TECHNICAL REPORT

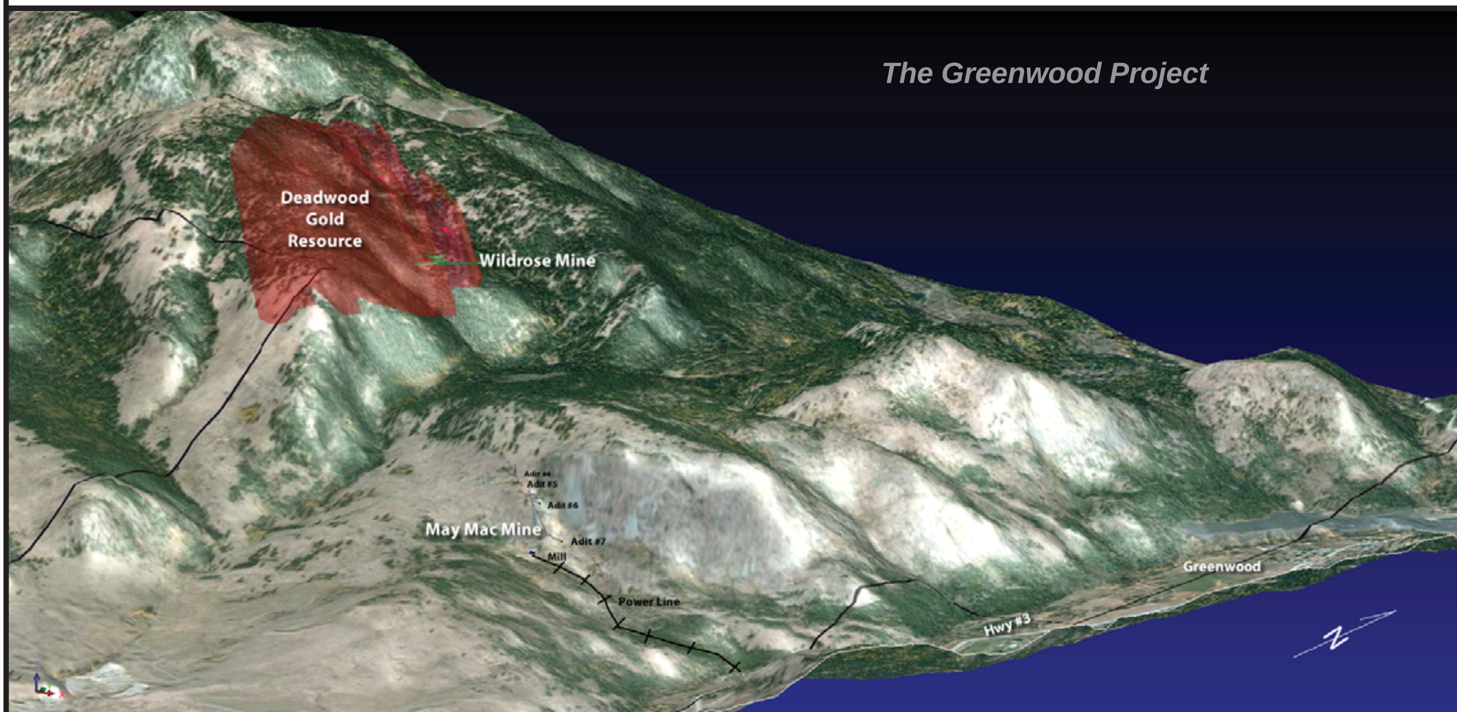
ON THE UPDATED RESOURCE

FOR THE

WILD ROSE - TAM O'SHANTER PROPERTY,

GREENWOOD AREA, SOUTH CENTRAL BRITISH COLUMBIA, CANADA

NTS 82 E/2



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January 25, 2013
Edmonton, Alberta, Canada

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1 Summary

The Wild Rose – Tam O'Shanter Property (the Property) forms the northern most claim group of Golden Dawn Minerals Inc.'s Greenwood Project, and is located about 4 kilometres (km) southwest of Greenwood in south-central British Columbia (BC). The Property is contiguous and is comprised of two BC Mineral Titles On-line map claims, three staked claims, and seven reverted crown-grants that cover an area of approximately 2,200 hectares (ha). Golden Dawn Minerals Inc. (Golden Dawn) has an option to earn an 80% interest in the Wild Rose Property from Mineworks Ventures Inc. and a 100% interest in the Tam O'Shanter Property from Kettle River Resources Ltd. The Wild Rose – Tam O'Shanter Property hosts the Deadwood - Wild Rose Gold Zones. Golden Dawn engaged APEX Geoscience Ltd. (APEX) in 2012 to prepare an updated Technical Report (the Report) that provides a summary of the fall 2011 drilling program, and includes an updated resource estimate calculation for the Deadwood - Wild Rose Gold Zones. This report is written to comply with standards set out in National Instrument (NI) 43-101, Companion Policy 43-101CP and Form 43-101F1 for the Canadian Securities Administration (CSA). This Report is a technical summary of available geological, geophysical and geochemical information for the Property.

The Wild Rose – Tam O'Shanter Property is an intermediate to advanced stage exploration project with a favourable structural, regional geological and stratigraphic setting that is situated within the highly mineralized Boundary District of south-central BC. Several historic mineralized areas are known on the Property including the Deadwood Gold Zone and the Wild Rose Copper-Gold Veins. Both of these zones are associated with the Wild Rose Fault, a splay of the regional Lind Creek thrust fault. Many of the known historic workings and showings on the Property are structurally controlled and spatially associated with major fault zones, intrusions and, in some cases, may be related to skarn-type settings.

The Wild Rose Zone is comprised of three parallel, northwest trending, moderately dipping copper-gold-bearing veins that occur both within the Wild Rose Fault and in the hanging wall of the fault zone. The host hanging wall rocks are comprised of argillites, cherts, tuffaceous sediments, siliceous greenstones and andesites of the Late Paleozoic Knob Hill Formation. The footwall rocks are characterized as chert breccias and chert pebble conglomerates of the Triassic Brooklyn Formation. The Wild Rose veins are typically massive pyrrhotite-pyrite-chalcopyrite veins that average one to two metres in width, although locally they are quartz rich with lesser amounts of sulphide. Historically, considerable drilling (and underground exploration) has been completed to test the veins. Some of the better historic drill intercepts include 8.7 grams per tonne (g/t) gold (Au) over 2.3 m, 9.3 g/t Au over 2 m, and 25.7 g/t Au over 0.7 m. The veins appear to plunge northwest and all three veins are open along strike and at depth.

The Deadwood Gold Zone is located about 100 m along strike to the northwest of the Wild Rose Zone and likely represents the on-strike continuation of the Wild Rose Zone. The Deadwood Gold Zone is an area of intense silicification (hornfels) with pyrite-biotite-chlorite-epidote alteration and widespread low-grade gold mineralization (including several high grade veins) in the hanging wall of the Wild Rose Fault. Historic

drilling highlights to date include an intersection of 0.85 g/t Au over 63.16 m core length, indicative of the low grade, bulk tonnage potential of the Deadwood Gold Zone.

Previously, Golden Dawn drilled 1,877.8 m in 12 diamond drill holes at the Wild Rose - Tam O'Shanter Property between November, 2010 and March, 2011. Drilling targeted the Wild Rose Vein System as well as the Deadwood Gold Zone. Holes 10WR01 to 10WR05 tested the Wild Rose veins and yielded intersections of semi-massive sulphide including pyrrhotite, pyrite and chalcopyrite from at least one vein in all 5 holes. The best intersections were in holes 10WR02, which yielded 9.57 g/t Au and 0.21% copper (Cu) over 1.7 m core length, and hole 10WR04, which yielded 5.38 g/t Au, 5.4 g/t silver (Ag) and 0.22% Cu over 1.10 m core length along with 0.32 g/t Au and 0.01% Cu over 31.29 m core length.

Drill holes 10WR06 and 11WR07 to 11WR12 tested the Deadwood Gold Zone and encountered chert, silicified argillite, greenstone and volcanic sandstones intruded by minor diorite in all 7 holes. Hole 11WR08 intersected 0.54 g/t Au and 0.03% Cu over 81.68 m core length, with a higher grade zone of 0.72 g/t Au over 57.0 m. Hole 11WR10 yielded 0.43 g/t Au over 127.0 m core length, with higher grade intervals of 0.78 g/t Au over 29.0 m and 0.86 g/t Au over 11.0 m. Hole 11WR12 yielded 0.36 g/t Au and 0.02% Cu over 138.0 m core length, with higher grade intervals of 1.06 g/t Au over 18.0 m and 0.71 g/t Au over 9.0 m.

Follow-up drilling was completed by Golden Dawn in fall 2011, between August and October, which included 12 diamond drill holes totalling 3,476.5 m. Drilling targeted the Deadwood Gold Zone with 7 holes, an additional 5 reconnaissance drill holes were completed north of the Deadwood Zone to test several coincident Au±Cu in soil and magnetic anomalies identified by the spring 2011 program. All drilling and geological aspects of the program were supervised by personnel from APEX. Drilling was conducted by T Drilling Limited. All drill core samples were sent to Inspectorate Mineral Laboratory Services (Inspectorate) in Richmond, BC.

Holes 11WR13 to 11WR18 and 11WR24 tested the Deadwood Gold Zone. All 7 holes encountered similar lithologies including chert, silicified argillite, greenstone and volcanic sandstones intruded by minor diorite, as were reported from the spring 2011 drill program. The Deadwood Zone is characterized by cherts and volcanic sandstones with quartz veining, and argillites and greenstones that were brecciated and hornfels. Sporadic biotite, chlorite and epidote alteration are also locally present. Much of the silicified and altered rocks contained minor pyrite. Hole 11WR15 yielded 0.19 g/t Au over a 162.33 m core length, including 0.44 g/t Au over 45 m core length. Hole 11WR16 yielded 0.29 g/t Au, 2.95 g/t Ag, 0.02% Cu, 0.06% lead (Pb), and 0.20% zinc (Zn) over 120 m of core length, including 0.72 g/t Au, 4.54 g/t Ag, 0.03% Cu over 18 m. Hole 11WR24 encountered 0.18 g/t Au and 0.04% Cu over a 241.25 m core length, including 0.51 g/t Au and 0.09% Cu over 47.5 m.

Drill hole 11WR19 was situated 450 m northeast of the main lode of the Deadwood Gold Zone and targeted a prominent Au in soil geochemical anomaly along the eastern edge of an 850 m north trending magnetic feature that could indicate the presence of a buried intrusive body. The hole was continued to depth to test the depth extent of lodes

3 and 4 of the Deadwood Gold Zone. The hole successfully intersected extensions of lodes 3 and 4 with grades of 0.47 g/t Au over 9.0 m core length and 0.44 g/t Au over 27.0 m core length, respectively, including a higher grade zone of 0.68 g/t Au over 15.0 m core length. Interestingly, the hole also intersected a silver bearing zone in the upper reaches of the hole that grades 72.6 g/t Ag over 31.5m, including a higher grade zone of 166.5 g/t Ag over 12 m core length. The newly discovered silver bearing zone is located at the contact between basalt and mudstone and is characterized by silicification along with a stock-work of thin to very thin (<1 cm to mm size) quartz-carbonate veins with fine grained galena and sphalerite.

Drill holes 11WR20 to 11WR23 were situated near the northern border of the Property and were designed to test Au and Cu in soil anomalies adjacent to the southern contact of the Buckhorn Diorite. Significant intersections from the northern exploration holes include 0.12 g/t Au, 0.08% Cu, and 0.004% Mo over 239 m core length, including higher grade interval of 6.35 g/t Au, 0.7% Cu, and 0.068% Mo over 1.5 m core length in hole 11WR20, 0.09 g/t Au and 0.09% Cu over 283 m core length in hole 11WR21 along with 0.11 g/t Au, 2.24 g/t Ag, and 0.09% Cu over 91.1 m core length in hole 11WR23. All of these intersections were characterized by disseminated chalcopyrite in basalts and dioritic intrusions with wide low grade Cu-Au-Mo-Ag mineralization. This mineralization likely reflects a possible intrusive-related porphyry system extending over large portions of the property holdings and is warrants further exploration.

Preliminary metallurgical work was conducted during 2011 by F. Wright Consulting Inc. (FWCI) on seven composite samples created from drill core sample rejects from hole 11WR10. The samples were composited based on contiguous intervals representing specific lithologies and gold grades within the Deadwood Gold Zone. The laboratory and analytical work was conducted at Inspectorate. The studies were conducted in order to provide a preliminary response of this material to conventional mineral processing procedures. This included a single scoping flotation study and several cyanide leaching studies to observe leach characteristics at various feed particle size ranges.

The mineralized composites from hole 11WR10 showed that material from this portion of the Deadwood Gold Zone responds well to conventional mineral processing procedures. One composite with a head grade of 1.2 g/t Au and 0.05% Cu was upgraded by flotation, achieving 93% bulk gold recovery into a cleaned concentrate approaching 50 g/t Au. Whole ore cyanide leaching of the composites under various conditions resulted in gold recoveries ranging from 63% to 95%. Gold recovery improved with higher head grades and finer grinding. Higher grade samples seem well suited to tank leaching procedures. Coarse ore bottle roll leaching tests showed slower gold leach kinetics. However, the leach response of the lower grade material offers sufficient encouragement to recommend leach studies at larger particle sizes. Column leach studies are recommended to help establish if heap leaching offers a processing alternative to tank leaching for lower grade material.

Based upon the results of the fall 2011 drilling program Golden Dawn engaged APEX to complete an updated mineral resource estimate for the Deadwood – Wild

Rose Gold Zones. The mineral resource model was generated using data derived from historic and recent drilling between 1986 and 2011. The mineral resource estimate is derived from a total of 61 diamond drill holes, including 20 recent holes drilled by Golden Dawn in 2010-2011. Spacing between drill holes varies from 20 m to 120 m, with an average at the Deadwood zone being 75 m, and at the Wild Cat – Wild Rose domain being 20 m. The estimation of the Deadwood-Wild Rose resource was calculated using both Inverse Distance to the power of two (ID2) and Ordinary Kriging (OK). Both estimation methods were completed to ensure that there were no gross discrepancies between the estimation methodologies. The ID2 was chosen for the final model estimation method on the basis that it honoured the input sample data the better than ordinary kriging. Each lode within the Deadwood – Wild Rose Zone was looked at individually and the search ellipsoid was tailored to the orientation of that particular lode. The size of the search ellipsoids used was guided by the identified ranges of maximum continuity of mineralization. A nominal density of 2.86 g/cm^3 was applied to all blocks.

The Deadwood – Wild Rose mineral resource which comprises the low grade, bulk tonnage style domain (Deadwood zone) and the higher grade vein domain (Wild Rose zone), respectively, was classified as inferred based upon the quality of the historic drilling data and the drill hole sample spacing and is reported according to the "CIM Definition Standards on Mineral Resources and Reserves". The mineral resource contained within the deposit was calculated at a series of gold cut-off thresholds for comparison purposes. The base case cut-off grade of 0.3 g/t Au is considered reasonable based on assumptions derived from other deposits of similar type, scale and location. Although this project is at an early stage and little is known with respect to potential mining or metallurgical properties, the resource has been considered with respect to exhibiting reasonable prospects for economic extraction. The resource, at the base case cut-off threshold, forms a near surface relatively continuous zone, which is a favourable configuration for open pit mining and heap or vat leach processing.

Drilling by Golden Dawn during late 2011 has resulted in an updated geological and resource model constructed for the Deadwood – Wild Rose resource area and has resulted in the identification of an Inferred Mineral Resource of 24,483,000 tonnes at an average grade of 0.53 g/t Au using a cut-off grade of 0.3 g/t Au. Based upon the drilling conducted to date, the Deadwood – Wild Rose deposit remains open in both directions along strike and at depth. Further drilling is warranted to test for possible extensions of the resource as well as possible higher grade zones. In addition, soil sampling during 2011 has resulted in the identification of a number of Au-Cu soil anomalies spatially associated with mapped diorite intrusions or magnetic anomalies likely indicative of buried intermediate intrusions or historic induced polarization (IP) chargeability anomalies. These anomalies warrant drill testing in order to assist in finding additional mineralization and resources to add to the current Deadwood – Wild Rose Inferred Mineral Resource.

Based upon the exploration conducted to date by Golden Dawn, the authors recommend that the following work be completed at the Wild Rose – Tam O'Shanter Project area during 2013.

1) Complete airborne magnetic-electromagnetic geophysical coverage over the entire project area and specifically the Tam O'Shanter mineral claims,
2) Complete follow-up IP and/or Titan 24 surveys in areas where the 2005 airborne survey identified EM anomalies that have not been followed up.
3) Conduct soil sampling surveys over a number of prospective covered ground and/or airborne EM conductors that have not been followed up,
4) Further resource drilling to expand the current Inferred Resource immediately along strike northwest and southeast of the Deadwood Zone, at depth below the Deadwood Zone and further to the north up stratigraphic section in order to see if further parallel zones are present in the vicinity of a magnetic anomaly that is likely indicative of a buried diorite, including 20 to 25 holes in the resource area for a total of about 6,000m.
5) Exploration drilling including a) testing a number of Au-Cu soil anomalies at the north end of the property spatially associated with a diorite intrusive, b) testing Au in soil anomalies associated with either historic IP chargeability anomalies or a number of EM conductors on the Wild Rose mineral claims, and c) testing old workings at the Gold Fleece and Bengal showings that are spatially associated with an IP chargeability anomaly, including 10 to 15 holes for a total of 2,000 m,
6) Conduct follow-up metallurgical and mineralogical test work in order to assess the vat and heap leachability of the Deadwood - Wild Rose low grade bulk tonnage material,
7) Baseline environmental work in support of future potential scoping and/or pre-feasibility studies.

The proposed exploration program for 2013 should include approximately 8,000 m of diamond drilling in approximately 30 to 40 holes at the Wild Rose - Tam O'Shanter Property at an average all-in cost of $250/m for a total cost of $2.0 million, airborne and ground geophysical surveys for a total cost of $300,000, further prospecting, rock sampling, soil sampling, geological mapping, follow-up mineralogical, metallurgical resource and pit optimization studies along with baseline environmental work at a total cost of about $350,000. The total cost for the recommended 2013 exploration program is $2.65 million.

2 Introduction

APEX Geoscience Ltd. (APEX) was retained during 2012 as consultants by Golden Dawn Minerals Inc. (Golden Dawn), a junior resource exploration company (GOM on the TSX-V) based in Vancouver, British Columbia (BC), Golden Dawn engaged APEX Geoscience Ltd. (APEX) in 2012 to prepare an updated Technical Report (the Report) that provides a summary of the fall 2011 drilling program on the Wild Rose – Tam O'Shanter Property, and includes an updated resource estimate calculation for the Deadwood - Wild Rose Gold Zones. This report is written to comply with standards set out in National Instrument (NI) 43-101, Companion Policy 43-101CP and Form 43-101F1 for the Canadian Securities Administration (CSA). This Report is a technical summary of available geological, geophysical and geochemical information and updated resource information for the Property. Golden Dawn has an option to earn an 80 % interest in the Wild Rose mineral claims and a 100% interest in the Tam O'Shanter mineral claims.

Based upon the positive results of the fall 2011 drilling program at the Wild Rose – Tam O'Shanter Property (the Property), APEX was engaged by Golden Dawn to conduct a mineral resource estimate for the Deadwood – Wild Rose Gold Zone. This Technical Report presents the updated 43-101 Mineral Resource Estimate for the Deadwood – Wild Rose Gold Zone. For the purposes of the 43-101 Mineral Resource Estimate, the data for the historic drilling was compiled by APEX personnel from historic drill logs. Mr. Michael Dufresne, M.Sc., P.Geol., and Mr. Steve Nicholls, BASc, M-AIG of APEX are the independent qualified persons as defined by the Canadian Securities Administration (CSA) National Instrument (NI) 43-101, and are responsible for the mineral resource estimate. The resource estimate of this intermediate to advanced exploration project is classified as an Inferred Mineral Resource, consistent with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) definitions on Mineral Resources and Reserves referred to in NI 43-101. The effective date of the mineral resource is December 11, 2012. APEX calculated the resources of the Property using historical data, as well as recent drilling conducted in 2010 and 2011. The historical assay data was verified by using copies of the original drill logs and assay certificates. Only the assays that were deemed 'verified' were then used in the calculation of resources.

The report written by the authors is a compilation of proprietary and publicly available information. The authors, in writing this report, use sources of information as listed in the 'References' section. Some of the government reports were prepared by qualified persons holding post secondary geology, or related university degree(s), prior to the implementation of the standards relating to NI 43-101. For those reports, and others, which were written by people, whom are not qualified persons, the author must rely upon the professional measures used by the employees of the companies who completed the work. The information in those reports is assumed to be accurate, based on the data review and current work completed by the authors. The reports which were used for background information are reviewed and referenced in the 'History' and 'Geological Setting' section below. Large portions of this report are based upon numerous reports and extensive field and office work conducted by Ms. Linda Caron, M.Sc., P.Geol., an independent and Qualified Person as defined in NI 43-101. In particular, the National Instrument 43-101 Technical Reports for the Wild Rose, Copper Mountain and Boundary Falls Properties by Ms. Caron (2006a, b, c, 2005b) were used exhaustively.

3 Reliance of Other Experts

The Wild Rose – Tam O'Shanter Property is comprised of two BC Mineral Titles On-line map claims, three staked claims, and seven reverted crown-grants that cover an area of approximately 2,200 hectares (ha). The Property is located about 4 kilometres (km) southwest of Greenwood in south-central British Columbia (BC). The Wild Rose part of the Property consists of 2 claims (516277 and 508067) held under the name of Don Rippon that have been 100% assigned to Mineworks Ventures Inc. (Mineworks). The Golden Dawn Minerals Inc. (Golden Dawn) has an option to earn an 80% interest in the Wild Rose Property from Mineworks Ventures Inc. The Tam O'Shanter part of the Property is comprised of 10 claims (214125, 214126, 214168, 214246-214128, 214288, 214482, 401970, 401971) are held and 100% owned by Kettle River Resources Ltd. Golden Dawn has the option to earn 100% interest in the Tam O'Shanter Property from Kettle River Resources Ltd. The British Columbia Ministry of Energy, Mines and Natural Gas Mineral Titles website (https://webmaps.gov.bc.ca/imf5/imf.jsp?site=mem_mto_min-view-title) shows that the claims are active and in good standing. The author has not attempted to verify the legal status of the Property, however, the MTO viewer website does indicate that all the claims are active and in good standing as of December 11th, 2012.

4 Property Description and Location

The Wild Rose – Tam O'Shanter Property is located in south-central British Columbia (BC), approximately 4 km southwest of Greenwood, BC (Figure 1). The Property is located on the 1:50,000 scale National Topographic System (NTS) map sheet 082E/02 and the 1:20,000 scale British Columbia Geographic System (BCGS) map sheets 082E.007 and 082E.017. The Property consists of two Mineral Titles On-line (MTO) mineral claims, three staked claims, and seven reverted crown grants (Table 1). The blocks are located in the Greenwood Mining District, and form a contiguous package of land totalling approximately 2,200 ha (5,436 acres). The property is centred at latitude 49° 04' N and longitude 118° 43' W (NAD83) or Universal Transverse Mercator (UTM) easting 373790 and northing 5437437 (NAD83 Zone 11) (Figure 2).

The Wild Rose mineral claims in the name of Don Rippon have been 100% assigned to Mineworks Ventures Inc. (Mineworks) a company owned 50% by Mr. Rippon and 50% by Karl Schindler. Golden Dawn has an option to earn an 80% interest in the Wild Rose Property from Mineworks. Mineworks will retain a 20% carried interest as described in the option agreement (Appendix 1). The Tam O'Shanter claims are 100% owned by Kettle River Resources Ltd. (Kettle River). Golden Dawn entered into an option agreement with Kettle River to earn a 100% interest in the Tam O'Shanter Property in November, 2009. The major terms of the agreement include a cash payment of CDN$230,000, the issue of 1.5 million shares of common stock in Golden Dawn, and

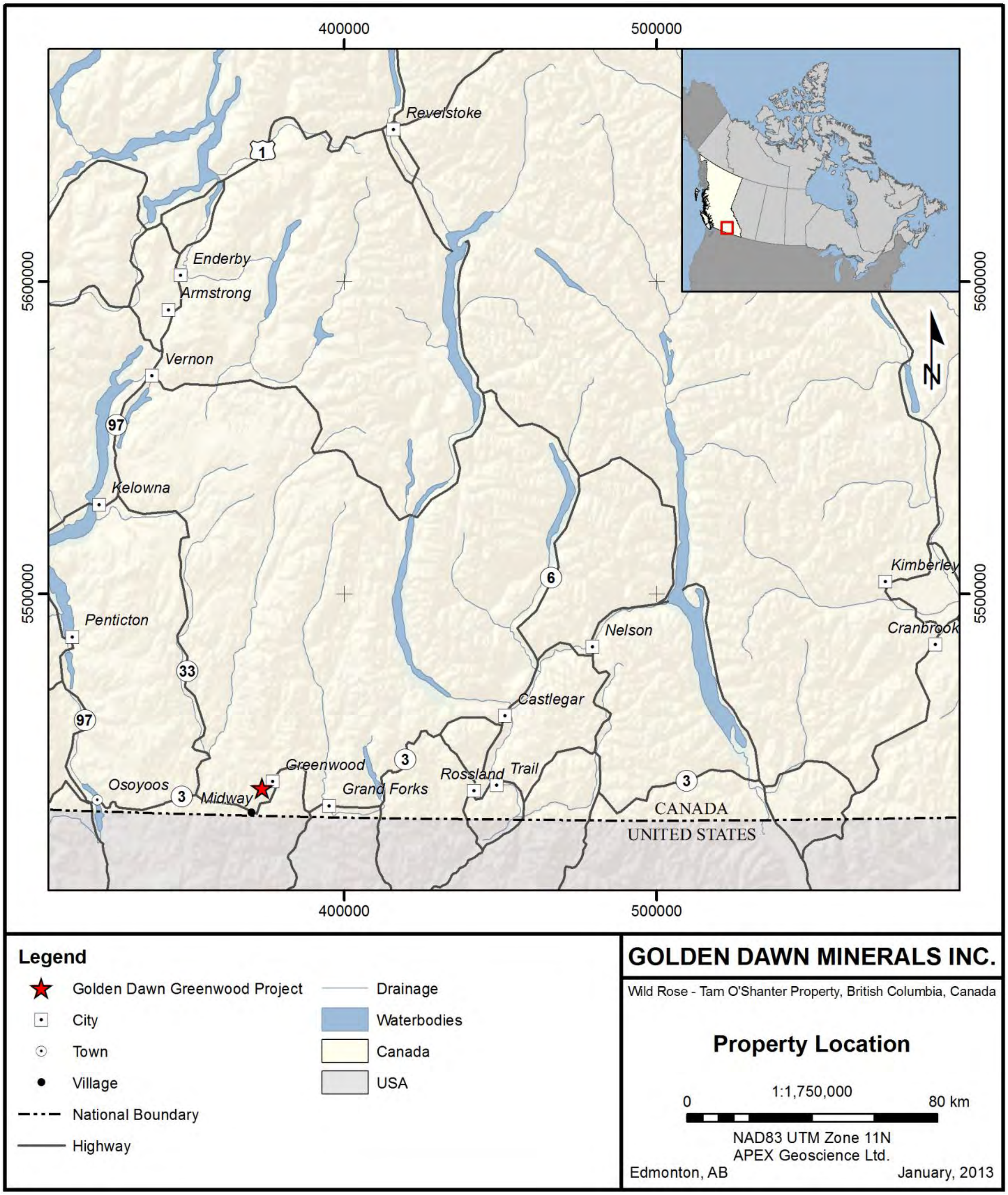

Figure 1. Property Location

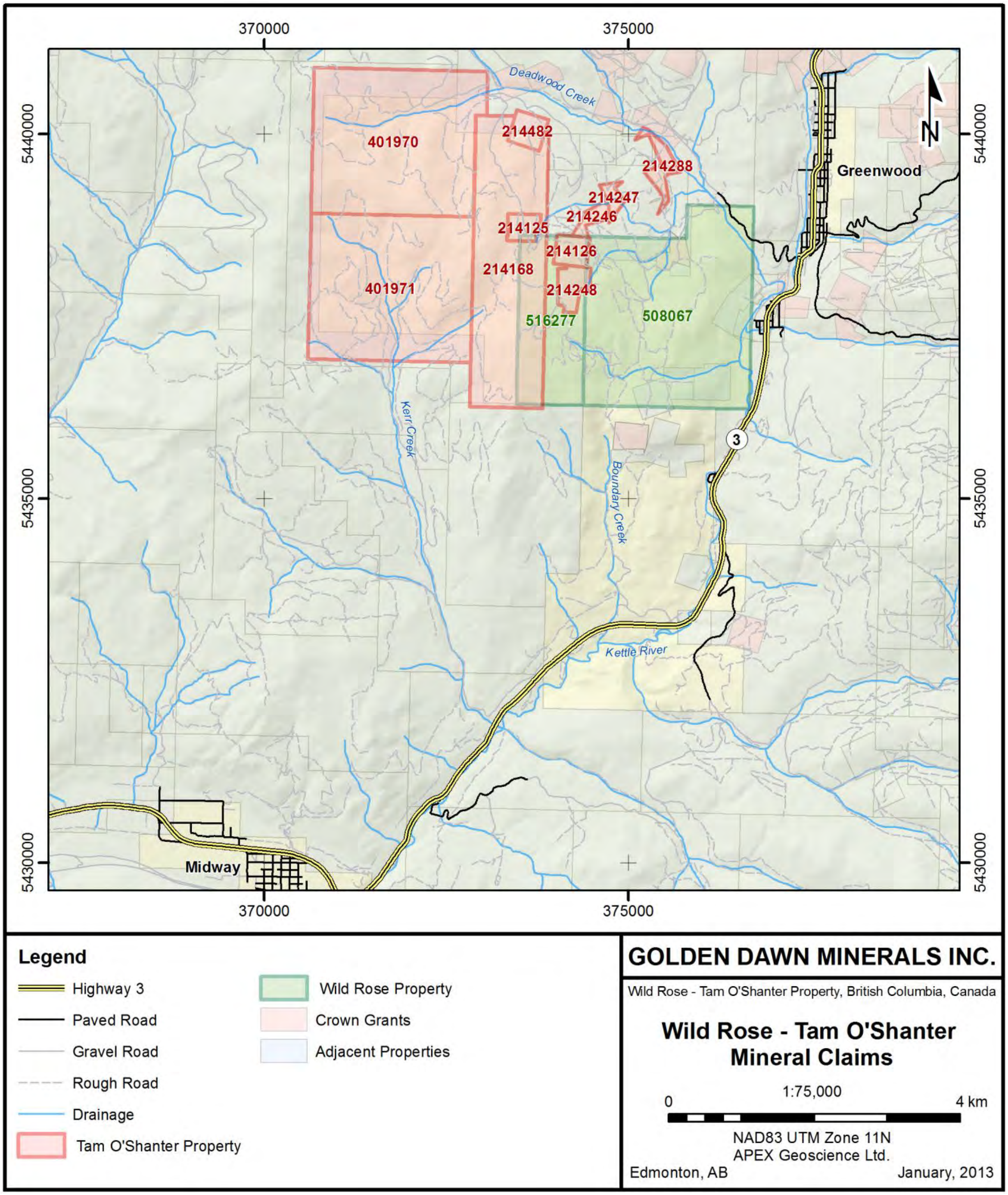

Figure 2. Wild Rose – Tam O'Shanter Mineral Claims

a work commitment of CDN$2,000,000 over four years. Once the option is completed the Property will be subject to a three percent (%) net smelter return (NSR) royalty retained by Kettle River, while Golden Dawn has the option to repurchase 2/3 of NSR for CDN$3,000,000 (Appendix 1). The two properties combined form the Wild Rose – Tam O'Shanter Property which hosts the hosts the Deadwood - Wild Rose Gold Zones.

Table 1. 2011 Wild Rose – Tam O'Shanter Mineral Claims

Tenure Number	Claim Name	Owner	Area (Ha)	Expiry Date
Wild Rose				
516277	Wild Rose 1	D. Rippon	211.60	2023/Jan/31
508067	Wild Rose 2	D. Rippon	571.31	2023/Jan/31
Tam O'Shanter				
214125	Tam O'Shanter	Kettle River Resources Ltd.	25.00	2023/Jan/31
214126	Iva Lenore	Kettle River Resources Ltd.	25.00	2023/Jan/31
214168	Shanter	Kettle River Resources Ltd.	400.00	2023/Jan/31
214246	Viceroy Fr.	Kettle River Resources Ltd.	25.00	2023/Jan/31
214247	Arlington Fr. And No. 9	Kettle River Resources Ltd.	25.00	2023/Jan/31
214248	Salamanca Fr.	Kettle River Resources Ltd.	25.00	2023/Jan/31
214288	Montrose Fr.	Kettle River Resources Ltd.	25.00	2023/Jan/31
214482	Gold Bug No.2	Kettle River Resources Ltd.	25.00	2023/Jan/31
401970	Clodagh 1	Kettle River Resources Ltd.	500.00	2023/Jan/31
401971	Clodagh 2	Kettle River Resources Ltd.	500.00	2023/Jan/31

Mineral Claims within the province of British Columbia require assessment work (such as geological mapping, geochemical or geophysical surveys, trenching or diamond drilling) to be completed each year to maintain title to the ground. The Mineral Tenures Act Regulation in British Columbia has been recently updated with changes coming into effect July 1st, 2012. To maintain a claim in good standing the claim holder must, on or before the anniversary date of the claim, pay the prescribed recording fee and either: (a) record the exploration and development work carried out on that claim during the current anniversary year; or (b) pay cash in lieu of work. The value of exploration and development required to maintain a mineral claim is:

- $5 per hectare for each of the first and second anniversary years
- $10 per hectare for each of the third and fourth anniversary years
- $15 per hectare for each of the fifth and sixth anniversary years
- $20 per hectare for each of the subsequent anniversary years

All existing mineral claims, as of July 1st, 2012, in the province were reset to first year claims regardless of their expiration date for the purposes of filing exploration and development work. The age and expiry date of the claims remained unchanged.

Expenditures exceeding the minimum requirement can be applied to maintain a claim in good standing in full year multiples up to a maximum of 10 years in advance. Only work and associated costs for the current anniversary year of the mineral claim may be applied toward that claim unit. Any assessment credit not applied to a claim may be applied to the claim holder's portable assessment credit account (PAC). Portable assessment credits may be used to satisfy up to 30% of the assessment requirements for an anniversary year if they are applied in combination with technical work filed for that year and in combination with the technical expenditure s for that year satisfy the assessment costs for that anniversary year. A report detailing work done and expenditures must be filed with, and approved by, the B.C. Ministry of Energy, Mines and Natural Gas.

In British Columbia, the owner of a mineral claim acquires the right to the minerals which were available at the time of claim location and as defined in the Mineral Tenure Act of British Columbia. Surface rights are not included.

Under the Mines Act a Notice of Work application must be submitted and written approval from the District Inspector of Mines must be received prior undertaking any work on a claim that disturbs the surface by any mechanical means including drilling, trenching, excavating, blasting, construction or demolishment of a camp or access, induced polarization surveys using exposed electrodes and site reclamation. The claim owner must outline the scope and type of work to be conducted. Approval generally takes approximately one month. Exploration activities that do not require a Notice of Work include prospecting with hand tools, geological/geochemical surveys, airborne geophysical surveys, ground geophysics without exposed electrodes, hand trenching (no explosives), and the establishment of grids (no tree cutting). Permitting for exploration activities is outlined in and governed by the Mines Act of British Columbia.

Crown land underlies much of the Wild Rose Property, although some private land does occur in the farthest southern and eastern parts of the Property. A very small portion of the southernmost extent of the Tam O'Shanter Property is underlain by private land. Additionally, the non-congruous portions of the Tam O'Shanter Property, which reside to the east of the main claim block, are partially or totally underlain by private land. Private surface rights held by a third party do not infringe on the mineral rights of the claim holder, nor can access to these areas be denied. Permission has been obtained for any instances requiring access to private land. None of the areas of proposed work or zones of known mineralization are located on private property.

There are no known environmental liabilities on the Property. Any exploration in which ground disturbing mechanized work is proposed must have permits from the Ministry of Energy and Mines. Permits for exploration are held for areas of these Properties, and revisions for new work are pending. Opposition is expected to be minor as the Greenwood Project has a long history of exploration and mining.

5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

Access to the Property and local infrastructure are both excellent. Highway 3 crosses the southern part of the Property, the town of Greenwood is located approximately 1 km northeast of the Property boundary and community of Midway is located approximately 6 km southwest of the Property boundary. There is excellent road access to the claims. The Wild Rose claims are reached by following the Motherlode logging road west from the City of Greenwood, for approximately 1.5 km, then turning left to head west on Goodeve road for about 1.5 km to reach the northern boundary to the Property. Continue 2.5 km and turn left at a switchback in 1.5 km to reach the Wild Rose workings. Immediately after crossing Haas Creek, the Wild Rose (No. 1) adit is located to the west. Additional logging roads provide access to the remainder of the Property (Caron, 2006a). The Tam O'Shanter claims can be reached using the Motherlode Road as well. After 1.5 km, an unmaintained gravel road accesses the Property. Additional access to the Property is available after continuing west on the Motherlode Road where an unnamed road branches off, leading into the Property (Hutter, 2004).

Limited services, including room, board and fuel, are available in the nearby communities of Greenwood or Midway. Grand Forks, located 40 km east along Highway 3 from Greenwood, has a population of about 8,000 in the city and immediate surrounding area and is a more major supply centre. Most services needed for exploration are available in Grand Forks. The closest full-service airports are located in Kelowna, Penticton or Castlegar. Power is available at numerous locations in the southern portion of the property.

The Property is large and topography, vegetation and rock exposure are variable across the claim block. In general, the topography of the claims can be described as gentle to moderate. Numerous major creeks that flow south or west into the Kettle River or into Boundary Creek, are present. Typically these creeks are moderately incised, and slopes may be quite steep in the creek valleys. Away from these valleys, slopes are gentler.

Elevation ranges from about 580 metres in the Kettle River valley at Midway, along the southern property boundary, to about 1,525 metres at the height of land on Copper Mountain. In places there is good rock exposure while in other areas a thick layer of surficial material obscures the bedrock.

In the southern part of the Property, slopes are open, south-facing, grassy areas that are devoid of tree cover. At higher elevations, vegetation consists of open, mixed (fir, pine, larch) second growth forest with minimal undergrowth. A portion of the northern part of the Wild Rose Property has recently been selectively logged.

The climate is semi-arid, with hot summers and little rainfall. Snowfall is typically in the order of 2 m at higher elevations, but less than 0.5 metres on the south facing slopes in the southern part of the Property. This southern area is generally free of snow from mid-March to early December, while the higher elevations and northern part of the Property typically have snow cover from late November through early May. Water for drilling is available from numerous creeks on the Property.

6 History

6.1 Regional History

The Greenwood District has a long history of exploration and mining activity. Excellent historical accounts for portions of the district are provided by Peatfield (1978), Church (1986), Fyles (1984), Parker and Calkins (1964), Bancroft (1914), and Muessig (1967). The reader is referred to these sources for a more thorough discussion of the subject as well as the reports by Caron (2005b, 2006a,b,c). The following discussion pertains primarily to the regional exploration history in the Greenwood Mining District, in the more immediate vicinity of the Wild Rose and Tam O'Shanter Property, although some discussion of recent exploration successes nearby in Washington State is also included. Most of the following dissertation on the regional and detailed Property history below is taken from Caron (2006a,b,c).

The first noted evidence of exploration in the Greenwood area dates back to the early 1880's. This first stage of exploration and development focused on high grade gold and silver veins, such as the Skylark (Minfile 082ESE011), Providence (Minfile 082ESE001), City of Paris (Minfile 082ESE042), and Jewel (Dentonia, Minfile 082ESE055) Mines (Figure 3). The first ore shipped from the Greenwood area was from the Skylark vein, discovered in 1892. Exploration and development of the various veins in the district continued intermittently through the early 1900's. Significant producers were the Jewel Mine, with about 124,000 tonnes averaging 9.9 g/t Au produced, the Athelstan Mine (minfile 082ESE047) at 33,000 tonnes @ 5.4 g/t Au, the Winnipeg Mine (minfile 082ESE033) with 56,000 tonnes @ 7.2 g/t Au, and the Providence Mine (10,500 tonnes @ 17.5 g/t Au, 4060 g/t Ag) (Church, 1986).

In 1890, a large discovery was made in the nearby town of Phoenix, about 5 km east of Greenwood. Exploration in the area had uncovered a high-grade copper skarn mineralized deposit. The Granby Company was formed to work in the Phoenix area in 1896, and in 1900 the Granby Smelter in Grand Forks was completed to process ore from the Phoenix mine (minfile 082ESE020) (Figure 3). Mining continued until 1919, when the Granby mine and smelter closed due to low copper prices, lower ore grades and a shortage of coking coal for the smelter furnaces. The discovery and development of copper skarn mineralization in the Deadwood area (Motherlode mine, Minfile 082ESE034) just north of the Wild Rose Property was happening concurrently to the work at Phoenix, with ore processed in the British Columbia Copper Company smelter at Anaconda (Caron, 2006a).

In 1956, Woodgreen Copper Mines renewed mining at the Motherlode mine (Figure 3). A 900 tonne per day mill was constructed to process ore mined via open pit methods, although production had dropped to 450 tonnes per day by 1959. Mining continued until 1976, at which point the mill was dismantled and removed. The total production from the Motherlode mine to 1962, including the early direct smelting ore, is 4.2 million tonnes at a grade of 0.8% Cu and 1.3 g/t Au (Church, 1986).

At roughly the same time in 1956, the Granby Company re-evaluated the Phoenix property and open pit production at Phoenix began in 1960 at a rate of 900 tonnes per day, was increased to 2,000 tonnes per day in 1961 and further increased to 3,000 tonnes per day in 1972. Granby terminated mining operations at Phoenix in 1976, and later dismantled and moved the Phoenix mill. Total production at Phoenix during the period 1900 - 1976 is reported at 27 million tonnes at a grade of 0.9% Cu and 1.12 g/t Au, from a number of different ore bodies (Church, 1986). This amounts to over 1 million ounces of gold production from the deposit.

Exploration in Greenwood was rekindled in the early 1980's with the discovery of the Sylvester K (Minfile 082ESE046) Au-bearing massive sulphide zone north of the Phoenix. The Sylvester K is contained within a very characteristic, repeatable sequence of Brooklyn sediments and volcanics (the upper portion of the regionally mapped sharpstone unit), sitting just below massive Brooklyn limestone. Complex faulting offsets mineralization and hampered exploration.

Skylark Resources was active in the area during the mid-late 1980's, on their wholly owned Skylark property and on the adjoining OB property, which they held in a joint venture with Viscount Resources. Skylark discovered and explored the H and Serp Zones, straddling the boundary between the Skylark and OB properties. A 458 metre decline was completed on the H Zone, with drifting onto the Serp Zone. Production from the H Zone started in December 1987, at a rate of 90 tonnes per day. Ore was processed in the Bow Mines (Robert's) mill (Minfile 082ESE045, situated on the Boundary Falls Property, adjoining the southern part of the Wild Rose Property) and in the Dankoe Mill near the town of Keremeos (Figure 3). Mining continued through to early 1989, with total production of 33,300 tonnes grading 353 g/t Ag and 2.7 g/t Au. Significant exploration work was also done on the Golden Crown and Lexington Properties during the mid-late 1980's.

Numerous gold deposits were discovered in Washington State, south of the Greenwood area, in the late 1980's and early 1990's, which have implications to exploration in the Greenwood area. One such deposit is the currently mined Buckhorn Mountain (Crown Jewel) gold skarn deposit near Chesaw (Hickey, 1992). The deposit is hosted in probable Triassic rocks in a similar geological setting to the major skarn deposits (Phoenix and Motherlode) in the Greenwood area, although recent exploration suggests that at least some of the gold may be related to a metallogenic event which post-dates the skarn. Exploration in the late 1980's and early 1990's led to the delineation of an open pittable Au resource, however permitting issues prevented the development of the project. During the winter of 2002 and 2003, Crown Resources carried out a 41 hole infill diamond drill program on the Southwest Zone to define a resource for underground development. Late in 2003, Kinross announced an agreement with Crown Resources whereby Kinross would acquire Crown Resources and the Buckhorn Mountain deposit, with the intention of mining the deposit by underground methods and trucking the ore to the existing Kettle River mill for processing. The primary mining method employed is cut and fill, with a target production rate of 900 tonnes per day. Kinross lists a Mineral Reserve and Resource Summary as of December 31, 2011 on their website that lists Proven and Probable Reserves of 1,082,000 tonnes grading 10.96 g/t Au containing 381, 000 ounces. In 2011, Kinross reported a gold equivalent production of 175, 292 ounces (www.kinross.com).

