showing | AU, AG, PB, ZN, CU |
| 103I 174 | Chris, Oro, Ike, Beaver, Mayou | Showing | AU, AG, PB |
| 103I 211 | Burn, Kalum Lake, Portland | Showing | AU, AG, CU, PB |
| 103I 213 | Misty, Moss, Creek, Kalum | Showing | AU, AG |
| 103I 225 | Bling-Rico, Kalum | Showing | AU, PB, MO |
| 103I 226 | Tojo | Showing | AU, AG |
| 103I 227 | Silver Creek | Showing | AU, AG |
| 103I 228 | Tuppie, East Tuppie, Cirque | Showing | AU, AG |
| 103I 256 | BABIT | Showing | AU, AG |

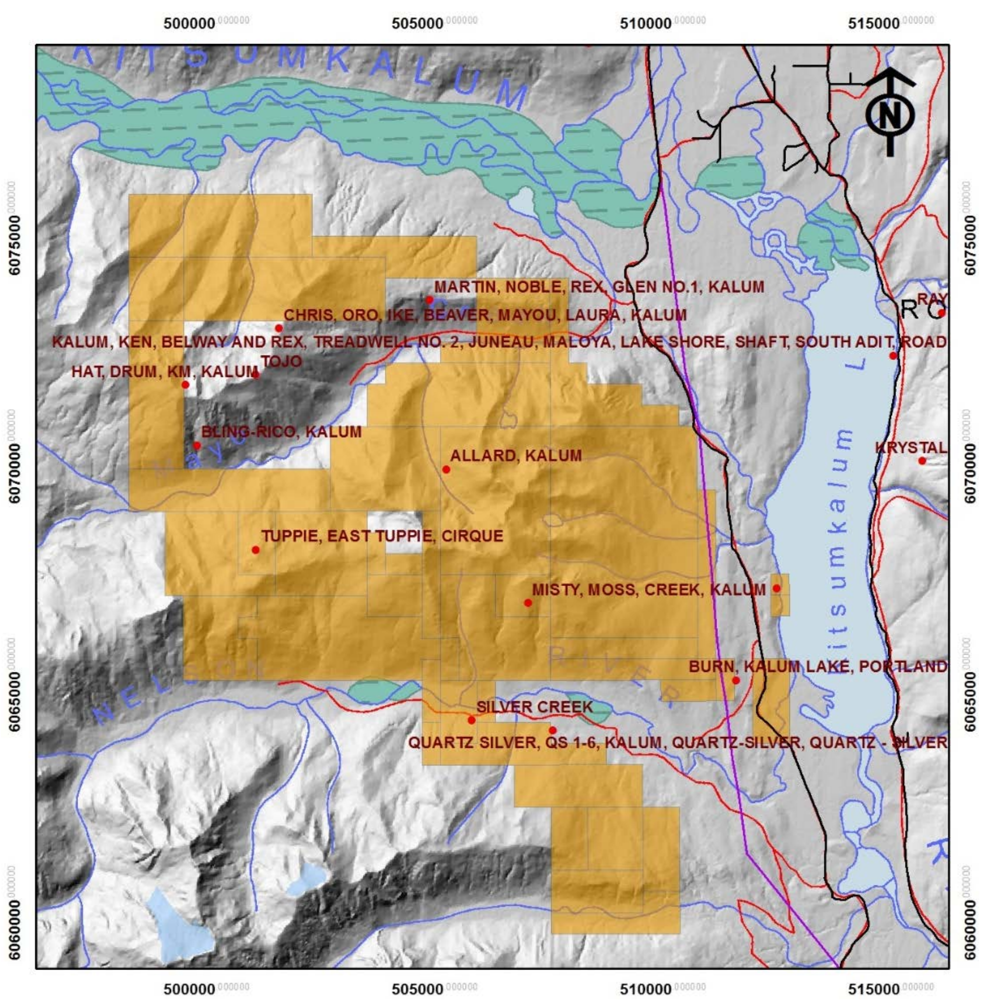



**Fig.7 Minfile occurrence in Kulam Gold property (before Nov 10, 2016)**

# 6 Work on claims in 2016

The field prospection and geochemical sampling work on Kalum Gold claims were carried out in end of May to early June in 2016. It was the first time working on property, so the work also was emphasised on transportation, physiography and other working conditions. Field work involved in geological survey by traverse in claim, rock and soil sampling and analysis, petrological study. The soil sampling was taken on an area of intrusive contact zone judged by public geological map, aimed to discover any pattern of element content changes and possible gold mineralization.

A project manager, a geologist and two helpers were employed in the work. They commuted from Terrace to worksite by a pickup truck every day. Helicopter was hired for mineralization showing inspection. Total cost is $64050.81, which covers sit visit, indoor research and field work.

The rugged topography and dense vegetation made the ground traverse very difficulty (Photo.1). It was almost impossible working to high elevation or remote location without the aid of helicopter. Bedrocks expose better at higher level of mountain or deep canyon with cliffs, but they are still covered by snow over 1300m at end of May in North of Terrace (photo. 2-4).

Geological survey station and rock/soil sample site locations were recorded by GPS units (shown on Fig.8, Appendix E). The location, numbers, sample description, physiogeographical

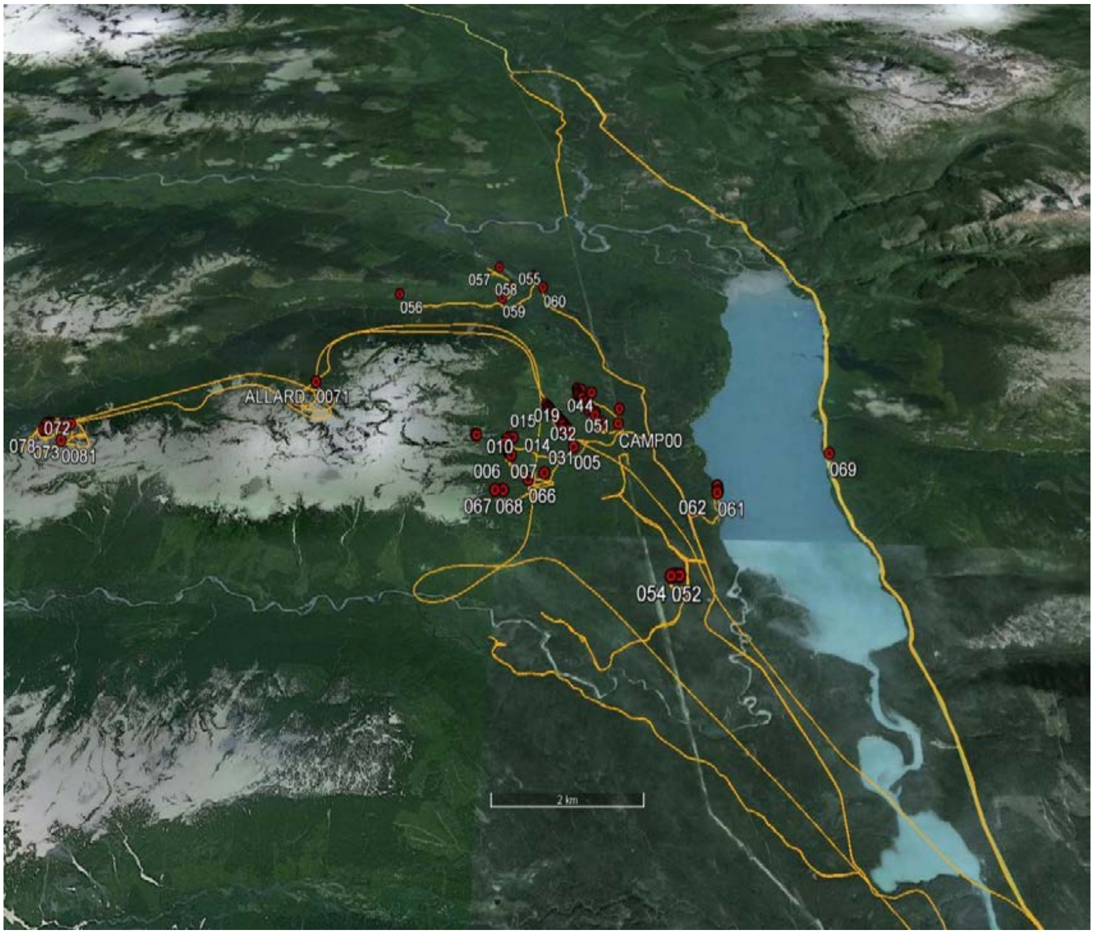



**Fig.8 Traverse line and work stations**
(red dot: soil sampling spot or geological observation location)

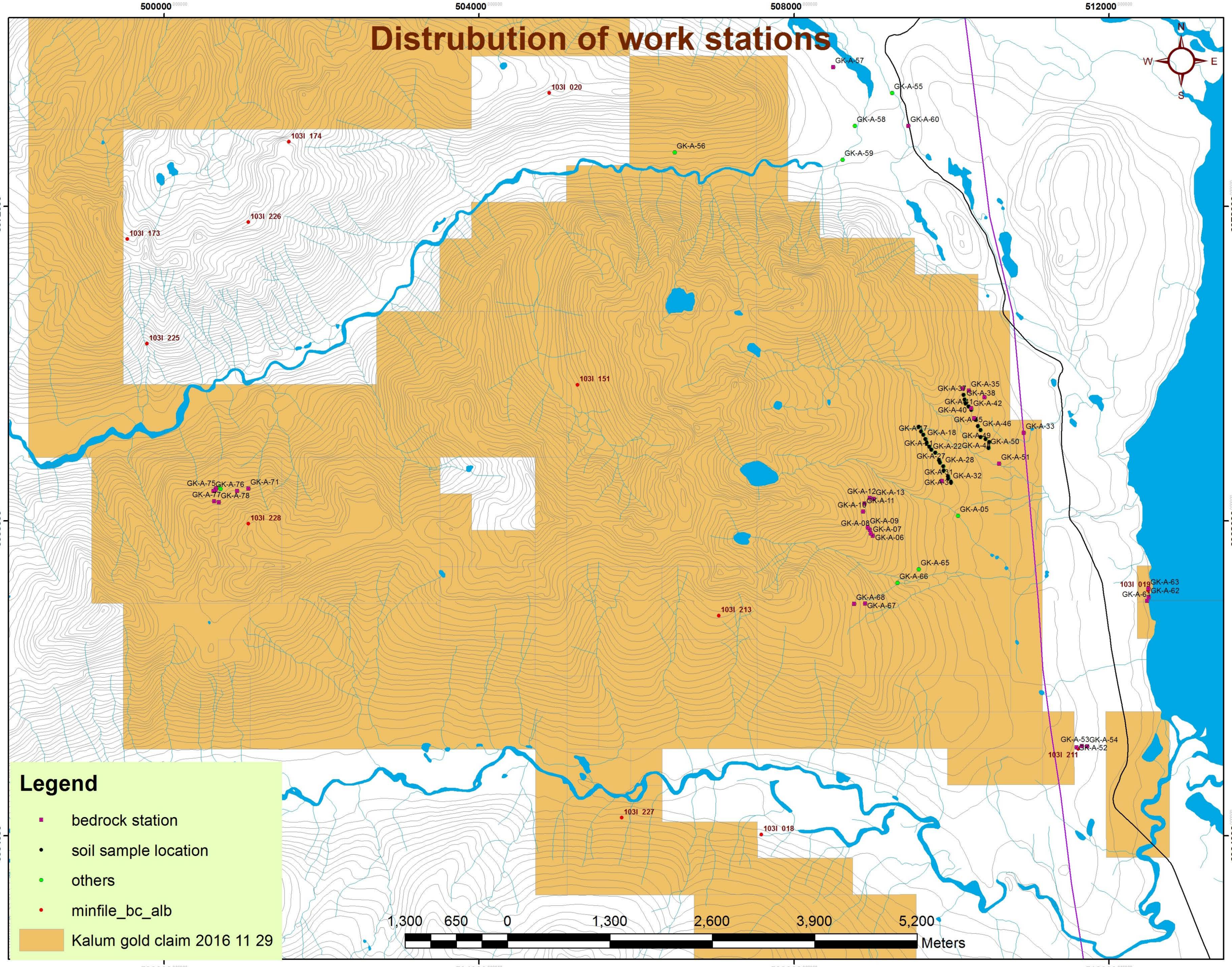



Fig.9 Survey station distribution map

**Photo 1 Traversing in Kalum Gold claims**

environment was noted in field. Soil sample collected in two lines in SE direction. Adjacent two samples were spaced nominally 100 m apart along traverse line. Samples were usually collected from the depth of 30-50cm at B/C horizon of claim's soil profile. Twenty-seven piece of soil sample were sent to lab for assay. Ten bedrock specimens were collected, several of them were made in thin section, and petrologically studied (GK-A-07, GK-A-61, GK-A-75) .

**Photo 2 Periphery rock of the Mount Allard pluton**

(diorite interweave with felsic veinlets; UTM 9U 508893 E, 6068218 N )

**Photo 3 Outcrop of clastic sedimentary surrounding rock**

(dark gray siltstone-slate mudstone; UTM 9U 512502 E, 6067030 N)

**Photo 4 Possible extension of Bling-Rico shear zone at the south of Mayo Creek**

(pyrite disseminated dikes interspersed dark gray siltstone-slate mudstone; UTM 9U 505654 E, 6068390 N)

The rock specimens from margin of Mount Allard intrusion indicated strong altered (chlorite-actinolite) micro-diorite property. Hosting sedimentary (sandstone-mudstone) are altered as well (Photo.5, 6).

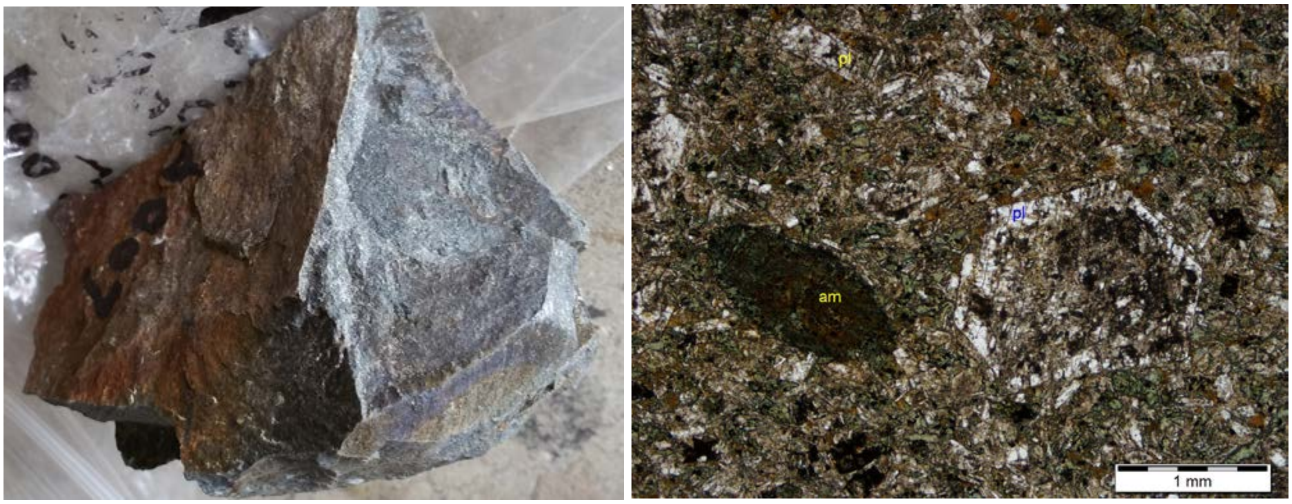



**Photo 5 Fine grained diorite**

(Right: specimen from GK-A-07, UTM 9U 508977E, 6067837N; Left: under microscope. Euhedral phenocrysts of plagioclase (pl), and subhedral phenocrysts of amphibole (am) are immersed within a fine-grained groundmass of amphibole, chlorite, plagioclase and opaque minerals.)

Photo 5_ fine-grained replacement aggregate of chlorite and fine-grained amphibole hosts randomly oriented inequigranular crystals of plagioclase, less abundant pseudomorphic aggregates (up to 3 mm) and phenocrysts (up to 3.5 mm long) of amphibole. The strongly altered magmatic microstructure is crosscut and filled in by conjugated veinlets of amphibole.

Photo 6_ Angular clay-altered clasts (after probable feldspar) and angular to subrounded clasts of quartz define a well sorted clast-supported microstructure. The cement is made up of clay, rare chlorite, and white mica.


**Photo 6 Altered sandstone**

(Right: specimen fromGK-A-61, UTM 9U 512484E, 6066984N; Left: under microscope. A clast-supported well sorted microstructure is defined by clasts of quartz (qz), clay (cl) and plagioclase (pl).)

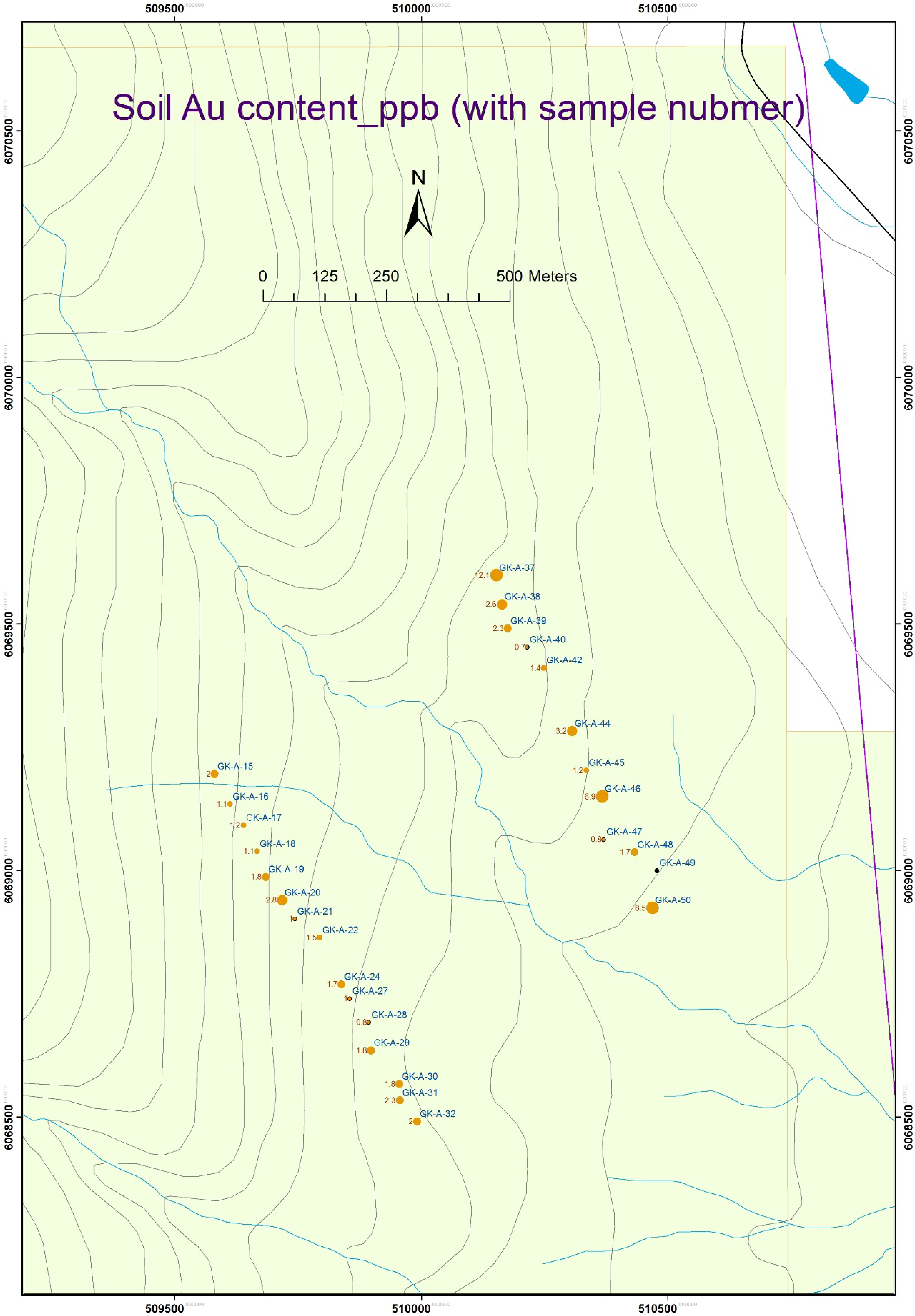
The geochemical survey had been planned to deploy around a known mineralization outcrop on top of Mount Allard. The attempt was given up due to climate and accessibility. One contact zone at southeast margin of Allard intrusion was selected at last to fulfill the work. Objective of the survey was to understand any mobilization and enrichment of elements within and near contact zone.

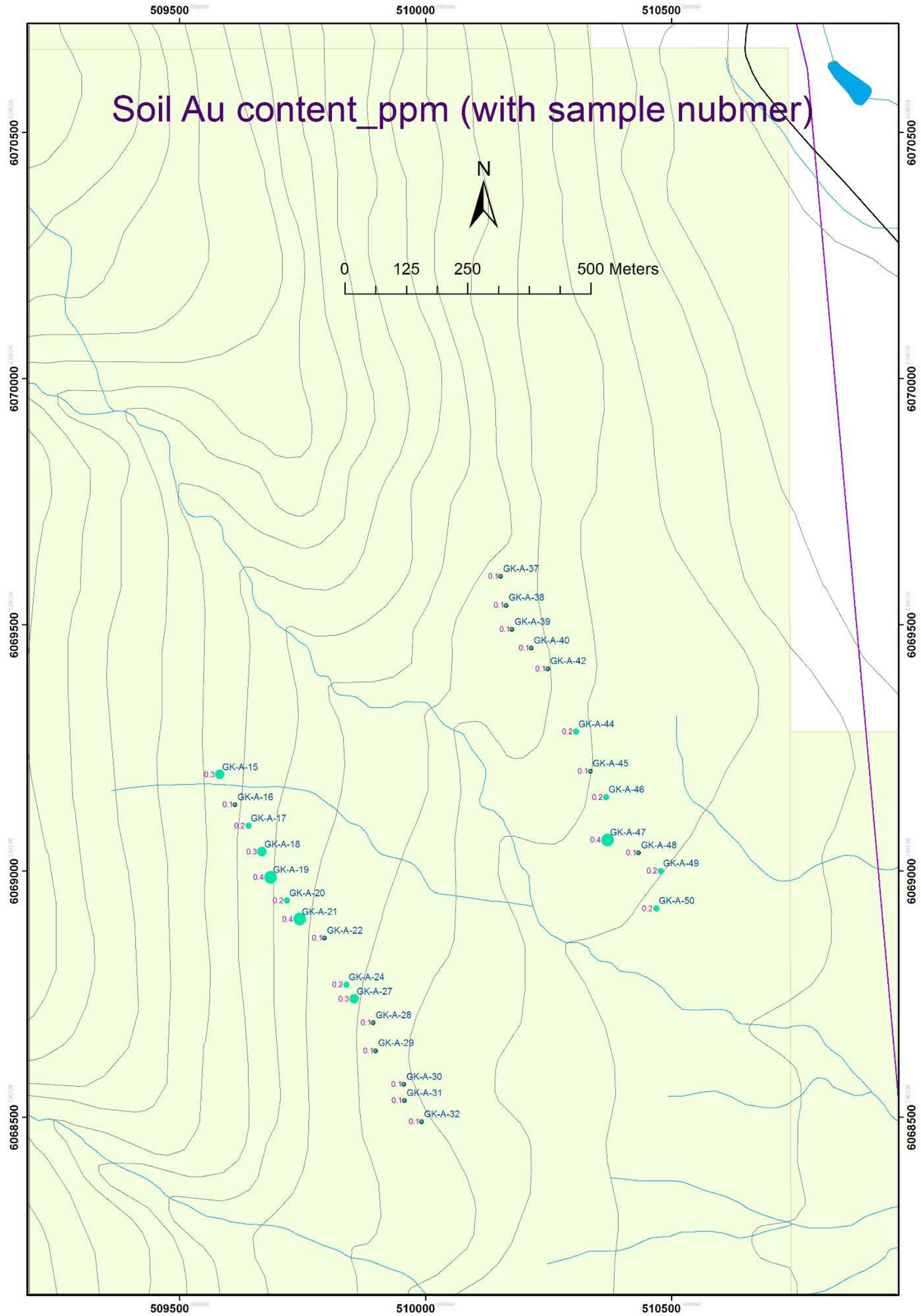
According to previous study on Kalum Gold property, gold mineralization and related geology on the Kalum Gold property match most of the key characteristics and features listed for Intrusion-Related Gold System (IGRS) by Hart (2005), which include:

- carbonic hydrothermal fluids;
- gold combined with elevated either Bi, W, As, Mo, Te and/or Sb and low base metal concentrations;
- usually low sulphide content (less than 5%) with arsenopyrite, pyrrhotite, pyrite but no magnetite or ilmenite;
- restricted areal extent and weak hydrothermal alteration;
- tectonic setting well away from convergent plate boundaries (continental setting), and location in magmatic provinces best known for tin and tungsten mineralisation.

By this model, display of indicator element content changes will be shown in zone of gold mineralization and contact. Assay results were not encouraging (Appendix D, Fig. 9) comparing with the above rules. Target and pathfinder elements (Au, Ag, As, Sb, W etc.) content are very low in assumed contact zone. The correlation coefficient between such elements are very low (-0.167-0.253), or with no correlation. It is clear there is no sign of significant element mobilization or enrichment along the direction on worked area.

When sampling soil, no physical contact zone was delineated in field. It was probable the sampling was totally lied within the intrusion, as outcrops of intrusion had been encountered at southeast of sampled area.


Soil Au content_ppb (with sample nubmer)
N
0
125
250
500 Meters
509500
510000
510500
6070500
6070000
6069500
6069000
6068500
GK-A-37
12.1
GK-A-38
2.6
GK-A-39
2.3
GK-A-40
0.7
GK-A-42
1.4
GK-A-44
3.2
GK-A-45
1.2
GK-A-46
6.9
GK-A-47
0.8
GK-A-48
1.7
GK-A-49
GK-A-50
8.5
GK-A-15
2
GK-A-16
1.1
GK-A-17
1.2
GK-A-18
1.1
GK-A-19
1.8
GK-A-20
2.8
GK-A-21
1
GK-A-22
1.5
GK-A-24
1.7
GK-A-27
1
GK-A-28
0.8
GK-A-29
1.8
GK-A-30
1.8
GK-A-31
2.3
GK-A-32
2



Soil Au content_ppm (with sample nubmer)
N
0
125
250
500 Meters
509500
510000
510500
6070500
6070000
6069500
6069000
6068500
GK-A-37
GK-A-38
GK-A-39
GK-A-40
GK-A-42
GK-A-44
GK-A-45
GK-A-46
GK-A-47
GK-A-48
GK-A-49
GK-A-50
GK-A-15
GK-A-16
GK-A-17
GK-A-18
GK-A-19
GK-A-20
GK-A-21
GK-A-22
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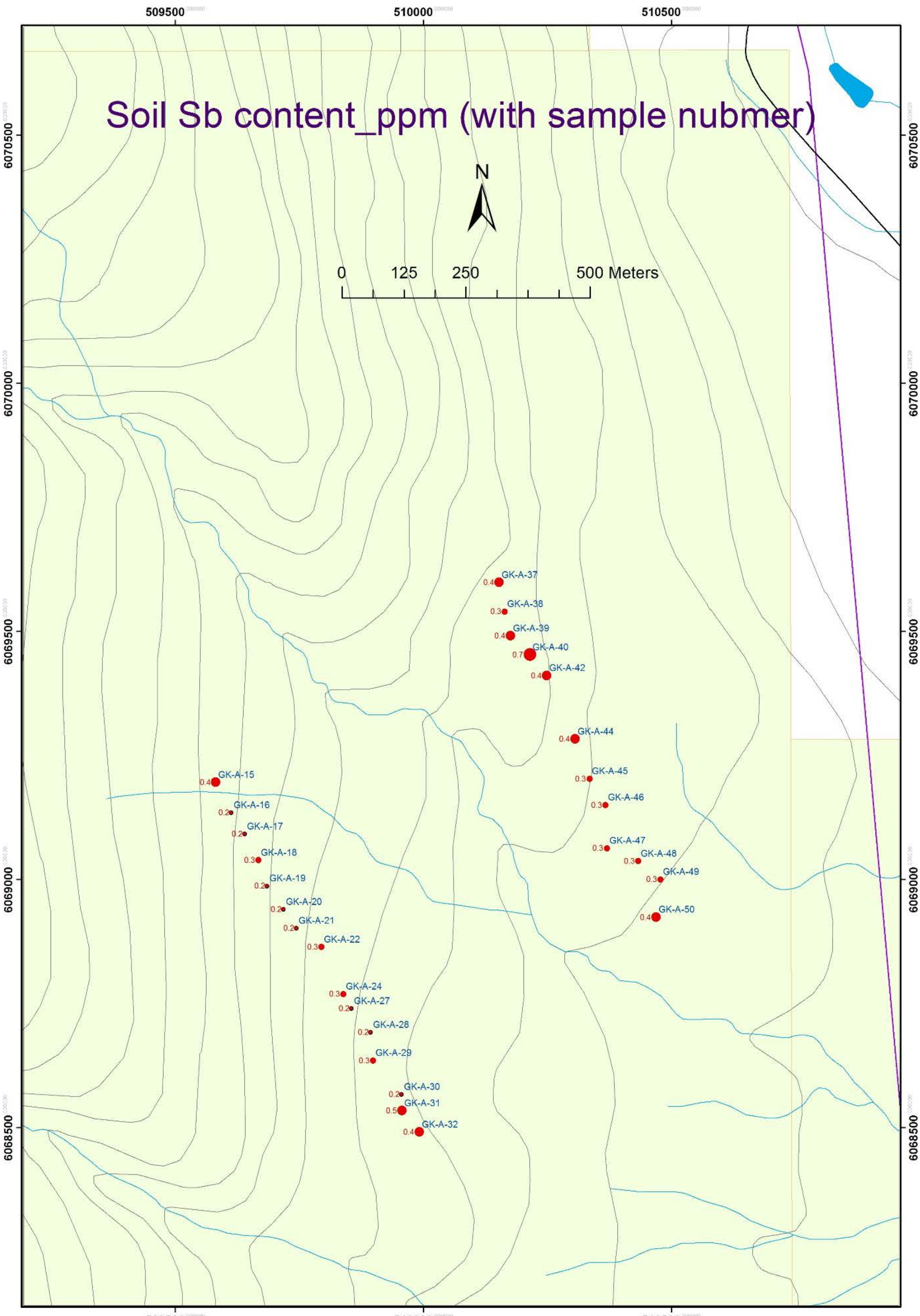
GK-A-27
GK-A-28
GK-A-29
GK-A-30
GK-A-31
GK-A-32



Soil Sb content_ppm (with sample nubmer)
N
0
125
250
500 Meters
509500
510000
510500
6070500
6070000
6069500
6069000
6068500
GK-A-37
0.4
GK-A-38
0.3
GK-A-39
0.4
GK-A-40
0.7
GK-A-42
0.4
GK-A-44
0.4
GK-A-45
0.3
GK-A-46
0.3
GK-A-47
0.3
GK-A-48
0.3
GK-A-49
0.3
GK-A-50
0.4
GK-A-15
0.4
GK-A-16
0.2
GK-A-17
0.2
GK-A-18
0.3
GK-A-19
0.2
GK-A-20
0.2
GK-A-21
0.2
GK-A-22
0.3
GK-A-24
0.3
GK-A-27
0.2
GK-A-28
0.2
GK-A-29
0.3
GK-A-30
0.2
GK-A-31
0.5
GK-A-32
0.4

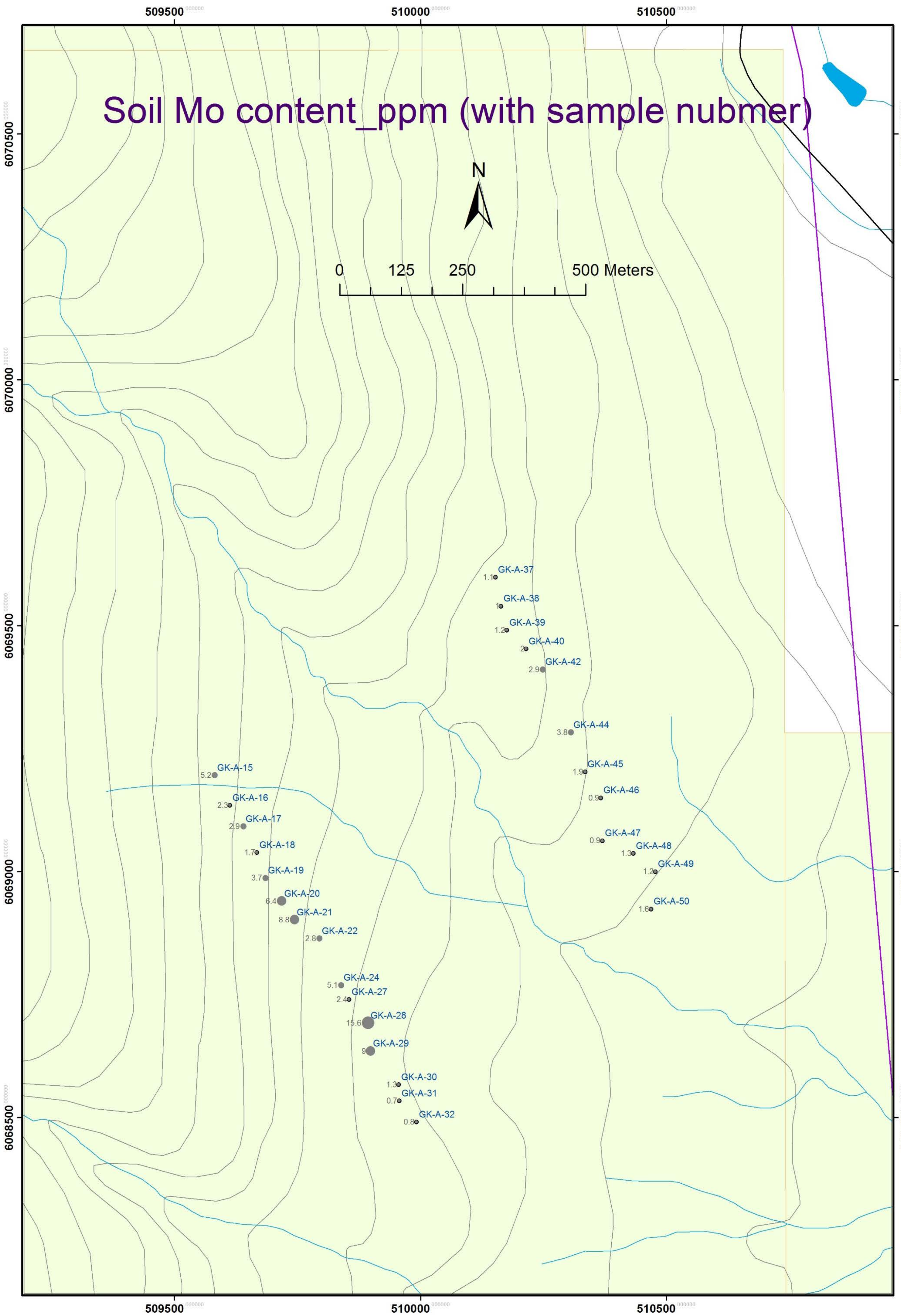



**Fig.10 Soil sample location, multielement content on contact zone**

# 7 Conclusion and recommendations    molybolum

Kalum gold mineral claim property lies in rugged, dense vegetation covered Coast mountain area. It is strongly recommended exploration should be helicopter aided, especially on high elevation.

The property had undergone a long and comprehensive exploration history. It is worth taking time to study the achievements in detail before carrying any field work. *Gold Fountain Resources* had this done by Dave Lefebure in September 2016. The conclusion of his study is a great help for future work.

It is a consensus that mineralization of Kalum Gold property is classified as intrusion-related gold system (IGRS). This understanding widens the type of deposits and prospecting signs, such as outward zoning of both vein types and metals from the pluton.

As IGRS metallogenic model, exposed/buried intrusion and contact and associated faulting system are key controlling factors of gold mineralization. Tuppie district, the SSE extension area of Hot-Biling/Rico shear zone (Fig.7, photo 5), is a favorable target area based on the model and field prospection.

