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BC Geological Survey

Assessment Report
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: 2011 Exploration Report on the Titan Property

TOTAL COST: $205,402.27

AUTHOR(S): Aaron Higgs

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Date: 2012.07.16 10:52:50 -06'00'

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S):

YEAR OF WORK: 2011

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5393147 ; 2012/JUL/11

PROPERTY NAME: Titan

CLAIM NAME(S) (on which the work was done): 593863, 404860, 404861, 404862, 40,287, 404288, 404289, 404290, 408642, 404643, 408644, 408645, 504073, 504077, 504079, 504082, 564115, 564097, 564098, 564114, 564117, 564225, 564237, 564238 564239, 564294, 589599, 589600, 589601

COMMODITIES SOUGHT: Au, Ag, Mo, Cu, Pb, Zn

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 104M008, 104M009, 104M010, 104M012, 104M035, 104M036, 104M037, 104

MINING DIVISION: Atlin

NTS/BCGS: 104M049

LATITUDE: 59 ° 28 ' 12 " **LONGITUDE:** 134 ° 18 ' 42 " **(at centre of work)**

OWNER(S):

1) Eagle Plains Resources Ltd.

2)

MAILING ADDRESS:

Suite 200, 44-12th Ave S.
Cranbrook, BC, V1C 2R7

OPERATOR(S) [who paid for the work]:

1) Blue Gold Mining Inc.

2)

MAILING ADDRESS:

1650-1055 West Hastings St.
Vancouver, BC, V6E 2E9

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):

porphyritic granodiorite to granite - Eocene - molybdenite chalcopyrite and pyrrhotite, disseminations
hornblende gneiss - Proterozoic to Paleozoic - molybdenite chalcopyrite pyrrhotite galena malachite azurite sphalerite and arsenopyrite in quartz veins
amphibolite gneiss and schist - Permian and Older - polymetallic quartz veins

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 27316, 27855, 28627, 30365

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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	mag and EM	424.9 line km	
GEOCHEMICAL (number of samples analysed for...)			
Soil	336		
Silt	4		
Rock	38		
Other	22 petrographics		
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
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:	$205,420.27

2011 EXPLORATION REPORT

for the

TITAN PROPERTY

Volume I -Report

Atlin Mining Division, Northwestern B.C.
Latitude 59°28'12" N, Longitude 134°18'42"W
Trim Map sheet 104M049

Prepared for
Blue Gold Mining Inc.

1650-1055 West Hastings St
Vancouver BC, V6E 2E9

by

Aaron Higgs, B.Sc., Geol.
TerraLogic Exploration Inc.
Suite 200, 44-12th Ave S.
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January 18, 2012

Summary

The Titan Property is located in the Coast Mountains on the southwest side of Taku Arm, on Tagish Lake, 40 kilometers west southwest of Atlin, BC. The property consists of 30 contiguous claims and 4934.29 Ha within mapsheet 104M049.

The Atlin mining district, in which the project lies, has seen exploration and mining work since the start of the 20th century and includes past producing mines such as the Engineer and Ben-My-Chree. There are many historic poly-metallic showings located on the Titan property, including the Rupert, White Moose, Silver King and Buchans as well as more recent showings such as the Titan. Historic work on the Titan property includes an extensive soil sampling program in the proximity and to the north of the Silver King and Rupert-L showings, prospecting and mapping over the property area and a small Induced Polarization survey and coincident minor drill program at the Titan showing.

Exploration Work in 2007 and 2008 consisted of an airborne magnetic and raadiometric geophysical survey, geochemical soil sampling along with geological mapping and prospecting traverses with associated rock sampling. These programs results in the delineation of multi element geochemical anomalies of Au, Ag, Pb, Zn and Cu in a zone 1.4 km long and 750 m wide in proximity to teh Rupert/ Silver King and Rupert-L showings, along with open anomalies at edge of soil survey. The geophysical program resulted in a number of locations of interest that warrant follow up work, including intersecting magnetic lineaments and strong radiometric anomalies. The mapping traverses better defined the Titan-Mo showing as well as locate new vein hosted mineralization discoveries, including one rock grab sample returning 62 g/t Au.

Mapping, rock, soil and silt sampling at several of the Rupert Showings and integration with the latest 2007-2008 airborne geophysics has demonstrated a probable structural control on the mineralization there. The analysis suggests a strong association of mineral occurrences with NNW-trending magnetic lineations that clearly transect granodiorite/gneiss contacts at multiple locations. Soil geochemical anomalies along these lineation and lineation/contact intersections clearly require follow-up as do extensions of the lineations beyond the current detailed soil and mapping grids.

The 2011 field program included 23 field man-days, collection of 38 rock samples for assay, 22 rocks for petrophysical analysis, 4 stream-silt samples and 366 soil samples.

Prior to the field program, an airborne electromagnetic (EM) & magnetic geophysical survey was completed by SkyTEM Airborne Surveys, between August 9th and August 13th, 2011. The 424.9 line-kilometer survey was completed along idealized 100 m spaced flight-lines. Preliminary airborne EM and magnetic datasets were available prior to the 2011 ground program, and partially directed subsequent 2011 field traverses.

Rock and soil geochemical analytical results from the 2011 Fee grid area are not encouraging. The low channel EM anomaly central to the grid is likely related to the high percentage of glacial rock powder comprising the matrix of the thick till in the central area of the grid. However, projections of lithological contacts and N-trending airborne magnetic lineaments, along with the presence of unit-EJgd granodiorite and aplite bodies, suggests encouraging structural and lithological convergence in the vicinity of the difficult to access Fee Showing. Additional prospecting in the area of the receding glacier is recommended.

At the new Hook prospect area, quartz veining was discovered 400-500 m on strike to the NW of the 2008 gold showing; however, none of the 5 samples collected there returned significant values of Au or base metals. Three isolated greater than 99th-percentile (>34 ppb Au) soil samples should be prospected to determine their source. Outcrop exposure and soil geochemical results are both very spurious in the 2011 grid area, and the known mineralized location has proven to be narrow. In light of

these results, the Hook prospect area should be given low priority for future work.

Both the Buchans' and White Moose showing areas have very encouraging mineralization potential. The Buchans is a high grade Au+Ag+Pb quartz vein system, whereas the White Moose quartz vein system is Ag-Cu+-Pb rich. Three samples collected by independent geologist Carl Schulze, P.Geo. from the Buchans showing in 2011, returned between 0.03 and 8.41 g/t Au, 2.3 g/t to over detection silver (>300 g/t Ag), 110 to 3000 ppm Cu, and 0.080 to 24.18% Pb. Mr. Schulze concluded that "the Buchan Vein has some potential for economic viability, due to its high-grade gold content supported by high galena-hosted silver content. Lead may also be extractable due to the high concentrations present."

Airborne magnetic lineaments and EM conductivity anomalies, are spatially coincident with the showing and on-strike projections of the Buchans' vein system. This association is further strengthened by 2-station-wide Pb-, Au-, Ag-, Sb-in-soil geochemical anomalies, discernible for approximately 900 m along the strike projection of the mineralized structure. Drilling beneath the Buchans trench area and along strike of the best geophysical and geochemical anomalies is therefore recommended.

Mineralization at the White Moose showings (B, Shaft, North) occurs in crosscutting and conformable quartz veins with substantial sulphides (pyrite>galena>chalcopyrite>sphalerite). The 2011 analytical results, from 12 samples at 3 of the 4 showings, is encouraging, ranging from 0.05 to 86.4 g/t Ag, 0.001 to 4.9% Pb, 37.4 to 9267 ppm Cu, and 0.01 to 2.1% Zn. Gold is anomalous (0.01 to 0.30 g/t Au) but low relative to silver. Future work at the property should include compilation and digitization of historical geological and geochemical data, analysis of this data in conjunction with the airborne geophysical data, followed by detailed prospecting, structural mapping and infill soil geochemical surveys.

At both the Buchans and White Moose showing areas, emphasis should be placed on determining the interaction between mineralized cross-structures and lithological contacts, particularly where there are granodiorite/diorite and aplite laden structures proximal to either structure of interest. There is now a wealth of airborne geophysical data for the entire Titan property. It is strongly recommended that the 2011 petrophysical data and all geophysical data be assessed and modeled by a professional geophysicist in order to refine the location, depth and quality of additional potential mineralized targets for future ground exploration and diamond drilling prioritization.

Total expenditures on the Titan property from the 2011 exploration program were $205,402.27.

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INTRODUCTION

Location, Access, Infrastructure and Physiography

The Titan Property is in the Coast Mountains on the southwest side of Taku Arm, on Tagish Lake, 40 kilometers west southwest of Atlin, BC, approximately 200 kilometers south of Whitehorse (Figure 1).

The project area is in the Coast Mountains. The Titan claims are located on White Moose Mountain and are situated above tree line in an area of a recently retreated glacier. Elevations range from 1,200 meters to 1,862 meters A.S.L. At lower elevations balsam and lodge pole pine dominated with willow and alder occurring in drainages and avalanche chutes. The alpine areas have scrub balsam, heather and alpine flora. Outcrop exposure is fair, except where glacial till and debris cover occurs in the alpine valley.

The White Pass Railroad, with direct access to the port of Skagway, is located approximately 60 kilometres northwest of the property.

The area is affected by weather from the coast and receives abundant rain and snow. Snow generally begins accumulating in the alpine areas in mid September and begins receding in late April to early May. The snow is generally melted back sufficiently by mid to late May to allow for fieldwork at lower elevations.

The land in which the mineral claims are situated is Crown Land and falls under the jurisdiction of the Government of British Columbia. Surface rights would have to be obtained from the government if the property were to go into development. The Titan claims are located within traditional lands of the Taku River and Tagish Tlingit First Nations.

Power is not available in the project area. The nearest source of power is in Atlin, 35 kilometers northeast of the project area, where hydro-electric power is provided by XEITL Limiterd Partnership Commerical Operation as of April 1st, 2009. Any mine development would have to supply its own power system or negotiate with the British Columbia Government or the operation in Atlin to have power supplied to a mine complex. Water resources are abundant in the project area in flowing steams and numerous large lakes.

The nearest major city centre is Whitehorse, 210 kilometers by road north of Atlin. Whitehorse is a supply centre for this northern region and has an ample labour force. Due to historic mining activity in the area, an experienced work force, including mining personnel are available in Yukon and in Atlin.

Tenure

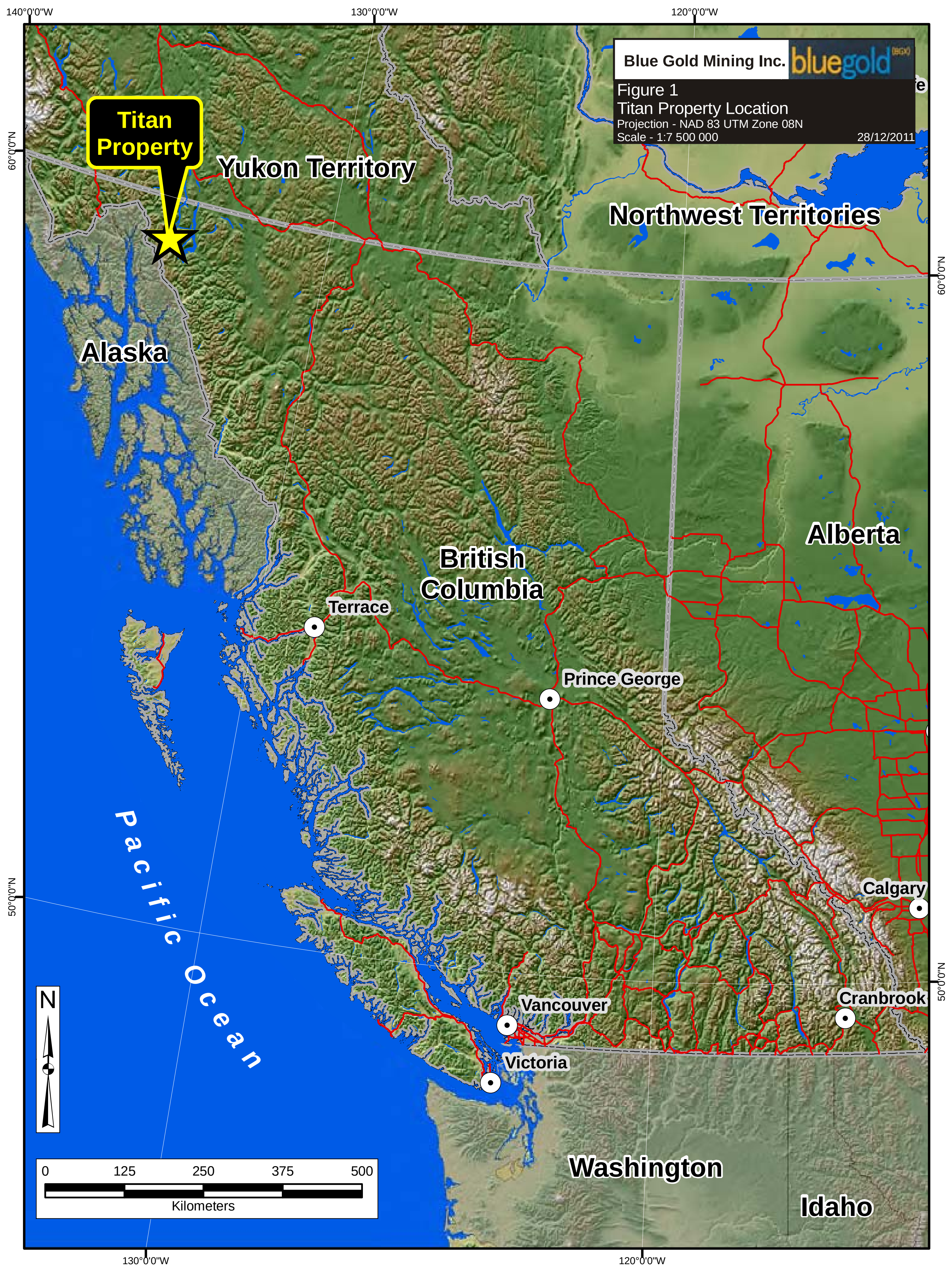
The Titan Property is in the Coast Mountains on the southwest side of Taku Arm, on Tagish Lake, 40 kilometers west southwest of Atlin, BC at 59°27' N Latitude, 134°23' W Longitude (Figure 1). All mineral claims comprising the Titan property are in the Atlin Mining Division and are listed in Table 1 which gives the claim names, numbers and due dates. All of the Titan mineral claims are contiguous.

The title to the Titan mineral claims is owned 100% by Eagle Plains Resources Ltd. subject to a 1.5% NSR held in favour of Mr.Ouellette on the previously labeled tenure 395607. The surface rights are held by the Crown.