Crown Resources and Echo Bay Mines discovered a new style of Au mineralization in the Belcher District, just south of the Canada-USA border, during the late 1980's and early 1990's. Au-bearing, magnetite-pyrrhotite-pyrite syngenetic volcanogenic mineralization is hosted within Triassic Brooklyn Formation, with at least part of the Au mineralization attributed to a later stage epigenetic event. Four deposits of this new style were discovered and subsequently mined. The Lamefoot deposit was the largest of these discoveries, and produced 2 million tonnes of ore, at an average grade of 7 g/t Au. Total gold production from the four deposits, all of which were milled at the Kettle River Operations mill, was 1 million ounces. Similar host rocks occur in the

Greenwood area and in 1997, Echo Bay Minerals Co. entered into a joint venture agreement to explore certain claims in the Greenwood District for this style of mineralization, with little success (Rasmussen, 1993, 2000).

The Kettle epithermal gold-silver vein deposit immediately west of the town of Curlew in Washington (discovered by Crown Resources in 1985 as the Granny Property) was also developed and mined by Echo Bay Mines during the late 1980's, with the ore processed at the Kettle River Operations mill. In 1990, Echo Bay Mines discovered the K2 epithermal deposit 5 kilometres west of Curlew, in follow-up to an Au stream sediment anomaly. Production began in January 1997 and the deposit was mined at a rate of 800 tonnes per day until mid- 2002, with ore trucked to the Kettle River Operations mill and blended with the Lamefoot ore for milling. By late 2002, with both the Lamefoot and K2 deposits mined out, the mill was placed on a care-and-maintenance basis as exploration in the district continued (Gelber, 2000).

In 2002, Gold City Industries Ltd. acquired the Golden Crown, Lexington and JD Properties (Figure 3), three of the more advanced properties in the Greenwood area (together "The Greenwood Gold Project"). During 2003, 47 diamond drill holes were drilled on the Golden Crown Property, 4 holes were drilled on the Lexington Property and a trenching program was carried out on the JD Property. In 2004, an agreement was reached with Merit Mining (formerly Jantri Resources) whereby Merit would acquire the Greenwood Gold project from Gold City. An additional 59 diamond drill holes were drilled on the Lexington project during 2004 and 2005 to test the Grenoble Zone, and an updated 43-101 compliant Indicated Resource of 329,000 tonnes grading 8.3 g/t Au and 1.3% Cu or 11.3 g/t Au equivalent, at a cut-off of 6 g/t Au equivalent was recently announced for the Grenoble Zone (MEM.V news release Nov. 30, 2005). Merit Mining has received all assays from its fall 2007 diamond drill program. The company completed a 509 m, six-hole surface diamond drill program in late November, 2007. Hole GCD07-03 returned an intercept of 6.10 m grading 50.62 g/t Au. The program was designed to test down dip extensions of the King vein, as well as to obtain samples for metallurgical testwork. One of the holes encountered the Samaritan vein, resulting in an intercept of 10.86 g/t Au across 3.03 m. This hole will add to the property resource base. Additional down dip drill testing of the King vein is anticipated (Merit Mining News Release, 2008).

Merit Mining Corp. (Merit) advanced its Greenwood gold project by constructing a 200 tonne per day gravity/flotation mill and tailings facility. Start-up of the mill occurred in the second quarter of 2008. This mill will provide a custom-milling option for properties in the Greenwood area. Alternately, the Bow Mines flotation mill, on the Boundary Falls property, is available for small scale custom milling jobs (Merit News Release, 2008).

Kinross Gold Corporation (Kinross) discovered the Emanuel Creek epithermal gold deposit east of the K2 deposit, near Curlew, Washington in 2003, and then in 2004, discovered a second area of mineralization to the north (Emanuel North). While in

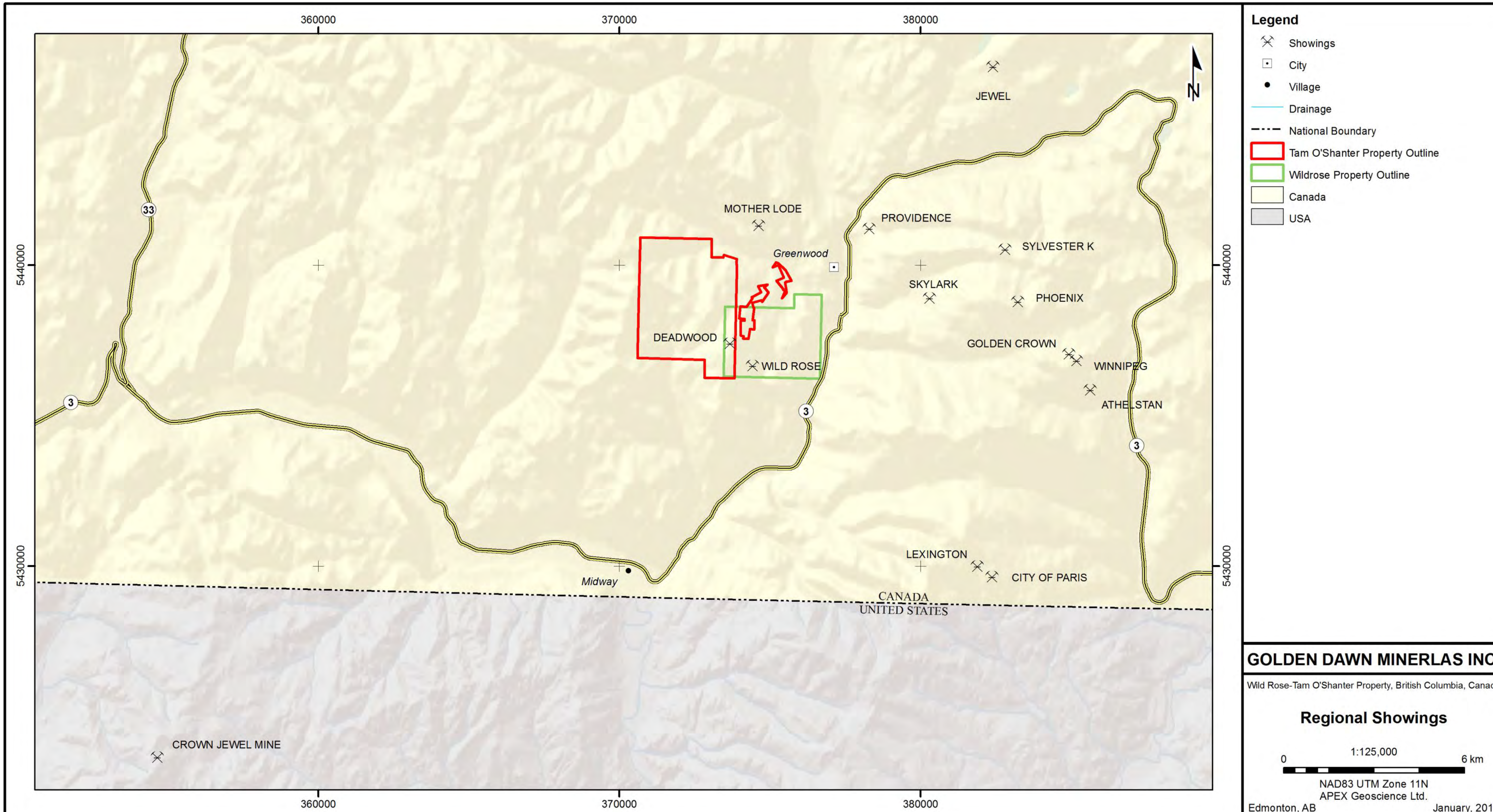

Figure 3. Regional Showings

production, ore from both of the Emanuel deposits was trucked to the Kettle River cyanide mill for processing. Mining has recently been completed at these deposits and the mill has been placed on a care-and maintenance basis. Kinross began development of the Buckhorn Mountain deposit in October 2008, which subsequently re-opened the Kettle River mill, and additional mining will be done at Emanuel North.

6.2 History of Exploration Wild Rose Property

First evidence of work on the Wild Rose Property is from 1897 on the Wild Rose Zone. Initially, work was focused on the Golconda Fraction (Minfile 082ESE116), where a shaft was sunk to a depth of about 50 feet (15 m) on the Shaft vein (Wild Rose Zone) and from there a vein was traced for approximately 300 feet (91 m) from the surface in open cuts. The shaft was reported to have terminated against a fault surface (Minister of Mines Annual Report, 1897). In addition, work was also done in 1899 which included deepening the shaft to 60 feet (18 m), creating additional surface cuts, and tunneling (the No. 3 adit). Through the work completed in 1899 the Shaft Vein was successfully intersected by the No. 3 adit at about 50 feet (15 m) in, at which point the vein was drifted on for 17 feet (5 m) (Minister of Mines Annual Report, 1898). Further work was also done on the Golconda Fraction in 1907 with the creation of a long crosscut tunnel (the No.1 adit). This tunnel was created with the intent of intersecting the vein exposed at the shaft about 200 feet (61 m) below the surface.

1921: Just a short distance to the northwest of the No. 1 adit, the No.2 adit had been started, but did not intersect the vein. It was reported by the Minister of Mines within the 1921 Annual Report that:

> *"The old shaft was sunk on a pyrrhotite-capping, which contained values on the surface of 0.78 ounces (oz) in gold and 0.5 oz silver to the ton. The ore, if any, at the bottom of the shaft was not explored because of water. The open-cut showed extensive mineralization near the shaft"*

1933: A sample was found across 5 feet (1.5 m) of the Shaft Vein and assayed 8.23 g/t Au and 27.43 g/t Ag. A second sample was also found to the south and was reported to assay 22.29 g/t Au (Minister of Mines Annual Report, 1933).

1977: No work is recorded on the Property from 1933 to 1977 when Karl Schindler acquired the Wild Rose property. Work began with the Wild Rose shaft (Minfile 082ESE116) with some of the old cuts being cleaned out and re-sampled and several new trenches were dug southeast of the shaft. A chip sample across 5 feet (1.5 m) at depth in the shaft assayed 8.85 g/t Au (Smitheringale, 1983).

1986: The Wild Rose Property was optioned to Wild Rose Resources Ltd. and a program of surface exploration was conducted, as described by Paxton (1986a, 1986b). A grid was created over an area of 950 x 1000 m, which covered the Wild Rose Zone. Geophysical surveys such as ground magnetometer and Very Low Frequency Electromagnetic (VLF-EM) were completed, and soil samples were collected at 25 m stations on 50 m spaced lines, and analyzed for Au and Ag. Furthermore, every other sample was analyzed for arsenic. Numerous Au anomalies in soils were identified, as shown by Caron (2006a). Many of these anomalous areas have yet to be followed up.

Twelve short diamond drill holes were then completed on the Wild Rose Zone, totalling 521 m (Figure 4). A number of good vein intersections were found as a result of the drilling program, including a massive sulphide vein in drill hole 86-5 which yielded 11.31 g/t Au over a true width of 1.6 m. The locations of the drill holes and results from the drill program are specified in more detail in Caron (2006a).

1987: Wild Rose Resources Ltd. expanded on exploration of the property by completing an additional 10 short diamond drill holes (Figure 4). The diamond drill holes totalled 546 m on the Wild Rose Zone (DiSpirito et al., 1988). This new drill program returned several good vein intersection results including 8.74 g/t Au over 2.3 m from hole 87-3 and 9.36 g/t Au over 2 m in hole 87-4 (Caron, 2006a).

1989: Minnova Inc. optioned the Tam O'Shanter Property (neighbouring the Wild Rose Property to the west) for its potential of an epithermal gold deposit. A grid was created across the Tam O'Shanter Property, setup with 200 m spaced lines. An Induced Polarization (IP) survey was conducted over the grid and several chargeability highs were found. Soil geochemistry was also completed, with the samples collected at 50 metre intervals on 200 metre spaced lines. Several anomalous Au (+/- Cu) zones were found, however the same results were not repeated when comparing the results to the 1986 exploration program. Minnova's coarser grid line spacing did not pick up on the areas of anomalous Au found previously. In 1991, Minnova optioned the Wild Rose property from Ransburg Gold and subsequently carried out a large drill program on the Tam O'Shanter and Wild Rose Property in 1991, and 1992. (Clayton, 1991, 1992a,b; Blower, 1993; Heberlein, 1993a, 1993b).

1991: The Property was acquired by Ransburg Gold Corp. the company commissioned Alex Burton (1992) to estimate a Mineral Resource for the Wild Rose Zone. Burton (1992) calculated a total resource of approximately 23,000 tonnes at an average grade of about 9.94 g/t Au. The reader is warned that the estimated resource quoted by Burton (1992) is considered a historical resource and does not conform to "Best Practice Guidelines for the Estimation of Mineral Resources and Mineral Reserves" (CIM, 2003) and "CIM Definition and Standards on Mineral Resource and Mineral Reserves" (CIM, 2004) and does not comply with any of the categories set out in sections 1.2 and 1.3 of National Instrument 43-101. In addition, the structure and geometry of the veins and faults were not fully understood at this time. Only one vein had been identified at the time, where the interpretation today suggests three discrete veins are present. A new program consisting of diamond drilling and trenching was recommended by Burton to further examine the Wild Rose Zone, and was subsequently conducted. Ransburg Gold's drilling program included eight short diamond drill holes (totalling 260 m) in 1991 (Figure 4; Caron, 2006a).

Caron (2006a) indicates that the property boundaries have changed since Minnova's work was completed. The Wild Rose property has expanded to the west and the Tam O'Shanter property consequently has become smaller in response to a change in ownership over a several hundred metre wide slice of ground at the common property boundary between the two respective properties. Within the new property boundary of the current Wild Rose property 22 diamond drill holes were completed. This drilling

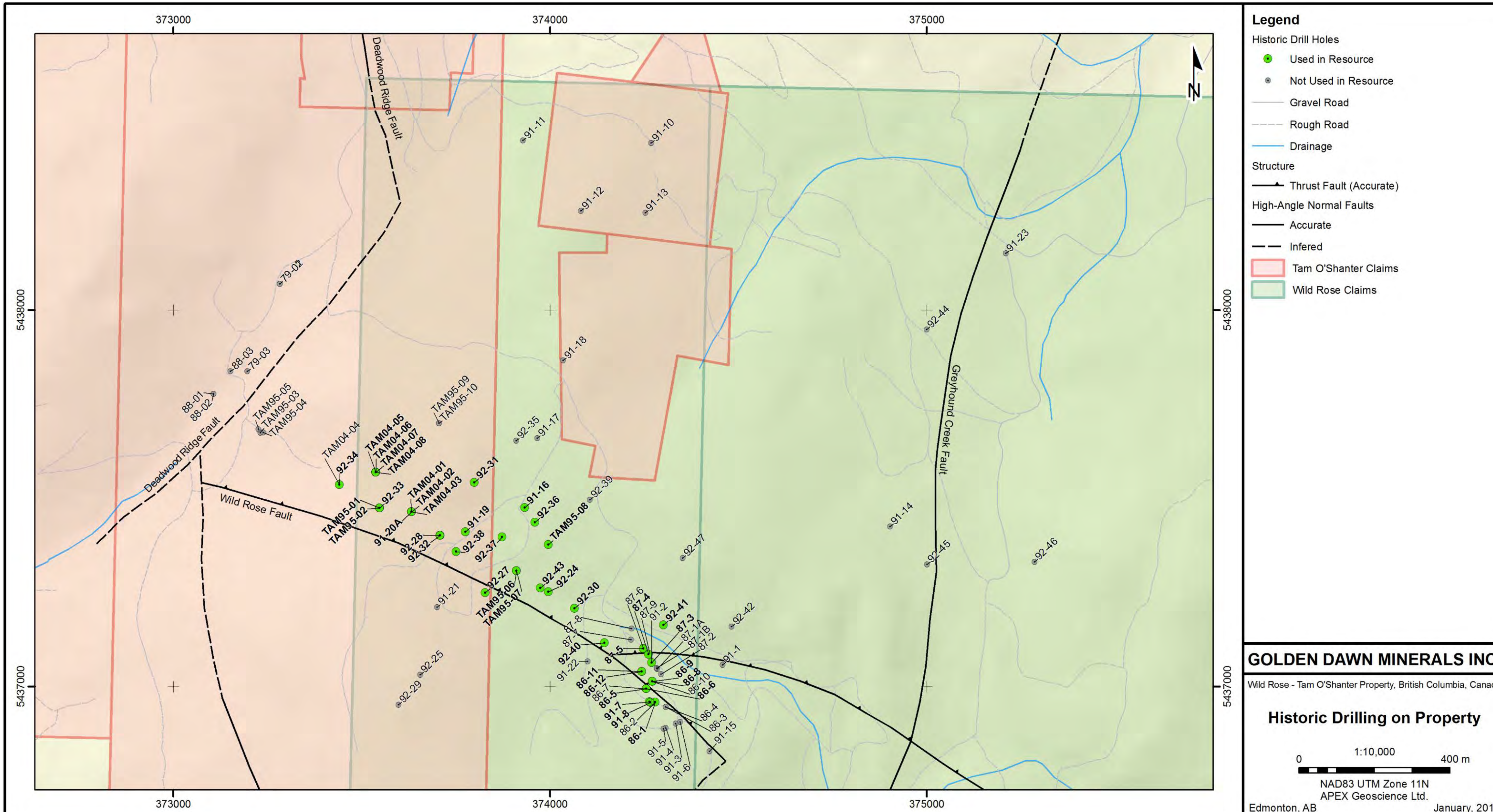

Figure 4. Historic Drilling on Property

program helped in the analysis and testing of areas of induced polarization chargeability highs, anomalous soil geochemistry, and geological structures (Figure 4; Caron, 2006a). Detailed results are unavailable for those holes that were drilled on the former Tam O'Shanter property.

Due to the exploration carried out by Minnova, a new zone of silicification and veining was discovered along the Wild Rose Fault, the Deadwood Zone, which straddles the boundary between the Wild Rose and Tam O'Shanter Property. The Deadwood Zone is thought to represent the on-strike continuation of the Wild Rose Zone. The hanging wall of the Wild Rose Fault was the focus of Minnova's work. Minnova was testing for bulk tonnage targets and found one drill hole (92-41) that intersected a 1.3 m wide vein at a depth of 120 m (85 m vertical depth) and returned a grade of 58 g/t Au over 0.3 m. These results appear to correlate directly with the Wild Cat vein which was discovered during the 1998 drifting program (Caron, 2006a).

1997-98: Wild Rose Property was optioned by First Gold Resources. First Gold Resources conducted an underground program. The No. 1 adit was subsequently brought back into operation and the underground drifting program was initiated in an attempt to drift to the area of drill hole 87-3 intercept (2.3 m at 8.74 g/t Au) within the Wild Rose Vein. The target area could not be reached because ground conditions were poor which required additional costs relating to ground stabilization in order to re-route the drift which also increased the distance of the adit. The spring 1998 program intersected a previously unrecognized massive sulphide vein, the Wild Cat Vein. This intersection resulted in an average grade of 12.07 g/t Au and 2.2% Cu over 1.14 m, with assays up to 29.14 g/t Au and 5.2% Cu. The Wild Cat Vein and Wild Rose Vein are parallel to each other. The Wild Cat vein was the target of the drifting program and is located about 40 m east of the Wild Rose vein, as shown in Caron (2006a).

1998: A comprehensive review of the data collected on the Wild Rose Zone was put together by Linda Caron detailing the mapping completed with respect to the underground workings in the area. This work helped develop a new understanding of the structure and geology, and a new model for mineralization. The new interpretation yielded a model which suggested three discrete, parallel veins occur within the hanging wall of the Wild Rose Fault Caron (1998a,b, 2006a).

2002-03: The Wild Rose Property was optioned to Pine Point Mines Inc. later known as Mineworks Resources Corp. A NI 43-101 compliant technical report was prepared for Pine Point Mines in the fall of 2003 (Caron, 2003). In 2003 work was completed on a small underground drifting program. This drifting program was initiated in an attempt to extend the 1998 drift to its original target (the 87-3 drill hole intercept). A sub-drift (the Wild Cat drift) was also completed in an effort to cut the Wild Cat vein on strike to the northwest from the original 1998 intercept. The No. 1 drift follows a wide, complex but generally low angle east dipping, fault zone (the Wild Rose Fault Zone). Faulting displaces and truncates mineralization which also causes very poor ground conditions. A narrow quartz-carbonate shear vein with local massive pyrite was intersected, along the same fault zone which forms the footwall to the Wild Cat Vein. A sample across the shear vein returned 2.74 g/t Au over a true width of 0.5 m. The drill hole 87-3 intercept was not encountered by drifting (Caron, 2004). The drill hole intercept appears to be situated only about 8 metres northwest of the end of the drift, and about 2 metres above drift level (above the flat fault intersected in the drift) however without accurate survey control it is impossible to determine its exact location (Caron, 2006a). Mineworks dropped its option on the property late in 2004.

2005: The Province of British Columbia implemented a new map-based Mineral Titles system and the claims which made up the Wild Rose Property were changed over to this new system. The property was optioned by 730821 B.C. Ltd. (730821) a wholly owned subsidiary of Genesis Minerals (Genesis) in August 2005. Caron (2006a) was commissioned to prepare a 43-101 compliant technical report on the property. In the fall of 2005, 730821 acquired an interest in two large parcels of ground in the vicinity of Wild Rose property. In December, 2005 the company elected to fly an airborne time-domain Electromagnetic (EM) and Magnetic (AeroTEM II) geophysical survey over a portion of their Greenwood area land holdings in order to test the effectiveness of airborne geophysics in the search for Au and base metal deposits (Caron, 2006a,b,c; Rudd, 2006).

2010: Golden Dawn acquired the Wild Rose Property and compiled a large database of all pre-existing data. This database provides a working platform for an exploration program of a prospective target zone approximately 2,000 m by 200 m (GOM News Release, 2010).

2010-2011: Exploration at the Wild Rose – Tam O'Shanter Property by Golden Dawn during 2010 and 2011 consisted of a diamond drilling program and a soil sampling survey.

Golden Dawn's 2010–2011 drilling campaign commenced November 11, 2010, with a total of 1,877.8 m in 12 NQ sized diamond core holes completed by March, 2011. Five (10WR01 to 10WR05) holes targeted the Wild Rose and Wild Cat veins. Seven holes (10WR06, 10WR07 and 11WR08 to 11WR12) targeted the Deadwood Gold Zone, located approximately 400 m along strike to the northwest of the Wild Rose and Wild Cat veins. The results of the 2010- Spring 2011 drilling are reported in detail by Dufresne et al. (2011). This drilling, together with historic drilling results, confirmed the presence of a significant widespread alteration zone comprising low-grade Au-Cu mineralization along a strike length of approximately 860 m. The main west-northwest trending lode within this zone, the Deadwood Gold Zone, was defined with an apparent horizontal width of up to 115 m and was tested to a vertical depth of approximately 220 metres below surface. In the central portion of the Deadwood Gold Zone, the zone is comprised of up to 4 sub-parallel lodes and the combined apparent horizontal width is approximately 225 m. The Deadwood Gold Zone remains open in all directions.

In April-May, 2011 Golden Dawn also conducted a conventional B-horizon soil sampling program (2,115 samples) along with a test mobile metal ion (MMI) soil sampling program (386 samples; Mark, 2011). The soil sampling was conducted over an area of approximately 504 hectares. A series of significant Au±Cu soil anomalies were identified north of the Deadwood Gold Zone surrounding and overlapping a distinct north trending magnetic anomaly roughly 850 m long by 200 to 250 m wide. Some of the anomalous soils appear to link up in zones that are sub-parallel to the Deadwood

Gold Zone and others appear to be spatially related to the magnetic anomaly either underlain by the anomaly or at the edges of it. One of the Au-Cu anomalies appears to overlap the historic Golden Fleece workings, which are reported to consist of gold in association with a contact zone between altered quartz-feldspar porphyry and Knob Hill Formation rocks (Caron, 2005b). A number of these anomalies warrant further exploration including ground geophysical surveys and/or drill testing.

The eastern half of the soil grid survey area yielded a number of Au±Cu in soil anomalies associated with historic induced polarization (IP) chargeability anomalies and/or magnetic anomalies east of the main Wild Rose - Deadwood Gold Zone trend.

The 2011 MMI soil sample survey was intended as a test survey and was conducted over four lines and from the same sample sites where conventional B-horizon soil samples were collected for comparison. Mark (2011) describes the identification of eight MMI anomalies, consisting of precious metal, molybdenum, and rare earth anomalies. For the most part, the precious metal MMI soil sample anomalies are coincident with conventional soil anomalies and therefore have confirmed and re-enforced the anomalies detected in the conventional B-horizon soil sampling program.

6.3 History of Exploration Tam O'Shanter Property

1898: Two shafts were reported on the Iva Lenore Claim (Minfile 082ESE172) (11 m deep) and the Emerald mineralization (12 m deep) (Minister of Mines Annual Report, 1898).

1921-23: Work on a shear zone displaying mineralization was conducted on the Tam O'Shanter Claim, and included a 63 m adit and an 8 m raise. Additional evidence of work includes two old shafts, which are thought to be part of earlier work on the property. The Tam O'Shanter workings reported a 2.7 tonne shipment of ore, showing an average grade of 14 g/t Au and 2260 g/t Ag (Minister of Mines Annual Report, 1922).

1964: Silver Dome Mines conducted significant work on claims in the Iva Lenore and Tam O'Shanter area. This work included the construction of 16 km of road, 1,865 m of diamond drilling, almost 4,000 m of stripping, line cutting, magnetic surveys and soil sampling (Shear, 1964). The purpose of these programs was to determine the potential for bulk tonnage copper deposits. No economic copper grades had been discovered in spite of the presence of low grade copper mineralization on the Property (Hutter, 2004).

1966-74: Considerable exploration work was conducted by Crown Silver Development, Utah Construction and Mining, San Jacinto Exploration, Sun Oil, Phelps Dodge, Mapletree Exploration, and Mascot Mines and Petroleum. The majority of the work was focused east of the main block of claims that comprises the present day Tam O'Shanter Property. Silver Dome and several interested companies had an airborne magnetic survey flown over the area in 1969. The average total field intensity was determined to be 58,032 gammas, 5 magnetic highs were interpreted with the maximum response reaching +952 gammas and the minimum reaching -229 gammas in a magnetic depression (Cochrane et al, 1969). Sun Oil conducted a percussion drilling program in 1972, and the following year further percussion drilling was done by Mapletree Exploration. During this program low grade Cu mineralization was discovered locally within a zone of epidote skarn (Dickinson and Simpson, 1973). In 1973 and 1974, Mascot Mines drilled 27 percussion drill holes. No sampling or assay results are available for this program, although it was noted that higher Cu concentrations coincide with areas displaying intense shearing related to intrusion of diorite (Shear, 1974a,b). A total of 43 diamond drill holes (approximately totalling 3,810 m) and 63 percussion drill holes (totalling 3,048 m) were completed by these various companies through 1972-1974 in the area (many of which fall outside of the present Tam O'Shanter Property). Results of this work found that a "medium sized zone of 0.3% Cu" was identified on the Buckhorn claim (not part of the current Tam O'Shanter Property) and a zone found on the Iva Lenore Claim was 300 m long by 60-120 m wide, with intercepts ranging from 0.15-0.3% Cu (Caron, 2005b).

1975: Oneida Resources acquired the property, and subsequently discovered the Bengal Zone. In 1979, Oneida conducted a drilling program to test the newly discovered target, and drilled 3 diamond drill holes totalling 658 m. The program was designed to determine the potential for economic porphyry copper-molybdenum mineralization. Geochemical analyses returned values on one metre samples ranging from <0.005 g/t Au to 0.9 g/t Au (Stewart, 1980).

1982: The merger of Oneida Resources with three other companies resulted in the formation of New Frontier Petroleum. Geological mapping was done on the Bengal shaft area, and new exploration of some old trenches elsewhere on the property was conducted using a backhoe. Work continued into 1983 (Caron, 2005b).

1983: New Frontier Petroleum finished work on a 60 m backhoe trenching program in the area near the Bengal shaft. Approximately 1.5 km north minor amounts of trenching were conducted to test an exposure of copper staining on a newly built logging road. No anomalous values of precious metals were returned during trenching. New Frontier Petroleum later became Petro Mac Energy, which then went into receivership, giving the Receiver an interest in the property. The remaining interest was transferred to a subsidiary of New Frontier, Bulkley Silver Resources (Caron, 2005b).

1984-87: In 1984 Jim Fyles mapped the Tam O'Shanter Property. During the same year Herb Shear prepared a data compilation for Bulkley Silver Resources (Shear, 1984; Fyles, 1985). In 1986, Houston Metals was formed by a merger between Bulkley Silver Resources and Cater Energy. Examinations of the property were conducted by Echo Bay Mines and BP Selco, and drill core from the 1979 program was relogged as part of the property examination. The new logs are not available (Fraser, 1987; Wong, 1986).

1988: An IP survey was conducted by Houston Metals on the property. Two anomalous zones were identified by the survey, in which one zone was determined to be sulphide mineralization within a fault zone. The economic interest in the results of the survey resulted in the drilling of 3 diamond drill holes (806 m) to test the anomalies encountered during the IP survey. The most significant results include 1.85 g/t Au over 1.5 m in hole 88-01, 1.99 g/t Au over 0.6 m in hole 88-02, and 1.30 g/t over 1.0 m in hole 88-03 (Arnold, 1989a, 1989b).

1989-90: In 1989, Houston Metals formed Pacific Houston Resources (Caron, 2005b). In 1990, Pacific Houston's interest in the Tam O'Shanter Property was purchased by Kettle River Resources and Dentonia Resources Ltd. The purchase also included the interest held by the Receiver. Additional claims were also staked (Caron, 2005b). The Property was optioned to Minnova Inc. as part of a larger block of ground. An airborne magnetic and VLF/EM (very low frequency electromagnetic) survey was flown over the property by Aerodat. The 1988 grid was re-established and geological mapping, ground magnetics and VLF/EM, and rock and soil sampling were done over the grid area. The mapping conducted did not discover any new geological structures, mineralization, or areas of alteration. Ground geophysics returned the existence of three conductors, one large and two small, thought to be faults with potential for mineralization. Overall rock analyses returned very low precious metal values, although new areas of mineralization were discovered. Soil sample results showed a significant Au anomaly within a 400 m by 200 m area, analyses returned a maximum value of 150 ppm Au (Lee, 1990a,b).

1991: Minnova retained its option on the Property. The 1988 Tam 91 grid was lengthened with an additional 25.9 line km. Soil and rock sampling was carried out on the new grid, as well as geological mapping. Induced Polarization and magnetometer geophysical surveys were conducted over a portion of the grid, and program entailing 21 diamond drill holes to test soil and geophysical targets were completed (9 of these drill holes were located on the current Tam O'Shanter Property). No significant economic mineralization had been reported, although hole 91-20a is noted to have intersected the Wild Rose Vein and returned a grade of 7.30 g/t Au over 3.30 m (Clayton, 1992a,b, Caron, 2005b).

1992: Minnova established the Wild Rose grid and completed detailed mapping over the grid. A program including 22 diamond drill holes, 8 of which were situated on the current Tam O'Shanter Property, was completed (Caron, 2005b). The Deadwood Zone was the primary target for the majority of the 1992 drilling. Drilling results averaged 0.65 g/t Au over an 11.5 m wide shear zone. Some more promising results returned from TM-28 showing include 6.26 g/t Au over 3 m. Minnova dropped their options on both the Tam O'Shanter and Wild Rose Property early in 1993 (Heberlein, 1993; Heberlein and McDowell, 1992).

1995: Kettle River Resources obtained Dentonia's interest in the Tam O'Shanter Property, resulting in a 100% interest in the claims. A compilation detailing previous work was completed, and detailed geological mapping was also done in the same area. A drilling program of 10 holes totalling 1,732 m was conducted at the Deadwood Zone, of which 3 drill holes lie within the current Wild Rose claims. The drill holes testing the vein returned 5.09 g/t over 2.9 m, while drill holes testing the Wild Rose Fault returned 1-2 g/t Au in hole TM-24. Others, such as hole TM-25, returned no anomalous values (Caron, 1995, 1996c).

1997: Echo Bay concluded an agreement with Kettle River Resources to option all of the Greenwood claims. Exploration for volcanogenic targets similar to those found in the Belcher District of Washington State became the primary focus, however the Tam O'Shanter Property was not considered to host the appropriate target, and as a result of this, no work was conducted on the Property other than a small rock and soil sampling program. The program was conducted primarily for assessment requirements and returned no anomalous values of gold (Caron, 1997c).

2002: The Buck and Wet claims which formed part of the former Tam O'Shanter Property were allowed to lapse. Subsequent staking meant that these claims became the property of others. As a result, the eastern boundary of the current Tam O'Shanter Property is different from the historic boundaries of the Property (Caron, 2005b).

2004: In 2004, the Deadwood Zone (Wild Rose Vein) was tested by drilling 8 diamond drill holes (totalling 1,418 m) carried out by Kettle River Resources. Although low Au grades were predominant, some drill holes did return decent assay results. Hole 92-31 returned an assay of 25.1 g/t Au over 1.03 m, while holes 91-20a and 95-02 returned 7.3 g/t Au over 3.3 m and 20.16 g/t Au over 1.2 m, respectively. Claims were surveyed by GPS, and a single 52 m long trench was also completed, although no analyses were completed (Hutter, 2004; MacDonald and Klassen, 2004).

7 Geological Setting and Mineralization

7.1 Regional Geology

The Wild Rose and Tam O'Shanter Property are located within the Boundary Mining District of southern British Columbia and northern Washington State. This area exhibits strong mineralization straddling the Canada-USA border and includes the Republic, Belcher, Rossland and Greenwood Mining District (Figure 5). The Boundary District's total Au production exceeds 7.5 million ounces, the majority of which has been from the Republic and Rossland areas (Schroeter et al, 1989; Höy and Dunne, 2001; Lasmanis, 1996). At Republic, approximately 2.5 million ounces of Au, at an average grade of more than 17 g/t Au, has been produced from epithermal veins (Lasmanis, 1996). In the Rossland Camp, 2.8 million ounces of Au at an average grade of 16 g/t Au was mined from massive pyrrhotite-pyrite-chalcopyrite veins (Höy and Dunne, 2001). Renewed interest and exploration in the Boundary District has resulted in the discovery of several new deposits. Following these recent discoveries, more than 1 million ounces of Au has been produced to date. At present, there is one active metal mine in the district located at Buckhorn Mountain in Northern Washington State operated by Kinross. Production of ore began in October 2008. Kinross lists a Mineral Reserve and Resource Summary as of December 31, 2011 on their website that lists Proven and Probable Reserves of 1,082,000 tonnes grading 10.96 g/t Au containing 381, 000 ounces (www.kinross.com). Much of the following section on the geology of the Greenwood Area has been taken from Caron (2006a,b,c).

Areas within the Boundary District have been extensively mapped on a region-wide scale by a variety of people, including Höy and Dunne (1997), Fyles (1984, 1990), Massey (2006), Monger (1967), Little (1957, 1961, 1983), Höy and Jackaman (2005), Church (1986), Parker and Calkins (1964), Muessig (1967) and Cheney and Rasmussen (1996). Although different formation names may have been used when mapping the different areas of the Boundary District, the geological setting is similar.

7.1.1 Structural Geology

The Quesnellia terrane is located in southern British Columbia and northern Washington State. The Boundary District is situated in the Quesnellia terrane which accreted to North America during the mid-Jurassic. Proterozoic to Paleozoic North American basement rocks are exposed in the Kettle and Okanogan metamorphic core complexes. During the Eocene, these core complexes were uplifted which resulted in the formation of several important grabens. Consequently, low-angle normal (detachment) faults separate the metamorphic core complexes from the younger overlying rocks. The distribution of these younger rocks is largely controlled by a series of faults, including both Jurassic thrust faults (related to the accretionary event), and Tertiary extensional and detachment faults. This structural setting is thought to have played an important role in the formation and distribution of the many gold deposits in the region.

In the Greenwood area, Fyles (1990) has shown that the pre-Tertiary rocks form a series of thrust slices, which lie above a basement high-grade metamorphic complex. A total of at least five thrust slices are recognized to be dipping gently to the north and marked in many places by bodies of serpentine. There is a strong spatial association between Jurassic thrust faults and gold mineralization in the area (Caron, 2006a).

Furthermore, three Tertiary fault sets are recognized, an early, gently east-dipping set, a second set of low angle west-dipping, listric normal (detachment-type) faults, and a late, steeply dipping, north to northeast trending set of right or left lateral or west side down normal faults (Fyles, 1990). Epithermal gold mineralization, related to Eocene fluids along with Eocene intrusions and structural activity, is also an important source of gold in the Boundary District (Caron, 2006a).

The Tertiary rocks are preserved in the upper plates of low-angle listric normal (detachment-type) faults related to the uplifted metamorphic core complexes, in a series of local, fault-bounded grabens (i.e. Republic graben, Toroda graben) (Cheney and Rasmussen, 1996; Fyles, 1990). In the Greenwood area, a series of these low angle faults occur (from east to west, the Granby River, Thimble Mountain, Snowshoe, Bodie Mountain, Deadwood Ridge, Windfall Creek, and Copper Camp faults, Figure 5). These faults have taken a section of the Brooklyn stratigraphy and sliced it into a series of discrete blocks, each separated by a low angle fault. For example, the Phoenix section is rooted by the Snowshoe fault with about 1 kilometre of offset to the west on the Snowshoe fault (Figure 5; Caron, 2006a).

Overlying these rocks were rocks now exposed about 6 km to the west in the Deadwood area in a complex zone of faulting. The Deadwood segment was in turn overlain by rocks now situated to the west above the Copper Camp fault. The low angle Tertiary faults have displaced pre-Tertiary mineralization (i.e. the Deadwood area represents the top of the Phoenix deposit), however current thinking attributes at least some of the gold in the deposits to the low angle Tertiary faults that underlie them (Caron, 2006a).

7.1.2 Paleozoic Geology

Paleozoic volcanics and sediments are the oldest of the accreted rocks in the district. These rocks are separated into the Knob Hill Complex and the overlying Attwood Formation throughout the southern and central parts of the district (Figure 5). The Knob Hill Complex is composed primarily of chert, greenstone, related intrusives, and serpentinite. The serpentinite bodies of the Knob Hill Complex represent part of a disrupted ophiolite suite which have since been structurally emplaced along Jurassic thrust faults. Commonly, these serpentinite bodies have undergone Fe-carbonate alteration to listwanite, as a result of the thrusting event. Serpentinite is also commonly remobilized along later structures. Sediments and volcanics dominantly composed of argillite, siltstone, limestone and andesite of the late Paleozoic Attwood Formation unconformably overlie the Knob Hill rocks.

7.1.3 Mesozoic Geology

There is an unconformity between the Paleozoic Attwood Group and the Triassic Brooklyn Group (Figure 5). The Attwood Group is overlain by the Brooklyn Formation which is largely composed of limestone, clastic sediments, and pyroclastics. The Triassic rocks in the Boundary District are host to both the skarn deposits and the Au-bearing volcanogenic magnetite-sulphide deposits. Volcanic rocks overlie the limestone and clastic sediments of the Brooklyn Formation and may be part of the Brooklyn Formation, or may belong to the younger (Jurassic) Rossland Group. In the western part of the district, the Permo-Triassic rocks are undifferentiated at present, and are collectively referred to as the Anarchist Group (Caron, 2006a).

At least four separate intrusive events are known regionally to cut the above sequence, including the Jurassic-aged alkalic intrusives (i.e. Lexington porphyry, Rossland monzonite, Sappho alkalic complex), Triassic microdiorite related to the Brooklyn greenstones, Cretaceous-Jurassic Nelson intrusives, and Eocene Coryell (and Scatter Creek) dykes and stocks (Caron, 2006a).

7.1.4 Tertiary Geology

Eocene sediments and volcanics unconformably overlie the older rocks (Figure 5). The oldest of the Tertiary rocks are conglomerate, arkosic and tuffaceous sediments of the Eocene Kettle River Formation. These sediments are overlain by andesitic to trachytic lavas of the Eocene Marron Formation, and locally by rhyolite flows and tuffs (such as in the Franklin Camp). The Marron volcanics are in turn unconformably overlain by lahars and volcanics of the Oligocene Klondike Mountain Formation (Caron, 2006a).

7.2 Property Geology

Large areas of alluvial cover are common, particularly in the southern part of the Property. In some areas, there is extremely good rock exposure, while in other areas a thick layer of glacial till is present and there is little to no outcrop. The property geology discussed below is taken from Caron (2006a,b,c).

7.2.1 Wild Rose Property

A major east-west trending, low angle north-dipping thrust fault is present along Haas Creek in the southern part of the Property and is marked by a body of serpentinite. This fault is thought to be regionally correlative with the Lind Creek fault. The majority of the past gold production in the Greenwood area has been from the mineralization in the upper plate of the Lind Creek thrust (Figure 6).

The Lind Creek fault is cut by the Greyhound fault, a late, north-south striking, steeply dipping structure with unknown displacement that runs through the centre of the Property (Figure 6). The Greyhound fault is a major (splaying) fault structure, and is marked by a wide zone of shattering and silicification in the surrounding rocks. West of the Greyhound fault, two fault splays occur along Haas Creek, with the southern of these known as the Wild Rose fault. There is poor rock exposure near the intersection of the Greyhound and Lind Creek faults.

To the south of the Lind Creek fault and east of the Greyhound fault, a large area of Greenwood Gabbro intrusive is exposed (Figure 6). The Greenwood Gabbro (formerly referred to as "Old Diorite") is a medium to coarse grained massive intrusive comprised of plagioclase and green to black pyroxene (which has been extensively replaced by hornblende). The intrusive is bounded to the south by a second zone of regional thrusting, the Mount Attwood/Mount Wright fault system.

West of the Greyhound fault and in the footwall of the Wild Rose and Lind Creek faults, a large area of chert breccia and chert pebble conglomerate occurs. The chert breccia unit is shown as unit Pkbx on Figure 6, in accordance with Fyles (1990), however at present there is no compelling reason to include these rocks as part of the Knob Hill Complex. The unit is entirely fault bounded and may in fact be younger than the Knob Hill rocks. Other workers consider these rocks to be correlative with the sharpstone conglomerate of the Triassic Brooklyn Formation (Little, 1983; Paxton, 1986b), part of the Attwood Formation (Heberlein, 1993), or even part of the Tertiary (Clayton, 1991). The chert breccia forms distinctive rusty cliffs in the southern part of the property, and is locally silicified with anomalous Au values in rocks and in soil (Lee, 1990a,b; Caron, 2002c; Paxton, 1986b).