The limited fieldwork this year did not achieve the desired results due to a few restrictions. Exploration deployed near known mineralization spot/zone is usually more fruitful, and a systematic, step-by-step, prospecting-oriented work is a must.

# References


Dave Lefebure, Technical report for Gold Fountain Resources Inc., September 4, 2016

2012 geological and diamond drilling report for the Kalum property, Chris Gallagher, AR33752 . Mar 2013

Petrographic Report on Eight Rock Samples for Gold Fountain Resources, Fabrizio Colombo, August 15, 2016

Geological and geochemical and geophysical report for the Kalum property, volume I – report, Aaron Higgs, AR31279, Nov.2009

Downie, C.C. and Gallagher, C.S. (2006): 2005 Exploration and Geological Report for the Kalum Property, for Eagle Plains Resources Ltd.; 44 pages with appendices; , MEM AR 28462

Nelson, J.L., Kennedy, R., Angen, J., and Newman, S. (2007): Geology of Terrace Area, Ministry of Energy and Mines, Open File 2007-04, map.

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# APPENDICES

## Appendix A: Statment of Qualifications

**Rongju Xie (Raymond Xie), P. Geo.**

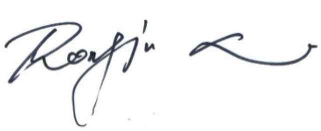
8067 162B St.
Surrey, BC
V4N 0J7

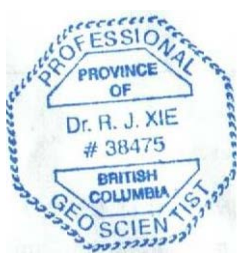
**Email:** raymondxie@hotmail.com

I, Rongju Xie (Raymond Xie), do hereby certify that:

1) I am a registered geologist in the province of British Columbia.
2) I hold a Bachelor's degree in geology, obtained from *Guilin University of Technology* in 1984; M.Sc. degree from *China University of Geosciences (Wuhan)* in 1987, PhD in Geosciences from *Central South University*, China.
3) I studied in Geology and worked in mineral prospection over 25 years, and have related working experience both in China and Canada.
4) I have done geological exploration work on the Kalum Gold property in May to early June of 2016 *for Gold Fountain Resources Inc.* I authored this report based on my field and research work.
5) I have no financial interest, directly or indirectly, in the Kalum Gold properties.

Dated this 4th day of Feb, 2017, Surrey BC






Raymond Xie P.Geo.

# Appendix B: Cost statement

| Exploration Work type | Comment | Days | | | Totals |
|---|---|---|---|---|---|
| | | | | | |
| **Personnel (Name)* / Position** | **Field Days (list actual days)** | **Days** | **Rate** | **Subtotal*** | |
| Talor Wu(project manager) | August 25 to 31, 2016 | 7 | $450.00 | $3,150.00 | |
| Maryam Toudeh (SGT) | August 25 to 31, 2016 | 7 | $450.00 | $3,150.00 | |
| Jingwei Yao (field helper) | August 25 to 31, 2016 | 7 | $300.00 | $2,100.00 | |
| Raymond Xie(geologist) | May22,2016-Jun02,2016 | 13 | $550.00 | $7,150.00 | |
| Song Yang(field helper) | May22,2016-Jun02,2016 | 13 | $250.00 | $3,250.00 | |
| Steve Guan(field helper) | May22,2016-Jun02,2016 | 13 | $250.00 | $3,250.00 | |
| | | | | $22,050.00 | **$22,050.00** |
| **Office Studies** | **List Personnel (note - Office only, do not include field days** | | | | |
| Literature search | David Lefebure (Geologist) | 8.0 | $800.00 | $6,400.00 | |
| Literature search | Maryam T. K. | 10.0 | $350.00 | $3,500.00 | |
| Literature search | Bob T. Hart Consulting | 3.0 | $800.00 | $2,400.00 | |
| Database compilation | | | $0.00 | $0.00 | |
| Computer modelling | Christopher Baldys (Geologist) | 7.0 | $550.00 | $3,850.00 | |
| Reprocessing of data | | | $0.00 | $0.00 | |
| General research | | | $0.00 | $0.00 | |
| Report preparation | Rongju Xie (Geologist) | 8.0 | $450.00 | $3,600.00 | |
| | | | | $19,750.00 | **$19,750.00** |
| **Airborne Exploration Surveys** | **Line Kilometres / Enter total invoiced amount** | | | | |
| Aeromagnetics | | | $0.00 | $0.00 | |
| Radiometrics | | | $0.00 | $0.00 | |
| Electromagnetics | | | $0.00 | $0.00 | |
| Gravity | | | $0.00 | $0.00 | |
| Digital terrain modelling | | | $0.00 | $0.00 | |
| Other (specify) | | | $0.00 | $0.00 | |
| | | | | $0.00 | **$0.00** |
| **Remote Sensing** | **Area in Hectares / Enter total invoiced amount or list personnel** | | | | |
| Aerial photography | | | $0.00 | $0.00 | |
| LANDSAT | | | $0.00 | $0.00 | |
| Other (specify) | | | $0.00 | $0.00 | |
| | | | | $0.00 | **$0.00** |
| **Ground Exploration Surveys** | **Area in Hectares/List Personnel** | | | | |
| Geological mapping | | | | | |
| Regional | | *note: expenditures here* | | | |
| Reconnaissance | | *should be captured in Personnel* | | | |
| Prospect | | *field expenditures above* | | | |
| Underground | Define by length and width | | | | |
| Trenches | Define by length and width | | | $0.00 | **$0.00** |
| | | | | | |

| Ground geophysics | Line Kilometres / Enter total amount invoiced list personnel | | | | |
|---|---|---|---|---|---|
| Radiometrics | | | | | |
| Magnetics | | | | | |
| Gravity | | | | | |
| Digital terrain modelling | | | | | |
| Electromagnetics | *note: expenditures for your crew in the field* | | | | |
| SP/AP/EP | *should be captured above in Personnel* | | | | |
| IP | *field expenditures above* | | | | |
| AMT/CSAMT | | | | | |
| Resistivity | | | | | |
| Complex resistivity | | | | | |
| Seismic reflection | | | | | |
| Seismic refraction | | | | | |
| Well logging | Define by total length | | | | |
| Geophysical interpretation | | | | | |
| Petrophysics | | | | | |
| Other (specify) | | | | | |
| | | | | $0.00 | **$0.00** |
| **Geochemical Surveying** | **Number of Samples** | **No.** | **Rate** | **Subtotal** | |
| Drill (cuttings, core, etc.) | | | $0.00 | $0.00 | |
| Stream sediment | | | $0.00 | $0.00 | |
| Soil | | 27.0 | $31.00 | $862.81 | |
| Rock | | 5.0 | $245.00 | $1,225.00 | |
| Water | | | $0.00 | $0.00 | |
| Biogeochemistry | | | $0.00 | $0.00 | |
| Whole rock | | | $0.00 | $0.00 | |
| Petrology | | | $0.00 | $0.00 | |
| Other (specify) | | | $0.00 | $0.00 | |
| | | | | $2,087.81 | **$2,087.81** |
| **Drilling** | **No. of Holes, Size of Core and Metres** | **No.** | **Rate** | **Subtotal** | |
| Diamond | | | $0.00 | $0.00 | |
| Reverse circulation (RC) | | | $0.00 | $0.00 | |
| Rotary air blast (RAB) | | | $0.00 | $0.00 | |
| Other (specify) | | | $0.00 | $0.00 | |
| | | | | $0.00 | **$0.00** |
| **Other Operations** | **Clarify** | **No.** | **Rate** | **Subtotal** | |
| Trenching | | | $0.00 | $0.00 | |
| Bulk sampling | | | $0.00 | $0.00 | |
| Underground development | | | $0.00 | $0.00 | |
| Other (specify) | | | $0.00 | $0.00 | |
| | | | | $0.00 | **$0.00** |
| **Reclamation** | **Clarify** | **No.** | **Rate** | **Subtotal** | |
| After drilling | | | $0.00 | $0.00 | |
| Monitoring | | | $0.00 | $0.00 | |
| Other (specify) | | | $0.00 | $0.00 | |
| | | | | | |
| **Transportation** | | **No.** | **Rate** | **Subtotal** | |

| | | | | | |
|---|---|---|---|---|---|
| Airfare | | 3.00 | $798.00 | $2,394.00 | |
| Taxi | | 11.00 | $45.00 | $495.00 | |
| truck rental | | 18.00 | $150.00 | $2,700.00 | |
| kilometers | | ### | $0.50 | $1,600.00 | |
| ATV | | | $0.00 | $0.00 | |
| fuel | | ### | $1.26 | $1,077.30 | |
| Helicopter (hours) | | 3 | ##### | $3,680.00 | |
| Fuel (litres/hour) | | | $0.00 | $0.00 | |
| Other | | | | | |
| | | | | $11,946.30 | **$11,946.30** |
| **Accommodation & Food** | **Rates per day** | | | | |
| Hotel | | 54.00 | $115.00 | $6,210.00 | |
| Camp | | 0.00 | $0.00 | $0.00 | |
| Meals | day rate or actual costs-specify | 60.00 | $50.00 | $3,000.00 | |
| | | | | $9,210.00 | **$9,210.00** |
| **Miscellaneous** | | | | | |
| Telephone | $420/month x 1; Fees $340x 1 | 1.00 | $790.00 | $790.00 | |
| Other (Specify) | | | | | |
| | | | | $790.00 | **$790.00** |
| **Equipment Rentals** | | | | | |
| Field Gear (Specify) | GPS,generator, applances,safty gear.... | | ##### | $2,977.70 | |
| Other (Specify) | maps | 1.00 | $139.00 | $139.00 | |
| | | | | $3,116.70 | **$3,116.70** |
| **Freight, rock samples** | | | | | |
| | | | $0.00 | $0.00 | |
| | | | $0.00 | $0.00 | |
| | | | | $0.00 | **$0.00** |
| *TOTAL Expenditures* | | | | | **$68,950.81** |

# Appendix C: Online property renewal conformation



Print and Close | Cancel

## Mineral Titles Online

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

**Confirmation**

**Recorder:** GOLD FOUNTAIN RESOURCES INC. (282410)
**Submitter:** GOLD FOUNTAIN RESOURCES INC. (282410)
**Recorded:** 2016/NOV/16
**Effective:** 2016/NOV/16
**D/E Date:** 2016/NOV/16

**Confirmation**

If you have not yet submitted your report for this work program, your technical work report is due in 90 days. The Exploration and Development Work/Expiry Date Change event number is required with your report submission. **Please attach a copy of this confirmation page to your report.** Contact Mineral Titles Branch for more information.

**Event Number:** 5626151

**Work Type:** Technical Work
**Technical Items:** Geochemical, Geological

**Work Start Date:** 2016/APR/01
**Work Stop Date:** 2016/SEP/10
**Total Value of Work:** $ 68950.81
**Mine Permit No:**

**Summary of the work value:**

| Title Number | Claim Name/Property | Issue Date | Good To Date | New Good To Date | # of Days For-ward | Area In Ha | Applied Work Value | Sub-mission Fee |
|---|---|---|---|---|---|---|---|---|
| 1041103 | GFR01 | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 391.14 | $ 2812.98 | $ 0.00 |
| 1041107 | GFR02 | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 391.42 | $ 2815.00 | $ 0.00 |
| 1041110 | SILVER | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 18.68 | $ 134.32 | $ 0.00 |
| 1041112 | BURN | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 37.34 | $ 268.57 | $ 0.00 |
| 1041113 | GFR03 | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 410.30 | $ 2950.80 | $ 0.00 |
| 1041118 | GFR04 | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 447.57 | $ 3218.85 | $ 0.00 |
| 1041120 | GFR26 | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 1492.46 | $ 10733.44 | $ 0.00 |
| 1041121 | MISTY | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 111.98 | $ 805.32 | $ 0.00 |
| 1041122 | MISTY | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 112.06 | $ 805.93 | $ 0.00 |
| 1041123 | GFR05 | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 540.62 | $ 3888.03 | $ 0.00 |
| 1041124 | GFR27 | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 783.38 | $ 5633.89 | $ 0.00 |
| 1041125 | SILVER | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 37.34 | $ 268.57 | $ 0.00 |
| 1041126 | GFR06 | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 614.85 | $ 4421.85 | $ 0.00 |
| 1041127 | GFR07 | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 373.14 | $ 2683.54 | $ 0.00 |
| 1041228 | TUPPIE | 2016/jan/11 | 2017/jan/09 | 2018/jun/18 | 525 | 111.94 | $ 1047.29 | $ 0.00 |
| 1041129 | GFR28 | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 111.96 | $ 805.22 | $ 0.00 |
| 1041130 | GFR08 | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 37.31 | $ 268.35 | $ 0.00 |
| 1041131 | GFR29 | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 410.71 | $ 2953.73 | $ 0.00 |
| 1041132 | GFR09 | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 335.81 | $ 2415.10 | $ 0.00 |
| 1041133 | | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 111.98 | $ 805.35 | $ 0.00 |
| 1041134 | GFR30 | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 37.32 | $ 268.37 | $ 0.00 |
| 1041135 | MG | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 56.03 | $ 402.92 | $ 0.00 |
| 1047584 | | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 167.66 | $ 1205.77 | $ 0.00 |
| 1047585 | GFR10 | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 167.60 | $ 1205.37 | $ 0.00 |
| 1041138 | GFR31 | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 168.05 | $ 1208.55 | $ 0.00 |
| 1041139 | GFR11 | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 335.44 | $ 2412.43 | $ 0.00 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1041140 | GFR33 | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 149.36 | $ 1074.15 | $ 0.00 |
| 1041141 | GFR34 | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 279.64 | $ 2011.11 | $ 0.00 |
| 1041142 | GFR35 | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 55.90 | $ 402.05 | $ 0.00 |
| 1041143 | GFR12 | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 260.80 | $ 1875.63 | $ 0.00 |
| 1041144 | GFR13 | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 280.05 | $ 2014.09 | $ 0.00 |
| 1047589 | GFR31 | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 653.48 | $ 4699.67 | $ 0.00 |
| 1047590 | GFR32 | 2016/jan/09 | 2017/jan/09 | 2018/jun/18 | 525 | 37.36 | $ 268.68 | $ 0.00 |

**Financial Summary:**

**Total applied work value:**$ 68784.92

**PAC name:** Gold Fountain REsources
**Debited PAC amount:** $ 0.0
**Credited PAC amount:** $ 165.89

**Total Submission Fees:** $ 0.0

**Total Paid:** **$ 0.0**

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# Appendix D:  Certificates of analysis

BUREAU VERITAS MINERAL LABORATORIES Canada

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Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St  Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

**Client:** **Gold Fountain Resources**
203 - 11020 No. 5 Road
Richmond BC V7A 4E7 CANADA

| | |
|---|---|
| Submitted By: | Raymond Xie |
| Receiving Lab: | Canada-Vancouver |
| Received: | June 22, 2016 |
| Report Date: | July 06, 2016 |
| Page: | 1 of 2 |

## CERTIFICATE OF ANALYSIS  VAN16001006.1

### CLIENT JOB INFORMATION

| | |
|---|---|
| Project: | None Given |
| Shipment ID: | Soil Sample List - 2 |
| P.O. Number | |
| Number of Samples: | 27 |

### SAMPLE DISPOSAL

| | |
|---|---|
| DISP-PLP | Dispose of Pulp After 90 days |
| DISP-RJT-SOIL | Immediate Disposal of Soil Reject |

Bureau Veritas does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

### SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

| Procedure Code | Number of Samples | Code Description | Test Wgt (g) | Report Status | Lab |
|---|---|---|---|---|---|
| Dry at 60C | 27 | Dry at 60C | | | VAN |
| SS80 | 27 | Dry at 60C sieve 100g to -80 mesh | | | VAN |
| AQ201 | 27 | 1:1:1 Aqua Regia digestion ICP-MS analysis | 15 | Completed | VAN |

### ADDITIONAL COMMENTS

Invoice To: Gold Fountain Resources
203 - 11020 No. 5 Road
Richmond BC V7A 4E7
CANADA

CC: Taylor Wu


This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only.
All results are considered the confidential property of the client. Bureau Veritas assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted.
"*" asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.

BUREAU VERITAS MINERAL LABORATORIES Canada

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Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA

PHONE (604) 253-3158

Client: **Gold Fountain Resources**
203 - 11020 No. 5 Road
Richmond BC V7A 4E7 CANADA

Project: None Given
Report Date: July 06, 2016



# CERTIFICATE OF ANALYSIS VAN16001006.1

| | Method | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Mo | Cu | Pb | Zn | Ag | Ni | Co | Mn | Fe | As | Au | Th | Sr | Cd | Sb | Bi | V | Ca | P | La |
| | Unit | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | % | ppm | ppb | ppm | ppm | ppm | ppm | ppm | ppm | % | % | ppm |
| | MDL | 0.1 | 0.1 | 0.1 | 1 | 0.1 | 0.1 | 0.1 | 1 | 0.01 | 0.5 | 0.5 | 0.1 | 1 | 0.1 | 0.1 | 0.1 | 2 | 0.01 | 0.001 | 1 |
| GK-A-015 | Soil | 5.2 | 13.8 | 9.2 | 39 | 0.3 | 8.3 | 4.0 | 303 | 4.81 | 9.2 | 2.0 | 1.2 | 20 | 0.4 | 0.4 | 0.3 | 71 | 0.23 | 0.042 | 11 |
| GK-A-016 | Soil | 2.3 | 10.1 | 6.6 | 23 | 0.1 | 4.9 | 2.8 | 150 | 3.92 | 7.8 | 1.1 | 2.7 | 18 | 0.2 | 0.2 | 0.2 | 64 | 0.17 | 0.084 | 7 |
| GK-A-017 | Soil | 2.9 | 18.7 | 6.8 | 60 | 0.2 | 9.1 | 5.4 | 306 | 3.20 | 7.4 | 1.2 | 2.4 | 17 | 0.2 | 0.2 | 0.2 | 63 | 0.17 | 0.047 | 8 |
| GK-A-018 | Soil | 1.7 | 14.8 | 8.1 | 31 | 0.3 | 6.2 | 2.9 | 147 | 4.36 | 5.7 | 1.1 | 2.7 | 11 | <0.1 | 0.3 | 0.1 | 75 | 0.09 | 0.035 | 6 |
| GK-A-019 | Soil | 3.7 | 23.1 | 5.1 | 37 | 0.4 | 5.1 | 6.6 | 303 | 2.58 | 6.5 | 1.8 | 0.7 | 17 | 0.1 | 0.2 | <0.1 | 54 | 0.17 | 0.061 | 9 |
| GK-A-020 | Soil | 6.4 | 23.2 | 7.1 | 47 | 0.2 | 7.0 | 5.2 | 182 | 3.54 | 16.6 | 2.8 | 2.5 | 16 | 0.2 | 0.2 | 0.1 | 80 | 0.16 | 0.050 | 7 |
| GK-A-021 | Soil | 8.8 | 23.7 | 6.4 | 30 | 0.4 | 5.2 | 4.0 | 207 | 2.29 | 31.7 | 1.0 | 1.1 | 14 | 0.2 | 0.2 | <0.1 | 61 | 0.13 | 0.089 | 16 |
| GK-A-022 | Soil | 2.8 | 15.3 | 6.9 | 34 | 0.1 | 8.7 | 4.7 | 223 | 2.93 | 5.0 | 1.5 | 1.5 | 15 | 0.2 | 0.3 | 0.2 | 73 | 0.14 | 0.044 | 7 |
| GK-A-024 | Soil | 5.1 | 11.4 | 7.1 | 34 | 0.2 | 7.0 | 3.5 | 186 | 4.92 | 6.0 | 1.7 | 1.4 | 17 | 0.1 | 0.3 | 0.2 | 94 | 0.14 | 0.045 | 6 |
| GK-A-027 | Soil | 2.4 | 11.7 | 9.4 | 36 | 0.3 | 5.4 | 3.2 | 124 | 5.73 | 7.5 | 1.0 | 3.0 | 12 | 0.1 | 0.2 | 0.1 | 68 | 0.12 | 0.081 | 7 |
| GK-A-028 | Soil | 15.6 | 8.0 | 7.3 | 105 | <0.1 | 12.7 | 9.4 | 327 | 4.30 | 28.7 | 0.8 | 0.8 | 29 | <0.1 | 0.2 | 0.2 | 96 | 0.40 | 0.056 | 7 |
| GK-A-029 | Soil | 9.0 | 9.1 | 8.7 | 39 | <0.1 | 8.1 | 4.9 | 188 | 4.01 | 9.8 | 1.8 | 1.5 | 18 | 0.1 | 0.3 | 0.2 | 77 | 0.16 | 0.044 | 7 |
| GK-A-030 | Soil | 1.3 | 12.2 | 5.7 | 26 | <0.1 | 5.1 | 4.1 | 240 | 4.34 | 9.1 | 1.8 | 1.4 | 47 | <0.1 | 0.2 | <0.1 | 79 | 0.36 | 0.402 | 4 |
| GK-A-031 | Soil | 0.7 | 20.5 | 6.9 | 60 | <0.1 | 8.9 | 9.5 | 599 | 3.42 | 20.3 | 2.3 | 1.6 | 82 | <0.1 | 0.5 | <0.1 | 73 | 0.57 | 0.118 | 7 |
| GK-A-032 | Soil | 0.8 | 14.7 | 6.1 | 34 | 0.1 | 7.7 | 6.3 | 555 | 2.92 | 13.3 | 2.0 | 0.7 | 54 | 0.2 | 0.4 | <0.1 | 59 | 0.40 | 0.106 | 5 |
| GK-A-037 | Soil | 1.1 | 21.1 | 7.7 | 47 | <0.1 | 10.7 | 5.4 | 202 | 4.12 | 8.9 | 12.1 | 2.3 | 15 | <0.1 | 0.4 | 0.2 | 71 | 0.11 | 0.101 | 6 |
| GK-A-038 | Soil | 1.0 | 25.2 | 6.8 | 56 | <0.1 | 20.1 | 7.0 | 264 | 3.58 | 9.2 | 2.6 | 2.5 | 16 | <0.1 | 0.3 | 0.2 | 73 | 0.11 | 0.077 | 6 |
| GK-A-039 | Soil | 1.2 | 29.0 | 7.6 | 88 | <0.1 | 22.6 | 8.9 | 252 | 4.07 | 10.2 | 2.3 | 2.8 | 12 | 0.1 | 0.4 | 0.1 | 74 | 0.09 | 0.069 | 6 |
| GK-A-040 | Soil | 2.0 | 15.8 | 9.4 | 58 | <0.1 | 10.8 | 5.2 | 257 | 5.74 | 12.8 | 0.7 | 2.6 | 13 | 0.1 | 0.7 | 0.2 | 86 | 0.09 | 0.388 | 5 |
| GK-A-042 | Soil | 2.9 | 21.5 | 10.8 | 100 | 0.1 | 20.0 | 9.5 | 446 | 4.30 | 26.1 | 1.4 | 2.3 | 19 | 0.2 | 0.4 | 0.3 | 73 | 0.15 | 0.137 | 6 |
| GK-A-044 | Soil | 3.8 | 27.7 | 7.7 | 58 | 0.2 | 14.0 | 7.1 | 198 | 3.06 | 8.8 | 3.2 | 2.0 | 14 | 0.2 | 0.4 | 0.2 | 65 | 0.10 | 0.074 | 7 |
| GK-A-045 | Soil | 1.9 | 25.8 | 6.8 | 58 | 0.1 | 4.6 | 4.4 | 168 | 3.37 | 5.2 | 1.2 | 1.7 | 26 | 0.1 | 0.3 | <0.1 | 70 | 0.16 | 0.090 | 4 |
| GK-A-046 | Soil | 0.9 | 40.8 | 5.7 | 68 | 0.2 | 6.8 | 7.6 | 265 | 3.83 | 4.6 | 6.9 | 2.0 | 31 | 0.1 | 0.3 | <0.1 | 72 | 0.15 | 0.129 | 4 |
| GK-A-047 | Soil | 0.9 | 45.6 | 7.1 | 95 | 0.4 | 8.2 | 7.1 | 295 | 4.04 | 4.6 | 0.8 | 2.4 | 25 | 0.1 | 0.3 | <0.1 | 69 | 0.12 | 0.167 | 4 |
| GK-A-048 | Soil | 1.3 | 19.4 | 8.9 | 102 | 0.1 | 16.0 | 8.9 | 235 | 4.39 | 7.1 | 1.7 | 2.3 | 10 | 0.2 | 0.3 | 0.2 | 82 | 0.08 | 0.127 | 7 |
| GK-A-049 | Soil | 1.2 | 28.0 | 9.1 | 98 | 0.2 | 8.5 | 5.6 | 188 | 5.27 | 8.4 | <0.5 | 3.1 | 13 | 0.3 | 0.3 | 0.1 | 82 | 0.07 | 0.516 | 4 |
| GK-A-050 | Soil | 1.6 | 45.9 | 8.5 | 95 | 0.2 | 14.6 | 8.7 | 260 | 3.93 | 9.4 | 8.5 | 2.9 | 24 | 0.2 | 0.4 | 0.2 | 76 | 0.12 | 0.093 | 7 |

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PHONE (604) 253-3158

Client: **Gold Fountain Resources**
203 - 11020 No. 5 Road
Richmond BC V7A 4E7 CANADA

Project: None Given
Report Date: July 06, 2016



# CERTIFICATE OF ANALYSIS VAN16001006.1

| Method | | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | | Cr | Mg | Ba | Ti | B | Al | Na | K | W | Hg | Sc | Tl | S | Ga | Se | Te |
| Unit | | ppm | % | ppm | % | ppm | % | % | % | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm |
| MDL | | 1 | 0.01 | 1 | 0.001 | 1 | 0.01 | 0.001 | 0.01 | 0.1 | 0.01 | 0.1 | 0.1 | 0.05 | 1 | 0.5 | 0.2 |
| GK-A-015 | Soil | 18 | 0.27 | 78 | 0.093 | <1 | 2.29 | 0.007 | 0.04 | 0.5 | 0.11 | 2.7 | <0.1 | <0.05 | 15 | 0.7 | <0.2 |
| GK-A-016 | Soil | 18 | 0.16 | 59 | 0.055 | 2 | 6.33 | 0.007 | 0.02 | 10.1 | 0.33 | 3.1 | <0.1 | <0.05 | 11 | 1.1 | <0.2 |
| GK-A-017 | Soil | 18 | 0.26 | 52 | 0.068 | 2 | 3.72 | 0.008 | 0.03 | 0.4 | 0.15 | 3.1 | <0.1 | <0.05 | 9 | 1.0 | <0.2 |
| GK-A-018 | Soil | 18 | 0.16 | 38 | 0.038 | <1 | 3.75 | 0.007 | 0.02 | 0.3 | 0.18 | 2.5 | <0.1 | <0.05 | 11 | 0.7 | <0.2 |
| GK-A-019 | Soil | 10 | 0.22 | 72 | 0.037 | 1 | 4.33 | 0.010 | 0.03 | 0.4 | 0.20 | 2.2 | <0.1 | <0.05 | 8 | 1.1 | <0.2 |
| GK-A-020 | Soil | 15 | 0.20 | 78 | 0.042 | <1 | 4.79 | 0.010 | 0.03 | 0.5 | 0.20 | 3.0 | <0.1 | <0.05 | 11 | 0.8 | <0.2 |
| GK-A-021 | Soil | 14 | 0.15 | 70 | 0.041 | 3 | 8.43 | 0.006 | 0.02 | 2.0 | 0.33 | 3.2 | <0.1 | <0.05 | 7 | 1.8 | <0.2 |
| GK-A-022 | Soil | 14 | 0.27 | 63 | 0.069 | 1 | 2.39 | 0.009 | 0.03 | 0.4 | 0.11 | 2.6 | <0.1 | <0.05 | 11 | 0.5 | <0.2 |
| GK-A-024 | Soil | 17 | 0.20 | 49 | 0.089 | 1 | 1.89 | 0.005 | 0.02 | 0.6 | 0.10 | 1.8 | <0.1 | <0.05 | 15 | <0.5 | <0.2 |
| GK-A-027 | Soil | 21 | 0.14 | 41 | 0.081 | 1 | 6.96 | 0.007 | 0.02 | 0.4 | 0.26 | 3.7 | <0.1 | <0.05 | 11 | 1.0 | <0.2 |
| GK-A-028 | Soil | 24 | 0.58 | 66 | 0.071 | <1 | 2.08 | 0.009 | 0.04 | 0.3 | 0.03 | 4.1 | <0.1 | <0.05 | 9 | <0.5 | <0.2 |
| GK-A-029 | Soil | 20 | 0.24 | 60 | 0.072 | 1 | 4.02 | 0.007 | 0.02 | 0.3 | 0.17 | 3.1 | <0.1 | <0.05 | 13 | <0.5 | <0.2 |
| GK-A-030 | Soil | 11 | 0.23 | 117 | 0.033 | <1 | 2.24 | 0.013 | 0.02 | 0.6 | 0.07 | 2.1 | <0.1 | <0.05 | 8 | <0.5 | <0.2 |
| GK-A-031 | Soil | 9 | 0.42 | 148 | 0.033 | <1 | 2.23 | 0.024 | 0.04 | 0.4 | 0.06 | 2.6 | <0.1 | <0.05 | 6 | <0.5 | <0.2 |
| GK-A-032 | Soil | 10 | 0.29 | 100 | 0.023 | 1 | 1.76 | 0.017 | 0.04 | 0.5 | 0.11 | 1.7 | <0.1 | <0.05 | 7 | <0.5 | <0.2 |
| GK-A-037 | Soil | 20 | 0.31 | 74 | 0.033 | <1 | 3.52 | 0.009 | 0.03 | 1.2 | 0.12 | 3.1 | 0.1 | <0.05 | 10 | <0.5 | <0.2 |
| GK-A-038 | Soil | 27 | 0.50 | 93 | 0.058 | <1 | 3.31 | 0.010 | 0.03 | 0.2 | 0.04 | 3.2 | 0.1 | <0.05 | 9 | <0.5 | <0.2 |
| GK-A-039 | Soil | 32 | 0.44 | 80 | 0.080 | <1 | 4.39 | 0.010 | 0.03 | 0.3 | 0.09 | 5.1 | <0.1 | <0.05 | 7 | <0.5 | <0.2 |
| GK-A-040 | Soil | 30 | 0.25 | 44 | 0.033 | 1 | 4.42 | 0.008 | 0.02 | 0.3 | 0.11 | 3.1 | <0.1 | <0.05 | 12 | <0.5 | <0.2 |
| GK-A-042 | Soil | 28 | 0.28 | 73 | 0.046 | 1 | 3.19 | 0.008 | 0.05 | 0.3 | 0.08 | 2.9 | <0.1 | <0.05 | 10 | <0.5 | <0.2 |
| GK-A-044 | Soil | 18 | 0.28 | 79 | 0.043 | 1 | 2.17 | 0.008 | 0.03 | 0.2 | 0.11 | 2.9 | <0.1 | <0.05 | 8 | <0.5 | <0.2 |
| GK-A-045 | Soil | 12 | 0.24 | 81 | 0.034 | 1 | 3.50 | 0.007 | 0.02 | 0.2 | 0.07 | 2.6 | <0.1 | <0.05 | 9 | <0.5 | <0.2 |
| GK-A-046 | Soil | 13 | 0.30 | 93 | 0.029 | <1 | 4.02 | 0.009 | 0.03 | 0.4 | 0.15 | 3.4 | <0.1 | <0.05 | 7 | 0.5 | <0.2 |
| GK-A-047 | Soil | 18 | 0.29 | 99 | 0.043 | 2 | 5.22 | 0.009 | 0.03 | 0.4 | 0.10 | 5.2 | <0.1 | <0.05 | 8 | <0.5 | <0.2 |
| GK-A-048 | Soil | 27 | 0.31 | 73 | 0.081 | 1 | 4.22 | 0.007 | 0.03 | 0.2 | 0.08 | 4.5 | <0.1 | <0.05 | 10 | <0.5 | <0.2 |
| GK-A-049 | Soil | 27 | 0.19 | 57 | 0.026 | 1 | 8.24 | 0.006 | 0.03 | 0.4 | 0.18 | 3.2 | <0.1 | <0.05 | 9 | 0.7 | <0.2 |
| GK-A-050 | Soil | 22 | 0.43 | 85 | 0.075 | 1 | 4.34 | 0.010 | 0.04 | 0.4 | 0.11 | 4.9 | <0.1 | <0.05 | 10 | <0.5 | <0.2 |

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9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

**Client:** **Gold Fountain Resources**
203 - 11020 No. 5 Road
Richmond BC V7A 4E7 CANADA

Project: None Given
Report Date: July 06, 2016



# QUALITY CONTROL REPORT VAN16001006.1

| | Method | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Mo | Cu | Pb | Zn | Ag | Ni | Co | Mn | Fe | As | Au | Th | Sr | Cd | Sb | Bi | V | Ca | P | La |
| | Unit | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | % | ppm | ppb | ppm | ppm | ppm | ppm | ppm | ppm | % | % | ppm |
| | MDL | 0.1 | 0.1 | 0.1 | 1 | 0.1 | 0.1 | 0.1 | 1 | 0.01 | 0.5 | 0.5 | 0.1 | 1 | 0.1 | 0.1 | 0.1 | 2 | 0.01 | 0.001 | 1 |
| Pulp Duplicates | | | | | | | | | | | | | | | | | | | | | |
| GK-A-045 | Soil | 1.9 | 25.8 | 6.8 | 58 | 0.1 | 4.6 | 4.4 | 168 | 3.37 | 5.2 | 1.2 | 1.7 | 26 | 0.1 | 0.3 | <0.1 | 70 | 0.16 | 0.090 | 4 |
| REP GK-A-045 | QC | 1.8 | 24.5 | 7.1 | 56 | 0.1 | 4.7 | 4.6 | 177 | 3.45 | 5.1 | 1.1 | 1.7 | 26 | 0.1 | 0.3 | <0.1 | 70 | 0.16 | 0.090 | 4 |
| Reference Materials | | | | | | | | | | | | | | | | | | | | | |
| STD DS10 | Standard | 15.0 | 157.0 | 143.3 | 362 | 1.8 | 73.5 | 12.6 | 914 | 2.70 | 49.5 | 93.4 | 7.7 | 66 | 2.5 | 9.8 | 12.4 | 47 | 1.03 | 0.087 | 18 |
| STD OXC129 | Standard | 1.2 | 28.0 | 6.4 | 40 | <0.1 | 79.4 | 20.7 | 387 | 3.07 | 0.5 | 199.6 | 1.8 | 183 | <0.1 | <0.1 | <0.1 | 55 | 0.63 | 0.105 | 12 |
| STD DS10 Expected | | 15.1 | 154.61 | 150.55 | 370 | 2.02 | 74.6 | 12.9 | 875 | 2.7188 | 46.2 | 91.9 | 7.5 | 67.1 | 2.62 | 9 | 11.65 | 43 | 1.0625 | 0.0765 | 17.5 |
| STD OXC129 Expected | | 1.3 | 28 | 6.3 | 42.9 | | 79.5 | 20.3 | 421 | 3.065 | 0.6 | 195 | 1.9 | | | | | 51 | 0.665 | 0.102 | 13 |
| BLK | Blank | <0.1 | <0.1 | 0.3 | <1 | <0.1 | 0.2 | <0.1 | <1 | <0.01 | <0.5 | <0.5 | <0.1 | <1 | <0.1 | <0.1 | <0.1 | <2 | <0.01 | <0.001 | <1 |

MINERAL LABORATORIES
Canada

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Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **Gold Fountain Resources**
203 - 11020 No. 5 Road
Richmond BC V7A 4E7 CANADA