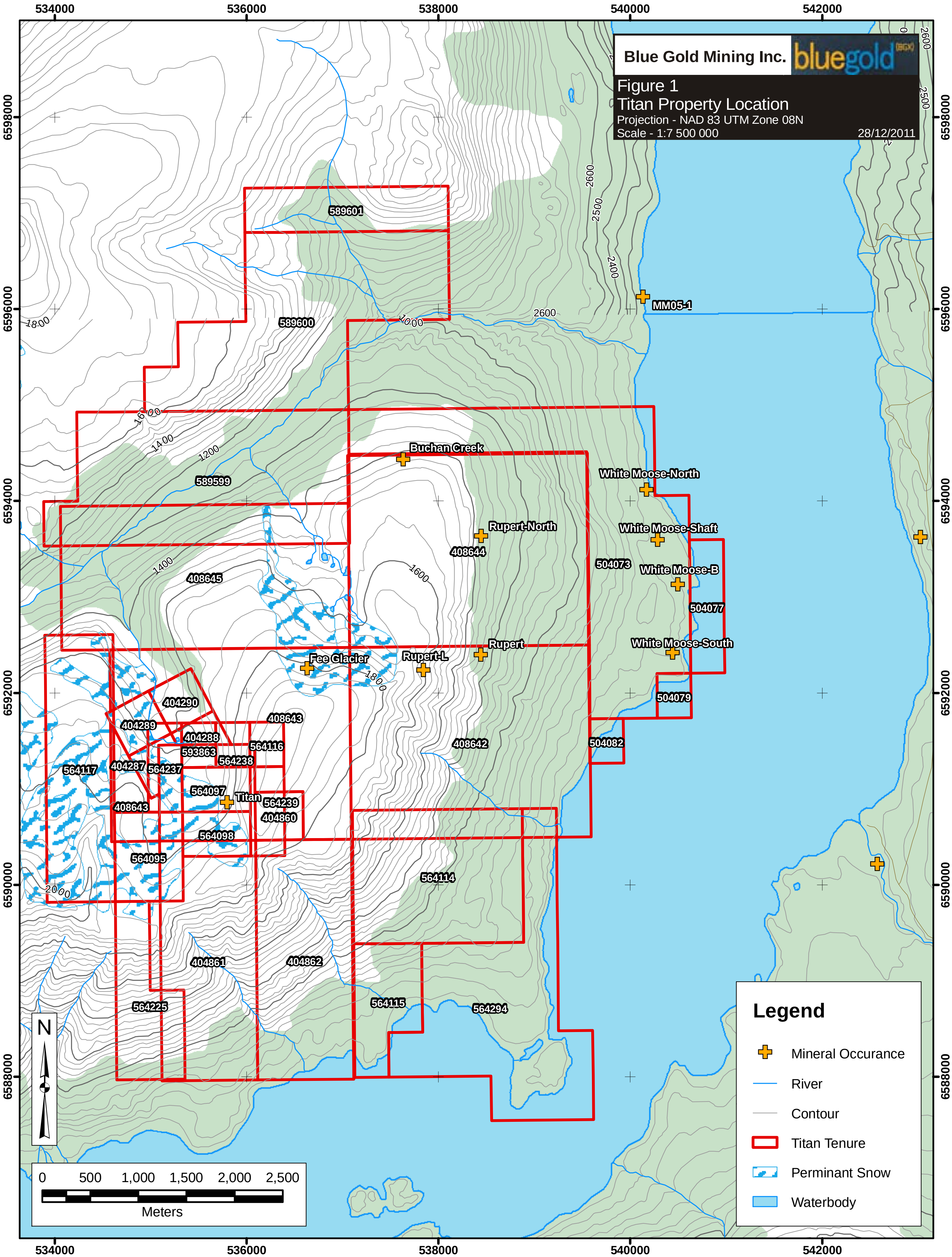
Table 1 - Claim Data: Titan Property

Tenure Number	Name	Issue Date	Expiry Date	Area (ha)
564225	TITAN	8/7/2007	11/30/2012	98.78
564239	TITAN	8/7/2007	11/30/2012	32.91
404290	TITAN	7/26/2003	11/30/2012	25.02
404861	TITAN	8/26/2003	11/30/2012	250.19
408645	TITAN	2/28/2004	11/30/2012	450.35
564294	TITAN	8/8/2007	11/30/2012	329.28
504079	TITAN	1/17/2005	11/30/2012	16.45
504082	TITAN	1/17/2005	11/30/2012	16.45
564097	TITAN	8/4/2007	11/30/2012	32.91
593863	TITAN	11/5/2008	11/5/2012	16.45
404288	TITAN	7/26/2003	11/30/2012	13.33
408644	TITAN	2/28/2004	11/30/2012	500.38
564114	TITAN	8/4/2007	11/30/2012	246.87
589600	TITAN	8/6/2008	11/30/2012	377.95
564238	TITAN	8/7/2007	11/30/2012	16.45
404289	TITAN	7/26/2003	11/30/2012	25.02
504077	TITAN	1/17/2005	11/30/2012	49.34
408643	TITAN	2/28/2004	11/30/2012	299.39
408642	TITAN	2/28/2004	11/30/2012	500.38
564095	TITAN	8/4/2007	11/30/2012	65.83
564098	TITAN	8/4/2007	11/30/2012	32.91
589601	TITAN	8/6/2008	11/30/2012	98.57
404860	TITAN	8/26/2003	11/30/2012	25.02
564237	TITAN	8/7/2007	11/30/2012	32.91
404287	TITAN	7/26/2003	11/30/2012	12.7
504073	TITAN	1/17/2005	11/30/2012	411.06
564116	TITAN	8/4/2007	11/30/2012	16.45
404862	TITAN	8/26/2003	11/30/2012	250.19
589599	TITAN	8/6/2008	11/30/2012	411
564115	TITAN	8/4/2007	11/30/2012	82.32
564117	TITAN	8/4/2007	11/30/2012	197.43
			Total	4934.29

*1.5% NSR held in favour of Mr. Ouellette on the ground of previously labeled tenure 395607, parts of which now lie within 564097, 564237, 564098, 593863, 564238, 564116 and 564239



Blue Gold Mining Inc.
bluegold
Figure 1
Titan Property Location
Projection - NAD 83 UTM Zone 08N
Scale - 1:7 500 000
28/12/2011
Titan Property
Yukon Territory
Northwest Territories
Alaska
British Columbia
Alberta
Terrace
Prince George
Calgary
Cranbrook
Vancouver
Victoria
Pacific Ocean
Washington
Idaho
N
0
125
250
375
500
Kilometers
140°0'0"W
130°0'0"W
120°0'0"W
60°0'0"N
50°0'0"N



Blue Gold Mining Inc.
bluegold
Figure 1
Titan Property Location
Projection - NAD 83 UTM Zone 08N
Scale - 1:7 500 000
28/12/2011
Legend
Mineral Occurance
River
Contour
Titan Tenure
Perminant Snow
Waterbody
0
500
1,000
1,500
2,000
2,500
Meters
N
534000
536000
538000
540000
542000
6598000
6596000
6594000
6592000
6590000
6588000
MM05-1
Buchan Creek
White Moose-North
Rupert-North
White Moose-Shaft
White Moose-B
Rupert
White Moose-South
Fee Glacier
Rupert-L
Titan
589601
589600
589599
408644
408645
504073
504077
504079
504082
404290
404289
408643
404288
564116
593863
564238
564117
404287
564237
564097
564239
404860
564098
564095
408642
564114
404861
404862
564225
564115
564294
2600
2500
2400
1800
1000
1600
1400
1200
2000

History

The mineral exploration history of the area dates back to 1890's, when prospectors traveling over the Chilkoot trail and across Bennett Lake to the Klondike goldfields first started exploring the area. The first recorded production in the area came from the Engineer Gold Mine at Taku Arm on Tagish Lake. A small amount of production also came from the Ben-My-Chree gold mine.

The early prospectors discovered a number of precious and base metal bearing veins on the north and east slope of White Moose Mountain known as the Rupert showings. In 1979, United Keno Hill Mines Ltd (UKHM) staked the Fee claims to cover the Rupert showings. UKHM carried out extensive geological and geochemical surveys in the showing area.

In 1986, UKHM optioned the property to Rise Resources. Rise confirmed the soil geochemical anomalies but performed no further work.

In 1989, the property was optioned to Placer Dome. Placer conducted mapping, geochemical sampling, geophysical surveys and trenching on the showings. Their program had limited success and the property was later allowed to lapse.

During the period of this exploration activity, however, field crews noted that the ongoing retreat of glacial ice at the headwaters of Buchan Creek had begun to expose porphyry copper – molybdenum mineralization.

In August 2002, Dennis Ouellette staked the TITAN claim and conducted a one-day field program confirming the high-grade nature of the molybdenum occurrences. Rock samples collected from a glacially derived boulder field returned values up to 0.8 % Mo. Later that year the property was acquired by Eagle Plains Resources Ltd.

2003 fieldwork by Eagle Plains included prospecting, rock and soil sampling, an Induced Polarization (IP) ground geophysical survey contracted to Aurora Geosciences Ltd., and staking of additional claims to cover prospective stratigraphy. Prospecting in the area exposed by retreating glacial ice located massive to disseminated molybdenite in Cretaceous granodiorite boulders and in quartz veins within the granodiorite. By tracing the mineralized boulders upslope, molybdenum mineralization was located in place near the contact between metasediments and Cretaceous granodiorite. This was the first known in situ molybdenum occurrence discovered on the property. Eight of the ten rock samples collected returned greater than 0.1% molybdenum. Some samples are also associated with elevated copper (up to 2873 ppm), tungsten (up to 93.1 ppm), and bismuth (up to 60.7 ppm) values.

Field observations indicate that higher grade molybdenum mineralization appears to occur along the intrusive - metasedimentary contact zone, with associated chalcopyrite, malachite and a broad zone of disseminated pyrite. Argillic, sericite and abundant epidote alteration were noted up to one kilometer from the contact zone. The presence of high grade molybdenum mineralization within the limited outcrop exposure combined with an abundance of locally derived high grade float boulders indicate the potential for a large mineralized system.

Results from the IP geophysical survey indicated the presence of a large, high-intensity chargeability anomaly in the vicinity of high-grade mineralization discovered in outcrop during the initial program. Resistivity imaging showed a 25 to 75 meter wide area of lower resistivity suggesting incipient fracturing that may have provided a conduit for mineralizing fluids. The resistivity also clearly showed the contact between the intrusive and metasedimentary rocks, consistent with field observations by Eagle Plains' geologists. Chargeability imaging indicated the presence of chargeable bodies on both survey lines, consistent with the observed contact between sedimentary and intrusive rocks.

A 2004 report, authored by Scott Casselman, P.Geo, recommended further geophysical surveying, mapping, sampling and diamond drilling to delineate the extent of the molybdenum mineralization and test the Titan Showing. In 2004, 3 BTW-sized diamond drill holes from two different sites were completed totaling 413.6 meters (1357 ft). The details and results of the drilling program were filed in a previous technical report (Downie, 2005) and filed on SEDAR. The diamond drill program was carried out under an option agreement with Kobex Resources Ltd. with targets selected based on the Casselman report. However, the collection of the geophysical survey data referred to in the Casselman report was constrained in part by poor electrode contacts, particularly in the areas of high grade boulders. Consequently, the geophysical targets tested by drilling in 2004 were located peripheral to the best observed mineralization. It is believed that the chargeability anomalies tested in T04001 and T04002 are likely related to disseminated pyrite. The resistivity feature tested by T04003 is likely the contact between the mafic gneiss and the underlying granite. The low grade molybdenum mineralization that was intersected in the drilling does not appear to be the same as that seen at the Titan showing and in the high grade boulder field.

In 2006, a limited program was completed to take reference points on the ground so that the 1989 soil geochemical grid by Placer Dome could be accurately digitized. Many of the historic showings were also visited and assessed, including the Buchans Creek and White Moose showings.

Exploration work on the Titan property completed in 2007 included a 132 line-km airborne geophysical survey for both aeromagnetics and radiometrics and a two week soil sampling program that expanded the historic soil grid. Geophysical interpretation identified six locations of interests on the Titan property, based on both radiometric and aeromagnetic data collected by the airborne geophysical survey. The one region of interest in the south end of the property is interesting as there is a direct correlation between aeromagnetic derived intersecting magnetic lineaments and strong radiometric anomalies high in Uranium/Thorium, Uranium/Potassium and Thorium/Potassium ratios. The five regions of interest in the northern end of the property are less distinct and only one has a correlation between magnetic lineaments and radiometric anomalies. The rest of the locations are based on radiometric anomalies alone. The soil sample grid that was completed by Placer Dome in 1989 and digitized by Bootleg Exploration, along with the infill and expansion of such grid during the 2007 Exploration program, located many multi-element anomalies. There is a strong signature of Au, Ag, Pb, Zn, Cu and As found in the proximity of the Rupert/Silver King and Rupert-L showings. Th anomalous area encompasses a maximum area of 1.4 km long and 750 m wide. In addition to this zone, there are further zones anomalous in Cu, Pb and Ag at the edge of the soil grid and open to the southeast, southwest and northeast. Furthermore, there is an anomalous trend of Au, Pb, Ag, and Cu values extending 300 m to the north of the Buchans Showing.

Exploration work on the Titan property in 2008 included a 195 line-km airborne geophysical survey which included both magnetic and radiometric analysis and a 46 man-day field program of prospecting/ mapping and collection of 27 rock samples, 53 stream-silt samples and 301 soil samples.

The 2008 traverses verified that mineralization at the Titan-Moly showing appears to be constrained to within 325 meters either side of the granite/gneiss contact. There are two structures that appear to have the most influence on mineralization. The first is a pronounced fracture set (120/58) host to some of the mineralization oriented subparallel to the main granite/gneiss contact. The second structure is oriented almost perpendicular to the first at (220/65) and parallel to the cliff face that exposes the main showing. A new quartz vein discovery, 6 km north of the Titan-Mo showing on the same cross-structure (208/70), returned 62000 ppb Au. A similar Cu-rich quartz vein on (220/64) was also discovered 1km SE of the main showing.

Mapping, rock, soil and silt sampling at several of the Rupert Showings and integration with the latest 2007-2008 airborne geophysics has demonstrated a probable structural control on the mineralization there. The analysis suggests a strong association of mineral occurrences with NNW-trending magnetic lineations that clearly transect granodiorite/gneiss contacts at multiple locations. Soil geochemical anomalies along these lineation and lineation/contact intersections clearly require follow-up as do extensions of the lineations beyond the current detailed soil and mapping grids.

Geology

Regional Geology

The regional geological setting of the project area (Figure 3) is taken from Mihalynuk (1999). The project area occurs at the contact between the Coast Intrusive Belt and the western margin of the Intermontane Belt. The Coast Intrusive Belt is comprised of predominantly Late Cretaceous and Tertiary magmatic rocks, while the Intermontane Belt in this area is comprised of Devonian to Triassic Boundary Ranges Metamorphic Suite, Late Proterozoic orthogneiss (Wann River Gneiss) and meta-sediments (Florence Range Metamorphic Suite). These rocks are intruded by the Early Jurassic Aishihik Plutonic Suite.

The Coast Intrusive Belt rocks in the Taku Arm area are part of the Sloko Plutonic Suite. They are typically comprised of granodiorite, tonalite or granite composition. At White Moose Mountain, the pluton is dominated by non-foliated granite to granodiorite. It is pink to grey, medium to coarse grained, contains 40-50% perthitic and zoned K-feldspar, 40% interstitial quartz, 10-15% plagioclase, and 2-5% euhedral biotite booklets. K-feldspar locally forms scattered (1-5%) megacrysts up to 5 centimetres.

The Aishihik Plutonic Suite is a suite of foliated, hornblende-biotite granodiorite to diorite bodies. They are white to grey on weathered or fresh surfaces; fine to medium-grained and always contain hornblende. At the southern end of Taku Arm, they form resistant, steeply jointed exposures.

The Boundary Ranges Metamorphic Suite is a belt of polydeformed rocks bounded on the east by the Llewellyn Fault and on the west by mainly intrusive rocks of the Coast Belt. The Boundary Ranges Metamorphic Suite is comprised of a wide range of protoliths from quartzose to pelitic or carbonaceous and calcareous sediments through volcanic tuffs or flows to small lenses to large bodies up to several kilometres across of gabbroic, dioritic, granodioritic and granitic intrusives and ultramafite.

The Wann River Gneiss is probably derived from mafic to intermediate strata and comagmatic intrusive rocks. It is consistently intensely foliated and does not contain any plagioclase porphyroblasts. However, it is commonly criss-crossed by plagioclase-rich pegmatites. The Wann River Gneiss is distinctive for its millimetre to decimetre-scale compositional layering, which varies gradationally from hornblende diorite to gabbro; both display subordinate biotite and late epidote.

The Florence Range Metamorphic Suite consists of an upper amphibolite grade metapelite, with lesser, but conspicuous carbonate, amphibole gneiss and quartzite layers. The protolith for the sedimentary component is most likely clastic strata and carbonate deposited in a continental marginal setting while the protolith for the amphibole gneiss is basalt flows, tuffs, sills or dykes.

The major structural break in the area is the Llewellyn Fault, which trends roughly north south and runs through Taku Arm east of the property.

Property Geology

Mihalynuk (1999) described the main units in the property area as follows:

ETgr: Sloko-Hyder Plutonic Suite: 53-56 Ma: Granite, biotite leucogranite, quartz monzonite, granodiorite, subvolcanic stocks, dikes and sills. Fresh, unfoliated to weakly foliated.

EJgd: Aishihik Plutonic suite: mid-crustal, foliated hornblende granodiorite to quartz diorite

PPMBa: Actinolite-chlorite schist and gneiss (metabasite), locally chlorite more abundant, lesser epidote.

PPMBb: Biotite-plagioclase-quartz schist (tuffaceous noncalcareous sediment?) and lesser biotite schist.

PPMF: Semipelite-quartzite interlayered with lesser amounts of biotite-hornblende amphibolite gneiss, fissile mica schist, black phyllite and clacsilicate; well foliated, locally pyritic.

PPMW: Wann River gneiss; hornblende-biotite-feldspar gneiss, Permian.