North of the Lind Creek/Wild Rose fault zone, the property is underlain primarily by Knob Hill Complex chert (unit PKc on Figure 6). The chert grades imperceptibly into siliceous greenstone (unit PKv on Figure 6) and it is often difficult to separate the chert from the greenstone. A band of siltstone, tuffaceous siltstone and argillite occurs in the central part of the Wild Rose property and hosts mineralization at the Wild Rose Zone. It sits unconformably on Knob Hill chert and is in part overlain by limestone. This unit is

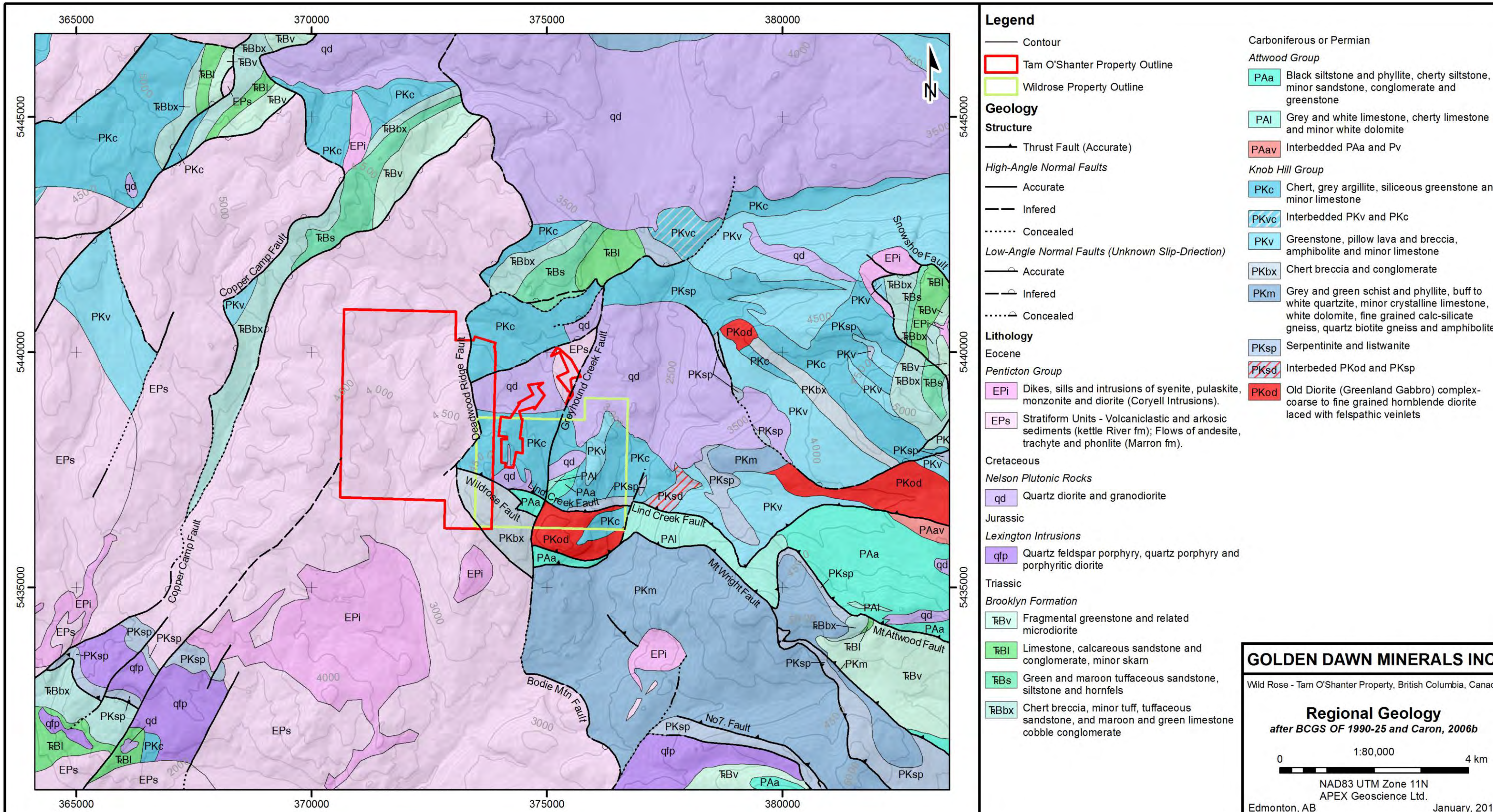

Figure 5. Regional Geology

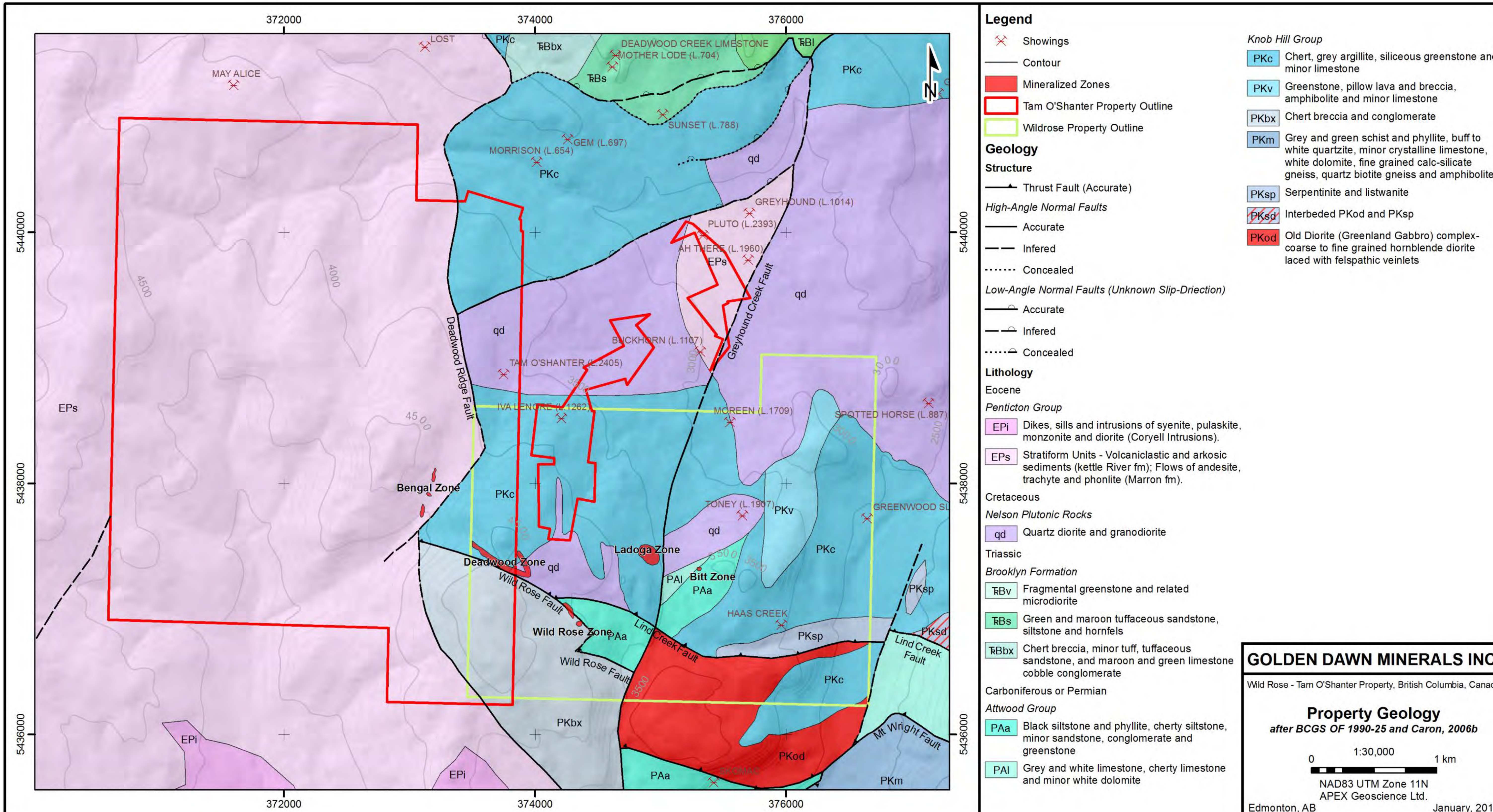

Figure 6. Property Geology

tentatively assigned to the Permian Attwood Formation based on its similarity to rocks to the south on the Boundary Falls property.

A large Cretaceous-Jurassic quartz diorite to diorite intrusive of the Nelson Plutonic suite (unit qd on Figure 6) cuts the older rocks, in the northern part of the Property. Smaller diorite intrusives within other parts of the Property may be part of this same suite.

7.2.2 Tam O'Shanter Property

The Tam O'Shanter property is located at the eastern boundary of the Toroda Creek graben. The western part of the Property is largely covered by Eocene volcanics and lesser sediments (unit EPs on Figure 6), which are separated from the older rocks to the east by the low angle, west dipping Deadwood Ridge Fault (Figure 6; Caron, 2005b). The Property geology discussed below is largely taken from (Caron, 2005b).

Rocks in the footwall of the Deadwood Ridge Fault include chert, greenstone and related diorite intrusives of the Knob Hill Group (Figure 6). In the extreme southern portion of the Property, the Knob Hill rocks are separated from chert, sediments and conglomerate (also part of the Knob Hill Group) to the south by a major northwest trending, moderate northeast dipping fault (the Wild Rose Fault; Figure 6). The Wild Rose fault terminates against the Deadwood Ridge fault in the vicinity of the Bengal Zone. It is believed to be a (Jurassic-aged) thrust fault, with later re-activation during the Eocene extensional event (Caron, 2005b).

Intrusive activity on the Property is complex. In the northern portion of the property, the Knob Hill rocks are intruded by a large body fine to medium grained Nelson diorite (EPs, Figure 6). Pervasive weak propylitic alteration and low-grade copper mineralization is common within the intrusion. Shear (1974) reports that "*higher concentrations of copper occur in places of more intense shearing along the contact zone of this intrusive*" (i.e. the Tam O'Shanter, Buckhorn and Iva Lenore showings).

In the vicinity of the Deadwood Zone, the earliest intrusive is the Knob Hill Group diorite. Ultramafic rocks cut the Knob Hill rocks, but their relationship to other intrusives is unknown. Knob Hill diorite is intruded by the Jurassic-Cretaceous (?) Golden Fleece quartz diorite. The Golden Fleece quartz diorite is a blonde coloured quartz-feldspar porphyry which is typically strongly altered (argillic, phyllic) and is visually similar to the Lexington quartz-feldspar porphyry. Contacts between the Golden Fleece intrusive and Knob Hill Group rocks seem to be an important control for Au mineralization. The Golden Fleece intrusive is cut by relatively fresh "B-phase" dykes and stocks of probable Cretaceous Nelson affinity (although the relationship of the "B-phase" unit to the larger area of Nelson diorite to the north is unknown). Three distinct Tertiary aged dykes cut earlier intrusives, including a dark gabbroic dyke, which may be related to olivine basalt flows seen on surface, and a coarse quartz-eye dyke both of which are unknown elsewhere in the area, as well as the typical Eocene-aged feldspar (± biotite) porphyry and syenite dykes that are common throughout the area (Caron, 2005b).

7.3 Mineralization

Numerous areas of gold ± silver, copper and other metal occurrences have been identified during past exploration by different companies and prospectors on Golden Dawn Minerals' Wild Rose – Tam O'Shanter Property. Caron (2005b, 2006a) describes the significant zones and occurrences of metallic mineralization on the Greenwood area in two detailed Technical Reports. The 2005b Report focuses largely on the many Greenwood Area Properties and was referenced for use of its information related to the Tam O'Shanter Property. In addition, the 2006a 43-101 report was used for its extensive information on the Wild Rose Property. Thus much of the information presented here related to the mineralization of Golden Dawn Minerals' Wild Rose – Tam O'Shanter Property is taken from Caron (2005b, 2006a).

7.3.1 Wild Rose Property

Exploration work conducted on the Wild Rose Property has identified four zones of mineralization which are described below (Figure 6). Much of the exploration carried out on the Wild Rose Property has primarily focused on the Wild Rose Zone and the Deadwood Zone. The Wild Rose Zone represents an area containing a series of discrete, sub-parallel massive sulphide veins in the hanging wall of the Wild Rose fault. The Deadwood Zone located along strike to the northwest is an area of silicification and widespread low-grade Au mineralization (including several high grade veins). The Deadwood Zone is also located in the hanging wall of the Wild Rose fault and likely represents the on-strike continuation of the Wild Rose Zone (Caron, 2006a).

7.3.1.1 Wild Rose Vein System - Minfile 082ESE116

Three parallel, north to northwest trending, steeply dipping gold-bearing veins occur on the Golconda Fr. reverted crown grant. These veins are collectively known as the Wild Rose Zone. The Wild Rose veins are massive pyrrhotite-pyrite-chalcopyrite veins, and locally quartz veins with lesser pyrrhotite, pyrite and arsenopyrite. The veins are approximately 1-2 metres in width.

The majority of previous exploration work completed in this zone was based upon the assumption that a single vein was present. Detailed underground mapping combined with a review of previous drilling suggests that three discrete, parallel veins occur in the hanging wall of the Wild Rose fault, or within the fault zone itself (Caron, 2006a). The failure of a number of drill holes to intersect veins has in many instances been the result of drilling through the Wild Rose fault before reaching the assumed location of the vein. No veins have been discovered to date within the footwall of the fault. Caron (2006a) provides an excellent summary, including drill hole locations and assay results, of the historic drilling conducted at the Wild Rose Zone.

Within close proximity to the Wild Rose Zone, the most abundant lithology in the hanging wall of the fault is a fine grained felsic tuff with minor interbedded chert. There is strong alteration in the area which commonly alters the tuffaceous rocks to sericite and chlorite. Furthermore, local sulphidic alteration with up to 15% veinlets and disseminated pyrite and pyrrhotite also occurs within the tuffaceous rocks. The Wild Rose fault is marked by a wide zone of mixed rock types, including abundant Tertiary dykes. The rocks in the footwall of the fault are unaltered chert pebble conglomerate, sandstone and siltstone, tentatively assigned to the Knob Hill Complex (Caron, 2006a).

The vein located furthest to the west, the Shaft vein, is exposed in a series of trenches, in the Wild Rose shaft, and in the No. 3 adit (Caron, 2006a). The Minister of Mines Annual Report for 1921 states that "*The old shaft was sunk on a pyrrhotite-capping, which contained values on the surface of 0.78 oz in gold and 0.5 oz silver to the ton.*" In 1933, a sample across 1.5 m of the Shaft vein assayed 8.23 g/t Au and 27.43 g/t Ag. A second sample collected to the south assayed 22.29 g/t Au (Minister of Mines Annual Report 1933). In 1977, the shaft and some of the old cuts were cleaned out and re-sampled and several new trenches were dug southeast of the shaft. A chip sample across 1.5 m in the shaft assayed 8.85 g/t Au (Smitheringale, 1983). The No. 1 adit, originally driven to cut the Shaft vein at depth, was unsuccessful in intersecting the vein since the adit passed into the footwall of the Wild Rose fault before reaching the projected position of the vein (Caron, 2006a).

The Wild Rose vein has been intersected by drilling to the northeast of the Shaft vein based on information that these two veins are roughly parallel to one another. Some of the better drill intersections in the Wild Rose vein are shown in Table 2 below.

Table 2. Historic Drill hole assay highlights for the Wild Rose Vein

Drill Hole	Width	Grade
86-5	1.7 metres	11.31 g/t Au, 16.11 g/t Ag
86-8	1.5 metres	5.83 g/t Au, 5.83 g/t Ag
86-12	1.5 metres	9.26 g/t Au, 7.54 g/t Ag
87-3	2.3 metres	8.74 g/t Au, 13.34 g/t Ag, 3807 ppm Cu

Throughout 1998 and 2004, work was done on the No. 1 adit to extend it in an attempt to intersect the Wild Rose Vein, in the vicinity of the drill hole 87-3 intercept (Caron 2006a). At the point where the No. 1 adit moves to the northwest from the original drift, the adit runs along the Wild Rose Fault Zone. The Wild Rose Fault Zone is wide, complex and generally dips to the east at a low angle. Also, the ground conditions within the fault zone are very poor (Caron, 2004). The drill hole 87-3 intercept was not encountered in the drift, but, based on information from drilling, appears to be situated only about 8 metres northwest of the end of the drift, and about 2 metres above drift level (above the Wild Rose Fault Zone). Accurate survey control is needed to determine its exact location. Alternately, underground percussion drilling could attempt to locate the vein (Caron, 2006a).

The Wild Cat Vein is parallel to the Wild Rose Vein, and situated about 40 metres to the east. It is exposed in the No. 1 adit, where panel sampling by Caron in 1998 returned an average grade of 12.07 g/t Au over a true width of 1.14 m (Caron, 1998b). Grab samples from the vein ran up to 29.14 g/t Au and to 5.2% Cu. The Wild Cat Vein has also been intersected in drilling, with highlights shown in Table 3 (Caron, 2006a).

Table 3. Historic Drill hole assay highlights for the Wild Cat Vein

Drill Hole	Width	Grade
87-4	2.0 metres	9.36 g/t Au, 5.14 g/t Ag
92-41	0.7 metres including 0.3 metres	25.7 g/t Au 58.46 g/t Au

A narrow quartz-carbonate shear vein with local massive pyrite was intersected in the 2004 drifting program, along the same fault zone which forms the footwall to the Wild Cat vein. A sample across the shear vein returned 2.74 g/t Au over a true width of 0.5 m (Caron, 2004).

Caron (2006a) indicates that a total of 33 diamond drill holes have been drilled to test the Wild Rose Zone. Neither the Wild Rose nor the Wild Cat vein is exposed on surface. Caron (2006a) recommends that a trenching program be carried out in order to provide surface exposures of both veins for geological and metallurgical purposes. Caron (2006a) suggests that the depth potential of the veins increases to the northwest, and all veins are open on strike and to depth in this direction. Furthermore, the ground to the northeast remains unexplored for the possibility of additional parallel veins.

There is also potential for bulk tonnage mineralization in the Wild Rose Zone, similar to the Deadwood Zone along strike to the northwest. Anomalous Au was returned from highly altered, sulphidic tuff with stockwork sulphide veinlets in hole 86-9 (1.5 m at 1.68 g/t Au). In most cases, similar looking rock in drill core from the Wild Rose Zone is unsplit and unassayed. It is strongly recommended that the entire existing core be reviewed and any and all sulphidic intervals be split and sampled.

Burton (1992) estimated a total resource of about 23,000 tons at an average Au grade of about 9.94 g/t. The estimate represents a historical resource and is no longer likely a valid estimate based upon the work conducted since (Caron, 2006a). Caron (2006a) indicates that the geometry of the Wild Rose veins and faults were poorly understood at the time the historic work was conducted, as only one vein was recognized, where the present interpretation identifies three discrete veins. In addition, subsequent programs of exploration including trenching, diamond drilling and underground development have been carried out since and have resulted in a better geological model of the Wild Rose veins and gold-silver mineralization (Caron, 2006a). Caron (2006a) indicates that the historic drill hole locations and prior underground and surface trenching are only partially surveyed to acceptable advanced exploration or mining standards. It is strongly recommended that all drill hole collars, trenches and the underground development be properly surveyed and that the location data be compiled along with assays, geology and down hole surveys into a suitable drill hole and resource modelling software. This would then permit a modern review of the resource potential indicated by the existing drill hole data. In addition, such a compilation will result in a 3D model of the existing mineralization and point out areas requiring further drilling at the Wild Rose Zone.

7.3.1.2 Deadwood Zone

The Deadwood Zone is a northwest trending zone of silicification and quartz veining within Knob Hill chert and greenstone and within diorite in the hanging wall of the Wild Rose fault. The zone is located along the boundary between the Wild Rose and Tam O'Shanter Property. The Deadwood Zone likely represents the on-strike continuation of the Wild Rose Zone. Minnova conducted an extensive drilling program in this zone in 1991 and 1992. Drilling occurred on both the Tam O'Shanter Property and the adjoining Wild Rose Property. This included 11 drill holes on the current Wild Rose property. The drill results are unavailable for the holes drilled on the current or former Tam O'Shanter Property. The focus of Minnova's work was testing for bulk tonnage targets in the hanging wall of the Wild Rose fault. Several narrow high grade veins as well as a wide zone of low grade gold mineralization were intersected in the drilling (Caron, 2006a). Significant results from the historic drilling of the Deadwood Zone on the Wild Rose Property are shown in Table 4.

Table 4. Historic Drill hole assay highlights for the Deadwood Zone

Drill Hole	Width	Grade
91-16	63.16 metres Including 0.15 metres	0.95 g/t Au 134.2 g/t Au
92-27	26.15 metres Including 5.51 metres	0.754 g/t Au 2.5 g/t Au
92-31	1.03 metres	25.1 g/t Au

7.3.1.3 Ladoga Zone

An adit and several pits are reported in an area of complex faulting and associated silicification west of the Greyhound fault (Clayton, 1991). These workings are situated on the former Sam 6 claim in the vicinity of the former Ladoga crown grant. The area is underlain by strongly brecciated, pyritic Knob Hill chert and greenstone, and by diorite. A strong IP chargeability anomaly is associated with the Ladoga Zone; a gold soil anomaly also occurs in this area (Blower, 1993). Several rock samples collected from this area returned significantly anomalous barium (up to 2,313 ppm) as well as elevated arsenic (to 279 ppm) and copper (up to 2,557 ppm). Three drill holes were drilled by Minnova to test the Ladoga Zone and showed numerous fault zones, typically marked by serpentinite or by graphite, and confirmed the anomalous barium, with values locally exceeding 10,000 ppm Ba, and locally anomalous Cu (up to 2,353 ppm Cu). Narrow zones of semi-massive pyrite were also intersected. Drilling also showed that sandstone and chert pebble conglomerate (possibly unit Pkbx) are present at depth. The 2005 AeroTEM II survey identified a north trending conductor in the vicinity of the Ladoga Zone. Further work is required to test this target (Caron, 2006a).

7.3.1.4 Bitt Zone

An old shaft of unknown depth has been developed on a zone of garnet skarn and associated quartz veining near the faulted contact between limestone and diorite, near the boundary of the former Bitt and Nick 1 claims. A single sample was collected from this zone by Clayton (1991) which returned 22.2 ppm Ag, 40,257 parts per billion (ppb) Pb, and 1,029 ppm Zn. There is no further documentation of this zone (Caron, 2006a).

7.3.2 Tam O'Shanter Property

There are four main areas of known mineralization on the Property: the Bengal Zone, Deadwood Zone – Wild Rose Vein, Tam O'Shanter, and Iva Lenore in which the latter two zones are Minfile occurrences. These four zones of mineralization found throughout the Tam O'Shanter Property have been studied extensively by Linda Caron (2005) and the results of her work are given below.

7.3.2.1 Bengal Zone

Within the Eocene sediments which are found adjacent to the Deadwood Ridge Fault (the Bengal Zone and its southern extension – the "Sinter" zone) is a large area of epithermal alteration (silica flooding, hydrothermal (?) brecciation and widespread alteration). An old shaft (undocumented in the historical records) was dug on the Bengal silicified zone. Gold and silver results have consistently remained low from this area. The older rocks to the East of the Bengal Zone exhibit silicification and chalcedonic veining, with elevated gold values up to 2 g/t Au (Caron, 2005b).

Three holes were drilled in 1979 to test the Bengal Zone, while later in 1983 a trenching program was conducted in the area. All of the trenching and drilling targeted the footwall of the Deadwood Ridge Fault, however significant precious metal values were not encountered during this exploration. Logging west of the Bengal Zone has opened access to the area through the creation of logging roads, allowing drill testing of the Deadwood Ridge fault at depth to the west. Eocene rocks in the immediate hanging wall of the fault would also be tested by drilling in this area (Caron, 2005b).

7.3.2.2 Deadwood Zone – Wild Rose Vein System

Three or more sub-parallel quartz veins, located in a wide zone of intense shearing and silicification, occurs along the Wild Rose Fault and is collectively known as the Deadwood Zone. The Deadwood Zone is found along the boundary between the Wild Rose and adjoining Tam O'Shanter Property and has been the site of the most recent exploration done on the Property. A number of Eocene syenite dykes occur within the Wild Rose Fault Zone. These dykes usually appear intensely altered and are closely associated with the veining. These Eocene events have not definitively linked the resultant alteration to gold mineralization in the veins (Caron, 2005b).

Widespread silicification, argillic, and phyllic alteration in the rocks located within the hanging wall of the Wild Rose fault (the Deadwood Zone) are accountable for the elevated gold values present in the area (Caron, 2005b).

The Wild Rose vein is located within the Deadwood Zone on the Tam O'Shanter property and is considered the main vein. The Wild Rose vein, which occurs within the main Wild Rose fault zone, is a gold bearing quartz vein approximately 1-4 metres wide, striking approximately 125º and dipping at 65-70º to the north. The vein is composed of massive white quartz containing localized pods of massive pyrite, pyrrhotite and lesser amounts of chalcopyrite and arsenopyrite. Chloritic fractures and local mariposite also occur within the vein. Very commonly, a "pulaskite" dyke is recognized along the immediate hanging wall or footwall of the vein. Locally this dyke divides the vein, forming two segments. Initially, the vein was discovered through drilling because it does not outcrop. The location of the drilling took place on-strike along the Wild Rose fault from the Deadwood Zone (Caron 2005b).

Historically, 19 drill holes have been drilled to test the Wild Rose vein (on the Tam O'Shanter Property). The drilling commenced over a strike length of about 700 metres and to a depth of 210 m. The Wild Rose vein continues into the adjoining Wild Rose Property to the southeast along strike. While to the west, near the junction of the Wild Rose and Deadwood faults, the vein is weaker and the gold grade is considerably less (Caron, 2005b).

North of the drilling area, a shaft and adit (the Golden Fleece workings) exposed an area of bleached, altered quartz diorite, cut by a stockwork of quartz veinlets. A 0.5 m vein, mineralized with pyrite, chalcopyrite and molybdenite, is exposed in this area which may be the surface expression of the (upper?) hanging wall vein (Caron, 2005b).

7.3.2.3 Tam O'Shanter - Minfile 082ESE130

The Tam O'Shanter showing consists of 2 shafts, a 63 metre long adit, and an 8 metre raise. These showings all occur within weakly mineralized (pyrite, chalcopyrite and locally native copper) Nelson diorite (Caron, 2005b).

7.3.2.4 Iva Lenore - Minfile 082ESE172

Disseminated pyrite, pyrrhotite and chalcopyrite (and locally native copper) occur in Knob Hill greenstone which shows epidotization as well as chloritization, near the contact with Nelson diorite. Disseminated pyrite and minor chalcopyrite also occur in the intrusion. The greenstone is cut by narrow quartz stringers and molybdenite and chalcopyrite containing veins (Caron, 2005b).

7.3.2.5 Other Occurrences

Three percussion holes were drilled in 1973 on the detached northeastern block of the Tam O'Shanter Property, known as the Montrose Fraction. A zone of epidote (+/- chlorite, pyrite, hematite) skarn showing local low grade copper mineralization was found during drilling (Dickinson and Simpson, 1973).

8 Deposit Types

The Boundary District and more specifically the Greenwood area represents a region with diverse geology. This geological diversity has consequently resulted in a diverse assemblage of deposit types and mineral occurrences with potential ore deposits. According to research done by previous sources, the Greenwood area is under-explored and is prospective for a number of different types of precious-base metal deposits. Golden Dawn Minerals' Wild Rose - Tam O'Shanter Property are prospective for Au, Cu, and Ag. Occurrences of chrome, nickel, PGE's and lead-zinc mineralization are known within the Boundary District that are not discussed below (Caron, 2005b). The following section outlines a number of potential deposit types to be explored for on Golden Dawn Minerals' Wild Rose - Tam O'Shanter Property and is largely taken from Caron (2006a,b,c).

8.1 Skarn Deposits

The Boundary District is host to both gold and copper-gold skarn deposits. Cretaceous-Jurassic intrusive activity into the limestone and limey sediments created these deposits which generally belong to the Triassic Brooklyn Formation. Important examples of this type of deposit include the currently producing Buckhorn Mountain (Crown Jewel) deposit at Chesaw, Washington, USA (Kinross). The historic Phoenix deposit near Greenwood is another good example of this deposit along with the Motherlode deposit which is located just west of Greenwood. Historic production from Phoenix is 27 million tonnes at 0.9% Cu and 1.12 g/t Au from Motherlode and 4.2 million tonnes at 0.8% Cu and 1.3 g/t Au (Church, 1986).

Due to the exploration carried out in the district recently, a new theory suggests that at least some of the metal in the "skarn" deposits (Phoenix, Motherlode) pre-dates the skarn event. The Lamefoot horizon found in the Brooklyn Formation is an iron (+/- Cu, Au, Zn) rich volcanogenic massive sulphide (VMS) horizon (discussed below). All of the major "skarn" deposits in the district are found at the same stratigraphic position within the Brooklyn Formation as the Lamefoot VMS horizon. The skarn alteration may simply be a redistribution of earlier syngenetic mineralization on this horizon, with perhaps some additional metals (particularly gold) introduced along structures cutting the horizon (Caron, 2005b).

Exploration in the Boundary District has traditionally focused on the skarn mineralization specifically targeting copper (and more recently gold) in the Brooklyn limestone and sharpstone, and less commonly calcareous units in the Knob Hill Complex and Attwood Formation. There has been little exploration for mafic volcanic hosted Cu (plus Au) skarns (i.e. QR, Ingerbelle type) (Caron, 2005b).

8.2 Mesothermal Quartz Veins with Gold (+Silver, Lead, Zinc)

Gold and silver mineralization is found in mesothermal quartz veins related to Cretaceous-Jurassic Nelson intrusives. Polymetallic Ag-Pb-Zn veins with lesser Au are also included in this type. These veins may be found in the intrusives, or within the adjacent country rock. Examples are the Jewel (Dentonia) and Providence veins, and the veins at Camp McKinney. At Camp McKinney, Au bearing quartz veins are hosted primarily by Permo-Triassic Anarchist Group greenstones, quartzite, chert and limestone. Past production at Camp McKinney was 124,452 tonnes at an average grade of 20.39 g/t Au (with minor Pb, Zn and Ag). This production was primarily from one east-west striking, near vertical quartz vein, averaging about 1 metre in width and mined over a strike length of about 750 metres (Caron, 2002b; Minfile 082ESE020).

8.3 Epithermal Quartz Veins (and Gold along Eocene Structures)

The Republic district has produced almost 2.5 million ounces of Au, at an average grade of better than 17 g/t Au from Eocene-aged low sulphidation epithermal veins (Lasmanis, 1996). The veins formed in a hot spring environment after deposition of the Sanpoil (Marron) volcanics, but before the deposition of the Oligocene Klondike Mountain Formation (Tschauder, 1986, 1989; Muessig, 1967). Erosion in the Republic area has exposed or removed the paleosurface of the Klondike Mountain Formation;

however many of the Republic deposits are blind deposits which are found beneath post mineral sediments of the Klondike Mountain Formation. Vein orientation is between about 330° and 030°; dips are typically moderate to steep. The Republic veins on average extend to depths of 200 – 250 metres, but some veins have also been found reaching depths up to 500 metres. Ore found within the veins occurs in high grade shoots and thus is not continuous along the entire vein. These high grade shoots range from 30 to 180 metres in strike length. The veins grade into stockwork zones found near the contact between the Sanpoil volcanics and the overlying Klondike Mountain Formation. Silicified breccias cap the stockwork veins locally which contain low grade Au and locally disseminated pyrite that make potential bulk tonnage gold targets. Gold-sulphide mineralization is also associated with both high and low angle Tertiary faults. A number of new epithermal deposits have been discovered in recent years in the Republic and Curlew areas (i.e. Golden Eagle (Minfile 082ESE079), Kettle, K2, Emanuel Creek, Emanuel North (Fifarek et al, 1996; Gelber, 2000, Kinross website). The Emanuel Creek vein near Curlew is an impressive new 'blind' vein discovery, under an average 380 m of post-mineral cover, with grades up to 44.57 g/t Au over widths in excess of 30 m (Kinross webcast, April 3, 2003). Kinross has recently completed mining the Emanuel Creek deposit.

The Wild Rose Property also has potential to host epithermal veins. The Bengal Zone on the Tam O'Shanter Property, adjoining the Wild Rose property to the west, is an example of epithermal veining associated with the eastern margin of the Toroda graben (Caron, 2005b).

8.4 Jurassic Alkalic Intrusives with Copper, Gold, Silver and/or PGE Mineralization

Copper-gold and copper-silver-gold-PGE mineralization is found within Jurassic-aged alkalic intrusives throughout several areas within the Boundary District. There is a strong spatial association between Jurassic structures (thrust faults) and Jurassic alkalic intrusives. A low-grade copper-gold (+ molybdenum) porphyry system occurs at the Lone Star - Lexington property, less than 9 km southeast of the Wild Rose – Tam O'Shanter Property, in a Jurassic quartz-feldspar porphyry intrusion (Seraphim et al, 1995).

Massive to semi-massive chalcopyrite-magnetite-pyrite + PGE mineralization, with associated gold, occurs in Jurassic syenite and pyroxenite on the nearby Sappho Property, located approximately 7 km south of the Wild Rose – Tam O'Shanter Property, near Midway (Caron, 2002a; Nixon, 2002; Nixon and Archibald, 2002), and at the Gold Dyke and Comstock mines near Danville (Tschauder, 1989).

At Rossland, parallel, en echelon, Au-bearing massive pyrrhotite-pyrite-chalcopyrite and quartz veins are related to the intrusion of the multi-phase, Jurassic aged Rossland monzonite. At Rossland more than 20 veins are recognized in an area of about 1,200 by 600 m, from which over 5.5 million tonnes of ore grading 16 g/t Au was produced (Höy and Dunne, 2001). Au bearing massive sulphide veins on the Golden Crown property near Phoenix and at the Wild Rose Zone, have similarities to Rossland style veins (Caron, 1998a,b, 1999).

8.5 Gold Mineralization Associated with Serpentinite

A number of gold deposits within the Boundary District are associated with massive sulphide and/or quartz/calcite veins within structurally emplaced serpentinite bodies along regional fault zones. Known ore bodies have traditionally been small, but often very high grade. On the Lexington – Lonestar property approximately 9 kilometres southeast of the Wild Rose – Tam O'Shanter Property, Merit Mining Corp. (MEM) announced late in 2005 an updated NI 43-101 compliant Indicated Resource of 329,000 tonnes grading 8.3 g/t Au and 1.3% Cu or 11.3 g/t Au equivalent, at a cut-off of 6 g/t Au equivalent for the Grenoble Zone (MEM news release Nov. 30, 2005). Mineralization on the Athelstan-Jackpot and Golden Crown properties southeast of Phoenix, the Snowshoe property west of Phoenix, the California mine near Republic, and the Morning Star mine (Minfile 082ESE006) near Danville are similarly associated with serpentinite (Caron, 1999, 2004; Tschauder, 1989).

8.6 Gold-bearing Volcanogenic Magnetite-Sulphide Deposits (Lamefoot-type)

In the late 1980's, Crown Resources and Echo Bay Minerals found a new style of mineralization within the Boundary District. They described it as gold-bearing, magnetite-pyrrhotite-pyrite syngenetic volcanogenic mineralization (Rasmussen 1993, 2000). Primarily the mineralization is hosted within the Triassic Brooklyn Formation, and at least part of the gold is attributed to a late stage epigenetic (Jurassic or Tertiary) event. The gold bearing massive magnetite and sulphides at the Overlook, Lamefoot and Key West deposits in Ferry County, Washington, all occur at the same stratigraphic horizon, with a stratigraphic footwall of felsic volcaniclastics and a massive limestone hanging wall, and with auriferous quartz-sulphide and sulphide veinlets in the footwall of the deposits (Caron, 2006a).

In the Greenwood District, the Sylvester K occurrence is an example of this style of mineralization (Caron, 1997). Mineralization occurs within the same stratigraphic position in the Brooklyn Formation as the Lamefoot, Overlook and Key deposits. As discussed above, the Phoenix and Motherlode "skarn" deposits occur at the same stratigraphic position as the Lamefoot VMS/O horizon, and much of the metal in these deposits is now believed to be unrelated to the skarn event (Caron, 2006a).

9 Exploration

Previously, Golden Dawn drilled 1,877.8 m in 12 diamond drill holes at the Wild Rose - Tam O'Shanter Property between November, 2010 and March, 2011. Drilling targeted the Wild Rose Vein System as well as the Deadwood Gold Zone. Holes 10WR01 to 10WR05 tested the Wild Rose veins and yielded intersections of semi-massive sulphide including pyrrhotite, pyrite and chalcopyrite from at least one vein in all 5 holes. Golden Dawn also completed soil sampling during the spring 2011 program. Data from the soil sampling surveys delineated a distinct 1.4 km long Au in soil geochemical anomaly that is coincident with the Wild Rose – Deadwood gold zones along with untested anomalies along strike northwest and southeast of the west-northwest trending zones and a number of other Au-Cu targets that require follow-up exploration. A series of significant Au±Cu soil anomalies have been identified north of the Deadwood Gold Zone surrounding and overlapping a distinct north trending magnetic anomaly that is roughly 850 m long by 200 to 250 m wide. A the north end of the Property, in the vicinity of the Iva Lenore showings, a striking Cu-Au anomaly with numerous samples yielding greater than 100 ppb Au and 200 ppm Cu was identified. The anomaly is roughly 850 m by 300 m and is spatially associated with the southern edge of a magnetic anomaly that is likely related to an altered and weakly deformed Nelson aged (Jurassic) diorite or monzodiorite intrusion. The results of the 2010-2011 drilling and soil sampling program are reported in detail in Dufresne et al. (2011).

Golden Dawn completed follow-up drilling at the Wild Rose – Tam O'Shanter Property in fall 2011. The fall 2011 drill program, completed between August and October, 2011, consisted of a total of 12 NQ sized diamond drill holes totalling 3,467.5 m. Eight of the holes (11WR13 – 11WR18, 11WR24) were designed to continue testing and extending the Deadwood gold zone. The remaining 5 holes (11WR19 – 11WR23) were exploration holes testing various soil geochemical anomalies identified by the soil sampling program completed earlier in the year. The details of the diamond drilling program can be found in the "Drilling" section of this report.

10 Drilling

10.1 Wild Rose – Tam O'Shanter Property

Golden Dawn completed drilling on the Wild Rose – Tam O'Shanter Property in 2 campaigns: a fall 2010 - spring 2011 program and a fall 2011 program. The results of the fall 2010 - spring 2011 program have been reported by Dufresne et al. (2011) and are summarized below.

The initial 2010-2011 drilling comprised of 1877.8 m of NQ sized drill core in 12 diamond drill holes targeting the Wild Rose vein system (10WR01 to 10WR05), and the Deadwood Gold Zone (10WR06, 10WR07, and 11WR08 to 11WR12; Table 5). The 2010-2011 drilling program encountered several significant intersections that included hole 10WR02, which yielded 9.57 g/t Au and 0.21% Cu over 1.7 m, including a single high grade sample of 22.06 g/t Au, 7.8 g/t Ag and 0.58% Cu over 0.5 m core length within the Wild Rose vein system. In the Deadwood Gold Zone 11WR08 intersected 0.54 g/t Au and 0.03% Cu over 81.68 m core length, with a higher grade zone of 0.72 g/t Au over 57.0 m core length. Hole 11WR10 yielded 0.43 g/t Au over 127.0 m core length, with higher grade intervals of 0.78 g/t Au over 29.0 m core length and 0.86 g/t Au over 11.0 m core length (Dufresne et al., 2011).

Golden Dawn's fall 2011 drilling campaign commenced August 30, 2011, with drilling duties being conducted by T-Drilling Limited of Timmins, ON. Geological services and overall project supervision were provided by personnel from APEX. A total of 3,467.5 m in 12 NQ sized diamond core holes were completed by October, 2011. The collar locations were pegged using a hand held GPS and have not been re-surveyed after completion of drilling. Holes 11WR013 to 11WR18, and 11WR24 tested the continuity and attempted to expand the size of the Deadwood Gold Zone. The other five holes, 12WR19 to 12WR23 were reconnaissance drill holes designed to test strong copper and gold anomalies farther north on the Wild Rose Property. The locations of the drill holes are presented in Table 6 below and are shown on Figure 7. Assay certificates are included in Appendix 2 and drilllogs are included in Appendix 3.

Table 5. 2010 – 2011 Drill Collar Locations

Prospect	Hole ID	Easting N83Z11	Northing N83Z11	Elevation (m)	Azimuth	Dip	Total Depth (m)
Wild Rose	10WR01	374266.0	5437088.0	1233	225	-65	93.57
Wild Rose	10WR02	374250.0	5437104.0	1241	225	-75	95.1
Wild Rose	10WR03	374245.0	5437016.0	1241	n/a	-90	55.47
Wild Rose	10WR04	374231.0	5437116.0	1234	n/a	-90	117.96
Wild Rose	10WR05	374259.0	5437164.0	1230	230	-65	130.15
Deadwood	10WR06	373915.0	5437388.0	1313	200	-45	182.88
Deadwood	10WR07	373539.0	5437528.0	1334	224	-60	181.97
Deadwood	11WR08	373602.0	5437499.0	1339	223	-55	163.68
Deadwood	11WR09	373670.0	5437440.0	1360	220	-50	147.22
Deadwood	11WR10	373810.0	5437395.0	1360	220	-50	175.57
Deadwood	11WR11	373930.0	5437410.0	1350	220	-50	303.58
Deadwood	11WR12	373951.0	5437370.0	1335	220	-60	230.74
Deadwood	11WR13	373870.0	5437530.0	1356	220	-60	335
Deadwood	11WR14	373857.0	5437540.0	1358	220	-45	368
Deadwood	11WR15	373767.0	5437694.0	1358	220	-45	401
Deadwood	11WR16	374099.0	5437382.0	1295	220	-45	266
Deadwood	11WR17	374175.0	5437324.0	1272	220	-45	272
Deadwood	11WR18	374226.0	5437272.0	1270	220	-45	207
Reconnaissance	11WR19	374129.0	5437641.0	1310	220	-45	317
Reconnaissance	11WR20	373902.0	5438494.0	1165	220	-45	251
Reconnaissance	11WR21	374173.0	5438520.0	1151	220	-45	299
Reconnaissance	11WR22	374264.0	5438449.0	1147	220	-45	137
Reconnaissance	11WR23	374257.0	5438457.0	1157	220	-45	225.5
Deadwood	11WR24	373610.0	5437714.0	1350	220	-55	389

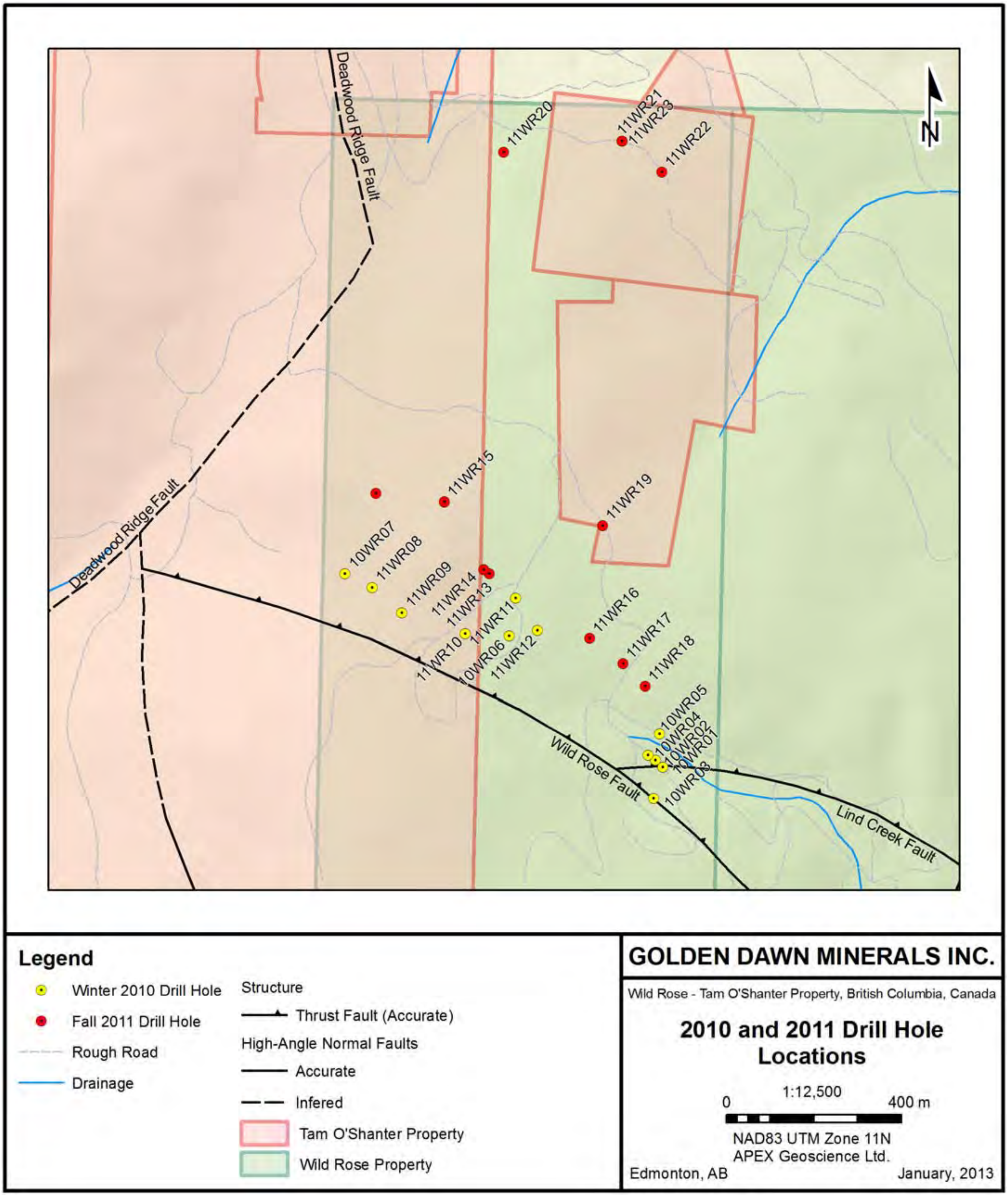

Figure 7. 2010 and 2011 Drill Hole Locations

The 12 hole fall program was focused on targeting additional tonnage in the extensions of the Deadwood portion of the Deadwood – Wild Rose Inferred Resource Zone as well as copper-gold soil anomalies at the north end of the Property. The Deadwood – Wild Rose Gold Zone is oriented in an approximately northwest – southeast direction and dips approximately 70° to the northeast. Drilling was oriented at ~220° to cut across the zone. True width ranges from about 65% to 85% and averages about 75% of core length

Seven holes encountered wide zones of sulphide mineralization and silicification along with quartz vein stockworks associated with multiple gold zones in the Deadwood gold system (Table 6). Drill holes 11WR13 to 11WR18 and 11WR24 were drilled over a strike length of 750 m along the Deadwood Gold Zone. The drilling program targeted the northwest, southeast and depth extension of the Deadwood Gold Zone. The Deadwood Gold Zone has now been extended to depth and along strike to the northwest and southeast but remains open along all directions.