Project: None Given
Report Date: July 06, 2016



# QUALITY CONTROL REPORT VAN16001006.1

| | Method | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Cr | Mg | Ba | Ti | B | Al | Na | K | W | Hg | Sc | Tl | S | Ga | Se | Te |
| | Unit | ppm | % | ppm | % | ppm | % | % | % | ppm | ppm | ppm | ppm | % | ppm | ppm | ppm |
| | MDL | 1 | 0.01 | 1 | 0.001 | 1 | 0.01 | 0.001 | 0.01 | 0.1 | 0.01 | 0.1 | 0.1 | 0.05 | 1 | 0.5 | 0.2 |
| Pulp Duplicates | | | | | | | | | | | | | | | | | |
| GK-A-045 | Soil | 12 | 0.24 | 81 | 0.034 | 1 | 3.50 | 0.007 | 0.02 | 0.2 | 0.07 | 2.6 | <0.1 | <0.05 | 9 | <0.5 | <0.2 |
| REP GK-A-045 | QC | 12 | 0.22 | 82 | 0.034 | <1 | 3.38 | 0.007 | 0.02 | 0.2 | 0.09 | 2.8 | <0.1 | <0.05 | 9 | <0.5 | <0.2 |
| Reference Materials | | | | | | | | | | | | | | | | | |
| STD DS10 | Standard | 57 | 0.78 | 359 | 0.079 | 8 | 1.02 | 0.064 | 0.32 | 3.2 | 0.28 | 2.9 | 5.1 | 0.30 | 4 | 2.2 | 4.8 |
| STD OXC129 | Standard | 52 | 1.51 | 48 | 0.371 | 1 | 1.47 | 0.544 | 0.32 | <0.1 | <0.01 | 0.7 | <0.1 | <0.05 | 6 | <0.5 | <0.2 |
| STD DS10 Expected | | 54.6 | 0.775 | 359 | 0.0817 | | 1.0755 | 0.067 | 0.338 | 3.32 | 0.3 | 3 | 5.1 | 0.29 | 4.5 | 2.3 | 5.01 |
| STD OXC129 Expected | | 52 | 1.545 | 50 | 0.4 | 1 | 1.58 | 0.6 | 0.37 | | | 1.1 | | | 5.6 | | |
| BLK | Blank | <1 | <0.01 | <1 | <0.001 | <1 | <0.01 | <0.001 | <0.01 | <0.1 | <0.01 | <0.1 | <0.1 | <0.05 | <1 | <0.5 | <0.2 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bureau Veritas Commodities Canada Ltd. | | | | | | | Final Report | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Client: | | | Gold Fountain Resources | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| File Created: | | | 6-Jul-16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Job Number: | | | VAN16001006 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Number of Samples: | | | 27 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Project: | | | None Given | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Shipment ID: | | | Soil Sample List - 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| P.O. Number: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Received: | | | 22-Jun-16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | Method | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | **AQ201** | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 | AQ201 |
| | | | Analyte | Mo | Cu | Pb | Zn | Ag | Ni | Co | Mn | Fe | As | Au | Th | Sr | **Cd** | Sb | Bi | V | Ca | P | La | Cr | Mg | Ba | Ti | B | Al | Na | K | W | Hg | Sc | Tl | S | Ga | Se | Te |
| | | | Unit | PPM | PPM | PPM | PPM | PPM | PPM | PPM | PPM | % | PPM | PPB | PPM | PPM | **PPM** | PPM | PPM | PPM | % | % | PPM | PPM | % | PPM | % | PPM | % | % | % | PPM | PPM | PPM | PPM | % | PPM | PPM | PPM |
| | Coordinate(UTM 9U) | | MDL | 0.1 | 0.1 | 0.1 | 1 | 0.1 | 0.1 | 0.1 | 1 | 0.01 | 0.5 | 0.5 | 0.1 | 1 | **0.1** | 0.1 | 0.1 | 2 | 0.01 | 0.001 | 1 | 1 | 0.01 | 1 | 0.001 | 1 | 0.01 | 0.001 | 0.01 | 0.1 | 0.01 | 0.1 | 0.1 | 0.05 | 1 | 0.5 | 0.2 |
| Sample | E | N | Type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GK-A-015 | 509582 | 6069196 | Soil | 5.2 | 13.8 | 9.2 | 39 | 0.3 | 8.3 | 4 | 303 | 4.81 | 9.2 | 2 | 1.2 | 20 | **0.4** | 0.4 | 0.3 | 71 | 0.23 | 0.042 | 11 | 18 | 0.27 | 78 | 0.093 | <1 | 2.29 | 0.007 | 0.04 | 0.5 | 0.11 | 2.7 | <0.1 | <0.05 | 15 | 0.7 | <0.2 |
| GK-A-016 | 509613 | 6069135 | Soil | 2.3 | 10.1 | 6.6 | 23 | 0.1 | 4.9 | 2.8 | 150 | 3.92 | 7.8 | 1.1 | 2.7 | 18 | **0.2** | 0.2 | 0.2 | 64 | 0.17 | 0.084 | 7 | 18 | 0.16 | 59 | 0.055 | 2 | 6.33 | 0.007 | 0.02 | 10.1 | 0.33 | 3.1 | <0.1 | <0.05 | 11 | 1.1 | <0.2 |
| GK-A-017 | 509640 | 6069092 | Soil | 2.9 | 18.7 | 6.8 | 60 | 0.2 | 9.1 | 5.4 | 306 | 3.2 | 7.4 | 1.2 | 2.4 | 17 | **0.2** | 0.2 | 0.2 | 63 | 0.17 | 0.047 | 8 | 18 | 0.26 | 52 | 0.068 | 2 | 3.72 | 0.008 | 0.03 | 0.4 | 0.15 | 3.1 | <0.1 | <0.05 | 9 | 1 | <0.2 |
| GK-A-018 | 509668 | 6069039 | Soil | 1.7 | 14.8 | 8.1 | 31 | 0.3 | 6.2 | 2.9 | 147 | 4.36 | 5.7 | 1.1 | 2.7 | 11 | **<0.1** | 0.3 | 0.1 | 75 | 0.09 | 0.035 | 6 | 18 | 0.16 | 38 | 0.038 | <1 | 3.75 | 0.007 | 0.02 | 0.3 | 0.18 | 2.5 | <0.1 | <0.05 | 11 | 0.7 | <0.2 |
| GK-A-019 | 509685 | 6068987 | Soil | 3.7 | 23.1 | 5.1 | 37 | 0.4 | 5.1 | 6.6 | 303 | 2.58 | 6.5 | 1.8 | 0.7 | 17 | **0.1** | 0.2 | <0.1 | 54 | 0.17 | 0.061 | 9 | 10 | 0.22 | 72 | 0.037 | 1 | 4.33 | 0.01 | 0.03 | 0.4 | 0.2 | 2.2 | <0.1 | <0.05 | 8 | 1.1 | <0.2 |
| GK-A-020 | 509718 | 6068940 | Soil | 6.4 | 23.2 | 7.1 | 47 | 0.2 | 7 | 5.2 | 182 | 3.54 | 16.6 | 2.8 | 2.5 | 16 | **0.2** | 0.2 | 0.1 | 80 | 0.16 | 0.05 | 7 | 15 | 0.2 | 78 | 0.042 | <1 | 4.79 | 0.01 | 0.03 | 0.5 | 0.2 | 3 | <0.1 | <0.05 | 11 | 0.8 | <0.2 |
| GK-A-021 | 509744 | 6068902 | Soil | 8.8 | 23.7 | 6.4 | 30 | 0.4 | 5.2 | 4 | 207 | 2.29 | 31.7 | 1 | 1.1 | 14 | **0.2** | 0.2 | <0.1 | 61 | 0.13 | 0.089 | 16 | 14 | 0.15 | 70 | 0.041 | 3 | 8.43 | 0.006 | 0.02 | 2 | 0.33 | 3.2 | <0.1 | <0.05 | 7 | 1.8 | <0.2 |
| GK-A-022 | 509795 | 6068864 | Soil | 2.8 | 15.3 | 6.9 | 34 | 0.1 | 8.7 | 4.7 | 223 | 2.93 | 5 | 1.5 | 1.5 | 15 | **0.2** | 0.3 | 0.2 | 73 | 0.14 | 0.044 | 7 | 14 | 0.27 | 63 | 0.069 | 1 | 2.39 | 0.009 | 0.03 | 0.4 | 0.11 | 2.6 | <0.1 | <0.05 | 11 | 0.5 | <0.2 |
| GK-A-024 | 509839 | 6068769 | Soil | 5.1 | 11.4 | 7.1 | 34 | 0.2 | 7 | 3.5 | 186 | 4.92 | 6 | 1.7 | 1.4 | 17 | **0.1** | 0.3 | 0.2 | 94 | 0.14 | 0.045 | 6 | 17 | 0.2 | 49 | 0.089 | 1 | 1.89 | 0.005 | 0.02 | 0.6 | 0.1 | 1.8 | <0.1 | <0.05 | 15 | <0.5 | <0.2 |
| GK-A-027 | 509855 | 6068740 | Soil | 2.4 | 11.7 | 9.4 | 36 | 0.3 | 5.4 | 3.2 | 124 | 5.73 | 7.5 | 1 | 3 | 12 | **0.1** | 0.2 | 0.1 | 68 | 0.12 | 0.081 | 7 | 21 | 0.14 | 41 | 0.081 | 1 | 6.96 | 0.007 | 0.02 | 0.4 | 0.26 | 3.7 | <0.1 | <0.05 | 11 | 1 | <0.2 |
| GK-A-028 | 509894 | 6068692 | Soil | 15.6 | 8 | 7.3 | 105 | <0.1 | 12.7 | 9.4 | 327 | 4.3 | 28.7 | 0.8 | 0.8 | 29 | **<0.1** | 0.2 | 0.2 | 96 | 0.4 | 0.056 | 7 | 24 | 0.58 | 66 | 0.071 | <1 | 2.08 | 0.009 | 0.04 | 0.3 | 0.03 | 4.1 | <0.1 | <0.05 | 9 | <0.5 | <0.2 |
| GK-A-029 | 509899 | 6068635 | Soil | 9 | 9.1 | 8.7 | 39 | <0.1 | 8.1 | 4.9 | 188 | 4.01 | 9.8 | 1.8 | 1.5 | 18 | **0.1** | 0.3 | 0.2 | 77 | 0.16 | 0.044 | 7 | 20 | 0.24 | 60 | 0.072 | 1 | 4.02 | 0.007 | 0.02 | 0.3 | 0.17 | 3.1 | <0.1 | <0.05 | 13 | <0.5 | <0.2 |
| GK-A-030 | 509956 | 6068567 | Soil | 1.3 | 12.2 | 5.7 | 26 | <0.1 | 5.1 | 4.1 | 240 | 4.34 | 9.1 | 1.8 | 1.4 | 47 | **<0.1** | 0.2 | <0.1 | 79 | 0.36 | 0.402 | 4 | 11 | 0.23 | 117 | 0.033 | <1 | 2.24 | 0.013 | 0.02 | 0.6 | 0.07 | 2.1 | <0.1 | <0.05 | 8 | <0.5 | <0.2 |
| GK-A-031 | 509957 | 6068534 | Soil | 0.7 | 20.5 | 6.9 | 60 | <0.1 | 8.9 | 9.5 | 599 | 3.42 | 20.3 | 2.3 | 1.6 | 82 | **<0.1** | 0.5 | <0.1 | 73 | 0.57 | 0.118 | 7 | 9 | 0.42 | 148 | 0.033 | <1 | 2.23 | 0.024 | 0.04 | 0.4 | 0.06 | 2.6 | <0.1 | <0.05 | 6 | <0.5 | <0.2 |
| GK-A-032 | 509992 | 6068491 | Soil | 0.8 | 14.7 | 6.1 | 34 | 0.1 | 7.7 | 6.3 | 555 | 2.92 | 13.3 | 2 | 0.7 | 54 | **0.2** | 0.4 | <0.1 | 59 | 0.4 | 0.106 | 5 | 10 | 0.29 | 100 | 0.023 | 1 | 1.76 | 0.017 | 0.04 | 0.5 | 0.11 | 1.7 | <0.1 | <0.05 | 7 | <0.5 | <0.2 |
| GK-A-037 | 510153 | 6069599 | Soil | 1.1 | 21.1 | 7.7 | 47 | <0.1 | 10.7 | 5.4 | 202 | 4.12 | 8.9 | 12.1 | 2.3 | 15 | **<0.1** | 0.4 | 0.2 | 71 | 0.11 | 0.101 | 6 | 20 | 0.31 | 74 | 0.033 | <1 | 3.52 | 0.009 | 0.03 | 1.2 | 0.12 | 3.1 | 0.1 | <0.05 | 10 | <0.5 | <0.2 |
| GK-A-038 | 510164 | 6069540 | Soil | 1 | 25.2 | 6.8 | 56 | <0.1 | 20.1 | 7 | 264 | 3.58 | 9.2 | 2.6 | 2.5 | 16 | **<0.1** | 0.3 | 0.2 | 73 | 0.11 | 0.077 | 6 | 27 | 0.5 | 93 | 0.058 | <1 | 3.31 | 0.01 | 0.03 | 0.2 | 0.04 | 3.2 | 0.1 | <0.05 | 9 | <0.5 | <0.2 |
| GK-A-039 | 510176 | 6069491 | Soil | 1.2 | 29 | 7.6 | 88 | <0.1 | 22.6 | 8.9 | 252 | 4.07 | 10.2 | 2.3 | 2.8 | 12 | **0.1** | 0.4 | 0.1 | 74 | 0.09 | 0.069 | 6 | 32 | 0.44 | 80 | 0.08 | <1 | 4.39 | 0.01 | 0.03 | 0.3 | 0.09 | 5.1 | <0.1 | <0.05 | 7 | <0.5 | <0.2 |
| GK-A-040 | 510215 | 6069453 | Soil | 2 | 15.8 | 9.4 | 58 | <0.1 | 10.8 | 5.2 | 257 | 5.74 | 12.8 | 0.7 | 2.6 | 13 | **0.1** | 0.7 | 0.2 | 86 | 0.09 | 0.388 | 5 | 30 | 0.25 | 44 | 0.033 | 1 | 4.42 | 0.008 | 0.02 | 0.3 | 0.11 | 3.1 | <0.1 | <0.05 | 12 | <0.5 | <0.2 |
| GK-A-042 | 510249 | 6069411 | Soil | 2.9 | 21.5 | 10.8 | 100 | 0.1 | 20 | 9.5 | 446 | 4.3 | 26.1 | 1.4 | 2.3 | 19 | **0.2** | 0.4 | 0.3 | 73 | 0.15 | 0.137 | 6 | 28 | 0.28 | 73 | 0.046 | 1 | 3.19 | 0.008 | 0.05 | 0.3 | 0.08 | 2.9 | <0.1 | <0.05 | 10 | <0.5 | <0.2 |
| GK-A-044 | 510306 | 6069283 | Soil | 3.8 | 27.7 | 7.7 | 58 | 0.2 | 14 | 7.1 | 198 | 3.06 | 8.8 | 3.2 | 2 | 14 | **0.2** | 0.4 | 0.2 | 65 | 0.1 | 0.074 | 7 | 18 | 0.28 | 79 | 0.043 | 1 | 2.17 | 0.008 | 0.03 | 0.2 | 0.11 | 2.9 | <0.1 | <0.05 | 8 | <0.5 | <0.2 |
| GK-A-045 | 510335 | 6069203 | Soil | 1.9 | 25.8 | 6.8 | 58 | 0.1 | 4.6 | 4.4 | 168 | 3.37 | 5.2 | 1.2 | 1.7 | 26 | **0.1** | 0.3 | <0.1 | 70 | 0.16 | 0.09 | 4 | 12 | 0.24 | 81 | 0.034 | 1 | 3.5 | 0.007 | 0.02 | 0.2 | 0.07 | 2.6 | <0.1 | <0.05 | 9 | <0.5 | <0.2 |
| GK-A-046 | 510367 | 6069150 | Soil | 0.9 | 40.8 | 5.7 | 68 | 0.2 | 6.8 | 7.6 | 265 | 3.83 | 4.6 | 6.9 | 2 | 31 | **0.1** | 0.3 | <0.1 | 72 | 0.15 | 0.129 | 4 | 13 | 0.3 | 93 | 0.029 | <1 | 4.02 | 0.009 | 0.03 | 0.4 | 0.15 | 3.4 | <0.1 | <0.05 | 7 | 0.5 | <0.2 |
| GK-A-047 | 510370 | 6069063 | Soil | 0.9 | 45.6 | 7.1 | 95 | 0.4 | 8.2 | 7.1 | 295 | 4.04 | 4.6 | 0.8 | 2.4 | 25 | **0.1** | 0.3 | <0.1 | 69 | 0.12 | 0.167 | 4 | 18 | 0.29 | 99 | 0.043 | 2 | 5.22 | 0.009 | 0.03 | 0.4 | 0.1 | 5.2 | <0.1 | <0.05 | 8 | <0.5 | <0.2 |
| GK-A-048 | 510433 | 6069037 | Soil | 1.3 | 19.4 | 8.9 | 102 | 0.1 | 16 | 8.9 | 235 | 4.39 | 7.1 | 1.7 | 2.3 | 10 | **0.2** | 0.3 | 0.2 | 82 | 0.08 | 0.127 | 7 | 27 | 0.31 | 73 | 0.081 | 1 | 4.22 | 0.007 | 0.03 | 0.2 | 0.08 | 4.5 | <0.1 | <0.05 | 10 | <0.5 | <0.2 |
| GK-A-049 | 510478 | 6069000 | Soil | 1.2 | 28 | 9.1 | 98 | 0.2 | 8.5 | 5.6 | 188 | 5.27 | 8.4 | <0.5 | 3.1 | 13 | **0.3** | 0.3 | 0.1 | 82 | 0.07 | 0.516 | 4 | 27 | 0.19 | 57 | 0.026 | 1 | 8.24 | 0.006 | 0.03 | 0.4 | 0.18 | 3.2 | <0.1 | <0.05 | 9 | 0.7 | <0.2 |
| GK-A-050 | 510469 | 6068924 | Soil | 1.6 | 45.9 | 8.5 | 95 | 0.2 | 14.6 | 8.7 | 260 | 3.93 | 9.4 | 8.5 | 2.9 | 24 | **0.2** | 0.4 | 0.2 | 76 | 0.12 | 0.093 | 7 | 22 | 0.43 | 85 | 0.075 | 1 | 4.34 | 0.01 | 0.04 | 0.4 | 0.11 | 4.9 | <0.1 | <0.05 | 10 | <0.5 | <0.2 |
| Pulp Duplicates | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GK-A-045 | | | Soil | 1.9 | 25.8 | 6.8 | 58 | 0.1 | 4.6 | 4.4 | 168 | 3.37 | 5.2 | 1.2 | 1.7 | 26 | **0.1** | 0.3 | <0.1 | 70 | 0.16 | 0.09 | 4 | 12 | 0.24 | 81 | 0.034 | 1 | 3.5 | 0.007 | 0.02 | 0.2 | 0.07 | 2.6 | <0.1 | <0.05 | 9 | <0.5 | <0.2 |
| GK-A-045 | | | REP | 1.8 | 24.5 | 7.1 | 56 | 0.1 | 4.7 | 4.6 | 177 | 3.45 | 5.1 | 1.1 | 1.7 | 26 | **0.1** | 0.3 | <0.1 | 70 | 0.16 | 0.09 | 4 | 12 | 0.22 | 82 | 0.034 | <1 | 3.38 | 0.007 | 0.02 | 0.2 | 0.09 | 2.8 | <0.1 | <0.05 | 9 | <0.5 | <0.2 |
| Reference Materials | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| STD DS10 | | | STD | 15 | 157 | 143.3 | 362 | 1.8 | 73.5 | 12.6 | 914 | 2.7 | 49.5 | 93.4 | 7.7 | 66 | **2.5** | 9.8 | 12.4 | 47 | 1.03 | 0.087 | 18 | 57 | 0.78 | 359 | 0.079 | 8 | 1.02 | 0.064 | 0.32 | 3.2 | 0.28 | 2.9 | 5.1 | 0.3 | 4 | 2.2 | 4.8 |
| STD OXC129 | | | STD | 1.2 | 28 | 6.4 | 40 | <0.1 | 79.4 | 20.7 | 387 | 3.07 | 0.5 | 199.6 | 1.8 | 183 | **<0.1** | <0.1 | <0.1 | 55 | 0.63 | 0.105 | 12 | 52 | 1.51 | 48 | 0.371 | 1 | 1.47 | 0.544 | 0.32 | <0.1 | <0.01 | 0.7 | <0.1 | <0.05 | 6 | <0.5 | <0.2 |
| BLK | | | BLK | <0.1 | <0.1 | 0.3 | <1 | <0.1 | 0.2 | <0.1 | <1 | <0.01 | <0.5 | <0.5 | <0.1 | <1 | **<0.1** | <0.1 | <0.1 | <2 | <0.01 | <0.001 | <1 | <1 | <0.01 | <1 | <0.001 | <1 | <0.01 | <0.001 | <0.01 | <0.1 | <0.01 | <0.1 | <0.1 | <0.05 | <1 | <0.5 | <0.2 |

# Appendix E: Description of survey station

| Coordinate | | surrey station | UTM zone | Elevation | Sample? | Sample type | | Description |
|---|---|---|---|---|---|---|---|---|
| E | N | | | | | bedrock | soil | |
| 510082 | 6068063 | GK-A-05 | 9U | 334 m | N | | | creek, semi round boulders |
| 509002 | 6067810 | GK-A-06 | 9U | 686 m | Y | Bedrock | | grey, siliceous intrusion; |
| 508976 | 6067837 | GK-A-07 | 9U | 707 m | Y | Bedrock | | fine-grain diorite; |
| 508962 | 6067885 | GK-A-08 | 9U | 741 m | N | Bedrock | | as 07 |
| 508935 | 6067914 | GK-A-09 | 9U | 753 m | N | Bedrock | | foliated diorite; |
| 508878 | 6068119 | GK-A-10 | 9U | 798 m | | Bedrock | | foliated diorite; |
| 508893 | 6068218 | GK-A-11 | 9U | 755 m | | Bedrock | | two kinds of rocks coexisted differ in color, texture; fine grain rock appeared as xenoliths. |
| 509014 | 6068276 | GK-A-13 | 9U | 678 m | | Bedrock | | |
| 509877 | 6068507 | GK-A-14 | 9U | 388 m | | | | semi-round intrusion boulders, less than 1m in diameter. |
| 509582 | 6069196 | GK-A-15 | 9U | 482 m | Y | | Soil | 0.25m in depth, at soil profile horizon B. |
| 509613 | 6069135 | GK-A-16 | 9U | 473 m | Y | | Soil | 0.30m, horizon B, on hill slope, |
| 509640 | 6069092 | GK-A-17 | 9U | 456 m | Y | | Soil | 0.30m, at soil profile horizon C. |
| 509668 | 6069039 | GK-A-18 | 9U | 443 m | Y | | Soil | 0.35m, at soil profile horizon B. |
| 509685 | 6068987 | GK-A-19 | 9U | 432 m | Y | | Soil | 0.35m, at soil profile horizon C. |
| 509718 | 6068940 | GK-A-20 | 9U | 420 m | Y | | Soil | 0.40m, at soil profile horizon C. |
| 509744 | 6068902 | GK-A-21 | 9U | 413 m | Y | | Soil | 0.35m, at soil profile horizon B. |
| 509795 | 6068864 | GK-A-22 | 9U | 404 m | Y | | Soil | 0.25m, at soil profile horizon B, near logging road; |
| 509839 | 6068769 | GK-A-24 | 9U | 393 m | Y | | Soil | 0.45m, at soil profile horizon C. |
| 509855 | 6068740 | GK-A-27 | 9U | 390 m | Y | | Soil | 0.40m, at soil profile horizon C. |
| 509894 | 6068692 | GK-A-28 | 9U | 382 m | Y | | Soil | 0.30m, at soil profile horizon B. |
| 509899 | 6068635 | GK-A-29 | 9U | 378 m | Y | | Soil | 0.30m, at soil profile horizon C. |
| 509956 | 6068567 | GK-A-30 | 9U | 371 m | Y | | Soil | 0.35m, at soil profile horizon B. whitish grey sandy soil; |
| 509957 | 6068534 | GK-A-31 | 9U | 375 m | Y | | Soil | 0.25m, at soil profile horizon B. Brown sandy soil; |
| 509992 | 6068491 | GK-A-32 | 9U | 371 m | Y | | Soil | 0.35m, at soil profile horizon B. Grey color with gravel; |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 510917 | 6069117 | GK-A-33 | 9U | 252 m | Y | Bedrock | | Light grey, fine grain granodiorite, dark mineral 30%, sulfide disseminated. |
| 510417 | 6069568 | GK-A-34 | 9U | 309 m | N | Bedrock | | granodiorite, with amphibole porphyry; |
| 510220 | 6069656 | GK-A-35 | 9U | 349 m | N | Bedrock | | dark grey color dike |
| 510146 | 6069679 | GK-A-36 | 9U | 398 m | N | Bedrock | | med-size granodiorite |
| 510153 | 6069599 | GK-A-37 | 9U | 397 m | Y | | Soil | 0.15m, yellowish brown in color, C horizon, at top of a hill |
| 510164 | 6069540 | GK-A-38 | 9U | 391 m | Y | | Soil | 0.10m, yellowish brown in color with rock debris of C horizon, at top of a hill |
| 510176 | 6069491 | GK-A-39 | 9U | 381 m | Y | | Soil | 0.10m, as GK-A-38, at top of a hill |
| 510215 | 6069453 | GK-A-40 | 9U | 371 m | Y | | Soil | 0.30m; |
| 510249 | 6069429 | GK-A-41 | 9U | 361 m | Y | bedrock | | grey, massive, fine grain |
| 510249 | 6069411 | GK-A-42 | 9U | 355 m | Y | | Soil | 0.2m, C; near bedrock occurrence, soil with much rock debris |
| 510289 | 6069304 | GK-A-43 | 9U | 339 m | N | bedrock | | coarse grain, foliated igneous rock. |
| 510306 | 6069283 | GK-A-44 | 9U | 331 m | Y | | Soil | 0.25m , B |
| 510335 | 6069203 | GK-A-45 | 9U | 324 m | Y | | Soil | 0.3m, C; sandy soil without gravel; |
| 510367 | 6069150 | GK-A-46 | 9U | 326 m | Y | | Soil | 0.3m, C; near med-size grain bedrock occurrence |
| 510370 | 6069063 | GK-A-47 | 9U | 323 m | Y | | Soil | 0.25m, B; yellowish brown sandy soil at flat area in forest |
| 510433 | 6069037 | GK-A-48 | 9U | 320 m | Y | | Soil | 0.3; C; |
| 510478 | 6069000 | GK-A-49 | 9U | 314 m | Y | | Soil | 0.25m; C； |
| 510469 | 6068924 | GK-A-50 | 9U | 314 m | Y | | Soil | 0.35m; B； |
| 510605 | 6068724 | GK-A-51 | 9U | 280 m | N | bedrock | | on cliff of creek, granodiorite; |
| 511587 | 6065119 | GK-A-52 | 9U | 265 m | Y | bedrock | | dark grey mudstone/shale |
| 511656 | 6065139 | GK-A-53 | 9U | 258 m | Y | bedrock | | sulfide disseminated mudstone; |
| 511723 | 6065135 | GK-A-54 | 9U | 247 m | N | bedrock | | dark unaltered shale; |
| 509245 | 6073435 | GK-A-55 | 9U | 175 m | | | | geographic point, road damaged by washing |
| 506485 | 6072682 | GK-A-56 | 9U | 337 m | | | | geographic point, on logging road; no bed rock occurrences; |
| 508497 | 6073765 | GK-A-57 | 9U | 193 m | Y | bedrock | | Dark grey, altered, mineralization mudstone |
| 508772 | 6073018 | GK-A-58 | 9U | 217 m | | | | river sediments, rounded boulders (0.*n* m) |
| 508617 | 6072588 | GK-A-59 | 9U | 198 m | | | | bridge and torrent creek. |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 509451 | 6073020 | GK-A-60 | 9U | 207 m | | bedrock | | roadside bedrock, med-size grain intrusion with dark color mineral <15%, rock xenoliths seen; |
| 512484 | 6066984 | GK-A-61 | 9U | 142 m | Y | bedrock | | west of Kalum Lake, light grey, med-grain sandstone bedded in in mudstone; |
| 512503 | 6067030 | GK-A-62 | 9U | 145 m | Y | bedrock | | iron grey porphyry dike filled along shale bedding； |
| 512500 | 6067137 | GK-A-63 | 9U | 171 m | Y | bedrock | | location of Minfile 103I211, dark grey metamorphic rock: hornstone. |
| 509583 | 6067382 | GK-A-65 | 9U | 446 m | | | | road |
| 509312 | 6067209 | GK-A-66 | 9U | 501 m | | | | at creek, over 90% boulders are granite. Swamp to 067 |
| 508903 | 6066950 | GK-A-67 | 9U | 702 m | | bedrock | | swamp; |
| 508764 | 6066945 | GK-A-68 | 9U | 773 m | | bedrock | | granodiorite occurrence |
| 514528 | 6068020 | GK-A-69 | 9U | 163 m | Y | bedrock | | eastside of highway. coarse grain granodiorite; |
| 500695 | 6068425 | GK-A-70 | 9U | 971 m | | | | helicopter pick up location |
| 501072 | 6068410 | GK-A-71 | 9U | 1053 m | | bedrock | | north steep slope of mount; grey mudstone/shale, occurrence: NW-SW<70◦. |
| 500930 | 6068381 | GK-A-72 | 9U | 1041 m | Y | bedrock | | as GK-A-071; siliceous altered; |
| 500720 | 6068406 | GK-A-73 | 9U | 998 m | | | | float rock from high elevation of hill at south. Poor rounded, coarse grain diorite；dark color mineral 45%; |
| 500664 | 6068412 | GK-A-74 | 9U | 1003 m | Y | bedrock | | brecciated mudstone; weak altered and mineralization; |
| 500654 | 6068390 | GK-A-75 | 9U | 1010 m | Y | bedrock | | fine grain dike in mudstone; |
| 500630 | 6068380 | GK-A-76 | 9U | 1016 m | | bedrock | | Broken, strong sulfidication, mudstone; |
| 500639 | 6068249 | GK-A-77 | 9U | 1058 m | | bedrock | | as GK-A-076; |
| 500696 | 6068236 | GK-A-78 | 9U | 1070 m | | bedrock | | light grey chert, with FeS2 crystal of 2-4mm derived from sedimentation; |

# Kalum Gold Property

# Geology, Mineralization and Exploration Targets

**Technical Report**
**for**
**Gold Fountain Resources Inc.**

**Dave Lefebure, Ph.D., P. Geo.**
**September 4, 2016**

# Contents

## Figures



## Tables



### *Abbreviations*

Ag – silver

Au – gold

As – arsenic

Bi – bismuth

Cu – copper

Hg - mercury

Mo – molybdenum

Pb – lead

Sb - antimony

U – uranium

W – tungsten

Zn – zinc.

aspy – arsenopyrite

born – bornite

cp – chalcopyrite

gal - galena

py – pyrite

qtz – quartz

sphal - sphalerite

g/t – grams per tonne

m – metre

cm – centimetre

Ma (mega-annum) - a million years

# Introduction

Gold Fountain Resources Inc. acquired their Kalum Gold property in January 2016. The mineral tenures are located 600 kilometres north of Vancouver, British Columbia (Figure 1). They are in an area with numerous gold-bearing quartz veins. Many of the gold occurrences have not been drilled, while others have been tested with only a few drill holes.

All the public exploration geoscience data available for the Kalum Gold property (Property) was reviewed by the author in July and August, 2016. This information included company assessment reports, property files, MINFILE reports, regional geochemical, gravity and aeromagnetic data and selected government geological reports.


Figure 1. Kalum Gold Property Location.

The most recent exploration in the area was by Eagle Plains Resources Ltd, a successful junior exploration company based in Cranbrook, British Columbia[1]. They completed field programs most years from 2003 to possibly 2014. The author did not have access to corporate exploration reports and data held by Eagle Plains Resources Ltd. or other exploration companies that have worked in the area.

The author has relied on the truth and accuracy of the aforementioned public data in the preparation of this report. The writer has no reason to believe that the past exploration and sampling was not done accurately and in a professional manner. The author has never done any work on the property.

The objectives of this report are to:

1. introduce the property;
2. provide an overview of all the exploration results and relevant geoscience information;
3. identify key aspects of the gold mineralization; and
4. assess which areas of the property hold the most promise for finding a gold deposit.

The report does not address other aspects of interest regarding the Kalum Gold property, such as government processes or other interests in the land base.

# Location, Accessibility and Climate

The mineral tenures are 35 km northwest of Terrace which is approximately 100 km east of the major port of Prince Rupert. With a population of nearly 12,000, Terrace supports a regional airport, rail yard, and most other amenities. It is located at the junction of major highways 16 and 113. The latter, called the Nisga'a

Photo 1. Looking West across Kitsumkalum Lake to Mount Allard.

[1] There is no reference to exploration in the Kalum Gold property area in the annual government report on exploration for 2015. It is not known if any exploration has taken place, or is planned, for 2016 in this area.

Highway, runs along the east side of Kitsumkalum Lake (Figure 2). A major provincial powerline runs along the eastern boundary of the property.

The project area is accessed by a network of British Columbia Forest Service and private logging roads that extend off of the gravel-surfaced Aiyansh Highway. It passes along the west side of Kitsumkalum Lake.

The Property is located just to the east of the Kitimat Range of the Coast Mountains in the area of Mount Allard, the dominant peak at 1,505 meters. Elevation varies from 300 to 1,500 meters above sea level and topography is steep to moderate. Outcrop is present within numerous drainages and along ridges and escarpments, but is sparse on timbered slopes. Eagle Plains estimated total outcrop exposure at 10 to 20 percent. Much of the Property has a thin to moderate veneer of glacial till.

Vegetation varies from heather, blueberry and huckleberry on the upper slopes above the tree line to Douglas fir, hemlock, alder and devil's club in the dense temperate rainforest on the lower slopes. Steep alpine topography and the dense forest, both characteristic of the area, can prove challenging for travelling even short distances on foot.

The weather is typical of the North Coast of British Columbia with wet summers and heavy snowfall in the winters. Large snow-drifts cover parts of the property until mid-June, with minor areas of permanent snow found at the highest elevations and in sheltered areas.

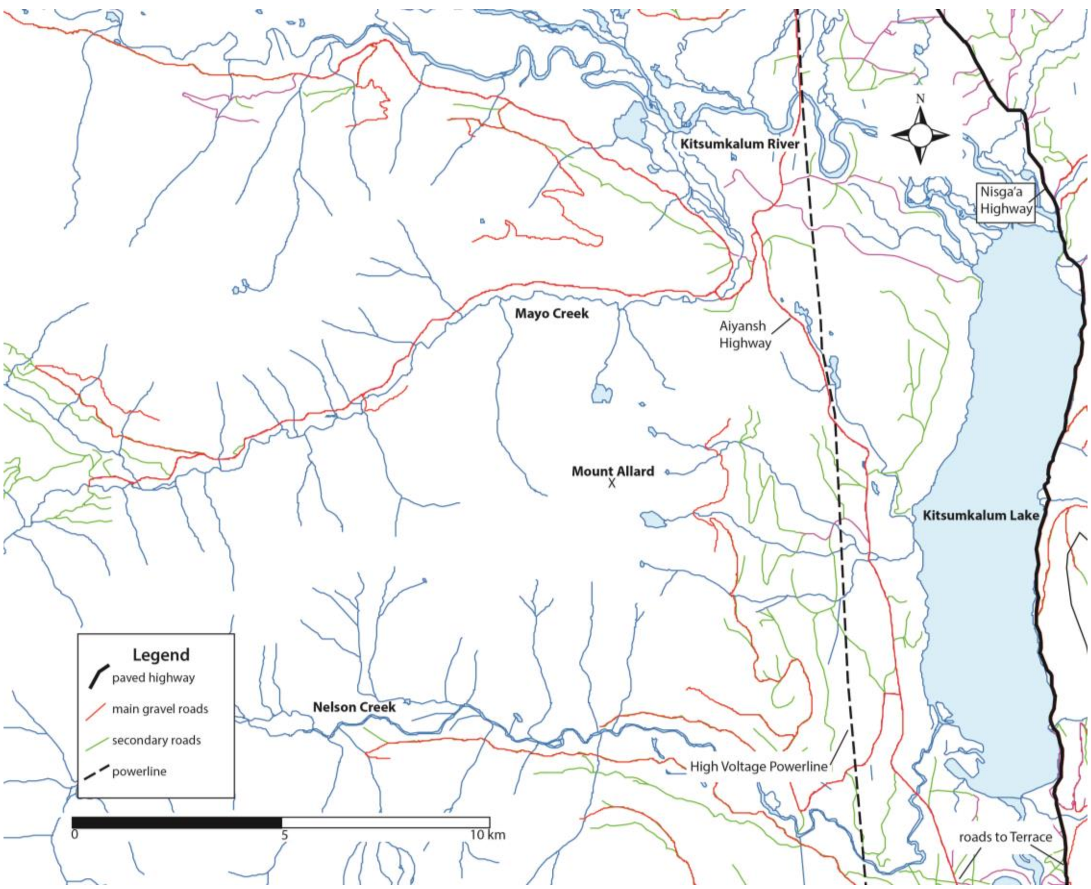


Figure 2. Infrastructure and Place Names in the Kalum Gold Property Area.