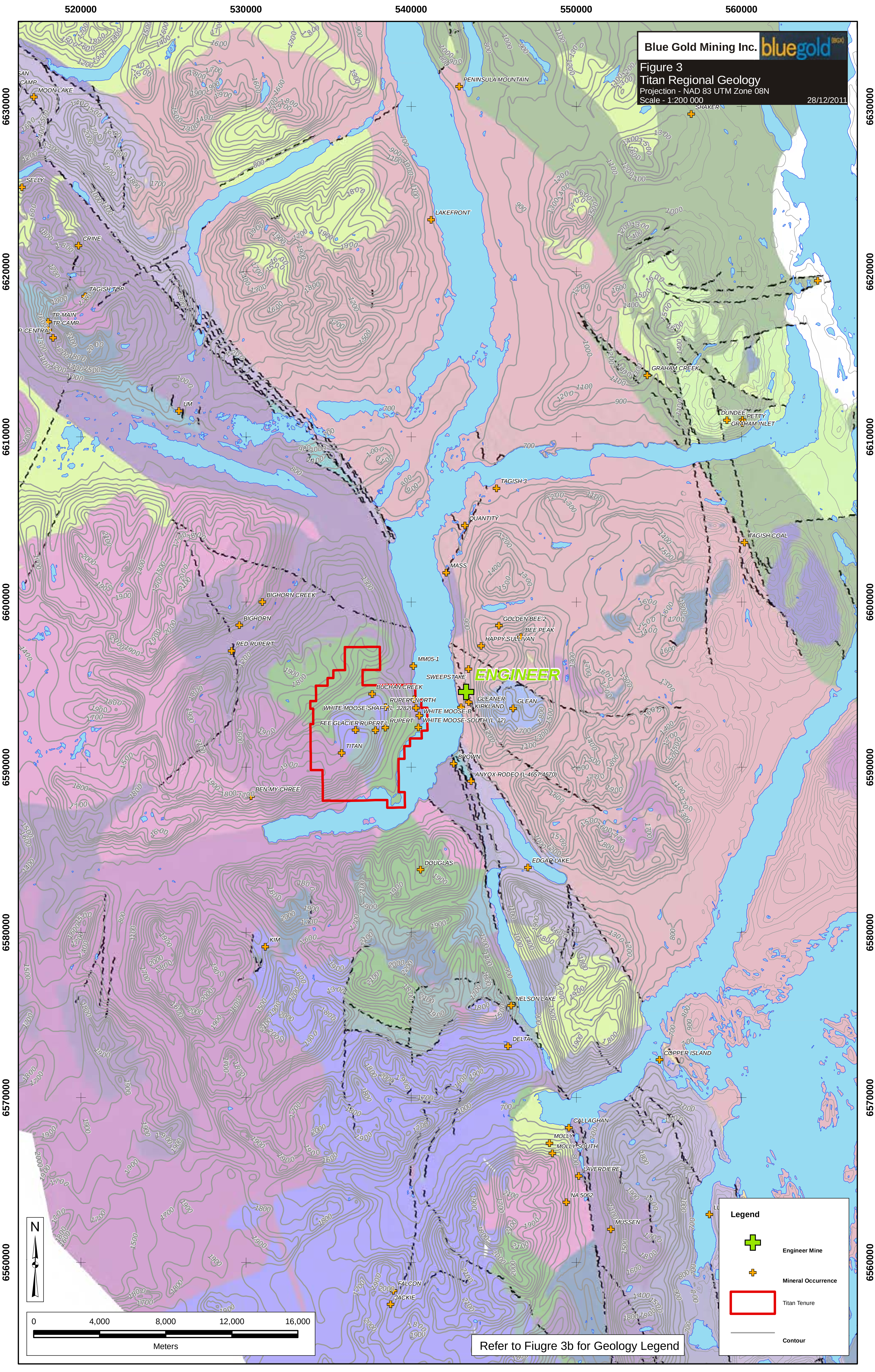
Limited mapping was done on the property in 2003 and 2004 and 2008. The latest mapping effort focused on updating the intrusive contacts of the Eocene Sloko-Hydor Plutonic suite (ETgr) – spatially associated with the Titan-Mo showing, and the Early Jurassic granodiorite of the Aishihik Plutonic Suite (EJgd) -- the contact area of which is spatially associated with Pb,Zn,Ag,Au and,Cu mineralization of the various Rupert and Buchan showings (Figure 4). The 2008 mapping incorporates scanned and digitized linework from Maheux (1990), as well as airborne and radiometric survey results from the 2007 and 2008 surveys.

The Eocene Sloko-Hydor Plutonic suite (ETgr) rocks are pink to grey, and vary from medium to coarse grained and from equigranular to porphyritic granodiorite to granite. K-feldspar megacrysts are up to 5 centimeters in length. The intrusive rocks show a slight increase in quartz vein and fracture density towards the molybdenite showing. Approximately 0.5 kilometers southwest of the Titan Showing the granitic rocks are stained with red iron oxide from water run off. However, there were very little sulphide minerals observed in the granite and the source of the iron is not known. Sloko-Hydor Plutonic suite (ETgr) rocks are well exposed on the west side of the property and on the steep south facing slopes. Outcrop exposure near the centre of the Titan-Moly showing area is poor where the glacier and glacial debris remain.

In contrast to the Eocene intrusive rocks, the Early Jurassic suite (EJgd), is typically a light to medium grey salt and pepper, equigranular to weakly porphyritic granodiorite. Various shades of green (epidote+-chlorite) alteration and Fe-staining are typically prevalent proximal to the known mineral showings.

The metamorphic rocks occur on the eastern and northern part of the property. Mihalynuk (1999) notes that the Wann River Gneiss (PPMW) is interleaved with the Florence Range Metamorphic Suite. The Wann River gneiss is well-layered hornblende gneiss of dioritic to gabbroic composition containing 20 – 40 % hornblende with lesser biotite. This gneissic unit forms the contact with the Sloko-Hydor Plutonic suite in the area of the molybdenum mineralization.

Florence Range metamorphic lithologies (PPMF) are mainly metapelitic and semipelitic rocks with carbonate, amphibolite, quartzite and minor calc-silicate and graphite bearing semipelitic rocks. Metapelites occur in 0.1 to 30 meter thick units, which may contain sillimanite and altered kyanite. Amphibolite is spatially associated with carbonate in 0.1 to 20 meter thick layers.


Blue Gold Mining Inc.
bluegold
Figure 3
Titan Regional Geology
Projection - NAD 83 UTM Zone 08N
Scale - 1:200 000
28/12/2011
ENGINEER
PENINSULA MOUNTAIN
SHAKER
MOON LAKE
SELLY
LAKEFRONT
CRINE
TAGISH TOP
TP-MAIN
TP-CAMP
GRAHAM CREEK
DUNDEE
PETTY
GRAHAM INLET
UM
TAGISH 3
QUANTITY
TAGISH COAL
MASS
BIGHORN CREEK
BIGHORN
GOLDEN BEE 2
BEE PEAK
HAPPY SULLIVAN
RED RUPERT
MM05-1
SWEEPSTAKE
BUCHAN CREEK
GLEANER
KIRKLAND
GLEAN
RUPERT NORTH
WHITE MOOSE SHAFT (L. 3282)
WHITE MOOSE-B
FEE GLACIER RUPERT
RUPERT
WHITE MOOSE-SOUTH (L. 12)
TITAN
BROWN
ANYOX-RODEO (L 4657,4670)
BEN-MY-CHREE
DOUGLAS
EDGAR LAKE
KIM
NELSON LAKE
DELTA
COPPER ISLAND
CALLAGHAN
MOLLY
MOLLY SOUTH
LAVERDIERE
NA 5062
MUSSEN
FALCON
JACKIE
520000
530000
540000
550000
560000
6630000
6620000
6610000
6600000
6590000
6580000
6570000
6560000
N
0
4,000
8,000
12,000
16,000
Meters
Refer to Fiugre 3b for Geology Legend
Legend
Engineer Mine
Mineral Occurrence
Titan Tenure
Contour

BRITISH COLUMBIA
Ministry of Energy, Mines and Petroleum Resources
Mining and Minerals Division

B.C. Geological Survey

Geology of British Columbia: Geological Legend

Geoscience Map 2005 - 3

Volcanic and Sedimentary Rocks

CENOZOIC

Neogene to Quaternary

- Qal — **Quaternary cover:** Alluvium, glaciofluvial gravels and sand, till. *(Note: the extensive Quaternary deposits of the Rocky Mountain foothills and the Peace River area have been omitted as they would completely cover and obscure the bedrock geology.)*
- Qv — **Quaternary volcanics including Blue Lake Volcanics, Lambly Creek Basalt, Lake Island and Big Raven Formations:** Basalt, olivine basalt, unconsolidated ash, scoria, agglomerate and breccia.
- LTQT — **Tuya Formation:** Alkali olivine basalt, tuff, agglomerate, minor trachyte and rhyolite tuff and flows.
- LTQMl — **Maitland Volcanics:** Basalt breccia, vesicular basalt, volcanogenic sediments and pillow lava.
- LTQGb — **Garibaldi Group and unnamed equivalents:** Olivine basalt flows, basaltic andesite flows and pyroclastic cones, rhyolite, dacite and andesite flows and domes; polymictic breccias and pyroclastics; gravel and sand.
- LTQEz — **Mount Edziza Complex:** Aphyric trachyte and olivine, plagioclase and augite- phyric alkali olivine basalt, trachybasalt and hawaiite lava flows, domes and pyroclastic breccia and ash flows; includes some fluvial gravel and glacial deposits.
- LTQAn — **Anahim Volcanics, Bella Bella Formation and equivalents:** Basalt, andesite, trachyte and rhyolite flows; basalt, andesite and dacite breccia, tuff, minor greywacke, slate and conglomerate.
- LTCh — **Chilcotin Group:** Vesicular, columnar jointed basalt, olivine basalt; minor andesite, rhyolite breccia, obsidian, tuff, breccia, conglomerate, sandstone, siltstone, shale and diatomite.
- LTQLv — **Level Mountain Group:** Alkali olivine basalt, minor trachyte and rhyolite; aphyric and olivine, plagioclase and augite- phyric, fine- grained basalt flows, in part columnar- jointed, locally vesicular or amygdaloidal; may include massive, fine- grained diabase sills.
- LTAb — **Alert Bay Volcanics:** Basaltic to dacitic lava, tuff, breccia, conglomerate.
- LTv — **Unnamed Neogene volcanics:** Olivine basalt necks, breccia and pillow flows, conglomerate.
- Mv — **Miocene volcanics including Skagit and Coquihalla Formations:** Basalt and andesite flows; related breccia and tuff; minor dacite and rhyolite, conglomerate and siltstone.

Oligocene to Pliocene

- PFr — **Poorly consolidated Tertiary sediments (includes the Fraser Bend and Australian Creek Formations):** Poorly consolidated to unconsolidated conglomerate, sandstone and mudstone; minor diatomite, lignite, basalt.
- PMf — **Masset Formation:** Dominantly aphyric, mafic to felsic lava flows and pyroclastic rocks, locally epiclastic interbeds.
- PSf — **Skonun Formation:** Sandstone, conglomerate, siltstone, mudstone, shale, coal, mostly covered by Pleistocene till.

Paleogene

- ETs — **Paleogene sediments including Chuckanut, Kitsilano, Slatechuk, Tanzilla Canyon, Kishehn and Sophie Mountain Formations:** Conglomerate, sandstone, siltstone, shale, marl, minor coal; minor tuffs and tuffaceous siltstone; basalt.
- ETv — **Unnamed Paleogene volcanics:** Rhyolite, chalcedonic rhyolite. breccia, tuff.
- ETvQ — **Paleogene volcanics of the Queen Charlotte Islands including the Ramsay Island volcanic sequence:** Intercalated mafic to felsic lava flows and pyroclastic rocks; epiclastic sandstone and conglomerate; thickly- stratified volcanic debris flows.
- P — **Point Grey Eruptives:** Basalt sills, dikes and flows, minor pyroclastics.
- ECr — **Carmine Mountain Volcanics:** Dacite and rhyolite flows, ash and lapilli tuff, andesite flows, lesser basalt flows.
- EEn — **Endako Group:** Andesite, basalt, minor dacite: flows, breccia and tuff, vesicular, amygdaloidal, locally hyaloclastic, minor picritic basalt and rhyolite; conglomerate, sandstone, shale, lignite.
- EOo — **Ootsa Lake Group (including Newman Formation) and unnamed equivalents:** Rhyolite, dacite, trachyte flows; related tuff and breccia; andesite and basalt; minor conglomerate, grit, greywacke and tuffaceous shale.
- ECa — **Carmanah Group:** Siltstone, shale, sandstone, pebble to boulder conglomerate; molluscan faunas common.
- EKm — **Kamloops Group:** Sandstone, conglomerate, shale, argillite, coal; basalt, andesite, dacite, trachyte, rhyolite, related tuffs and breccias.
- EPe — **Penticton Group and unnamed equivalents:** Trachyte, phonolite, trachyandesite, andesite, pyroxene andesite, tuff and breccia; volcanic sandstones and siltstones, shale and conglomerate.
- EPr — **Princeton Group:** Sandstone, conglomerate, argillite, coal; mafic to intermediate volcanics, minor black chert.
- ESo — **Sloko Group:** Basal conglomerate, coarse sandstone to siltstone, locally carbonaceous; andesite to rhyolite flows, pyroclastics and derived epiclastics, minor basalt.
- EHp — **Hart Peak Volcanics:** Rusty- weathering trachyte and rhyolite flows, pyroclastic flows, pyroclastic rocks, and related intrusions.
- PEAm — **Possible Amphitheater Group equivalents:** Heterolithic to monolithic conglomerate and breccia, carbonate conglomerate; shale, siltstone, sandstone, wacke, minor coal.
- PEFl — **Flores Volcanics:** Subaerial andesite to rhyolite welded tuff, ash- flow tuff, tuff breccia, dacite to rhyolite sills, minor basalt dikes.
- PEMe — **Metchosin Igneous Complex - Metchosin Formation:** Basaltic pillowed flows, hyaloclastite breccia, tuff, massive basalt, rare limestone; subaerial amygdaloidal basalt flows, minor breccia.

MESOZOIC

Cretaceous to Tertiary

- uKTS — **Sifton and Usilika Formations. Bowron River Coal Beds and Reynolds Creek Succession:** Pebble to boulder conglomerate, sandstone, siltstone, shale, minor coal.
- KSu — **Sustut Group and unnamed equivalents:** Sandstone, siltstone, mudstone, chert and quartz- pebble conglomerate, felsic ash- tuff, minor coal.
- KTSs — **Slollicum Schist:** Mainly greenschist- grade mafic to intermediate volcanics, phyllite, minor volcanic and carbonate- clast supported conglomerate.

Triassic to Cretaceous

- ŦKPa — **Pacific Rim Complex:** Mudstone- rich melange; pillow lava, tuff and chert; green, aphanitic volcanic breccia and massive flows, small diorite intrusions, grey limestone lenses.

Jurassic to Cretaceous

- JKCy — **Cayoosh Assemblage and Noel Mountain East Succession:** Volcaniclastic sandstone, siltstone, shale and argillite; lesser amounts of pebble to cobble conglomerate, limy sandstone, limestone, tuff, greenstone, quartzite and fragmental metavolcanic rocks; micaceous quartzite, biotite- hornblende schist, garnet and staurolite schist, phyllite.
- JKKF — **Kootenay Group and Fernie Formation:** Shale, sandstone; limestone, phosphatic and sideritic shales.
- JKLe — **Leech River Complex:** Slate, phyllite, quartz- biotite schist, quartz- feldspar- garnet- biotite schist, metagreywacke, meta- arkose; metabasalt, metarhyolite, chlorite schist, ribbon chert, cherty argillite.
- JKGv — **Gravina Assemblage:** Marine argillite and greywacke, and interbedded andesitic to basaltic volcanic and volcaniclastic rocks, metamorphosed to amphibolite grade.
- mJKBo — **Bowser Lake Group:** Heterolithic conglomerate, sandstone, siltstone, mudstone, shale, feldspathic wacke, minor coal; minor basalt and andesite flow, breccia and tuff, dacitic lava flows, lapilli tuff.
- JKKy — **Kyuquot Group:** Siltstone, shale, greywacke, calcareous grit and conglomerate.
- JKDz — **Dezadeash Group:** Argillite, greywacke, coarse lithic and feldspathic sandstone, conglomerate and minor tuffaceous layers; sparsely feldspar- phyric pillow basalt and foliated sills of gabbro and quartz diorite.
- uJKMn — **Minnes Group (includes some undifferentiated Bullhead Group):** Sandstone, quartzite, siltstone, shale, conglomerate, minor coal.
- uJKRe — **Relay Mountain Group, Thunder Lake Sequence and unnamed equivalents:** Shale, siltstone, phyllite, semischist, sandstone, calcareous, sandstone, arkose, coquina, conglomerate; minor andesitic breccia and tuff, tuffaceous sandstone and silty limestone.

Cretaceous

- KFs — **Fort St. John Group, may include some Smokey Group units:** Shale, sideritic shale, silty mudstone, siltstone, sandstone, concretionary shale; minor coal, conglomerate, glauconitic sandstone and siltstone.
- KJa — **Jackass Mountain Group; Fish Lake Creek Succession; and unnamed equivalents:** Sandstone, arkose, siltstone, argillite, black shale, pebble to boulder conglomerate; andesite and tuffaceous sandstone; minor rhyolite, tuff.
- KPs — **Pasayten Group:** Chert- grain sandstone, argillite, arkose, conglomerate; minor red beds and tuff.
- KQc — **Queen Charlotte Group (includes White Point Beds):** Sandstone; siltstone, mudstone and shale, locally with calcareous concretions, pebble sandstone and conglomerate, minor coal; feldspar- phyric andesite lava flows and pyroclastic rocks.
- KSq — **Silverquick Formation:** Pebble to cobble conglomerate containing clasts of chert, volcanic rock and sandstone; lesser amounts of sandstone, siltstone, shale, volcanic breccia and volcanic conglomerate.
- KTc — **Taylor Creek Group and unnamed equivalents:** Sandstone, chert- rich sandstone, siltstone and shale; polymict pebble conglomerate; calcareous sandstone and shale; intermediate to felsic volcanic flows, tuff and crystal tuffs; volcanic breccia and conglomerate.
- KVz — **Valdez Group and possible equivalents:** Deep marine argillite- greywacke flysch, minor massive and pillow basalt, breccia and tuff; contorted graphitic siltstone with intercalated intermediate ash, lapilli tuff and chert.
- uKv — **Unnamed Cretaceous volcanics:** Andesitic to dacitic breccias, tuffs and flows.

