AUTHOR(S): Aaron Higgs

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): 
YEAR OF WORK: 2011

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, 104M038

MINING DIVISION: Atlin

LATITUDE: 59° 28’ 12”
LONGITUDE: 134° 18’ 42”

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
<table>
<thead>
<tr>
<th>TYPE OF WORK IN THIS REPORT</th>
<th>EXTENT OF WORK (IN METRIC UNITS)</th>
<th>ON WHICH CLAIMS</th>
<th>PROJECT COSTS APPORTIONED (incl. support)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOLOGICAL (scale, area)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ground, mapping</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Photo interpretation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEOPHYSICAL (line-kilometres)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ground</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magnetic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electromagnetic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Induced Polarization</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiometric</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seismic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airborne</td>
<td>mag and EM</td>
<td>424.9 line km</td>
<td></td>
</tr>
<tr>
<td>GEOCHEMICAL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(number of samples analysed for...)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil</td>
<td>336</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silt</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rock</td>
<td>38</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>22 petrographics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DRILLING</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(total metres; number of holes, size)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Core</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-core</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RELATED TECHNICAL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sampling/assaying</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Petrographic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mineralographic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metallurgic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROSPECTING (scale, area)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PREPARATORY / PHYSICAL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Line/grid (kilometres)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Topographic/Photogrammetric</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(scale, area)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal surveys (scale, area)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Road, local access (kilometres)/trail</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trench (metres)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Underground dev. (metres)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.
Cranbrook, BC
V1C 2R7

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 radiometric 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>chalcoprite>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.
# Table of Contents

1 Introduction ................................................................................................................................................. 1  
   *Location, Access, Infrastructure and Physiography* ................................................................. 1  
   *Tenure* ............................................................................................................................................... 1  
   *History* ............................................................................................................................................... 5  

Geology ......................................................................................................................................................... 7  
   *Regional Geology* ............................................................................................................................ 7  
   *Property Geology* ............................................................................................................................ 8  
   *Mineralization* ................................................................................................................................. 13  

Exploration .................................................................................................................................................... 16  
   *2011 Exploration Program* ............................................................................................................. 16  
   *2011 Exploration Program Results* ............................................................................................... 16  

Conclusions and Recommendations .............................................................................................................. 28  

References .................................................................................................................................................... 30  

# List of Figures

Figure 1 - Property Location ..................................................................................................................... 3  
Figure 2 - Tenure ....................................................................................................................................... 4  
Figure 3a - Regional Geology Map ........................................................................................................ 10  
Figure 3b - Regional Geology Legend .................................................................................................. 11  
Figure 4 - Property Geology Map ........................................................................................................... 12  
Figure 6a - Grid Geology – Fee Showing Area ...................................................................................... 23  
Figure 6b - Grid Geochemistry – Fee Showing Area ............................................................................ 24  
Figure 7a - Grid Geology – Hook Showing ............................................................................................ 25  
Figure 7b - Grid Geochemistry – Hook Showing Area ......................................................................... 26  
Figure 8 – Airborne Geophysical Survey Lines and Petrophysical Sample Location ....................... 27
List of Tables
Table 1 - Claim Data: Titan Property

List of Appendices
APPENDIX I - Statement of Qualifications
APPENDIX II - Statement of Expenditures
APPENDIX III – Geochemical Protocol
APPENDIX IV – Sample Locations and Descriptions
APPENDIX V – Analytical Certificates
APPENDIX VI – SkyTem Airborne Geophysical Survey
APPENDIX VII – Petrophysical Report
APPENDIX VIII – Geological Mapping
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 Limited Partnership Commercial 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

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

*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*
Figure 1
Titan Property Location
Projection - NAD 83 UTM Zone 08N
Scale - 1:7 500 000
Figure 1
Titan Property Location
Projection - NAD 83 UTM Zone 08N
Scale - 1:750 000

Blue Gold Mining Inc.
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. The 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 1 km 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, amphibolite 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 amphibolite 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 claysilicate; 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.
Refer to Figure 3b for Geology Legend
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.

**Silver King**
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.

**Rupert -L**
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.

**Fee Glacier**
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.

**White Moose Showings**
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).

**White Moose B**
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).

**White Moose C**
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).

**White Moose A**
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

Buchans Showing Area

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 granodiorite 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 cross-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 intercalated 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 prevalent near the east contact, may be a contact metamorphic product related to intruded aplite/granite plug.
- **EJgd**: Feldspar porphyritic granodiorite and quartz-eyrhyolite (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 (22°-45°) 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 northermmost 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-epidote-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.

White Moose Showings area

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 in-situ 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 meta-siltite 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.

White Moose area conclusions

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/metasilite 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.
Figure 7a - Grid Geology Hook Showing
Projection - NAD 83 UTM Zone 08N
Scale - 1:10,000
28/12/2011

Legend

Minfile Occurrence

Structure

Diéik

dyke

Foliation (dominant)

Foliation (late)

Vein

Geo Station

Stream

Contour

Geology

Qal - Quaternary Sediments
PPMFb - Actinolite-chlorite schist and gneiss
PPMBb - Biotite-plagioclase-quartz schist
PPMF - Semipelite-quartzite
PPMW - Wann River Gneiss
ETgr - Sloko-Hyder Putonic Suite Granite
EJgd - Aishihik Putonic Suite Granodiorite

Titan Property
Blue Gold Mining Inc.
Figure 8 - Airborne Geophysical Survey, Petrophysical Sample Locations
Projection - NAD 83 UTM Zone 08N
Scale - 1:50,000

Blue Gold Mining Inc.

Legend

- Petrophysical Samples
- Flight Path
- River
- Contour
- Titan Tenure
- Permanant Snow
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.
REFERENCES