# Mineral Tenure

Gold Fountain Resources Inc. holds 29 mineral tenures from the government of British Columbia covering 10315 hectares. These tenures, also known as claims, are shown on Figure 3 and listed in Table 1. According to Minerals Titles Online there are no Crown granted claims in the Mount Allard area. The claims cover a large area with numerous gold mineral occurrences that warrant further exploration.

Eagle Plains Resources Ltd. retains six claims covering 1621 hectares from the northwest corner of their original property. Three other individuals have acquired a total of five claims that are centred on individual mineral occurrences. One of these tenures is within the Kalum Gold property, while the others are outside the property. Gold Fountain Resources is prepared to negotiate to pick up the tenures held by other claim holders if they are judged as important.

There are no staking reserves (#1006426, 1006421, 10060423) that are in effect until at least 2020 around Kitsumkalum Lake (Figure 3) that extend part way up Nelson Creek and Kitsumkalum River valleys . The reserves have been requested by the Ministry of Aboriginal Relations and Reconciliation.

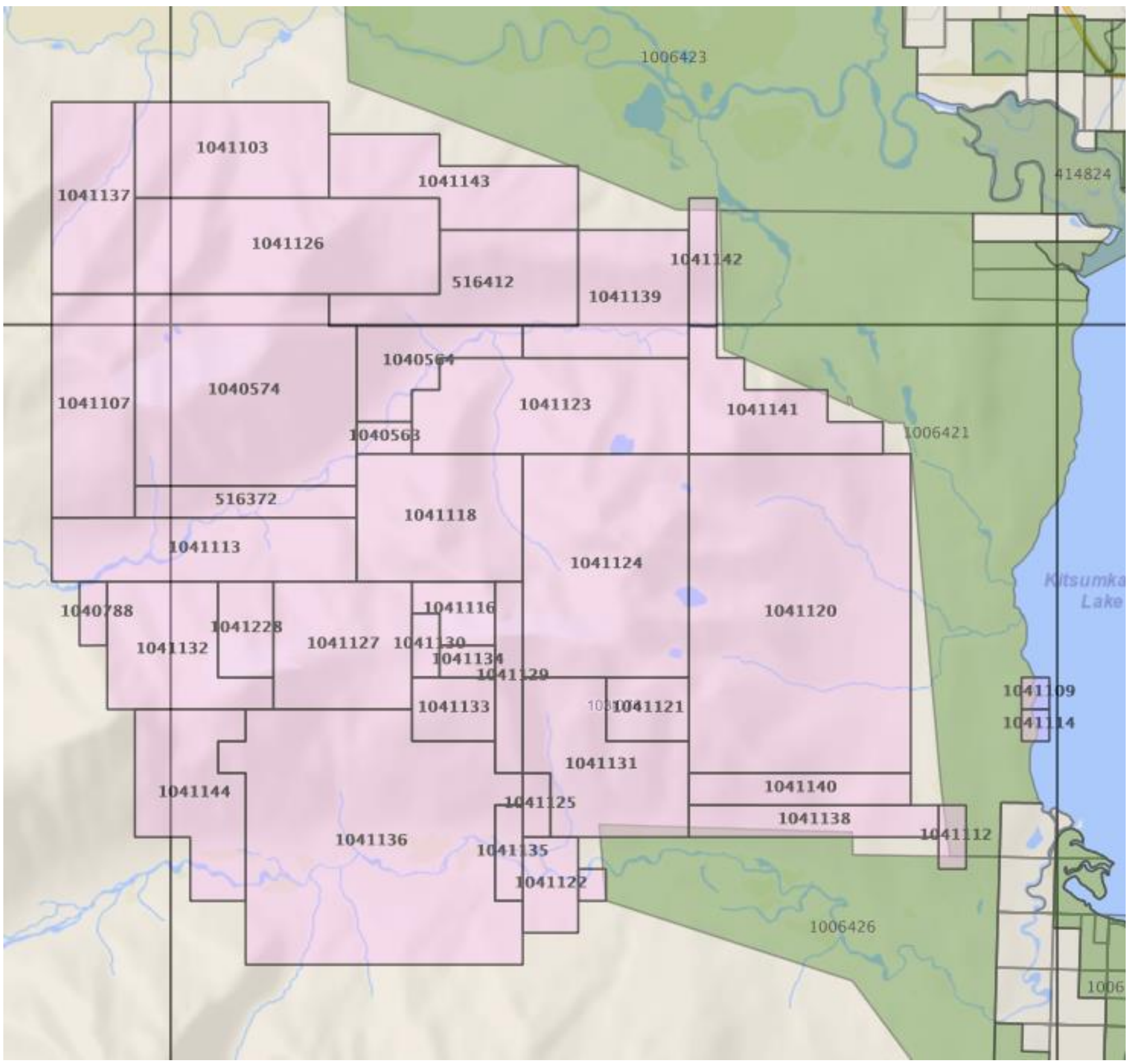


Figure 3. Mineral Tenures in the Mount Allard Area on August 25, 2016
from Mineral Titles Online, Ministry of Energy and Mines.

Table 1. List of Mineral Tenures in the Mount Allard Area.

| Tenure Number | Claim Name | Good Until | Area (ha) | Owner |
|---|---|---|---|---|
| 1041103 | GFR01 | 20170109 | 391.1381 | Golden Fountain Resources Inc. |
| 1041107 | GFR02 | 20170109 | 391.4196 | Golden Fountain Resources Inc. |
| 1041113 | GFR03 | 20170109 | 410.3014 | Golden Fountain Resources Inc. |
| 1041118 | GFR04 | 20170109 | 447.5736 | Golden Fountain Resources Inc. |
| 1041120 | GFR26 | 20170109 | 1492.459 | Golden Fountain Resources Inc. |
| 1041121 | MISTY | 20170109 | 111.9785 | Golden Fountain Resources Inc. |
| 1041122 | MISTY | 20170109 | 112.0622 | Golden Fountain Resources Inc. |
| 1041123 | GFR05 | 20170109 | 540.6212 | Golden Fountain Resources Inc. |
| 1041124 | GFR27 | 20170109 | 783.3783 | Golden Fountain Resources Inc. |
| 1041125 | SILVER | 20170109 | 37.3442 | Golden Fountain Resources Inc. |
| 1041126 | GFR06 | 20170109 | 614.8477 | Golden Fountain Resources Inc. |
| 1041127 | GFR07 | 20170109 | 373.1405 | Golden Fountain Resources Inc. |
| 1041129 | GFR28 | 20170109 | 111.9635 | Golden Fountain Resources Inc. |
| 1041130 | GFR08 | 20170109 | 37.3138 | Golden Fountain Resources Inc. |
| 1041131 | GFR29 | 20170109 | 410.7096 | Golden Fountain Resources Inc. |
| 1041132 | GFR09 | 20170109 | 335.8134 | Golden Fountain Resources Inc. |
| 1041133 | | 20170109 | 111.9821 | Golden Fountain Resources Inc. |
| 1041134 | GFR30 | 20170109 | 37.3157 | Golden Fountain Resources Inc. |
| 1041135 | MG | 20170109 | 56.0253 | Golden Fountain Resources Inc. |
| 1041136 | GFR31 | 20170109 | 1363.254 | Golden Fountain Resources Inc. |
| 1041137 | GFR10 | 20170109 | 335.263 | Golden Fountain Resources Inc. |
| 1041138 | GFR31 | 20170109 | 168.0462 | Golden Fountain Resources Inc. |
| 1041139 | GFR11 | 20170109 | 335.4426 | Golden Fountain Resources Inc. |
| 1041140 | GFR33 | 20170109 | 149.3584 | Golden Fountain Resources Inc. |
| 1041141 | GFR34 | 20170109 | 279.6403 | Golden Fountain Resources Inc. |
| 1041142 | GFR35 | 20170109 | 74.5341 | Golden Fountain Resources Inc. |
| 1041143 | GFR12 | 20170109 | 335.306 | Golden Fountain Resources Inc. |
| 1041144 | GFR13 | 20170109 | 354.7613 | Golden Fountain Resources Inc. |
| 1041228 | TUPPIE | 20170109 | 111.9367 | Golden Fountain Resources Inc. |
| 516372 | | 20180428 | 149.1821 | Eagle Plains Resources Ltd. |
| 516412 | | 20180428 | 354.0541 | Eagle Plains Resources Ltd. |
| 1040563 | | 20180428 | 37.288 | Eagle Plains Resources Ltd. |
| 1040564 | | 20180428 | 205.031 | Eagle Plains Resources Ltd. |
| 1040574 | | 20210108 | 876.1186 | Eagle Plains Resources Ltd. |
| 1040788 | KALUM | 20161230 | 37.3047 | Eagle Plains Resources Ltd. |
| 1041109 | KALUM | 20170109 | 18.6604 | Ronald Stewart Chapman |
| 1041110 | SILVER | 20170109 | 18.677 | Ronald Stewart Chapman |
| 1041112 | BURN | 20170109 | 37.3441 | Ronald Stewart Chapman |
| 1041114 | ACTUAL KALUM :) | 20170109 | 18.6641 | Steven Jeffrey Scott |
| 1041116 | KALUM WEST | 20170109 | 93.2735 | Warren Edward Johnson |

# History of Mineral Exploration and Mining

## Kitsumkalum Lake Region

Mineral exploration north of Terrace started in the late 1800s. Over the years the focus has shifted from placer gold and polymetallic veins to precious metal veins and porphyry copper and molybdenum deposits. The ease of access to the countryside has played a role in the degree of exploration within the region. Areas with roads or relatively easy access by horse and on foot were more explored than others. The introduction of helicopters to mineral exploration in the late 1950s and early 1960s did enable easy, but expensive, transportation to the mountainous areas. The Mount Allard area was only relatively recently accessed by logging roads that were extended to higher elevations in the Mayo Creek, Nelson Creek, and Kitsumkalum River valleys.

The region north of Terrace has produced placer gold from at least three creeks located to the east and northeast of Kitsumkalum Lake (Holland, 1950). These are the Lorne Creek, Douglas Creek and Fiddler Creek placer occurrences (Figure 4). Lorne Creek was the largest producer with a recorded production of 4,574 ounces, mainly during the years between 1881 and 1905 (Holland, 1950). The published production figures for Douglas Creek and Fiddler Creek are much smaller at 319 ounces and 1 ounce respectively. It is likely that there was more gold production from these two creeks that was not recorded.

An assessment of the mineral potential of British Columbia in the late 1990s identified areas throughout the province with placer gold potential (Exploration Assistant, BCGS MapPlace). This assessment ranked the area north of Terrace as one of the areas with high potential for finding more placer gold, including on the west side of Kitsumkalum Lake in the Kalum Gold property area.

The provincial government released regional geochemical survey data for stream silts for the Terrace map sheet (103I) in 1979. This spurred staking in the region and led directly to exploration in the area west of Kitsumkalum Lake that discovered the Hat and Misty gold mineral occurrences (Figure 4).

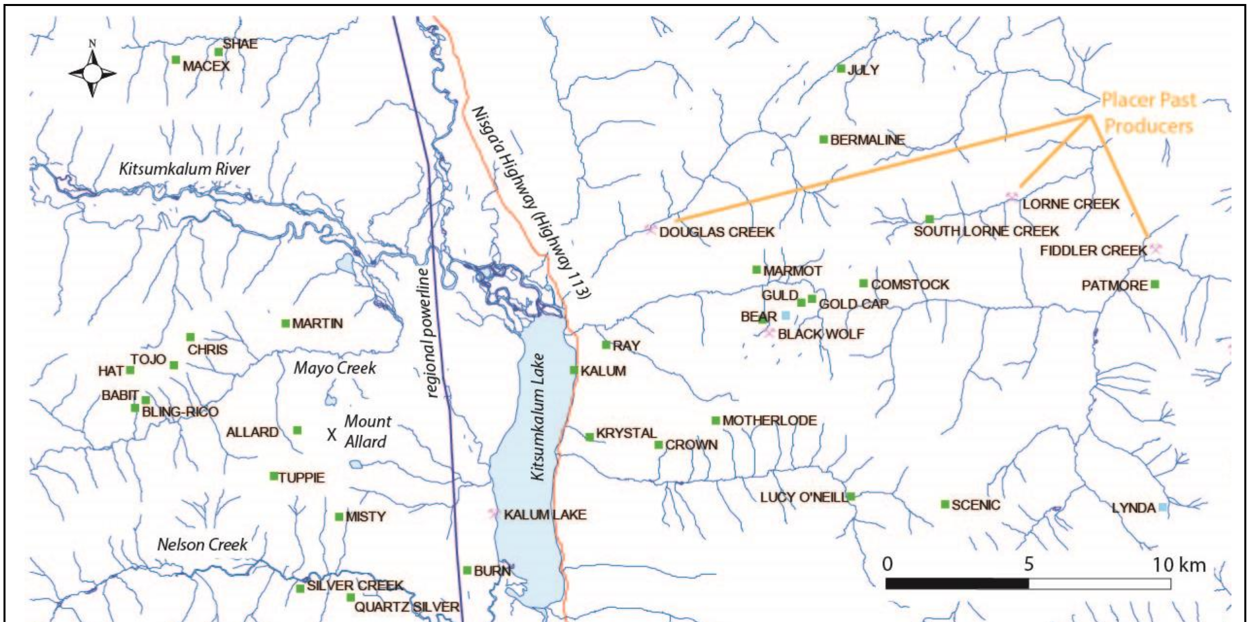


Figure 4. Placer and Mineral Occurrences in the Kitsumkalum Lake Region.
The Mount Allard Area is Located West of the Lake.

## Mount Allard Area

The exploration work completed in Mount Allard area during the 1900s found more than 17 bedrock gold occurrences in the area. The Kalum Lake and Chris veins were drilled and had some preliminary underground development. At Kalum Lake ten tonnes of ore were extracted in 1940 that graded 3.75 g/t gold and 56.0 g/t silver. The Misty occurrence also saw a sustained exploration program and drilling in the 1980s. According to the public record, exploration was more limited at the other mineral occurrences with the work typically consisting of surface rock sampling, soil and silt sampling, geophysics, geological mapping and/or trenching.

A detailed review of the exploration history in the Mount Allard area up until 2003 is provided by Downie and Stephens (2003). Subsequent work by Eagle Plains is discussed in assessment reports by Downie and Gallagher (2005); Downie and Gallagher (2006); Murton (2008); Higgs (2009); Brown (2011) and Gallagher (2013). Their latest report submitted to the government by Brown (2015) will become public on December 31, 2016.

In 2003 Eagle Plains acquired mineral tenures covering all the ground extending roughly 20 kilometres west from Kitsumkalum Lake and from south of the Nelson River north to the Kitsumkalum River valley. for the entire Mount Allard area based on recommendations from Downie and Mosher (2003). This was the first time that one company undertook to complete exploration programs that encompassed all the known gold occurrences located in the Mount Allard area. Over the next ten years they completed geological mapping and systematic soil, silt and rock sampling over many parts of their large property leading to more than 15 new gold discoveries, such as the BABIT, Cirque, Rico, Tojo, Trango and Tuppie. They were fortunate enough to find the permanent snowpack retreating in the high elevation areas which exposed new areas for prospecting. This resulted in the Cirque, Tuppie and other discoveries.

Eagle Plains also completed 41 drill holes in the Mount Allard area. They drilled eight target areas – the Bling-Rico, Burn, Chris, Cirque, Hat, Kalum Lake, Misty and Tuppie. Their drill pads usually had two to three holes drilled from the same setup with the holes inclined at -45 to 80 degrees. The longest hole by Eagle Plains was 243.9 metres, while most holes were between 100 and 200 metres in length. See Appendix 4 for a hole by hole overview of the drill results.

| **Eagle Plains Drilling** |
| --- |
| 2004 – 19 holes; 1958 m |
| 2005 - 3 holes, 569 m |
| 2008 – 11 holes, 1390 m |
| 2010 – 6 holes, 419 m |
| 2012- 2 holes, 420 m |
| **Total 4756 m** |

In the Kalum Gold property area there are 13 mineral occurrences documented in the British Columbia Geological Survey MINFILE database (Table 2). Most of these are individual major veins or groups of veinlets and veins that have been explored for their gold or gold-silver potential. There is one copper-molybdenum occurrence on Mount Allard.

# Regional Geology

The Geological Survey of Canada (GSC) conducted comprehensive geological work in the Terrace area in the late 1950s (Duffell and Souther, 1964). The GSC conducted revision mapping, mainly in the mid-1980s (Woodsworth *et al.*, 1985). At the same time topical thesis studies were completed. Mihalynuk and Freidman (2005) suggest the most germane of these studies to exploration in the Kalum area is that of Heah (1991). It deals with contractional ductile and superimposed extensional deformation in the Shames River area, west of Terrace. A geological compilation for the Bowser and Sustut Basins by Evenchick *et al.* (2006) and the digital provincial geology map by Massey *et al.* (2003) provide the geological settings for much broader regions.

Table 2. MINFILE Occurrences in the Mt. Allard Region (from B.C. Geological Survey).

| Minfile No. | Names | Status | Commodities |
|---|---|---|---|
| 103I 018 | Quartz Silver, Qs 1-6, Kalum | Showing | AG, PB, ZN, CU, AU |
| 103I 019 | Kalum Lake, Portland, Bav, Gold Bar | Past Producer | AU, AG, CU, PB, ZN |
| 103I 020 | Martin, Noble, Rex, Glen No.1 | Showing | AU, AG, PB |
| 103I 151 | Allard, Kalum | Showing | CU, MO |
| 103I 173 | Hat, Drum, Km, Kalum | Showing | AU, AG, PB, ZN, CU |
| 103I 174 | Chris, Oro, Ike, Beaver, Mayou | Showing | AU, AG, PB |
| 103I 211 | Burn, Kalum Lake, Portland | Showing | AU, AG, CU, PB |
| 103I 213 | Misty, Moss, Creek, Kalum | Showing | AU, AG |
| 103I 225 | Bling-Rico, Kalum | Showing | AU, PB, MO |
| 103I 226 | Tojo | Showing | AU, AG |
| 103I 227 | Silver Creek | Showing | AU, AG |
| 103I 228 | Tuppie, East Tuppie, Cirque | Showing | AU, AG |
| 103I 256 | BABIT | Showing | AU, AG |

The region is underlain by the southwestern corner of the Bowser Basin which is within the Intermontane Belt of British Columbia. Sandstones, siltstones and conglomerates of the Bowser Lake Group overlap the volcanic and sedimentary rocks of the Stikine Terrane. The Skeena Group consists of shales, siltstones, sandstones and conglomerates that also formed in the Bowser Basin and overlies Bowser Lake Group. The underlying Hazelton Group volcanic rocks of the Stikine Terrane are exposed near the northern end of Kitsumkalum Lake.

The Coast Plutonic Complex lies a short distance to the west of the Kalum Gold property. The property is located on the western side of a Tertiary graben that is 100 kilometres long called the Kitimat Trench (Mathews, W.H., 1986). This prominent topographic feature is five to ten kilometres wide. It is occupied by Kitsumkalum Lake in the Mount Allard area and bounded by the Hazelton Mountains to the east.

The compilation map by Evenchick *et al.* (2006) shows two north-trending faults flanking Kitsumkalum Lake. This would be consistent with the Kitimat Trench being a Tertiary Graben and aligns with the regional map published by Nelson *et al*., 2007. However, this fault interpretation does not agree entirely with the mapping completed by Mihalynuk and Friedman (2005). These two regional maps indicate the presence of Skeena Group rocks near the southern end and along the western side of Kitsumkalum Lake, but do not show any Hazelton Group rocks at the north end of the lake as mapped by Woodsworth *et al*. (1985) and Mihalynuk and Friedman (2005). Clearly more detailed mapping isneeded to work out these inconsistencies. Eagle Plains' reports do not refer to either Hazelton Group or Skeena Group rocks.

The most recent government mapping has been completed by the British Columbia Geological Survey (BCGS). In 2005 Mitch Mihalynuk led a crew that completed an eighteen day field program in partnership with Eagle Plains Resources Ltd (Mihalynuk and Friedman, 2005). About half the geological mapping and sampling was directed towards Eagle Plain's Kalum property and the remainder to the Kitsumkalum Lake region. An article detailing six uranium-lead (U-Pb) age dates and their interpretation was published the following year (Mihalynuk and Friedman, 2006). In the area around Terrace and Kitimat, JoAnne Nelson of the BCGS has published a number of articles and maps describing the geology and mineral occurrences (Nelson *et al*., 2007; Nelson *et al*., 2008). While these are not directly relevant to the Kitsumkalum Lake area, they provide a better understanding of the regional geology.

The following descriptions of the regional stratigraphy, intrusive phases, structure and metamorphism are derived largely from Mihalynuk and Friedman's 2005 and 2006 articles (Figure 5).

## Stratigraphy

Five stratigraphic packages underlie the Kitsumkalum Lake area: volcanic rocks correlated with the Early Jurassic Hazelton Group, three clastic sedimentary units belonging to the overlying Upper Jurassic Bowser Lake Group, and two clastic sedimentary units belonging to the Lower Cretaceous Skeena Group. The Bowser Basin is a Middle Jurassic to mid-Cretaceous marine and non-marine basin which formed on an allochthonous terrane, Stikinia, during and after its amalgamation to the western margin of North America.

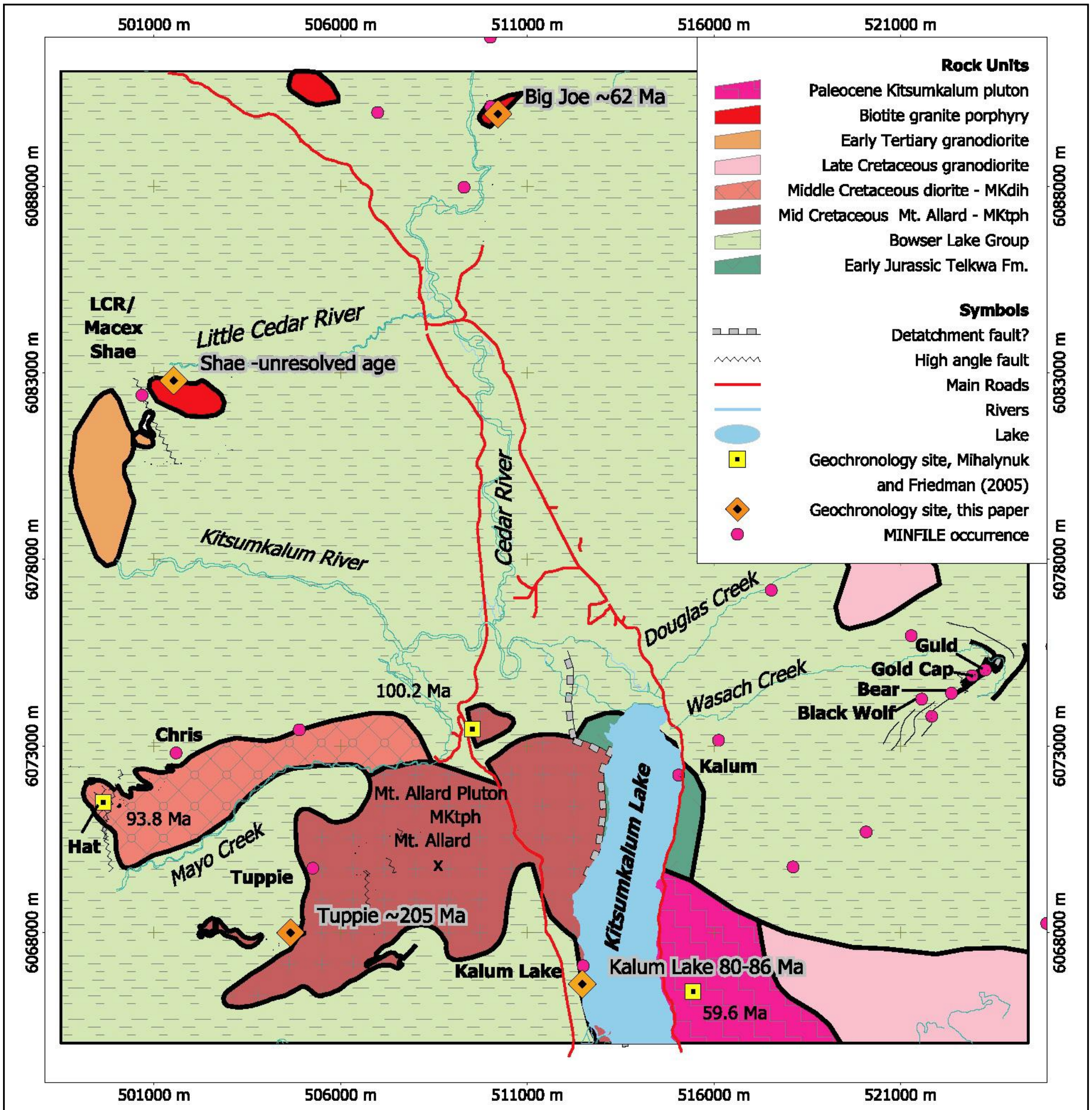


Figure 5. Generalized Geology of the Kitsumkalum Lake Area from Mihalynuk and Friedman (2006).

The Hazelton Group volcanic rocks of the Stikine Terrane include pillow basalt and structurally over lying calcareous tuff, which are exposed east and west of northern Kitsumkalum Lake. These rocks have been affected by at least two phases of deformation and few protolith textures are preserved. No age data exist for these rocks within the Kitsumkalum Lake area.

Bowser Lake Group strata are dominated by one of three main lithologies: chert pebble conglomerate, sandy turbidites, or silty and carbonaceous argillite. The chert pebble conglomerate forms tabular to lensoid conglomerate units that are interbedded with medium-grained arkosic sandstone and argillaceous siltstone near the low mountain between Kitsumkalum Lake and Mayo Creek. Elsewhere, chert pebbles are less abundant, occurring mainly within lags at the erosional bases of turbidite flow units. More commonly, the turbidite sequences are sand-dominated, lacking beds or lenses of chert pebble conglomerate. Turbidite successions are light grey to rusty-weathering. Typical turbidite sequences are composed of two to six metre thick units with bases composed of rip-up clasts of underlying, dark brown argillite. Conglomerate grades up into medium to coarse-grained, planar-laminated light grey sandstone, parts of which may be interlaminated with millimetre-thick argillite. Laminated sandstone gives way up section to cross-stratified, clean lithic arkose. Cross-stratified sand stone constitutes at least 50% of each fining-upward unit, and they are overlain by silty argillite in which a high content of carbonaceous material is common. This argillaceous siltstone can attain thicknesses of several metres in both packages. It is commonly cut by slatey cleavage at a high angle to bedding. It can be mapped as a tens of metres thick unit that may include broad areas of pencil shale.

Lower Cretaceous Skeena Group sedimentary rocks are mapped along the southwest side of Kitsumkalum Lake by Woodsworth *et al*.(1985) They are subdivided them into lower unit with black micaceous shale, siltstone and sandstone with common woody debris and an overlying chert pebble conglomerate, sandstone and siltstone upper unit that is commonly micaceous. This is an area of limited outcrop.

## Intrusive Phases

Semicircular plutons and tabular bodies, mainly of diorite to granodiorite composition, extensively intrude the Skeena Group, Bowser Lake Group and older strata within the Kitsumkalum area. The volume of intrusions increases to the west, toward the Coast Plutonic Complex. The intrusions are listed below in presumed order form oldest to youngest based on field relationships and dating by Mihalynuk and Friedman (2005, 2006).

A poor quality U-Pb age date from a megacrystic hornblende tonalite dike at the Tuppie showing, west of Mount Allard, produced a minimum age of about 205 Ma. The sample had only a very small quantity of zircon so the date is unreliable. However, it may suggest that there may be some late Triassic rocks in the Mount Allard area which have not been identified.

### "Allard" Hornblende Tonalite[2]

The central portion of the Mount Allard pluton is composed of tonalite with euhedral, poikilitic hornblende phenocrysts and a weak magmatic foliation. The pluton is a homogenous body that covers an area of more than 35 square kilometres. Plagioclase and opaques are enclosed by the hornblende phenocrysts. It is dated at 100.2 Ma using U-PB methods (Mihalynuk and Friedman, 2006).

[2] "Allard" assigned by the author as an informal designation for this unit which dominates in the Mount Allard area of the pluton.

Lithologically similar dikes, locally hornblende megacrystic, may display strong foliation and/or carbonate alteration. A scaly brittle fabric occurs in zones of chlorite alteration and magnetite destruction that are metres to tens of metres thick. These zones terminate at discreet brittle faults.

### "Mayo"[3] Hornblende-Pyroxene Quartz Diorite

The northern portion of the Mount Allard Pluton, located just north of Mayo Creek, is a hornblende pyroxene quartz diorite that displays a weak to strong foliation and local folding. Mihalynuk and Friedman (2005) describe a phase having glomeroporphyritic, fresh pyroxene with lesser hornblende altered to chlorite and pumpellyite. Quartz and plagioclase occur in the matrix. The plagioclase is weakly altered to carbonate, white mica and possibly prehnite. The adjacent Bowser Basin sediments are thermally metamorphosed. A sample from the Hat area provided a 93.8 Ma U-PB age date (Mihalynuk and Friedman, 2006).

Higgs (1999) refers to this as the Hat quartz-diorite body which is a west trending, elongate body north of Mayo Creek (Figure 6). He describes it as a weakly to strongly folded and foliated hornblende – pyroxene quartz diorite or diorite.

### "Kalum"[4] Biotite Granodiorite

Medium-grained biotite granodiorite at the Kalum Lake property crops out near the east shore of southern Kalum Lake. Exposures show extensive carbonate alteration and weathered rock is orange in colour. The least altered parts of the exposures contain chloritized biotite and accessory magnetite, with average magnetic susceptibility values of 25 (versus 0.3 where altered). Mineralization displayed by excavated parts of the intrusion consists of quartz veins and tabular quartz stockworks, with a minimum 65 centimetre thickness, that carry pyrite, tetrahedrite and chalcopyrite as the principal sulphides. Mihalynuk and Friedman's (2006) analyses of these veins revealed approximately 1200 to 2300 ppb gold and 112 ppm silver.

A sample of the least altered, intact intrusion was collected for determination of a magmatic crystallization that would provide a maximum age limit on the mineralization. This sample yielded abundant zircon and titanite. The U-Pb age is 80 to 86 Ma (Mihalynuk and Friedman, 2006).

### Quartz-Biotite Granite Porphyry

The quartz biotite granite unit crops out as a porphyritic rock in the Little Cedar River valley. The porphyry intrusion has no associated biotite hornfels, deformation fabric or regional metamorphic overprint. Locally, it is host to porphyry-style copper-molybdenum mineralization and has caused country rocks near its contacts to be locally replaced by sulphides. At higher elevations in the Little Cedar River valley offshoots of the granite occur as rusty, quartz-eye porphyry felsic dykes that contain 20 percent, 1–3 mllimetres, tabular feldspar, 6 percent, 5 millimetres, acicular hornblende and 5 percent biotite. Quartz is up to 8 millimetres in diameter, constituting up to 5 percent of the rock. Pyrite is disseminated throughout and also occurs as sparse veinlets and blebs (up to 4 percent combined). These dikes apparently postdate folding in Bowser strata because they parallel the axial surfaces of the folds.

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[3] Mayo assigned by the author as an informal designation for this unit which dominates on the north side of the Mayo Creek in the Mount Allard area of the pluton.

[4] Kalum assigned by the author as an informal designation for this unit which in the Kalum Lake mineral occurrence and probably also the Burn mineral occurrence.

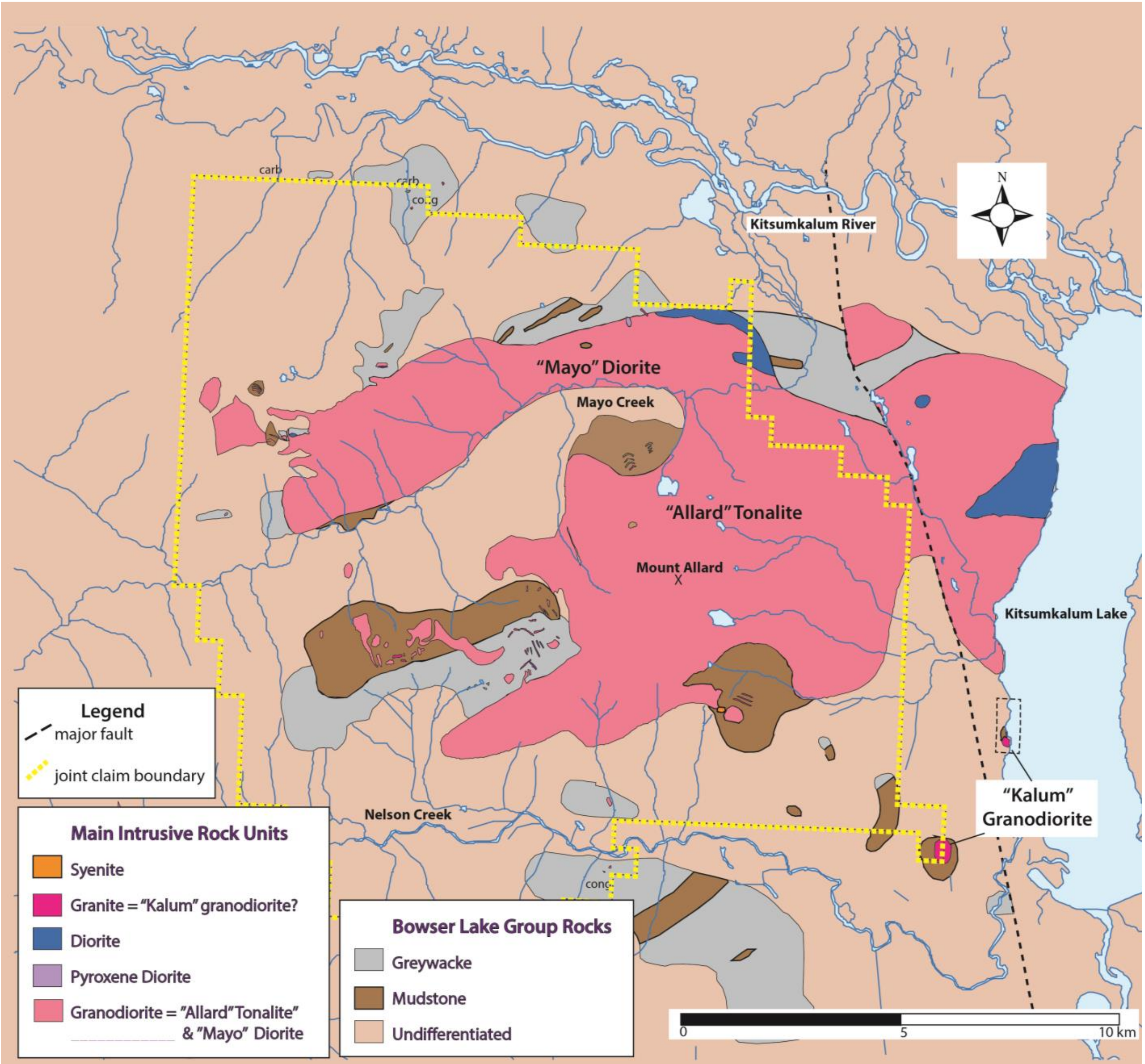


Figure 6. Geology Map of the Mount Allard Area from Higgs (2009) and Downie and Stephens (2003) with Intrusive Rock Unit Annotations Relevant to this Report.