Upper Cretaceous

- uKAl — **Alberta Group:** Siltstone, sandstone.
- uKD — **Dunvegan Formation:** Massive conglomerate, fine to coarse- grained sandstone, carbonaceous shale.
- uKKs — **Kasalka Group unnamed equivalents:** Hornblende- feldspar porphyritic andesite to basalt flows and related pyroclastics, breccias and epiclastic beds, lesser dacite, rhyodacite, basaltic andesite, quartz porphyry; sandstone, conglomerate.
- uKNa — **Nanaimo Group:** Boulder, cobble and pebble conglomerate, coarse to fine sandstone, siltstone, shale, coal.
- uKPo — **Powell Creek Formation:** Andesitic volcanic breccia, lapilli tuff and ash tuff; mafic to intermediate volcanic flows; volcanic sandstone and conglomerate, siltstone and shale.
- uKSy — **Smokey Group and Kotaneelee Formation:** Sandstone, carbonaceous shale, calcareous shale, calcareous sandstone, minor conglomerate.
- uKWa — **Wapiti Formation:** Conglomerate, fine to coarse grained sandstone; carbonaceous shale and coal.

Lower Cretaceous

- KWt — **Windy Table Complex:** Andesite, basalt, flow- banded rhyolite, volcanic conglomerate.
- lKBu — **Bullhead Group:** Sandstone, conglomerate, shale, coal.
- lKGa — **Gambier Group; Monarch Volcanics, Ottarasko Formation; and equivalents including the Cerulean Lake Unit:** Conglomerate, sandstone, shale, argillite, minor limestone; basaltic andesite to rhyolite flows, crystal and lapilli tuff, tuffaceous sandstone, volcanic conglomerate and breccia; schist, graphitic schist.
- lKSb — **Spences Bridge Group and unnamed equivalents:** Andesite and dacite flows and breccias; minor basalt and rhyolite; chert and volcanic- clast conglomerates; sandstone, siltstone and mudstone.
- lKSk — **Skeena Group:** Feldspathic and volcanic sandstone, siltstone, shale, mudstone, chert- pebble conglomerate, minor coal; augite- plagioclase phyric alkaline basalt to basaltic andesite, plagioclase phyric andesite to dacite; aphyric basalt, green to maroon mafic lapilli tuff, volcanic breccia, rhyolite to dacite flows.
- lKTB — **Blairmore Group:** Sandstone, siltstone; tuffs.

Jurassic

- JHl — **Harrison Lake, Billhook Creek, Kent and Camp Cove Formations; equivalents in the southern Coast Complex including the Whistler Pendant:** Intermediate to mafic flows and pyroclastics, minor felsics; conglomerate, sandstone and argillite, minor carbonate.

Middle Jurassic

- mJMo — **Moresby Group:** Concretionary sandstone; siltstone; conglomerate; minor agglomerate; black shale.
- mJYk — **Yakoun Group:** Agglomerate; flow breccias; sandstone; conglomerate; minor shale.

Lower to Middle Jurassic

- lmJAh — **Ashcroft Formation and unnamed equivalents:** Argillite, siltstone, sandstone, conglomerate; minor limestone.
- lmJHz — **Hazelton Group; Griffith Creek and Hotnarko Volcanics:** Calcalkaline basalt to rhyolite pyroclastics and flows, derived volcaniclastic conglomerate, breccia, sandstone, siltstone, shale, minor limestone and marl.
- lmJLa — **Laberge Group:** Conglomerate, diamictite, wacke, argillite, shale, calcareous sandstone, chert- pebble conglomerate, minor limestone; andesitic breccia and tuff.
- lmJLd — **Ladner Group; Last Creek, Huckleberry Mountain and Spider Peak Formations; and unnamed equivalents:** Sandstone, arkose, siltstone, argillite, slate, conglomerate, andesitic flows, mafic and intermediate volcanic breccia, tuff, minor limestone.
- lmJMa — **Maude Group:** Shale; fine to medium grained sandstone; minor calcareous shale.
- lmJSp — **Spatsizi Group and Abou Formation:** Siliceous, well bedded, tuffaceous siltstone, siltstone, calcareous siltstone, tuff; calcareous to siliceous siltstone, limestone, concretionary shale.
- JBi — **Bowen Island Group:** Tuffaceous sandstone, tuffaceous siltstone, argillite, graphitic siltstone with minor interbedded carbonate, lapilli tuff, andesite flows and sills.

Lower Jurassic

- lJBn — **Bonanza Group:** Massive amygdaloidal and pillowed basalt to andesite flows, dacite to rhyolite massive or laminated lava, green and maroon tuff, feldspar crystal tuff, breccia; tuffaceous sandstone, argillite, pebble conglomerate and minor limestone and calcareous siltstone.
- lJCl — **Chuchi Lake Succession:** Pebbly grit, polymictic conglomerate containing abundant volcanic clasts, sandstone, siltstone, dark grey shale, lesser cherty dust tuff; maroon and green, porphyritic latite, trachyte and andesite, augite, olivine basalt flows and breccia, lapilli tuff.
- lJRs — **Rossland Group:** Mafic volcanics, argillite, siltstone.
- lJTd — **Toodoggone Volcanics:** Andesite, dacite, trachyandesite lava flows, tuffs, crystal tuffs, breccias and epiclastics; fine pyroxene- basalt flows and tuffs, cogenetic sills and dikes.
- lJTw — **Twin Creek Succession and equivalents:** Heterolithic lapilli tuff, plagioclase- augite and plagioclase, quartz porphyritic flows and agglomerate/tuff breccia; arkose, greywacke, sandstone, siltstone, minor conglomerate and coal.

Triassic to Jurassic

- ŦJYr — **Ymir Group:** Argillite, siltstone, limestone.
- uŦJCu — **Cultus Formation:** Argillite, sandstone, siltstone, minor carbonate.
- uŦJKn — **Kunga Group:** Shale; calcareous shale; massive limestone; fine grained sandstone; rare chert and local peperite.
- uŦJNc — **Nicola Group:** Undifferentiated mafic to felsic flows and volcaniclastic rocks, including augite- phyric flows, tuffs and breccias; feldspathic sandstone and siltstone, argillite, shale, polymict conglomerate; minor limestone and calcareous siltstone.
- ŦJTk — **Takla Group (may include deformed Asitka Group); Tezzaron Sequence; and unnamed equivalents:** Augite- phyric and aphyric basalt breccia, agglomerate, tuff, pillowed and massive flows; mafic to felsic tuff, ash tuff, lapilli tuff, breccia and conglomerate; tuffaceous argillite and siltite, greywacke, conglomerate, sandstone, siltstone and chert; phyllite, phyllitic schist; limestone, minor skarn.

Triassic

- ŦBk — **Brooklyn Formation:** Sharpstone conglomerate, limestone, argillite and minor volcanics.
- ŦJS — **Spray River Group; Halfway, Liard, Charlie Lake, Baldonnel, Pardonet, Ludington, Toad and Grayling Formations; unnamed equivalents:** Limestone, dolomite, carbonaceous- argillaceous limestone, calcareous and dolomitic siltstone, calcareous sandstone; shale, sandstone, orthoquartzite, minor gypsum.
- ŦSl — **Slocan Group:** Carbonate, argillite, slate, phyllite, minor volcanic breccia, tuff and conglomerate.

Upper Triassic

- uŦCd — **Cadwallader Group; Grouse Creek Siltstone and equivalents:** Sandstone, calcarenite, siltstone, shale, polymict conglomerate, pebbly mudstone, limestone- greenstone breccia, micritic limestone, coquina; pillowed to massive greenstone, mafic volcanic breccia, mafic tuff, minor rhyolite breccia and tuff.
- uŦS — **Stuhini Group; Mosley and Mount Moore Formations, and unnamed equivalents:** Mafic to intermediate lapilli tuff, ash, breccia and tuffite; massive, aphyric or plagioclase and augite- phyric flows and sills; felsic tuff ; tuffaceous siltstone, wacke, argillite, polymict conglomerate, limestone, shale; graphitic shale, rare black chert, ribbon chert.
- uŦTa — **Tats Group:** Black calcareous siltstone, argillaceous limestone, basaltic sills; massive and pillowed basalt flows and sills, basalt agglomerate, minor tuff and chert.
- uŦTy — **Tyaughton Group:** Conglomerate, conglomeratic sandstone and sandstone; limestone and limestone conglomerate; siltstone, calcareous sandstone and coquina.
- uŦVe — **Nikolai Greenstone, Chitistone and McCarthy Formations:** Aphyric pillow basalts, interpillow micrite; shallow intra- supratidal platform and sabkha facies limestones and evaporites; impure cherty and shaley limestone, chert spiculite.

Middle to Upper Triassic

- muŦVa — **Vancouver Group and equivalents:** Basalt pillowed flows, pillow breccia, hyaloclastite tuff and breccia, massive amygdaloidal flows, minor tuffs, interflow sediment and limestone lenses; grey to black, micritic and stylolitic limestone, calcareous siltstone, minor oolitic and bioclastic limestone, garnet- epidote- diopside skarn; thinly bedded black argillite, siltstone and shale, calcareous argillite, grey and black limestone, shaly limestone, coralline limestone, minor tuffaceous sandstone, grit and breccia.

PALEOZOIC TO MESOZOIC

- ᵽMCs — **Cogburn Schist:** Schist, meta- chert, pelite, amphibolite, marble, ultramafic rock.
- ᵽMGm — **Gamsby Complex:** Schistose and mylonitic felsic and mafic flows, tuff, volcanogenic sediments, amphibolite, leucogneiss, tonalitic to granodioritic orthogneiss, minor marble and skarn.

Permian to Jurassic

- PJHz — **Hozameen Complex:** Chert, pelite, mafic volcanics, minor limestone, gabbro and ultramafic rock.
- PJKu — **Kutcho Formation, Sitlika Assemblage and possible equivalents:** Basaltic to rhyolitic schist, greenstone, pillowed metabasalt, heterolithic breccia; slate, phyllite; banded siltstone, sandstone and conglomerate; minor limestone, marble, chert and green chloritic phyllite.

Mississippian to Jurassic

- CJBr — **Bridge River Complex:** Undivided ribbon chert, argillite, phyllite, quartz phyllite and pillowed to massive greenstone, with lesser amounts of limestone, gabbro, diabase, serpentinite, sandstone and pebble; conglomerate metamorphic equivalents; variably deformed granodiorite and orthogneiss; blueschist; locally includes minor amounts of Cayoosh Assemblage and Taylor Creek Group rocks.
- CŦKl — **Klinkit Group:** Quartz- rich clastics and argillite; commonly phyllitic or hornfelsed, conglomerate; limestone, cherty carbonate, calcsilicate, marble; green tuff, lapilli tuff and lesser flows.
- MJCc — **Cache Creek Complex and equivalents:** Greenstone, amphibolite, mafic pillow lavas, volcanic breccia, agglomerate, tuff, rare felsic flows and tuffs; phyllite, siliceous phyllite, metachert, ribbon chert, chlorite schist, sandstone; micritic to clastic limestone, argillite, marble, dolomite; minor serpentinite and mafic intrusions.

Ordovician to Triassic

- DŦW — **Unnamed units, possibly of Wrangellian affinity:** Argillite, calcareous argillite, cherty argillite, chert; intermediate epiclastic and/or lapilli to ash tuff and tuffite.
- OŦA — **Unnamed Ordovician to Triassic volcanic and sedimentary rocks (Alexander terrane) within the Coast Complex:** Siltstone, mudstone, shale, limestone, marble, mafic and felsic volcanics, quartzite and conglomerate; often metamorphosed to slate, phyllite, schist, marble, gneiss, amphibolite and greenstone.
- OŦAp — **Apex Mountain Complex; Shoemaker and Independence Formations:** Argillite, chert, greenstone, breccia, mafic intrusions, limestone and ultramafic rocks.

PALEOZOIC

- ᵽBl — **Black Stuart Group:** Chert, limestone, dolostone and derived conglomerate and breccia; black shale, argillite, cherty argillite, quartzite, siltite and slate; some pillow basalt, schistose calcareous basaltic tuff and volcaniclstics.
- ᵽBs — **Big Salmon Complex, including the Teslin Tectonic Zone:** Quartzite, phyllite, biotite- muscovite schist, marble, limestone, dolomite; chert; greenstone, andesite and basalt tuffite, tuff , wacke, rhyolite; quartz- albite- mica gneiss, albite- actinolite schist, quartz- chlorite- epidote- albite gneiss, meta- chert, calc- silicate schist, hornfels.
- ᵽDe — **Unnamed volcanics and sediments (Descon tectonic assemblage):** Brown to white- weathering marble, calcareous metawacke and argillite, minor conglomerate and chert; metabasalt, minor tuff breccia.
- ᵽDr — **Dorsey Complex (includes Rapid River Tectonite):** Green magnetite- phyllite, chlorite schist, mafic schist, quartz- sericite schist, metachert, quartzite, limestone, quartz- plagioclase grit, quartz- feldspar schist, phyllite, pelitic schist, amphibolite, siliceous and gneissic tectonite.
- lᵽId — **Mount Ida Assemblage:** Calcareous black phyllite, graphitic phyllite, dark grey limestone, argillaceous and phyllitic limestone; greenstone, chlorite phyllite; schistose epidote- actinolite- quartz and garnet- epidote skarn, quartzite, micaceous quartzite and calcareous quartzite, lesser amounts of chloritic schist and sericite- quarz shist; minor amphibolite, marble, conglomerate and serpentinite.

Silurian to Permian

- SPs — **Unnamed Silurian to Permian sedimentary and minor volcanic rocks of Alexander terrane.:** Limestone, crinoidal limestone, interbedded limestone and argillite; argillite, chert and siliceous argillite, quartzite; metagreywacke; basalt flows, mafic to intermediate lapilli tuff and agglomerate.

Devonian to Permian

- DPHa — **Harper Ranch Group, Barslow Assemblage and Chapperon Group (may include some Nicola Group strata):** Argillite, cherty argillite, slate, phyllite, siltstone, volcanic and chert- grain sandstone; chert- pebble conglomerate; volcaniclastic rocks of mafic to felsic composition; minor carbonate.
- DPHq — **Nizi Formation and unnamed equivalents:** Limestone, cherty limestone, greywacke, minor conglomerate, maroon shale, siltstone; mafic to felsic volcanics, pillow basalt; black and green chert, argillite, schist, quartzite metaconglomerate.
- DPAs — **Asitka Group:** Massive, grey, bioclastic limestone; argillaceous, thin bedded, recrystallized limestone with chert nodules; slate, slaty siltstone and chert: sericite and chlorite phyllite and schist; metagabbro, basalt, rhyolite, tuff; minor serpentinite and listwanite.
- DPBc — **Big Creek Group:** Basalt breccia, tuff and pillows; dacitic and rhyolite tuff; shale, argillite, slate, calcareous argillite, limestone, tuffaceous argillite, sandstone, wacke.
- DPCw — **Chilliwack Group:** Undifferentiated pelite, sandstone, minor conglomerate, mafic and felsic volcanics; Permian and Pennsylvanian carbonate.
- DPFe — **Fennell Assemblage:** Bedded chert, cherty argillite, diabase, gabbro, diorite and pillowed to massive metabasalt; lesser amounts of sandstone, siltstone, slate, phyllite, conglomerate and quartz- feldspar porphyry rhyolite; minor amounts of limestone.
- DPSt — **Stikine Assemblage:** Maroon and green tuff, lapilli tuff, volcanic conglomerate, wacke; pyroxene- phyric agglomerate, breccia, pillowed and massive basalt flows, andesite, minor rhyolite and gabbro; siltstone, sandstone and lesser chert; limestone, bioclastic limestone, calcarenite; foliated metamorphosed equivalents.
- DPSm — **Slide Mountain Complex and Antler Formation:** Massive and pillowed basalt, breccia, tuff, diabase, minor diorite, gabbro and serpentinite; chert, argillite, lithic sandstone, limestone, dacitic tuff and agglomerate, black argillite, quartz- chert sandstone, varicoloured chert, rhodonite, calcarenite, phyllite, chlorite schist.

Carboniferous to Permian

- CPAn — **Knob Hill Group:** Ribbon chert, argillite and thin limestone bands.
- CPAa — **Anarchist Schist:** Chlorite schist, greenstone, chert; minor ultramafic rock.
- CPAc — **Chapperon Group:** Metamorphosed siliceous and calcareous argillites; greenschists of volcanic and sedimentary origin; minor serpentinized ultramafic rocks.
- CPKa — **Kaslo Group:** Mafic volcanics
- CPNi — **Nina Creek Group:** Cherty argillite, chert, argillite, massive and pillowed basalt, volcanic breccia, gabbro, siltstone, wacke, dacite.
- CPRk — **Rocky Mountain Group:** Dolomitic siltstone; sandy dolomite; orthoquartzite and limestone.
- CPSd — **Stoddart Group, Fantasque and Kindle Formations:** Limestone, dolomite, conglomerate, bedded chert, quartz sandstone, calcareous sandstone, siltstone, shale, locally phosphatic; dark grey chert.
- CPLy — **Lay Range Assemblage, Evans Creek Limestone:** Massive and pillowed basalt, chert, fine to medium- grained gabbro and rare serpentinite; crystal and lapilli tuff, siliceous tuff, volcanic sandstone, minor agglomerate, siltstone, siliceous argillite, limestone, quartz sandstone, minor conglomerate.
- CPBt — **Buttle Lake Group:** Ribbon chert, cherty tuff, graphitic argillite, thinly bedded intercalated sandstone- siltstone- argillite, volcanic sandstone and conglomerate, massive crinoidal limestone, interbedded argillite and crinoidal limestone, pillowed basalt flows, olistostromal melange. May include significant volumes of Mount Hall Gabbro sills.
- CMK — **Attwood Group, Milford and Mount Roberts Formations:** Argillite, sandstone, limestone, quartzite; minor sharpstone conglomerate, greenstone.
- ᵽPSc — **Station Creek Formation:** Oceanic arc volcanics and sediments dominated by tuff, breccia and siliceous argillite with sparse andesitic flows.