Table 6. Summary assay results for drill holes 11WR13 to 11WR24

Drillhole	Zone	From (m)	To (m)	Interval (m)‡	Au (g/t)	Ag (g/t)	Cu %	Pb %	Zn %	Mo %
11WR13	Deadwood1	259.7	316.2	56.5	0.32		0.03			
	includes	263.5	303.5	40.5	0.38		0.02			
	Deadwood2	131.5	233.57	92.07	0.1		0.01			
	includes	141.5	170	46.5	0.15		0.01			
	Deadwood4	36.5	44	7.5	1.4					
	includes	42.5	44	1.5	6.47					
11WR14	Deadwood	84.5	344	157	0.21		0.02			
	Deadwood1	270.5	296	25.5	0.15		0.03			
	Deadwood2	195.5	211.6	18	0.12		0.01			
	Deadwood4	84.5	98	13.5	0.11		0.02			
11WR15	Deadwood	244	401	162.33	0.19		0.02			
	Deadwood1	356	401	45	0.44		0.04			
	includes	356	383.2	27.2	0.62		0.03			
	Deadwood2	244	269	25	0.21		0.03			
	Includes	257	263	6	0.62		0.04			
	Deadwood4	15.3	23	7.7	1.51		0.03			
	includes	15.3	17	1.7	6.62	1.5	0.07			
11WR16	Deadwood	132.5	252.5	120	0.29	2.95	0.02	0.06		
	Deadwood1 1	193	252.5	59.5	0.25	2.75	0.02	0.03	0.1	
	includes	225.5	252.5	27	0.3	3.38	0.04	0.04	0.14	
	includes	246.5	252.5	6	0.62	4.55	0.01	0.11	0.33	
	Deadwood2	152	182	30	0.57	3.74	0.02	0.09	0.31	
	includes	152	170	18	0.72	4.54	0.03	0.11	0.39	
	Deadwood4	32	83	51	0.1		0.02			
	includes	32	42.5	10.5	0.2		0.01			
11WR17	Deadwood	3	219.5	216.5	0.11	0.98	0.01	0.01	0.03	
	(uncut)**			216.5	(0.38)*	0.98	0.01	0.01	0.03	
	Deadwood1	179	219.5	40.5	0.17	1.51	0.02	0.01	0.03	
	Deadwood4	3	38	35	0.3	1.48	0.01	0.03	0.1	
	(uncut)**			35	(2.00)*	1.48	0.01	0.03	0.1	

	Includes	36.5	38	1.5	43.64	3.1		0.02	0.08	
11WR18	Deadwood1	110.15	175.65	65.5	0.2		0.02			
	includes	149	165.5	16.5	0.35		0.02			
	includes	161	1165.5	4.5	0.9		0.03			
	Deadwood2	14	84.5	70.5	0.28	1.53	0.01	0.05	0.14	
	includes	15.5	39.5	24	0.66	1.84	0.02	0.05	0.15	
	includes	14	26	12	1.01	1.33	0.01	0.01	0.05	
11WR19	Deadwood Silver	138.5	170	31.5	0.05	72.6	0.02	0.05	0.18	
	includes	138.5	150.5	12	0.02	166.5	0.02	0.05	0.18	
	Deadwood 3 & 4	225.5	293	67.5	0.27		0.01	0.01	0.03	
	Deadwood3	225.5	234.5	9	0.47		0.02			
	Deadwood4	266	293	27	0.44		0.01	0.02	0.07	
	includes	267.5	282.5	15	0.68		0.02	0.03	0.1	
11WR20	Buckhorn Copper	3	242	239	0.12		0.08			0.004
	includes	3	59	56	0.13	0.62	0.1			0.003
	includes	153.5	155	1.5	6.35	0.7				0.068
	includes	216.5	231.51	15.01	0.15	0.47	0.12			0.004
11WR21	Buckhorn Copper	4	287	283	0.09		0.09			
	includes	4	128.22	124.22	0.15		0.13			
	includes	4	92	88	0.16		0.14			
	includes	141.5	170	46.5	0.15		0.01			
	includes	254.5	278	23.5	0.11		0.2			
11WR22**	Buckhorn Copper	5	63.5	58.5	0.12		0.1			
11WR23***	Buckhorn Copper	3.55	94.65	91.1	0.11	2.24	0.09			
	and	193	225.5	32.5	0.08		0.16			0.004
11WR24*	Deadwood	137.25	378.5	241.25	0.18		0.04			
	Deadwood1	325	372.5	47.5	0.51		0.09			
	Deadwood2	246.5	277.39	30.89	0.16		0.05			
	Deadwood3	213.5	215	16.5	0.26		0.03			

*Based upon the 2011 statistical analysis, a 5 g/t upper cut has been applied to individual high grade assays.
**Hole 11WR22 not completed to target depth and abandoned due to drilling problems
***Hole 11WR23 ended in mineralization
‡The Deadwood Gold Zone dips approximately 70 degrees northeast. True width ranges from about 65% to 85% and averages about 75% of core length

The holes on the flank of the Deadwood Inferred Resource zone encountered widespread pyrite, and chalcopyrite in disseminations, blebs, and clusters, and in several wide vein-associated systems. This mineralization is widespread in nature, and is now known to extend over 1,500 metres in length and 300 metres in width and over 300 metres at depth. Some of the more significant intersections that were encountered include: hole 11WR13 with 56.5 m of 0.32 g/t Au and 0.03% Cu, and 7.5 m of 1.40 g/t Au, including 1.5 m of 6.47 g/t Au. Hole 11WR15 yielded a 162.33 m intersection of 0.19 g/t Au that included 45 m of 0.44 g/t Au. Hole 11WR24 encountered 241.25 m of 0.18 g/t Au and 0.04% Cu, including 47.5 m of 0.51 g/t Au and 0.09% Cu.

The final three holes targeting the Deadwood Gold Zone, 11WR16 - 11WR18, also encountered significant silver, and minor associated lead and zinc. Significant intersections from these holes include: 120 m of 0.29 g/t Au, 2.95 g/t Ag, 0.02% Cu, 0.06% Pb, and 0.20% Zn including 18 m of 0.72 g/t Au, 4.54 g/t Ag, 0.03% Cu in 11WR16. Hole 11WR17 intersected 216.5 m of 0.11 g/t Au and 0.98 g/t Ag, including 1.5 m of 43.64 g/t Au and 3.1 g/t Ag. In hole 11WR18, 70.5 m of 0.28 g/t Au and 1.53 g/t Ag, including 12 m of 1.01 g/t Au and 1.33 g/t Ag, were intersected.

Drill holes 11WR19 to 11WR23 were reconnaissance drill holes designed to test coincident strong copper and gold, and magnetic anomalies north of the Deadwood Zone. Visible sulphide mineralization and silicification were also intersected in most of these drill holes also.

Drillhole 11WR19 targeted a series of significant Au±Cu soil anomalies identified north of the Deadwood Gold Zone surrounding and overlapping a distinct north trending magnetic anomaly. The hole was also extended at depth to test the depth extension of the Deadwood Zone. This hole intersected a significant silver bearing zone grading 72.6 g/t Ag over 31.5 m, including a 12 m zone of 166.5 g/t Ag. This new silver zone is located at the contact between basalt and mudstone and is characterized by silicification along with a stock-work of thin to very thin (<1 cm to mm size) quartz-carbonate veins with fine grained galena and sphalerite. At depth the hole intersected Lodes 3 and 4 of the Deadwood gold zone, with grades of 0.47 g/t Au over 9.0 m core length and 0.44 g/t Au over 27.0 m core length, including a higher grade zone of 0.68 g/t Au over 15.0 m core length (Table 6). These intersections represent extensions to Lodes 3 and 4 of the Deadwood Gold Zone.

Drill holes 11WR20 to 11WR23 were situated near the northern border of the Property and were designed to test gold and copper soil anomalies adjacent to the southern contact o the Buckhorn Diorite. The Motherlode Skarn, a historic mine in the Greenwood area, is spatially associated with the northern contact of the Buckhorn Diorite. These holes were drilled over an area of 400m by 400m approximately 1km north of the Deadwood Gold Zone and intersected disseminated chalcopyrite in basalts and dioritic intrusions with wide, low grade copper-molybdenum-gold-silver mineralization (Table 6). Hole 11WR22 did not reach target depth and was abandoned due to drilling problems, but was re-positioned and re-drilled as 11WR23, which ended in mineralization. Significant intersections from the northern exploration holes include 239 m of 0.12 g/t Au, 0.08% Cu, and 0.004% Mo, including 1.5 m of 6.35 g/t Au, 0.7% Cu, and 0.068% Mo in hole 11WR20, and 283 m of 0.09 g/t Au and 0.09% Cu in hole 11WR21. Hole 11WR23 intersected 91.1 m of 0.11 g/t Au, 2.24 g/t Ag, and 0.09% Cu. This mineralization reflects a possible intrusive-related system extending over large portions of the Property holdings. This interpretation is supported by geophysical responses in conjunction with widespread anomalous precious and base metal values in soil samples.

11 Sample Preparation, Analyses and Security

11.1 Sampling Method and Approach

Drilling was oriented roughly southwest and was conducted along a northwest-southeast trending direction, targeting the mineralization associated with the Wild Rose - Wild Cat vein system and the Deadwood Gold Zone. The 2011 drilling program at the

Wild Rose area was initiated to test for the presence and continuity of low grade Au-Cu mineralization related to Deadwood Zone type alteration. As with the 2010-2011 drill program the fall 2011 drilling, sampled drill core continuously from top to the bottom of each hole. Samples were generally collected over 1.5 m intervals, however, samples were started and ended based upon geological contacts, therefore, in some cases there are samples intervals that are less than or greater than 1.5 m. Samples less than 1.5 m are restricted to sections with quartz or high sulphide veins or zones that were expected to return anomalous gold values. Drill core was marked for sampling and halved with a diamond saw or manual hydraulic splitter; samples were then bagged and labeled. This preparation was conducted by the geological staff supplied by APEX.

Previous operators have indicated that exploration in this area had been hindered by poor recovery. This program carefully recorded all recoveries, and though there were extensive intervals of broken core and some intervals with poor recovery, overall the core recovery was considered satisfactory.

11.2 Chain of Custody

Core was logged and sampling conducted at a secure geology camp set up in Rock Creek. Samples were shipped via Overland West Freight Lines to the Inspectorate America Corp (Inspectorate) lab in Richmond, BC. Inspectorate conducted the analysis, which included multi-element geochemical analysis for gold and trace metals using ICP-AES, and standard Au fire assay.

11.3 Sample Preparation

Sample preparation was conducted by Inspectorate, in which drill core samples up to 2 kg are dried for 24 hours, followed by crushing. They are then riffle split to approximately 250 g and pulverized to greater than 85% -200 mesh. The Inspectorate laboratory equipment is cleaned between each sample with compressed air and brushes. Gold was assayed by Inspectorate method Au-1AT-AA, which is a 1AT fire assay and Atomic Absorption Spectroscopy (AAS). Copper was assayed by method Cu-4A-OR-ICP, which is inductively coupled plasma (ICP) analysis designed to test for ore grade. A 30-element geochemical analysis was conducted, by Inspectorate method 30-4A-TR, in which 30 trace elements are analyzed using inductively coupled plasma atomic emission spectroscopy (ICP-AES) with a 4-acid (near total) digestion. . Analytical certificates are included with the assay results in Appendix 2.

12 Data Verification

A total of 2,342 drill core samples, 128 blanks, 129 standards, and 127 duplicates were sent to Inspectorate's laboratory in Richmond, BC. A stringent QA/QC protocol was adhered to during drilling and sampling in which standards, duplicates, and blanks were inserted at an interval of every seven to ten samples, alternating between blanks and standards (Appendix 4). A field blank sample consisting of gravel and containing negligible elemental trace was also inserted in to the sample stream. Standard references were either a gold standard (CDN-GS-3H, CDN-GS-4C, CDN-GS-7B or CDN-GS-1P5D), or a copper-gold standard (CDN-CGS-24, CDN-CGS-28 or CDN-CM-6). Results were monitored for accuracy and are described below in section 12.1.

Inspectorate uses an in-house quality assurance/quality control (QA/QC) program for soil sampling which involves the insertion of blank and standard samples. Inspectorate is accredited under International Organization for Standardization (ISO) 9001:2008, as well as by other international and national standards, such as the United Kingdom Accreditation Service (UKAS), National Accreditation of Measurement and Sampling (NAMAS), and the Dutch National Accreditation Board (STERLAB). Inspectorate participates in round robin testing managed by Canada Centre for Mineral and Energy Technology (CanMet), and employs assayers who are BC Certified.

The author cannot comment on the quality control measures that may or may not have been taken by other companies during previous sampling programs that are discussed in the history section of this report. The author does not see any reason to question the quality, accuracy and validity of the historical data.

12.1 Quality Assurance / Quality Control

A total of 2726 samples from the fall 2011 drill program were submitted for assay to Inspectorate including 128 blanks, 129 standards, and 127 duplicates. Blanks, standards and duplicates were inserted into the sample stream every 7 to 10 samples alternating between the three. This meant that the blank, standard, or duplicate was repeated every 21 to 30 samples throughout. Results were monitored for accuracy.

12.1.1 Blanks:

A total of 128 blanks, or 4.70% of the total number of samples, were submitted for analysis. Blank material consisted of gravel containing negligible elemental trace. Of the 128 blank samples sent for analysis a total of three exceeded accepted limits. Two exceeded 0.045 ppm Au, and one exceeded the accepted Ag limit of 1.315 ppm (Appendix 4a).

Re-assay of the failed Au blanks and surrounding samples showed good agreement with the original results. The failed Ag blank was also re-assayed along with several samples on either side of it. The re-assays showed that four additional samples had been contaminated. This failure was due to contamination of Teflon beakers at the lab that were shared between high grade and geochem samples. The report from Inspectorate detailing the failures and possible reasons can be found in Appendix 4c. The assay certificates that were affected by the failures were re-issued following the re-assaying process.

12.1.2 Standards:

Standard Reference Material (SRM) with known Au and/or Cu values was inserted into the sample stream with the same frequency as blanks material in order to provide a check on the accuracy of the lab. One hundred and twenty-nine standard samples were sent for assay, or 4.73% of the total assays . A total of seven different standards were used during the fall 2011 drill program (Table 7, Appendix 4a). All standards were obtained from CDN Resource Laboratories in Langley, BC. Certificates for each standard can be found in Appendix 4b.

Table 7. CDN Laboratories Standard Reference Material used at Wild Rose

Standard	Certified Data (Au)			Certified Data (Cu)		
	Mean (g/t)	SD (g/t)	%RSD*	Mean (%)	SD (%)	%RSD*
CDN-CGS-24	0.487	0.025	5.1%	0.486	0.017	3.5%
CDN-GS-3H	3.04	0.115	3.8%	-	-	-
CDN-CM-6	1.43	0.045	3.1%	0.737	0.0195	2.6%
CDN-GS-4C	4.26	0.11	2.6%	-	-	-
CDN-GS-7B	6.42	0.23	3.6%	-	-	-
CDN-GS-1P5D	1.47	0.075	5.1%	-	-	-
CDN-CGS-28	0.727	0.038	5.2%	2.089	0.0480	2.3%

As with banks the assay results were generally good, but there were several that assayed outside the ±2 standard deviation limit. Four of these were re-assayed along with a group of samples on either side. Details are presented in Appendix 4c. Results of the re-assays show that there was likely contamination but it only seems to have affected the standards and not the surrounding assay samples. The assay certificates affected by the re-assays have been re-issued. More of the out of limits standards should be re-assayed to further increase confidence in the assay results.

12.1.3 Duplicates:

In addition to blank and SRM material duplicate samples were also inserted into the sample stream. These duplicates consisted of a second split taken from the coarse reject of every seventh to tenth sample. A total of 127 duplicates were analyzed from the 2011 fall drill program, comprising 4.67% of the assays. The duplicate results show good correlation with the original assay results (Appendix 4a).

13 Mineral Processing and Metallurgical Testing

Preliminary metallurgical testing was conducted during April and May 2011 by F. Wright Consulting Inc. (FWCI) on drill core sample rejects from hole 11WR10. Seven composite samples were created from drill core sample rejects from hole 11WR10. The samples were composited based on contiguous intervals representing specific lithologies and gold grades within the Deadwood Gold Zone that were reported for hole 11WR10. The laboratory and analytical work was conducted at Inspectorate. The test work consisted of head grade characterizations, specific gravity measurements, a flotation test and bottle roll leach tests to determine response to cyanidation procedures. The testing methods and results were reported on by FWCI (Wright, 2011). The studies were conducted in order to provide a preliminary response of this material to conventional mineral processing procedures. This included a single scoping flotation study and eleven cyanide leaching tests to observe leach characteristics at various feed particle size ranges. The results of the study are summarized below and are largely taken from Wright (2011).

Composites were created to represent the grade, lithology and mineralization expected of the resource, and were made using continuous intervals taken from the assay rejects from drill hole 11WR10. The assay rejects were sized by -10 Tyler mesh, segregated and riffle blended. Head analyses for precious metal assays, sulphur speciation, and multi-element ICP analysis required splits be removed. Splits were also used to attain charges for the bench scale work. Preparation of samples included grinding in a stainless steel laboratory rod mill, which was slurried to ~65% by weight solids content for a standard charge. The sieves were 20 cm in diameter and were stacked in ascending mesh sizes on a Rotap™ in order to analyze particle size, which were weighed for each sieved fraction, and calculated to determine retained individual and cumulative percent. A Denver D12 laboratory machine using feed of 3 kg was used to conduct a single bench scale flotation test. Gold was targeted by recovery of sulphide minerals and associated metals using standard sulphide collectors. Regrinding was done of rougher concentrate, followed by four stages of flotation cleaning. Bottle roll tests were conducted to investigate gold dissolution by baseline cyanidation. Details of the production and concentration determinations of the cyanide can be found in Appendix 2 of F. Wright's summary report. Procedures were conducted at various particle sizes, and gold leaching versus time was evaluated using intermediate solution samples. Filtration collected the resultant leachate solution and the cake filter underwent a hot cyanide solution wash and two hot water displacement washes. Analyses for precious metals in the leachate and resultant residue were conducted by standard fire assay procedures.

Seven composites, Comp. 1 through 7, were created, the intervals determined by drill hole depth, geological drill log data, and geochem analyses. Two master composites were created for larger samples. MC1 consists of the upper portion of the drill core representing depths of 4 m to 20 m, and was made up from Comp. 1 and 2. MC2 represents the lower 20 m to 35 m depth, and is made up of Comp. 3 and 4. Head analyses returned gold fire assay grades ranging from 0.17 g/t to 1.23 g/t, copper grades 0.05% or less, and 2.4% to 7.6% sulphur. Additional analyses returned silver grades less than 1 g/t, except Comp. 4 which showed 2.1 g/t Ag. Correlation with other elements was not strong for gold in the heads, but did generally increase with higher content of sulphides, copper and arsenic. A test on MC1 and MC2 determined that gold was generally in the mid to finer particle size range, according to gold assay versus particle size. Higher grade composites of Comp. 2 and 4 exhibited little coarse gold during investigation of the metallic gold content. Gravity pretreatment is therefore not likely to be useful in this case.

Comp. 3 exhibited a gold head grade of 1.2 g/t and about 0.05% copper, and so was subjected to a single flotation test. An 80% particle passing size (P_{80}) of 54 microns was yielded in the primary grind. Regrinding and a four stage cleaning was then conducted of the coarser concentrate. This yielded a final concentrate grade of almost 50 g/t and bulk gold recovery of 93%, therefore production of a saleable copper gold concentrate is unlikely without an increase in the grades of the copper head.

Cyanide leach testing focused on the master composites, and was conducted at various feed particle sizes, with leach times ranging from 240 hours for coarser samples to 48 hours for finer samples. Finer grinding of the composites appears to result in lower losses for gold recovery. Up to 95% recovery over a period of one day was achieved with a P_{80} of 48 microns. Particles with a P_{80} of about 1300 microns yielded about 80% recovery within 100 hours. Cyanide leach testing of an intermediate sample and the lowest grade sample, Comp. 5 and 6, respectively, returned similar results that correspond to the earlier work. The report suggests the testing of coarser particle sizes with the intent of moving to column leach examinations for implications with heap leaching for lower grade material. Further work is also recommended to explain poor gold recovery in a final carbon in leach (CIL) cyanide test conducted on flotation concentrate. Suggestions in Wright's report in regard to this issue include elevated copper and zinc consuming the available free cyanide by acting as cyanicides.

Results of the above mentioned analyses suggest that the material may be a good candidate for conventional mineral processing procedures. While the grade of the flotation concentrate appears too low to be saleable as a copper gold concentrate, testing is encouraged for higher content copper zones for the potential to sell a copper concentrate with gold credits. Gold extractions during cyanide leaching ranged from 63% to 95%, the higher recoveries corresponded to finer grinding and higher head grades. Tank leaching may be suitable for higher grade samples in this instance, although column leach studies are suggested to determine whether heap leaching would be a contending alternative. Further research is recommended as the project progresses to determine the most efficient extraction techniques and the potential for saleable copper gold concentrate production.

14 Mineral Resource Estimates

14.1 Introduction

The Deadwood – Wild Rose mineral resource estimation and statistics were completed by Mr. Nicholls, MAIG under the direct supervision of Mr. Dufresne, M.Sc., P. Geol., who is a Qualified Person with respect to mineral resource estimation as defined by National Instrument 43-101. Mineral resource modelling and estimation was carried out using a 3-dimensional block model based on geostatistical applications using commercial mine planning software MICROMINE (v12.5.4).

The project limits area is based in the Local grid coordinate system which is a grid conversion from the NAD 1983, Zone 11 system. Estimation was performed into a parent block size of 25 m x 10 m x 25 m with sub-blocking down to 2.5 m x 1 m x 2.5 m. The Deadwood – Wild Rose resource modeling utilized 61 core holes completed between 1986 and 2011. A total of 41 drill holes were historic holes (1986-2004) and 20 holes were from the recent drilling completed by Golden Dawn (2010-2011). Mr. Dufresne, M.Sc., P.Geol, supervised both the 2010 and 2011 drilling campaigns along with logging and sampling of the drill core during both campaigns. Grade (assay) and geologic information is derived from work conducted by APEX personnel during the 2010 to 2011 field seasons and historic data compilation.

The Deadwood – Wild Rose resource estimate is reported in accordance with the Canadian Securities Administrators National Instrument 43-101 and has been estimated using the CIM "Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines" dated November 23rd, 2003 and CIM "Definition Standards for Mineral Resources and Mineral Reserves" dated November 27th, 2010. Mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no guarantee that all or any part of the mineral resource will be converted into a mineral reserve.

14.2 Data

14.2.1 Data Summary and Histograms

The Deadwood – Wild Rose mineral resource estimate has been calculated utilizing the estimated raw assayed grade for only gold. Although silver, copper, lead and zinc have also been analysed, gold is the only commodity at this stage that demonstrates potential for economic concentrations.

Histograms and summary statistics were calculated for the Deadwood /Wild Cat Mineralized Zone (Figure 8, 9, and10). The deposit was broken up into two domains, which included the low grade Deadwood mineralization and the higher grade vein style mineralization which is referred to as the Wild Cat veins. The Deadwood domain exhibits a clear single population of data, whereas the Wild Cat domain has insufficient data points to determine if only a single or double population is present.

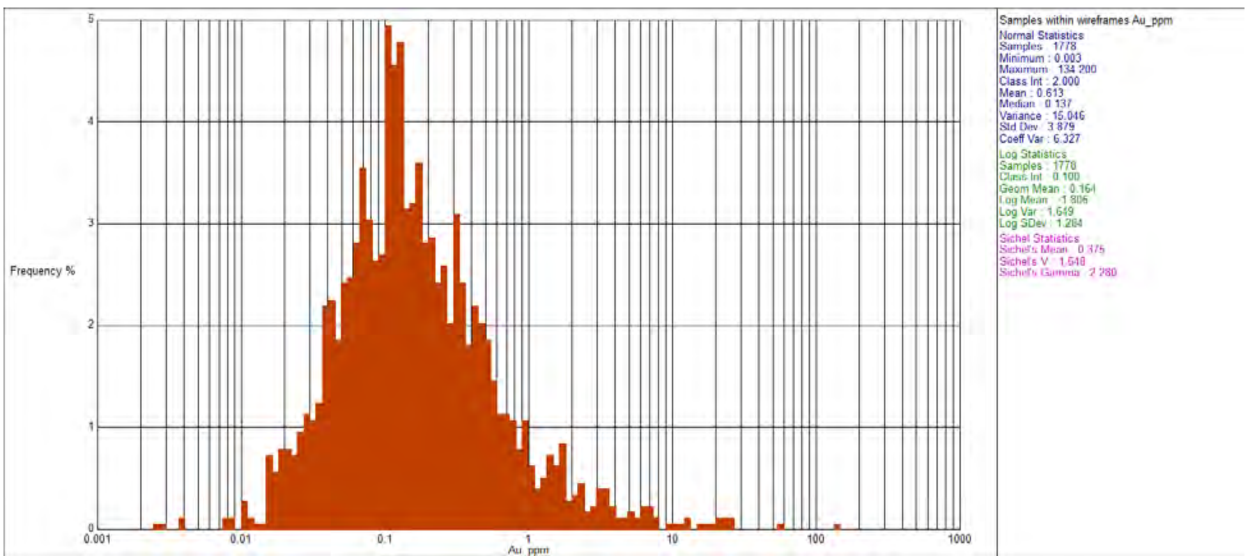

Figure 8. Histogram of un-composited all assay data within the mineralized wireframes.

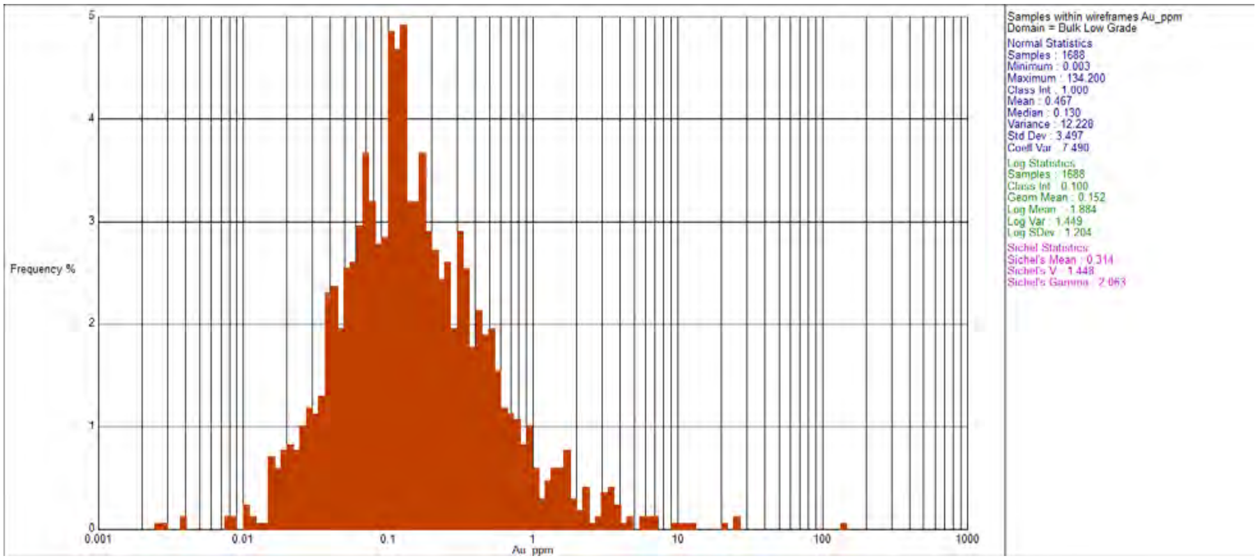

Figure 9. Histogram of the un-composited assay data within the Deadwood domain.

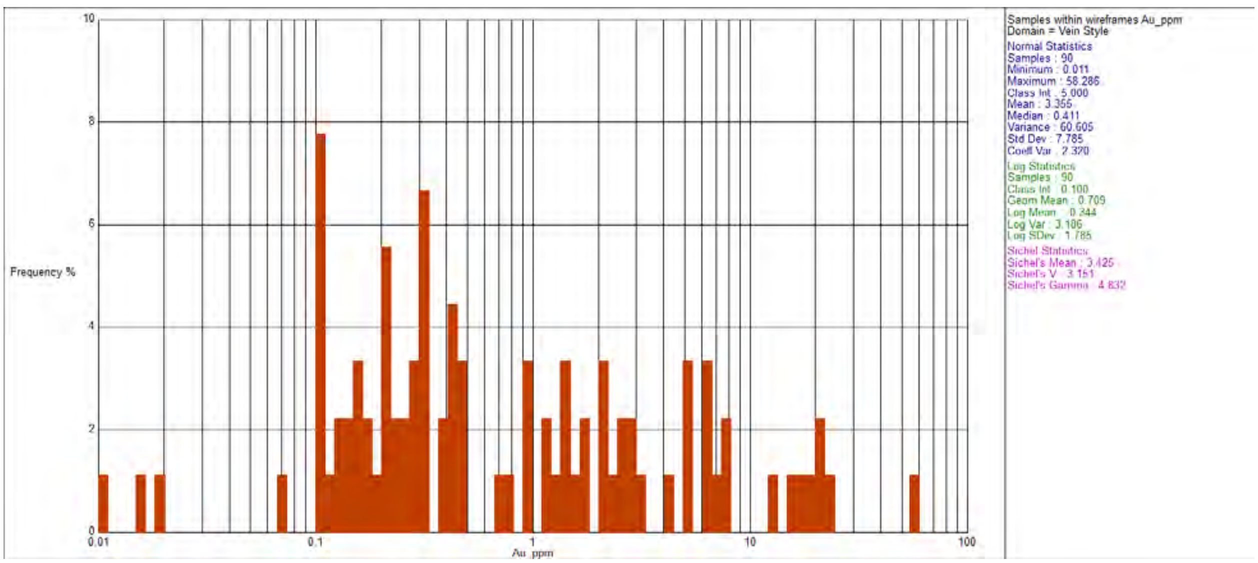

Figure 10. Histogram of the un-composited assay data within the Wild Cat domain.

14.2.2 Database Validation

A total of 123 diamond drill holes are known to have been drilled on the Wild Rose – Tams O'Shanter Property, which includes both historic drill holes and recent drilling completed by Golden Dawn. The recent drilling completed by Golden Dawn, under the direct supervision of APEX personnel comprises 24 drill holes (Figure 7). The remainder of the drilling was completed by previous operators. The majority of the historical drill holes tested the Deadwood (approximately 43 holes) and Wild Rose Zones (approximately 33 holes; Figure 4). With the exception of 1986 and 1987 drilling on the Wild Rose Zone, drill collars have not been surveyed. It is believed that the remainder of the holes have only hand held Garmin GPS co-ordinates in UTM NAD 83 assigned to the collar location. The elevations of the drill holes were initially obtained by hand held

Garmin GPS, however, they have subsequently been modified by using the topographic DTM created from the 1:50,000 topographic contours to assign the elevations. It is recommended that all of the drill holes be located and the collar locations be surveyed in prior to any further mineral resource estimations.

All drill logs, summaries, survey data and analytical results for all of the drilling is currently stored in a combination of excel spreadsheets and MICROMINE data files. Drill data, cross sections and 3D plots were interpreted and generated in Edmonton using, excel and MICROMINE software. The 2010 and 2011 drill core were logged and sampled by APEX personnel under the direct supervision of either Mr. Dufresne or Mr. Turner.

At the end of the 2011 program, the excel drillhole database was copied into MICROMINE by APEX personnel. Using MICROMINE's drillhole database validation function, the data was checked for overlapping sample and geological intervals, as well as survey, collar and hole length data. A few minor discrepancies were found and fixed within the database promptly.

The database is considered reliable for mineral resource estimation purposes.

14.2.3 MICROMINE Database

The drilling database used is current as of December 1st, 2012. The database incorporates all available diamond drilling and analytical data. All data for the mineral resource estimation was copied from excel into MICROMINE format. The four main MICROMINE .DAT files that were utilized in this estimation include:

- WR_Collar_AT – Collar file
- WR_Survey_AT – Survey file
- WR_Assays_AT – Sample file
- DTM wireframe – Surface topography

There were a total of 123 drill holes within the export, of which all were used to guide the geological/mineralization interpretation. Of the 123 drill holes on the Property only 61 holes were actually used for the estimation of the resource calculation. Of the 61 holes 20 were completed recently (2010-2011) by Golden Dawn and 41 are historical holes. Spacing between drill holes varies from 20 m to 120 m, with an average for the Deadwood domain being 75 m and for the Wild Cat domain being 20 m.

The Wild Rose – Tam O'Shanter Property assay file comprised 8,187 analyses of variable length, of which 1,778 samples are located within the mineralized wireframes. Upon the completion of the compositing process a total of 1,750 composites were used in the estimation process.

Data supplied and utilized in MICROMINE included collar easting, northing and elevation (RL) coordinates, lithology information, gold assay data, and bulk density data. The collar co-ordinates were mostly obtained by hand held GPS and the RL were assigned using a MICROMINE generated DEM of the 50,000 scale topographic contour data. All drill holes were drilled at varying inclinations along approximately 220° UTM orientations (north-south Local grid). Little to no down hole survey data is available for the historical drill holes with only collar setups available which were set up using a clinometer after the drill was properly leveled. The more recent drilling completed by Golden Dawn had detailed down holes surveys completed every 50 m using an Reflex Instruments EZ-Shot downhole survey tool.

The drillhole database was validated and as such all sample duplicates and repeat duplicates were removed from the estimation sample file. Other than the duplicate samples there were no errors identified.

14.2.4 Grid Transformation

In light of the deposit being oriented at 300° which is 45° to the UTM grid, a local grid was established to perform the 2011 resource estimation. This local grid was once again utilised for the 2012 resource estimation. There was an old approximate local grid provided that was inaccurate with no northings documented. As such a new grid was established based on the old easting grid lines and new northings calculated. From this a two point grid conversion was calculated and applied to the existing UTM co-ordinates. The two points chosen were the north-eastern and south-western limits of the grid/resource (Table 8 and Figure 11). It is recommended that the licensed surveyor establish a formal local grid conversion at the time the drill holes are being surveyed.

Table 8. Local Grid to AMG Two Point Grid Conversion

	Local East	Local North	AMG East	AMG North
Point 1	300	9800	373254.167	5437486.656
Point 2	1500	10300	374499.222	5437112.717

14.2.5 Data Type Comparison

As there has only been diamond drilling conducted at the Wild Rose – Tam O'Shanter Property a data type comparison is not required. Diamond drilling is considered a good quality drilling method and suitable for resources estimation.

14.2.6 Wireframing/Lode Interpretation

In light of the Deadwood – Wild Rose deposit being a bulk, low grade mineral resource, a lower cut off was selected. An initial lode/mineralization interpretation was completed by Mr. Michael Dufresne (APEX Geoscience) who is familiar with the local geology and mineralization of the Deadwood deposit. Based on this interpretation a second interpretation was constructed that refined the mineralization to produce a mineralization model that was used for the estimation.

The lode interpretation involved wireframing the majority of mineralization greater than 0.1 g/t Au. The wireframes included some zones where there was no mineralization, but as long as the weighted down hole gold intersection from one mineralized zone to another was greater than 0.1 g/t then it was included in the wireframe. This was considered reasonable as the potential mining operation would not

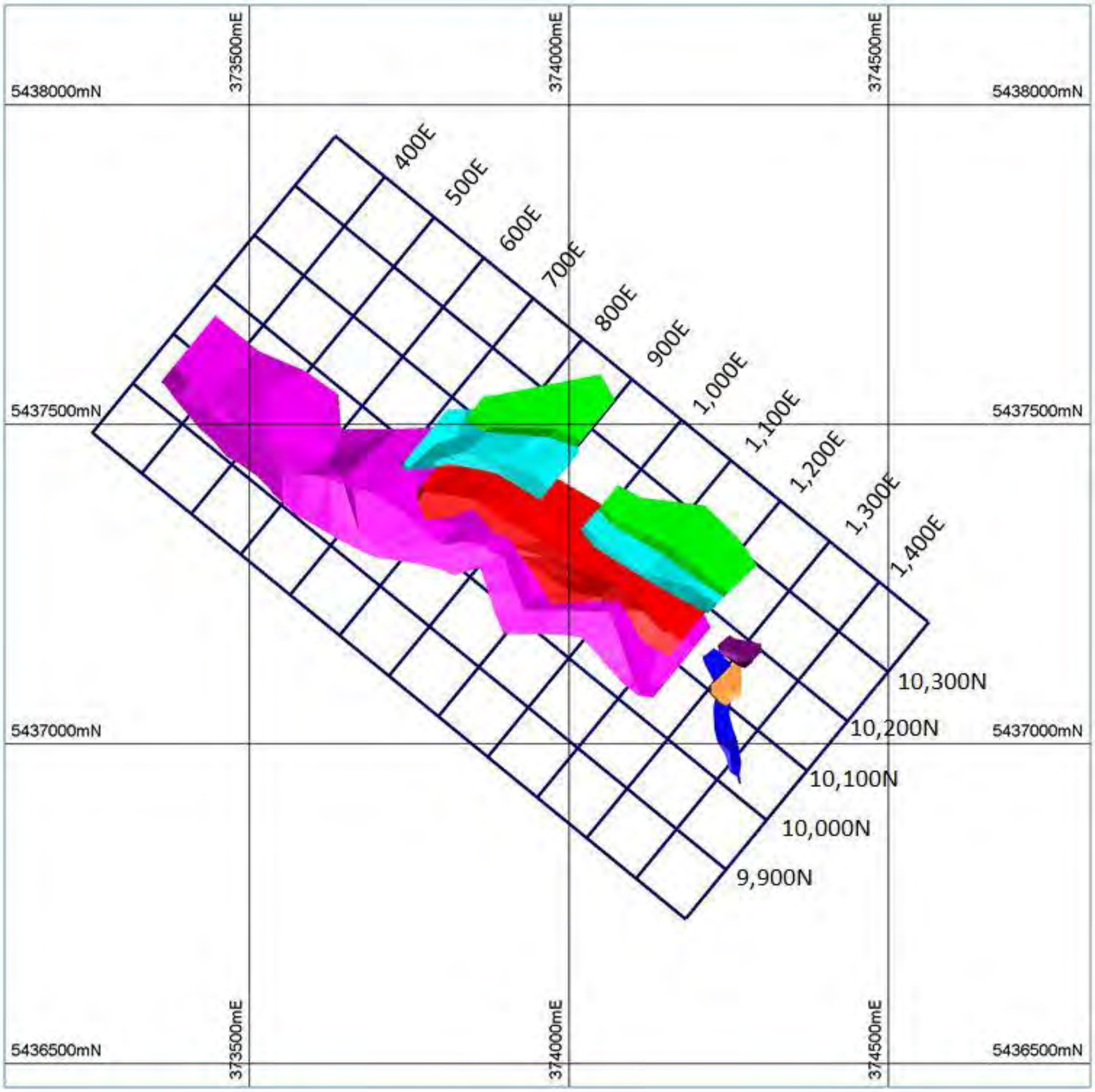

Figure 11. Plan view of the Local Grid Layout

be that selective. The aim was to identify and wireframe any mineralization below the surface that had possibilities of future extraction by open pit mining. The interpretation was conducted on transform sections orientated 180° (Local Grid) looking east on 20 to 50 m spaced sections (±10 m or 25 m window).

The lodes were extrapolated 20 to 80 m along strike or halfway to the next drill hole (whichever one was less) and up to 75 m down dip.

All drilling data was used to conduct and guide the lode wireframe interpretation.

14.3 Drillhole Flagging and Compositing

Drillhole samples situated within the mineralized wireframes were selected and flagged with the wireframe name/code. The flagged samples were checked visually next to the drillhole to check that the automatic flagging process worked correctly. All samples were correctly flagged and there was no need to manually flag or remove any samples.

A review of the sample lengths was conducted on the samples that were situated within the mineralized wireframes. The drill hole sample width analysis results showed a variable sample length from 0.09 m to 6.31 m in length (Table 9 and Figure 12). Looking at all of the sample widths, there are three dominant sample length populations, 1 m, 1.5 m and 3 m. A composite size of 1.5 m was selected and deemed as an appropriate composite size on the grounds that 72.7% of the sample data is less than 1.5 m in length and the composite size of 3 m may create an overly smoothed effect in the final estimation.

Table 9. Sample length statistics for the Deadwood and Wild Cat domains.

	Width
Number	1778
Minimum	0.09
Maximum	6.31
Mean	1.516
Median	1.15
Std Dev	0.813
Variance	0.661
Std Error	0
Coeff Var	0.536

Length weighted composites were calculated for all the gold samples within the mineralized wireframes. The compositing process starts from the first point of intersection between the drillhole and the wireframe, and is halted upon the end of the mineralized wireframe.

Upon completion of the 1.5 m compositing it was decided to examine the remaining samples less than 1.5 m in length to determine if they would unduly bias the estimation. This included only 94 composites less than 1.5 m in length. Sample grade analysis was performed on the remainder of the sub 1.5 m composites to determine what effect they would have on the overall grade. It was noted that these 94 sub 1.5 m composites raised the overall grade of the sample population (Table 10). Based on this it was decided to remove all sub 1.5 m samples from the main sample set. This resulted in an overall sample set of 1,750 samples to be used in the estimation process.

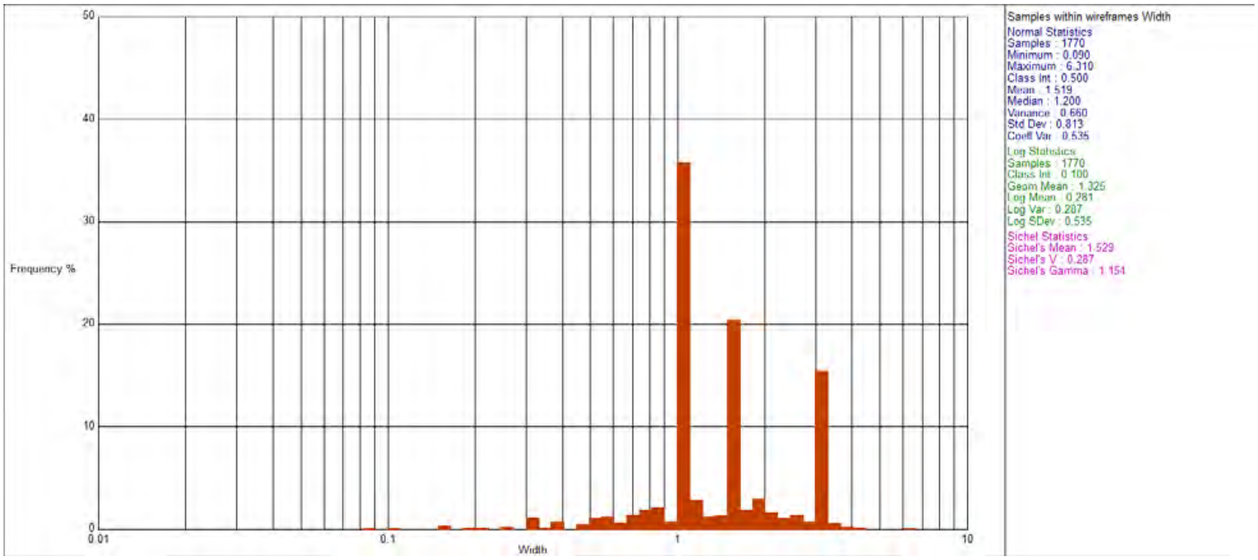

Figure 12. Histogram of the sample length for the Deadwood and Wild Cat domains prior to compositing.

Table 10 Composited Sample Summary Statistics for gold samples.

	Un-composited samples	All 1.5 m composited samples (with sub 1.5 m comps)	Final 1.5 m Composites (with sub 1.5 m comps removed)
Number	1778	1844	1750
Minimum	0.003	0.008	0.008
Maximum	134.2	24.37	24.37
Mean	0.613	0.421	0.405
Median	0.137	0.153	0.148
Std Dev	3.879	1.257	1.208
Variance	15.046	1.58	1.459
Std Error	0.002	0.001	0.001
Coeff Var	6.327	2.985	2.986

There are some sample intervals within the historical diamond drilling that had selective sampling completed on only intervals that were thought to contain high grade mineralization. Since then it was identified that the mineralization was more amendable to a large, low grade deposit. These un-sampled intervals are believed to host low grade mineralization. It is recommended that the drill core be located and have any un-sampled drill core re-analysed.

The composited samples were used for all sample statistics, capping, estimation input file and validation comparisons.

14.4 Assay Summary Statistics

Examination of the gold mineralization identified from diamond drilling on the Wild Rose – Tam O'Shanter Property has highlighted that there are two distinct mineralization styles present. These include a wide, low grade mineralization (Deadwood zone) and a thin, higher grade, vein hosted mineralization (the Wild Rose zone). It was decided to wireframe these separately and use different estimation parameters based on the mineralization style. These two domains are referred to as

"Bulk low grade" and "Vein style" domains. The summary statistics of these are presented in Table 11. There is a distinct single population present in the Bulk low grade domain but unfortunately there is insufficient drilling conducted into the Vein style domain to determine the number of populations present. The vein style has been treated as a single population for estimation criteria.