This unit correlated with medium-grained biotite granite that hosts the Little Joe molybdenum occurrence located approximately 1.5 kilometres north of Kitsumkalum Lake. It is extensively affected by moderately intense phyllic alteration that has resulted in bleaching and yellow or rust weathering. Secondary white mica+/-pyrite is ubiquitous. North-trending, centimetre-thick sheeted quartz veins are common. Some veins attain thicknesses of 35 centimetre. A west-trending subset of veins is locally well developed. Molybdenite occurs as fine rosettes and vein coatings, but it is not abundant in surface exposures. Fist-sized clots of molybdenite occur sporadically. The U-Pb age date for the Little Joe sample is 60.6 +/- 2.9 Ma (Mihalynuk and Friedman, 2006).

**Metagranodiorite (Kitsumkalum pluton)**

Above the southeastern shores of Kitsumkalum Lake is a medium to coarse-grained, titaniferous metagranodiorite with enclaves of mafic schist, the Kitsumkalum pluton (Woodsworth *et al.*, 1985). It is of Paleocene age 59.6 +0.2/-0.1 Ma (Gareau *et al.*, 1997) and, notably, is much more strongly deformed than plutons dated as more than 40 million years older.

#### Sugary Aplite Dikes

Sugary aplite to graphic granite dikes with minor dikelet off shoots, which commonly have dark grey, quartz-rich cores, occur in the Tuppie area, where they cut the Mount Allard pluton.

#### Hornblende - Feldspar Porphyry Dikes

Acicular hornblende-feldspar porphyry dikes are common regionally. At least one variety cuts the Mount Allard pluton and dilatent quartz-carbonate veins.

#### Aphanitic Dark Green Dikes

Chilled, very fine grained to aphanitic, dark green dikes look fresh and young, but may locally be affected by ductile deformation. Where they cut the hornblende pyroxene quartz diorite, they form a swarm of one to two metres thick bodies that consistently trend due north. Relative age with respect to other intrusive phases is not known.

#### Lamprophyre Dikes

Chilled, metre-thick lamprophyre dikes contain amygdules of a salmon pink mineral, tentatively identified petrographically as heulandite (low temperature zeolite). These dikes cut all structures within Bowser Lake strata and may be the youngest intrusive unit mapped in the area.

## Structure

All layered rocks within the Kitsumkalum Lake area have been affected by at least one phase of folding. This folding likely relates to the Skeena Fold Belt, a regional fold and thrust belt which is best expressed in thinly layered strata of the Bowser Basin, but also affected volcanic successions in Stikinia, and Late Cretaceous clastic deposits of the Sustut Basin. The fold belt could have initiated as early as earliest Cretaceous time; at least some deformation was pre-Albian, and it lasted into latest Cretaceous or earliest Tertiary time.

Folds are open to close (30 to 70 degree angle between limbs), although intrafolial isoclines are developed in the most ductile zones. Faulting is common and obvious within both the Bowser Lake strata and the intrusive bodies.

Both concentric and similar fold styles are recognized within strata correlated with the Bowser Lake. Competent sandstone layers tend to act as beams and form concentric folds, except where they have folded at elevated temperatures. Argillaceous units tend to form similar folds, especially where graphitic. Intrafolial motion is ubiquitous within graphitic argillite, and these units are typically the locus of thrust fault flats. Thrust faults developed within the Bowser Lake can be identified indirectly in incompletely exposed and isoclinally folded stratigraphy, where apparent fold limbs on either side of a hinge zone both face in the same direction. Thrust faults can be observed directly where they follow sheared bedding planes and then ramp up section.

A detachment fault is shown along the western shores of Kitsumkalum Lake on Figure 5 (Mihalynuk and Friedman, 2006). Detachment faulting is associated with large-scale extensional tectonics. Detachment faults often have very large displacements (tens of km) and juxtapose unmetamorphosed hanging walls against medium to high-grade metamorphic footwalls. In this case Hazelton Group volcanic rocks in the footwall and Bowser Group sedimentary rocks intruded by the Mount Allard pluton in the hanging wall.

On some more regional maps (Woodsworth *et al*., 1985; Evenchick *et al*., 2004) a significant fault has been located to the west of Kitsumkalum Lake as currently displayed on the British Columbia Geological Survey geological map of the province. As well, Evenchick and her co-authors also have a fault running along the eastern shore of Kitsumkalum Lake which bounds the Kitimat Trench as was discussed previously.

Mapping by Mihalynuk and Friedman (2005) in the Bowser Lake group east of Kitsumkalum Lake provides some important perspective on the importance of deformation to mineralization. Folds with long limbs and tight hinges are typical of the sedimentary rocks hosting mineralization near the Black Wolf prospect, on the north flank of Maroon Mountain. Mineralized veins appear to largely postdate this tight folding and follow the foliation that is at a low angle to bedding on the long limbs. Thus, veins appear in many places to be nearly concordant. These tight folds are, in turn, folded by an open kilometre-scale antiform with an east-northeast-trending axial trace (approximately parallel to Wasach Creek) that is interpreted based upon bedding orientations visible in air photos and northwest-striking layers north of Wasach Creek.

## Metamorphism

Biotite hornfels surrounding intrusions is the most common metamorphic facies within the region. Outside of the thermal metamorphic aureoles, a change in regional metamorphic grade occurs, with increases both west and east of the Kalum area. For example, sillimanite and granulite grades are attained to the west, within the Coast Belt. East of northern Kitsumkalum Lake, retrograde spotted chlorite schist contains relicts of andalusite porphyroblasts with internal schistosity that is discordant with respect to the enclosing schistosity.

# Property Geology

The Kalum Gold property is centered on the irregularly shaped Mount Allard pluton which is composed primarily of tonalite and quartz diorite, but commonly referred to as granodiorite by Eagle Plains geologists (Figure 7). This eight by twelve kilometre pluton and associated sills and dykes intrude the greywackes, siltstones, mudstones and minor conglomerates of the Upper Jurassic to Lower Cretaceous Bowser Lake Group and in the southeast probably Skeena Group sediments. The Skeena Group rocks are not described in any of the exploration reports; therefore, they are not discussed in this section.

## Stratigraphy

### *Bowser Lake Group*

This description is taken directly from Downie and Stephens, 2003. *"Bowser Lake Group rocks on the property comprise a monotonous package of greywacke, siltstone and mudstone, with lesser carbonaceous mudstone and conglomerate. Bedding is generally upright with variable strike, although all dips are generally shallow and mostly under 40 degrees. Three broad, stratigraphic units were identified during the 2003 field season. The lower greywacke unit that comprises mostly greywacke, with lesser conglomerate, siltstone and mudstone, dominates the southern portion of the property. The central mudstone unit dominates the central portion of the property and consists of mudstone with lesser greywacke, siltstone and carbonaceous mudstone. The upper greywacke unit that consists of massive greywacke, with some interbedded mudstone and minor carbonaceous mudstone, dominates the northern part of the property. Bowser Lake Group rocks south of Nelson Creek locally have a penetrative foliation. The more pelitic units contain muscovite and chlorite, and indicate pre-Coast Plutonic Complex metamorphism of sub- to lower greenschist facies."*

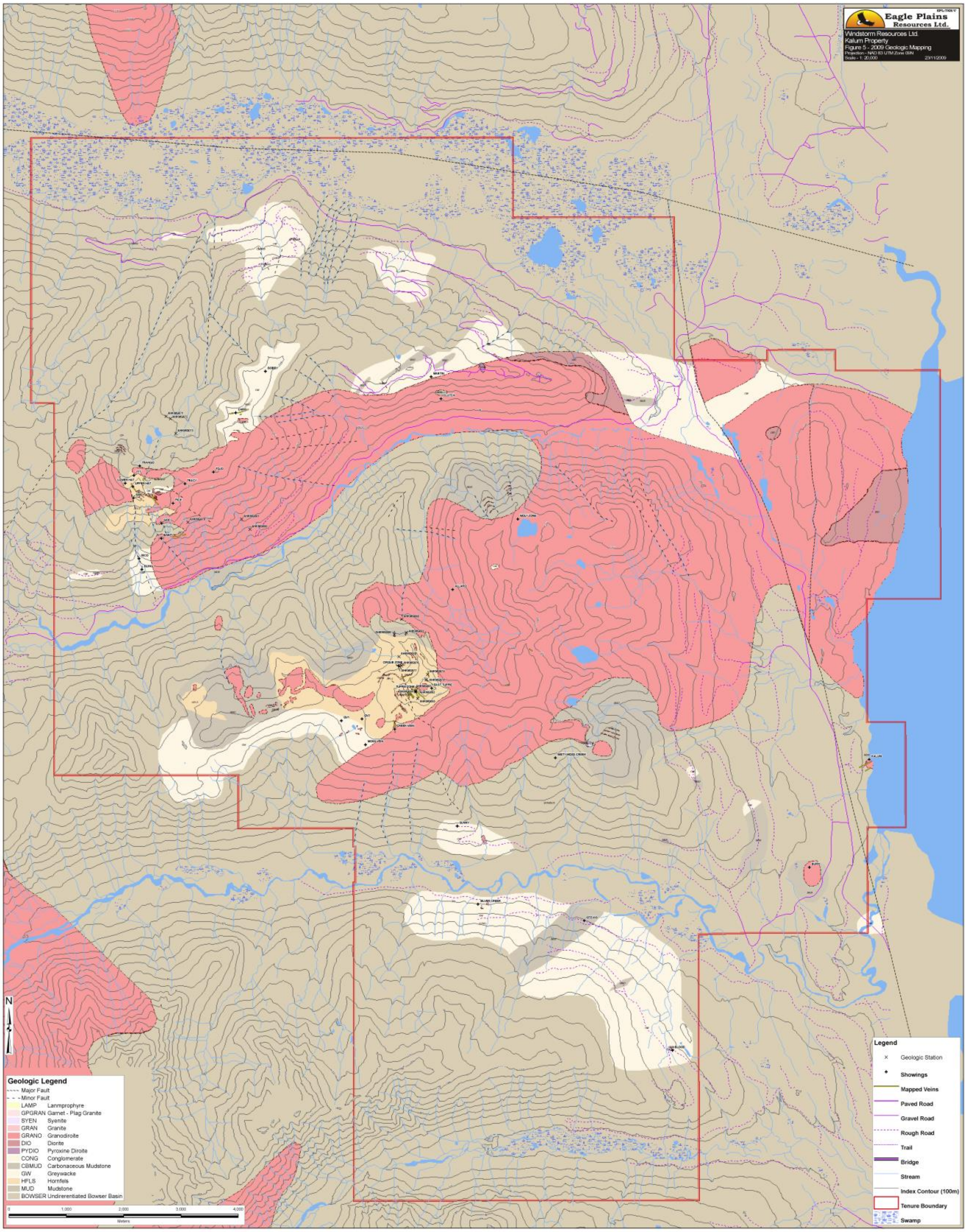


Figure 7. Geology Map of the Mt. Allard Area from Higgs (2009).

Higgs (2009) gives the following descriptions from the Hat showing area from mapping in 2005.

*"The greywacke is dark grey in colour and for the most part massive. It is moderately well sorted, with fine to medium-grained quartz grains that are difficult to distinguish with the naked eye. The rock is comprised roughly of 70% grains, most of which are quartz and 30% calcite matrix. Calcite is also very commonly seen on fractured surfaces.*

*The feldspathic arenite is usually green-grey in colour and poorly sorted. The rock is comprised mostly (50%) of medium to coarse-grained sub-angular feldspar grains. The rest of the rock is comprised of medium to coarse-grained calcite (25%), some kind of medium-grained dark grain (10%) and medium to coarse-grained quartz (5%). The matrix is comprised of calcite and quartz and represents 5-10% of the rock. Calcite veinlets of up to 2cm wide are common throughout. The rock can also occur with a more silica rich matrix but still has the same rock classification.*

*The shale/mudstone unit is dark black and very fine grained. The rock is usually very fissile and fractured and has a common rusty surface, evidence of some sort of low metamorphism. There is little to no mineralization, other than the rare patch of disseminated euhedral pyrite."*

## Intrusive Rocks

This description is largely from Downie and Stephens (2003) with some modifications and additions by the author.

The intrusive rocks and associated hypabyssal intrusions on the property have a large range in composition and texture. The Mount Allard pluton, has an irregular, east-west elongate shape, with a large embayment of Bowser Lake Group sedimentary rocks on the western side. The outcrop pattern along the northern margin indicates that the contact here is likely to be steeply dipping. Eagle Plains believed that the dip might be to the north for the elongate arm of the pluton north of Mayo Creek. However, the weak magnetic signature seen on the Eagle Plains aeromagnetic survey combined with the general pattern of the outcrops suggest to the author that a slab-like body dipping to the south may be a better interpretation.

Exposed contacts and outcrop patterns across the central and southern portions of the property indicate an irregular, shallowly dipping, partially bedding-controlled, sill-like geometry for the main pluton in this area. The eastern portion of the pluton is cut by a north-northwest-striking, steep fault that may have experienced normal movement. The Allard pluton is dominated by coarse grained hornblende-porphyritic granodiorite ("Allard" hornblende tonalite) and medium-grained hornblende-biotite granodiorite. Medium- to fine-grained dioritic portions ("Mayo" hornblende pyroxene quartz diorite?) of the Allard pluton occur near its northeast margin, and along the western shore of Kitsumkalum Lake. Pyroxene, most likely augite, is also a common mineral in the granodiorite and diorite phases.

The "Kalum" biotite granodiorite is not identified by Eagle Plains geologists as a separate unit. The outcrops at the Kalum Lake occurrence were identified as such by Mihalynuk and Friedman (2005 and 2006). It is likely that the granodiorite knob at the nearby Burn zone is also "Kalum" biotite granodiorite. This unit may correspond with the fairly numerous relatively thin, granite dykes and sills intruding the Bowser Lake Group sediments elsewhere in the Mount Allard area. Future work should place more emphasis on accurate classifications of the intrusive rocks to enable more detailed mapping of the separate intrusive phases, particularly those felsic end members that are most likely to be contemporaneous with gold mineralization.

Many sills, dykes and plugs of variable composition and texture intrude Bowser Lake Group rocks around the margins of the main pluton, in particular in the embayment region on the pluton's western side. They intrude the Allard pluton to a much lesser extent. The embayment of sedimentary rocks on the plutons western side hosts numerous sills of medium and coarse-grained granodiorite that range in thickness from 300 metres to less than one metre. Numerous other, generally thin (0.5 to 10 metre), sills and dykes of granodiorite to diorite generally are fine- to medium-grained and have plagioclase as the main phenocryst phase. Aplitic and pegmatitic dykes and vein-dykes are also common around the main pluton boundaries, but have the highest densities in the western embayment area.

A sill of pyroxene-porphyritic diorite with unknown width intrudes the elongate northern arm of the Mount Allard pluton near its northeastern margin and a fine- to medium-grained lamprophyre sill crops out to the north of the arm. At least two small intrusions of garnet-plagioclase-muscovite granite crop out on the lower southern slopes of the Kitsumkalum River valley. Plagioclase-porphyritic granite (rhyolite) sills and/or dykes crop out near the Chris adit (Young and Ogryzlo, 1988) and in the western embayment area. A small plug or sill of medium-grained quartz-syenite crops out northeast of the Misty showing.

### *Property Aeromagnetic Survey*

The extent of the Mount Allard pluton at surface is not that well defined due to the limited outcrop in many of the areas. It is also complicated by the presence of rafts of country rock, crosscutting younger intrusives, and in places, alteration that partially obscures the textures and composition of the rock. The current margins of the Mount Allard pluton on maps by Eagle Plains are strongly influenced in a number of areas by their aeromagnetic survey (Figure 8). For example, the shape of the "Mayo" diorite arm of the corresponds closely to a magnetic high bounded by Mayo Creek to the south. Similarly the contact on the eastern side of the pluton in an area with limited outcrop appears to have been influenced by this survey. To the west of the major fault roughly paralleling the Aiyansh Highway, there is a broad low contrasts with magnetic signature of the sediments. To the east of this fault there are magnetic highs that help define the limits of the pluton, but do not correlate as well with the known outcrops.

The magnetic responses of the Mount Allard pluton have some complexities that remain unexplained. Why is there a large portion of the pluton with such a low magnetic response? Does this reflect alteration as suggested by Higgs (2009) that has destroyed magnetite in the intrusive rock. Mihlaynuk and Freidman (2006) have shown how moderate alteration at the Kalum Lake mineral occurrence can strongly alter the magnetic susceptibility of a rock. If so, does this alteration have any significance for mineralization? Alternatively it could be another rock with less of a magnetic signature that any of the other intrusive rocks, perhaps equivalent to the sedimentary rocks north of the ridge between Mayo Creek and Kitsumkalum River. The strong magnetic signature northwest of Mount Allard and outside the surface exposures of the pluton suggests that the pluton extends towards Mayo Creek in this area at possibly relatively shallow depths. If so, the area deserves more prospecting and mapping.

The moderate magnetic anomaly in the southeast corner of the survey area deserves attention because it is associated with the Kalum Lake and Burn zone occurrences. As mentioned above this is an area where the "Kalum" biotite granodiorite outcrops and alteration has likely reduced the magnetic signatures of the intrusive rocks in places. One could ask the question - is the alteration at the Kalum Lake and Burn zone gold occurrences is less intense than in some adjacent areas?

### *Regional Gravity Survey*

In 2007 Geoscience BC completed an airborne gravity survey in central British Columbia that covered the Mount Allard area. For this report the first vertical derivative map was examined. At the regional scale one can see a series of gravity highs from south to Terrace that trend north-northwest to just north of the Mount Allard area and near the northern boundary of the survey. This linear feature may correlate with the Kitimat Trench. It could point to a deep seated structure that controlled the emplacement of the Mount Allard pluton.

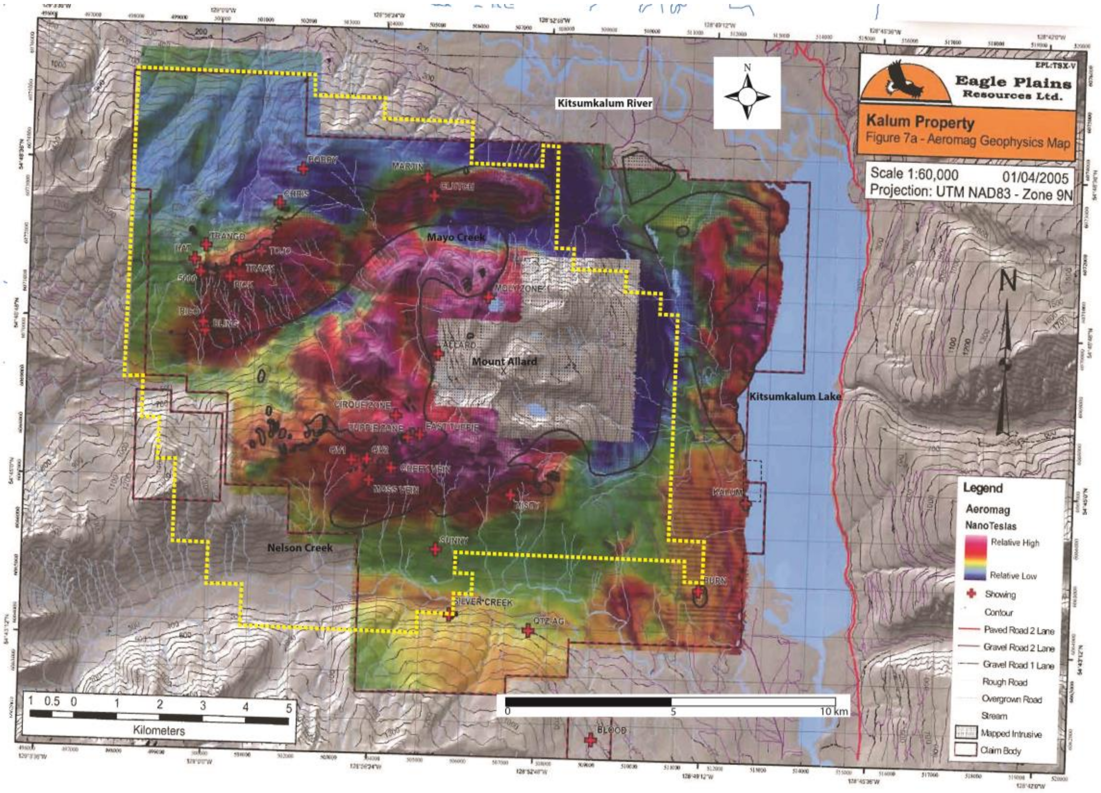


Figure 8. Total Magnetics Aeromagnetic Survey Completed by Eagle Plains (Downie and Gallagher, 2005). The survey is not correctly aligned with all features.

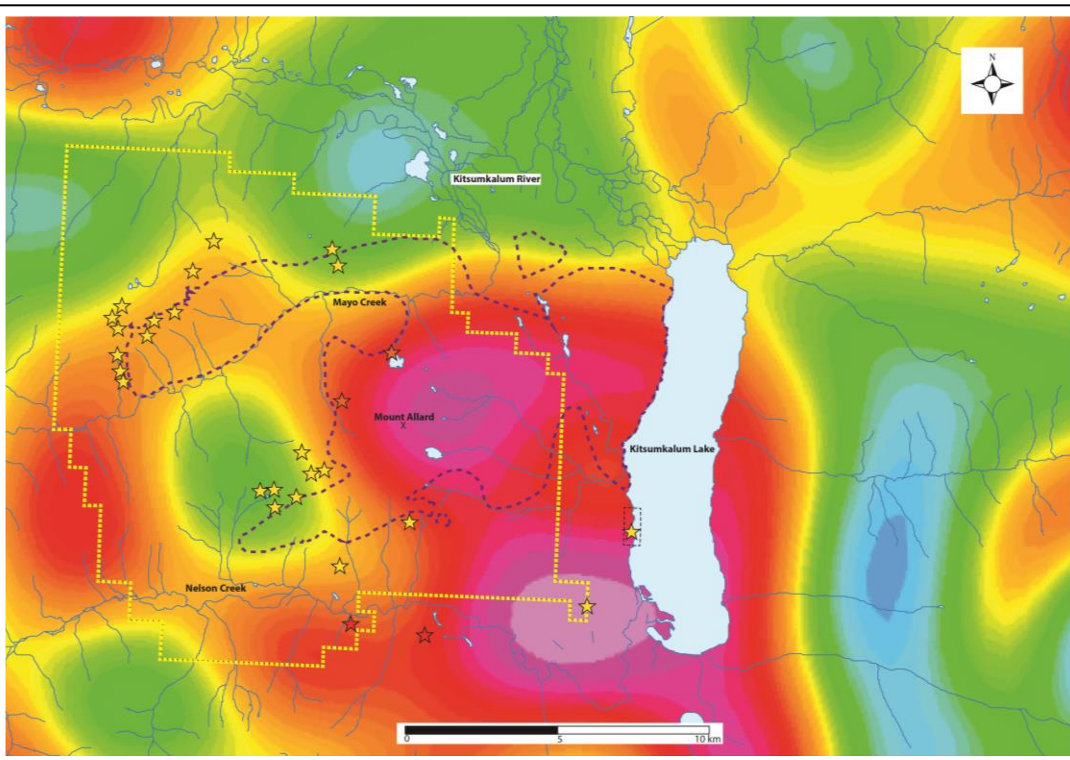


Figure 9. First Derivative Gravity Map Overlaid by the Joint Claim Boundary (yellow), Mount Allard pluton boundary (dashed line) and mineral occurrences (stars).
(from 2007 Geoscience BC QUEST West survey).

At the scale of the Kalum Gold property, the survey shows two strong gravity anomalies (Figure 9). The largest is associated with Mount Allard and underlies the probable core of the Mount Allard pluton. It extends to the east almost as far as the Aiyansh Highway and the major fault. As it underlies the area with a very low aeromagnetic signature, it might suggest a preference for there being altered or low magnetic intensity intrusive rocks to explain the aeromagnetic low. This anomaly does extend to the east-northeast to the small mountain just west of Kitsumkalum Lake. There is the possibility that the survey has identified the core of another intrusive phase here that corresponds with the diorite mapped at surface.

The most surprising feature of the gravity survey is the strongest gravity high is centred on the Burn zone with the Kalum Lake veins located on its northern margin. Given the densities of the country rocks, this is almost certainly a major intrusion. One interpretation for this anomaly is that there is a large body of “Kalum” biotite granodiorite that is at and close to surface in the area. As is discussed below, this has implications for gold expiation in the area.

## Structure

The following description of the property structural geology is taken directly from Downie and Stephens (2003).

*The structural architecture of the rocks on the Kalum property can be described in terms of five main structural elements. These are: bedding, intrusive bodies (sills/dykes and pluton contacts), mineralized veins, faults and joints.*

### ***Bedding***

*Bedding in the Bowser Lake Group sedimentary rocks on the property has variable strikes and shallow to moderate dips. Cross-bedding in the greywacke units indicates that bedding is upright across the entire property. Stereonets show that the maximum density of bedding is at 240*$^{o}$*/36*$^{o}$*NW, with other submaxima at 236*$^{o}$*/18*$^{o}$*NW, 308*$^{o}$*/30*$^{o}$*NE, 020*$^{o}$*/33*$^{o}$*SE and 126*$^{o}$*/36*$^{o}$*SW. These data and field observations indicate broad warping of the bedding across a SSW-trending axis.*

### ***Intrusive bodies***

*Intrusive rocks on the property occur in the major pluton and as sills and dykes. In general, sills are more abundant than dykes. The sills and dykes are mostly granodiorite to diorite in composition. Sills are mostly bedding parallel, and thus have variable orientations across the property. The stereonet maximum density for the sills is 162*$^{o}$*/30*$^{o}$*W and for the dykes is 129*$^{o}$*/90*$^{o}$*.*

### ***Mineralized veins***

*Mineralized veins show a large range in orientation across the property. However, there is a strong group of NW-striking veins that have a maximum stereonet density at 330*$^{o}$*/48*$^{o}$*NE (e.g. Rico vein, Tuppie veins) and other sub-maxima at 327*$^{o}$*/78*$^{o}$*NE (e.g. Creek vein, mineralized faults adjacent to Rico vein) and 282*$^{o}$ */41*$^{o}$*N (e.g. veins in the Tojo and Hat areas). Other stereonet density sub-maxima occur at 258*$^{o}$*/82*$^{o}$*N (e.g. Chris and Martin veins), 206*$^{o}$*/78*$^{o}$*NW and 063*$^{o}$*/43*$^{o}$*SE (non- or weakly mineralized vein-dykes in the Tuppie and Cirque areas).*

*A general observation across the property is that the more steeply dipping mineralized structures show a greater degree of shearing, and commonly multiple laminations. This indicates that the steeply dipping mineralized structures (maxima at 327*$^{o}$*/78*$^{o}$ *NE and 258*$^{o}$*/82*$^{o}$ *N) are compressional to extensional-shear veins (Sibson 1998, Stephens 2003, Stephens* et al*. in press) that have experienced multiple periods of failure and fluid flow. The more shallowly dipping veins (maxima at 330*$^{o}$*/48*$^{o}$ *NE and 282*$^{o}$*/41*$^{o}$ *N) generally are much less deformed, non-laminated or weakly laminated indicates that these veins can mostly be classified as purely extensional veins that have generally experienced one main period of fluid* *flow. In addition, some steeply-dipping veins with strike directions between 258$^{o}$ and 327$^{o}$, such as those in the Bobby area, also show purely extensional characteristics.*

*Shallow slickenlines on the shear veins, the orientation of the steeply dipping extensional veins and angular relationship between the two main shear vein sets (~68$^{o}$) indicate that these are conjugate structures. The shear vein set with a maximum at 327$^{o}$/78$^{o}$ has experienced low magnitude sinistral displacement, while the set with a maximum at 258$^{o}$/82$^{o}$ has likely experienced low magnitude dextral displacement. Thus these veins are likely to have developed in a low magnitude contractional stress regime with sub-horizontal $\sigma_1$ (maximum principle stress) directed about 112$^{\circ}$ (292$^{\circ}$). The dominance of moderately NW-dipping extension veins indicates the $\sigma_3$ (minimum principle stress) direction is likely to have been moderately plunging to the SW, roughly orthogonal to the major extension-vein sets.*

#### *Faults*

*The faults measured in the field are dominated by a NNE-striking set with moderate to vertical dips and have a stereonet maxima at 026$^{o}$/84$^{o}$ E. These faults cut all other geological features on the property and have a normal movement sense[5]. The largest displacement observed was about 2 m. A minor set of NW-striking, steeply dipping faults, parallel to mineralized veins is also apparent.*

*The predominance of variably dipping, NNE-striking normal faults is consistent with a late extensional event that had a vertically plunging $\sigma_1$ and horizontally plunging, ESE-directed $\sigma_3$.*

#### *Joints*

*Joints measured on the property fall into three major sets that have stereonet maxima at 139$^{o}$/66$^{o}$ SW, 352$^{o}$/72$^{o}$ E and 236$^{o}$/72$^{o}$ NW. The first two sets have NW strikes and thus are likely to be related to the NW-striking set of shear veins. The minor NE-striking joint set corresponds with the NW-striking set of vein-dykes.*

## Metamorphism

A weak contact metamorphic and metasomatic aureole exists around the main Allard stock and is normally 100 to 300 m in width (Higgs, 2009). In most areas it is defined by limonitic fractures, weak silica alteration and disseminated pyrite, chalcopyrite and arsenopyrite. Rocks within the aureole, particularly the mudstones, have a distinctive rusty appearance. In general, no metamorphic minerals could be identified in hand sample in the contact aureole by Eagle Plains geologists.

This fringing aureole is not depicted on the geological maps in the public assessment reports. Three larger areas of hornfelsed sediments are shown in the Cirque-Tuppie, Hat and west of Tuppie areas on the geological map (Figure 7) enclosed in a report by Higgs (2009). Unfortunately they are not described in the report.

Higgs (2009) notes that roof pendants of country rock have contact metamorphic andalusite and biotite. This was interpreted as due to low-pressure, greenschist facies metamorphism.

[5] One wonders if these faults post-date felsic magmatism and the related gold mineralization. The property maps of the Mount Allard area produced by Eagle Plains show only a few faults with this orientation.

## Geological Sequence of Events

The 2003 field-mapping program by Stephens led to the description of a broad, generalized magmatic-hydrothermal sequence with eight steps (Downie and Stephens, 2003). Perhaps their most important conclusion is that the main stage of gold and silver bearing veins was the latest event in this sequence.

Eagle Plains staff believed that many of these stages were transitional and overlapped in both time and space. "*For example, many sills and dykes would be forming at the same time as the main pluton was crystallizing, and aplite dykelets, vein-dykes and molybdenite-bearing veins are all closely associated with each other*" from Higgs (2009).

Key sources of new information were the descriptions and age dates published by Mihalynuk and Friedman (2005, 2006). As well, information from the various reports published by Eagle Plains was helpful. Downie and Stephens considered the molybdenite-bearing veins with potassium feldspar selvages hosted by the main pluton to have been occurred around the time of the main stage for gold and silver veins. While more information is required to ensure this connection, the molybdenite-bearing veins are included in the sequence. The deformational history of the area is not well understood for the property; therefore, it is not included in this list of events.

The geological sequence of key events for the Mount Allard area given below is listed from the oldest to youngest event:

1. Upper Jurassic deposition of Bowser Lake sediments
2. Middle Cretaceous "Allard" hornblende tonalite (~100 Ma)
3. Middle Cretaceous "Mayo" hornblende pyroxene quartz diorite (~94 Ma)
4. Late Cretaceous "Kalum" biotite granodiorite (80 to 86 Ma)[6]
5. Hypabyssal dykes and sills, more fractionated phases including plagioclase porphyritic granite(rhyolite), quartz-rich granite
6. Vein-dykes of varying composition
7. Smoky quartz veins, some with feldspar selvages
8. Molybdenite-bearing veins with K-feldspar selvages hosted in main pluton
9. Main stage of Au-Ag bearing veins
10. Tertiary intrusions
11. Lamprophyre dykes

(Events 5–9: short geological time period?)

Events five through nine are assumed to have occurred over a relatively short geological time period. Hydrothermal fluids and late stage intrusions related to the "Kalum" biotite granodiorite phase are the most likely candidates for the source of the gold-silver mineralization in the Mount Allard area.

More geological mapping and age dating with the objective of interpreting the timing of the magmatic events, the sequence of veining, and the interrelationship of the intrusive activity and hydrothermal events is warranted. Weaving this information together with the structural history is also required.

[6] ) This provides the current maximum age of gold-silver mineralization (Mihalynuk and Friedman (2006).

## Mineralization

Exploration on and near the Kalum Gold property has found numerous high grade gold +/- silver veins and veinlets that occur in outcrop (Figure 10) In many cases they are associated with gold-bearing surface rubble and float which led to the original discovery in outcrop.

There are a couple of copper and molybdenum occurrences hosted by the Mount Allard pluton. These occurrences are poorly known. The information in the public record suggests they have not attracted any serious exploration. As there are porphyry molybdenum and copper deposits in the region, further investigation is warranted. Alternatively, they may be a style of mineralization related to the gold-bearing mineral occurrences.

The gold veins are clustered around the margins of the Mount Allard pluton, hosted mainly by sedimentary rocks and also within the pluton and its related sills and dykes. The Eagle Plains mapping shows that most of the veins hosted by sedimentary rocks are within greywacke, presumably reflecting the more competent nature of this rock type compared to the other local Bowser Lake Group lithologies.

The veins occur both as individual quartz +/- carbonate veins with widths varying from tens of centimetres to more than two metres and as very narrow quartz and quartz carbonate veinlets that can be millimetres to a few centimeters thick. The major veins can be accompanied by parallel veins, often with similar mineralogy and orientation. The quartz veinlets can be numerous in places and can occur with larger veins. The various styles of veins are described in Appendix 2.

Several areas have vein-dykes which typically have biotite-granodiorite margins and coarsely crystalline quartz cores. Some of these vein-dykes are weakly mineralized.

The gold mineralization occurs in two styles:

1. **high grade gold veins** varying in thickness from centimetres to over 2 metres, and
2. **gold zones** with areas of multiple veins/veinlets occurring as swarms or sheeted sets.

Most of the exploration completed to date has focussed on the higher grade and thicker veins as potential deposits to be mined by conventional underground mining. It was only in 2003 with the arrival of Eagle Plains that a company publically identified the potential for bulk mining of multiple veinlets that occur as swarms or sheeted sets (Downie and Mosher, 2003).

### *High Grade Gold Veins*

The major high grade gold veins identified by previous explorers occur at the Bling-Rico, Chris, Hat, Kalum Lake, Martin, Misty, and Tuppie zones (Figure 10). Surface sampling and drilling on these veins have produced some high grade gold samples and drill intersections which warrant further exploration. Two of these veins (Misty and Tuppie) are on the current Golden Fountain claims. Three other major gold veins (Chris, Hat and Rico) trend towards tenures held by Golden Fountain (Figure 11).

There are a number of other gold-quartz veins which are less well known, such as those in the Tuppie zone area and the Sunny occurrence. For a list of many of the gold veins, please see Appendix 3.