Devonian to Mississippian

- DMEa — **Earn Group:** Argillite, slate, shale, locally carbonaceous and pyritic; chert, cherty mudstone; chert arenite and pebble conglomerate, polymicitic conglomerate; limestone; nodular and bedded barite +/- sulphides.
- DMB — **Besa River Formation:** Black, siliceous shale, calcareous siltstone, minor dolomite, limestone, sandstone and pebble conglomerate, barite.
- DMBe — **Banff and Exshaw Formations:** Carbonate, black shale, brown calcareous shale.

Mississippian

- MRu — **Rundle Group; Prophet and Flett Formations; unnamed equivalents:** Dolomite, limestone, crinoidal and skeletal limestone, cherty limestone, calcareous mudstone, spiculite, chert, argillite, siltstone, rare amygdaloidal basalt.
- MMt — **Mattson Formation:** Fine, and medium grained quartzose sandstone, sandy shale.
- MRc — **Ram Creek Group:** Greenstone, chlorite- actinolite phyllite, quartz- sericite schist, marble, ribbon chert, tonalite, diorite, gabbro.
- MSw — **Swift River Group and possible equivalents:** Chert, argillite, phyllite, greywacke, quartz- plagioclase grit, meta- tuff, limestone, quartzite; minor conglomerate, volcanics and diorite.

Cambrian to Devonian

- ꞒDER — **Razorback and Echo Lake Groups:** Thinly layered and interbedded argillaceous limestone and dolomite, shale and slate; dolomite, sandy dolomite, sandstone to quartzite, massive to poorly bedded limestone and dolomite; equivalent to the Kechika and Road River Groups and the Tapioca Sandstone of the Sandpile Group.
- ꞒDLr — **Lardeau Group:** Limestone, marble, phyllite, micaceous schist, grit, quartzite, greenstone.

Ordovician to Devonian

- ODRo — **Road River Group (may include some undifferentiated Earn Group):** Shale, slate, siltstone, chert, minor coarse clastics, limestone, dolomite, rare tuffs.
- ODSMR — **Sandpile, McDame, Ramhorn and Otter Lakes Groups:** Dolostone, dolomitic sandstone, limestone, shaly dolostone, carbonate breccia, minor calcareous siltstone, shale, quartzite, alkaline volcanics.

Silurian to Devonian

- SDs — **Silurian to Devonian strata of the Rockies including Cedared, Burnais, Harrogate, Mount Forster, Muncho- McConnell, Wokkpash, Stone, Dunedin, Nonda, Pine Point Formations and Tapioca Sandstone:** Dolomite, limestone, silty limestone and dolostone, sandstone, quartzite, argillite, shale, siltstone, chert, greenstone, minor gypsum.

Devonian

- DFa — **Fairholme Group, Flume, Mount Hawk, Palliser, Pendrix Formations and unnamed equivalents:** Argillaceous limestone, nodular limestone, calcareous shale, dolomite; shale, siltstone, orthoquartzite.
- DSi — **Sicker Group:** Pillowed and massive basalt flows, monolithic basalt breccia and pillow breccia; pyroxene- feldspar phyric agglomerate, breccia, lapilli tuff, massive and pillowed flows, felsic tuffs and crystal tuffs, dacite, rhyolite; massive tuffite, laminated tuff, polymictic breccia; chert, jasper and magnetite- hematite- chert iron formation.
- DEc — **Unnamed sediments and volcanics of the Ecstall Belt:** Quartzite, with lesser biotite hornblende gneiss, mica schist, black phyllite to meta- argillite, semi- pelitic to pelitic schist, well foliated: mafic and intermediate metavolcanics, locally pyritic, strongly foliated, fine grained amphibolite +/- chlorite schist.

Ordovician to Silurian

- OSs — **Unnamed Ordovician to Silurian sedimentary and minor volcanic rocks of Alexander terrane:** Siltstone, mudstone, slate, phyllite, chert, massive and well- bedded limestone, minor conglomerate; pillow basalt, tuffs, diabase sills.

Cambrian to Ordovician

- ꞒOKe — **Kechika Group; may include some undifferentiated Road River Group, Skoki Formation or Gog Group:** Limestone, argillaceous limestone, pale calcareous slate, phyllitic limestone, calcareous phyllite, pyritic and carbonaceous slate and shale; minor conglomerate, sandstone, greenstone and green tuff.
- ꞒOs — **Cambrian to Ordovician strata of the Rockies: includes McKay Group, Monkman Quartzite, Active, Chushina, Mount Wilson, Skoki, Tipperary, Glenogle, Survey Peak, Beaverfoot, Arctomys, Waterfowl, Cathedral, Tanglefoot, Elko, Gordon, Chancellor, Eldon, Flathead, Gull Lake, Jubilee, Lyell, Sullivan, Lynx, Mistaya, Bison Creek, Nelway, Ottertail, Pika, Snake, Indian, Stephen, Mount White and Tsar Creek Formations, Kinbasket unit and several unnamed units.:** Limestone, dolomite, shale, calacareous shale, slate, sandstone, red beds, quartzite, minor conglomerate and chert.
- uꞒOvb — **Unnamed Cambrian to Ordovician volcanics of Alexander terrane:** Pillow basalt, greenstone.

Cambrian

- ꞒAt — **Atan Group:** Orthoquartzite, siltstone, shale, sandstone; limestone; minor dolostone, phyllite and conglomerate.
- mꞒr — **Unnamed Cambrian coarse clastics:** Diamictites, conglomerate, dolomite olistrostrome (glacio- marine), sandstone, minor limestone.

PROTEROZOIC TO PALEOZOIC

- PᵽEg — **Eagle Bay Assemblage:** Quartzite, micaceous quartzite, siliceous phyllite, garnet- mica- quartz schist, greenstone, metavolcanic breccia and tuff, chloritic phyllite, chlorite schist; limestone, marble, calcsilicate gneiss; argillite, slate and conglomerate; paragneiss and orthogneiss.
- PᵽSh — **Shuswap Assemblage:** Marble, diopsidic marble, calcsilicate gneiss, amphibolite, quartzite.
- uPᵽSn — **Snowshoe Group:** Micaceous quartzite, quartzite, phyllite, slate and schist; lesser siltite, limestone and limestone or quartzite- clast conglomerate; minor amphibolite, metatuff, marble and diabase.

Upper Proterozoic to Cambrian

- uPꞒMs — **Misinchinka Group (may include some undifferentiated Miette Group):** Phyllite, siltite, slate, diamictite, quartzite, feldspathic quartzite, minor iron formation; limestone, dolomite, sandy limestone and dolomite, minor argillite; quartz chlorite schist, chloritic phyllite, garnet- mica schist, calcereous sericite schist, amphibolite.
- uPꞒC — **Cariboo Group:** Shale, siltstone, limestone, argillite, phyllite, schist, quartzite; minor feldspathic sandstone and conglomerate.
- uPꞒEC — **Eager and Cranbrook Formations:** Shale, limestone, quartzite, argillite and magnesite.
- uPꞒGo — **Gog and Boulder Creek Groups; Badshot (may include some undifferentiated Index Formation), Hota, Mohican, Marsh Adams and Mount Ganier Formations, and unnamed equivalents:** Limestone, siltstone, dolomite; quartzite, pebble conglomerate; alkalic to calc- alkalic basalt, andesite and dacite; mica schist, marble, amphibolite.
- uPꞒHm — **Hamill Group, Donald and Laib Formations:** Marble, dolomite, limestone; phyllite, argillite, schist, quartzite.

PROTEROZOIC

Upper Proterozoic

- uPHo — **Horsethief Creek Group:** Pelitic schist, phyllite, quartzite, quartzofeldspathic psammite, grit, conglomerate and amphibolite; marble and sandy marble.
- uPHy — **Hyland Group (may include younger clastics):** Slates, phyllites, brown sandstone, siltstone, shale, quartz pebble grits, conglomerate, minor limestone.
- uPIg — **Ingenika Group:** Quartzite, micaceous quartzite, pebble conglomerate, limestone, dolomite, oolitic and pisolitic limestone, shale, sandstone, wacke, sandy limestone, phyllite, schist, gneiss, chlorite- muscovite schist, slate, argillite, micaceous crystalline limestone, marble, calcsilicate rock, amphibolite.
- uPKz — **Kaza Group:** Phyllite, greywacke, grit, argillite, schist and micaceous feldspathic quartzite; minor pebble conglomerate, amphibolite, limestone and marble.
- uPMc — **Mica Creek Succession:** Pelitic schist, phyllite, quartzite, quartzofeldspathic psammite, grit, conglomerate and amphibolite.
- uPMi — **Miette Group:** Grit, conglomerate, quartzite; phyllite, argillite, slate, pelitic schist, metasandstone; dolomite, marble and minor calcsilicate rock.
- uPWd — **Windermere Supergroup:** Phyllite, quartzite, grit, conglomerate; greenstone.

Middle Proterozoic

- mPMu — **Aida, Chischa, Gataga, George, Henry Creek, Tetsa, Tuchodi and Narchilla Formations:** Dolomitic mudstone, siltstone, sandstone, dolostone, limestone, quartzite, feldspathic quartzite, minor greenstone, conglomerate.
- mPPu — **Purcell Supergroup:** Siltstone, wacke, argillite, quartzite, dolomite, basalt to andesite flows.

Intrusive Rocks

CENOZOIC

- LT — **Late Tertiary:** diorite (dr), granodiorite (gd), granite (gr), quartz diorite (qd), quartz monzonite (qm).
- ET — **Early Tertiary:** diorite (dr), monzodiorite (dg), gabbro (gb), granodiorite (gd), granite (gr), quartz diorite (qd), quartz monzonite (qm), syenite (sy), tonalite (to), diabase (db), quartz porphyry (qp), feldspar porphyry (fp), orthogneiss (og), migmatite (mi) and undifferentiated intrusive rocks (g).
- T — **Tertiary:** granite (gr) and feldspar porphyry (fp).

MESOZOIC

- KT — **Cretaceous to Tertiary:** diorite (dr), gabbro (gb), granodiorite (gd), granite (gr), quartz diorite (qd), quartz monzonite (qm), syenite (sy), tonalite (to), quartz porphyry (qp), feldspar porphyry (fp), pegmatite (pe), orthogneiss (og), and undifferentiated intrusive rocks (g).
- LK — **Late Cretaceous:** diorite (dr), gabbro (gb), granodiorite (gd), granite (gr), quartz diorite (qd), quartz monzonite (qm), syenite (sy), tonalite (to), quartz porphyry (qp), feldspar porphyry (fp), orthogneiss (og), and undifferentiated intrusive rocks (g).
- mK — **Mid- Cretaceous:** diorite (dr), monzodiorite (dg), gabbro (gb), granodiorite (gd), granite (gr), quartz diorite (qd), quartz monzonite (qm), tonalite (to), quartz porphyry (qp) and orthogneiss (og).
- EK — **Early Cretaceous:** diorite (dr), monzodiorite (dg), gabbro (gb), granodiorite (gd), granite (gr), quartz diorite (qd), quartz monzonite (qm), tonalite (to), quartz porphyry (qp), feldspar porphyry (fp), orthogneiss (og) and undifferentiated intrusive rocks (g).
- K — **Cretaceous:** diorite (dr), granodiorite (gd), granite (gr), quartz diorite (qd), quartz monzonite (qm), syenite (sy), pegmatite (pe), orthogneiss (og), migmatite (mi) and undifferentiated intrusive rocks (g).
- JT — **Jurassic to Tertiary:** granite (gr), quartz diorite (qd), quartz monzonite (qm), quartz porphyry (qp) and feldspar porphyry (fp).
- JK — **Jurassic to Cretaceous:** diorite (dr), gabbro (gb), granodiorite (gd), granite (gr), quartz diorite (qd), quartz monzonite (qm), tonalite (to), quartz porphyry (qp), feldspar porphyry (fp), pegmatite (pe), orthogneiss (og), and undifferentiated intrusive rocks (g).
- J — **Jurassic:** diorite (dr), granodiorite (gd), quartz diorite (qd), quartz monzonite (qm), syenite (sy) and orthogneiss (og).
- LJ — **Late Jurassic:** diorite (dr), granodiorite (gd), granite (gr), quartz diorite (qd), quartz monzonite (qm) and tonalite (to).
- MJ — **Middle Jurassic:** diorite (dr), monzodiorite (dg), gabbro (gb), granodiorite (gd), granite (gr), quartz diorite (qd), quartz monzonite (qm), syenite (sy), tonalite (to), quartz porphyry (qp), feldspar porphyry (fp), orthogneiss (og) and undifferentiated intrusive rocks (g).
- MLJ — **Middle to Late Jurassic:** diorite (dr), gabbro (gb), granodiorite (gd), granite (gr), quartz diorite (qd), quartz monzonite (qm) and orthogneiss (og).
- EMJ — **Early to Middle Jurassic:** diorite (dr), granodiorite (gd), diabase (db) and feldspar porphyry (fp).
- EJ — **Early Jurassic:** diorite (dr), monzodiorite (dg), gabbro (gb), granodiorite (gd), granite (gr), quartz diorite (qd), quartz monzonite (qm), syenite (sy), feldspar porphyry (fp), orthogneiss (og) and undifferentiated intrusive rocks (g).
- ŦTdr — **Triassic to Tertiary:** diorite (dr), granodiorite (gd), quartz diorite (qd) and undifferentiated intrusive rocks (g).
- ŦK — **Triassic to Cretaceous:** gabbro (gb) and granite (gr).
- ŦJdg — **Triassic to Jurassic:** diorite (dr), monzodiorite (dg), gabbro (gb), granodiorite (gd), quartz diorite (qd), quartz monzonite (qm), syenite (sy), tonalite (to), quartz porphyry (qp), feldspar porphyry (fp) and undifferentiated intrusive rocks (g).
- Ŧ — **Triassic:** diorite (dr), monzodiorite (dg), gabbro (gb), granodiorite (gd), quartz diorite (qd), quartz monzonite (qm) and orthogneiss (og).
- **Mesozoic:** ultramafites (um) and serpentinites (us).

PALEOZOIC

- PJ — **Permian to Jurassic:** diorite (dr), tonalite (to) and orthogneiss (og).
- PŦ — **Permian to Triassic:** diorite (dr), gabbro (gb), granodiorite (gd), tonalite (to) and diabase (db).
- P — **Permian:** diorite (dr), gabbro (gb), granodiorite (gd), granite (gr), quartz monzonite (qm), tonalite (to), diabase (db) and orthogneiss (og).
- CŦ — **Carboniferous to Triassic:** diorite (dr) and gabbro (gb).
- CP — **Carboniferous to Permian:** diorite (dr), gabbro (gb) and orthogneiss (og).
- P — **Pennsylvanian:** quartz diorite (qd).
- C — **Carboniferous:** diorite (dr).
- M — **Mississippian:** diorite (dr), granite (gr), syenite (sy), tonalite (to) and undifferentiated intrusive rocks (g).
- DP — **Devonian to Permian:** diorite (dr), gabbro (gb) and granodiorite (gd).
- DC — **Devonian to Carboniferous:** granodiorite (gd), quartz diorite (qd), quartz monzonite (qm) and orthogneiss (og).
- D — **Devonian:** diorite (dr), gabbro (gb), granodiorite (gd), quartz diorite (qd), quartz monzonite (qm), syenite (sy), orthogneiss (og) and undifferentiated intrusive rocks (g).
- ᵽ — **Paleozoic:** gabbro (gb, OTrgb), granodiorite (gd), granite (gr), quartz dionite (qd), syenite (Ssy) and orthogneiss (og, Oog).
- **Paleozoic:** ultramafites (um) and serpentinites (us).

PROTEROZOIC

- P — **Proterozoic:** diorite (dr), granodiorite (gd), and orthogneiss (og).

AGE UNKNOWN

- ? — **Age unknown or poorly constrained:** diorite (dr), gabbro (gb), granite (gr), quartz diorite (qd), quartz monzonite (qm), tonalite (to), orthogneiss (og) and undifferentiated intrusive rocks (g).

Metamorphic Rocks

MESOZOIC

- **Mesozoic (includes KT):** greenschist to mid- amphibolite facies rocks (gs, ml, mm), calcsilicates (mc), paragneiss (pg), mylonite (my) and undifferentiated metamorphic rocks (m).

PALEOZOIC

- **Paleozoic (includes PJ):** greenschist to lower- amphibolite facies rocks (gs, ml), paragneiss (pg) and undifferentiated metamorphic rocks (m).

PROTEROZOIC

- **Proterozoic:** lower amphibolite facies rocks (ml), paragneiss (pg), mylonite (my) and undifferentiated metamorphic rocks (m).

AGE UNKNOWN

- **Age unknown or poorly constrained:** greenschist to mid- amphibolite facies rocks (gs, ml, mm), calcsilicates (mc), paragneiss (pg) and undifferentiated metamorphic rocks (m).