Table 11 Summary statistics of the gold mineralization present in the two domains on the Wild Rose property.

Domain	Bulk Low Grade	Vein Style
Number	1711	39
Minimum	0.008	0.103
Maximum	24.37	12.06
Mean	0.359	2.419
Median	0.146	0.674
Std Dev	1.059	3.522
Variance	1.122	12.405
Std Error	0.001	0.09
Coeff Var	2.953	1.456

14.5 Top Cut Capping

The composited sample data for the Wild Rose – Tam O'Shanter Property was used for the top cut analysis. Gold grades within the two domains were examined individually to determine suitable capping to apply to the respective grade populations. A combination of histograms, probability plots and inflection points were used to determine the extreme values to be cut. During the estimation the extreme values were capped to the values provided in Table 12, Figures 13 and 14.

Table 12 Capping levels applied to the Wild Rose property domain composited (in parts per million)

	Capping Level	Number of samples	Percentile
Bulk Low Grade	5.0 g/t Au	13	99.2
Vein Style	8.0 g/t Au	5	88

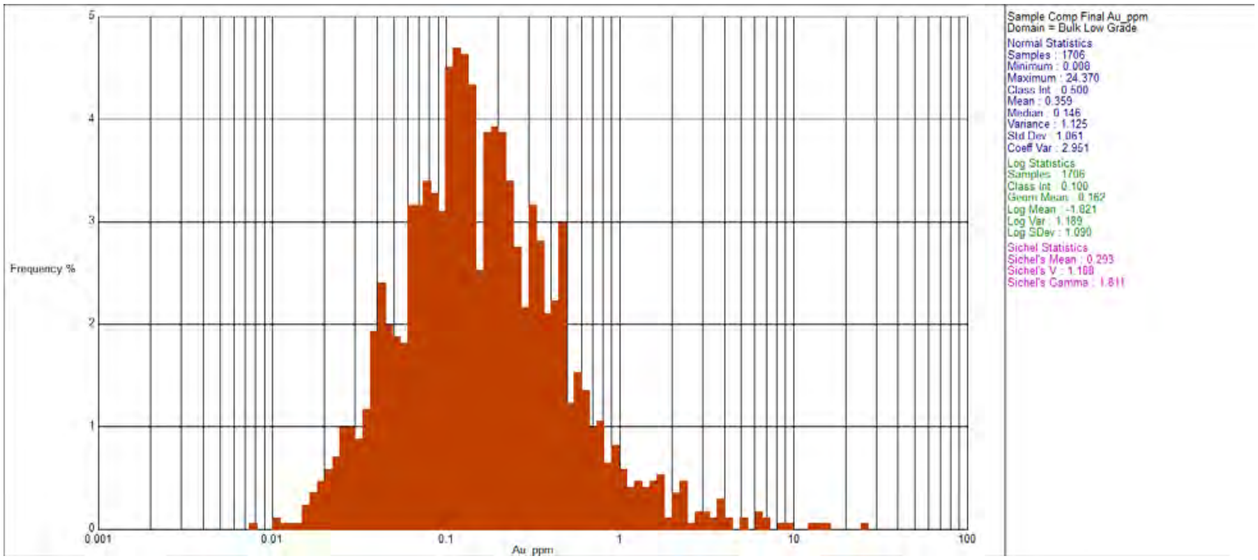

Figure 13 Log histogram of the Bulk Low grade domain composite file.

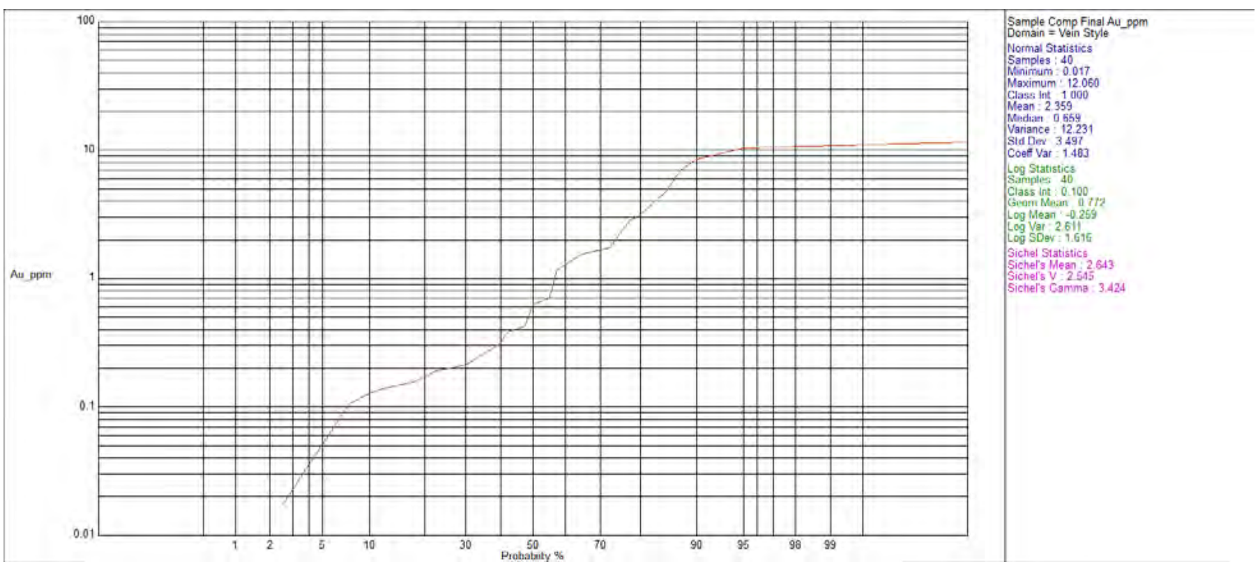

Figure 14 Log probability plot of the Vein domain composites

14.6 Grade Continuity

The variography utilized the composite data within the mineralized "Bulk Low grade" and the "Vein style" domains to produce spherical semi variogram's. Difficulties were encountered with some of the variograms.

The Bulk Low grade domain suggested a maximum continuity of grade along a 086° strike orientation with a -6° plunge to the east. The maximum range of variogram was 145 m. The strike of the mineralization has been interpreted to be 84° so the variography has confirmed this interpretation. The secondary axis of the variography was orientated at 74° to the north which was essentially the down dip of the mineralization suggested a maximum range of 45 m. The variography in the third direction was poor with no meaningful variograms able to be generated. The down hole variogram which is essentially across strike of the mineralization suggested a range of 3 m. The variograms for the first two directions can be seen in Figures 15 to 17.

The Vein style domain only had a total of 39 composites for use in the variographic analysis. As a result of this, the variography was restricted to the limited data and as such difficulties were encountered. An orientation of 119° with a plunge of 26° to the south east was identified for the primary axis. This suggested a maximum range of 70 m should be used for the grade continuity. The secondary axis which was orientated at 57° to the north displayed a maximum range of gold continuity of 30 m. This is similar to the geological/mineralization interpretation completed of the lodes. The third orientation semi variograms were poor (Figures 18 and 19).

Table 13 Semi-variogram parameters for the composited mineralized domains.

Domain	Nugget (%)	C1 (gamma)	Range 1 (m)	Range 2 (m)	Range 3 (m)
Bulk Low grade	24.4	0.61	146	45	3
Vein Style	6.8	6.9	70	30	6

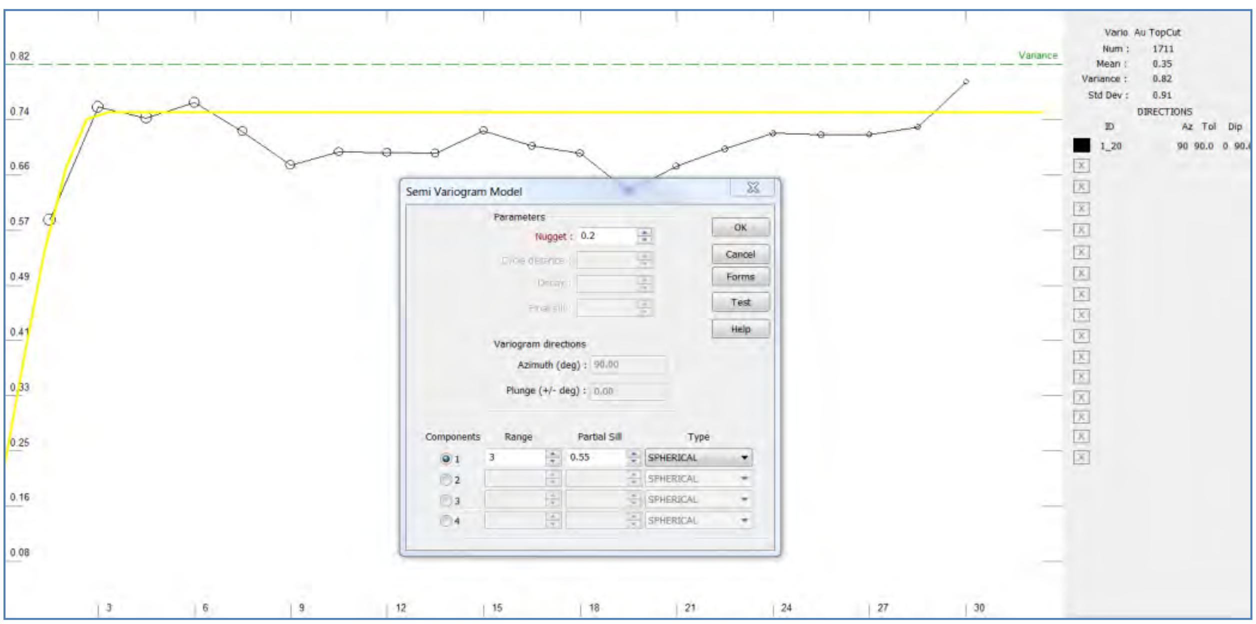

Figure 15 Down hole variogram of the Bulk low grade domain.

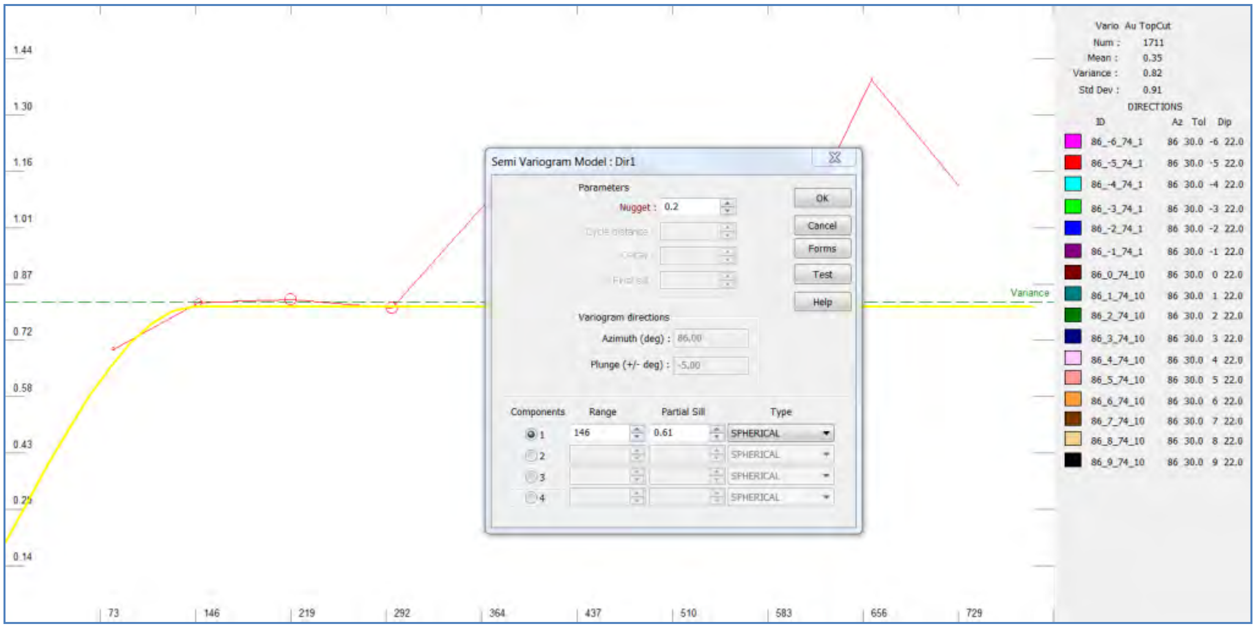

Figure 16 Direction one semi - variogram of the Bulk Low grade domain

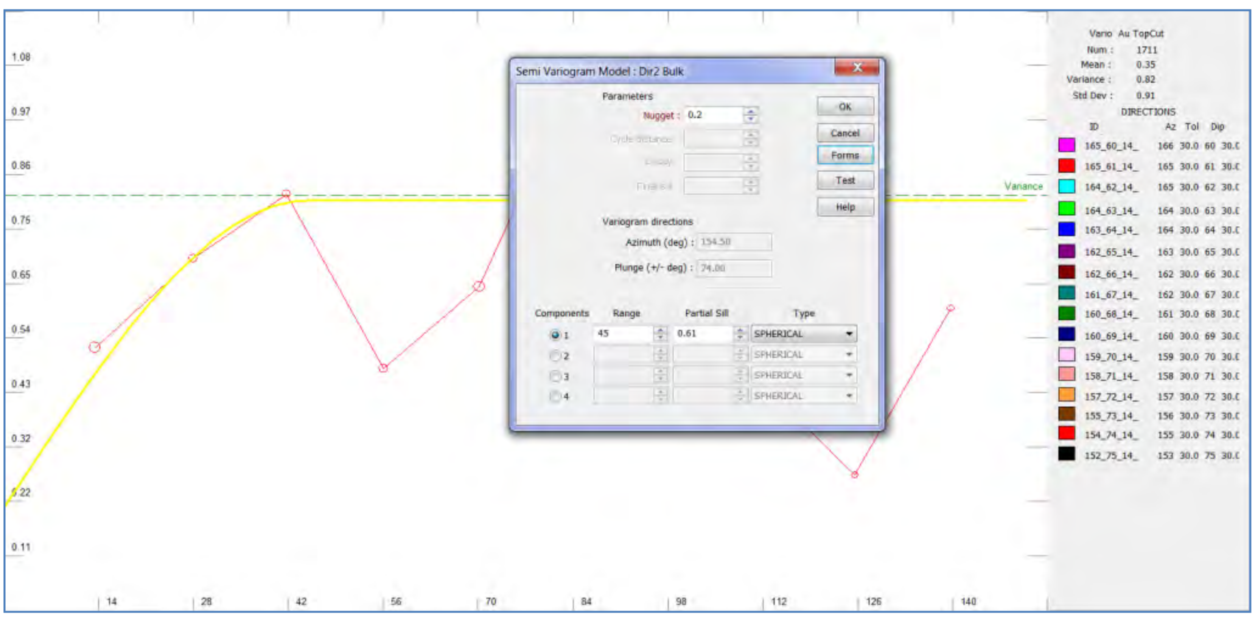

Figure 17 Direction two semi - variogram of the Bulk Low grade domain

APEX Geoscience Ltd.

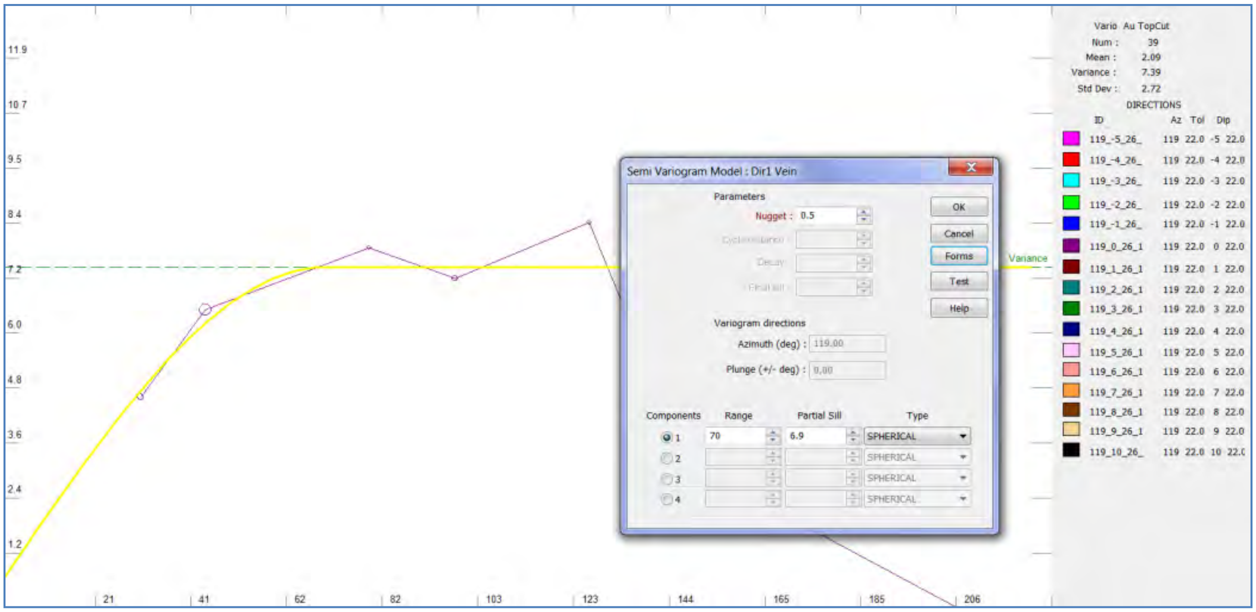

Figure 18. Direction one semi - variogram of the Vein style domain

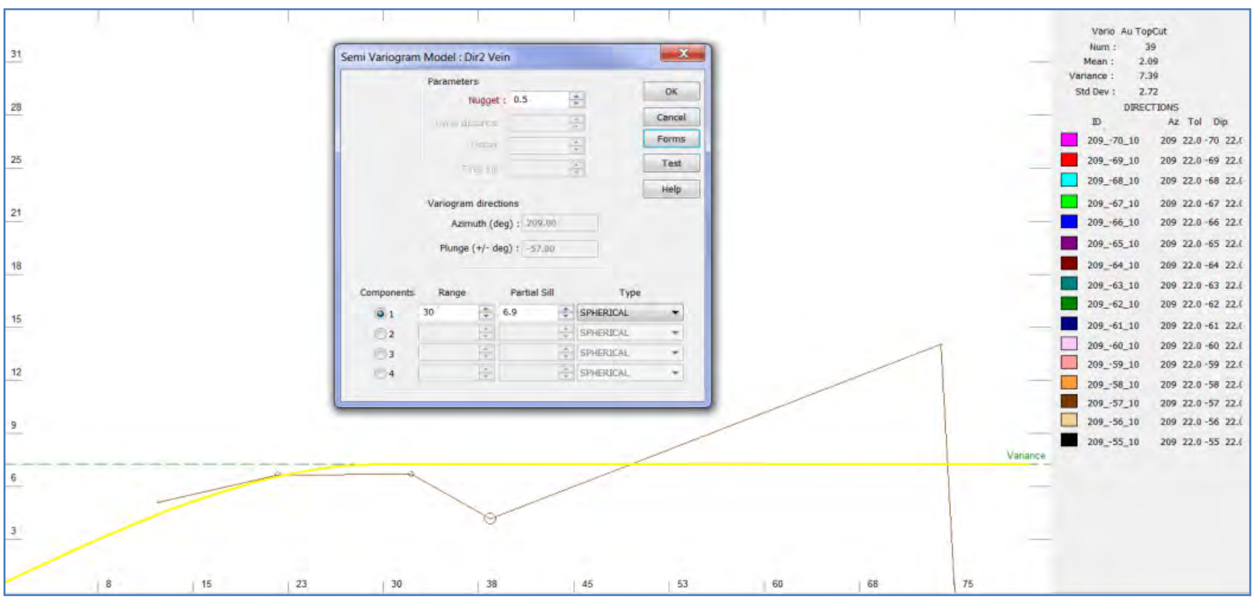

Figure 19. Direction two semi-variogram of the Vein style domain

14.7 Search Ellipsoids

The search orientations and size of the an-isotropic ellipsoids used in the estimation was largely based on a combination of the variography and the geological interpretation of the individual lodes. Each lode was looked at individually and the search ellipsoid was tailored to the orientation of that particular lode. The size of the search ellipsoids used, were guided by the identified ranges of maximum continuity of mineralization.

These search orientations honour the geological interpretation of the mineralization (Table 14).

Table 14 Search ellipsoids used in the estimation process.

Lode	Search Ellipsoid	Strike Orientation	Dip Orientation	Plunge Orientation
Lode01	Lode01	080	-74N	-6E
Lode02	Lode02	086	-70N	-6E
Lode03	Lode03 East	089	-68N	-6E
	Lode03 West	062	-75N	-6E
Lode04	Lode04 East	090	-65N	-6E
	Lode04 West	085	-62N	-6E
Wild Cat Vein01	Vein01	120	-60N	-6E
Wild Cat Vein02	Vein02	120	-58N	-6E
Lode07	Lode07	088	-65N	-6E

14.8 Bulk Density (Specific Gravity)

Limited density measurements have been collected at the Wild Rose – Tam O'Shanter Property. One diamond hole (11WR10) was selected and composites down the hole were selected for specific gravity determinations. This was conducted at the same time as metallurgical test work by F. Wright Consulting Inc. (FWCI), North Vancouver, BC. It is unknown what method was used for the SG calculations.

In looking at the density readings there is not much difference with depth or gold grades. The higher density measurements tend to be the samples with the higher sulphide content. Due to the small dataset available it was decided to use an average of all available density measurements. The mineralization is located within siliceous sediments with high sulphide content. Considering this an average density of 2.86 t/m^3, it seems reasonable for use. It is recommended that further density measurements be collected when additional drilling is conducted.

Table 15 Density samples collected from drill hole 11WR10

Depth From	Depth To	Au (g/t)	Cu (ppm)	ST (%)	Sample ID	Solids Specific Gravity, g/cm3
8	12	1.233	150	2.37	Comp.2	2.8
17	19					
20	30	0.173	80	3.43	Comp.3	2.85
30	35	1.215	521	7.6	Comp.4	2.98
35	37	0.383	237	3.86	Comp.5	2.86
47	54	0.843	87	4.49	Comp.6	2.89

62	64					
54	62	0.973	51	4.91	Comp.7	2.86

14.9 Block Model Extents and Block Size

In light of the current drill hole spacing of between 20 and 100m a model block size of 25 m (X) x 10 m (Y) x 25 m (Z) was chosen for the Deadwood - Wild Rose resource estimate. The block model extents were extended far enough past the mineralized wireframes to encompass the entire mineralization.

Table 16 presents the coordinate ranges and block size dimensions used to build the 3D block models from the mineralization wireframes. Sub-blocking was used to more effectively honour the volumes and shapes created during the geological interpretation of the mineralized wireframe or lode. A comparison of wireframe volume versus block model volume was performed to ensure there was no overstating of tonnages (Table 17). Each block was coded with the domain name and lode number to enable these to be estimated separately.

Table 16. Block model extents and cell dimensions for the Wild Rose Property resource.

Block Model Dimensions	Easting	Northing	RL
Maximum	1450	1390	1390
Minimum	300	940	940
Parent Cell Size	25	10	25
Sub Blocking Cell Size	2.5	1	2.5

Table 17 Block Model versus Wireframe Volume comparison

Lode	Wireframe Volume	Block Model Volume	% Difference
Lode01	14269203.16	14,271,800	0.02%
Lode02	3313804.13	3,314,594	0.02%
Lode03	1582535.16	1,576,294	-0.39%
Lode04	884999.73	885,488	0.06%
Wild Cat Vein01	29041.52	29,075	0.12%
Wild Cat Vein2	8215.8	8,175	-0.50%
Lode07	60321.77	60,475	0.25%
TOTAL	20,148,121	20,145,900	-0.01%

14.10 Grade Estimation

The estimation of the Deadwood - Wild Rose resource was calculated using both Inverse Distance to the power of two (ID2) and Ordinary Kriging (OK). Both estimation methods were completed to ensure that there were no gross discrepancies between the estimation methodologies. The ID2 was chosen for the final model estimation method on the basis that it honoured the input sample data the better than ordinary kriging. This can be seen in the block model validation section.

The grade was interpolated into an anisotropic ellipsoid to a power of two. A block discretization of 4 (E), 1 (N) and 3 (RL) was chosen. Estimation was only calculated on parent blocks. All sub blocks within the parent block were assigned the parent block grade.

There were four passes of estimation conducted for each lode. The size of the anisotropic search ellipsoid was based on the suggested ranges obtained from variography. The requirements for the number of samples and number of drill holes required decreased with the run number. The size of the search ellipsoid also increased with each run (Table 18).

Table 18. Search ellipsoid criteria for the Wild Rose grade estimations.

Run Number	Minimum No. of Samples	Minimum No. of Holes	Factor x Radius	%Blocks Estimated
1	12	3	1	0.1%
2	8	2	2	22.3%
3	2	1	3	51.9%
4	1	1	30	25.7%

14.11 Model Validation

14.11.1 Visual Validation

The blocks were visually validated on cross sections comparing block grades versus the sample grades for all sections and drill holes (Figure 20). In addition, the block and sample data were compared by Lode, Easting and RL. These comparisons are presented in (Figures 21 to 23).

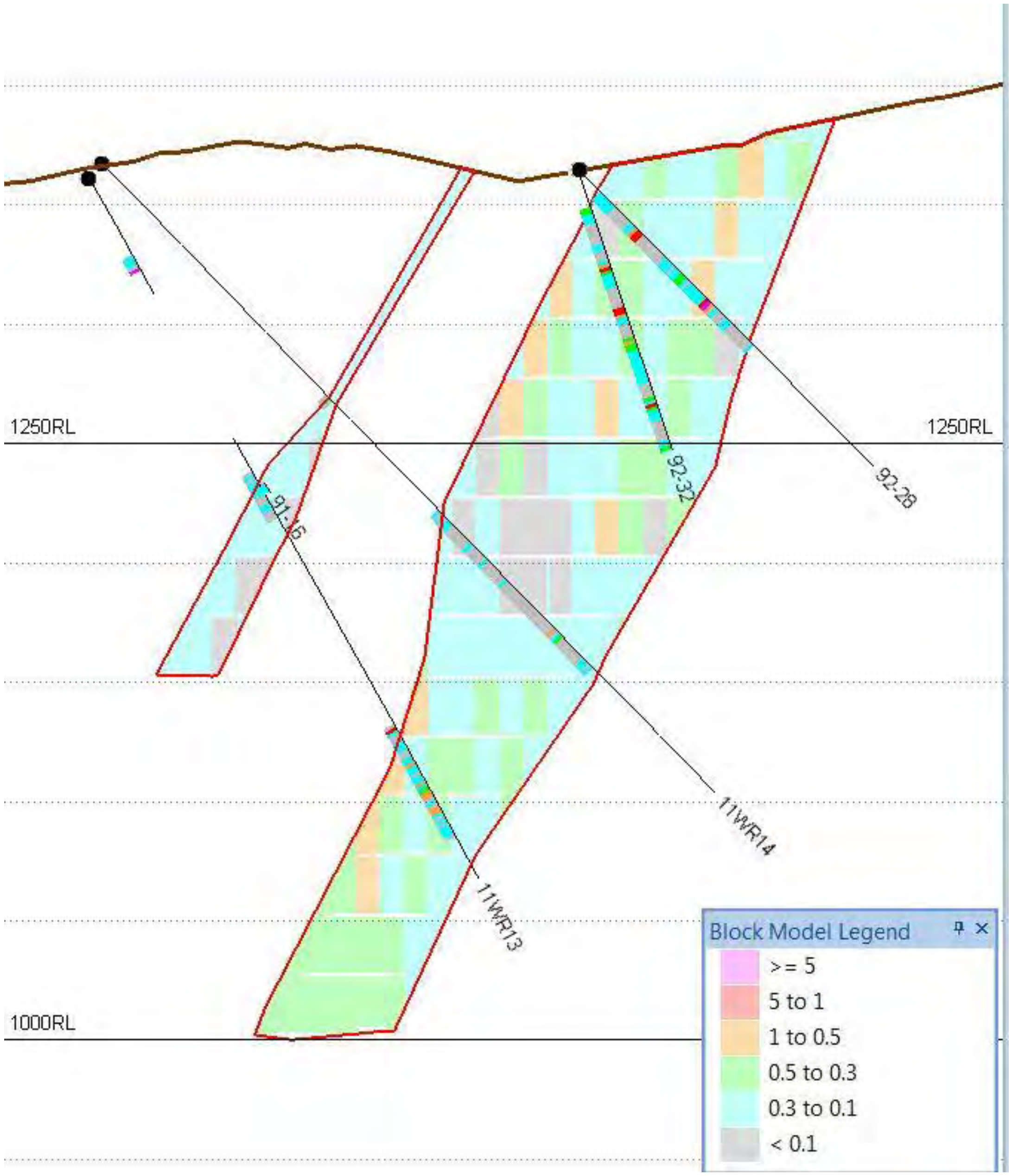

Figure 20. Transform cross section comparing composited sample file versus ID2 block model.

14.11.2 Statistical Validation

Table 19 shows the average grade of the composited capped sample data versus the calculated block model grade data. It can be concluded that the average/mean grade of the ID2 block model data is very close to or generally slightly lower than the sample data (with the exception of lode Wild Cat vein01 which is slightly over). This is the expected result for well-behaved data and if the block model estimation process is being done correctly. The model data tends to have a reduced dispersion of the block grades resulting from the grade estimation process. The OK block modeling and estimation process tends to lower both the high end grades and the low end grades compared to the sample data. This is expected with the overall smoothing of the estimation process.

Table 19 Composited Capped input sample versus block model comparison by lode

Lode	No Of Samples	Sample	ID2 Model	OK Model
Lode01	1216	0.327	0.34	0.35
Lode02	294	0.322	0.29	0.31
Lode03	130	0.229	0.23	0.25
Lode04	42	0.564	0.55	0.63
Wild Cat Vein01	34	1.841	1.95	1.84
Wild Cat Vein02	6	3.148	3.15	2.88
Lode07	28	0.121	0.12	0.14
Global	**1750**	**0.389**	**0.333**	**0.353**

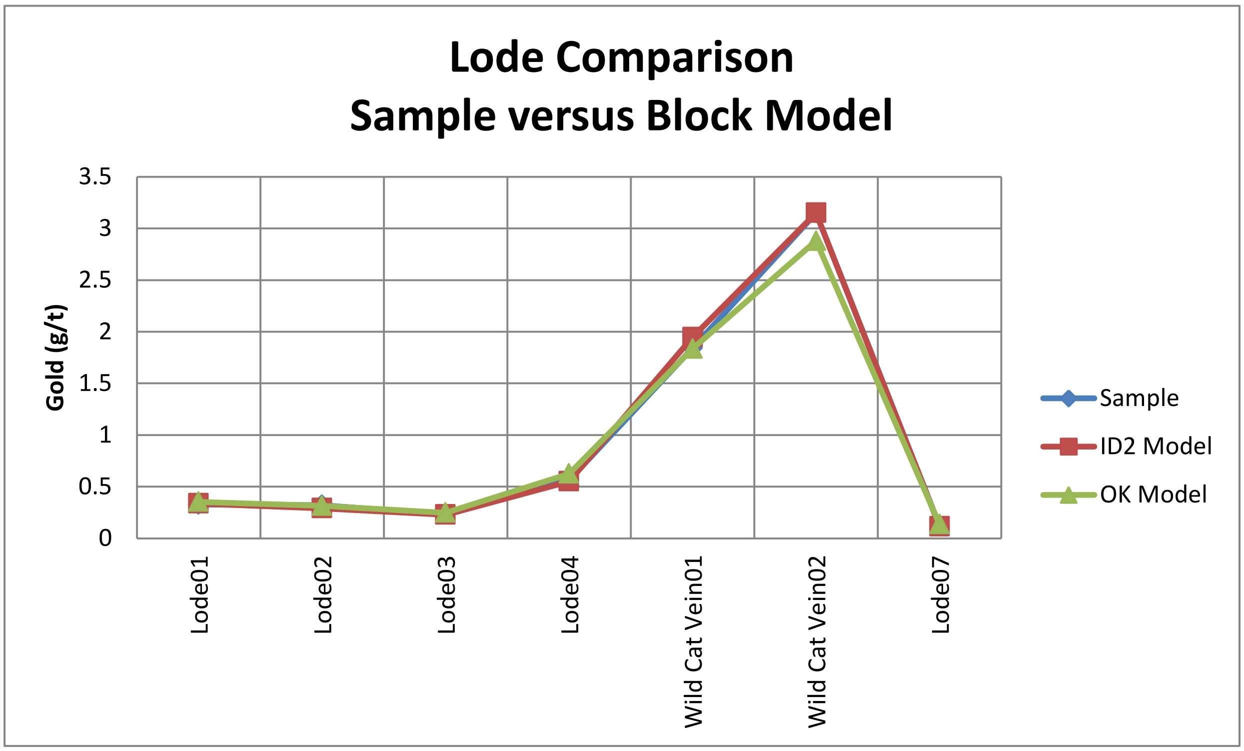

Figure 21 Input sample versus block model comparison by lode

14.11.3 Easting Comparison

The sample and ID2 block model averages were calculated on 50 m composite sections across the easting for the use of comparisons. This is essentially along strike of mineralization. The purpose is to compare the input sample file with the resulting block model data to make sure there is no gross over or under estimation occurring.

The easting composites generally compare quite well. There is some local over and under estimation observed but this is to be expected with the estimation process. Overall the block average grades follow the general trend of the input sample data (Figure 22).

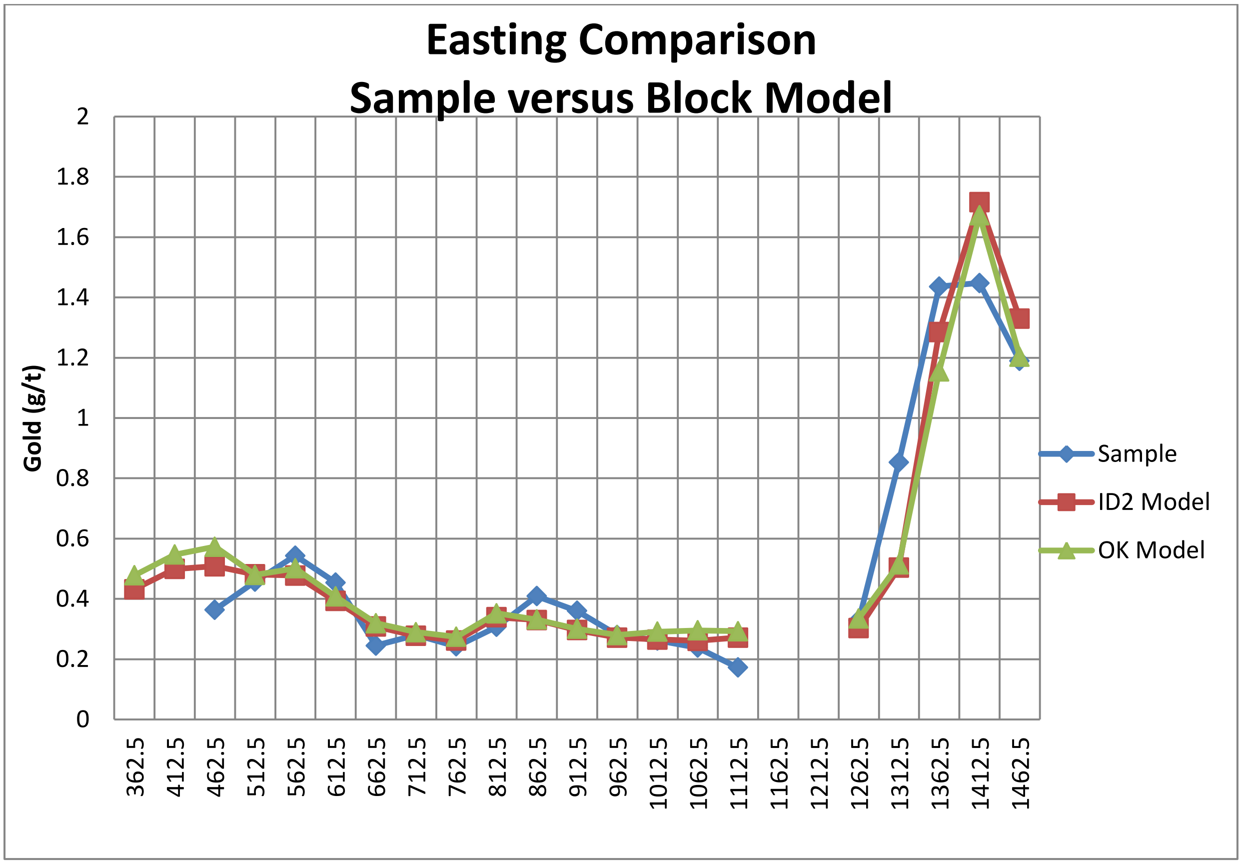

Figure 22 Easting comparison of composited sample data versus calculated block model grades.

14.11.4 RL Comparison

The input sample and ID2 block model averages were calculated on 25 m composite sections down the northing for comparison purposes. This is essentially down dip of mineralization. The purpose is to compare the input sample file with the resulting block model data to make sure there is no gross over or under estimation occurring. The RL composites generally compare quite well. There is some local over and under estimation observed but this is to be expected with the estimation process and the wide spaced nature of the drilling. Overall the block averages follow the general trend of the input sample data (Figure 23).

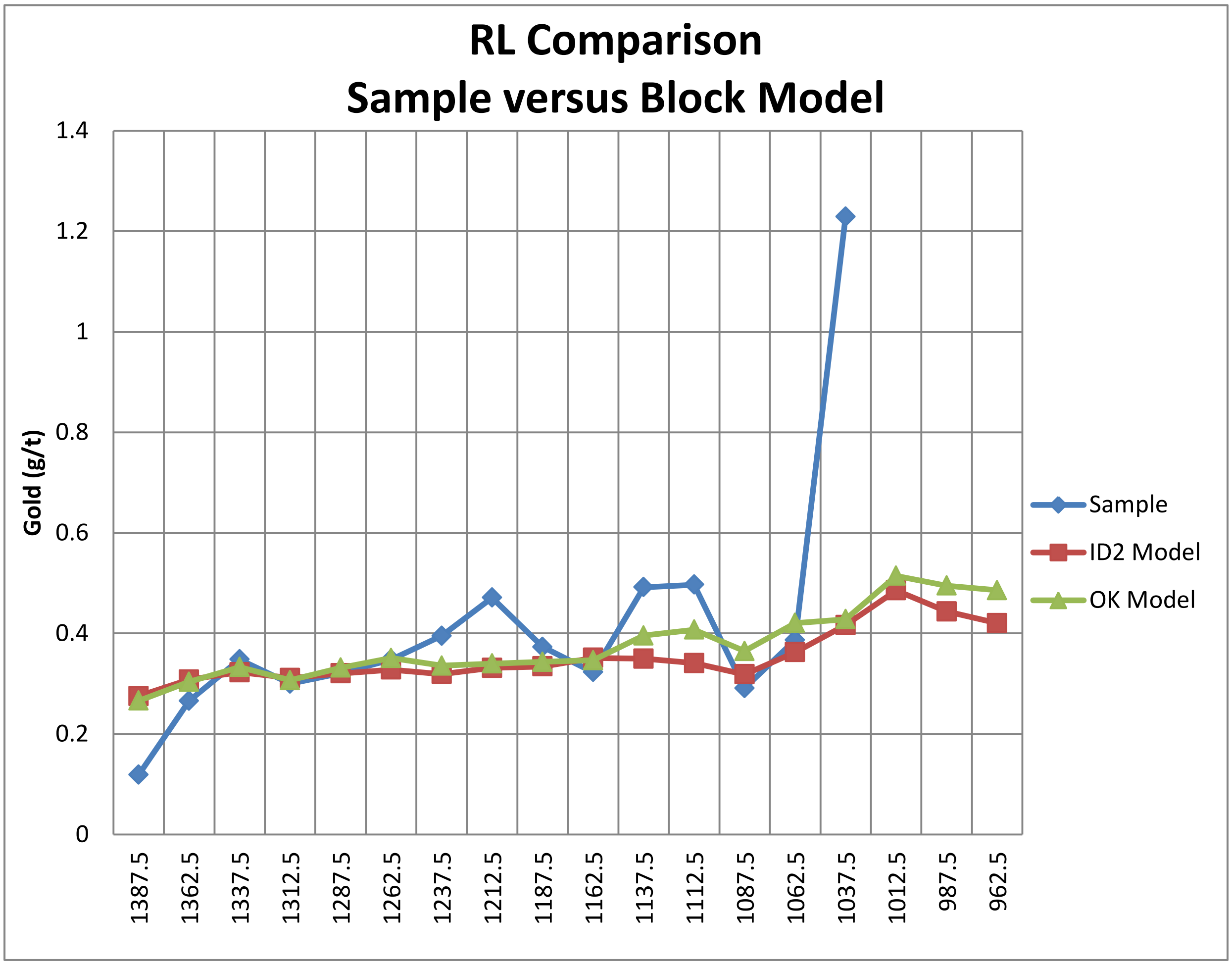

Figure 23 RL comparison of composited sample data versus calculated block model grades.

14.12 Resource Classification

The Wild Rose – Tam O'Shanter Property is considered to be an early stage resource project, therefore little is known about the potential mining or metallurgical characteristics of the Deadwood – Wild Rose Gold Zone. However, the resource is considered to exhibit reasonable prospects for economic extraction at today's prices for gold. The base case cut-off threshold of 0.3 g/t Au, which yields 24.5 million tonnes at an average grade of 0.53 g/t Au, is considered appropriate based on the project's current size, favourable location for access, power, water, labor force and other assumptions derived from deposits of similar type and scale.

Further modeling in conjunction with pit optimization studies are recommended once further drilling is completed. These studies in conjunction with new drilling and the current prices of gold may facilitate the use of a lower cut off such as 0.2 g/t (the cut off utilized at the Spanish Mountain Deposit; see Giroux and Koffyberg, 2012), which will also aid in increasing the overall ounces of gold for the deposit.

The Deadwood mineral resource which comprises the low grade and the higher grade vein domains were classified in accordance with guidelines established by the CIM "Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines" dated November 23rd, 2003 and CIM "Definition Standards for Mineral Resources and Mineral Reserves" dated November 14th, 2004.

The Deadwood mineral resource estimate has been classified as inferred according to the CIM definition standards. An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.

This inferred Deadwood mineral resource classification is based on a number of factors including historic nature and lack of documented procedures of some of the drilling, lack of down hole and collar location surveying and absence of systematic density data collections. Additional metallurgical and recovery test work should also be completed.

In addition, mineral resources are not mineral reserves and do not have demonstrated economic viability. There is no guarantee that all or any part of the inferred mineral resource will be converted into a mineral reserve.

Table 20 Inferred mineral resource for the Deadwood Deposit (0.3g/t lower cutoff)

Classification	Metric Tonnes (t)	Average Gold Grade (g/t)	Troy Ounces (oz)
Measured	-	-	-
Indicated	-	-	-
Total Measured + Indicated	-	-	-
Inferred	24,483,000	0.53	415,000

A sensitivity analysis of the grade and tonnage relationships has been completed and is shown in the accompanying Table 21 below.