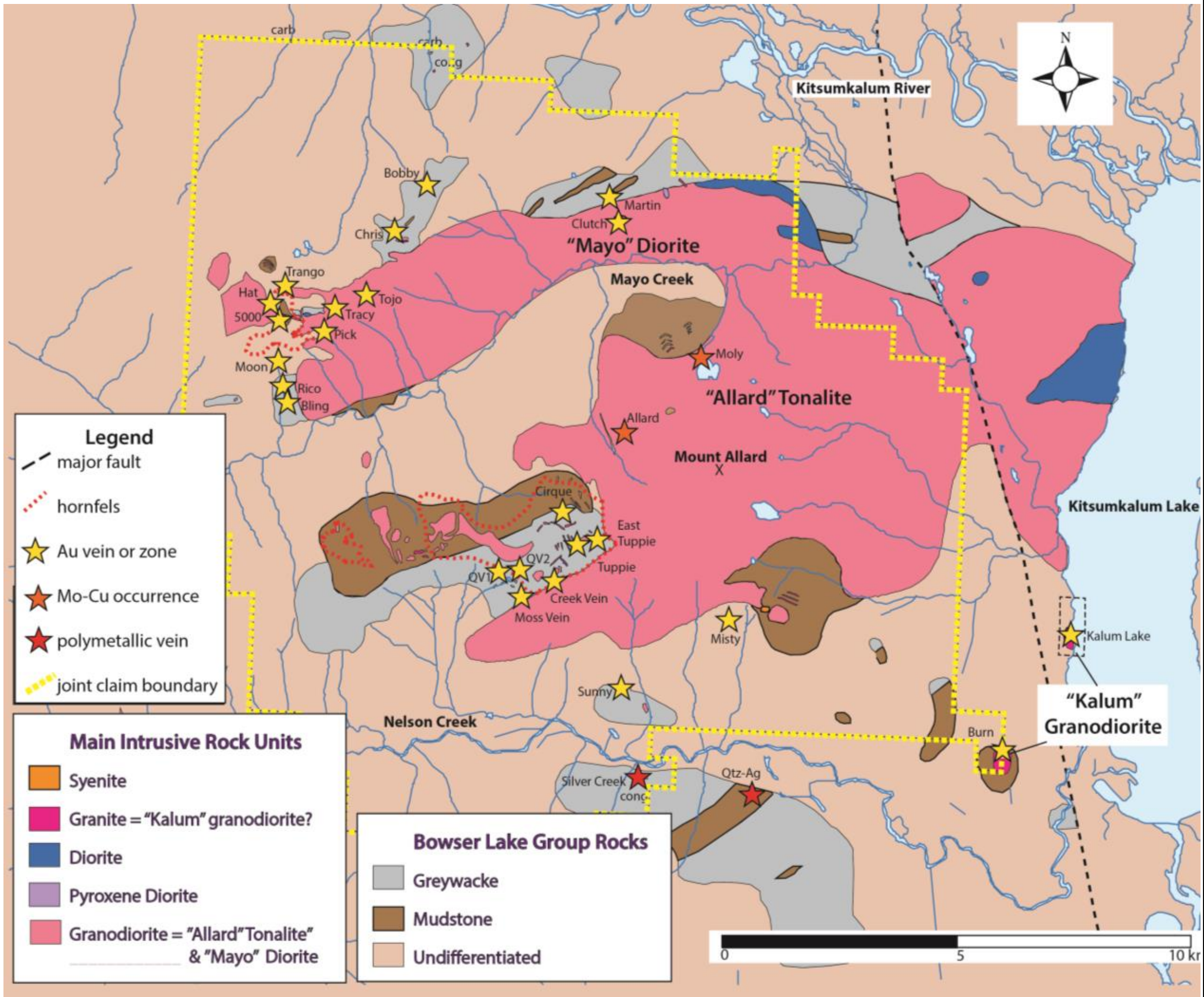


Figure 10. Mineral Occurrences and Three Larger Hornfels Zones of the Mount Allard Area. Geology Map of the Mount Allard Area based on Higgs (2009) and Downie and Stephens (2003) with Intrusive Rock Unit Annotations Relevant to this Report.

### Bling-Rico Vein

The Bling-Rico area was discovered in 2003 by Eagle Plains[7]. Numerous quartz veins are hosted in greywacke along a north to north-northwest striking structural corridor (Figure 10). These veins are interpreted to represent en echelon sets of the main Rico vein and have historically returned high grade gold values.

In 2004, 5 diamond drill holes for a total of 414.3 m were drilled at the Rico occurrence. The only vertical hole (KRC04001) intersected a highly-sheared, sub-vertical, quartz-carbonate vein hosted in an altered andesitic dyke intruding greywacke (Downie and Gallagher, 2005). The vein was typically

[7] The descriptions of the various gold veins and zones are largely taken from published descriptions by Eagle Plains.

mineralized with ~5-10% pyrite, 1-5% chalcopyrite and 1-2% sphalerite. The hole is interpreted to have cut the Rico vein at three depths.

- 42.4-47.9 m; grading 4.6 g/t Au over 5.5 m[8]
- 71.7-73.5 m; grading 17.6g/t Au over 1.8 m
- 101.8-104.31 m; grading 33,500 ppb Au, 39.9 ppm Ag, 448 ppm Cu, 11,277 ppm Pb and 6,094 ppm Zn over 2.5 m

These three 2004 drill hole intersections are among the best for the project area.

In 2012 Eagle Plains drilled two holes (KM12001, 002) located approximately 400 metres south-southeast of the Rico mineral showing to test for the extension of the Bling-Rico vein. Hydrothermally-related sulphide mineralization in the form of pyrite, chalcopyrite and galena was very weak and limited to sub meter scale shear zones. No anomalous gold values were found in either hole; the highest value was 40 ppb gold.

The holes intersected abundant light grey, massive, fine-medium grained greywackes interbedded with 0.5 to 1 metre thick, grey, massive, fine grained siltstones. These sedimentary rocks are intruded by several metre scale, feldspar porphyry dykes which appear to be bounded by discrete, brittle to transitional shear zones. Alteration was generally very weak except in proximity to the porphyry dykes. Throughout the stratigraphic section carbonate-rich, crackle-mosaic breccia systems were localized around dark black shear zones, with a true thickness no more than one metre and chlorite commonly occurring along framework boundaries.

The holes did not intersect the vein, but are interpreted to have intersected the Bling-Rico structure (Gallagher, 2013). Unfortunately it is difficult to compare the structural geology between the 2012 and 2004 drill holes due to limited descriptions in the published logs. It is possible that the feldspar porphyry dykes are following the Bing-Rico shear zone. Another possibility is that the 2012 drill holes did not intersect Bling-Rico structure.

More drilling along the Bling-Rico shear zone is recommended. In preparation for any future drilling, more work should be done to help determine the location of the structure. A ground magnetic survey, detailed geological mapping and trenching should be completed to better constrain the structure's location. Other geophysical tools might also be helpful in locating the shear zone.

| Sample Type | Results | Description |
|---|---|---|
| Drill intersection | 2.5m @ 33.5 g/t Au | This drill hole cut the vertical vein in three locations |
| Grab samples | 12.1 g/t Au; 12.6 g/t Au | high grade gold values (BRKMR019, CGKMV036) |
| Soil samples | Large > 100 ppb Au | >100 by 300M anomaly parallel to shear zone |

[8] For convenience Eagle Plains often converted gold and silver values reported in ppb and ppm to grams per tonne. As many of the numbers in this report come from Eagle Plains, this convention is maintained for their data in this report.

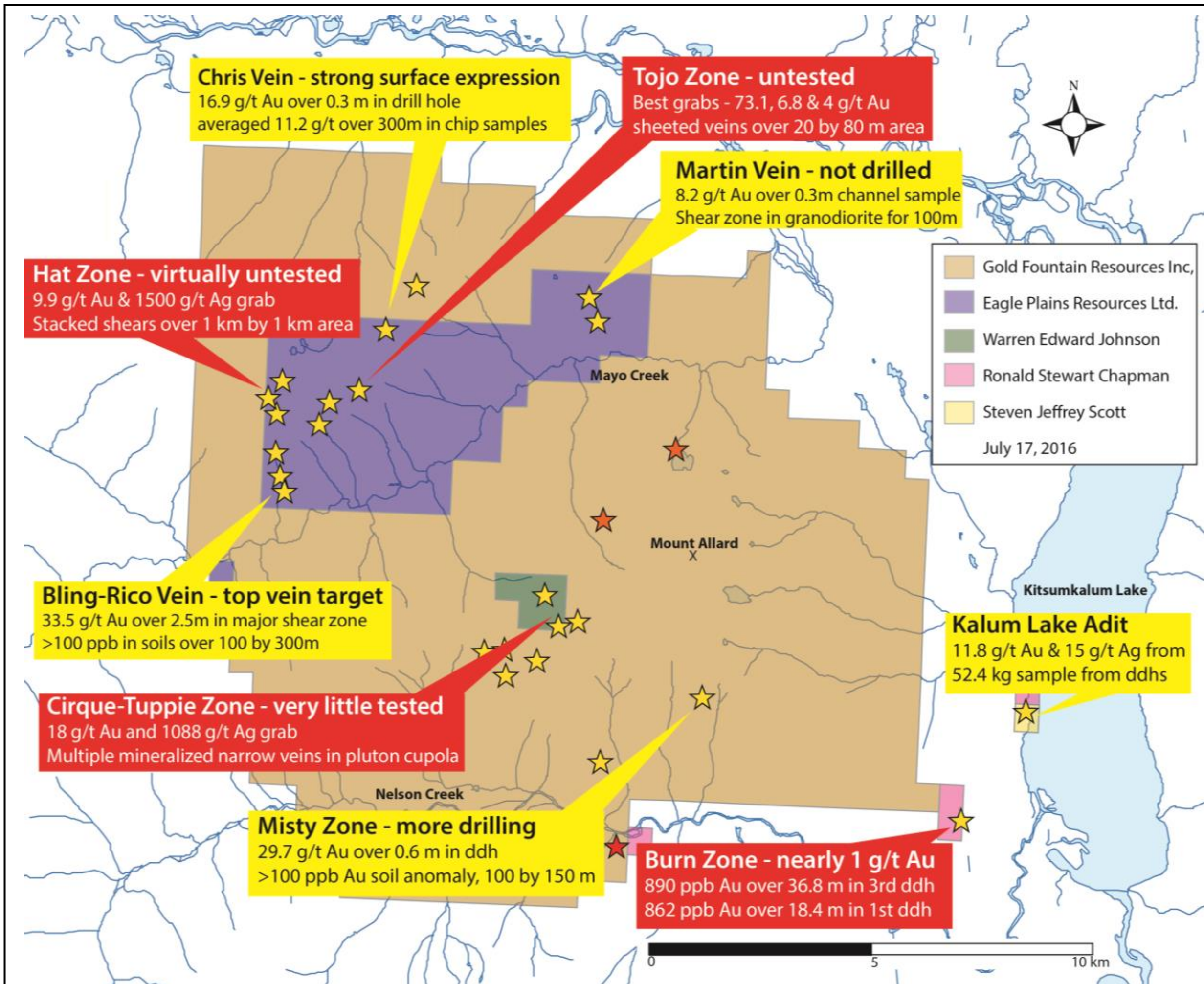


Figure 11. Selected Veins (Yellow) and Gold Zones (Red) in the Kalum Gold Property Area.

**Kalum Lake Veins**

In 1919, C.A. Smith of Terrace staked the original Lakeside claims. Between 1923 and 1925, the newly-formed Kalum Mines Ltd. conducted considerable work on the property which consisted of shaft-sinking and drift-development along the main (No. 1) vein discovered in 1919. Two shallow shafts were sunk with 64 meters of drifting westerly along the vein. Approximately 90 metres southeast of the main vein, Kalum Mines Ltd. put in a 26-metre adit along the No. 2 vein.

In 1987 a 395 metre drill program tested the known gold-bearing quartz veins establishing continuity and mineralization to a depth of 120 metres and 65 metres for the veins. Visible gold was encountered in both veins and anomalous gold values up to five metres on either side of the No. 2 Vein. Mineralization within these veins consists of pyrite, chalcopyrite, tetrahedrite, galena, sphalerite and occasional visible gold within a quartz gangue. Hosted by altered granodiorite, the predominant alteration is propylitic with lesser silicification and epidote-hematite.

In 2004 Eagle Plains drilled five holes to test the No. 2 vein. The vein was intersected in all of the holes with varying amounts of gold mineralization. The No. 1 vein was intersected at depth in at least one of the holes.

| Sample Type | Results | Description |
|---|---|---|
| 52.4 kg sample (1987) | Average 11.8 g/t Au & 15 g/t Ag | Drill core from the No. 1 and No. 2 veins |
| Drill intersection | 1.1m @ 21.7 g/t Au | No. 2 vein, 14 to 15.1 m - 2004 EPL drilling |
| Grab from trench | 251 g/t Au and 225 g/t Ag | From the No. 2 Vein |

There is an interesting zone of gold mineralization hosted by quartz diorite that was cut close to the end of drill hole KKM04005. It consists of a number of mineralized vein systems, commonly occurring as millimeter to centimeter scale, sheared and multistage quartz-carbonate veins with a maximum thickness of 10 centimetres (Downie and Gallagher, 2005). They commonly display carbonate-silica alteration envelopes and are mineralized with 5% pyrite and 1-2% chalcopyrite. Four samples taken by Eagle Plains that include these veins produced analyses as follows:

112.9-113.7 m; (0.8 m) @ 7.7 g/t Au
122.3-122.7 m; (0.4 m) @ 7.2 g/t Au
131.9-133.1 m; (l.2 m) @ 3.0 g/t Au
138.0-139.2 m; (1.2 m) @ 2.0 g/t Au

The author calculated the average grade for the core from this drill hole from 112.9 to 139.2 meters grades 641 ppb gold and 844 ppm silver over 26.3 metres. This zone ends just 9.6 metres before the end of the hole. This is an interesting intersection of lower grade gold mineralization over more than 25 metres hosted by the “Kalum” granodiorite. It appears to be similar to mineralization described below from the Burn gold zone. This provides additional justification to explore in the Mount Allard area for bulk tonnage gold.

The existing tenure at the Kalum Lake occurrence is limited to two claims owned by two different individuals that cover a relatively small area. These claims are currently surrounded by a registration reserve that prohibits acquiring new mineral tenures at least until 2020.

**Chris Vein**

A gold bearing quartz vein, the Chris vein, also called the Main vein, strikes 075 degrees and dips 75 degrees north within siltstones. On surface the vein has been traced for 300 metres and varies from 0.3 to 1.34 metres in width. The vein consists of alternating layers of grey-white quartz, grey siltstone and massive arsenopyrite, galena and pyrite with minor chalcopyrite and sphalerite.

The Chris Zone has a well-defined gold soil anomaly (>100 ppb Au) which extends well beyond surface exposure of the Main vein to the east northeast. The Main vein has excellent thickness and consistent grade at surface. Drill testing by Eagle Plains and Prism has shown a more discontinuous nature of the vein, perhaps due to the host shear zone. Unfortunately the drilling by Prism in the 1980s did not recover any proper core from the probable vein intersections (Cavey, 1981).

There is potential for defining more continuous subsurface gold grades in the Chris zone. Future work would be warranted if a better understanding of the structural controls on the vein can be developed.

| Sample Type | Results | Description |
|---|---|---|
| 20 Chip Samples (1981) | Averaged 11.2 g/t Au, 80 g/t Ag | Along 300 m of the Chris Vein system |
| Best Drill Intersection | 16.9 g/t Au, > 100 g/t Ag over 0.3m | Eagle Plains 2004, ddh#2 |
| Soil samples | Up to 11.6 g/t Au | Extends 300 m beyond vein outcrop |

**Misty Veins**

Originally staked in 1979, considerable exploration work has been conducted in the Misty area by several different companies. Trenching revealed a series of sub-parallel, shear zone-hosted, quartz veins with thicknesses up to 2.5 m. It also led to the discovery of the Creek and Moss shear-hosted quartz veins to the west.

Eagle Plains discovered a shear-hosted, high-grade, quartz-carbonate vein system which has a maximum width of 2.5 meters in 2004. The vein system has been interpreted as the southern extension of the Misty occurrence veins. Soil sampling that year confirmed historic data regarding widespread anomalous gold values (often in excess of 100 ppb) in soils. Drilling in 2004 successfully intersected high grade gold mineralization. The area is structurally complex and further drilling in the area is required to properly evaluate the prospect.

| Sample Type | Results | Description |
|---|---|---|
| Drill intersection | 0.6m @ 29.7 g/t Au and 91.5 g/t Ag | From 69m to 69.6m - 2004 EPL |
| Channel sample | 0.6m @ 21.6 g/t Au; 1.1m @ 4.9 Au g/t | Trenches in shear zone veins |
| Soil | Up to 0.7 g/t Au and 4.7 g/t Ag | 100 x 150 m Au soil anomaly |

**Martin Vein**

The Martin vein strikes 015 degrees and dips 55 degrees northwest. It follows a shear zone in granodiorite for 100 metres and is up to 0.5 metres wide. Mineralization consists of pyrrhotite, arsenopyrite, galena, pyrite, sphalerite and chalcopyrite. There are no public reports that indicate that the Martin vein has been drilled.

The Martin area has road access which would facilitate a drilling program. This is an area to consider for drilling.

| Sample Type | Results | Description |
|---|---|---|
| Channel sample (1928) | 0.3m @ 8.2 g/t Au, 137 g/t Ag, 4.0% Pb | Martin vein |
| Channel sample | 0.18m @ 6.8 g/t Au and 12.3 g/t Ag | Parallel vein |

## *Gold Zones*

The potential to find bulk tonnage gold deposits on the Kalum Gold property area has only been considered in this century. This reflected the emergence of large open pit mines, like Fort Knox in Alaska, that are able to extract gold at grades near one gram per tonne of gold. Eagle Plains was aware of this potential. However, much of their exploration focus was on finding high grade gold-quartz veins that could be mined using conventional underground techniques.

The targets for the bulk tonnage gold occur as sheeted quartz veinlets or "swarms" of quartz veins and veinlets that are found in the Mount Allard area. Based on current information, the top four areas for discovering vein swarms with bulk tonnage mining potential are at the Burn, Cirque -Tuppie, Hat and Tojo zones (Figure 10). The Tuppie zone is the only currently on Gold Fountain claims. The other three zones are on adjacent mineral tenures. There is a reasonable probability of finding new gold zones of a similar nature on the Gold Fountain claims.

### Burn Zone

Geochemical surveys in the 1980s located a gold-silver-arsenic anomaly coincident with a granodiorite knob. A subsequent soil grid completed in 2004 returned limited geochemical response, possibly due the thick glacial till and alluvium overlying the area. Rocks samples of altered granodiorite collected from the knob area returned values in the 100 to 500 ppb gold range.

The Burn zone was drilled in 2008 by Eagle Plains with 11 holes. Although not publically acknowledged at the time, the drilling program was a major technical success. It intersected broad zones (more than ten metres) of gold mineralization with more than 500 ppb gold hosted by moderately altered granodiorite. Typically much of the gold was carried by clusters of high grade, very narrow veins. While the mineralized zones would need to be larger with higher grades to be mined, they demonstrate the potential for the Kalum Gold property area to have bulk minable gold deposits.

The consultant for Eagle Plains explained that the granodiorite knob was underlain by Bowser Lake Group sediments due to a thrust fault at the base of the granodiorite. However, a more likely scenario is there are multiple sills of altered granodiorite that intruded the sediments. This interpretation provides more encouragement that exploration should be expanded in the Burn area looking for higher grade (1 to 2 grams per tonne gold) intersections hosted by granodiorite over greater thicknesses.

There is more discussion of the Burn zone in the section titled "New Exploration Targets".

| Sample Type | Results | Description |
|---|---|---|
| Near surface drill intersection | 18.4m@0.86 g/t Au, 0.99 g/t Ag | Drill hole KKM0802 |
| Near surface drill intersection | 36.8 m @0.89 g/t Au, 0.24 g/t ag | Drill hole KKM0803 |

### Cirque and Tuppie Zones

The Cirque zone occurs on the western flank of Mount Allard. This area has been recently uncovered by the retreating snow pack for the first time. This led to the discovery of this area of gold and silver mineralization by Eagle Plains in the Cirque and Tuppie zones. Hornfelsed greywacke and siltstone with numerous dioritic and granodioritic sills underlie the two zones which sit within an embayment of the Mount Allard pluton.

The Cirque zone has a number of breccia veins and stockwork zones up to 0.5 metre wide, in addition to a significant number of vein-dykes. The mineralized veins have more massive textures than those in the Tuppie zone, with coarser-grained quartz. The vein-dykes have varying compositions, but are mostly granodioritic near their margins, become progressively more felsic inwards, and have coarse quartz dominating the centres. The vein-dykes are cut by the northwest striking, northeast dipping mineralized veins. The Cirque zone is along strike from the Tuppie zone and thus it is likely that these two zones link up.

The Tuppie area boasts a system of sub-parallel, metre-scale shear zones that host high-grade gold mineralization in quartz-carbonate veins and breccias. There is pervasive iron carbonate alteration.

In 2004 two weeks of prospecting discovered numerous high-grade quartz-gold veins, as well as the southern extension of the Tuppie structural zone which returned excellent results, including one grab sample containing 18.0 grams per tonne gold and 1088 grams per tonne silver. Breccia style mineralization was also discovered north of the Tuppie Zone.

The five short drill holes targeting high grade veins in this area did not intersect any gold mineralization. This could reflect the limited geological understanding of the area.

| Sample Type | Results | Description |
|---|---|---|
| Grab sample | 973 g/t Au and 502 g/t Ag | Cirque |
| Grab sample | 10.1 g/t Au and 14.2 g/t Ag | Best in 2003 |

**Hat Zone**

The Hat Zone has numerous mineralized quartz and quartz carbonate veins. In some cases they form swarms or stockworks that warrant exploration for bulk tonnage gold. Eagle Plains interprets the area to have a series of flat-lying, stacked, shear-hosted, high grade quartz veins that are repeated on a scale of 50 metres. The three short 2005 drill holes in the area failed to intersect the one mineralized zone being tested, but provided valuable geological information. The Hat zone is not tested in the third dimension despite high grade quartz veins and a very favourable geological environment.

Prospecting to the west of Chris and towards the Hat area in 2004 resulted in the discovery of numerous other high-grade quartz-carbonate veins. The orientation and distribution of these veins is consistent with their representing a set of en echelon veins similar to those at the Hat, although with a sub-vertical orientation.

| Sample Type | Results | Description |
|---|---|---|
| Channel sample | 6.0m@7.3g/t Au | BABIT |
| Grab sample | 9.9 g/t Au, 1500 g/t Ag | Upper Hat |

Tojo Zone

The Tojo zone was discovered by staff from Eagle Plains prospecting along the northern side of a ridge southwest of the Chris vein. This area was recently exposed by a retreating snowdrift. It is an area of sheeted quartz veins, with high gold and silver grades, hosted in strongly ankerite-altered granodiorite. Rubble and subcrop of mineralized veins occur over an area of at least 20 x 80 m. The veins are generally 1 to 20 cm thick and have densities of between 2 and 10 per linear meter. The veins show weak to moderate limonite after sulphide. Comb quartz is the most common vein texture.

| Sample Type | Results | Description |
|---|---|---|
| Grab sample | 73.1 g/t Au and 495.4 g/t Ag | Sheeted vein |
| Grab sample | 6.8 g/t Au and 65.8 g/t Ag | Sheeted vein |
| Grab sample | 4.0 g/t Au and 850.1 g/t Ag | Sheeted vein |

# Mineral Deposit Model for Gold Mineralization

Several deposit models for the gold mineralization have been considered over the years. Exploration in the last century was predicated largely on finding gold-quartz veins and polymetallic veins Good genral descriptions are provided in the British Columbia Mineral Deposit Profiles by Ash and Alldrick, 1996 and Lefebure and Church, 1996.

Wodjak *et al*., (2000) studied the high grade Wadsworth gold vein on the Hope property located approximately 12 kilometres north of the Mount Allard area. It is closely associated with a molybdenum-bearing granodiorite stock and has a strong geochemical signature for Au-Ag-W-Mo-Bi with associated Pb-Sb-Cu-Zn. The Wadsworth vein occurs near the north end of Kitimat Trench in close association with the fault on its eastern margin. Wojdak *et al*. (2000) suggest that mineralized plutons and gold veins may be genetically linked with that structure. They concluded that the area has excellent potential for a large, “intrusive-related” gold deposit, such as Pogo and others. They note that Lefebure *et al*. (1999) identified the Terrace area as being prospective for intrusion-related gold-tungsten-bismuth veins, based on the coincidence of gold-quartz veins, placer gold, tungsten veins and silt geochemical anomalies in gold and tungsten. Most of the showings occur in a well mineralized area east of Terrace. The Hope property is on the northwestern edge of this identified area.

More recently Downie and Mosher (2003) of Eagle Plains Resources Ltd. used public regional geological, geochemical and aeromagnetic data to show the potential for an Intrusion Related Gold System (Baker,2003) type of setting around the Mount Allard pluton. They were able to point to more than eight characteristics of the geological setting and mineralization that aligned with this deposit model.

The subsequent exploration work done by Eagle Plains supports this general interpretation while providing some insight into some of the differences of the Kalum Gold property from the IGRS deposits of the Tintina Gold Province in the Yukon and Alaska. In this context, it is interesting to note that the geologists working for Eagle Plains on the property considered other deposit models. For example, they considered that some of the veins might be epithermal in nature or emplaced at a somewhat deeper level as described by Panteleyev (1991). This confusion is not surprising as intrusive-related gold mineralization comes in many forms. such as veins, sheeted veins, disseminated and skarns, which can be emplaced at different depths and into different hosts. This was Baker’s rationale for developing an Intrusion Related Gold System (IRGS) model. It is underscored by Hart’s (2005) remarks on the confusion between the model for orogenic gold veins and the very similar veins that occur in the Tintina Gold province as part of IRGS.

Over the last couple of decades there has been considerable research completed on gold mineralization related to intrusions which has been coupled with more information from exploration and mining of this broad family of deposits. This has produced more general descriptions of gold deposits in general which include intrusive-related gold deposits (Robert *et al*, 2007; Goldfarb et al., 2005) to more specific models that are typically restricted to certain geological settings and/or regions (Hart, 2005). The latter models are clearly better defined. Since individual mineral deposits are unique, it is often helpful with exploration properties to draw understanding from both specific and global conceptual models.

The best known intrusive-related gold deposits in the northern Cordillera are those from the Tintina Gold Province that extends from the Yukon into Alaska. As described below, the Kalum Gold property has many of the characteristics found in Intrusion-Related Gold Systems (IRGS) despite sitting in a different tectonic setting and being associated with a chemically different magma series.

## Intrusion-Related Gold System (IRGS) Deposits

Enough information has been collected to demonstrate that all the gold deposits in the Tintina Gold Province are part of IRGS according to Hart (2005). They are called systems as they incorporate different styles of mineralization (Figure 12), such as gold-quartz veins, polymetallic veins, skarns and replacements. These systems include the well-studied examples of Fort Knox, Dublin Gulch, Clear Creek, Scheelite Dome, Pogo and Shotgun.

The Tintina Gold province gold deposits are associated with metaluminous, subalkalic intrusions of intermediate to felsic compositions that lie near the boundary between ilmenite and magnetite series. Therefore, they have been referred to as reduced Intrusive-Related Gold Systems. The following lists of key characteristics and other features are from Hart (2005).

Key characteristics of the reduced IRGS deposits are:

- carbonic hydrothermal fluids,
- gold combined with elevated either Bi, W, As, Mo, Te and/or Sb and low base metal concentrations,
- usually low sulphide content (less than 5%) with arsenopyrite, pyrrhotite, pyrite but no magnetite or ilmenite,
- restricted areal extent and weak hydrothermal alteration,
- tectonic setting well away from convergent plate boundaries (continental setting), and
- location in magmatic provinces best known for tin and tungsten mineralisation.

Other features that help define this group of reduced IGRS deposits are:

- emplacement into host strata that are relatively deep water, reducing sediments
- metal zonations that are temperature dependent and form concentric zones out from the pluton with proximal Au, Bi and Te passing through W with As and Sb to distal Ag-Pb-Zn,
- a variety of deposit styles including stockworks, veins, skarns, replacements, disseminations,
- presence of sheeted veins – parallel, low-sulphide, single stage quartz veins over 10s to 100s of metres,
- intrusive-related features indicative of hydrothermal fluid generation, such as porphyritic textures, aplite and/or pegmatite dykes, greisen alteration and zonation features,
- felsic, ilmenite-series plutons with no magnetite and therefore low magnetic susceptibility and ferric: ferrous rations less than 0.3, and
- mineralization and associated causative pluton are coeval.

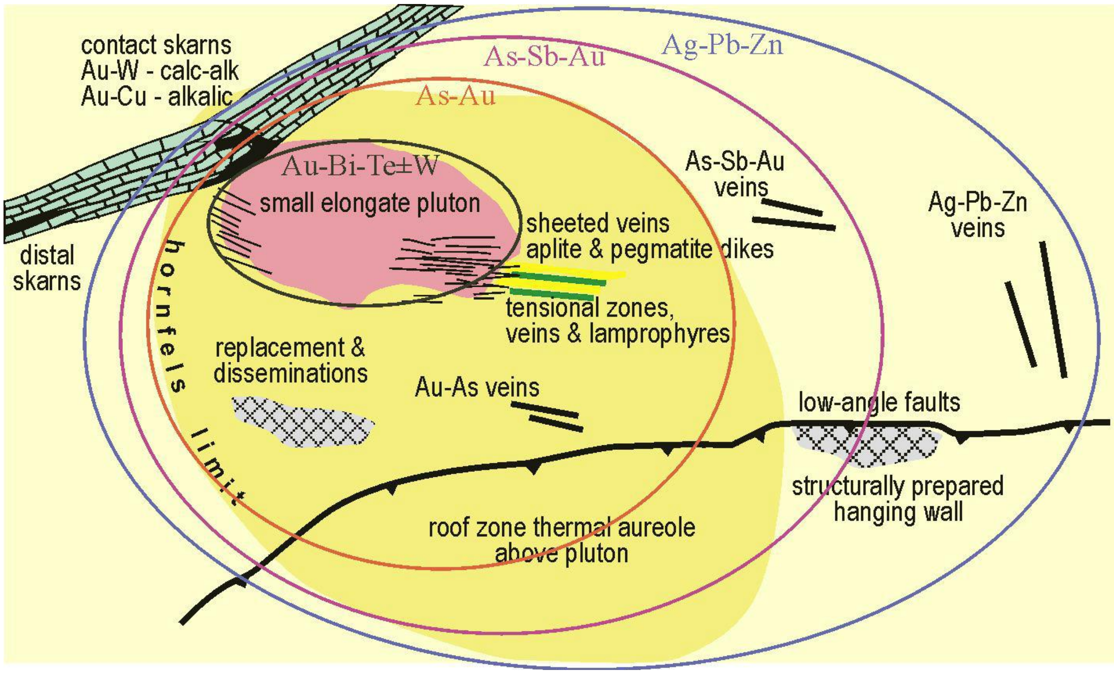


Figure 12. General Model in Plan View of Reduced Intrusion-Related Gold Systems from the Tintina Gold Province of Yukon and Alaska (from Hart, 2005).

## *Comparison of IRGS with Mount Allard Mineralization*

There are numerous gold veins, often with associated silver, on the Kalum Gold property and adjacent mineral tenures. The gold veins are located around the margins of the Mount Allard pluton, both within the main intrusion and hosted by the surrounding sedimentary and intrusive rocks (Figure 8). This relationship is a key characteristic of intrusive-related gold mineralization. Other characteristics consistent with this style of mineralization are:

- an outward zoning of both vein types and metals from the pluton;
- occurrences of sheeted quartz veinlets and vein swarms;
- a metal assemblage that combines gold with elevated bismuth, arsenic, molybdenum, antimony and tungsten values;
- vein-dykes with biotite-granodiorite margins and coarsely crystalline quartz cores that can contain gold; and
- hornfelsed marine sedimentary rocks adjacent to pluton.

The gold mineralization and related geology on the Kalum Gold property match four of the key characteristics listed for IGRS by Hart (2005) and all but one of the features he lists as well. The differences relate to the composition of the magmas, the tectonic setting and absence of tin mineralization in the Mount Allard area. These all relate to the tectonic setting of the Tintina Gold province which is clearly different than the Bowser Basin overlap assemblage sitting on the accreted terrane of Stikinia. The absence of skarns is due to the lack of suitable host rocks in the sedimentary sequence.

Hart acknowledges that there are intrusive-related gold deposits that occur in other settings than the Tintina Gold province. He mentions some examples of IRGS granitoids may not be strongly reduced, but are significantly less oxidized than typical granitoids associated with porphyry occurrences. The Mount

Allard area mineralization belongs in this group as it is definitely not porphyry style (large alteration zones, types of alteration, etc.). In terms of using the IRGS model for exploration on the Kalum Gold property, it appears that the numerous similarities warrant using it to help design exploration programs while recognizing there are some differences.

## Reduced Intrusion-Related Gold Deposits Clan

A more global approach to gold deposits by Robert *et al*. (2007) offers a broader model to help understand the Kalum Gold property by describing a broader clan of reduced intrusion-related gold deposits that share an Au-Bi-Te-As metal signature and an association with moderately reduced, equigranular, post-orogenic granitic intrusions. He divides this clan can into three types based on variations in style relative to depth of formation and proximity to the causative intrusions called:

1. mesozonal;
2. epizonal; and
3. sediment-hosted.

The mezozonal classification is directly equivalent to the Intrusive-Related Gold Systems model described above. Mesozonal deposits are not only found in Alaska and the Yukon, but in other regions. For example, significant Australian deposits of disseminated (Timbara) and breccia hosted gold mineralization (Kidston) and the large Vasilkovske mine in Kazakhstan. Robert *et al*. (2007) note that most of the skarns, mantos or veins found outside of the intrusions contain less than three million ounces of gold with only a few exceptions like the Pogo deposit in Alaska.

The epizonal classification includes gold mineralization that has been recognized to be similar to the deposits in the Tintina Gold Belt, but generally lack coeval major plutons or stocks proximal to the gold mineralization (Figure 13). Epizonal intrusion-hosted deposits, such as Kori Kollo, Brewery Creek and Donlin Creek, consist of stockwork veinlets, disseminated sulfide or sheeted vein mineralization in dyke-sill complexes or volcanic domes. Donlin Creek is the largest of these deposits and has been shown to have formed at depths of less than 2 km. These deposits may show characteristic shallow level vein textures such as abundant drusy quartz-lined cavities, banded, crustiform, cockade and bladed textures.

The classification of deposits like Muruntau, Kumtor, and Telfer as sediment-hosted intrusion-related deposits by Robert *et al*. (2007) is controversial as some other authors would consider them to orogenic gold deposits. These deposits have complex multi-stage mineralization paragenesis, with at least one stage that consists of stockwork-disseminated or sheeted veinlet zones. They have associated metal suites consistent with the mesozonal reduced intrusion related deposits. Hydrothermal alteration in these deposits usually has an important component of feldspathic alteration. Sericitization, carbonatization, and biotization have also been noted and may extend for considerable distances around ore.

The gold mineralization in the Mount Allard may have formed at depths that were intermediate between the mesozonal and epizonal levels. This could explain the numerous sills and dykes of various sizes, the more limited areas of hornfelsing, and the multiple sills/dykes with gold mineralization at the Burn zone. No mineralization of the sediment-hosted intrusion-related type has been recognized in the Mount Allard area.

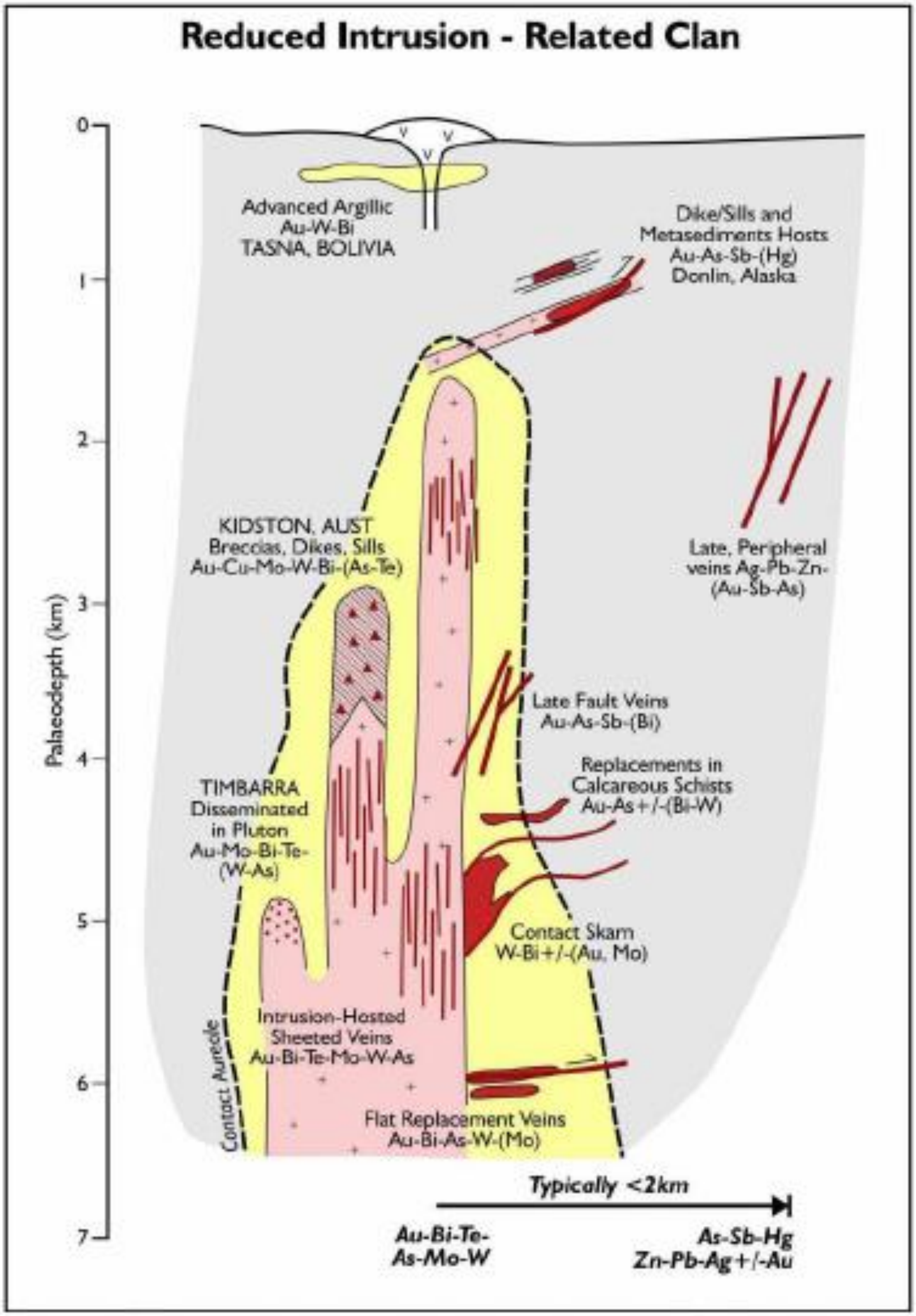


Figure 13. Vertical Zoning Model for Intrusion Related Gold Systems
(from Robert et al., 2007).