Blue Gold Mining Inc.
Figure 4
Titan Property Geology
Projection - NAD 83 UTM Zone 08N
Scale - 1:15 000
28/12/2011
White Moose Showing
Buchans Creek Showing
Fee Glacier
Titan
Buchan Creek
Rupert-North
Rupert
Rupert-L
White Moose-North
White Moose-Shaft
White Moose-B
White Moose-South
EJgd
ETgr
PPMW
PPMBa
PPMBb
PPMF
Qal
Legend
Structure
dyke
foliation (dominant)
foliation (early)
foliation (late)
vein
2011 Rock Samples
Geo Station
Historic Drill Collars
Titan Tenure
Contour
Glacier
Geology
Qal - Quaternary Sediments
PPMBa Actinolite-chlorrite shcist and gneiss
PPMBb - Biotite-plagiocalse-quartz schist
PPMF - Semipelite-quartizte
PPMW - Wann River Gneiss
ETgr - Sloko-Hyder Putonic Suite Granite
EJgd - Aishihik Plutonic Suite Granodiorite
0
800
1,600
2,400
3,200
Meters
N
534000
536000
538000
540000
6598000
6596000
6594000
6592000
6590000
6588000
6586000

Mineralization

There are many mineral occurrences on the Titan property. Previously, Eagle Plains focused their 2003 – 2004 exploration programs on the molybdenum-rich Titan showing at the toe of a glacier on the west side of White Moose Mountain. Additional claims were staked at that time to cover precious and base metal showings on the north and east flank of White Moose Mountain. These showings were identified while researching the BC Minfile occurrences in the area; verifying the location and the grades of these showings was the focus of the 2006 field work.

Titan

The Titan showing occurs along the contact between the Wann River Gneiss and the Eocene Sloko-Hydor Plutonic suite (ETgr). The mineralization consists of massive, semi massive and disseminated molybdenite with associated chalcopyrite and pyrrhotite. It occurs as disseminations in the granite; in quartz veins in granite and metasedimentary rocks; and along the granite / metasedimentary contact. The Titan showing, discovered in 2002, is a 1m x 2m zone of 5% disseminated molybdenite with local high-grade zones of 20-30% molybdenite over 50 x 50 cm. The high-grade mineralization is associated with quartz flooding and vuggy quartz. Away from the high-grade core, coarse molybdenum disseminations decrease into low-grade molybdenite-chalcopyrite to barren pyrrhotite within about 1-1.5 meters.

Granodiorite boulders found down-slope from the Titan Showing show similar styles of mineralization. Field observations of the float boulders indicate that higher-grade molybdenite is found closer to the meta-sediment-intrusive contact, grading into lower grade chalcopyrite dominated porphyry style mineralization to the east.

Alteration includes argillic, sericitic and local strong epidotization, occurring up to 1 kilometre away from the contact zone. A well-developed pyrite halo is associated with parts of the metasedimentary contact. Copper skarn mineralization has also recently been noted 400 meters SE of the main showing in the metasedimentary country rock.

Mineralization and alteration on the Titan appears to be similar to that of the molybdenum showing located on the south-western end of Willison Bay. There, molybdenum mineralization is described as a Low F-type molybdenum porphyry system.

The other showings on the property occur in Florence Range meta-sediments and in Aishihik Suite granodiorite.

Buchan Creek

The Buchan Creek Showing (Minfile # 104M 035 – Rupert-G) was discovered in the early 1900s and consists of a 1.1 meters wide quartz vein in hornblende gneiss. The vein consists of quartz with massive galena, chalcopyrite and minor malachite and azurite. Two chip samples across the 1.1 meters vein in 1989 averaged 15.43 g/t gold, 244.8 g/t silver, 9.85% lead and 0.20% copper. A grab sample taken during Eagle Plains Resources Ltd. 2004 recce program returned > 1.0% Cu, > 100 g/T Ag and 21.8 g/T Au. The strike and dip of the veins varies from 125/80 southwest to 160/80 east.

The Rupert-North Showing (Minfile # 104M 036 – Rupert-H) consists of quartz veins in a 0.5 meters wide shear zone that is vuggy, rusty and malachite stained. A 0.5 metre chip sample across the shear zone by Placer Dome in 1990 returned 5.4 g/t gold and 30 g/t silver. A blast pit north of the shear exposed a weakly developed quartz stockwork with up to 2% pyrite in a rhyolite dyke.

<u>Silver King</u>

The Silver King Showing (Minfile # 104M 008 – Rupert-I) consists of narrow, discontinuous quartz veins in pelitic schists, gneisses and granodiorites. The veins are up to 1 m wide in shear zones and 3 meters wide in granodiorite and often pinch out into barren shear zones; several are en echelon. The veins consist of massive white, locally vuggy quartz with massive to disseminated galena, pyrite, sphalerite and minor arsenopyrite and chalcopyrite. Sulphide content is variable, but generally less than 1%. Intermediate to felsic dykes are spatially related to the mineralized quartz veins. The veins strike from 020 to 166 degrees and dip 50 to 80 degrees west.

<u>Rupert -L</u>

The Rupert-L Showing (Minfile # 104M 073) consists of a shear-hosted quartz vein that is 20 to 50 centimeters wide and has been traced on surface for 15 meters. The quartz vein contains disseminated sulphides (pyrite, galena, pyrrhotite, chalcopyrite and sphalerite) in a gangue of limonitic quartz and minor carbonate. Assay results on vein material ranged up to 0.22 g/t gold and 29 g/t silver.

<u>Fee Glacier</u>

The Fee Glacier Showing (Minfile # 104M 037 – Rupert-K) consists of quartz veins; quartz sweats and shear zones located on a nunatak in the Fee Glacier. The veins are up to 0.25 meters wide and contain highly oxidized pyrite, pyrrhotite and minor chalcopyrite and galena. Assays of 3 grab samples collected by Placer Dome in 1990 returned an average of 6.86 g/t silver and 0.02 % Cu.

<u>White Moose Showings</u>

The White Moose Showings are located along the west shore of the Taku Arm and are described as epigenetic, hydrothermal, polymetallic veins within the Boundary Range Metamorphic Suite. The White Moose South (Minfile # 104M 010) vein is 1.8 – 3 meters wide with disseminated galena and chalcopyrite. A small collapsed adit and dump occur at the showing location. Samples of vein material from the dump returned values of trace gold, 53.14 g/t silver, 0.13% lead and 0.01% copper (BCEMPR Assessment Report 8384).

<u>White Moose B</u>

The White Moose B Showing (Minfile # 104M 072) consists of a massive, vuggy, variably hematite stained quartz vein with galena and pyrite. Grab samples of vein material averaged trace gold, 71.6 g/t silver, 1.34% lead and 0.01% copper (BCEMPR Assessment Report 19827).

<u>White Moose C</u>

The White Moose-Shaft (C) Occurrence (Minfile # 104M 012) consists of two shafts, located 35 meters apart. A 40 centimeter wide quartz vein on the side of one of the shafts appears to follow a contact between rhyolite and schist. The quartz vein contains galena, pyrite, chalcopyrite and malachite. A 27 centimeter chip sample of vein material returned 2.06 g/t gold, 27.43 g/t silver, 2.45 % lead and 0.01% copper (BCEMPR Assessment Report 8384).

<u>White Moose A</u>

The White Moose North (A) Showing (Minfile # 104M 009) consists of an adit driven on a 0.45 – 1.2 meters wide quartz vein containing chalcopyrite, bornite, galena, sphalerite and malachite. A 17 centimeter wide vein south of the adit returned values of trace gold, 0.34 g/t silver, 0.13 % lead 0.09 % zinc and 0.09 % copper (BCEMPR Assessment Report 8384).

EXPLORATION

2011 Exploration Program

A three-man field crew assembled in Atlin BC on September 14, 2011. Work on the property through to September 22nd included geological mapping, prospecting, soil and stream-silt geochemical sampling. The TerraLogic field crew, which consisted of one senior project geologist (Jarrod Brown, P.Geo.) and two experienced field/database geotechnicians (Brad Robison, and Nathan Taylor), was lodged in Atlin and traveled daily to the property via Discovery Helicopters using a Jet Ranger 206B aircraft. The 2011 field program included 23 field man-days, collection of 38 rock samples for assay, 22 rocks for petrophysical analysis, 4 stream-silt samples and 366 soil samples.

Prior to the field program, an airborne electromagnetic (EM) & magnetic geophysical survey was completed by SkyTEM Airborne Surveys, between August 9th and August 13th, 2011. The 424.9 line-kilometer survey was completed along idealized 100 m spaced flight-lines, at a nominal terrain clearance of 30-40 m (Figure 8). The SkyTEM survey report and accompanying TEM, magnetic and inverted resistivity maps are included in Appendix VII. Preliminary airborne EM and magnetic datasets were available prior to the 2011 ground program, and partially directed subsequent 2011 field traverses.

Overall project supervision was the responsibility of Jarrod Brown, P.Geo., Chief Geologist. All work was carried out in accordance to Ministry of Environment, Ministry of Mines and WCB regulations. Rock, silt, and soil analyses were completed by Acme Laboratories in Vancouver, BC. Analytical procedures are included (Appendix III), with sample locations/descriptions (Appendix IV), and analytical certificates (Appendix V). Petrophysical samples were sent to Ben Kary at the University of British Columbia for physical analysis (density, electrical, electromagnetic, and magnetic), as part of his B.Sc. thesis pertaining to forward modeling of DC resistivity and IP response of Titan property area rocks (Appendix VIII).

Total expenditures on the Titan property from the 2011 exploration program were $205,402.27.

2011 Exploration Program Results

<u>Buchans Showing Area</u>

The Buchans showing was visited by TerraLogic geologist, Jarrod Brown and visiting independent geologist Carl Schultz, P.Geo (Figure 4 inset). The purpose of the 2011 visit was to verify/assess the style and tenor of mineralization, gather additional structural information, and representative petrophysical samples. Based on historical gold assays, the showing is of particular interest as a near future drill target.

The showing comprises a 15 m long dump of mineralized quartz vein material and variably altered host gneiss and diorite. A 6x2 m exposed outcrop area at the head of the dump is one of the few rare outcrop exposures in an area dominated by coarse cobble till. There is good insitu mineralization (galena, sphalerite, chalcopyrite, malachite/azurite) in quartz veins, with a silicified and iron-stained alteration halo, controlled within a structure that is also containing limonite-epidote altered feldspar porphyry grandodiorite to diorite with associated aplite. At the showing, mineralization and alteration is about 2 to 5 meters wide. All is hosted in metasedimentary gneiss that is also variably altered (silica, epidote, Fe-staining).

Visible in the recent airborne geophysical results, there are distinct magnetic troughs that cross through the showing in at least two orientations: N-S and NW. Magnetic lineaments and mid-range airborne conductivity anomalies (e.g. LM-Z gate 05+11, and HM-Z gate 16+11), are spatially coincident with the showing and on-strike projections of the vein system. The association is further strengthened by 2-station-wide Pb-, Au-, Ag-, Sb-in-soil geochemical anomalies, discernible for approximately 900 m along the strike projection of the mineralized structure. The above mentioned string of airborne magnetic and EM geophysical anomalies can tentatively be traced along strike, as far as 2 kilometers to the SSE, where the geophysical anomaly lineament also overlaps with the historical Rupert-I showing (Min File 104M 008).

Carl Schulze P.Geo., compiled the following notes based on his site visit on September 22nd, 2011:

> The Buchan Showing consists of a northwest-trending quartz vein, centered on a sheared portion of the vein oriented at 135° – 80°. The vein is hosted by amphibolite gneiss, likely part of the Wann River assemblage, near the contact with metagranodiorite, likely belonging to the Aishihik Suite. The vein is exposed in bedrock at one location only; here it is roughly 0.9 metres wide, centered on a 30-cm strongly sheared and brecciated section with roughly 15% infilling of light blue "steel" galena. The non-sheared quartz is also moderately fractured. The north-eastern margin of the vein lies in contact with fractured, limonitic and silicified aplite, with minor fracture controlled pyrite. Past sampling by Eagle Plains Resources in 2007, across the vein returned gold values to 8.0 g/t; values to 0.5 g/t were returned from the aplite (Brown, pers comm). Two chip samples taken in 1989 from a 1.1-metre wide section of the vein returned an average value of 15.43 g/t gold (Au), 244.8 g/t silver (Ag), 9.85% lead (Pb) and 0.20% copper (Cu) (Kenwood, 2010).
>
> Vein rubblecrop extends a further 15 – 20 metres to the northwest. Soil sampling returned anomalous values up to 200 metres along strike to the northwest, although these are likely to have been disrupted somewhat due to dispersion along the moderately steep talus/ rubblecrop slope.

Three samples collected by Carl from the Buchans showing in 2011, returned between 0.03 and 8.41 g/t Au, 2.3 g/t to over detection silver (>300 g/t Ag), 110 to 3000 ppm Cu, and 0.080 to 24.18% Pb.

> The Buchan Vein has some potential for economic viability, due to its high-grade gold content supported by high galena-hosted silver content. Lead may also be extractable due to the high concentrations present. The light blue colouration indicates this is "steel galena" which tends to have a high silver content. The high downslope gold-in-soil values along strike suggest the vein may have a minimum strike length of 200 metres, although the expected dispersion along the rubblecrop slope may mask true source locations. However, this vein provides a viable target for follow-up exploration.
>
> The Buchan Vein may belong to the same suite of mineralized prospects as the past-producing Engineer and Ben-My-Chree mines. Research is recommended to determine if previous age dating has been done at the two small past producers, and is also recommended for the Buchan Showing. A second approach is to compare mineralogical characteristics of the showings, together with fluid inclusion studies, to determine if they belong to the same suite. A secondary benefit would be to determine if the Buchan Showing (and therefore the Engineer and Ben-My-Chree mines) is coeval with the Titan molybdenum showing; analysis at the latter could focus on

vein-style mineralization. This would determine whether the Titan property covers a single mineralized system or two separate systems.

Fee Showing Area

Areas to the south of the Fee Glacier were selected for further study (Figure 4,6) in 2011, due to geophysical anomalies apparent in the airborne magnetic and EM from the 2007 and 2011 datasets. Strong ovoid anomalies visible in lower EM channels (e.g. HM-Z gate 16+9), coincident with a well developed SSE-trending set of magnetic troughs that spatially overlap the Fee mineral showing (MF 104M 073), were the main rationale for the positioning of grid-scale -mapping (Figure 6a) and -soil geochemical (Figure 6b) surveys. Rock exposure at the north end of the grid provided a good cros-section of rock types that are prevalent throughout the property. Numerous petrophysical samples were collected from these various rock types, which will greatly assist the forward modeling geophysical study, currently underway at UBC by Ben Kary. The Fee Showing proper, north of the 2011 grid area, is a gossanous bluff in the center of the Fee glacier that appears to be largely controlled by the contact between the amphibole gneiss unit (PPMW) and the quartzofeldspathic unit (PPMF).

The grid-scale mapping (Figure 6a), does confirm the types and locations of rocks in the area:

PPMW: dark grey to salt-and-pepper amphibole gneiss intercallated with subordinate grey to buff grey calcareous amphibole gneiss and marble. Occasional, subordinate 1-5 m thick beds of quartzite are interrelated with the amphibole gneiss.

PPMF: light grey to tan coloured quartzofeldspathic gneiss with 0 to 10% biotite. Muscovite schist prevelent near the east contact, may be a contact metamorphic product related to intruded aplite/granite plug.

EJgd: Feldspar porphyritic granodiorite and quartz-eye rhyolite (aplite) dykes and sills are common in the area. High density of poorly exposed intrusions (JBTIG072 and 073), suggest a plug sized body 100-200 m in diameter exposed along the east contact between the PPMF and PPMW.

Structurally, the host gneiss lithologies dip shallowly to the ESE (22º-45º) with consistent NE-trending strike. The relatively shallow dips and consistent strikes result in a quasi layer-cake stratigraphy. Crosscutting, 0.5 to 2.0 m thick aplite dykes common in the area, dip moderately to steeply to the SW, with consistent NW- to NNW- trending strikes, which run somewhat parallel to the dominant NNW-trending lineaments apparent in the airborne magnetic and EM data.

Outcrop exposure in the central and eastern areas of the Fee soil grid (Figure 6), is very poor. The gentle to moderately sloping plateau region is dominated by angular till fragments in subordinate glacial rock powder silt. It is plausible that the latter fine sediment is responsible for the low channel EM conductor anomaly central to the grid, but mineralization potential cannot be ruled out due to lack of outcrop.

Eight rock samples were collected for assay from the 2011 Fee-Grid area (Figure 5: JBTIR056, 060, 062, 063, 065, 067, 068, 070), representing altered rocks of every rock type in the area. None of these 2011 rock samples returned anomalous base or precious metal values.

Strong, cohesive soil geochemical anomalies are elusive in the Fee grid (Figure 6b). Gold is not anomalous, but Pb, As, and Sb show similar N and NW trends across the grid, with converging anomalies at the northernmost line on station TIL009 01+50E. The NW trend is parallel to a distinct trough in the airborne magnetic data, the projection of which intersects the north-trending surface-trace PPMW/PPMF lithology contact in the vicinity of the FEE-showing.

The 2011 Fee grid area does not appear to have significant mineral potential within the confines of Figure 6b. However, the 2011 geological survey in this area was valuable in building a knowledge base of rock types and structure that can be related to the wealth of geophysical data on the property. Practically all of the rock types present on the property were available for petrophysical sampling, which are to be used to help constrain the mineral potential and extent of other showings on the property such as the poorly exposed Buchans Showing. The Buchans showing is similar to the Fee glacier area by having host gneissic rocks, which have been intruded and altered by N to NW trending granodiorite/diorite and aplite dykes, and subsequent mineralized quartz vein systems.