Table 21 Inferred Mineral Resource Estimate at various cut off grades for gold.*

Lower Cut Off (g/t Au)	Metric Tonnes (t)	Average Gold Grade (g/t)	**Troy Ounces (oz)
0.1	54,511,000	0.35	610,000
0.2	40,233,000	0.42	541,000
0.3	**24,483,000**	**0.53**	**415,000**
0.4	14,692,000	0.65	306,000
0.5	9,137,000	0.77	226,000
0.6	6,020,000	0.89	171,000
0.7	3,650,000	1.04	122,000
0.8	2,515,000	1.18	95,000
0.9	1,863,000	1.30	78,000
1	1,635,000	1.34	71,000
1.2	936,000	1.54	46,000
1.4	422,000	1.83	25,000
1.6	251,000	2.07	17,000

**Inferred Mineral Resources are not Mineral Reserves. Inferred Mineral Resources do not have demonstrated economic viability, and may never be converted into Reserves.*
***Contained ounces may not add due to rounding.*

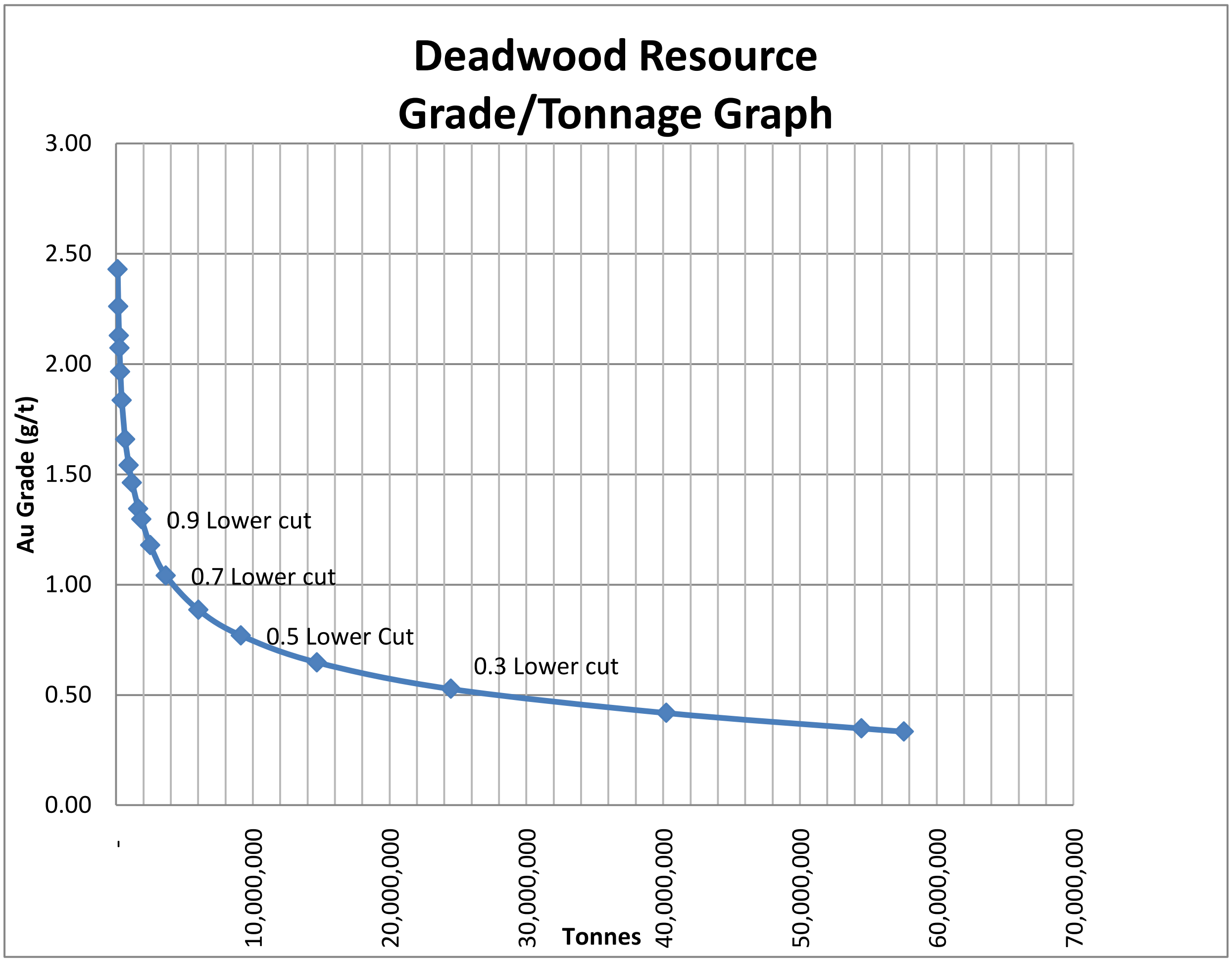

Figure 24 Inferred Deadwood Resource grade tonnage curve

15 Adjacent Properties

The Greenwood Mining District contains many significant properties, and due to the intense mineralization in the area, contains several past-producing mines showing the numerous styles of gold (±silver and copper) mineralization represented. A brief description of important properties within the Greenwood area and styles of mineralization has been discussed in this report.

The Copper Mountain Property, owned by Grizzly Discoveries Inc., adjoins the Tam O'Shanter Property to the west. The Copper Mountain property covers the northern portion of the Toroda Graben, within which the downward shift has largely preserved Eocene volcanic, sediments, and associated intrusives. Local exposures of Pre-Eocene rock are interpreted as the result of faulting, or topographic highs on which sedimentation did not occur. The Triassic Brooklyn Formation contains sediments and volcanics which host the majority of significant mineralization on the property, which generally occur as volcanogenic massive sulphide deposits or as skarn. The Eocene aged Republic area hosts mineralization in epithermal veins located in the Republic graben containing about 2.5 million ounces of gold, with a grade averaging about 17 g/t Au (Caron, 2006c).

The Princess property, within the western part of the Copper Mountain property, covers the Prince of Whales and Mabel-Jenny Minfile occurrences (082ESE255 and 082ESE203). Several areas of hornfels, auriferous massive pyrite-pyrrhotite (±arsenopyrite) veins and pods, and narrow auriferous quartz-pyrite-arsenopyrite veins occur within Knob Hill Complex sediments and volcanics that are intruded by a small granodiorite plug.

Merit Mining's Midway property, within the southern part of the Copper Mountain property, covers the so-called "Midway window", an inlier of pre-Tertiary rocks, surrounded by Eocene volcanics and sediments, within the Toroda graben. A large serpentinite-listwanite belt trends east-west across the Midway property and marks the position of a major, regional north-dipping thrust fault. There is considerable alteration, and local mineralization, along the thrust fault, including a spectacular occurrence of epithermal chalcedonic breccia. In the footwall of the thrust, several occurrences of copper-gold skarn (or volcanogenic) mineralization are known within rocks of the Triassic Brooklyn Formation (Caron, 2002c, 2003).

The Bud property is situated northeast of the Tam O'Shanter Property. The Morrison showing (Minfile 082ESE052) is the main zone of known mineralization on the Bud property. Auriferous massive pyrite-pyrrhotite-chalcopyrite mineralization occurs near the contact of limestone with highly altered volcanics or tuffs. Saville Resources recently re-opened the historic Morrison adit to allow access to underground workings. Saville also completed excavator trenching and diamond drill programs on the property, as detailed in a NI 43-101 compliant technical report by Caron (2005a).

Golden Dawn's Boundary Falls Property is immediately south and adjoined to the Wild Rose Property. There are currently seven known mineralization zones, in which numerous showings are structurally controlled quartz veins bearing gold and silver, and are related to zones of significant faulting. A road cut to the north of the property shows massive barite and may represent a volcanogenic massive sulphide/oxide horizon on the property. Significant amounts of exploration have been conducted at the Skomac showing (Minfile 082ESE045). These vein targets are discontinuous and small, and considered a lower priority than the volcanogenic and skarn mineralization on the Property (Caron, 2006b).

Kinross Gold Corporation's Buckhorn Mountain gold deposit in Washington, USA is located about 40 km southwest of the Wild Rose – Tam O'Shanter Property, and displays a similar style of mineralization to that found associated with some of the mineralization identified on Golden Dawn's Property. This deposit occurs along the southern margin of the Jurassic/Cretaceous Buckhorn Mountain pluton, and is hosted in a large calcic skarn associated with gently dipping metasediments potentially belonging to the Permian Attwood Group (Robertson, 2003). The primary zone of gold-mineralized skarn occurs in the southern part of the property and is known as the Southwest Zone. The skarn deposit is associated with marble belonging to the upper Buckhorn Mountain Sequence, and gold occurs within the skarn along the upper contact of this marble unit. Pyrrhotite composes the majority of the sulphide mineralization. A second tabular skarn body occurs along the lower contact of the marble unit, which hosts subordinate gold mineralization (Robertson, 2003).

Kinross' Kettle, K2, and Emanuel Creek deposits exhibit epithermal Au-Ag mineralization similar to some of mineralization encountered on Golden Dawn's Wild Rose – Tam O'Shanter Property. Located in Washington, these epithermal quartz veins grade into stockwork zones capped by silicified breccias associated with low grade gold and locally disseminated pyrite. These epithermal type deposits showed potential for bulk tonnage gold targets. Gold-sulphide mineralization is also associated with both high and low angle Tertiary faults. The Emanuel Creek vein, under an average 1,250 feet of post-mineral cover, exhibited grades up to 1.3 oz/t Au over widths in excess of 100 feet. Kinross completed mining the Emanuel Creek deposit in 2005. Production on the K2 epithermal deposit began in January 1997 and the deposit was mined at a rate of 800 tons per day until mid-2002, when it was mined out (Fifarek et al., 1996; Gelber, 2000).

The Lamefoot deposit, located in Washington, is a gold-bearing volcanogenic magnetite-sulphide mineralization which is geologically and structurally similar to Greenwood Mining District. This deposit was characterized by syngenetic mineralization within the Triassic Brooklyn Formation, and displayed gold bearing massive magnetite and sulphides along the same stratigraphic horizon. The deposit was mined out by 2002, and was reported to have produced 2 million tonnes of ore mined at an average grade of 7 g/t Au (Caron, 2003b).

Merit Mining Corporation's Lexington and Golden Crown Properties, located southwest of Golden Dawn's Wild Rose – Tam O'Shanter Property, exhibit gold mineralization associated with serpentinite. The Lexington-Grenoble deposit exhibits structurally controlled mineralization as massive sulphide and/or quartz/calcite veins within structurally emplaced serpentinite bodies along regional fault zones. The "Dacite" unit in the Lexington Property overthrust the lower serpentinite, resulting in structural replacement mineralization within the fault zone. Known ore bodies have traditionally been small, but often very high grade. On the Golden Crown Property gold bearing massive sulphide veins are hosted by volcanics, intrusive, and some serpentinite, which contain pyrrhotite and pyrite (Puritch, *et al.*, 2007). Mineralization of this type is also present on the Wild Rose – Tam O'Shanter Property.

16 Other Relevant Data and Information

All of the data used in this report has been summarized in the appropriate sections.

17 Interpretation and Conclusions

The Wild Rose – Tam O'Shanter Property forms the northern most claim group of Golden Dawn's Greenwood Project, and is centered about 4 km southwest of Greenwood in south-central British Columbia. The Wild Rose – Tam O'Shanter Property is an intermediate to advanced exploration stage Property with a favourable structural, regional geological and stratigraphic setting that is situated within the highly mineralized Boundary District. Several historic mineralized areas are known on the Property including the Deadwood Gold Zone and the Wild Rose Copper-Gold Veins. Both of these zones are associated with the Wild Rose Fault, a splay of the regional Lind Creek thrust fault. Many of the known historic workings and showings on the

Property are structurally controlled and spatially associated with major fault zones, intrusions and, in some cases, may be related to skarn-type settings.

The Wild Rose Zone is comprised of three parallel, northwest trending, moderate northeast dipping copper-gold-bearing veins that occur both within the Wild Rose Fault and in the hanging wall of the fault zone. The host hanging wall rocks are comprised of argillites, cherts, tuffaceous sediments, siliceous greenstones and andesites of the Late Paleozoic Knob Hill Formation. The footwall rocks are characterized as chert breccias and chert pebble conglomerates of the Triassic Brooklyn Formation. The Wild Rose veins are typically massive pyrrhotite-pyrite-chalcopyrite veins that average one to two metres in width, although locally they are quartz rich with lesser amounts of sulphide. Considerable, historical drilling (and underground exploration) has been conducted to test the veins. Some of the better historic drill intercepts include 8.7 g/t Au over 2.3 m, 9.3 g/t Au over 2 m, and 25.7 g/t Au over 0.7 m. The veins appear to plunge northwest and all three veins are open on strike and to depth.

The Deadwood Gold Zone is located immediately on strike (less than 100 m) to the northwest of the Wild Rose Zone and likely represents the on-strike continuation of the Wild Rose Zone. The Deadwood Gold Zone is an area of intense silicification (hornfels) with pyrite-biotite-chlorite-epidote alteration and widespread low-grade gold mineralization (including several high grade veins) in the hanging wall of the Wild Rose Fault. Historic drilling highlights to date include an intersection of 0.85 g/t Au over 63.16 m core length, indicative of the low grade bulk tonnage potential of the Deadwood Gold Zone.

Previously, Golden Dawn drilled 1,877.8 m in 12 diamond drill holes at the Wild Rose - Tam O'Shanter Property between November, 2010 and March, 2011. Drilling targeted the Wild Rose Vein System as well as the Deadwood Gold Zone. Holes 10WR01 to 10WR05 tested the Wild Rose veins and yielded intersections of semi-massive sulphide including pyrrhotite, pyrite and chalcopyrite from at least one vein in all 5 holes. The best intersections were in holes 10WR02, which yielded 9.57 g/t Au and 0.21% copper (Cu) over 1.7 m core length, and hole 10WR04, which yielded 5.38 g/t Au, 5.4 g/t silver (Ag) and 0.22% Cu over 1.10 m core length along with 0.32 g/t Au and 0.01% Cu over 31.29 m core length.

Drill holes 10WR06 and 11WR07 to 11WR12 tested the Deadwood Gold Zone and encountered chert, silicified argillite, greenstone and volcanic sandstones intruded by minor diorite in all 7 holes. Hole 11WR08 intersected 0.54 g/t Au and 0.03% Cu over 81.68 m core length, with a higher grade zone of 0.72 g/t Au over 57.0 m. Hole 11WR10 yielded 0.43 g/t Au over 127.0 m core length, with higher grade intervals of 0.78 g/t Au over 29.0 m and 0.86 g/t Au over 11.0 m. Hole 11WR12 yielded 0.36 g/t Au and 0.02% Cu over 138.0 m core length, with higher grade intervals of 1.06 g/t Au over 18.0 m and 0.71 g/t Au over 9.0 m.

Golden Dawn drilled 3,476.5 m in 12 diamond drill holes at the Wild Rose - Tam O'Shanter Property between August and October, 2011. Drilling targeted and extended along strike and at depth the Deadwood Gold Zone, as well as several Au and Cu in soil geochemical anomalies in the northern part of the Property. All drilling and geological aspects of the program were supervised by personnel from APEX.

Drill holes 11WR13 to 11WR18 and 11WR24 tested and expanded along strike the Deadwood Gold Zone, encountering chert, silicified argillite, greenstone and volcanic sandstones intruded by minor diorite in all 7 holes. The Deadwood Zone was characterized by cherts and silicified volcanic sandstones with quartz veining, and silicified argillites and greenstones that were brecciated and hornfels. Sporadic biotite, chlorite and epidote alteration are also locally present. Much of the silicified and altered rocks contained minor pyrite. Hole 11WR15 yielded an intersection of 0.19 g/t Au over 162.33 m core length that included an interval of 0.62 g/t Au over 27 m core length. Hole 11WR16 yielded an intersection of 0.29 g/t Au, 2.95 g/t Ag, 0.02% Cu, 0.06% Pb, and 0.20% Zn over 120 m core length including a higher grade interval of 0.72 g/t Au, 4.54 g/t Ag and 0.03% Cu over 18 m core length. Hole 11WR24 encountered 0.18 g/t Au and 0.04% Cu over 241.25 m core length, including a higher grade zone of 0.51 g/t Au and 0.09% Cu over 47.5 m core length.

Drill hole 11WR19 was situated 450 m northeast of the main lode of the Deadwood Gold Zone and targeted a prominent Au in soil geochemical anomaly along the eastern edge of an 850 m north trending magnetic feature that could indicate the presence of a buried intrusive body. The hole was continued to depth to test the depth extent of lodes 3 and 4 of the Deadwood Gold Zone. The hole successfully intersected extensions of lodes 3 and 4 with grades of 0.47 g/t Au over 9.0 m core length and 0.44 g/t Au over 27.0 m core length, respectively, including a higher grade zone of 0.68 g/t Au over 15.0 m core length. Interestingly, the hole also intersected a silver bearing zone in the upper reaches of the hole that grades 72.6 g/t Ag over 31.5m, including a higher grade zone of 166.5 g/t Ag over 12 m core length. The newly discovered silver bearing zone is located at the contact between basalt and mudstone and is characterized by silicification along with a stock-work of thin to very thin (<1 cm to mm size) quartz-carbonate veins with fine grained galena and sphalerite.

Drill holes 11WR20 to 11WR23 were situated near the northern border of the Property and were designed to test Au and Cu in soil anomalies adjacent to the southern contact of the Buckhorn Diorite. Significant intersections from the northern exploration holes include 0.12 g/t Au, 0.08% Cu, and 0.004% Mo over 239 m core length, including higher grade interval of 6.35 g/t Au, 0.7% Cu, and 0.068% Mo over 1.5 m core length in hole 11WR20, 0.09 g/t Au and 0.09% Cu over 283 m core length in hole 11WR21 along with 0.11 g/t Au, 2.24 g/t silver, and 0.09% Cu over 91.1 m core length in hole 11WR23. All of these intersections were characterized by disseminated chalcopyrite in basalts and dioritic intrusions with wide low grade Cu-Au-Mo-Ag mineralization. This mineralization likely reflects a possible intrusive-related porphyry system extending over large portions of the property holdings and is warrants further exploration.

Preliminary metallurgical work was conducted during 2011 by FWCI on seven composite samples created from drill core sample rejects from 2011 drill hole 11WR10. The samples were composited based on contiguous intervals representing specific lithologies and gold grades within the Deadwood Gold Zone that were reported for hole

11WR10. The laboratory and analytical work was conducted at Inspectorate. The studies were conducted in order to provide a preliminary response of this material to conventional mineral processing procedures. This included a single scoping flotation study and several cyanide leaching studies to observe leach characteristics at various feed particle size ranges.

The mineralized composites from hole 11WR10 showed that material from this portion of the Deadwood Gold Zone responds well to conventional mineral processing procedures. One composite with a head grade of 1.2 g/t Au and 0.05% Cu was upgraded by flotation, achieving 93% bulk gold recovery into a cleaned concentrate approaching 50 g/t Au. Whole ore cyanide leaching of the composites under various conditions resulted in gold recoveries ranging from 63% to 95%. Gold recovery improved with higher head grades and finer grinding. Higher grade samples seem well suited to tank leaching procedures. Coarse ore bottle roll leaching tests showed slower gold leach kinetics. However, the leach response of the lower grade material offers sufficient encouragement to recommend leach studies at larger particle sizes. Column leach studies are recommended to help establish if heap leaching offers a processing alternative to tank leaching for lower grade material.

Based upon the results of the fall 2011 drilling program Golden Dawn engaged APEX to complete an updated mineral resource estimate for the Deadwood – Wild Rose Gold Zones. The mineral resource model was generated using data derived from historic and current drilling between 1986 and 2011. The mineral resource estimate is derived from a total of 61 diamond drill holes including 20 recent holes drilled by Golden Dawn in 2010-2011. Spacing between drill holes varies from 20 m to 120 m, with an average spacing for the Deadwood domain being 75 m, and 20 m for the Wildcat – Wild Rose vein domain. The estimation of the resource for the Deadwood Gold Zone and the Wild Cat - Wild Rose Zone was calculated using both Inverse Distance to the power of two (ID2) and Ordinary Kriging (OK). Both estimation methods were completed to ensure that there were no gross discrepancies between the estimation methodologies. The ID2 was chosen for the final model estimation method on the basis that it honoured the input sample data better than ordinary kriging. Each lode within the Deadwood Gold Zone and Wild Cat – Wild Rose Zone was looked at individually and the search ellipsoid was tailored to the orientation of that particular lode. The size of the search ellipsoids used, were guided by the identified ranges of maximum continuity of mineralization, which was established using variography and the interpreted geological model for each lode. A nominal density of 2.86 g/cm^3 was applied to all blocks.

The Deadwood – Wild Rose mineral resource which comprises the low grade, bulk tonnage style domain (Deadwood zone) and the higher grade vein domain (Wild Cat – Wild Rose zone) was classified as inferred based upon the quality of the historic drilling data and the drillhole sample spacing and is reported according to the "CIM Definition Standards on Mineral Resources and Reserves". The mineral resource contained within the deposit is presented at a series of gold cut-off thresholds for comparison purposes (Table 22). The base case cut-off grade of 0.3 g/t Au is considered reasonable based on assumptions derived from other deposits of similar type, scale and location. Although this project is at an early resource stage and little is known with respect to potential mining or metallurgical properties, the resource has been considered with respect to exhibiting reasonable prospects for economic extraction. The resource, at the base case cut-off threshold, forms a near surface relatively continuous zone, which is a favourable configuration for open pit mining and heap or vat leach processing.

Table 22 Inferred Mineral Resource Estimate at various cut off grades for gold.*

Lower Cut Off (g/t Au)	Metric Tonnes (t)	Average Gold Grade (g/t)	**Troy Ounces (oz)
0.1	54,511,000	0.35	610,000
0.2	40,233,000	0.42	541,000
0.3	**24,483,000**	**0.53**	**415,000**
0.4	14,692,000	0.65	306,000
0.5	9,137,000	0.77	226,000

**Inferred Mineral Resources are not Mineral Reserves. Inferred Mineral Resources do not have demonstrated economic viability, and may never be converted into Reserves.*
***Contained ounces may not add due to rounding.*

Drilling by Golden Dawn during 2010 and 2011 along with historic drilling at the Deadwood – Wild Rose resource area has resulted in the identification of an Inferred Mineral Resource of 24,483,000 tonnes at an average grade of 0.53 g/t Au using a cut-off grade of 0.3 g/t Au. Based upon the drilling conducted to date, the Deadwood – Wild Rose deposit remains open in both directions along strike and at depth. Further drilling is warranted to test for possible extensions of the resource as well as possible higher grade zones. In addition, first pass drill testing of a number of Au-Cu soil anomalies identified significant mineralized intersections. These anomalies along with a number of other untested anomalies warrant further drill testing.

18 Recommendations

Drilling by Golden Dawn during late 2011 has resulted in an updated geological and resource model constructed for the Deadwood – Wild Rose resource area and has resulted in the identification of an Inferred Mineral Resource of 24,483,000 tonnes at an average grade of 0.53 g/t Au using a cut-off grade of 0.3 g/t Au. Based upon the drilling conducted to date, the Deadwood – Wild Rose deposit remains open in both directions along strike and at depth. Further drilling is warranted to test for possible extensions of the resource as well as possible higher grade zones. In addition, soil sampling during 2011 has resulted in the identification of a number of Au-Cu soil anomalies spatially associated with mapped diorite intrusions or magnetic anomalies likely indicative of buried intermediate intrusions or historic induced polarization (IP) chargeability anomalies. These anomalies warrant drill testing in order to assist in finding additional mineralization and resources to add to the current Deadwood – Wild Rose Inferred Mineral Resource.

Based upon the exploration conducted to date by Golden Dawn, the authors recommend that the following work be completed at the Wild Rose – Tam O'Shanter Project area during 2013.

1. Complete airborne magnetic-electromagnetic geophysical coverage over the entire project area and specifically the Tam O'Shanter mineral claims,
2. Complete follow-up IP and/or Titan 24 surveys in areas where the 2005 airborne survey identified EM anomalies that have not been followed up.
3. Conduct soil sampling surveys over a number of prospective covered ground and/or airborne EM conductors that have not been followed up,
4. Further resource drilling to expand the current Inferred Resource immediately along strike northwest and southeast of the Deadwood Zone, at depth below the Deadwood Zone and further to the north up stratigraphic section in order to see if further parallel zones are present in the vicinity of a magnetic anomaly that is likely indicative of a buried diorite, including 20 to 25 holes in the resource area for a total of about 6,000m.
5. Exploration drilling including a) testing a number of Au-Cu soil anomalies at the north end of the property spatially associated with a diorite intrusive, b) testing Au in soil anomalies associated with either historic IP chargeability anomalies or a number of EM conductors on the Wild Rose mineral claims, and c) testing old workings at the Gold Fleece and Bengal showings that are spatially associated with an IP chargeability anomaly, including 10 to 15 holes for a total of 2,000m,
6. Conduct follow-up metallurgical and mineralogical test work in order to assess the vat and heap leachability of the Deadwood - Wild Rose low grade bulk tonnage material,
7. Baseline environmental work in support of future potential scoping and/or pre-feasibility studies.

The proposed exploration program for 2013 should include approximately 8,000 m of diamond drilling in approximately 30 to 40 holes at the Wild Rose - Tam O'Shanter Property at an average all-in cost of $250/m for a total cost of $2.0 million, airborne and ground geophysical surveys for a total cost of $300,000, further prospecting, rock sampling, soil sampling, geological mapping, follow-up mineralogical, metallurgical resource and pit optimization studies along with baseline environmental work at a total cost of about $350,000. The total cost for the recommended 2013 exploration program is $2.65 million.

APEX Geoscience Ltd.

Michael B. Dufresne, M.Sc., P.Geol. Steven J. Nicholls, BASc, MAIG
January 25, 2013
Edmonton, AB

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20 Certificate of Author

I, Michael B. Dufresne, M.Sc., P.Geol., do hereby certify that:

1. I am President of: APEX Geoscience Ltd.
   Suite 200, 9797 – 45th Avenue
   Edmonton, Alberta T6E 5V8

2. I graduated with a B.Sc. in Geology from the University of North Carolina at Wilmington in 1983 and with a M.Sc. in Economic Geology from the University of Alberta in 1987.

3. I am and have been registered as a Professional Geologist with the Association of Professional Engineers and Geoscientists of Alberta since 1989.

4. I have worked as a geologist and practiced my profession for more than 25 years since my graduation from university and have been involved in mineral exploration, mine site geology and operations, mineral resource estimations on numerous projects and deposits in Canada, the United States, Central and South America, Africa and Australia.

5. I have read the definition of "Qualified Person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.

6. I am responsible for and have supervised the preparation of the entire report titled "*Technical Report on the Updated Resource for the Wild Rose – Tam O'Shanter Property, Greenwood Area, South-Central British Columbia, Canada"*, dated January 25th, 2013 (the "Technical Report"). I visited the Property on numerous occasions with my last visit October 24 to 28, 2011.

7. I was a co-author of the previous Technical Report for the Property dated May 31st, 2011, and other than that I have not had prior involvement with the property that is the subject of the Technical Report.

8. I am not aware of any scientific or technical information with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

9. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form. I am independent of the issuer, the vendor and the Property applying all of the tests in section 1.5 of both NI 43-101 and 43-101CP.

10. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files or their websites.

Dated this January 25th, 2013

PROFESSIONAL GEOLOGIST
MICHAEL B. DUFRESNE
ALBERTA

Michael B. Dufresne, M.Sc., P.Geol.

I, Steven J. Nicholls, MAIG., do here by certify that:

1. I am a Resource Geologist with: APEX Geoscience Australia Pty Ltd.
   39B Kensington St
   East Perth WA Australia 6004

2. I graduated with a Bachelor of Applied Science, in Geology, received from the University of Ballarat in 1997.

3. I am and have been a registered member of the Australian Institute of Geoscientists, Australia (AIG) since 2007.

4. I have worked as a geologist and practiced my profession for a total of 13 years since my graduation from university and have extensive experience in gold exploration/resource estimation. Most recently I was employed by Tanami Gold NL as a Senior Exploration geologist where I was responsible for the company resource estimations.

5. I have read the definition of "Qualified Person" set out in the National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a "Qualified Person" for the purposes of NI 43-101.

6. I, along with my co-author Michael Dufresne, M.Sc., P.Geol, am responsible for the preparation of the "Mineral Resource and Mineral Reserve Estimates" section in this report titled "*Technical Report on the Updated Resource for the Wild Rose – Tam O'Shanter Property, Greenwood Area, South-Central British Columbia, Canada*", dated January 25th, 2013. I have not visited the Property.

7. I was a co-author of the previous Technical Report for the Property dated May 31st, 2011, and other than that I have not had prior involvement with the property that is the subject of the Technical Report.

8. I am not aware of any scientific or technical information with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

9. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form. I am independent of the issuer, the vendor and the Property applying all of the tests in section 1.5 of both NI 43-101 and 43-101CP.

10. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files or their websites.

Dated this 25th January, 2013

Steven J. Nicholls, BA Sc (Geology) MAIG

Appendix 1 – Option Agreement

Rec'd ... Oct 18 2011

MINING OPTION AGREEMENT

THIS AGREEMENT (the "Agreement") is dated for reference September 15, 2010

BETWEEN:

MINEWORKS VENTURES INC.

(the "Optionor") of PO Box 92021, West Vancouver, BC V7V 4X4

AND:

GOLDEN DAWN MINERALS INC

(the "Optionee") of 575-1111 West Hastings Street, Vancouver, BC V6E 2J3

WHEREAS:

A. The Optionor is the registered and beneficial owner of a 100% interest in and to claims located in the Greenwood Mining District of the Province of British Columbia, commonly referred to as the **"Wild Rose"** and more particularly described in Schedule "A" attached hereto (collectively, the "Property");

B. By letter of intent ("Letter of Intent") dated June 9, 2010, between the parties, a copy of which is attached hereto as Schedule "C", the Optionor agreed to grant an option (the "Option") to the Optionee and the Optionee agreed to accept such option grant to acquire an 80% legal and beneficial interest in and to the Property; and

C. By this Agreement, the parties wish to affirm the grant of the Option in a formal agreement format and upon execution this Agreement will supersede and replace the Letter of Intent which will then be terminated and the Optionee's grant of the Option to the Optionee will be made and continue on the terms and conditions which are set out herein.

THEREFORE in consideration of the mutual covenants and agreements contained in this Agreement, the parties agree as follows:

1. DEFINITIONS AND INTERPRETATION

1.1 For the purposes of this Agreement:

(a) "Affected Party" has the meaning ascribed to it in Subsection 10.0;

(b) "Area of Interest" has the meaning ascribed to it in Subsection 8.1;

(c) "Cash Payments" has the meaning ascribed to it in Subsection 3.2(c);

LD A.

(d) "Effective Date" means June 9, 2010 ;

(e) "Exchange" means the TSX Venture Exchange;

(f) "Expenditures" means amounts to be spent by the Optionee on or with respect to exploration activities directed towards ascertaining the existence, location, quality, quantity or commercial value of deposits of ores, minerals and mineral resources on the Property including, but not limited to, all insurance costs, travel, report costs, camp expenses, analysis and assays, all exploration activities related towards developing and exploiting the Property, the assessment work required under the mining laws of British Columbia, and the rental fees and taxes on the Property, all expenditures made relating to reclamation, rehabilitation and protection of the environment, all other costs and expenses to keep the Property and Property Rights in good standing, staking or acquisition costs for claims in the Area of Interest and a charge for overhead costs (the "Other Costs") which cannot be specifically allocated equal to 10% of all other costs and expenditures (invoices of Other Costs made available to the Optionor on request). All refunds, grants, tax credits or any amounts of similar nature received by the Optionee with respect to these Expenditures will be excluded from the calculation of the Expenditures;

(g) "Fundamental Change" has the meaning ascribed to it in Subsection 3.9;

(h) "fiscal year" means the fiscal year of the Optionee;

(i) "holders of 20% carried Interest" has the meaning ascribed to it in Subsection 4.3;

(j) "Letter of Intent" means the letter of intent dated June 9, 2010, between the parties, a copy of which is attached hereto as Schedule "C";

(k) "Net Profit" means the revenue received, in a given fiscal year, from mining activities on the Property, less any expenditure giving rise to the revenue so derived. For the purposes hereof, any such expenditures relating to the Company's overhead expenditures will be limited to a maximum of 20% of the Company's total overhead expenses. The Net Profit figure will be determined by the auditors and will be based on normal accounting standards applicable to the Optionee;

(l) "New Mineral Claim" has the meaning ascribed to it in Subsection 8.1;

(m) "Non-Defaulting Party" has the meaning ascribed to it in Subsection 12.1;

(n) "NSR" has the meaning ascribed to it in Subsection 4.1;

(o) "Option" has the meaning ascribed to it in Subsection 3.1;

(p) "Option Period" means the period commencing on the Effective Date and ending one day after the day (i) on which the Optionee has incurred the Expenditures,

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issued the Shares and made the Cash Payments as set out in Subsection 3.2; or, (ii) the Optionee fails to remedy any default with respect to any Cash Payments, issuance of Shares or Expenditures and the Agreement is terminated pursuant to Subsection 12.1;

(q) "Property" has the meaning ascribed it on the face page of this Agreement;

(r) "Property Rights" means all licences, permits, easements, rights-of-way, certificates and other approvals obtained by either of the parties, either before or after the date of this Agreement, and necessary for the development of the Property or for the purpose of placing the Property into production or of continuing production on the Property;

(s) "Royalty" has the meaning ascribed to it in Subsection 4.1; and

(t) "Shares" means common shares in the capital of the Optionee as presently constituted.

1.2 For the purposes of this Agreement, except as otherwise expressly provided or unless the context otherwise requires:

(a) "this Agreement" means this mining option agreement and all Schedules attached hereto;

(b) any reference in this Agreement to a designated "Section", "Schedule", "paragraph" or other subdivision refers to the designated section, schedule, paragraph or other subdivision of this Agreement;

(c) the words "herein" and "hereunder" and other words of similar import refer to this Agreement as a whole and not to any particular Section or other subdivision of this Agreement;

(d) the word "including", when following any general statement, term or matter, is not to be construed to limit such general statement, term or matter to the specific items or matters set forth immediately following such word or to similar items or matters, whether or not non-limiting language (such as "without limitation" or "but not limited to" or words of similar import) is used with reference thereto but rather refers to all other items or matters that could reasonably fall within the broadest possible scope of such general statement, term or matter;

(e) any reference to a statute includes and, unless otherwise specified herein, is a reference to such statute and to the regulations made pursuant thereto, with all amendments made thereto and in force from time to time, and to any statute or regulations that may be passed which has the effect of supplementing or superseding such statute or such regulation;

(f) any reference to "party" or "parties" means the Optionor, the Optionee, or both, as the context requires;

(g) the headings in this Agreement are for convenience of reference only and do not affect the interpretation of this Agreement;

(h) words importing the masculine gender include the feminine or neuter gender and words in the singular include the plural, and vice versa; and

(i) all references to currency refer to Canadian dollars.

1.3 The following are the Schedules to this Agreement, and are incorporated into this Agreement by reference:

Schedule "A":	The Property
Schedule "B":	Royalty
Schedule "C":	Letter of Intent (June 9, 2010)

1.4 Wherever any term or condition, expressed or implied, in any of the Schedules conflicts or is at variance with any term or conditions of this Agreement, the terms or conditions of this Agreement will prevail.

2. REPRESENTATIONS AND WARRANTIES OF THE OPTIONOR AND THE OPTIONEE

2.1 The Optionor represents and warrants to the Optionee that:

(a) the Optionor is a valid and subsisting corporation duly continued and in good standing under the laws of the Province British Columbia and has the full right, power, capacity and authority to enter into, execute and deliver this Agreement and to be bound by its terms;

(b) all necessary corporate approvals have been obtained and are in effect with respect to the transactions contemplated in this Agreement;

(c) the Optionor is the 100% legal and beneficial owner of all of the mineral interests comprising the Property;

(d) the Property is accurately described in Schedule "A" attached hereto and forming a material part of this Agreement;

(e) the consummation of this Agreement will not conflict with nor result in any breach of the Optionor's constating documents or any covenants or agreements contained in, or constitute a default under, any agreement or other instrument whatever to which the Optionor is a party or by which the Optionor is bound or to which the Optionor may be subject;

(f) the Property is free and clear of, and from, all liens, charges and encumbrances with all assessment work therein having been duly completed to the dates set out in Schedule "A" attached hereto;

(g) each of the mineral claims comprising the Property has been properly staked, located and recorded pursuant to the applicable laws and regulations of British Columbia and all mining claims comprising the Property are in good standing;

(h) to the best of the Optionor's knowledge, there are no restrictions on the mineral exploration on the Property;

(i) to the best of the Optionor's knowledge, there are no outstanding orders or directions relating to environmental matters requiring any work, repairs, construction or capital expenditures with respect to the Property and the conduct of the operations related thereto, and the Optionor has not received any notice of the same and is not aware of any basis on which any such orders or direction could be made;

(j) there is no adverse claim or challenge, including but not limited to First Nations claims, against or to the ownership of or title to any part of the Property and, to the best of the Optionor's knowledge there is no basis for such adverse claim or challenge which may affect the Property and there are no outstanding agreements or options to acquire or purchase the Property or any portion thereof, and no persons have any royalty, net profits or other interests whatsoever in production from any of the mineral interests comprising the Property;

(k) the consummation of the transactions contemplated by this Agreement does not and will not conflict with, constitute a default under, result in a breach of, entitle any person or Optionor to a right of termination under, or result in the creation or imposition of any lien, encumbrance or restriction of any nature whatsoever upon or against the property or assets of the Optionor, under its constating documents, any contract, agreement, indenture or other instrument to which the Optionor is a party or by which it is bound, any law, judgment, order, writ, injunction or decree of any court, administrative agency or other tribunal or any regulation of any governmental authority;

(l) there are no actual or pending proceedings for, and the Optionor is unaware of any basis for, the institution of any proceedings leading to the placing of the Optionor in bankruptcy or subject to any other laws governing the affairs of insolvent parties and the Property does not represent all or substantially all of the Optionor's corporate undertaking;

(m) reclamation and rehabilitation of those parts of the Property which have been previously worked have been properly completed in compliance with all applicable laws; and

(n) it has advised the Optionee and its consultants of all of the material information relating to the mineral potential of the Property of which it has knowledge, including the work conducted by the Optionor to date.

2.2 The representations and warranties contained in Subsection 2.1 are provided for the exclusive benefit of the Optionee, and a breach of any one or more representations or warranties may be waived by the Optionee in whole or in part at any time without prejudice to its rights in respect of any other breach of the same or any other representation or warranty, and the representations and warranties contained in Subsection 2.1 will survive the execution and delivery of this Agreement.

2.3 The Optionee represents and warrants to the Optionor that:

(a) the Optionee is a valid and subsisting corporation duly incorporated and in good standing under the laws of the Province of British Columbia;

(b) all necessary corporate approvals have been obtained and are in effect with respect to the transactions contemplated in this Agreement;

(c) the Optionee has the full right, power, capacity and authority to enter into, execute and deliver this Agreement and to be bound by its terms;

(d) the consummation of this Agreement will not conflict with nor result in any breach of the Optionee's constating documents or any covenants or agreements contained in, or constitute a default under, any agreement or other instrument whatever to which the Optionee is a party or by which the Optionee is bound or to which the Optionee may be subject; and

(e) no proceedings are pending for, and the Optionee is unaware of any basis for, the institution of any proceedings leading to the placing of the Optionee in bankruptcy or subject to any other laws governing the affairs of insolvent parties.

2.4 The representations and warranties contained in Subsection 2.3 are provided for the exclusive benefit of the Optionor, and a breach of any one or more representations or warranties may be waived by the Optionor in whole or in part at any time without prejudice to its rights in respect of any other breach of the same or any other representation or warranty, and the representations and warranties contained in Subsection 2.3 will survive the execution and delivery of this Agreement.

3. OPTION

3.1 The Optionor hereby grants to the Optionee the sole and exclusive right and option (the "Option") to acquire an 80% undivided legal and beneficial interest in and to the Property (subject to the Royalty in favour of the Optionor as referred to in Section 4) in accordance with the terms of this Agreement.

3.2 In order to exercise the Option and to earn its interest in the Property, the Optionee will:

(a) incur at least two million ($2,000,000) dollars of Expenditures on the Property, as follows:

(i) two hundred fifty thousand ($250,000) dollars of Expenditures on or before the first anniversary of the Effective Date;

(ii) an additional seven hundred fifty thousand ($750,000) dollars (aggregate $1,000,000) of Expenditures on or before the second anniversary of the Effective Date; and

(iii) an additional one million ($1,000,000) dollars (aggregate $2,000,000) of Expenditures on or before the third anniversary of the Effective Date;

(b) issue and deliver to the Optionor an aggregate of two million (2,000,000) Shares as follows:

(i) five hundred thousand (500,000) Shares on or before the day that is 30 business days after the Optionee receives Exchange approval of this Agreement, which application will be lodged with the Exchange within one week of the signing of this agreement; and

(ii) an additional two hundred fifty thousand (250,000) Shares on or before each of December 9, 2010; June 9, 2011; December 9, 2011; June 9, 2012; December 9, 2012 and June 9, 2013; and

(c) pay to the Optionor an aggregate of four hundred thousand ($400,000) dollars in cash, by cheque or as otherwise directed by the Optionor (the "Cash Payments"), as follows:

(i) ten thousand ($10,000) dollars (which sum has been paid by the Optionee pursuant to the terms of the Letter of Intent, the receipt of which is acknowledged by the Optionor);

(ii) an additional twenty thousand ($20,000) dollars upon signing of this Agreement;

(iii) an additional twenty thousand ($20,000) dollars on or before December 1, 2010;

(iv) an additional twenty-nine thousand, one hundred and sixty-six ($29,166) dollars on or before each of March 1, 2011; June 1, 2011; September 1, 2011; December 1, 2011; March 1, 2012; June 1, 2012; September 1, 2012; December 1, 2012; March 1, 2013; June 1, 2013; and September 1, 2013; and

(v) an additional twenty-nine thousand, one hundred and seventy-four ($29,174) dollars on or before December 1, 2013.

3.3 The Optionor and the Optionee acknowledge and agree that upon completion of the Cash Payments, the Share issuances and the Expenditures set out in Subsection 3.2 above within the time periods specified therein, the Option will be deemed to have been exercised by the Optionee and the Optionee will have thereby, without any further act, acquired an undivided 80% legal and beneficial interest in and to the Property. The Optionor's remaining 20% interest will be a carried interest and the Optionor will have no obligation as to Expenditures. This Agreement does not create a joint venture between the parties.

3.4 The Expenditures referred to in Subsection 3.2(a) are cumulative with over-Expenditures in any year being credited toward the Expenditure requirements for the subsequent year or years. The Optionee has the right to accelerate the schedule of Expenditures, issuance of Shares and payment of Cash Payments set out in Subsection 3.2 above and by so doing reduce the time for exercising the Option and earning its 80% legal and beneficial interest in and to the Property.

3.5 Except as specifically provided elsewhere herein, this is an option agreement only and until the exercise of the Option, nothing herein contained and no act done nor any payment or share issuance made hereunder will obligate the Optionee to do any further act or acts or to make any further Cash Payments, Share issuances or Expenditures, and in no event will this Agreement or any act done or any Cash Payments, Share issuances or incurred Expenditures that are made be construed as an obligation of the Optionee to do or perform any work or make any Cash Payments or Share issuances on or with respect to the Property.

3.6 All of the Shares to be issued to the Optionor pursuant to Subsection 3.2 will be fully paid and non-assessable common shares in the capital of the Optionee and not subject to any restrictions on trading, pooling or escrow other than those imposed by law, the Exchange or by the policies of any securities regulatory body, and the Optionor covenants and agrees to execute any and all documents, undertakings and agreements and to give and abide by any and all assurances and trading restrictions as may be required by law, the Exchange or the policies of any securities regulatory body as a condition to the issuance of the Shares by the Optionee.

3.7 If the Optionee identifies any material defect in the Optionor's title to the Property, the Optionee will give the Optionor notice of such defect. If the defect has not been cured within 30 days of receipt of such notice, the Optionee will be entitled to take such curative action as is reasonably necessary, and will be entitled to deduct the costs and expenses incurred in taking such action from Cash Payments then otherwise due or accruing due to the Optionor pursuant to Subsection 3.2(c). If there are no such Cash Payments due or accruing to the Optionor, than the Optionee will be entitled to a credit in the amount of said costs and expenses to be applied against the amount of any Expenditures remaining to be incurred pursuant to Subsection 3.2(a) above.

3.8 If any third party asserts any right or claim to the Property or to any amounts payable to the Optionor, the Optionee may deposit any amounts otherwise due to the Optionor in escrow with a suitable agent until the validity of such right or claim has been finally resolved. If the Optionee deposits said amounts in escrow, the Optionee will be deemed not in default under this Agreement for failure to pay such amounts to the Optionor.

3.9 If there will, prior to the issuance of any of the Shares pursuant to Subsection 3.2(b), be any reorganization of the authorized share capital of the Optionee by way of consolidation, merger, subdivision, amalgamation or otherwise (a "Fundamental Change"), then there will not be an adjustment in the number of Shares issued thereafter pursuant to Subsection 3.2.

4. ROYALTY INTEREST

4.1 The purchase of the 80% legal and beneficial interest in and to the Property pursuant to the exercise of the Option is subject to the payment to the holders of the remaining 20% Carried Interest in and to the Property, according to their respective proportionate holding, of a royalty (the "Royalty"), the amount of which will be the greater of the sum derived from the following calculations:

(i) 20% of the Net Profit derived from the Optionee's audited annual financial statements for the applicable year;

and

(ii) the value equivalent to a 3% NSR (defined below) for the same applicable year;

Payment of the Royalty to the Optionor will be made in accordance with the terms set out in Schedule "B" attached to and forming a material part of this Agreement.

For the purposes of this section the term "NSR" shall mean the actual proceeds received from any mint, smelter, refinery or other purchaser for the sale of gold, ores, base metals, precious metals, rare earth metals, elements and any other minerals normally subject to NSR returns or concentrates produced from the Property and sold, after deducting from such proceeds the following charges to the extent that they were not deducted by the purchaser in computing payment: smelting and refining charges, penalties, smelter assay costs and umpire assay costs, costs of freight and handling of metals of or concentrates from the Property to any mint, smelter, refinery, or other purchaser marketing costs including insurance on all such metals or concentrates, customs duties or mineral taxes or the like and export and import taxes or tariffs payable in respect of said ores, metals or concentrates, but not including the Optionee's income tax, property tax, ad valorem tax business tax or similar taxes. Any charges to be conducted hereunder which are made to an associated company of the Optionee must be on commercially reasonable terms or must be approved in writing by the Optionor.