### *Grades and Tonnages of Intrusion-Related Gold Deposits*

Intrusion-related gold deposits can be a major source of gold as shown by the table below.

Table 3. Selected Intrusive-Related Gold Deposits (mainly from Petzel, 2013)

| Deposit | Country | State/Territory | Contained Gold ( millions of ounces) | Gold Grade (grams/tonne) |
|---|---|---|---|---|
| | | ***High Grade Veins*** | | |
| **Pogo** | USA | Alaska | 5.6 | 12.50 |
| **Chepak** | Russia | Magadan | 0.8 | 7.7 |
| **Malysh (Dubach)** | Russia | Magadan | 0.9 | 4 |
| **Netchen-Khaya** | Russia | Magadan | 0.3 | 5 |
| **Chistoye** | Russia | Magadan | 0.4 | 4 |
| **Shkolnoye Vein N6** | Russia | Magadan | 0.6 | 38 |
| | | ***Bulk Tonnage*** | | |
| **Fort Knox** | USA | Alaska | 5.7 | 0.42 |
| **Donlin Creek** | USA | Alaska | 32.0 | 2.91 |
| **Shotgun** | USA | Alaska | 1.1 | 0.93 |
| **Dublin Gulch** | Canada | Yukon | 4.8 | 0.68 |
| **Brewery Creek** | Canada | Yukon | 0.83 | 1.36 |
| **Kidston** | Australia | Queensland | 4.1 | 2.08 |
| **Timbarra** | Australia | New South Wales | 0.396 | 0.78 |
| **Vasilkovskoe** | Kazakhstan | | 12 | |

## New Exploration Targets

In completing this report a more complete understanding of the geology and gold mineralization of the area emerged based on reviewing the exploration reports and public geoscience reports and data. It is not surprising that three areas emerged as potential exploration targets for consideration (Figure 14). They are discussed below. While called new exploration targets in this report, it is likely that they were considered by geologists working for Eagle Plains even though this is not mentioned in the government assessment reports.

Some general observations can be made concerning the exploration to date in the Mount Allard area.

1. The drilling intersected gold-bearing veins in most the holes, including ore grade intersections. It also showed that it can be difficult to follow individual veins between adjacent holes, even when drilling directly down dip of an intersection in a previous hole. There was more success with intersecting the controlling structure, typically a shear zone, fault or quartz veining.
2. There are numerous areas on the property, including those described above, where rock, soil and silt samples with strongly anomalous gold and silver values have been found that led to mineralized quartz veins and veinlets. Some of these veins have significant widths to go with attractive grades. Unfortunately in most places thick overburden or talus limit the areas of outcrop so surface exposures of the veins are limited. This has led to some drill holes being completed prior to properly understanding the mineralization and its relationship to the host

rocks and structures which could perhaps explain some of the disappointing results. More effort is warranted in future to understand both the geology of the property and the mineralized zone prior to drilling.

3. Most of the gold zones have had too few drill holes to evaluate them properly. Only three of the mineral occurrences in the Kalum Gold property area have been drilled with more than ten holes – the Kalum Lake, Burn and Chris. Mineralization was successfully intersected at Kalum Lake and Burn Gold in most of the holes. On the other hand, the Chris vein has proved more challenging. Unfortunately all four 1981 drill holes that intersected the Chris vein had extremely poor recoveries of the mineralization dropping the actual number of useful holes to six. This is probably insufficient to test this gold vein given the typical erratic distribution of gold in quartz veins. Therefore, it warrants more drilling.

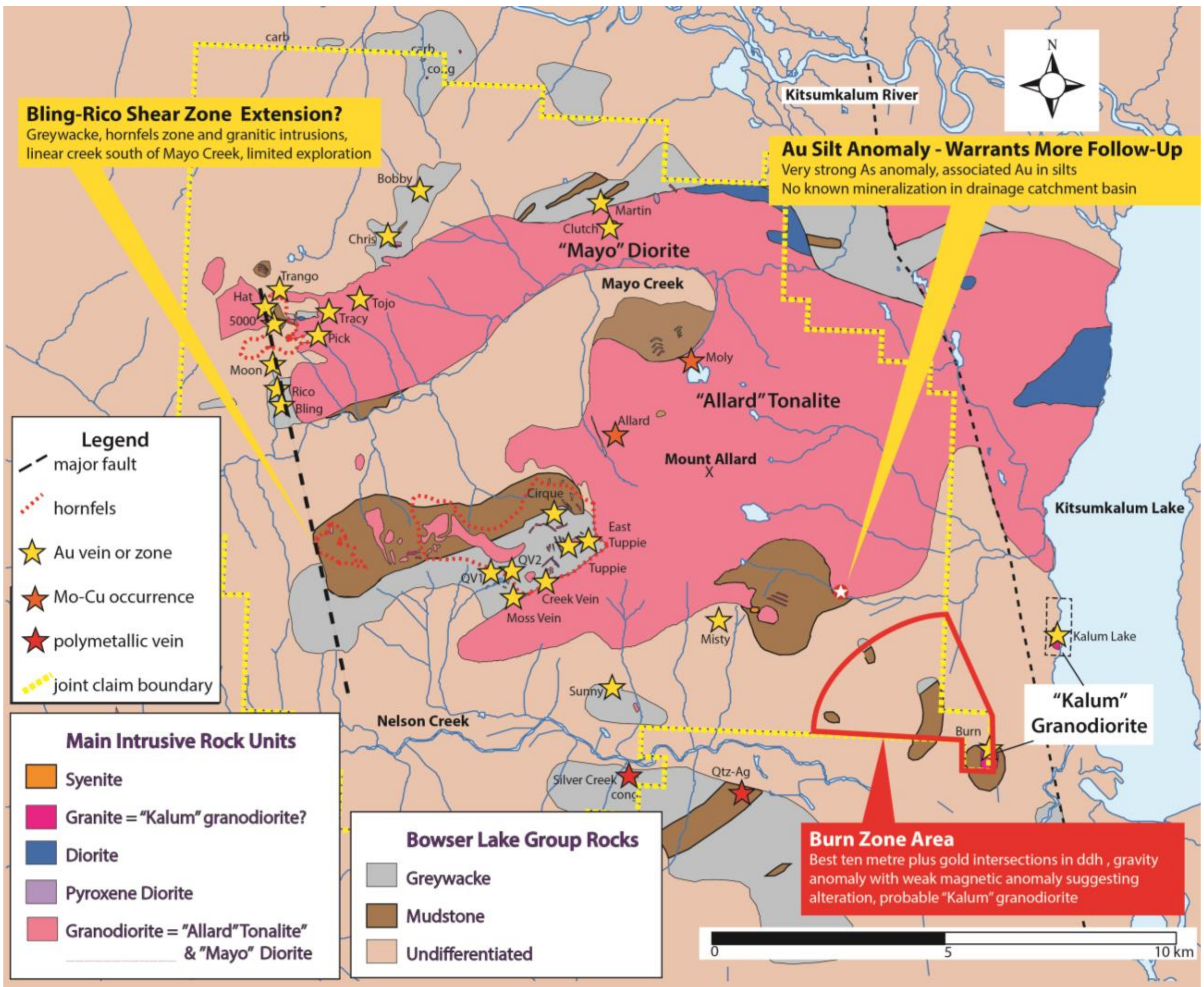


Figure 14. New Exploration Targets in the Mount Allard Region.

## Burn Zone Area – Potential for Bulk Tonnage Gold Mineralization

The most interesting result to come out of the research for this report was the apparent lack of appreciation by previous workers for the widespread gold content of the quartz veining in the altered granodiorite at the Burn zone. This is mentioned briefly in the previous section describing the mineralization. A more fulsome description is provided here to reflect the importance of the drill results at the Burn zone and to demonstrate the potential to explore for similar mineralization on the adjacent claims of Gold Fountain.

A contractor for Eagle Plains drilled eleven holes to test a higher grade mineralized zone poorly exposed on surface (Murton, 2008; Figure 13). The contractor identified a “swarm” of quartz veins and veinlets in the first hole (KKM0801) from 12.65 to 44.30 metres with the most well mineralized vein assaying 28.70 g/t gold over 0.30 metre. He noted for the same hole that “other mineralized quartz veins and stringers in the mineralized interval resulted in an average grade of 0.973 g/t[9] gold over 10.55 m”. Despite this impressive result, his report gives no consideration for the potential for broader zones of gold mineralization related to narrow quartz veinlets hosted by altered granodiorite. Unfortunately this does mean that some interesting intervals of altered and quartz veined granodiorite were not analysed at that time.

In reviewing the drill results, several broader intersections with gold mineralization were identified. For example, the intersection noted above occurs within a broader zone of 18.4 metres of core from top of hole KKM0801 (Figure 14) which grades 862 ppb gold and 986 ppm silver. The nearby drill hole KKM0803 also exhibits wide spread gold values. It has an intersection of 36.8 metres of quartz veining that grades 890 ppb gold and 256 ppm silver from the top of the hole at 6.8 metres to 43.60 metres. Deeper in the same hole, there is another intersection of 240 ppb gold and 603 ppm silver over 25.5 metres from 57.90 to 83.40 metres. Unfortunately the intervening core was not analysed. These are definitely gold zones with sufficient width (over ten metres) and grades (more than 500 ppb gold) to suggest the potential for a bulk tonnage gold deposit with grades in the one to two gram per tonne range.

The other drill holes (KKM0802, 4, 5, 6, 9, 10, 11[10]) which intersected significant amounts of granodiorite have similar quartz veining with some lower gold values that are still strongly geochemically anomalous and a few higher grade intersections associated with specific veins. More analysis of the results is warranted; however, it appears that the best intersections for gold are in the northernmost holes and closer to the surface.

The granodiorite knob at the Burn zone was presumed to represent the surface expression of a stock before drilling showed argillite underlying the surface granodiorite in some holes. Following the drill program Murton proposed a thrust fault to explain the gently dipping base of the main granodiorite intrusion which is exposed at surface. This conclusion was made despite the common absence of a fault zone being mentioned in the drill logs at the base of the main granodiorite intrusion.

Given the numerous sills and dykes of granodiorite cutting the Bowser Lake Group sediments in the rest of the Mount Allard area, it seems more logical to assume that there are several gently-dipping, intrusive bodies. This can explain the apparent lack of planarity of the basal contact on the main granodiorite body, the thinner granodiorite intrusions within the underlying argillite (holes 1, 6, 10 and 11), and presumed chilled granodiorite contacts against the argillite (“frozen contact” in holes 4 and 5).

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[9] Analyses for the 2008 drill program were in ppb for gold and ppm for silver. However, Murton converted these numbers to grams per tonne in the body of the report.

[10] Drill hole KKM0809 did intersect moderately altered granodiorite with numerous quartz-carbonate veinlets deeper in the hole from 87.3 to 100.3 metres. The veins are described as barren, but were not analysed.

It is also consistent with the abundance of sills and dykes in Bowser Lake Group sediments near the Mt. Allard pluton. If this interpretation is correct, there is potential for gold mineralization in granodiorite intrusions at different stratigraphic levels in the area.

Another aspect of the drill program is what are the gold values associated with Bowser Lake Group argillites that have quartz veinlets near the mineralized granodiorite. There are quartz veinlets in places in the argillite with associated weak alteration and anomalous gold values of up to 234 ppb (KKM0801).

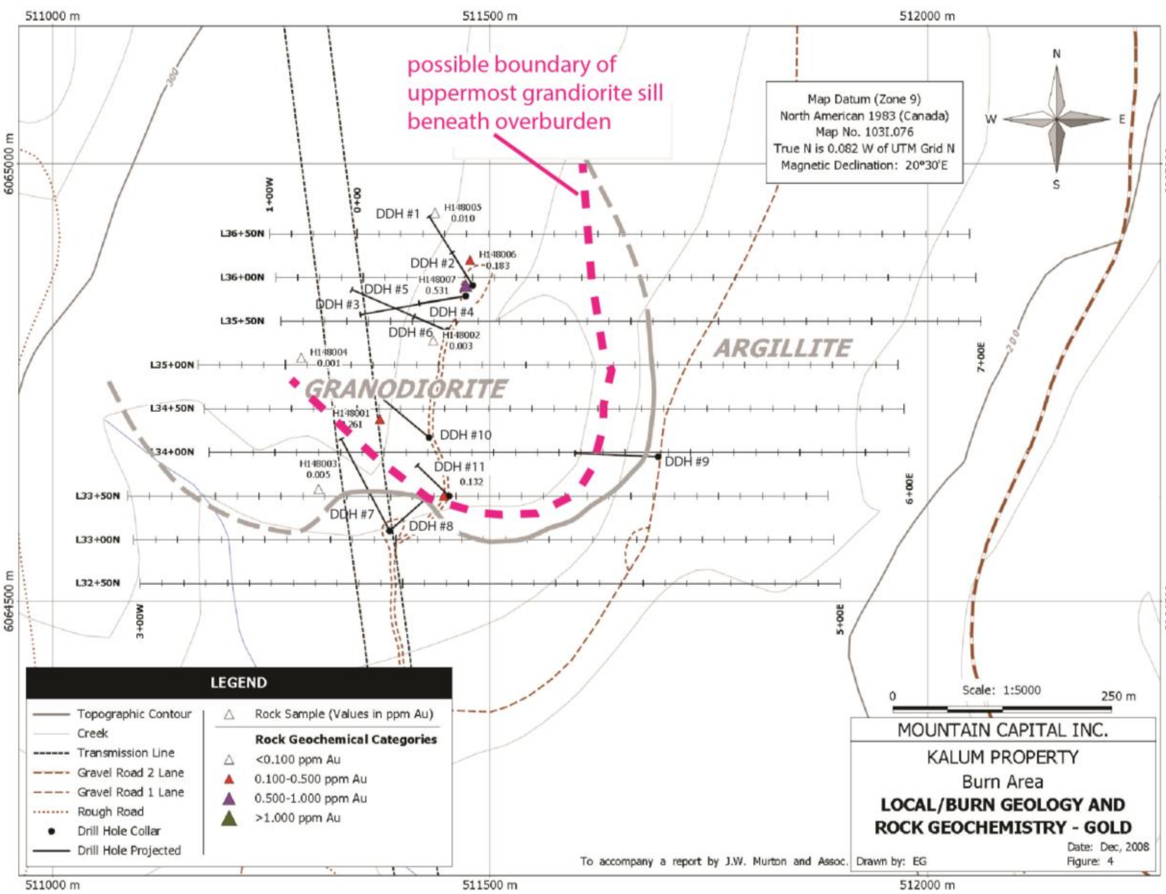


Figure 15. Burn Zone Plan Map Showing Drill Hole Locations, Cut Lines and Rock Samples (from Murton, 2008).

Very little of the argillite was sampled so it is difficult to properly assess the potential. Other types of sedimentary rocks, such as sandstones, may have better potential in this regard.

The 2008 Induced Polarization survey of the Burn Zone indicated a possible correlation between high chargeability anomalies and a pervasive pyrite in the granodiorite. The resistivity component of the survey was interpreted to be useful in imaging the depth from surface of the granodiorite stock (Higgs 2009).

Gallagher (2013) noted that recent development of the Northwest Transmission Line Project, which transects the Kalum Property, led to substantial road building, clearing and blasting along the eastern margin of the Golden Fountain claims in the vicinity of the Burn and Kalum showings which could be mapped, prospected and covered by detailed rock geochemical sampling.

The Burn Zone mineral tenure is bounded on the east, south and to the north by a no staking reserve (#1006426, 1006427, 1006423) that is in effect until at least 2020.

Further exploration should be considered to drill additional holes on the Burn claim and the adjoining claims of Golden Fountain located to the west and northwest to look for broader zones of quartz veining with grades in the one to two gram per tonne range. Based on the regional gravity data and Eagle Plains aeromagnetic survey, the "Kalum" granodiorite may underlie an area at least five by five kilometres

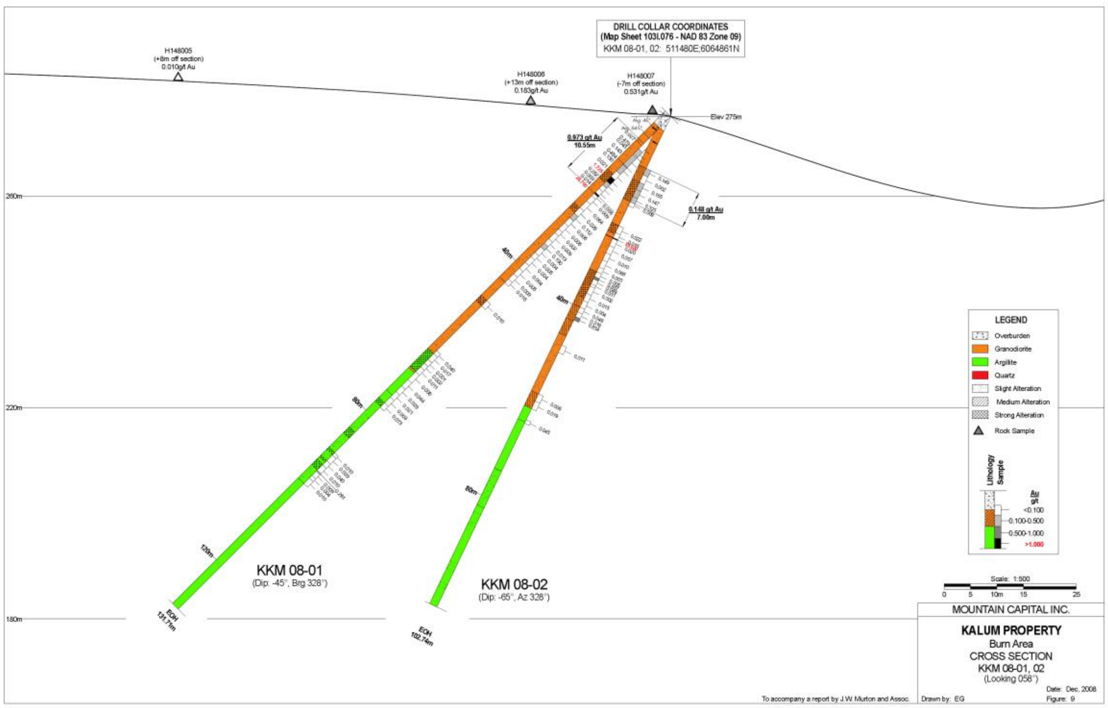


Figure 16. Burn Drill Holes KKM0801 and KKM08002 Showing Broad Gold Zones and Base of the Uppermost Granodiorite Intrusive.

bounded on the east by south end of Kisumkalum Lake and to the south roughly by Nelson Creek. With the current no staking reserve, exploration to the west and northwest of Burn on Gold Fountain claims should be given a high priority.

## Possible Southern Extension of Bling-Rico Shear

The Bling-Rico shear zone is a major, north-trending, steeply dipping to vertical structure located along a linear creek draining south into Mayo Creek. Quartz veins with gold mineralization occur at both the Bling and Rico showings. One of the best drill holes in the Mount Allard area intersected three high grade intersections of the Rico vein over a vertical depth of just over 100 metres.

Changes in the geology help define the shear zone location as the "Mayo" arm of the Mount Allard pluton lies on the east side, while there are primarily sedimentary rocks with some intrusions on the west. Eagle Plains geologists have identified en echelon quartz vein associated with the shear zone. veins . The Bling-Rico shear has been interpreted to extend more than 1,500 metres in this area from May Creek in the south to the 500, Upper Hat and Lower Hat showings at its northern limit.

The Bling-Rico shear has the same general orientation as the only major fault identified by Eagle Plains in the Mount Allard area. As such, it is a good candidate to be a major, ongoing structure itself. That is a positive feature for gold exploration and begs the question of its southern extent. Unfortunately there is limited geological information published along the possible projection of this major shear zone to the south of Mayo Creek.

As the Bling-Rico shear zone is nearly vertical, it could extend as a simple linear extension to the south of Mayo Creek. This trend coincides with a linear valley associated with a minor, unnamed creek south of Mayo Creek. As it approaches the height of land on a west-southwest trending ridge, the fault extension might possibly mark a boundary between sedimentary rocks with abundant intrusions and those without. This trend also passes close a major zone of hornfels that is due in part presumably to a significant buried intrusive body, perhaps another elongate, west-southwest extension from the Mount Allard pluton.

Should further exploration identify the trace of the Bling-Rico shear zone to the south of Mayo Creek, this becomes a new exploration target on claims held by Gold Fountain.

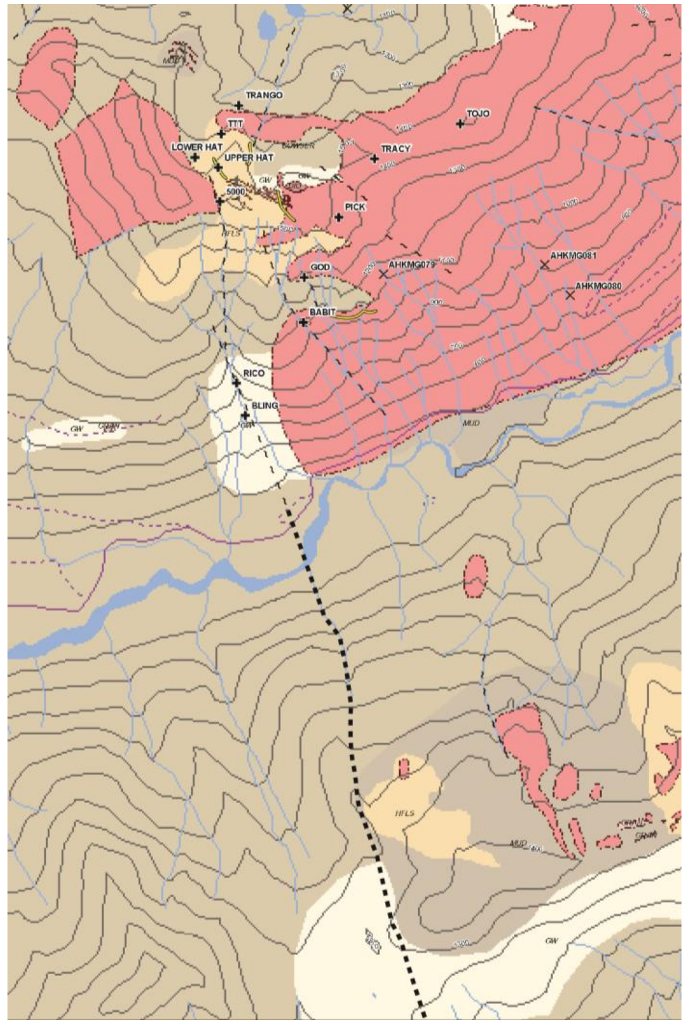


Figure 17. Possible Extension of Bling-Rico Shear Zone to the South of Mayo Creek to Ridge Top with Favourable Geology. Geology from Higgs (2009).

## Source of Major Arsenic-Gold Silt Anomaly

The initial sampling programme completed in 2003 by Eagle Plains located anomalous silt samples in a creek located on the southeast side of the Mount Allard pluton, roughly 1.5 kilometres east of the Misty prospect (Figure 10). The creeks drain a cirque separated from Misty by an intervening ridge. The anomalous samples are clustered about 1.5 kilometres downstream from the head of the drainage on the main creek and one subsidiary creek draining to the southeast.

The silt samples returned possibly the strongest arsenic silt anomaly in the Mount Allard area. Eleven sample were strongly anomalous with values >100 ppm arsenic and two exceeding 450 ppm (Downie and Stephens, 2003). There were three anomalous gold samples, one greater than 100 ppb and the other two greater than 20 ppb, associated with two samples with greater than 0.49 ppm silver. There are also several samples anomalous for bismuth and three anomalous samples for antimony.

Eagle Plains followed up these anomalous silt samples by soil sampling in 2003 in the immediate area. Two contour lines extending roughly 1,000 and 250 metres traversed the hillside in a roughly north direction and were located mostly on the south side of the creek (Downie and Gallagher, 2005, PDF page

57). One soil line crossed the main creek just downstream of the anomalous gold and silver silt samples and the other was on the hillside testing subsidiary drainages that entered the main creek below the anomalous gold values. The soil samples produced no anomalous values for gold and five weak responses for silver. There was one strongly anomalous soil sample for bismuth and a number of weakly anomalous samples for antimony. The area will undoubtedly have seen some prospecting, but there are no rock samples reported in public reports in the general area.

More work can be done to understand the gold potential of this area. There is clearly potential for gold mineralization to the west up the valley. These anomalous silt samples could be related to a new mineral occurrence. There granitic intrusives interlayered with sedimentary rocks on the south wall of the cirque. Alternatively, they could be pointing to the extension of the series of 100 ppb gold anomalies in soils (Figure 18) that extends approximately 750 metres northeast from the Misty prospect to the top of the ridge above the cirque that feeds the drainage with the SSG anomaly (Downie and Gallagher, 2005, PDF page 55). The soil sampling stops at this point where there is a small syenite body intruding sediments near the margin of the Mount Allard pluton.

All of the area discussed above is on Gold Fountain claims. Some initial grassroots exploration is warranted to determine the significance of these silt anomalies on the southeastern flank of the Mount Allard pluton.

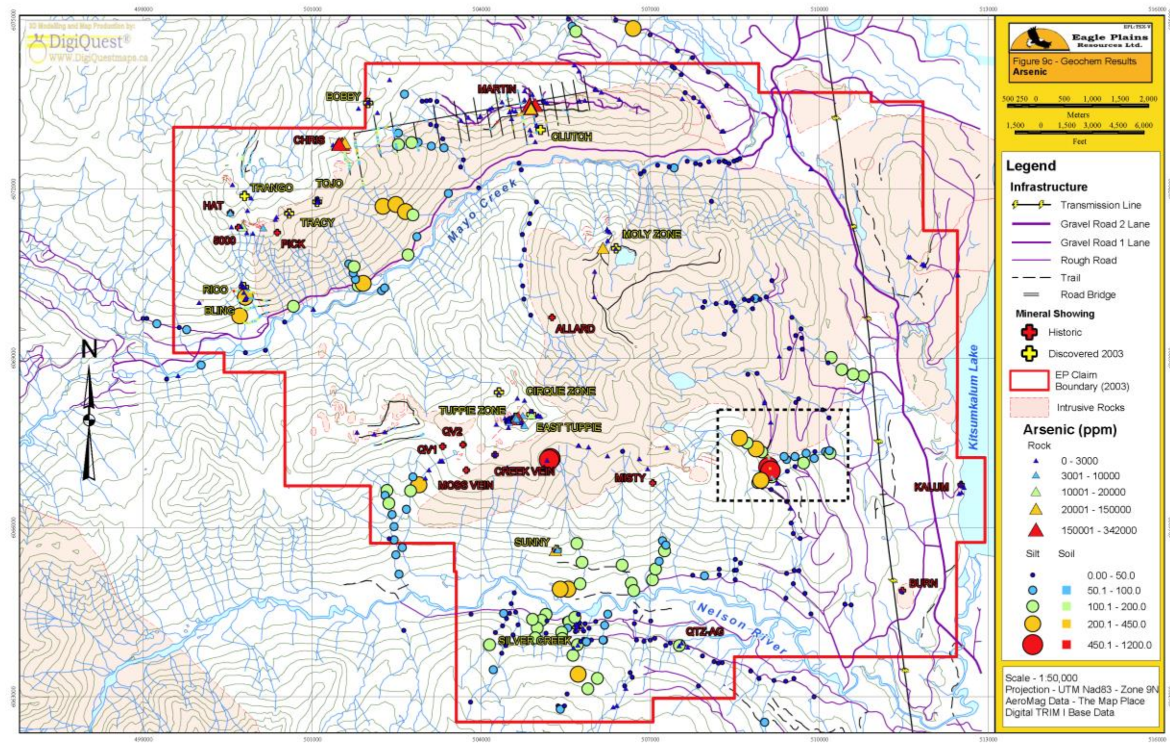


***Figure 18. Very Strong SSG Arsenic Anomaly in Silt Samples in Area Outlined by Dashed Line Rectangle.***

## Conclusions

Mineral exploration in the Mount Allard area has discovered numerous gold-quartz veins and veinlets. The results of surface exploration have been very encouraging given the high percentage of rock samples collected with gold mineralization over the years. This has led to identifying more than 20 gold occurrences in the Kalum Gold property area over the last century. There is now enough geological information to clearly recognize a large, intrusive-related gold system with a spatial and genetic connection to the Mount Allard pluton.

There are two styles of gold mineralization on the Kalum Gold property – high grade gold-quartz veins and bulk tonnage gold zones. Almost all the exploration over the past hundred years has focused on finding the former, gold-quartz veins that can be mined using underground workings.

Exploration by a number of companies has successfully identified a number of prospective veins, including the Bling-Rico, Burn, Chris, Hat, Kalum Lake, Martin and Misty veins. It has proven challenging to follow these veins to depth which is not uncommon with high grade gold veins. At this point, only the Kalum Lake No. 1 and No. 2 veins have had sufficient drilling to properly test and trace them. All the other high-grade gold veins have been tested with too few drill holes to properly assess their potential. This limited drilling has been coupled in many cases with an incomplete knowledge of the structural setting of the veins. More exploration is warranted to develop a more complete understanding of these veins to be followed up with drilling.

The potential to find bulk mineable lower grade gold deposits in the Mount Allard area was first identified by Eagle Plains. Their work targeted four areas with attractive exploration potential - Burn, Cirque -Tuppie, Hat and Tojo zones. The only one of these zones to be tested by drilling swarms of veins or sheeted veinlets is the Burn zone. This intersected broad zones of mineralization of over 500 ppb gold over ten or more metres hosted by altered granodiorite, including some intersections approaching a gold grade of a gram per tonne. These results clearly demonstrate the potential for larger volumes of rock grading greater than one gram per tonne gold. A major exploration thrust is required to properly explore the Kalum Gold property for this type of bulk mineable target.

The research completed for this report identifies three new exploration targets on the Kalum Gold property that warrant consideration for exploration.

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[11] A few references noted in industry reports are included for the record, but as they are not public reports they have not been read by the author.

[12] AR = assessment report held by British Columbia government.

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# Appendix 1 – Geologist's Certificate

I, David Victor Lefebure Ph. D., P. Geo., do hereby certify that:

1. I am currently a Consulting Geologist with an office at 174 Highwood Place, Salt Spring Island, British Columbia, V8K 1R9.

2. I am the principal with Lefebure GeoLogic Ltd., a geological consulting firm.

3. I am a graduate of Queen's University with a Bachelor of Science degree in Geology and a Master of Science degree in Geology and also a graduate of Carleton University with a Doctor of Philosophy in Geology.

4. I have practiced my profession since 1980 working both in the private sector, primarily on mineral exploration in Canada, and also for the British Columbia Geological Survey for twenty-five years.

5. I am a Professional Geoscientist registered in good standing with the Association of Professional Engineers and Geoscientists of the Province of British Columbia (#20,818).

6. I authored this report based on research work carried out by me in July and August 2016, using publicly available reports and my personal knowledge.

7. I have not done any geological work on the Kalum Gold property or in the immediate area of the property.

8. I have no financial interest, directly or indirectly, in the Kalum Gold or adjacent properties

Dated this 4th day of September, 2016

David Victor Lefebure, Ph. D., P. Geo.

# Appendix 2 - Types of Veins in the Mount Allard Area

There are a variety of types of veins on and near the Kalum Gold property and many of them contain gold +/- silver. The following description of the veins is based on information taken from assessment reports, primarily those by Eagle Plains. The description of rock samples collected in 2003 was particularly helpful (Downie and Stephens, 2003; text and Appendix V). The review of the vein intersections in Eagle Plains drill holes summarized in Appendix 3 was another key source of information.

The chemical analyses of the 408 samples provide the following geochemical profile from Downie and Stephens (2003):

| Element | Au ppb | Ag ppm | Bi ppm | W ppm | Mo ppm | As ppm | Sb ppm |
|---|---|---|---|---|---|---|---|
| **Range** | 0 to 7,3090 | 0 to 10,738 | 0 to 840 | 0 to 1,094 | 0 to 5750 | 0 to 342,000 | 0 to 16,681 |
| **Average** | 16624 | 77.4 | 9.67 | 11.5 | 34 | 6482 | 172 |
| **90$^{th}$ Percentile** | 3250 | 91 | 10 | 8 | 15 | 2350 | 197 |

For these samples there is a correlation coefficient of 0.3793 between gold and silver determined by Downie and Stephens. This reflects their common association, but often widely varying ratios in individual samples. Unfortunately there are no tellurium analyses for these samples. Telurium is commonly anomalous in intrusive-related gold systems along with bismuth and tungsten.

There are at least five types of veins in the Mt. Allard region: quartz-sulphide veins, quartz veinlets, molybdenite-bearing veins, smoky quartz veins and vein-dykes. There may also be bull quartz veins; they are mentioned in reports by some previous workers.

The quartz-sulphide veins, quartz veinlets in swarms and sheeted sets and bull quartz veins are described in more detail below.

The molybdenite-bearing veins sampled in 2003 contained background gold and silver values. In fact, the gold values for seven samples were all less than 4 ppb Au. They are not considered as targets for gold mineralization, but could warrant follow-up for molybdenum mineralization. The five samples (JSK03R062-066) from the Moly zone contained 2.8 to 5750 ppm molybdenum and less than 61.1 ppm copper.

Smoky quartz occurs in both veins with feldspar selvages and the vein-dykes. They are most likely related to each other with the veins being a more distal extension of the vein-dikes. There are three smoky quartz samples from the Tuppie and Cirque zones (JSK03R051, 052, 082), but the descriptions do not refer to feldspar selvages. Two have background values for gold, silver and all the pathfinder elements. The third sample (JSK03R082) is hosted by a granite dike and contains 540 ppb gold and 18. 1 ppm silver. More data is required to learn if smoky quartz veins with feldspar selvages contain anomalous values of gold and silver.

The vein-dykes have varying compositions, but are mostly granodioritic near their margins. They become progressively more felsic inwards and have coarse quartz dominating the centres. Some have pegmatitic textures with coarse-grained biotite. Vein-dykes, along with aplitic and pegmatitic dykes, are common around the main pluton boundaries, but have highest densities in the western embayment area. Some weakly mineralized vein-dykes have been found in the Tuppie and Cirque areas (Downie and Stephens, 2003, page 43). Unfortunately, they are either not included in their report or cannot be identified by their descriptions. Propylitic alteration (chlorite-epidote) associated with vein-dykes and aplite dykes (e.g. Moly zone) apparently occurs as pervasive alteration in the more mafic portions of the stock. The vein-dykes in the Cirque zone strike between 080 and 090 degrees and have near-vertical dips and widths between 0.1 and 1 metre. The vein-dykes are cut by the northwest-striking, northeast-dipping mineralized veins.