Hook prospect area

The Hook prospect area was discovered in 2008, as a narrow malachite-stained quartz vein, hosted in epidote-magnetite altered diorite. The 2008 quartz vein sample (JBTIR003) returned 6.2 g/t Au, and was the main motivator for the 2011 follow-up grid-scale mapping (Figure 7a) and soil geochemical (Figure 7b) surveys.

Mapping verified that the area is underlain predominantly by light greenish-grey variably altered granodiorite/diorite (unit EJgd). Panels of dark green amphibole gneiss and chloritic gneiss, were noted low in the valley, 250-400 m upstream of the confluence of Titan Creek with main W-E flowing Buchans creek along the northern margin of the tenure. Hornfelsed quartzofeldspathic gneiss (unit PPMF) with gabbro sills/dykes was encountered along the southeastern limit of the Hook Grid area, thus verifying the known EJgd/PPMF contact there (Figure 4). Alkali feldspar granite boulders (unit ETgr) were noted in boulder talus along the west limit of the Hook grid, but no insitu rock of this unit was encountered. A review of the 2011 airborne magnetic data in relation to the known property geology (Figure 4) indicates that the granodiorite (EJgd) has an overall lower magnetic response than the alkali granite (ETgr), a physical property that can be used to geophysically map the EJgd/ETgr contact with a reasonable degree of confidence.

Careful mapping was conducted along the WNW to ESE strike extension of the Au mineralized Hook Vein. In both directions, no outcrop was encountered for a minimum of 365 m. Good diorite outcrop was noted near the NW limit of the grid. A strong blocky sub-vertical fabric (jointing/cleavage) was consistently present along the same orientation as the hook vein (AZ 280-300/dip 75-90). Increased chlorite-epidote alteration and fracture fills were particularly notable in this area along the strike projection of the Hook Vein. Unfortunately, none of the 5 samples collected along the Hook Vein WNW strike extension returned significant precious or base metal values.

Footwall and hanging wall 1 m chip samples were collected from either side of the Hook Vein, which comprised host diorite with locally crackle breccia chlorite-epdidote-quartz-magnetite+-pyrrhotite fracture fill. One of the samples - footwall sample (JBTIR072) returned anomalous values of 267 ppb Au, and 157 ppm Cu.

Two additional samples from the southern limit of the grid returned anomalous values. A WNW trending quartz vein (JBTIR081) hosted in quartzofeldspathic gneiss, near the diorite contact, returned 523 ppb Au and 823 ppm Zn. The 50 cm thick rusty quartz vein with trace pyrrhotite, shares a brittle WNW structure with a 1 m wide gabbro dyke. At the SW limit of the Hook grid, grab sample

JBTIR086, from a 10 cm drusy quartz vein, with semimassive seams of pyrite hosted in epidote-chlorite altered diorite, returned 9.9 ppm Ag, 244 ppm Mo, 116 ppm Pb, and 255 ppm Zn.

A review of the 2011 soil geochemical data indicates a relatively flat response for most elements, with the exception of Au, and to a minor extent Cu and Mo. These 3 elements are weakly anomalous at, or within, 2 stations of the Hook Vein. However, soil stations along the projected strike of the Hook Vein (Az 300/120) do not return convincing soil geochemical anomalies. Three isolated greater than 99th-percentile (>34 ppb Au) soil samples at stations TIL027 00+25E, TIL024 01+50W, and TIL023 02+00W do require follow-up ground-truthing.

<u>White Moose Showings area</u>

The purpose of the one day visit to the White Moose showings area was to re-locate and re-sample the showings and to clarify the geological setting and style of mineralization. Three of the old workings were located and sampled; all three showings deviated by at least 100 m from the idealized minfile showing location. The 2011 traverse proceeded from south to north. Details by showing are described below with updated UTM coordinates (NAD 83):

The White Moose B showing (MF 104M 072): 540313E/ 6593166N; comprises a slope-parallel 30+ m long trench following a NE-striking mineralized quartz vein, ending in a sizable 20x10 m dump pile at the valley floor. The uphill (SW) limit of the trench exposes chlorite schist, intruded by a 1 m wide quartz-aplite sill (117/49; RH-rule), all of which have been cut by the sub-vertical, NE-striking, 30-60 cm mineralized quartz vein (042/87) – the main target of the historical trenching. A grab sample of the malachite-stained, galena and chalcopyrite bearing insitu quartz vein (JBTIR091) returned 34.7 ppm Ag, 7800 ppm Pb, 1320 ppm Cu, and 400 ppm Zn. Three additional mineralized samples were collected from the dump at the base of the trench (JBTIR088 to 090), each representing a distinct mineralization style/type. JBTIR088 comprised quartz vein material with coarse 5x10 cm massive sulphide clots (galena>sphalerite>chalcopyrite): this sample returned 15 ppm Ag, 15100 ppm Pb, 447 ppm Cu, and 8200 ppm Zn. JBTIR089 comprised quartz vein material with a 20+ cm seam of massive pyrite that returned 9.9 ppm Ag, 692 ppm Pb, 547 ppm Cu, and 1316 ppm Zn. JBTIR090 comprised mottled red-, black- and white- (cerussite/smithsonite), and lesser malachite – stained, ribbon textured quartz vein that returned 86 ppm Ag, 24800 ppm Pb, 9270 ppm Cu, and 16400 ppm Zn.

A second NE- to N-striking mineralized quartz vein system was located 50 m to the SE of the trenched showing. Here the crosscutting 20-60 cm malachite/azurite-stained quartz vein, with banded galena-chalcopyrite+pyrite, cuts blue-grey and light-grey banded meta-siltite. The near vertical vein also exploits the main schistose S1-S0 fabric (106/32). A series of chip samples across this fabric parallel to the vertical vein (BRTIR004 to 007) returned between 0.3 to 20 ppm Ag, 57 to 6900 ppm Pb, 186 to 2672 ppm Cu, and 278 to 8500 ppm Zn. In contrast to the trench samples, these chips have a consistent Zn:Pb ratio greater than 1.

The limited 2011 mapping program infers a NW-trending contact between chlorite schist to the west and blue-grey metasiltite to the east. In the area of the White Moose-B trench, this contact is not visible, but does project under the caved-in trench. Mineralization at White Moose-B is dominantly controlled by the N to NE-striking, subvertical quartz veins, which may also exploit, as quartz vein-sills, along the main shallow dipping regional schistose fabric (106/32). Additional mapping is required, but the proximity of the chlorite schist/meta-siltite contact may also influence the location and size of the best mineralization.

The White Moose shaft showing (MF 104M 012): 540272E/ 6593505N; located 350 m NNW of the White Moose-B showing, comprises two 3 m x 4 m shafts (now caved in pits) - spaced 42 m apart, along strike of the main NNW schistose foliation. Mineralized quartz vein material – insitu and from the shaft waste piles – have similar mineralization style and range of styles as material from the Moose B showing. A total of 2 grab samples (N-shaft: BRTIR008; and S-shaft: JBTIR093) were collected and returned the following values respectively: 19.7, 66 ppm Ag; 8000, 49200 ppm Pb; 2469, 63 ppm Cu; and 3400, 21300 ppm Zn).

Relative to the Moose-B trench area, the main difference is that the *Shaft* quartz vein is conformable within the foliation of the host chlorite schist. Visible in the southern shaft is a microgranite (or aplite) sill paralleling the main mineralized quartz vein, with very rusty and sericite altered chlorite schist host rock separating the two intruded units. East of the southern shaft, feldspar porphyry and meta-siltite outcrops are notable, both within 25 m of the shaft axis of mineralization.

The White Moose – North showing (MF 104M 009): 540316E/ 6594049N; The 2011 visit to the White Moose – North showing only included a quick helicopter assisted grab sampling of the dump that intersects the lake shore. Sample JBTIR094 comprised quartz vein material from the dump, with small massive sulphide lenses (chalcopyrite>galena) that returned 14 ppm Ag, 900 ppm Pb, 4989 ppm Cu, 1300 ppm Zn.

Reconnaissance mapping (i.e. 1 traverse line between the *shaft* and *north* showings) encountered significant feldspar porphyry outcrop, indicative of significant igneous activity as a potential heat source for mineralization and/or a contributing factor to structural preparation.

<u>White Moose area conclusions</u>

Mineralization at the White Moose showings (B, Shaft, North) occurs in crosscutting and conformable quartz veins with substantial sulphides (pyrite>galena>chalcopyrite>sphalerite). The 2011 analytical results, from 12 samples, are encouraging, ranging 0.05 to 86.4 g/t Ag, 0.001 to 4.9% Pb, 37.4 to 9267 ppm Cu, and 0.01 to 2.1% Zn. Gold is anomalous (0.01 to 0.30 g/t Au) but low relative to silver.

Mineralization is dominantly controlled by the N to NE-striking, subvertical quartz veins, which may also exploit, as quartz vein-sills, along the main shallow dipping regional NW-trending schistose fabric. Additional mapping is required, but the proximity of the NW-trending chlorite schist/metasiltite contact may also influence the location and size of the best mineralization. Finally, similar to other showings on the property (e.g. Buchans, Rupert), the mineralized quartz veins commonly share, or are proximal to, structures containing unit-EJgd granodiorite and/or aplite.

The 2011 airborne geophysical survey results might be helpful in designing future traverses. Low channel EM bands are not usable due to proximity of the lake shore and edge of grid. Mid EM bands (e.g. HM Z G16+9) show a moderate to low EM response in plan view, in relation to the Moose-B showing and on-strike Ag soil geochemical anomalies. The airborne magnetic data is useful in highlighting broad lithological subdivisions. All four of the White Moose showings do coincide spatially with significant magnetic breaks, further suggesting a lithological contact influence on mineralization. Determining the ultimate usefulness of these airborne layers will require additional ground-truthing.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Titan Property
Figure 5 - Rock and Silt Sample Locations
Pb ppm
Projection - NAD 83 UTM Zone 08N
Scale - 1: 20 000
28/12/2011
Inset B
JBTIR092
JBTIR093
303.7, 66, 49200, 21300
BRTIR008
126.6, 19.7, 8000, 3400
JBTIR089
21.3, 9.9, 691.8, 1316
JBTIR088
37.6, 15, 15100, 8200
BRTIR006
1.6, 0.2, 80.1, 45
BRTIR007
61.7, 0.3, 57, 278
BRTIR005
5.9, 0.6, 186.2, 584
BRTIR004
66.9, 20, 6900, 8500
JBTIR087
2.5, 0.05, 12.4, 100
Meters
BRTIS002
1, 0.05, 6.6, 46
BRTIS001
1, 0.2, 8.4, 40
BRTIR001
BRTIR003
BRTIR002
JBTIR094
254.7, 14, 900, 1300
JBTIR086
16.5, 9.9, 116.3, 255
JBTIR081
522.9, 0.3, 68.5, 872
JBTIR057
JBTIR059
JBTIR061
JBTIR051
JBTIR052
JBTIR058
JBTIR063
3.8, 0.05, 3.8, 28
JBTIR064
JBTIR069
JBTIR068
1.1, 0.4, 20.4, 99
JBTIR070
1.9, 0.05, 4.2, 12
JBTIR071
JBTIR065
2.6, 0.4, 4.1, 26
JBTIR066
JBTIS004
1, 0.2, 13.6, 142
Inset A
Inset B
Inset A
CDTIR005
0.6, 0.05, 1.5, 2
CDTIR006
21.9, 1.1, 2.1, 43
CDTIR007
1.4, 0.9, 230.4, 10
JBTIR077
25.4, 1, 4.2, 37
JBTIR078
JBTIR075
1, 0.05, 3.3, 12
JBTIR076
3.4, 0.2, 2.9, 36
CDTIR004
0.25, 0.1, 4.2, 49
JBTIR080
CDTIR003
0.6, 0.05, 2.7, 21
CDTIR002
2.5, 0.05, 2.4, 58
CDTIR001
0.8, 0.05, 3.3, 69
JBTIR084
48.7, 0.3, 113.5, 71
JBTIR083
JBTIR082
12, 0.4, 3.9, 9
Meters
Meters
Legend
Rock Samples
Pb ppm
< 1.5
1.6 - 200.0
200.1 - 1000.0
1000.1 - 10000.0
> 10000.1
Silt Samples
Pb ppm
6.60
6.61 - 8.00
8.01 - 10.00
10.01 - 15.30
>15.31
Titan Tenure
Contour
Waterbody
Legend
Geology
DMg DMg- Late Devonian- intrusive rocks, undivided
DMn DMn- Middle Devonian- limestone, marble, calcareous sedimentary rocks
DPA DPA- Devonian to Middle Triassic- limestone, marble, calcareous sedimentary rocks
EJg EJg- Late Early Jurassic- granodioritic intrusive rocks
EJu EJu- Early Jurassic- ultramafic rocks
EMq EMq- Early Mississippian- granite, alkali feldspar granite intrusive rocks
ETd ETd- Eocene to Oligocene- diabase, basaltic intrusive rocks
ETf ETf- Paleocene to Eocene- high level quartz phyric, felsitic intrusive rocks
ETg ETg- Eocene- intrusive rocks, undivided
ETq ETq- Eocene- granite, alkali feldspar granite intrusive rocks
Jl Jl- Lower Jurassic- argillite, greywacke, wacke, conglomerate turbidites
JT JT- Lower Jurassic- conglomerate, coarse clastic sedimentary rocks
LKg LKg- Late Cretaceous- granodioritic intrusive rocks
LTrgS LTrgS- Middle Triassic to Late Triassic- quartz dioritic intrusive rocks
MTrC MTrC- Mississippian to Triassic- chert, siliceous argillite, siliciclastic rocks
PgTK PgTK- Eocene to Oligocene- undivided volcanic rocks
TrJg TrJg- Late Triassic to Early Jurassic- granodioritic intrusive rocks
TrKU TrKU- Upper Triassic- limestone bioherm/reef
TrS TrS- Upper Triassic- undivided volcanic rocks
mKS mKS- Lower Cretaceous- andesitic volcanic rocks
mKd mKd- Early Cretaceous- dioritic intrusive rocks
mKg mKg- Early Cretaceous- quartz monzonitic intrusive rocks
mKq mKq- Cretaceous- intrusive rocks, undivided
pPm pPm- Permian- orthogneiss metamorphic rocks

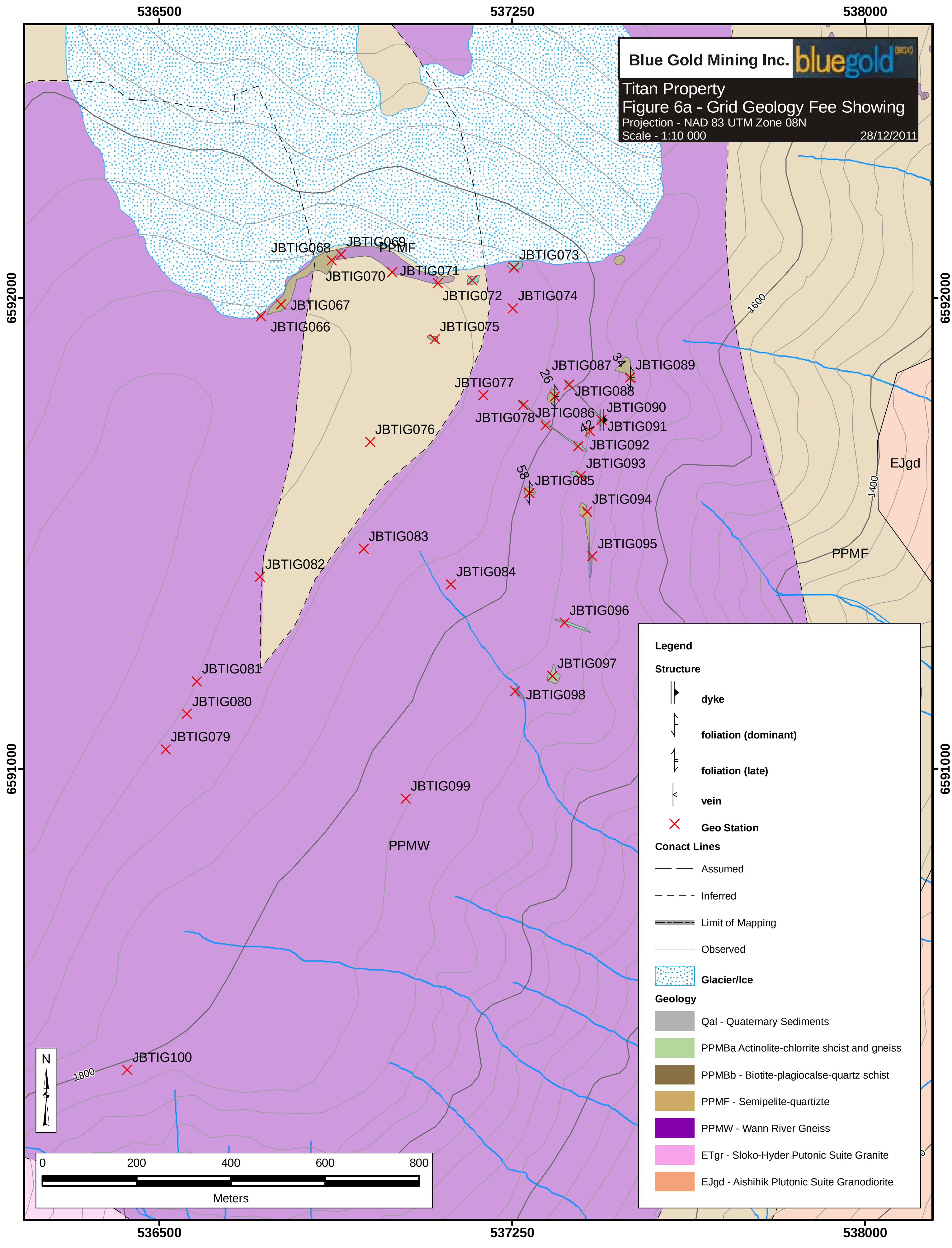
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Figure 6a - Grid Geology Fee Showing
Projection - NAD 83 UTM Zone 08N
Scale - 1:10 000
28/12/2011
536500
537250
538000
6592000
6591000
JBTIG066
JBTIG067
JBTIG068
JBTIG069
PPMF
JBTIG070
JBTIG071
JBTIG072
JBTIG073
JBTIG074
JBTIG075
JBTIG076
JBTIG077
JBTIG078
JBTIG079
JBTIG080
JBTIG081
JBTIG082
JBTIG083
JBTIG084
JBTIG085
JBTIG086
JBTIG087
JBTIG088
JBTIG089
JBTIG090
JBTIG091
JBTIG092
JBTIG093
JBTIG094
JBTIG095
JBTIG096
JBTIG097
JBTIG098
JBTIG099
JBTIG100
PPMW
EJgd
1600
1400
1800
N
0
200
400
600
800
Meters
Legend
Structure
dyke
foliation (dominant)
foliation (late)
vein
Geo Station
Conact Lines
Assumed
Inferred
Limit of Mapping
Observed
Glacier/Ice
Geology
Qal - Quaternary Sediments
PPMBa Actinolite-chlorrite shcist and gneiss
PPMBb - Biotite-plagiocalse-quartz schist
PPMF - Semipelite-quartizte
PPMW - Wann River Gneiss
ETgr - Sloko-Hyder Putonic Suite Granite
EJgd - Aishihik Plutonic Suite Granodiorite