4.2 As of the Effective Date and so long as this Agreement is in effect and/or the Optionee has acquired its 80% interest in the Property, the Optionor hereby grants to the Optionee the first right of refusal to acquire the Optionor's 20% carried interest or portion thereof in and to the Property in the event the Optionor wishes to assign, sell or otherwise dispose of such interest or portion thereof, before making an offer to a third party under the same terms and conditions. The Optionee will have 90 days from the date it receives notification of the Optionor's wish to assign, sell or otherwise dispose of its interest or portion thereof, to notify the Optionor whether it accepts or declines the offer. All notifications made under this section will be made according to the provisions of Section 16 of this Agreement.

4.3 The Optionor, as long as it has not assigned, disposed or otherwise sold the entire 20% Carried Interest in and to the Property, and any party or parties who acquire the 20% Carried Interest or portion thereof in and to the Property will collectively be referred to as the holders of 20% Carried Interest.

5. PROPERTY EXPLORATION AND MAINTENANCE

5.1 During the Option Period the Optionee will be the operator in connection with the Expenditures conducted on the Property. The Optionee will incur the Expenditures in such a manner that a report in compliance with National Instrument 43-101 of Canadian Securities Administrators, or any successor policy thereto, can be prepared in connection with such Expenditures and it will be the responsibility of the Optionee to designate the individual with sufficient qualifications to prepare such a report.

5.2 The Optionee agrees that when acting as operator it will submit such reports of its exploration activities on the Property to the appropriate government authorities and pay the fees as may be required to maintain the Property in good standing and will further provide copies of such information to the Optionor. The Optionee further agrees that when acting as operator it will file all work possible on the claims up to the maximum of 10 years, all extra work credits will be to the Optionor's PAC account.

5.3 The Optionee will advise the Optionor when it has completed the Expenditures as required under Subsection 3.2(a). Disclosure in the Optionee's audited financial statements will be conclusive evidence for the expenditures.

6. RIGHT OF ENTRY

6.1 Throughout the Option Period, or until this Agreement is terminated in accordance with Subsection 12.1, the Optionee and its employees, agents, directors, officers and independent contractors will have the exclusive right in respect of the Property to:

(a) enter the Property without disturbance;

(b) do such prospecting, exploration, development and/or other mining work on and under the Property to carry out the Expenditures as the Optionee may determine necessary or desirable;

(c) bring and erect upon the Property such buildings, plant, machinery and equipment as the Optionee may deem necessary or desirable in its sole discretion; and

(d) remove materials from the Property for the purposes of assaying and testing, bulk sampling or otherwise as the Optionee, in its sole discretion, may deem necessary, and dispose of such materials by way of sale or otherwise as the Optionee, in its sole discretion, may consider advisable or desirable. The Royalty as specified in Section 4.1 will also be applicable for any materials so removed.

6.2 The Optionee will permit the Optionor, or its representatives duly authorized in writing, to visit and inspect the Property at all reasonable times and intervals, and inspect all data obtained by the Optionee as a result of its operations on the Property, subject to such confidentiality arrangements as the Optionee may reasonably consider appropriate.

7. OBLIGATIONS DURING OPTION PERIOD

7.1 During the Option Period, unless this Agreement is terminated in accordance with Subsection 12.1, the Optionee covenants and agrees with the Optionor that the Optionee will:

(a) maintain the Property in good standing by doing and filing all assessment work or making payments in lieu thereof and by performing all other acts which may be necessary in order to keep the Property in good standing and free and clear of all liens and other charges arising from or out of the Optionee's activities on the Property;

(b) do all work on the Property in accordance with sound mining, exploration and engineering practices and in compliance with all applicable laws, bylaws, regulations, orders, and lawful requirements of any governmental or regulatory authority and comply with all laws governing the possession of the Property, including, without limitation, those governing safety, pollution and environmental matters.

(c) maintain true and correct books, accounts and records of operations thereunder, such records to be open at all reasonable times upon reasonable notice for inspection by the Optionor or its duly authorized representative; and

(d) keep the Property properly insured against general liability for an amount of no less than $5 million

7.2 During the Option Period, unless this Agreement is terminated in accordance with Subsection 12.1, the Optionor covenants and agrees with the Optionee that the Optionor will:

(a) for so long as the Optionor is not in default under this Agreement, not do any act or thing which would in any way adversely affect the rights of the Optionee under this Agreement;

(b) make available to the Optionee and its representatives all records, maps, reports drill core and files in its possession relating to the Property and permit the Optionee and its representatives at their own risk and expense to take abstracts therefrom and make copies thereof; and

(c) promptly provide the Optionee with any and all notices and correspondence received by the Optionor from any relevant government agencies in respect of the Property.

8. AREA OF INTEREST

8.1 If during the Option Period, the Optionor or an affiliate of the Optionor stakes or otherwise acquires, directly or indirectly, any right or interest in any mining claim, licence, lease, grant, concession, patent or other mineral property ("New Mineral Claim"), within one kilometre from any boundary of the Property (the "Area of Interest"), it will offer the New Mineral Claim to the Optionee for inclusion under this Agreement as a part of the Property. If the Optionee elects within thirty days to include the New Mineral Claim as part of the Property subject to the terms of this Agreement, it will reimburse the Optionor 80% of the Optionor's costs (the "Optionor's acquisition costs") related to the staking of or otherwise acquiring, directly or indirectly, any right or interest in such New Mineral Claim. All payments will be required to be paid by the Optionee to the Optionor at the time that the Optionor's acquisitions costs are due to be paid to the vendor of the New Mineral Claim. All Optionor's acquisition costs due to be paid by the Optionee to the Optionor pursuant to this Subsection 8.1 will be paid solely in cash. It will be a requirement of this Agreement that the consideration payable for a New Mineral Claim pursuant to any acquisition agreement entered into by the Optionor with respect to such New Mineral Claim must be cash consideration only. All sums paid by the Optionee to the Optionor pursuant to this Subsection 8.1 will be included towards the Expenditures of the Optionee for the applicable year (or the following year(s) if such credit is in excess of the amount of Expenditures left to be incurred during that particular year). If the Optionee elects not to include the New Mineral Claim as part of the Property subject to this Agreement, the Optionor will hold such New Mineral Claim separate from this Agreement and the Optionee will have no rights or obligations with respect thereto.

8.2 If during the Option Period, the Optionee or an affiliate of the Optionee stakes or otherwise acquires, directly or indirectly, any right or interest in any New Mineral Claim within the Area of Interest, it will offer the New Mineral Claim to the Optionor for inclusion under this Agreement as a part of the Property. If the Optionor elects within thirty days to include the New Mineral Claim as part of the Property subject to the terms of this Agreement, it will reimburse the Optionee 20% of the Optionee's costs (the "Optionee's acquisition costs") related to the staking of or otherwise acquiring, directly or indirectly, any right or interest in such New Mineral Claim. All payments will be required to be paid by the Optionor to the Optionee at the time that the Optionee's acquisition costs are due to be paid to the vendor of the New Mineral Claim. All Optionee's acquisition costs due to be paid by the Optionor to the Optionee pursuant to this Subsection 8.2 will be paid solely in cash. Accordingly, if the actual Optionee's acquisition costs due from the Optionee to the vendor of the New Mineral Claim include tradable shares of the Optionee, the Optionor's corresponding portion of the Optionee's acquisition costs will be calculated on the basis of the closing price of the Optionees's shares on the Exchange on the date immediately preceding the date on which such Optionee's acquisition costs fall due. If the Optionor elects not to include the New Mineral Claim as part of the Property subject to this Agreement, the Optionee will hold such New Mineral Claim separate from this Agreement and the Optionor will have no rights or obligations with respect thereto.

9. NO ENCUMBRANCES AGAINST PROPERTY

9.1 During the Option Period, neither the Optionee nor the Optionor will be entitled to grant any mortgage, charge or lien of or upon the Property or any portion thereof without the prior written consent of the other party.

10. FORCE MAJEURE

10.1 If either party is at any time during the Option Period prevented or delayed in complying with any of the provisions of this Agreement (the "Affected Party") by reason of strikes, lockouts, First Nations land claims and blockages, forest or highway closures, earthquakes, general collapse or landslides, interference or the inability to secure on reasonable terms any private or public permits or authorizations, labour, power or fuel shortages, fires, wars, acts of God, civil disturbances, governmental regulations restricting normal operations, shipping delays or any other reason or reasons beyond the reasonable control of the Affected Party (whether or not foreseeable) (provided that lack of sufficient funds to carry out exploration on the Property will be deemed not to be beyond the reasonable control of the Affected Party), then the time limited for the performance by the Affected Party of its obligations hereunder will be extended by a period of time equal in length to the period of each such prevention or delay. Nothing in this Subsection 10.1 or this Agreement will relieve either Party from its obligation to maintain the claims comprising the Property in good standing and to comply with all applicable laws and regulations including, without limitation, those governing safety, pollution and environmental matters.

10.2 The Affected Party will promptly give notice to the other party of each event of force majeure under Subsection 10.1 within 7 days of such event commencing and upon cessation of such event will furnish the other party with written notice to that effect together with particulars of the number of days by which the time for performing the obligations of the

Affected Party under this Agreement has been extended by virtue of such event of force majeure and all preceding events of force majeure.

11. CONFIDENTIAL INFORMATION

11.1 The terms of this Agreement and all information obtained in connection with the performance of this Agreement will be the exclusive property of the parties hereto and except as provided in Subsection 11.2, may not be disclosed to any third party or the public without the prior written consent of the other party, which consent will not be unreasonably withheld.

11.2 The consent required by Subsection 11.1 will not apply to a disclosure:

(a) to an affiliate, consultant, contractor or subcontractor that has a *bona fide* need to be informed;

(b) to any third party to whom the disclosing party contemplates a transfer of all or any part of its interest in this Agreement;

(c) to a governmental agency or to the public which such party believes in good faith is required by pertinent laws or regulation or the rules of the Exchange or any other applicable stock exchange;

(d) to an investment dealer, broker, bank or similar financial institution, in confidence if required as part of a due diligence investigation by such financial institution in connection with a financing required by such party or its shareholders or affiliates to meet, in part, its obligations under this Agreement; or

(e) in a prospectus or other offering document pursuant to which such party proposes to raise financing to meet, in part, its obligations under this Agreement.

11.3 If and when the Optionee contemplates a news release regarding the Property that contains the name of the Optionor, the Optionee will first forward the news release to the Optionor for approval by any board member of the Optionor, such approval to be provided by the Optionor within a reasonable period of time in the circumstances and such approval not to be unreasonably withheld.

12. DEFAULT AND TERMINATION

12.1 Subject to Section 10, if at any time during the Option Period, a party is in default of any requirement of this Agreement or is in breach of any provision contained in this Agreement, the party affected by the default (the "Non-Defaulting Party") may terminate this Agreement by giving written notice of termination to the other party and if:

(a) it will have given to the other party written notice of the particular failure, default, or breach on the part of the other party; and

(b) the other party has not, within 30 days following delivery of such written notice of default, cured such default,

this Agreement is automatically terminated.

12.2 Notwithstanding any termination of this Agreement, the Optionee will remain liable for those obligations specified in Sections 11 and 14 and the Optionor will remain liable for its obligations under Sections 11 and 14.

12.3 In the event of termination of this Agreement prior to the exercise of the Option in full, all reports, cores, data information and maps will become property of the Optionor.

13. INDEPENDENT ACTIVITIES

13.1 Except as expressly provided herein, each party will have the free and unrestricted right to independently engage in and receive the full benefit of any and all business endeavours of any sort whatsoever, whether or not competitive with the endeavours contemplated herein without consulting the other or inviting or allowing the other to participate therein. No party will be under any fiduciary or other duty to the other which will prevent it from engaging in or enjoying the benefits of competing endeavours within the general scope of the endeavours contemplated herein. The legal doctrines of "corporate opportunity" sometimes applied to persons engaged in a joint venture or having fiduciary status will not apply in the case of any party. In particular, without limiting the foregoing, neither party will have any obligation to the other party as to:

(a) except as provided for in Section 8, any opportunity to acquire, explore and develop any mining property, interest or right presently owned by it or offered to it outside of the Property at any time; and

(b) the erection of any mining plant, mill, smelter or refinery, whether or not such mining plant, mill, smelter or refinery treats ores or concentrates from the Property.

14. INDEMNITY

14.1 The Optionor covenants and agrees with the Optionee (which covenant and agreement will survive the execution, delivery and termination of this Agreement) to indemnify and save harmless the Optionee against all liabilities, claims, demands, actions, causes of action, damages, losses, costs, expenses or legal fees suffered or incurred by the Optionee, directly or indirectly, by reason of or arising out of any warranties or representations on the part of the Optionor herein being untrue or arising out of work done by the Optionor on or with respect to the Property.

14.2 The Optionee covenants and agrees with the Optionor (which covenant and agreement will survive the execution, delivery and termination of this Agreement) to indemnify and save harmless the Optionor against all liabilities, claims, demands, actions, causes of action, damages, losses, costs, expenses or legal fees suffered or incurred by reason of or arising out of any warranties or representations on the part of the Optionee herein being untrue or arising out of the Optionee and its duly authorized representatives accessing the Property.

15. GOVERNING LAW

15.1 This Agreement will be construed and in all respects governed by the laws of the Province of British Columbia and the laws of Canada applicable in British Columbia.

16. NOTICES

16.1 All notices, payments and other required communications and deliveries to the parties hereto will be in writing, and will be addressed to the parties as follows or at such other address as the parties may specify from time to time:

(a) to the Optionee:

Golden Dawn Minerals Inc.
#575-1111 West Hastings Street
Vancouver BC, V6E 2J3

Fax: 604-685-2360
Attention: Wolf Wiese, Chief Executive Officer

with a copy to:

Jensen Lunny MacInnes Law Corporation
C/o Ms. Kathleen MacInnes
2550-555 West Hastings Street
P.O. Box 12077
Vancouver, BC V6B 4N5
Fax: 604-684-0916

(b) to the Optionor:

Mineworks Ventures Inc
PO Box 92021,
West Vancouver, BC V7V 4X4
Attention: Don Rippon, CEO
Fax: 604-925-1002

Notices must be delivered, sent by facsimile or mailed by pre-paid post and addressed to the party to which notice is to be given. If notice is sent by facsimile or is delivered, it will be deemed to have been given and received at the time of transmission or delivery. If notice is mailed, it will be deemed to have been received five business days following the date of the mailing of the notice. If there is an interruption in normal mail service due to strike, labour unrest or other cause at or prior to the time a notice is mailed the notice will be sent by facsimile or will be delivered.

16.2 Either party hereto may, at any time and from time to time, notify the other party in writing of a change of address and the new address to which a notice will be given thereafter until further change.

17. ASSIGNMENT

17.1 Subject to Subsection 4.2, each party has the right to assign all or any part of its interest in this Agreement. It will be a condition to any such assignment that the assignee of the interest being transferred agrees in writing to be bound by the terms of this Agreement, as if it had been an original party hereto.

18. ARBITRATION

18.1 If there is any disagreement, dispute or controversy (hereinafter collectively called a "dispute") between the parties with respect to any matter arising under this Agreement or the construction hereof, then the dispute will be determined by arbitration in accordance with the following procedures:

(a) the parties to the dispute will appoint a single mutually acceptable arbitrator. If the parties cannot agree upon a single arbitrator, then the party on one side of the dispute will name an arbitrator, and give notice thereof to the party on the other side of the dispute;

(b) the party on the other side of the dispute will within 14 days of the receipt of notice, name an arbitrator; and

(c) the two arbitrators so named will, within seven days of the naming of the later of them, name a third arbitrator.

If the party on either side of the dispute fails to name its arbitrator within the allotted time, then the arbitrator named may make a determination of the dispute. The arbitration will be conducted in Vancouver, B.C. in accordance with the *Commercial Arbitration Act* (British Columbia). The decision will be made within 30 days following the naming of the latest of the arbitrators, and will be conclusive and binding upon the parties. The costs of arbitration will be borne equally by the parties to the dispute unless otherwise determined by the arbitrator(s) in the award.

19. ENTIRE AGREEMENT

19.1 This Agreement constitutes the entire agreement between the Optionor and the Optionee and will supersede and replace any other agreement or arrangement, whether oral or in writing, specifically including the Letter of Intent, previously existing between the parties with respect to the subject matter of this Agreement.

20. CONSENT OR WAIVER

20.1 No consent or waiver, express or implied, by either party hereto in respect of any breach or default by the other party in the performance by such other party of its obligations under this Agreement will be deemed or construed to be consent to or a waiver of or any other breach or default.

21. FURTHER ASSURANCES

21.1 The parties will promptly execute, or cause to be executed, all bills of sale, transfers, documents, conveyances and other instruments of further assurance which may be reasonably necessary or advisable to carry out fully the intent and purpose of this Agreement or to record wherever appropriate the respective interests from time to time of the parties hereto in and to the Property.

22. SEVERABILITY

22.1 If any provision of this Agreement is or will become illegal, unenforceable or invalid for any reason whatsoever, such illegal, unenforceable or invalid provisions will be severable from the remainder of this Agreement and will not affect the legality, enforceability or validity of the remaining provisions of this Agreement.

23. INUREMENT

23.1 This Agreement will inure to the benefit of and be binding upon the parties hereto and their respective successors and assigns.

24. AMENDMENTS

24.1 This Agreement may only be amended in writing with the mutual consent of all parties.

25. NO PARTNERSHIP

25.1 The parties have not created a partnership and nothing contained in this Agreement will in any manner whatsoever constitute any party the partner, agent or legal representative of the other party, nor create a fiduciary relationship between them for any purpose whatsoever. No party will have any authority to act for, or to assume any obligations or responsibility on behalf of, any other party except as may be, from time to time, agreed upon in writing between the parties or as otherwise expressly provided.

26. TIME

26.1 Time will be the essence of this Agreement and will be calculated in accordance with the *Interpretation Act* (British Columbia).

27. EXCHANGE APPROVAL

27.1 This Agreement is subject to acceptance by the Exchange and the parties agree to make any reasonable amendments hereto as may be required by the Exchange.

28. COUNTERPARTS

28.1 This Agreement may be signed by facsimile, pdf email attachment or original and executed in any number of counterparts, and each executed counterpart will be considered an original. All counterparts will be construed together and constitute one and the same agreement.

IN WITNESS WHEREOF the parties hereto have executed this Agreement on the 15th day of September, 2010.

GOLDEN DAWN MINERALS INC.
per:

Authorized Signatory

MINEWORKS VENTURES INC.
per:

Authorized Signatory

SCHEDULE "A"
THE PROPERTY

SCHEDULE "B"

ATTACHED TO THE MINERAL OPTION AGREEMENT DATED SEPTEMBER 15, 2010 BETWEEN MINEWORKS VENTURES INC. AND GOLDEN DAWN MINERALS INC. (THE "AGREEMENT")

ROYALTY

NOW THEREFORE THIS AGREEMENT WITNESSES that for and in consideration of the premises and the covenants and agreements hereinafter contained, the parties hereto agree as follows:

1. Payments of the Royalty (as defined in the Agreement) shall be made by the Optionee (as defined in the Agreement) to the holders of the 20% Carried Interest within 30 days of the the publication of the Optionee's quarterly statements on SEDAR (www.sedar.com) in which the proceeds of sale, as determined on the basis of final adjusted invoices, are received by the Optionee. All such payments shall be made in Canadian currency.

2. An annual reconciliation will be made, within 30 days of the publication of the annual audited financial statements of the Optionee on SEDAR(www.sedar.com) to determine the higher of the 20% Net Profit Interest and the equivalent of 3% NSR (as defined in the Agreement). The auditors' determination will be final and conclusive. Any difference between the Royalty paid and due to be paid as a result of the determination will be added to the Royalty due immediately after the reconciliation.

3. For the purposes of determining the Royalty, all receipts and disbursements in currency other than Canadian currency shall be converted into Canadian currency following the accounting standards applicable to the Optionee.

4. Each payment of the Royalty shall be accompanied by a statement indicating the calculation of the Royalty. The Optionor shall be entitled to audit, at its own costs and during normal business hours, such books and records as are necessary to determine the correctness of the payments, provided however, that such audit shall be made only on an annual basis and within 12 months of the end of the fiscal period in respect of which such audit is made.

5. Payment of the Royalty shall be made to the holders of the 20% Carried Interest at such place or places in Canada as they shall advise the Optionee from time to time.

6. If metal, concentrates or ore shipped from the Property are lost or destroyed under circumstances in which the Optionee receives payment under an insurance policy, such payments will be deemed the proceeds of production and will be subject to the Royalty.

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7. Any dispute arising out of or related to any report, payment, calculation or audit shall be resolved solely by the arbitration procedure provided in the Agreement. No error in accounting or in interpretation of the Agreement, including this Schedule "B" attached to the Agreement, shall be the basis of or a claim of breach of fiduciary duty, or the like, or give rise to a claim for exemplary or punitive damages or for termination or rescission of the Agreement or the estate and rights acquired and held by the Optionor under the terms of the Agreement.

SCHEDULE "A"
THE PROPERTY

Tenure Number	Owner	Tenure Type	Tenure Sub Type	Map Number	Issue Date	Good To Date	Status	Area (ha)
508067	137109 (100%)	Mineral	Claim	082E	2005/feb/28	2014/nov/27	GOOD	571.308
516277	137109 (100%)	Mineral	Claim	082E	2005/jul/07	2014/nov/27	GOOD	211.599

I, Donald G Rippon, declare that I hold the above properties in trust for Mineworks Ventures Inc (the Optionor), and declare having knowledge of this Agreement between the Optionor and Golden Dawn Minerals Inc and give my consent thereto. As trustee for Optionor, I make the same representations and provide the same warranties to the Optionee as set forth in subsection 2.1 of the Agreement.

....

Donald G Rippon

FMC: 110116061

Received from Jaycan Oct 28, 2011

MINING OPTION AGREEMENT

THIS AGREEMENT (the "Agreement") is dated for reference October ~~19~~ 28, 2010

BETWEEN:

KETTLE RIVER RESOURCES LTD.

(the "Optionor") of Box 130, Greenwood, B.C. Canada V0H 1J0

AND:

GOLDEN DAWN MINERALS INC

(the "Optionee") of 575-1111 West Hastings Street, Vancouver, BC V6E 2J3

WHEREAS:

A. The Optionor is the registered and beneficial owner of a 100% interest in and to claims located in the Greenwood Mining District of the Province of British Columbia, commonly referred to as the "**Tam O'Shanter**" and more particularly described in Schedule "A" attached hereto (collectively, the "Property");

B. The Optionor agrees to grant an option (the "Option") to the Optionee and the Optionee agrees to accept such option grant to acquire an 100% legal and beneficial interest in and to the Property; and

C. By this Agreement, the parties wish to affirm the grant of the Option in a formal agreement format and upon execution this Agreement will supersede any verbal or written agreements made between the parties and continue on the terms and conditions which are set out herein.

THEREFORE in consideration of the mutual covenants and agreements contained in this Agreement, the parties agree as follows:

1. DEFINITIONS AND INTERPRETATION

1.1 For the purposes of this Agreement:

(a) "Affected Party" has the meaning ascribed to it in Subsection 10.0;

(b) "Already Held Properties" has the meaning ascribed to it in Subsection 8.2

(c) "Area of Interest" has the meaning ascribed to it in Subsection 8.1;

(d) "Cash Payments" has the meaning ascribed to it in Subsection 3.2(c);

(e) "Effective Date" means the date the Optionee receives Exchange approval;

(f) "Exchange" means the TSX Venture Exchange;

(g) "Expenditures" means amounts to be spent by the Optionee on or with respect to exploration activities directed towards ascertaining the existence, location, quality, quantity or commercial value of deposits of ores, minerals and mineral resources on the Property including, but not limited to, all insurance costs, travel, report costs, camp expenses, analysis and assays, all exploration activities related towards developing and exploiting the Property, the assessment work required under the mining laws of British Columbia, and the rental fees and taxes on the Property, all expenditures made relating to reclamation, rehabilitation and protection of the environment, all other costs and expenses to keep the Property and Property Rights in good standing, staking or acquisition costs for claims in the Area of Interest and a charge for overhead costs (the "Other Costs") which cannot be specifically allocated equal to a maximum of 10% of all other costs and expenditures (invoices of Other Costs made available to the Optionor on request). Any proceeds received as a result of the disposal of materials removed from the property for the purposes specified under Section 6.1 (d) will be deducted from the amounts spent. All refunds, grants, tax credits or any amounts of similar nature received by the Optionee with respect to these Expenditures will be excluded from the calculation of the Expenditures;

(h) "Fundamental Change" has the meaning ascribed to it in Subsection 3.8;

(i) "New Mineral Claim" has the meaning ascribed to it in Subsection 8.1;

(j) "Non-Defaulting Party" has the meaning ascribed to it in Subsection 11.1;

(k) "NSR" has the meaning ascribed to it in Schedule "B" attached hereto;

(l) "Option" has the meaning ascribed to it in Subsection 3.1;

(m) "Option Period" means the period commencing on the Effective Date and ending one day after the day (i) on which the Optionee has incurred the Expenditures, issued the Shares and made the Cash Payments as set out in Subsection 3.2; or, (ii) the Optionee fails to remedy any default with respect to any Cash Payments, issuance of Shares or Expenditures and the Agreement is terminated pursuant to Subsection 12.1;

(n) "Property" has the meaning ascribed it on the face page of this Agreement;

(o) "Property Rights" means all licences, permits, easements, rights-of-way, certificates and other approvals obtained by either of the parties, either before or after the date of this Agreement, and necessary for the development of the

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Property or for the purpose of placing the Property into production or of continuing production on the Property;

(p) "Royalty" has the same meaning ascribed to NSR; and

(q) "Shares" means common shares in the capital of the Optionee as presently constituted.

1.2 For the purposes of this Agreement, except as otherwise expressly provided or unless the context otherwise requires:

(a) "this Agreement" means this mining option agreement and all Schedules attached hereto;

(b) any reference in this Agreement to a designated "Section", "Schedule", "paragraph" or other subdivision refers to the designated section, schedule, paragraph or other subdivision of this Agreement;

(c) the words "herein" and "hereunder" and other words of similar import refer to this Agreement as a whole and not to any particular Section or other subdivision of this Agreement;

(d) the word "including", when following any general statement, term or matter, is not to be construed to limit such general statement, term or matter to the specific items or matters set forth immediately following such word or to similar items or matters, whether or not non-limiting language (such as "without limitation" or "but not limited to" or words of similar import) is used with reference thereto but rather refers to all other items or matters that could reasonably fall within the broadest possible scope of such general statement, term or matter;

(e) any reference to a statute includes and, unless otherwise specified herein, is a reference to such statute and to the regulations made pursuant thereto, with all amendments made thereto and in force from time to time, and to any statute or regulations that may be passed which has the effect of supplementing or superseding such statute or such regulation;

(f) any reference to "party" or "parties" means the Optionor, the Optionee, or both, as the context requires;

(g) the headings in this Agreement are for convenience of reference only and do not affect the interpretation of this Agreement;

(h) words importing the masculine gender include the feminine or neuter gender and words in the singular include the plural, and vice versa; and

(i) all references to currency refer to Canadian dollars.

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1.3 The following are the Schedules to this Agreement, and are incorporated into this Agreement by reference:

Schedule "A":	The Property
Schedule "B":	Net Smelter Return ("NSR")
Schedule "C":	Already Held Properties

1.4 Wherever any term or condition, expressed or implied, in any of the Schedules conflicts or is at variance with any term or conditions of this Agreement, the terms or conditions of this Agreement will prevail.

2. REPRESENTATIONS AND WARRANTIES OF THE OPTIONOR AND THE OPTIONEE

2.1 The Optionor represents and warrants to the Optionee that:

(a) the Optionor is a valid and subsisting corporation duly continued and in good standing under the laws of the Province British Columbia and has the full right, power, capacity and authority to enter into, execute and deliver this Agreement and to be bound by its terms;

(b) all necessary corporate approvals have been obtained and are in effect with respect to the transactions contemplated in this Agreement;

(c) the Optionor is the 100% legal and beneficial owner of all of the mineral interests comprising the Property;

(d) the Property is accurately described in Schedule "A" attached hereto and forming a material part of this Agreement;

(e) the consummation of this Agreement will not conflict with nor result in any breach of the Optionor's constating documents or any covenants or agreements contained in, or constitute a default under, any agreement or other instrument whatever to which the Optionor is a party or by which the Optionor is bound or to which the Optionor may be subject;

(f) the Property is free and clear of, and from, all liens, charges and encumbrances with all assessment work therein having been duly completed to the dates set out in Schedule "A" attached hereto;

(g) each of the mineral claims comprising the Property has been properly staked, located and recorded pursuant to the applicable laws and regulations of British Columbia and all mining claims comprising the Property are in good standing;

(h) to the best of the Optionor's knowledge, there are no restrictions on the mineral exploration on the Property;

(i) to the best of the Optionor's knowledge, there are no outstanding orders or directions relating to environmental matters requiring any work, repairs, construction or capital expenditures with respect to the Property and the conduct of the operations related thereto, and the Optionor has not received any notice of the same and is not aware of any basis on which any such orders or direction could be made;

(j) there is no adverse claim or challenge, including but not limited to First Nations claims, against or to the ownership of or title to any part of the Property and, to the best of the Optionor's knowledge there is no basis for such adverse claim or challenge which may affect the Property and there are no outstanding agreements or options to acquire or purchase the Property or any portion thereof, and no persons have any royalty, net profits or other interests whatsoever in production from any of the mineral interests comprising the Property;

(k) the consummation of the transactions contemplated by this Agreement does not and will not conflict with, constitute a default under, result in a breach of, entitle any person or Optionor to a right of termination under, or result in the creation or imposition of any lien, encumbrance or restriction of any nature whatsoever upon or against the property or assets of the Optionor, under its constating documents, any contract, agreement, indenture or other instrument to which the Optionor is a party or by which it is bound, any law, judgment, order, writ, injunction or decree of any court, administrative agency or other tribunal or any regulation of any governmental authority;

(l) there are no actual or pending proceedings for, and the Optionor is unaware of any basis for, the institution of any proceedings leading to the placing of the Optionor in bankruptcy or subject to any other laws governing the affairs of insolvent parties and the Property does not represent all or substantially all of the Optionor's corporate undertaking;

(m) reclamation and rehabilitation of those parts of the Property which have been previously worked have been properly completed in compliance with all applicable laws; and

(n) it has advised the Optionee and its consultants of all of the material information relating to the mineral potential of the Property of which it has knowledge, including the work conducted by the Optionor to date.

2.2 The representations and warranties contained in Subsection 2.1 are provided for the exclusive benefit of the Optionee, and a breach of any one or more representations or warranties may be waived by the Optionee in whole or in part at any time without prejudice to its rights in respect of any other breach of the same or any other representation or warranty, and the representations and warranties contained in Subsection 2.1 will survive the execution and delivery of this Agreement.

2.3 The Optionee represents and warrants to the Optionor that:

(a) the Optionee is a valid and subsisting corporation duly incorporated and in good standing under the laws of the Province of British Columbia;

(b) all necessary corporate approvals have been obtained and are in effect with respect to the transactions contemplated in this Agreement;

(c) the Optionee has the full right, power, capacity and authority to enter into, execute and deliver this Agreement and to be bound by its terms;

(d) the consummation of this Agreement will not conflict with nor result in any breach of the Optionee's constating documents or any covenants or agreements contained in, or constitute a default under, any agreement or other instrument whatever to which the Optionee is a party or by which the Optionee is bound or to which the Optionee may be subject; and

(e) no proceedings are pending for, and the Optionee is unaware of any basis for, the institution of any proceedings leading to the placing of the Optionee in bankruptcy or subject to any other laws governing the affairs of insolvent parties.

2.4 The representations and warranties contained in Subsection 2.3 are provided for the exclusive benefit of the Optionor, and a breach of any one or more representations or warranties may be waived by the Optionor in whole or in part at any time without prejudice to its rights in respect of any other breach of the same or any other representation or warranty, and the representations and warranties contained in Subsection 2.3 will survive the execution and delivery of this Agreement.

3. OPTION

3.1 The Optionor hereby grants to the Optionee the sole and exclusive right and option (the "Option") to acquire an 100% undivided legal and beneficial interest in and to the Property (subject to the Royalty in favour of the Optionor as referred to in Section 4) in accordance with the terms of this Agreement.

3.2 In order to exercise the Option and to earn its interest in the Property, the Optionee will:

(a) incur at least two million ($2,000,000) dollars of Expenditures on the Property, as follows:

(i) one hundred fifty thousand ($150,000) dollars of Expenditures on or before the first anniversary of the Effective Date;

(ii) an additional two hundred fifty thousand ($250,000) dollars (aggregate $400,000) of Expenditures on or before the second anniversary of the Effective Date;

(iii) an additional six hundred thousand ($600,000) dollars (aggregate $1,000,000) of Expenditures on or before the third anniversary of the Effective Date; and

(iv) an additional one million ($1,000,000) dollars (aggregate $2,000,000) of Expenditures on or before the fourth anniversary of the Effective Date.

(b) issue and deliver to the Optionor an aggregate of one million five hundred thousand (1,500,000) Shares as follows:

(i) one hundred and fifty thousand (150,000) Shares on or before the day that is 30 business days after the Effective date;

(ii) an additional three hundred and thirty seven thousand and five hundred (337,500) Shares on or before first anniversary of the Effective date (aggregate 487,500);

(iii) an additional three hundred and thirty seven thousand and five hundred (337,500) Shares on or before second anniversary of the Effective date (aggregate 825,000);

(iv) an additional three hundred and thirty seven thousand and five hundred (337,500) Shares on or before third anniversary of the Effective date(aggregate 1,162,500); and

(v) an additional three hundred and thirty seven thousand and five hundred (337,500) Shares on or before fourth anniversary of the Effective date (aggregate 1,500,000).

(c) pay to the Optionor an aggregate of two hundred and thirty thousand ($230,000) dollars in cash, by cheque or as otherwise directed by the Optionor (the "Cash Payments"), as follows:

(i) ten thousand ($10,000) dollars on signing of this Agreement;

(ii) an additional twenty five thousand ($25,000) dollars on Effective date (aggregate $35,000);

(iii) an additional fifty thousand ($50,000) dollars on or before first anniversary of the Effective date (aggregate $85,000);

(iv) an additional sixty thousand ($60,000) dollars on or before second anniversary of the Effective date (aggregate $145,000);

(v) an additional eighty five thousand ($85,000) dollars on or before third anniversary of the Effective date (aggregate $230,000); and

3.3 The Optionor and the Optionee acknowledge and agree that upon completion of the Cash Payments, the Share issuances and the Expenditures set out in Subsection 3.2 above within the time periods specified therein, the Option will be deemed to have been exercised by the Optionee and the Optionee will have thereby, without any further act, acquired an undivided 100% legal and beneficial interest in and to the Property. The Optionor, upon receipt of a notice from the Optionee that it has exercised the Option, will cause the Property to be transferred, within 7 days of the notice, in the name of the Optionee or any other name directed by the Optionee.

3.4 The Expenditures referred to in Subsection 3.2(a) are cumulative with over-Expenditures in any year being credited toward the Expenditure requirements for the subsequent year or years. The Optionee has the right to accelerate the schedule of Expenditures, issuance of Shares and payment of Cash Payments set out in Subsection 3.2 above and by so doing reduce the time for exercising the Option and earning its 100% legal and beneficial interest in and to the Property.

3.5 Except as specifically provided elsewhere herein, this is an option agreement only and until the exercise of the Option, nothing herein contained and no act done nor any payment or share issuance made hereunder will obligate the Optionee to do any further act or acts or to make any further Cash Payments, Share issuances or Expenditures, and in no event will this Agreement or any act done or any Cash Payments, Share issuances or incurred Expenditures that are made be construed as an obligation of the Optionee to do or perform any work or make any Cash Payments or Share issuances on or with respect to the Property.

3.6 All of the Shares to be issued to the Optionor pursuant to Subsection 3.2 will be fully paid and non-assessable common shares in the capital of the Optionee and shall bear a restrictive legend endorsed upon the shares restricting the transfer or selling of the shares for a hold period of four months and one day from the date of issue of the common shares or longer if required by the Exchange, and the Optionor covenants and agrees to execute any and all documents, undertakings and agreements and to give and abide by any and all assurances and trading restrictions as may be required by law, the Exchange or the policies of any securities regulatory body as a condition to the issuance of the Shares by the Optionee.

3.7 If the Optionee identifies any material defect in the Optionor's title to the Property, the Optionee will give the Optionor notice of such defect. If the defect has not been cured within 30 days of receipt of such notice, the Optionee will be entitled to take such curative action as is reasonably necessary, and will be entitled to deduct the costs and expenses incurred in taking such action from Cash Payments then otherwise due or accruing due to the Optionor pursuant to Subsection 3.2(c). If there are no such Cash Payments due or accruing to the Optionor, than the Optionee will be entitled to a credit in the amount of said costs and expenses

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to be applied against the amount of any Expenditures remaining to be incurred pursuant to Subsection 3.2(a) above.

3.8 If any third party asserts any right or claim to the Property or to any amounts payable to the Optionor, the Optionee may deposit any amounts otherwise due to the Optionor in escrow with a suitable agent until the validity of such right or claim has been finally resolved. If the Optionee deposits said amounts in escrow, the Optionee will be deemed not in default under this Agreement for failure to pay such amounts to the Optionor.

3.9 If there will, prior to the issuance of any of the Shares pursuant to Subsection 3.2(b), be any reorganization of the authorized share capital of the Optionee by way of consolidation, merger, subdivision, amalgamation or otherwise (a "Fundamental Change"), then there will not be an adjustment in the number of Shares issued thereafter pursuant to Subsection 3.2.

4. NET SMELTER RETURN

4.1 The purchase of the 100% legal and beneficial interest in and to the Property pursuant to the exercise of the Option is subject to a 3% NSR in favour of the Optionor, in accordance with the provisions of Schedule B attached to this Agreement and subject to Subsection 8.2 of this agreement. The Optionee may re-purchase, at any time, two-thirds of the NSR (being a 2% NSR) from the Optionor in consideration for a cash payment of $3,000,000.

4.2 The Optionor will grant to the Optionee the first right of refusal to re-purchase the NSR in the event the Optionor wishes to assign, sell or dispose of such interest or portion thereof, before making an offer to a third party. The Optionee will have 90 days from the date it receives notification of the Optionor's wish to assign, sell or dispose of its interest or portion thereof, to notify the Optionor whether it accepts or declines the offer. All notifications made under this section will be made according to the provisions of Section 16 of this agreement.

5. PROPERTY EXPLORATION AND MAINTENANCE

5.1 During the Option Period the Optionee will be the operator in connection with the Expenditures conducted on the Property. The Optionee will incur the Expenditures in such a manner that a report in compliance with National Instrument 43-101 of Canadian Securities Administrators, or any successor policy thereto, can be prepared in connection with such Expenditures and it will be the responsibility of the Optionee to designate the individual with sufficient qualifications to prepare such a report.

5.2 The Optionee agrees that when acting as operator it will submit such reports of its exploration activities on the Property to the appropriate government authorities and pay the fees as may be required to maintain the Property in good standing and will further provide copies of such information to the Optionor. The Optionee further agrees that when acting as operator it will file all allowable work possible on the claims up to the maximum possible time.

5.3 The Optionee will advise the Optionor when it has completed the Expenditures as required under Subsection 3.2(a). Disclosure in the Optionee's audited financial statements will be conclusive evidence for the Expenditures.

6. RIGHT OF ENTRY

6.1 Throughout the Option Period, or until this Agreement is terminated in accordance with Subsection 12.1, the Optionee and its employees, agents, directors, officers and independent contractors will have the exclusive right in respect of the Property to:

(a) enter the Property without disturbance;

(b) do such prospecting, exploration, development and/or other mining work on and under the Property to carry out the Expenditures as the Optionee may determine necessary or desirable;

(c) bring and erect upon the Property such buildings, plant, machinery and equipment as the Optionee may deem necessary or desirable in its sole discretion; and

(d) remove materials from the Property for the purposes of assaying and testing, bulk sampling or otherwise as the Optionee, in its sole discretion, may deem necessary, and dispose of such materials by way of sale or otherwise as the Optionee, in its sole discretion, may consider advisable or desirable. Any proceeds received from the sale of materials removed will be subject to the NSR specified in Section 4 of this Agreement.

6.2 The Optionee will permit the Optionor, or its representatives duly authorized in writing, to visit and inspect the Property at all reasonable times and intervals, and inspect all data obtained by the Optionee as a result of its operations on the Property, subject to such confidentiality arrangements as the Optionee may reasonably consider appropriate.

7. OBLIGATIONS DURING OPTION PERIOD

7.1 During the Option Period, unless this Agreement is terminated in accordance with Subsection 12.1, the Optionee covenants and agrees with the Optionor that the Optionee will:

(a) maintain the Property in good standing by doing and filing all assessment work or making payments in lieu thereof and by performing all other acts which may be necessary in order to keep the Property in good standing and free and clear of all liens and other charges arising from or out of the Optionee's activities on the Property;

(b) do all work on the Property in accordance with sound mining, exploration and engineering practices and in compliance with all applicable laws, bylaws, regulations, orders, and lawful requirements of any governmental or regulatory authority and comply with all laws governing the possession of the Property, including, without limitation, those governing safety, pollution and environmental matters; and

(c) maintain true and correct books, accounts and records of operations thereunder, such records to be open at all reasonable times upon reasonable notice for inspection by the Optionor or its duly authorized representative;

7.2 During the Option Period, unless this Agreement is terminated in accordance with Subsection 12.1, the Optionor covenants and agrees with the Optionee that the Optionor will:

(a) for so long as the Optionor is not in default under this Agreement, not do any act or thing which would in any way adversely affect the rights of the Optionee under this Agreement;

(b) make available to the Optionee and its representatives all records, maps, reports drill core and files in its possession relating to the Property and permit the Optionee and its representatives at their own risk and expense to take abstracts therefrom and make copies thereof; and

(c) promptly provide the Optionee with any and all notices and correspondence received by the Optionor from any relevant government agencies in respect of the Property.

8. AREA OF INTEREST

8.1 If during the Option Period, the Optionor or an affiliate of the Optionor stakes or otherwise acquires, directly or indirectly, any right or interest in any mining claim, licence, lease, grant, concession, patent or other mineral property ("New Mineral Claim"), within one kilometre from any boundary of the Property (the "Area of Interest"), it will offer the New Mineral Claim to the Optionee for inclusion under this Agreement as a part of the Property. If the Optionee elects within thirty days to include the New Mineral Claim as part of the Property, subject to the terms of this Agreement, it will reimburse the Optionor its acquisition costs of the New Mineral Claim and such amount will be included as a credit in the contribution towards the Expenditures of the Optionee for the applicable year (or the following year(s) if such credit is in excess of the amount of Expenditures left to be incurred during that particular year). If the Optionee elects not to include the New Mineral Claim as part of the Property subject to this Agreement, the Optionor will hold such New Mineral Claim separate from this Agreement and the Optionee will have no rights or obligations with respect thereto.

8.2 If during the Option Period, the Optionee or an affiliate of the Optionee stakes or otherwise acquires, directly or indirectly, any right or interest in any New Mineral Claim within the Area of Interest, the NSR on the Property, excluding the New Mineral Claim will increase by half a percent point and the NSR applicable on the New Mineral Claim will amount to half a percent point. The Optionee has the option to repurchase, at any time, the additional half a percent point on the Property, including the New Mineral Claim, for an amount of $500,000. For clarity, the Optionor acknowledges that the Optionee already holds interest in properties set out in Schedule C of this agreement ("Already Held Properties") which are contiguous or fall within the Area of Interest. Any area that conflicts with the Area of Interest and the Already Held Properties are therefore excluded from the Area of Interest.

9. NO ENCUMBRANCES AGAINST PROPERTY

9.1 During the Option Period, neither the Optionee nor the Optionor will be entitled to grant any mortgage, charge or lien of or upon the Property or any portion thereof without the prior written consent of the other party.

10. FORCE MAJEURE

10.1 If either party is at any time during the Option Period prevented or delayed in complying with any of the provisions of this Agreement (the "Affected Party") by reason of strikes, lockouts, First Nations land claims and blockages, forest or highway closures, earthquakes, general collapse or landslides, interference or the inability to secure on reasonable terms any private or public permits or authorizations, labour, power or fuel shortages, fires, wars, acts of God, civil disturbances, governmental regulations restricting normal operations, shipping delays or any other reason or reasons beyond the reasonable control of the Affected Party (whether or not foreseeable) (provided that lack of sufficient funds to carry out exploration on the Property will be deemed not to be beyond the reasonable control of the Affected Party), then the time limited for the performance by the Affected Party of its obligations hereunder will be extended by a period of time equal in length to the period of each such prevention or delay. Nothing in this Subsection 10.1 or this Agreement will relieve either Party from its obligation to maintain the claims comprising the Property in good standing and to comply with all applicable laws and regulations including, without limitation, those governing safety, pollution and environmental matters. For greater certainty, this subsection 10.1 shall not apply to the Optionee's obligation to issue shares to the Optionor under subsection 3.2(b) and to make cash payments to the Optionor under subsection 3.2(c) for the exercise of the Option.