Any future exploration in the region should place more emphasis on characterizing the different types of veins. This will help with identifying the best exploration targets.

## Quartz-Sulphide Veins

Many of the current exploration targets in the Mt Allard region are quartz-sulphide veins consisting of quartz +/-carbonate veins with associated arsenopyrite, pyrite, galena, sphalerite, copper and rarely pyrrhotite. The amount of sulphides in any one part of a vein can vary from none to 100 percent. Most often the sulphides are a minor part of the vein where they occur as patches, lenses or disseminations. For some veins with associated sulphides, selected samples with significant contained sulphides can grade more than one per cent for lead and/or copper and/or zinc. Samples of the sulphides will often return some of the highest gold and silver values found in the vein.

Grab rock samples from the Mount Allard area reasonably often contain gold values of more than ten grams per tonne. Channel samples of the better mineralized veins over widths of more than 30 centimetres can carry 5 to 15 g/t gold with occasional higher values, particularly over shorter distances. Au:Ag ratios are highly variable; but generally they range from 1:10 to 1:500. Sulphide-rich samples can contain lead, zinc and copper values ranging up to several percent for lead and zinc and over one percent copper.

The quartz-sulphide veins occur throughout area at or near the margins of the Mount Allard pluton (Chris, Martin, Bling-Rico, Creek, Misty, Sunny, Kalum Lake, others) and as well as further away (Silver Creek, Quartz Silver) as shown in Figure 3.

Some geologists and prospectors have divided the quartz-sulphide veins into those with significant arsenopyrite and pyrite and others containing primarily galena, sphalerite and chalcopyrite as sulphides. Interestingly a similar subdivision of veins is found associated with intrusive-related gold systems in the Yukon (Hart, 2005). Some examples of the two types of veins are described below.

### *Arsenopyrite-Pyrite Quartz Veins*

Kalum Lake No. 1 and No. 2 veins are the best known mineralization in the Mt. Allard region. The two veins are quartz +/- carbonate veins with associated sulphides that are commonly pyrite, arsenopyrite and chalcopyrite. They are hosted by quartz diorite. A moderate cm-scale silica + pyrite alteration halo is found around the veins. There was small scale mining in 1940 which produced 10 tonnes of ore in 1940 that graded 3.75 g/t gold and 56.0 g/t silver (from MINFILE). Trenching and drilling a total of 395 metres in 1987 by Orequest Consultants Ltd. demonstrated the continuity of the No. 1 and No. 2 veins to maximum depths of 120 and 60 metres and strike lengths of 150 and 60 metres respectively.

Eagle Plains drilled 793.2 meters in five holes in 2004 to check Orequest's results at the Kalum Lake mineral occurrence (Downie and Gallagher, 2005). They intersected the No. 2 vein hosted by light grey to greenish, medium to coarse-grained, quartz diorite. in all five holes (Appendix 1). From their first pad they drilled three holes on section. They intersected 900 ppb Au, 7.4 ppm Ag, 102 ppm Cu, 48 ppm Pb, and 30 ppm Zn over a 40 centimetre true width in diamond drill hole KKL04001. In the second hole, KKM04002, they cut 16,645 ppb Au, 51 ppm Ag, 1,869 ppm Cu, 282 ppm Pb and 333 ppm Zn over a 1.1 metre length. In the deepest of the three holes, KKM04003, they intersected two zones with one grading 5,958 Au, 22.9 ppm Ag, 745 ppm Cu, 109 ppm Pb and 45 ppm Zn over 1.1 metres.

Near the Misty showing drilling intersected a coarse-grained, heavily sheared quartz vein mineralized with arsenopyrite and pyrite grading 29.7 g/t Au, 91.5 g/t Ag and >I% Pb over a thickness of 0.6m (ddh KMY04001; Downie and Gallagher, 2005). The vein is hosted by greywacke, siltstone and mudstones which are cut by numerous intrusive dykes or sills.

In the Hat Zone area Higgs (2009) describes massive arsenopyrite and chalcopyrite veins grading up to 20 g/t gold with an unknown relationship to local tectonics and different from a set of polymetallic veins controlled by thrust sheets in the same area.

### *Polymetallic Quartz Veins*

Higgs (2009) describes some of these veins from the Hat Zone*: "These veins strike up to 350 meters in length, range in thickness from 15 cm to 2.5 meters and are additionally associated with Fe-Carb alteration halos up to 4 meters in thickness. Fieldwork has shown that these alteration zones have to potential to host disseminated and fracture controlled Aspy and Au grading up to 0.5 g/T Au".*

The Rico vein was discovered in 2004 with a vertical hole, KRC04001, that intersected it three times. The vein was typically heavily mineralized with -5 to 10% pyrite, 1.5% chalcopyrite and 1.2% sphalerite. The vein is hosted by an amygdaloidal andesite dike at the Rico showing. Despite high gold grades, no visible gold was noted in the core. The three intersections are:

- 4,600 ppb gold, 6.46 ppm silver, 283 ppm copper, 2329 ppm lead and 2939 ppm zinc over 5.5m;
- 17.6g/t Au over 1.8 meters; and
- 33,500 ppb Au, 39.9 ppm Ag, 448 ppm Cu, 11,277 ppm Pb, and 6094 ppm Zn over 2 .5 metres.

## Quartz Veinlets

There are narrow quartz veinlets that vary in widths from about a centimetre to five centimetres. They can occur as isolated veinlets or as groups of veins that have been described as swarms, stockwork and sheeted. The swarms of veins can include rare thicker quartz-sulphide veins that can be important for increasing the grade. These veinlets have been identified in the Burn, Cirque, Kalum Lake, Tojo and Tuppie gold zones.

It is not clear if the quartz veinlets are simply very thin quartz sulphide veins or in some cases are a different type of vein. Many of the quartz veinlets do carry minor sulphides which led to their being sampled. However, some of those sampled do not contain any visible sulphides. Some of the veinlets have attractive gold contents over the width of the veinlet and Au:Ag ratios of roughly 1:1.

The Tojo zone is an area of sheeted quartz veins hosted in strongly ankerite-altered granodiorite (Downie and Stephen, 2004). It is located south-west of the Chris vein. Rubble and subcrop of mineralized veins occur over an area of at least 20 x 80 m. The veins are generally 1 to 20 cm thick and have densities of between 2 and 10 per linear meter. The veins show weak to moderate limonite after sulphide. Comb quartz is the most common vein texture. The best grab sample results include 73.1 g/t Au and 495.4 g/t Ag, 6.8 g/t Au and 65.8 g/t Ag, 4.0 g/t Au and 850.1 g/t Ag. The Tojo zone highlights the bulk-tonnage mining potential of the Mt. Allard region. Higgs (2009) describes ankeritic/silicic/pyritic alteration associated with mineralized veins hosted in granodiorite and diorite.

For more descriptions see the discussion of the Burn zone under the New Exploration Targets section and the lower grade intercept in DDH KKM04005 from the Kalum Lake veins described in the mineralization section.

## Bull Quartz Veins

There are at least a couple of references in the assessment reports to bull quartz veins. Commonly these are milky white massive quartz veins which are not mineralized. They are often found in Cretaceous and older rocks in British Columbia. These veins are generally not described or sampled by geologists and prospectors. They focus on more complex quartz veins which can have associated sulphides and/or iron oxides, wall rock alteration, multiple types of quartz, and/or other gangue minerals.

Cavey and Chapman (1987) describe veins probably of this type found during Kalum Lake zone drilling. Generally high angle, 0.5 cm to 4 cm, milky white barren quartz veins and hairline fractures are the most abundant. Alteration effects (haloes) are most prominent about these fractures, which exhibit random attitudes.

In 2003 Eagle Plains collected 408 rock samples with the vast majority of them being from quartz veins in float or outcrop (Downie and Stephens, 2003). These samples are described, located and have multiple element analyses. Twenty-nine samples were identified with background levels of gold, silver, copper, lead, zinc and molybdenum coupled with very low arsenic values. Twenty of these samples were either quartz veins with associated sulphides (i.e. not bull quartz veins) or altered rock samples. Nine of the samples may be from bull quartz veins. Descriptions of some of these samples are given in Table 4. Note that one of the barren veins (TTKL03R65) crosscuts the main Kalum vein making it younger.

The most impressive result of this research is that less than 5 per cent of the quartz samples collected in 2003 exhibit no sign of being mineralized and could be considered bull quartz veins. This demonstrates the unusual abundance of mineralized quartz vein samples that have been collected on and near the Kalum Gold property.

Table 4. Possible Barren Quartz Veins in Kalum Gold Property Area

| **Sample** | **Area** | **Description** |
|---|---|---|
| CDK03R14 | Martin Showing area | Rock/float, near south contact of intrusive as shown on Gallagher maps; fresh looking, med. grained grdr; 40 % mafics; single 0.5 cm width barren qtz vein |
| CDK03R15 | Martin Showing area | Rock/insitu/subcrop, fresh grdr as @ R14 with 0.5-1 cm width qtz rich dykes; weak pervasive-selective epidote alt'n; |
| TTKL03R65 | Kalum Occurrence | 15 cm wide vein cross-cutting main vein (116/85N) Barren white qz. Main Kalum vein strikes 035 |
| TTKL03R70 | Kalum Area | Qtz rubble |
| BRK03R11 | Lower Tuppie | Grab, small quartz veins in float |
| CGK03R32 | Chris-Bobby | Quartz fracture filling with limonite in greywacke |
| CGK03R69 | Chris-Bobby | Quartz veinlet in siliceous shale |
| G-10 W | Kalum-Burn | Quartz and chlorite large area |

# Appendix 3 Gold Veins and Zones in the Mount Allard Area

Table 5. A Partial List of Gold Veins and Zones in the Mount Allard Area

| Area | Name | Length & Thickness | Orientation | **Mineralogy** (major;minor, sparse) |
|---|---|---|---|---|
| | | | | |
| Bling-Rico | **Bling vein (103I225)** | < 20cm | ~165; 72E | qtz, py; gal |
| Bling-Rico | **Rico vein (103I225)** | up to 2.5m | 150, 42E | qtz |
| Chris | **Main vein (#7 Prism Res.) (103I174)** | 300m; 0.3 to 1.34 m | 75, 75N | qtz, aspy; gal with siltstone layers |
| Chris | **Hanging Wall veins (103I174)** | 0.13 to 0.53 m | | rusty bull qtz with minor crystalline py |
| Chris | **South vein** | 0.16 to 0.52 m | | similar to main |
| Chris | **Prism #2 vein** | narrow | | qtz;aspy |
| Chris | **Prism #1 vein** | narrow | | qtz;aspy |
| Chris | **Prism #3,4,5,6,8,9 veins** | | | qtz, py |
| Cirque-Tuppie | **Cirque - breccia veins, stockworks** | | 135;dipping NE | c.g. quartz |
| Cirque-Tuppie | **Cirque - vein dykes** | 0.1 to 1m; | 080-090/90 | granodiorite margins to quartz cores; some with pegmatitic texture with c-g biotite |
| Cirque-Tuppie | **Creek vein** | 0.5 to 1.5 m | 335° to 350°, steep easterly | Qtz, py; gal, sphal, aspy, cp |
| Cirque-Tuppie | **Lower Tuppie zone** | <0.7M , | | qtz, some with up to 30% sulphides including gal, aspy |

Table 5. A Partial List of Gold Veins and Zones in the Mount Allard Area cont.

| Area | Name | Length & Thickness | Orientation | **Mineralogy** (major;minor, sparse) |
|---|---|---|---|---|
| | | | | |
| Cirque-Tuppie | **two main veins, Upper Tuppie zone** | <1m, > 200m | 140,50-80NE | qtz; gal (<5%), aspy, py, cp |
| Cirque-Tuppie | **East Tuppie** | | 162,48E? | Qtz , limonite |
| Cirqu-Tuppie | **Moss vein** | 110 ; 0,2 to 1.2 M | 305° to 310°, mod NE | Sparse py; gal, aspy, mass to crushed qtz and qtz bx with wallrock frags |
| Hat | **Main O'Gryzlo vein** | <0.5m, 30m exposure | 120;45NE | qtz, aspy, gal, cp, sphal, py |
| Hat | **E-SE vein group** | | | qtz; aspy, gal |
| Hat | **NE group of veins** | | | qtz; aspy, gal |
| Hat | **Gatekeeper vein** | | | same as BABIT |
| Hat | **4700 vein** | 30 m, 30 cm. to 1 m | 120;70NE | qtz, ank; aspy, sphal, cp; bn |
| Hat | **stockwork zone** | severals tens of metres | | Qtz, less intense ankerite and 1 to 5 % pyrite for several metres into wallrock, |
| Hat | **5000 vein** | up to 175 cm | 170; 50W | |
| Hat | **Pick vein** | up to 70 cm?? | 100, 90 | lack of visible sulphides and wall rock alteration may have led to being disregarded (O'Gryzlo 1988) |
| Hat | **4 other veins** | 25 to 50 cm | | |
| Hat | **TTT vein** | | | massive aspy; minor qtz,cp on fractures |
| Hat | **BABIT (103I256)** | | | qtz, gal, sphal, cp, aspy,high grade polymetallic veins |

Table 5. A Partial List of Gold Veins and Zones in the Mount Allard Area cont.

| Area | Name | Length & Thickness | Orientation | Mineralogy (major;minor, sparse) |
|---|---|---|---|---|
| | | | | |
| Hat | **Tojo Zone (103I226)** | 1 to 20 cm thick, densities of 2 to 10 per metre | | sheeted veins, comb qtz, weak to moderate limonite after sulphide |
| Kitsumkalum | **Kalum Lake (103I019) No. 1 vein** | 300m?, 30cm | 037°, dips 45° SW | quartz, py, cp, tet, gal, |
| Kitsumkalum | **Kalum Lake (103I019) No. 2 vein** | 225m??, 15 to 30 cm | 037° and dips 65° SE | similar to above |
| Kitsumkalum | **Burn (103I211)** | | 30 | Qtz, py; gal, cp |
| Martin | **Martin Main (103I020)** | <0.5m;100m | 015;55NW | po, aspy, gal, py, sphal, cp |
| Martin | **South vein** | | ~015 | aspy,qtz? |
| Martin | **Rex** | | | |
| Misty | **Misty veins (103I213)** | Many< 25cm | NW, NE and SW, some NE | Py; gal, sphal; aspy, cp, moly |
| Misty area | **Cliff shear** | 10-20 cm | 305, 57NW | qtz; gal (1 to 5%) |
| Nelson Creek | **Sunny vein** | 0.7m | | qtz; aspy |
| Nelson Creek | **Quartz-Silver** | | 155° and dip 70 ° west | Qtz, gal, sphal, cp; py,aspy, bor |
| Nelson Creek | **Silver Creek (103I227)** | up to 0.4 metre wide | 334, dips 47 NE | |

# Appendix 4 Summary of Eagle Plains Drill Holes

Table 6. Summary of Eagle Plains Drill Holes Completed Between 2004 and 2014[13]

| Number | Area | Best Intersections | Comment or More Information |
|---|---|---|---|
| **2004 Drilling** | | **Downie and Gallagher, 2005** | |
| KCS04001 (103,-60) | Chris vein | Numerous cm-scale quartz carbonate veins were intersected throughout the hole, minor pyrite mineralization was noted. A shear zone was intersected near the projected depth of the main vein; recoveries were poor and no significant gold values. | More intrusive rocks than anticipated based on surface mapping, hole to hole lithology correlation doesn't work for the Chris vein |
| KCS4002 (111.9, -45)<br>Same pad as KCS4001 | Chris vein | Intersection of 16.9 g/t Au, > 100 g/t Ag, > 1% Pb, > 1% Zn over 0.3m from 29.5 to 29.8; vein is very-coarse grained, vuggy, white to light-green, quartz-carbonate vein mineralized with 40% pyrite and 10% pyrrhotite +/-galena +/-sphalerite | Highly sheared hanging and footwall samples returned background geochem |
| KCS04003 (86,-80)<br>Same pad as KCS4001 | Chris vein | well veined with cm-scale quartz-carbonate veins and stockworks; no significant mineralized quartz-carbonate veins | Poor correlation on intrusive rocks, with other holes, mostly seds |
| KCS04004(60.1,-45) | Chris vein | A 20cm vein was intersected from 25.4m to 35.6m that was well mineralized with 5% sphalerite, 5% galena and 2% chalcopyrite; sample. From 35 to 35.6 m 1.56% Pb, 1.14% Zn, 69 g/t Ag, 56.4 ppb Au | Present in the footwall of the vein is a -15m porphyritic dyke, possibly dacitic in composition. Significant intersection of porphyry and qtz diorite at bottom of hole |
| KCS04005 (50.9,-60)<br>Same pad as KCS004 | Chris vein | The hole was the weakest veined hole drilled from the pad and only returned background values for all elements of interest. | |
| KCS04006 (92.1, -45) | Chris vein | Collared 350m east along strike of the first pad; located to test the Au soil anomaly along projected surface trace of Chris vein. Did not intersect any major mineralized shear zones or veins. | Minor unmineralized quartz-carbonate-chlorite veins were intersected. |
| KRC04001 (107.3,-90) | Rico vein | Three intersections of same vein deepest at 101.8-104.31, 2.5m @ 33,500 ppb Au, 39.9 ppm Ag, 448 ppm Cu, 11,277 ppm Pb and 6094 ppm Zn The vein was typically heavily mineralized with -5.10% pyrite, 1.5% chalcopyrite and 1.2% sphalerite; | Despite high gold grades, no visible gold was noted. Most of vertical hole in amygdaloidal andesite intrusive. |

[13] Key observations are drawn from drill logs with editing to reduce the number of words. Comments are generally from the author.

Table 6. Summary of Eagle Plains Drill Holes Completed Between 2004 and 2014

| Number | Area | Best Intersections | Comment or More Information |
|---|---|---|---|
| KRC04002 (66.5,-80, NE)<br>Same pad as KRC04001 | Rico vein | Failed to intersect any vein sets; mixture of siltstone, mudstone and andesite intersections | Missed structure as drilled to NE based on figure in report and geology |
| KRC04003 (102.7,-80SW)<br>Same pad as KRC04001 | Rico vein | Failed to intersect any vein sets, primarily siltstone, minor andesite | Missed structure as flanking structure to SW based on geology |
| KRC04004 (129.9,-60WNW)<br>Same pad as KRC04001 | Rico vein | Rico Vein from 2.4m to 4.7m, at top of hole , returning values of 1,955 ppb Au, 2.1 ppm Ag, 66 ppm Cu, 246 ppm PB and 83 ppm Zn over 2.3m width | largely siltstone, some mudstone, minimal intrusive |
| KRC04005 (7.9,-53)<br>Same pad as KRC04001 | Rico vein | Test the Rico vein near surface where it is moderately dipping. Vein and hanging wall / footwall stockwork were intersected from 0.9m to 1.8m; 8,395 Au ppb (11.6 g/t in report), 4.9 ppm Ag, 136 ppm Cu, 664 ppm Pb, 136 ppm Zn over 0.9m. | appears that the high-grade vein is hosted by an andesitic dyke |
| KMY04001(71,-45) | Misty Showing | coarse-grained, heavily sheared quartz vein mineralized with arsenopyrite and pyrite. 29.7 g/t Au, 91.5 g/t Ag and >I% Pb over a thickness of 0.6m. | greywacke, siltstone and mudstones. Numerous intrusive dykes or sills |
| KMY04002 (106.4,-60)<br>Same pad as KMY04001 | Misty Showing | No significant quartz veining was intersected, but a small shear zone at 50.5m, the projected depth of the previously intersected vein, returned slightly elevated Au and W values | Mudstone with minor greywacke and siltstone, some granodiorite |
| KMY04003 (68.6,-80)<br>Same pad as KMY04001 | Misty Showing | core returned only three isolated elevated Au values, including 160 and 319 ppb over 0.8 and 1.2 m respectively. Mudstones intruded by quartz porphyry dykes and hornblende granodiorite; again cannot correlate stratigraphy from hole to hole | No significant quartz veining was intersected, but a small shear zone at ~50m, the projected depth of the vein, returned slightly elevated Au and W values |
| KKM04001 (225,-45) | Kalum Lake veins | No.2 vein at ~58m which ran 900 ppb Au, 7.4 ppm Ag, 102 ppm Cu, 48 ppm Pb and 30 ppm Zn over 1 m**.** The vein was 40 cm true width, fine- to medium-grained bull quartz vein mineralized with *5%* pyrite, 1% arsenopyrite and 1% chalcopyrite. A moderate cm-scale silica + pyrite alteration halo was noted. Chlorite becomes more common in veins deeper in the hole. | Hosted by light grey to greenish, medium to coarse-grained, quartz diorite. Any number of the veins deeper in the hole could represent the No.1 vein, incuding 158.3-158.8m, 0.5 m @ 2,357 ppb Au, 1.9 ppm Ag, 227 ppm Cu, 7.9 ppm Pb, 67 ppm Zn |
| KKM04002 (91.2,-60)<br>Same drill pad as KKM04001 | Kalum Lake veins | No.2 vein 69.0-70.1 m @ 16, 645 ppb Au, 51 ppm Ag, 1869 ppm Cu, 282 ppm Pb, 333 ppm Zn, 74 ppm Bi, >2000ppm Sb, a fine- to medium-grained, sheared quartz-carbonate vein 10% pyrite, 15 to 20% arsenopyrite and *2 to* 5% chalcopyrite. | Hole all in quartz diorite |

Table 6. Summary of Eagle Plains Drill Holes Completed Between 2004 and 2014

| Number | Area | Best Intersections | Comment or More Information |
|---|---|---|---|
| KKM04003 (243.9,-80)<br>Same drill pad as KKM04001 | Kalum Lake veins | Two small, milky, multistage, medium- to course-grained, quartz-chlorite-carbonate veins, with 15% pyrite and 2% chalcopyrite, and displayed a distinct pyrite alteration envelope. Both possible #2 vein correlation. 126.9-127.1 m; 7,750 ppb Au, 4.1 ppm Ag, 32.2 ppm Cu, 27.7 ppm Pb and 12 ppm Zn; 158.5-159.6 m; 5,958 Au, 22.9 ppm Ag, 745 ppm Cu, 109 ppm Pb, 45 ppm Zn | Qtz diorite, amygdaloidal andesite , last 5 m in siltstone at subsurface depth of ~250m. Note the stronger copper response in the second intersection. |
| KKM04004 (84.3,-45) | Kalum Lake veins | mineralized set of veins from 74.6m to 75.3m was intersected - No.2 vein? White, fine to medium grained, brecciated and sheared, quartz-carbonate veins, the largest of which was 10 cm true thickness. Mineralization occurs as 2 to 10% pyrite, I% sphalerite and 1% chalcopyrite. Au values up to 330ppm | moderately- to strongly-altered quartz diorite was encountered throughout the entire hole |
| KKM04005 (148.8,-60)<br>Same drill pad as KKM04004 | Kalum Lake veins | The bottom ¼ of the hole intersected several cm-scale to 0.5m scale, weakly mineralized (trace to 1% cp; 1.5% py), shear zones, which returned anomalous Au values up lo 260ppm. Four quartz-carbonate veins with a maximum thickness of 10cm at the bottom of the hole. They commonly display carbonate-silica alteration envelopes and are mineralized with 5% pyrite and 1-2% chalcopyrite. Returned values of 2,000 to 7,700 ppb Au over widths of 0.4 to 1.2 m. | Lots of intrusive. Anomalous for Au and Ag from 112.9 to 139.2 m. Average calculated for this report is 641 ppb Au and 0.85 ppm Ag over 26.3 m carried largely by higher grade veins. Roughly 125m below surface |
| **2005 Drilling** | | **Downie and Gallagher, 2006** | |
| KM05001 (215.8; 45) | Upper Hat | intersected spotted biotite quartz diorite intruded by plagioclase hornblende porphyry which has gradational contact with foliated horblende biotite granodiorite; these rocks cut by with minor dykes of light green, vesicular intermediate intrusive (MGII) and lamphrophyres. Veining is fairly common and dominated by brecciated or sheared quartz veins, averaging 8-10 wide. These veins are commonly mineralized with pyrrhotite and arsenopyrite including a 26cm wide massive arsenopyrite vein located at 197.87-198.37 m | Multiple thin intrusive units could suggest possible composite sill or dyke complex. Missed Hat vein, but hit TTT vein. Can't see Bling-Rico shear? |
| KM05002 (192.63m, 60?)<br>Same pad as KM05001 | Upper Hat | 2.2 m of 400 ppb Au in 4m wide sericite-biotite altered shear zone? | poor quality logs for these three holes, possibly Rico fault |
| KM05003 (160.3m, 80?)<br>Same pad as KM05001 | Upper Hat | Less veining than other two holes, sericite and sausserite alt less intense | steepest hole |

Table 6. Summary of Eagle Plains Drill Holes Completed Between 2004 and 2014

| Number | Area | Best Intersections | Comment or More Information |
|---|---|---|---|
| **2008 Drilling** | | **Murton, 2008** | |
| KKM0801 (131.71m,-45NE) | Burn zone | Encountered 63.45 m of variable altered granodiorite before crossing into argillite which continued to the end of the hole at 131.71m. The targeted altered and mineralized structure was intersected from 12.65 - 44.30 m containing a “swarm” of quartz veins and veinlets with the most well mineralized assaying 28.70 g/t gold over 0.30 m. Other mineralized quartz veins and stringers in the mineralized interval resulted in an average grade of 0.973 g/t gold over 10.55 m. The sporadic, weakly mineralized quartz stringers continued down the hole for the entire interval of the granodiorite with 2 intersections assaying 0.112 and 0.190 g/t gold over 1.20 and 1.00 m. | Some weakly anomalous gold values in the argillite underlying the uppermost granodiorite, including one 0.35 m sample from 94.55 to 94.80 with 261 ppb Au, 69.1 ppm Ag, 13900 ppm Cu, 146 ppm Pb, 491 ppm Zn and 51.7 ppb Bi. Only hole with some analyses in the argillite. Anomalous values may indicate that sediments can host lower grade mineralization, particularly if they are not argillies?? |
| KKM0902 (102.74,-65NW)<br>Same pad as KKM0901 | Burn zone | As in 08-01, a weakly mineralized quartz stringer zone was encountered from 10.85 – 17.85 m with the best interval assaying 0.325 g/t gold over 1.15 m within a broader zone averaging 0.148 g/t gold over 7.00 m. At 25.35 m a well mineralized pyritic quartz stringer assayed 59.60 g/t gold over 0.15 m. This stringer contained observable galena and sphalerite. Further down the hole at 41.90 m, 2 quartz stringers with 5-20% pyrite resulted in an assay of 0.834 g/t gold over 0.70 m. The granodiorite continued down hole to 61.20 m where it passed into argillite to EOH. | Couldn’t always pick the areas that were mineralized by looking at the non-nalytical information in the log. The shallowly dipping base of the granodiorite was noted. |
| KKM0803 (169.82, -45W) | Burn zone | Three well mineralized quartz veins were encountered between 14.00 and 16.30 m resulting in a best assay of 21.70 g/t gold over 1.10 m within an broader interval assaying 11.95 g/t gold over 2.30 m. Deeper in the hole several intervals of increased quartz veining resulted in assays of 0.252 g/t gold over 4.90 m, 1.321 g/t gold over 2.80 m, 0.248 g/t gold over 4.40 m, 0.960 g/t gold over 4.10 m and 0.157 g/t gold over 1.50 m. | Calculated the gold and silver values in the weakly mineralized granodiorite. Core from the top of the hole at 6.8 m to 43.60 m (36.8m) @0.89 g/t Au and 0.25 g/t Ag. Then a sampling gap in granodiorite of 14.36 m. More assays from 57.90 to 83.40 m (25.5m) @0.23 g/t Au and 0.60 g/t Ag. |
| KKM0804 (129.88, -65W)<br>Same pad as KKM0803 | Burn zone | Variably altered granodiorite from the collar to a depth of 83.50 m when it passed into argillite to the end of the hole at 129.88 m. A section of mineralization associated with increased quartz veining from 18.10 – 23.00 assayed 0.632 g/t gold over 4.90 m while deeper in the hole at 35.45 m an interval with increased quartz veining well mineralized with pyrite assayed 0.359 g/t gold over 8.80 m. At 59.40 m, a 1.60 m interval assayed 0.269 g/t gold | Assay all core from four northernmost holes to complete the understanding of the weakly mineralized zone. |

Table 6. Summary of Eagle Plains Drill Holes Completed Between 2004 and 2014

| Number | Area | Best Intersections | Comment or More Information |
|---|---|---|---|
| KKM0805 (169.82, -45W) | Burn zone | It encountered variably altered and mineralized granodiorite to a depth of 158.50 m when argillite appeared until the end of the hole at 169.82 m. Intervals of interest include 0.543 g/t gold over 4.65 m, 0.226 g/t gold over 0.20 m, 2.410 g/t gold over 0.20 m, 0.861 g/t gold over 0.50 m, 0.114 g/t gold over 1.45 m and 0.649 g/t gold over 0.58 m. This hole encountered the most extensive interval of granodiorite in the drilling campaign and also the most widespread quartz vein / stringer related mineralization. A deep interval of alteration and veining with weak mineralization was encountered from approximately 110 m – 158 m within the granodiorite and may represent a previously undisclosed mineralized structure within the granodiorite. | Alternately the granodiorite bodies are all altered to some degree and have anomalous gold and silver values. Starting to see potential for tonnages for bulk mining, but with current economic conditions and technology will need higher grades. |
| KKM0806 (99.60, -65W)<br>Same pad as KKM0805 | Burn zone | Two intersections of gold mineralization were cut ; 0.267 g/t gold over 2.60 m and 1.00 g/t gold over 1.50 m. Granodiorite variably altered and mineralized was intersected from the collar of the hole to a depth of 64.80 m when a mixed interval of argillite / granodiorite was intersected until the end of the hole at 99.60 m. | |
| KKM0807 (172.56,-45NW) | Burn zone | No granodiorite was intersected in this hole. No mineralization was observed in the argillite. | |
| KKM0808 (84.45, -45NE)<br>Same pad as KKM0807 | Burn zone | Drilled to undercut a well mineralized (pyrite) granodiorite outcrop in a road cut about 70 m to the east. Once again, a surprise, as the hole was completely in argillite / greywacke for the total length of 84.45 m. No mineralization was observed. | |
| KKM0809 (139.33, -45W) | Burn zone | Drilled to undercut a pyritic gossanous altered granodiorite exhibiting anomalous gold, arsenic and zinc soil geochemistry on a small hill about 30 m to the west from the drill hole collar. Once again, a surprise, as argillite was encountered for almost the complete hole other than a short intersection of medium altered, unmineralized granodiorite from 87.30 –100.30 m. | Granodiorite should be examined and sampled to help understand mineralization in the other holes. |
| KKM0810 (121.04, -45NW) | Burn zone | The hole encountered a mixture of granodiorite and argillite for its total depth of 121.04 m. The amount of argillite was surprising as a pyritic area of granodiorite outcrop to the west and east from the drill setup. Granodiorite with medium to strong chloritic / sericitic / pyritic alteration in several areas of the hole with the best intercepts assaying 0.134 g/t gold over 1.52 m and 0.202 g/t gold over 1.40 m, all associated with stringers and veinlets of quartz. | Logged veinlets in argillite above sill |

Table 6. Summary of Eagle Plains Drill Holes Completed Between 2004 and 2014

| Number | Area | Best Intersections | Comment or More Information |
|---|---|---|---|
| KKM0811 (72.26, -45NW) | Burn zone | A granodiorite / argillite mix was encountered until 34.90 m when the hole stayed in argillite to its end at 72.26 m. The granodiorite in the top of the hole assayed 0.244 g/t gold over 6.00 m while a deeper intersection assayed 0.490 g/t gold over 4.80 m, all associated with a high population of quartz veinlets and stringers variably mineralized with pyrite and occasional galena and sphalerite. | Broad mineralized zone |
| **2010 Drilling** | | **Brown, 2011** | |
| KCZ10001 (86.24m, -45) | Cirque zone | Located in complex contact zone of the main Allard Pluton and greywacke sediments of the Bowser Basin. Successful in intersecting the hanging wall, en echelon and footwall quartz-carbonate veins / breccias to some degree. These zones are variably mineralized with an average of 1% arsenopyrite, 1% pyrite and trace pyrrhotite The hanging wall vein returned 30cm at 0.164 g/t Au, while the footwall zone returned 0.55m of 0.168 g/t Au which hole? | There are also a number of late cm- to m-scale dykes / sills of intermediate to mafic composition that were intersected in the upper portion of the hole. Below a shear zone flat lying tabular intrusive body of intermediate composition that overlies a basal dioritic body. |
| KCZ10002 (41.76, -70)<br>Same pad as KCZ10001 | Cirque zone | were successful in intersecting the hanging wall, en echelon and footwall quartz-carbonate veins / breccias to some degree. | Anomalous gold values associated with quartz breccia with 2-3 mm irregular veinlets with 20-25% py, 1-2% cp, 5-7% aspy, geochemically weakly anomalous values extend into underlying greywacke, Au:Ag ratio lower? |
| KCZ10003 (50.6, -70)<br>Same pad as KCZ10001 | Cirque zone | | Au kick with weak response for silver at roughly 15m in greywacke |
| KCZ10004 (92.03, -45) | Cirque zone | Visible mineralization is limited to 2% fracture controlled pyrite from 11.53m to 12.6m and moderately developed quartz carbonate breccias from 14.46m to 19.98m that are mineralized with 1% pyrite and arsenopyrite in hole KCZ10005. This zone in KCZ10005 ran 98 ppb Au over 1.0 m length. These weakly mineralized zones are interpreted as the down-dip extension of the Higsy Vein A silicified dyke in hole KCZ10004 ran 136 ppb Au over 1.0m from 21.65m to 22.65m. Both holes intersected a 40m thick porphyritic dyke of intermediate composition that is weakly altered by silica and sericite and generally contains trace to 1% Po. | upper dyke swarm consisting of diorite, porphyritic and felsic dykes intruding host greywacke lithology hosted weakly developed quartz carbonate stockwork zones with weak to moderately developed Fe-carbonate alteration haloes. |

Table 6. Summary of Eagle Plains Drill Holes Completed Between 2004 and 2014

| Number | Area | Best Intersections | Comment or More Information |
|---|---|---|---|
| KCZ10005 (46.96, -60)<br>Same pad as KCZ10004 | Cirque zone | moderately developed quartz carbonate breccias from 14.46m to 19.98m that are mineralized with 1% pyrite and arsenopyrite in hole KCZ10005. This zone in KCZ10005 ran 98 ppb Au over 1.0 m length. These weakly mineralized zones are interpreted as the down-dip extension of the Higsy Vein. | Geochemically anomalous gold with no Ag kick over roughly 3m around 14.7 to 18.5m qtz breccia and silicification largely in greywacke |
| KCZ10006 (101.5, -45) | Tuppie zone | Mineralization is limited to blebby Po and Py at ~68.0m which ran 102ppb Au, 2173 ppm Zn, 125 ppm Pb, 1.7 ppm Ag over 1.0m in the greywacke sediments and fracture controlled Py (1%) and Aspy (Tr.) at 89m which ran 221ppb Au, 0.5 ppm Ag over 1.0m | massive unaltered Bowser sediments consisting of wacke and argillite that has been intruded by numerous m-scale diorite, felsic and porphyry dykes and pyrrhotite is commonly disseminated throughout the host sedimentary rocks. |
| **2012 Drilling** | | **Gallagher, 2013** | |
| KM12001 (235.67, -45W) | Rico extension | sulphide mineralization in the form of py, cpy and gal was very weak, limited to sub meter scale shear zones. Massive / poorly bedded alternating greywackes and minor siltstones. intruded by several m-scale feldspar porphyry dykes which appear to be bounded by discrete, brittle to transitional shear zones. Alteration was generally very weak except in proximity to the porphyry dykes. | Appear to have missed the Rico shear |
| KM12002 (183.84m, -53W) | Rico extension | Similar to 1; no anomalous Au in either hole | Appear to have missed the Rico shear |