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Titan Property
Figure 6b - Grid Geochemistry Fee Showing
Pb ppm, Au ppb, Ag ppm, Zn ppm
Projection - NAD 83 UTM Zone 08N
Scale - 1: 1500
28/12/2011
Fee Glacier
PPMW
PPMF
536800
537000
537200
537400
6592000
6591700
6591400
6591100
N
0
50
100
150
200
Meters
Legend
Soil Sample Pb ppm, Au ppb, Ag ppm, Zn ppm
Pb ppm
0.05 - 20.80
20.81 - 50.00
50.01 - 100.00
100.01 - 200.00
200.01 - 1000000.00
No Sample
Geology
Geo Unit
Qal - Quaternary Sediments
PPMBa Actinolite-chlorrite schist and gneiss
PPMBb - Biotite-plagiocalse-quartz schist
PPMF - Semipelite-quartzite
PPMW - Wann River Gneiss
ETgr - Sloko-Hyder Putonic Suite Granite
EJgd - Aishihik Plutonic Suite Granodiorite

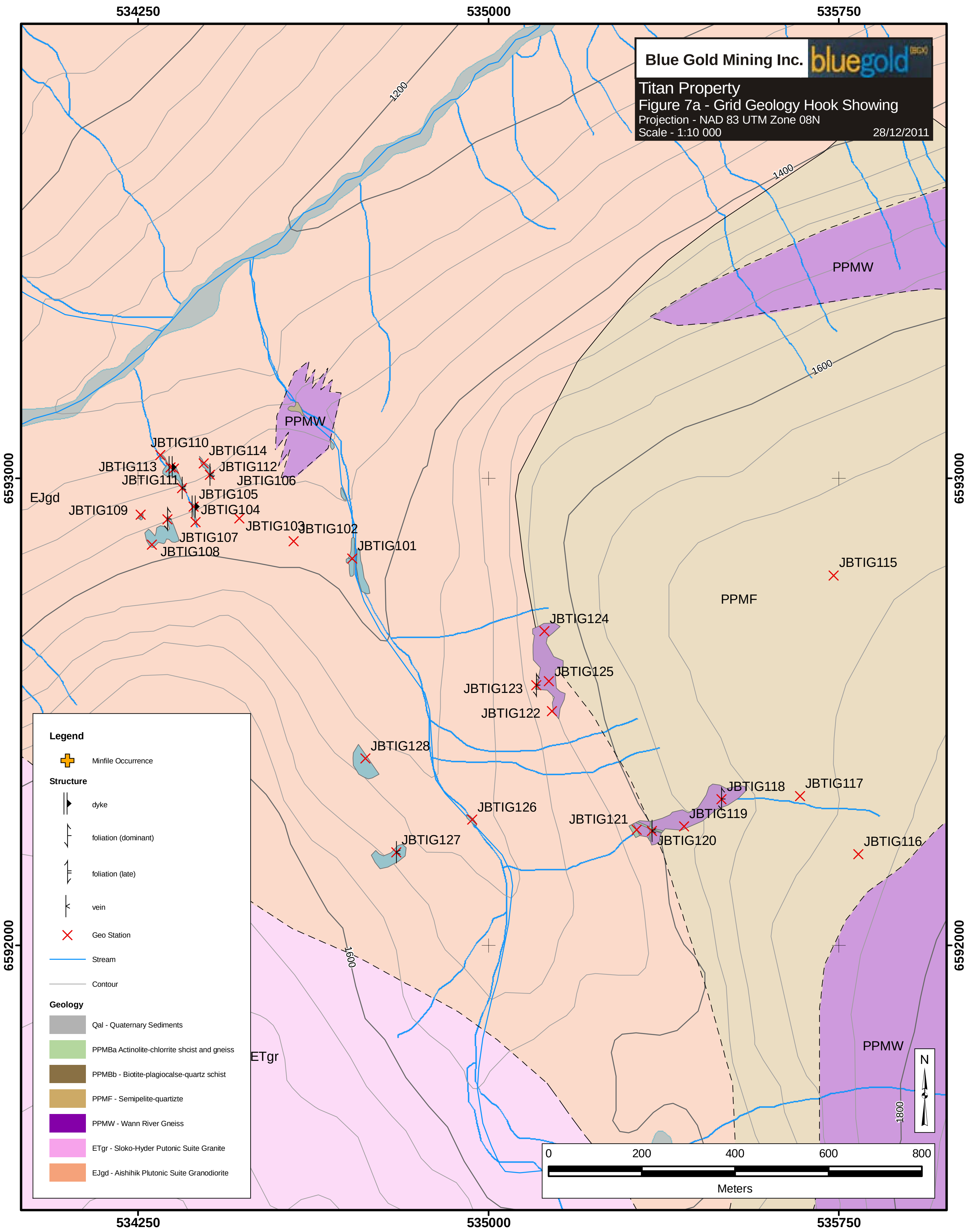

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Figure 7a - Grid Geology Hook Showing
Projection - NAD 83 UTM Zone 08N
Scale - 1:10 000
28/12/2011
534250
535000
535750
6593000
6592000
1200
1400
1600
1800
PPMW
PPMF
EJgd
ETgr
JBTIG101
JBTIG102
JBTIG103
JBTIG104
JBTIG105
JBTIG106
JBTIG107
JBTIG108
JBTIG109
JBTIG110
JBTIG111
JBTIG112
JBTIG113
JBTIG114
JBTIG115
JBTIG116
JBTIG117
JBTIG118
JBTIG119
JBTIG120
JBTIG121
JBTIG122
JBTIG123
JBTIG124
JBTIG125
JBTIG126
JBTIG127
JBTIG128
Legend
Minfile Occurrence
Structure
dyke
foliation (dominant)
foliation (late)
vein
Geo Station
Stream
Contour
Geology
Qal - Quaternary Sediments
PPMBa Actinolite-chlorrite shcist and gneiss
PPMBb - Biotite-plagiocalse-quartz schist
PPMF - Semipelite-quartizte
PPMW - Wann River Gneiss
ETgr - Sloko-Hyder Putonic Suite Granite
EJgd - Aishihik Plutonic Suite Granodiorite
N
0
200
400
600
800
Meters

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Figure 7b - Grid Geochemistry - Hook Showing
Pb ppm, Au ppb, Ag ppm, Zn ppm
Projection - NAD 83 UTM Zone 08N
Scale - 1: 2000
28/12/2011
534200
534400
534600
534800
535000
535200
PPMW
EJgd
PPMF
ETgr
Fee Glacier
N
0
100
200
300
400
Meters
Legend
Soil sample Pb ppm, Au ppb, Ag ppm, Zn ppm
Au ppb
<3
3.01 - 8.00
8.01 - 16.00
16.01 - 37.00
> 37.01
No Sample
Geology
Qal - Quaternary Sediments
PPMBa Actinolite-chlorrite shcist and gneiss
PPMBb - Biotite-plagiocalse-quartz schist
PPMF - Semipelite-quartzite
PPMW - Wann River Gneiss
ETgr - Sloko-Hyder Putonic Suite Granite
EJgd - Aishihik Plutonic Suite Granodiorite

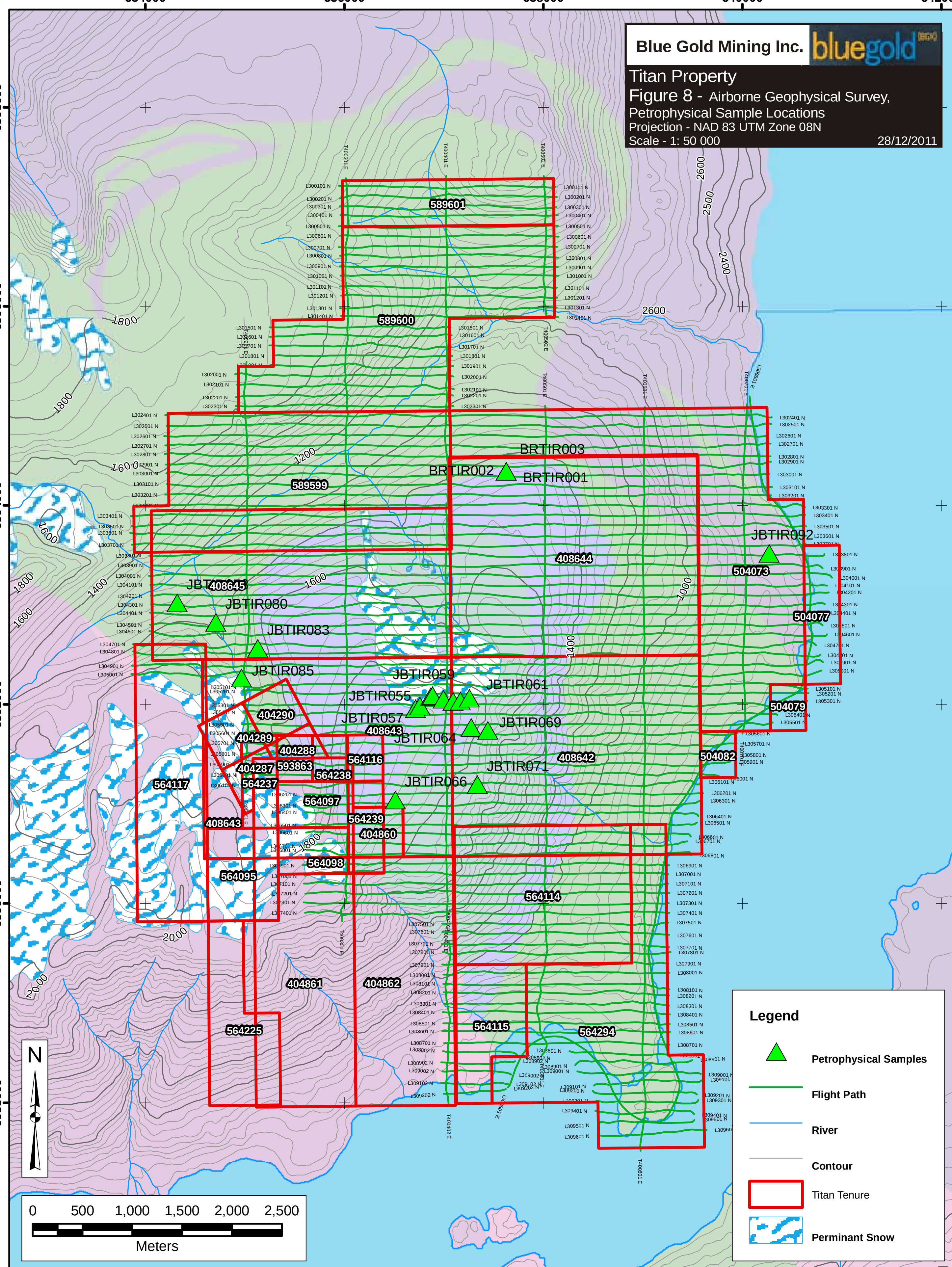

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Figure 8 - Airborne Geophysical Survey,
Petrophysical Sample Locations
Projection - NAD 83 UTM Zone 08N
Scale - 1: 50 000
28/12/2011
Legend
Petrophysical Samples
Flight Path
River
Contour
Titan Tenure
Perminant Snow
0 500 1,000 1,500 2,000 2,500
Meters
N
534000
536000
538000
540000
542000
6598000
6596000
6594000
6592000
6590000
6588000
589601
589600
589599
408645
408644
404290
404289
404288
593863
404287
564237
564238
564116
408643
564117
564097
564239
404860
564098
564095
564114
504073
504077
504079
504082
408642
404861
404862
564225
564115
564294
BRTIR003
BRTIR002
BRTIR001
JBTIR092
JBTIR080
JBTIR083
JBTIR085
JBTIR059
JBTIR061
JBTIR055
JBTIR057
JBTIR069
JBTIR064
JBTIR071
JBTIR066

Conclusions and Recommendations

Rock and soil geochemical analytical results from the 2011 Fee grid area are not encouraging. The low channel EM anomaly central to the grid is likely related to the high percentage of glacial rock powder comprising the matrix of the thick till in the central area of the grid. However, projections of lithological contacts and N-trending airborne magnetic lineaments, along with the presence of unit-EJgd granodiorite and aplite bodies, suggests encouraging structural and lithological convergence in the vicinity of the difficult to access Fee Showing. Additional prospecting in the area of the receding glacier is recommended.

At the new Hook prospect area, quartz veining was discovered 400-500 m on strike to the NW of the 2008 gold showing; however, none of the 5 samples collected there returned significant values of Au or base metals. Three isolated greater than 99th-percentile (>34 ppb Au) soil samples should be prospected to determine their source. Outcrop exposure and soil geochemical results are both very spurious in the 2011 grid area, and the known mineralized location has proven to be narrow. In light of these results, the Hook prospect area should be given low priority for future work.

Both the Buchans' and White Moose showing areas have very encouraging mineralization potential. The Buchans is a high grade Au+Ag+Pb quartz vein system, whereas the White Moose quartz vein system is Ag-Cu+-Pb rich. Three samples collected by independent geologist Carl Schulze, P.Geo. from the Buchans showing in 2011, returned between 0.03 and 8.41 g/t Au, 2.3 g/t to over detection silver (>300 g/t Ag), 110 to 3000 ppm Cu, and 0.080 to 24.18% Pb. Mr. Schulze concluded that "the Buchan Vein has some potential for economic viability, due to its high-grade gold content supported by high galena-hosted silver content. Lead may also be extractable due to the high concentrations present."

Airborne magnetic lineaments and EM conductivity anomalies are spatially coincident with the Buchans showing and on-strike projections of the Buchans' vein system. This association is further strengthened by 2-station-wide Pb-, Au-, Ag-, Sb-in-soil geochemical anomalies, discernible for approximately 900 m along the strike projection of the mineralized structure. Drilling beneath the Buchans trench area and along strike of the best geophysical and geochemical anomalies is therefore recommended.

Mineralization at the White Moose showings (B, Shaft, North) occurs in crosscutting and conformable quartz veins with substantial sulphides (pyrite>galena>chalcopyrite>sphalerite). The 2011 analytical results, from 12 samples at 3 of the 4 showings, is encouraging, ranging from 0.05 to 86.4 g/t Ag, 0.001 to 4.9% Pb, 37.4 to 9267 ppm Cu, and 0.01 to 2.1% Zn. Gold is anomalous (0.01 to 0.30 g/t Au) but low relative to silver.

Future work at the property should include compilation and digitization of historical geological and geochemical data, analysis of this data in conjunction with the airborne geophysical data, followed by detailed prospecting, structural mapping and infill soil geochemical surveys.

At both the Buchans and White Moose showing areas, emphasis should be placed on determining the interaction between mineralized cross-structures and lithological contacts, particularly where there are granodiorite/diorite and aplite laden structures proximal to either structure of interest. There is now a wealth of airborne geophysical data for the entire Titan property. It is strongly recommended that the 2011 petrophysical data and all geophysical data be assessed and modeled by a professional geophysicist in order to refine the location, depth and quality of additional potential mineralized targets for future ground exploration and diamond drilling prioritization.

Recommended work on the Titan property includes geological and geophysical compilation, a follow up ground field program to better define and delineate known mineralization on the property and a phase one diamond drill program focusing on the highest priority targets, namely the Buchans and White Moose showings in that order.

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