10.2 The Affected Party will promptly give notice to the other party of each event of force majeure under Subsection 10.1 within 7 days of such event commencing and upon cessation of such event will furnish the other party with written notice to that effect together with particulars of the number of days by which the time for performing the obligations of the Affected Party under this Agreement has been extended by virtue of such event of force majeure and all preceding events of force majeure.

11. CONFIDENTIAL INFORMATION

11.1 The terms of this Agreement and all information obtained in connection with the performance of this Agreement will be the exclusive property of the parties hereto and except as provided in Subsection 11.2, may not be disclosed to any third party or the public without the prior written consent of the other party, which consent will not be unreasonably withheld.

11.2 The consent required by Subsection 11.1 will not apply to a disclosure:

(a) to an affiliate, consultant, contractor or subcontractor that has a *bona fide* need to be informed;

(b) to any third party to whom the disclosing party contemplates a transfer of all or any part of its interest in this Agreement;

(c) to a governmental agency or to the public which such party believes in good faith is required by pertinent laws or regulation or the rules of the Exchange or any other applicable stock exchange;

(d) to an investment dealer, broker, bank or similar financial institution, in confidence if required as part of a due diligence investigation by such financial institution in connection with a financing required by such party or its shareholders or affiliates to meet, in part, its obligations under this Agreement; or

(e) in a prospectus or other offering document pursuant to which such party proposes to raise financing to meet, in part, its obligations under this Agreement.

11.3 If and when the Optionee contemplates a news release regarding the Property that contains the name of the Optionor, the Optionee will first forward the news release to the Optionor for approval by any board member of the Optionor, such approval to be provided by the Optionor within a reasonable period of time in the circumstances and such approval not to be unreasonably withheld.

12. DEFAULT AND TERMINATION

12.1 Subject to Section 10, if at any time during the Option Period, a party is in default of any requirement of this Agreement or is in breach of any provision contained in this Agreement, the party affected by the default (the "Non-Defaulting Party") may terminate this Agreement by giving written notice of termination to the other party and if:

(a) it will have given to the other party written notice of the particular failure, default, or breach on the part of the other party; and

(b) the other party has not, within 30 days following delivery of such written notice of default, cured such default,

this Agreement is automatically terminated.

12.2 Notwithstanding any termination of this Agreement, the Optionee will remain liable for those obligations specified in Sections 11 and 14 and the Optionor will remain liable for its obligations under Sections 11 and 14.

12.3 In the event of termination of this Agreement prior to the exercise of the Option in full, all reports, cores, data information and maps will become property of the Optionor.

13. INDEPENDENT ACTIVITIES

13.1 Except as expressly provided herein, each party will have the free and unrestricted right to independently engage in and receive the full benefit of any and all business endeavours of any sort whatsoever, whether or not competitive with the endeavours contemplated herein without consulting the other or inviting or allowing the other to participate therein. No party will be under any fiduciary or other duty to the other which will prevent it from engaging in or enjoying the benefits of competing endeavours within the general scope of the endeavours contemplated herein. The legal doctrines of "corporate opportunity" sometimes applied to persons engaged in a joint venture or having fiduciary status will not apply in the case of any party. In particular, without limiting the foregoing, neither party will have any obligation to the other party as to:

(a) except as provided for in Section 8, any opportunity to acquire, explore and develop any mining property, interest or right presently owned by it or offered to it outside of the Property at any time; and

(b) the erection of any mining plant, mill, smelter or refinery, whether or not such mining plant, mill, smelter or refinery treats ores or concentrates from the Property.

14. INDEMNITY

14.1 The Optionor covenants and agrees with the Optionee (which covenant and agreement will survive the execution, delivery and termination of this Agreement) to indemnify and save harmless the Optionee against all liabilities, claims, demands, actions, causes of action, damages, losses, costs, expenses or legal fees suffered or incurred by the Optionee, directly or indirectly, by reason of or arising out of any warranties or representations on the part of the Optionor herein being untrue or arising out of work done by the Optionor on or with respect to the Property.

14.2 The Optionee covenants and agrees with the Optionor (which covenant and agreement will survive the execution, delivery and termination of this Agreement) to indemnify and save harmless the Optionor against all liabilities, claims, demands, actions, causes of action, damages, losses, costs, expenses or legal fees suffered or incurred by reason of or arising out of any warranties or representations on the part of the Optionee herein being untrue or arising out of the Optionee and its duly authorized representatives accessing the Property.

15. GOVERNING LAW

15.1 This Agreement will be construed and in all respects governed by the laws of the Province of British Columbia and the laws of Canada applicable in British Columbia.

16. NOTICES

16.1 All notices, payments and other required communications and deliveries to the parties hereto will be in writing, and will be addressed to the parties as follows or at such other address as the parties may specify from time to time:

(a) to the Optionee:

Golden Dawn Minerals Inc.
#575-1111 West Hastings Street
Vancouver BC, V6E 2J3

Fax: 604-685-2360
Attention: Wolf Wiese, Chief Executive Officer

with a copy to:

Jensen Lunny MacInnes Law Corporation
C/o Ms. Kathleen MacInnes
2550-555 West Hastings Street
P.O. Box 12077
Vancouver, BC V6B 4N5
Fax: 604-684-0916

(b) to the Optionor:

Kettle River Resources Ltd.
Box 130 8
,
Greenwood, B.C.
V0H 1J0
Attention: Ellen Clements CEO
Fax: (250) 445-2259

Notices must be delivered, sent by facsimile or mailed by pre-paid post and addressed to the party to which notice is to be given. If notice is sent by facsimile or is delivered, it will be deemed to have been given and received at the time of transmission or delivery. If notice is mailed, it will be deemed to have been received five business days following the date of the mailing of the notice. If there is an interruption in normal mail service due to strike, labour

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unrest or other cause at or prior to the time a notice is mailed the notice will be sent by facsimile or will be delivered.

16.2 Either party hereto may, at any time and from time to time, notify the other party in writing of a change of address and the new address to which a notice will be given thereafter until further change.

17. ASSIGNMENT

17.1 Subject to Subsection 1.3, each party has the right to assign all or any part of its interest in this Agreement. It will be a condition to any such assignment that the assignee of the interest being transferred agrees in writing to be bound by the terms of this Agreement, as if it had been an original party hereto.

18. ARBITRATION

18.1 If there is any disagreement, dispute or controversy (hereinafter collectively called a "dispute") between the parties with respect to any matter arising under this Agreement or the construction hereof, then the dispute will be determined by arbitration in accordance with the following procedures:

(a) the parties to the dispute will appoint a single mutually acceptable arbitrator. If the parties cannot agree upon a single arbitrator, then the party on one side of the dispute will name an arbitrator, and give notice thereof to the party on the other side of the dispute;

(b) the party on the other side of the dispute will within 14 days of the receipt of notice, name an arbitrator; and

(c) the two arbitrators so named will, within seven days of the naming of the later of them, name a third arbitrator.

If the party on either side of the dispute fails to name its arbitrator within the allotted time, then the arbitrator named may make a determination of the dispute. The arbitration will be conducted in Vancouver, B.C. in accordance with the *Commercial Arbitration Act* (British Columbia). The decision will be made within 30 days following the naming of the latest of the arbitrators, and will be conclusive and binding upon the parties. The costs of arbitration will be borne equally by the parties to the dispute unless otherwise determined by the arbitrator(s) in the award.

19. ENTIRE AGREEMENT

19.1 This Agreement constitutes the entire agreement between the Optionor and the Optionee and will supersede and replace any other agreement or arrangement, whether oral or in writing, specifically including the Letter of Intent, previously existing between the parties with respect to the subject matter of this Agreement.

20. CONSENT OR WAIVER

20.1 No consent or waiver, express or implied, by either party hereto in respect of any breach or default by the other party in the performance by such other party of its obligations under this Agreement will be deemed or construed to be consent to or a waiver of or any other breach or default.

21. FURTHER ASSURANCES

21.1 The parties will promptly execute, or cause to be executed, all bills of sale, transfers, documents, conveyances and other instruments of further assurance which may be reasonably necessary or advisable to carry out fully the intent and purpose of this Agreement or to record wherever appropriate the respective interests from time to time of the parties hereto in and to the Property.

22. SEVERABILITY

22.1 If any provision of this Agreement is or will become illegal, unenforceable or invalid for any reason whatsoever, such illegal, unenforceable or invalid provisions will be severable from the remainder of this Agreement and will not affect the legality, enforceability or validity of the remaining provisions of this Agreement.

23. INUREMENT

23.1 This Agreement will inure to the benefit of and be binding upon the parties hereto and their respective successors and assigns.

24. AMENDMENTS

24.1 This Agreement may only be amended in writing with the mutual consent of all parties.

25. NO PARTNERSHIP

25.1 The parties have not created a partnership and nothing contained in this Agreement will in any manner whatsoever constitute any party the partner, agent or legal representative of the other party, nor create a fiduciary relationship between them for any purpose whatsoever. No party will have any authority to act for, or to assume any obligations or responsibility on behalf of, any other party except as may be, from time to time, agreed upon in writing between the parties or as otherwise expressly provided.

26. TIME

26.1 Time will be the essence of this Agreement and will be calculated in accordance with the *Interpretation Act* (British Columbia).

27. EXCHANGE APPROVAL

27.1 This Agreement is subject to acceptance by the Exchange and the parties agree to make any reasonable amendments hereto as may be required by the Exchange.

28. COUNTERPARTS

28.1 This Agreement may be signed by facsimile, pdf email attachment or original and executed in any number of counterparts, and each executed counterpart will be considered an original. All counterparts will be construed together and constitute one and the same agreement.

28th

19th October IN WITNESS WHEREOF the parties hereto have executed this Agreement on the ~~15th~~ day of ~~September~~, 2010.

GOLDEN DAWN MINERALS INC.
per:

Vancouver
Oct 28th 2010

Authorized Signatory

KETTLE RIVER RESOURCES LTD
per:

Authorized Signatory

SCHEDULE "A"
THE PROPERTY

THE TAM O'SHANTER

CLAIM NAME	TENURE #	DL#	UNITS	EXPIRY
GOLD BUG N0.2	214482	1718	1	05-Jun-14
IVA LENORE	214126	1262	1	20-Nov-14
MONTROSE FR.	214288	2654	1	09-Jul-14
SALAMANCA FR.	214248	2902	1	11-Jun-14
SHANTER	214168		16	07-Jul-14
TAM O' SHANTER	214125	2405	1	20-Nov-14
VICEROY FR.	214246	1722	1	11-Jun-14
ARLINGTON FR &NO9	214247	1110	1	11-Jun-14
CLODAGH 1	401970		20	04-May-14
CLODAGH 2	401971		20	04-May-14

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SCHEDULE "B"

ATTACHED TO THE MINERAL OPTION AGREEMENT DATED SEPTEMBER 15, 2010 BETWEEN KETTLE RIVER RESOURCES LTD. AND GOLDEN DAWN MINERALS INC. (THE "AGREEMENT")

NET SMELTER RETURN ("NSR" OR "ROYALTY")

NOW THEREFORE THIS AGREEMENT WITNESSES that for and in consideration of the premises and the covenants and agreements hereinafter contained, the parties hereto agree as follows:

1. Subject to Subsection 8.2 of the Agreement, the Optionor shall be entitled to a 3% net smelter return (the "NSR" or "Royalty") from production of minerals produced from the Property as referenced in Subsection 4.1 of the Agreement. The Optionee may re-purchase, at any time, two-thirds of the NSR (being a 2% NSR) from the Optionor in consideration for a cash payment of $3,000,000.

2. The term "NSR" shall mean the actual proceeds received from any mint, smelter, refinery or other purchaser for the sale of gold, ores, base metals, precious metals, rare earth metals, elements and any other minerals normally subject to NSR returns or concentrates produced from the Property and sold, after deducting from such proceeds the following charges to the extent that they were not deducted by the purchaser in computing payment: smelting and refining charges, penalties, smelter assay costs and umpire assay costs, costs of freight and handling of metals of or concentrates from the Property to any mint, smelter, refinery, or other purchaser marketing costs including insurance on all such metals or concentrates, customs duties or mineral taxes or the like and export and import taxes or tariffs payable in respect of said ores, metals or concentrates, but not including the Optionee's (as defined in the Agreement) income tax, property tax, ad valorem tax business tax or similar taxes. Any charges to be conducted hereunder which are made to an associated company of the Optionee must be on commercially reasonable terms or must be approved in writing by the Optionor.

3. Payments of the Royalty shall be made within 30 days after the end of each calendar quarter in which the proceeds of sale, as determined on the basis of final adjusted invoices are received by the Optionor. All such payments shall be made in Canadian currency.

4. For the purposes of determining the Royalty, all receipts and disbursements in currency other than Canadian currency shall be converted into Canadian currency following the accounting standards applicable to the Optionee.

5. Each payment of the Royalty shall be accompanied by a statement indicating the calculation of the Royalty. The Optionor shall be entitled to audit, during normal

business hours, such books and records as are necessary to determine the correctness of the payments, provided however, that such audit shall be made only on an annual basis and within 12 months of the end of the fiscal period in respect of which such audit is made.

6. Payment of the Royalty shall be made to The Optionor at such place or places in Canada as it shall advise the Optionee from time to time.

7. If metal, concentrates or ore shipped from the Property are lost or destroyed under circumstances in which the Optionee receives payment under an insurance policy, such payments will be deemed the proceeds of production and will be subject to the Royalty.

8. Any dispute arising out of or related to any report, payment, calculation or audit shall be resolved solely by the arbitration procedure provided in the Agreement. No error in accounting or in interpretation of the Agreement, including this Schedule "B" attached to the Agreement, shall be the basis of or a claim of breach of fiduciary duty, or the like, or give rise to a claim for exemplary or punitive damages or for termination or rescission of the Agreement or the estate and rights acquired and held by the Optionor under the terms of the Agreement

SCHEDULE "C"
ALREADY HELD PROPERTIES

List of Properties excluded from the Area of Interest, pursuant to Subsection 8.2 of the Agreement

Tenure numbers

508067

516277

524938

524955

524956

524963

513773

516278

516298

216301

216302

EG.

Appendix 2 – Assay Certificates

Available Upon Request

Appendix 3 – Drill Logs

Target:	Wildrose	Start:	30-Aug-11	Depth	Azm	Dip		Logged By: Jerry Holmes
East:	373870	Finish:	5-Sep-11	335.0	220.0	-60.0		Hole ID: 11WR13
North:	5437530	Length:	335m					S.G. By:
Elevation:	1356m			Survey refer to sheet 3			11WR13	Drilling Co. T Drilling
Section:								Assayed By: Inspectorate Labs
Samp. # 550001 to 550266								Assay Checks By:
								Date Log'd: Sept 3-6

From	To	Description
0	5	**Casing depth**
2.7	26.06	**UM unit:** Dark purple to black, massive, looks fg, Strong mag, mm scale calcite and silica veins throughout, minor epidote veins (mm). Pyrite blebs throughout, with diss concentrated along fractures (2% up to areas of 20%). Oxidized fracture faces. Chloritic and silica altered and bleached areas from 1cm to m scale throughout.
		5-7.75m: more rubbly core, Dark greenish grey color, limeonite and fe-carb fracture faces. Bleached and altered--chlorite, sericite, and silica. Pyrite diss increases to 7%, localized bands of pyrite concentrated along silica flooded fractures to 90%. Mod mag.
		11.04-11.16 and 11.40-12.07 and 13.90-14.70 and 15.96-16.05 and 17.50-17.98 and 18.38-20.45 and 21.25-21.75 and 22.15-22.50 and 23.35-23.53m: Med greenish grey color, mod silica flooded and bleached, also sericitic and chloritic areas. Strong pyrite diss (10%), with diss, nodes, and bands up to 90%. Wispy sericitic looking areas. Very spotty mag in places to none.
		23.90 - 26.06m: Lt grey to Lt green Hornfels: Blocky core. Highly bleached. Heavy silica alteration, looks like silicious hornfels. Acute lack of pyrite compared to other areas. Arsenopyrite diss in areas up to 20%. Sericitic alteration, talcy fractures. Rubbly faces limeonitic. Major calcite veining throughout (mm scale). No mag.
26.06	66.6	**Horn(?)/Bio(?)/Magnetite blebbed Phyric FG Mafic Intrusive:** Greenish grey to black areas, massive, fg to cg, mm to cm scale hornblende's throughout. Strongly magnetic. Mainly strong intact core. Mm scale cm scale calcite and dolomite veinlets, mm to 4cm scale silica bands. alternating weak to strong chloritic and sericitic alteration. Some strongly sericitic altered areas (softer, rubbly core) probably transitional areas. 1-2% pyrite diss throughout, with pyrite diss up to 70% in veined and fractured areas (Silica bands), 5% blebs in areas.
		26.06-29.80m: grades from light grey to dark purple away from contact. Pyrite blebs and diss (1%) with banded concentrations in veining up to 50%.
		29.80 - 31.40m: lighter grey color. Softer, more sericitic and talcy, rubbly portions with limeonitic faces. Wispy mm scale calcite veinlets. Trace pyrite diss up to 90% in cm thick band along calcite infilled fracture. Mod mag.
		31.40-36m: Darker, slightly sericitic, pyrite and chalco blebs (1%).
		36-44.20m: light greyish green and darker black areas intermixed, associated with fluid flooding and bleaching. Trace sericite, some minor softer talcy areas, but on the whole competent. Major cm to minor mm scale dolomite and silica veins and bands (45 degrees to CA). Minor epidote at 37.80m. Pyrite diss associated with veins and bands(2%), local bands up to cm scale (90%).
		44.20-52.20m and 55.05-57.70m and 62.50-64.20m: Dark purple to black color grading to dark grey by end of interval (Slightly sericitic). Massive. Occasional wispy and convoluted mm scale calcite and quartz veins. Hard, competant core. Strong mag. Pyrite diss throughout, with pyrite veinlets ass with silica veins (2%).
		52.20-55.05m and 57.70-62.50m: Lighter grey, silica and sericite altered, mod mag. Highly fractured with soft talcy area at 59m. Major limeonite and Fe carb alteration along fractures. Vuggy, quartz lined cavities in offset and fractured calcite veins (53.50m). Major cm scale quartz vein at 57.90m, mm scale calcite and quartz veining throughout. Trace sulphides throughout, mainly in mm scale pyrite nodes or along veins in clusters (0.5%).
		64.20-66.60m: Chloritic Mafic Intrusive: fg, light grey to green, probably the hornblende phyric diorite that quick cooled along lower contact. Highly rubbly core in parts with limeonite and Fe carb faced fractures. Looks either highly fractured with quartz infilling in parts, as well as minor brecciation. Stron sericite and chlorite alteration. Pyrite diss in clusters (cm) as well as diss (1%). Trace mag.

66.6	104	**Mudstone/Mudstone breccia:** Overall a light to med grey, fg, localized rubbly areas, brecciated areas, silica banded areas, vuggy areas, and totally Fe carb altered areas. Parts have strong clay alteration +/- sericitic alteration. Pyrite, chalco, and minor arseno diss throughout (1%), with localized areas in nodes, stringers, and bands up to 50%.
		66.6-70m: Brecciated interval: Softer, pinkish areas, mainly looks heavily fractured (crackle?), heavy pyrite/arsenopyrite bands around 67.40m (30%). Major pyrite diss concentrations up to 50% in areas. Clay and sericite altered areas. Fairly intact core.
		70-71.9m: Mudstone: Fg to mg, mod chloritic and light sericitic alteration, very rubbly limeonitic and hematitic stained core grading to intact at end of interval. Possibly darker clasts sporadic, mm scale sericitic veinlets. Trace pyrite in milky (dolomitic?) bands.
		71.9-83.5m: Brecciated interval: Mainly brecciated, but very chaotic areas. Slightly harder and more silica rich than softer ms areas. Mainly intact core besides very rubbly fe carb stained areas at 78-81m. Trace pyrite diss throughout, with localized bands and nodes. Localized arseno clusters up to 5%.
		83.5-87.50m: Mudstone: Brief breccia intervals (silica matrix supported), but mainly intact. Pyrite nodes , diss, and stringers throughout (1%). Minor chlorite and sericite alt. Minor talcy areas.
		87.50-104m: Mainly brecciated interval: Intact ms areas throughout are fairly fractured, breccia has angular ms clsts in a darker silica rich matrix (+/- angular quartz clasts). Minor Chloritic and sericitic altered areas. Large silica bands (7cm) at 93m. Trace pyrite.
		97.30-99.50m: Rubbly, Fe carb oxidized core.
104	163.9	**Silicified Quartz Breccia:** Milky white to med grey areas. Mainly a crackle breccia, with minor mosaic areas. Almost a silicified hornfels. Fairly intact core. Pyrite and chalco nodes and diss up to 3% found in clasts as well as fluid edges.
		112.40-115m and at 117.50m, and at 119m, and 121.50-122m: Localized rubbly areas showing Fe carb surfaces.
		124.90-131m: Mixed Breccia unit: Matrix supported clasts of quartzite, MS, and quartz breccia. Subangular to subrounded areas in a milky yellowish matrix. Pyrite and chalco mineralization found in clasts (1%). Definite clast movement.
		127.30-129.20m: MS breccia: Mainly a crackle breccia, subangular to subrounded pieces. Pyrite and chalco trace in clasts.
		153-153.30m and 159-160.3m: Silicified MS: Fg, minor chloritic and sericitic alteration.
163.9	188.1	**Mudstone:** Greenish grey color. Fg. Brecciated areas of MS as well as quartz rich areas. Variable sericite, chlorite, and clay alteration throughout.
		163.90-165.30m: Transition area: Between MS and silicious breccia unit. Pyrite stringers and wispy bands concentrated more in silicious areas (3%). Heavily clay and sericitic alteration
		165.30-167.80m: Heavily veined with chaotic sericitic alteration +/- clay and chlorite. Cm scale pyrite bands (50%). Softer core.
		167.80-174.75m: Mudstone breccia: Angular clasts (mm-cm scale) floating in a silicious matrix. Clasts show sericitic alteration. Trace pyrite in clasts up to 20% in nodes. Cm scale pyrite bands localized in secondary silicous fractures.
		174.75-178.70m: Greenish grey MS. Trace pyrite only
		178.70-188.1m: Greenish grey MS with silicious intervals and fractures, all of which are heavily mineralized in pyrite diss (80%). Fracture's infilled with silica are 45 degrees to CA. Minor brecciated areas.
		186.80-187m: Quartzite rubble.
188.1	221.25	**Altered FG Mafic Intrusive:** Crystals altered green with others a tan color (Sericite and chlorite alteration). Large quartz rich areas as well as brecciated areas.
		188.10-196.20m and 203.55-209.45m and 212.80-213.75m: Mafic Intrusive Breccia: Greenish grey to totally bleached areas. Mainly cm size subangular MS and intrusive pieces floating in silica matrix. Mineralization mainly in both the quartz matrix (trace to 5%) and brecciated Int. pieces. Brecciated pieces heavily sericite /clay altered. Heavy pyrite and some chalco (50%) in secondary quartz infilled fractures.
		188.1-189m: Quartz Massive: Milky white color.
		192-193m and 199.90-203.55m: Quartzite: Med grey, Milky silica infilled fractures. Diss, and nodes of pyrite and Chalco up to 5% found in fractures.
		201.76-202.40m: Quartzite Breccia: Cm size quartzite pieces, subangular to subrounded, found floating in a dark argillic looking matrix. Primary and secondary fractures with silica infilling. Trace chalco and pyrite diss throughout.
221.25	307.45	**Mudstone/altered Intrusive:** Interval most likely MS with silicified and brecciated areas due to the altered Intrusive areas (Dikes?).

		221.25-233.55: Grey MS breccia: Grey. Clasts of MS and Int. (mm to cm scale), subangular to subrounded, found in silica matrix. Also localized intact tan colored MS areas which are highly fractured. Milky silica veinlets (mm to cm). Pyrite diss concentrated in silica bands, fractures, and matrix from 10-80% in areas. 1% Pyrite diss overall. Cherty areas towards the last half meter of core. Minor vuggy silica bands at 222.80 where core seems more blocky. Possible fault gouge at 227.70m.
		233.55-245.30m: Silicified Mudstone (Hornfels'd ?): greyish green color, vfg. Looks very cherty. Extremely blocky and fractured core. Silica veinlets a milky white, with flooded silica fractures throughout. Trace sulphides in fractures. Minor brecciation at 245.20m.
		246.80-257m: Mudstone Hornfels: Extremely silicified MS, fg. Very chaotic and intermixed area of a hornfels, some cherty areas, and some altered Intrusive with sericite and chlorite alteration. Extremely fractured and rubbly core from 250-255m. Silica flooded areas (mm to cm scale) along length (secondary), which are the host to high pyrite dissemination (80%). Massive quartz at 254.50m. Mm scale milky silica fractures (Primary) with no visible sulphides.
		257-259.80m: Altered Mafic Intrusive: Massive, dark greenish grey. Mod chloritic and sericitic alteration. Milky white silica veins (mm) and fractures throughout. Pyrite diss concentrated in fractures up to 70%.
		259.80-271.20m: Silicified Mudstone: Med grey color, fg. Very intact core other than a highly fractured area from 269 to 269.80m. Sporadic narrow breccia looking areas, but overall very silica flooded and fractured. Some milky quartz in mm scale veins. Very fine pyrite diss throughout in fractures (5%).
		271.20-275.50m: Altered Mafic Intrusive: Tan green color, massive. Extremely competent core. Highly sericite altered. Silica infilled fracture's hosting pyrite diss (70%). Trace pyrite diss throughout.
		275.50-279.25m: Silicified Mudstone: Probably just a highly silica flooded MS. Dark grey color, massive. Very competent and hard core. Pyrite diss up to 80% in areas, found in occasional nodes and blebs, but once again mainly in the fractures.
		279.25-286.50m: Altered Mafic Intrusive: Dark grey, massive. Moderate sericitic alteration throughout. Compentent and hard core. Pyrite diss throughout (5%), with silica flooded fractures up to 80%.
		286.50-287.30m: Silicified Mudstone: Tan colored areas of wispy MS in silica. Silica bands highly pyritic (80%), otherwise 1% throughout.
		287.30-289.20m: Altered Mafic Intrusive: Dark grey grading to Light grey over interval due to increasing sericitic alteration. Pyrite blebs throughout (2%), with a higher concentration in the silica infilled fractures (20%).
		289.20-291.05m: Silicified Mudstone: Tan grey color, wispy muddy areas again in the silica. Mainly mineralized fractures up to 50% again.
		291.05-291.80m: Altered Mafic Intrusive: Dark grey. Mod sericitic alteration. Highly pyritic fractures again (50%).
		291.80-294m: Silicified Mudstone: Med grey to tan colored areas. Very competant core. Pyrite blebs and fractures (1% up to 25%). Highly mineralized disseminated area of pyrite +/- chalco (80%) at 293m.
		294-295.50m: Intermixed silicified Mudstone and Altered Mafic Intrusive: Mod sericitic alteration in areas. Very competant core. Highly mineralized fractures of pyrite (80%).
		295.50-307.45m: Altered Mafic Intrusive: Light to Med grey color depending on amount of sericitic alteration, mod chloritic alteration at end. Hard competant core. Large mm to cm scale milky silica veins (along CA for up to half a meter from 297 to 297.50m) with localized vuggy areas. Trace pyrite overall, with a high concentration (70%) of pyrite diss in silica fractures.
		302m: clay rich gouge (?) area.
307.45	**308**	**Quartz Massive Zone:** CG. Silica flooded fg sedimentary area at start, Serpentinized mafic host at 308. Vuggy secondary veins of possible chalcedony at 308. Blocky core. No visible sulphides.
308	**311.3**	**Faulted zone?** Whitish green color, very blocky and rubbly core. Talcy clay rich fault at 308.30m. Sheared and serpentinized unit. Wash out at 311m for half a meter. Trace diss pyrite.
311.3	**314.1**	**Sandstone:** fg, grey. Extremely blocky and rubbly core. No visible sulphides.
314.1	**316.2**	**Chloritic Sandstone:** Med green color, fg, moderately fractured, largely silicified fractures (cm scale). Localized diss pyrite up to 5%, trace throughout. Possible mafic Intrusive at 315.80m to 316.20m. Fairly intact core.
316.2	**335**	**FG Pebble Conglomerate:** Dark Green color,mm scale clasts of what looks like a softer altered mafic in a vfg sedimentary matrix (volcanics?). Variably competant core, as some meter lengths intact, while others totally broken up and rubble.
		323.90 to 324.10m and 324.90 to 326.30m and 333.60 to 334.30m: Silicious breccia: Small silicified and sheared brecciated areas at random. Also small random brecciated areas with darker argillic looking clasts. No visible sulphides.
	335m	**EOH**

Target:	Wildrose	Start:	5-Sep-11	Depth	Azm	Dip	11WR014	Logged By: Cory Gunson
East:	373857	Finish:	10-Sep-11	368.0	220.0	-45.0		Hole ID: 11WR014
North:	5437540	Length:	368m					S.G. By:
Elevation:	1358			Survey refer to sheet 3				Drilling Co. T Drilling
Section:								Assayed By: Inspectorate Labs
Samp. # 550267 - 550555								Assay Checks By:
								Date Log'd: Sept 6 - 11

From	To	Description
0.00	3.00	**Overburden**
3.00	18.50	**Mafic Intrusive:** Dark-med greenish-grey colour. Fine-med grained. Mod-abundant biotite. Variable weak-mod sericite alteration. Weak chlorite alteration. Non- to weakly magnetic. Rusty along fractures. Calcite fracture coatings and veinlets up to 2mm. Rare later quartz/silica veins. 3% disseminated pyrite. Increase in sulphides with depth and increased alteration, up to 8% locally.
		11.20 - 13.00m: Silicious Zone: Grey silica. Weakly developed brecciation with abundant <1mm silica and chlorite veinlets. Brittle fracturing. Fracture set at 55 degrees to core axis filled with 1-2mm of rusty, vuggy, pyrite, limonite, and chlorite veining. 0.5% pyrite occurring along fractures and veinlets. Some disseminated pyrite as well. Locally up to 4% pyrite at beginning of zone.
		13.00 - 17.90m: Grey coloured. Fine-very fine grained. Areas of mod silicification. Brittle fracturing. Talc and chlorite along fractures. Some 2mm silica veins. Areas of intense brittle fracturing with mod albitization and highly abundant darker grey silica veining and chlorite from 14.10-14.40m, 16.80-17.00m, 17.15-17.35m, and 17.60-17.70m. Trace to 1% pyrite in fine grained disseminations and blebby pyrite along fractures and veinlets.
18.50	27.45	**Volcanic Sandstone and Mudstone:** Grey coloured very fine-med grained sandstone with deformed interbeds of light, creamy brown coloured mudstone. Green colouration in area due to moderate chlorite alteration. Sub-angular to rounded clear grey quartz grains in sandstone. Moderate silica alteration. Grey silica veins up to 10cm wide. Numerous small <1mm veinlets of silica filling brittle fractures. Talc veins and veinlets as well. Areas of rubbly, broken up core. At 19.00m depth a 3cm wide vein of creamy white quartz has brecciated the host rock with angular clasts with rounded edges. Trace-0.5% pyrite dominantly occurring as blebs near or along fractures. Locally up to 8%.
27.50	77.30	**Hornblende Phyric Mafic Intrusive:** Dark grey colour. Hornblende phyric mafic intrusive with dark amphibole phenocrysts up to 3mm. Some biotite. Mod-strong magnetism. Areas lacking hornblende phenocrysts are moderately chlorite altered, greener coloured, and less magnetic. Weak chlorite alteration of hornblende phyric areas. Mod sericite alteration. Local areas of mod silicification. Extremely rusty, rubble zones. Also silica and brecciated zones. Creamy white to clear grey quartz veins with a minor calcite component. Veinlets <1mm along brittle fractures to veins up to 2cm wide that brecciate the host rock. Trace disseminated pyrite. Local blebby patches associated with veining.
		29.00 - 30.00m and 45.65 - 51.50m: Rusty Zones: Very rusty limonite and hematite zones. Rubble, very broken up. Weaker magnetism. Wash away at 47m depth.
		52.75 - 61.00m: Silicious Zone: Grey silica. Weakly developed brecciation. Highly broken up/rubble. Rusty limonite along fractures. 3% blebby pyrite along fractures. Local areas of pyrite up to 10%. Wash away at 56m and 59m depths.
		66.70 - 77.30m: Transitional Zone: Transitional conglomeratic breccia of mafic intrusive and silicious breccia with argillitic sediments. Green-grey colour. No hornblende phenocrysts. Non-magnetic. Areas of lighter green-brown-grey muds with large (a few cm's) angular to subrounded and elongated clasts of mafic intrusive and silica. Wavy, shear like appearance of muds. Banded veins along brittle fractures. Veins are a creamy white colour generally hard with softer areas (possibly silica with minor carbonate). Clear grey quartz in the middle of banded veins. Trace pyrite. Small local zone of 5% blebby pyrite.
77.30	111.40	**Silicious Breccia:** Silicious crackle breccia with bleached argillitic sediments, hornfels, altered mafic intrusive, and areas of intense silicification. Sediments/hornfels are of a tan or brownish to greenish-grey colour. Mafic intrusive is the same colour to a darker green colour. Sediment grain size is dominantly mud with layers up to very fine grained sand. Seds/hornfels are dominant in intervals 80.30-86.25m and 91.55-103.25m. Mafic intrusive is fine grained. Moderate chlorite and sericite alteration of the mafic intrusive. The mafic intrusive is much less silicified and brecciated than the rest of unit and is most dominant in the interval 86.25-91.55m. Very soft clay/gouge material in areas between interval 79.00-80.30m. Crackle breccia throughout with grey silica veins filling fractures. Creamy white silica with minor carbonate banded veining as well. 3% pyrite dominantly blebby along veins and fractures. Some areas of disseminations. Local areas of 6% pyrite.

		103.25 - 111.40m: Silicious Zone: Zone of more intense silicification. Grey silica. Crackel breccia. Some bleached argillic intervals. Open cavity filling with several banded laryers of alternating creamy, rusty carbonate and clear grey silica. Rusty limonite along fractures. 1% pyrite along fractures.
111.40	**126.50**	**Mafic Intrusive:** Light-dark green-grey colour. Fine-med grained. Small coarse grained areas. Strong sericite and chlorite alteration. Chlorite altered biotite in darker sections. Areas of strong talc alteration. Non-magnetic. Areas of rubble. Banded and brecciated silica veins up to 15cm wide. Creamy white and clear grey silica with minor carbonate banded veins. Angular silica and host rock clasts in veins. Smaller veins along brittle fracturing. 2% pyrite in veins and along fractures with some disseminations. 5% pyrite locally.
126.50	**134.70**	**Silicious Zone:** Grey silica. Crackel breccia. Areas of rubble. Chaotic breccia and fault gouge on a slickened joint surface at end of unit. Small intervals of strongly sericite altered and silicified mafic intrusive. Numerous grey and creamy white silica veins filling brittle fracturing. 2% pyrite veins.
		133.25 - 134.70: Silicious Breccia: Chaotic breccia. Angular clasts up to 5cm of multiple litholgies floating in a grey silica matrix.
134.70	**164.40**	**Mafic Intrusive:** Dark grey to green-grey. Medium grained. Black biotite-rich areas. Strong chlorite, sericite, and silica alteration. Areas of strong clay alteration of the feldspars. Areas of strong silicification are less chlorite and clay altered. Very soft, highly chlorite altered sections of core. Minor carbonate alteration. Calcite and quartz veins up to 5cm wide. Largest veins have brecciated the host rock. Non magnetic. 4% disseminated pyrite.
164.40	**178.70**	**Silicious Zone:** White and grey silica. Crackel breccia. Areas of rubble. Dominantly silica veining filling brittle fracturing. Some calcite veining and fracture coatings. 1-2% blebby pyrite along fractures and veins.
178.70	**191.60**	**Mudstone:** Mudstone with altetered mafic intrusive and silicious zones. Light brown-grey to dark grey coloured argillite/hornfels. Muds are darker after 184.20m. Lighter muds are wavy/deformed. Darker muds are massive. Crackle breccia. Significant rubble. Calcite and silica veinlets. 2% pyrite overall in disseminations, veins and fractures. Sulphides are much greater in the intrusive and silicified zones. 0.5% pyrite in muds.
		179.50 - 180.10m, 180.65 - 182.05m, and 183.00 - 180.40m: Mafic Intrusive: Greenish-grey colour. Fine grained. Moderate chlorite and sericite alteration. 5% disseminated pyrite, up to 10% locally.
191.60	**211.60**	**Mafic Intrusive:** Green-grey to black colour. Fine Grained. Strong chlorite alteration, biotite altering into chlorite. Moderate silicification. Weak sericite alteration. Section of strong clay ateration. Areas of smeared boudinage-like clasts in wavy hornfels'd sections. Areas of rubble. Dominantly calcite veining. Larger veins have brecciated host rock. Area in rubble zone with a soft creamy white talc fracture coating. 6% disseminated pyrite. Pyrite also in veins. Locally up to 15% disseminated pyrite.
211.60	**218.85**	**Mudstone:** Brownish-grey colour. Fine grained sediments with minor mafic intrusive and silicified zones. Areas of weak silicification. Lighter brown areas of soft clay alteration. Darker seds are massive. Weakly developed crackle breccia. Calcite veinlets and fracture fills. Larger veins brecciate host rock. Some silica veining. 3% pyrite dominately in veins and fractures. Also disseminated pyrite. Sulphides are much higher in altered ligher zones than darker massive zones.
218.85	**285.90**	**Mafic Intrusive:** Fine grained, dark grey to black mafic intrusive to medium grained greenish-grey mafic intrusive. Minor mudstone, breccia, and Tuff(?). Local areas of strong clay, sericite, and silica alteration. Some chlorite alteration. Cacite and silica veining. 2-4% sulphides.
		218.85 - 231.50m: Fine grained dark grey mafic intrusive with numerous sections of highly clay and sericite altered, bleached, light tan coloured mafic intrusive and minor light brown mudstone. 10cm of soft gouge in mafic intrusive. Calcite and silica veins up to 6cm wide that brecciate the host rock with large clasts up to 2cm. 4% pyrite disseminations and veins. Locally up to 8% pyrite.
		231.50 - 251.00m: Fine to locally med grained mafic intrusive. Medium grey to light brownish grey colour. Local zones of medium to strong silicification. Weak to locally medium sericite alteration. Local areas of moderate clay alteration. Some areas of weakly developed crackle breccia. Local areas with weak wispy fabric. Calcite and silica veining and fracture fills. Variable sulphides, overall 2%, locally up to 6%. Sulphides dominantly along veins and fractures, some fine grained disseminations. 2% pyrite, trace chalcopyrite.
		251.00 - 269.80m: Medium grained greenish-grey to light grey mafic intrusive. Higher plagioclase/lower mafic minerals than previous. Moderate to strong sericite alteration. Strong clay alteration of the feldspars from 264.00-269.00m. Moderate chlorite alteration. Some slicken lines sub-parallel to core axis with calcite fracture coatings. Veins are dominantly calcite, chlorite, and pyrite with minor silica. 2% pyrite disseminations and veins.
		269.80 - 272.00m: Breccia: Mosaic to matrix supported breccia with angular to rounded clasts of broken up quartz and calcite veins. Clasts up to 3cm in diameter. Chlorite-rich matrix with weak to moderate fabric. Variable fabric from 40 degrees to sub-perpendicular to the core axis. Rubble/broken up core. Large quartz veins up to 10cm wide. Up to 4cm bands of sub-massive sulphides in matrix. 4% sulphides overall. 3% pyrite and 1% chalcopyrite. Chalcopyrite is being replaced by pyrite.

		272.00 - 274.55m: Tuff(?): Light greyish-green matrix with darker green angular rectangles to rounded clasts. Some clasts with rough broken up edges. Mafic clasts appear to be of the mafic intrusive. Largest clast is 2cm in diameter. Small <1mm white rectangular clasts of calcite(?). Fine gained matrix. Moderate carbonate alteration. Calcite veins up to 1cm filling fractures and brecciating the host rock. Relatively soft core. Small sections of soft gouge up to 7cm. 1% pyrite blebs and fine grained disseminations.
		274.55 - 285.90m: Fine-med grained greenish-grey mafic intrusive with minor light pinkish-brown mudstone. Weak chlorite alteration. Areas of weak sericite alteration. Calcite and silica veins. Larger veins brecciate host rock. 2% pyrite along viens and fractures with some disseminations.
285.90	**339.20**	**Mudstone, Sandstone and Quartz Pebble Conglomerate:** Interbedded mudstone, coarse grained quartz rich sandstone and minor pebble quartz conglomerate. Rare mafic intrusive in top part of unit. Gradual decreasing mudstone, increasing sandstone with depth.
		285.90 - 308.50m: Dominantly greenish-grey mudstone. Muds are massive with some wavy beds and laminae. Some interbeds of coarse quartz sandstone to pebble conglomerate. Medium grained silica, clay, and chlorite altered mafic intrusive from 287.30-287.60m. Numerous zones of rubble/broken up core. Several small areas of cracklr to mosaic breccia. Talc veinlets and fracture fills. Some quartz and calcite veining. 0.5% pyrite dominantly along fractures.
		308.50 - 339.20m: Interbedded mudstone, sandstone, and quartz pebble conglomerate. Greenish-brown to greenish-grey muds. Grey quartz-rich, coarse grained sandstone with some areas of coarser granular to rare small pebble size clasts. Grey quartz, clast-supported, pebble conglomerate with angular to rounded quartz clasts up to 0.7cm in diameter. Majority of clasts are sub-rounded. Some clasts of mudstone. Size of mudstone beds gradually decreases while sandstone and quartz conglomerate increases with depth. Numerous areas of rubble. Some areas of crackle breccia. Weak chlorite alteration of sandstone and conglomerate. Talc fracture coatings. 0.25% pyrite along factures within the sandstone to conglomerate beds.
399.20	**368.00**	**Quartz Pebble Conglomerate:** Clast-supported granule to pebble quartz conglomerate with minor green tuff(?). Grey colour. Areas of coarse to very coarse grained sandstone with occasional larger clasts. Conglomerate and sandstone are the same as in previous unit. Numerous areas of rubble. Some small areas of crackle breccia. Weak chlorite alteration. Carbonate-silica veinlets. Some talc fracture coatings. 0.25% pyrite along fractures and in disseminations. Sulphides decreasing with depth.
		349.30 - 353.70m: Tuff(?): Light greyish-green colour. Calcite and an unknown, soft, somewhat translusent, light green mineral of angular to rounded clasts floating in a soft, siltstone to very fine sand grain size, light green matrix. Carbonate-silia veinlets. 0.25% very fine grained disseminated pyrite.
	EOH	

Target:	Wildrose	Start:	11-Sep-11	Depth	Azm	Dip	11WR015	Logged By: Cory Gunson
East:	373767	Finish:	17-Sep-11	401.0	220.0	-45.0		Hole ID: 11WR015
North:	5437694	Length:	401					S.G. By:
Elevation:	1358			Survey refer to sheet 3				Drilling Co. T Drilling
Section:								Assayed By: Inspectorate Labs
Samp. # 550556 - 550882								Assay Checks By:
								Date Log'd: Sept 13 - 19

From	To	Description
0.00	**3.00**	**Overburden**
3.00	**80.10**	**Silicious Mudstone and Silicious Zones:** Greenish- to pinkish- light brown deformed and strongly silicified mudstone. Numerous grey quartz/silica zones/veins. Multiple large areas where silica dominates over mudstone. Weakly developed crakle breccia throughout. Rusty fractures. Some calcite and chlorite veining. 1% pyrite overall. Up to 12% pyrite locally. Sulphides increase with increasing silicification/quartz viening.
		13.50 - 15.30m: Quartz Vein: White quartz. Massive. 1% disseminated pyrite. Trace chalcopyrite.
		15.30 - 22.00m: Silicious Zone: Light grey pure quartz to darker grey silica/extemely silicified mud. 2% pryite disseminations and along fractures, locally up to 5%.
		27.30 - 29.70m: Silicious Zone: Creamy light greenish-white coloured, strongly silicified, chlorite vein rich zone. Chlorite fracture filled crackle breccia. Some epidote. 4% blebby pyrite along fractures.
		29.70 - 31.30m: Silicious Zone: Grey to light creamy peachy-brown coloured heavily silicified zone. 6% blebby pyrite.
		57.55 - 60.00m: Mafic Intrusive: Fine grained dark greenish-grey to black mafic intrusive. Weak sericite and chlorite alteration. 2% pyrite along fractures and disseminated, locally up to 5%.
		60.00 - 80.10m: Silicious Zone: Very strongly silicified to extremely silicious zones/veins. Dominantly grey silica with light brown mudstone. Sulfides generally higher in areas with highest silica content. 3% pyrite along fractures, locally up to 12%.
80.10	**127.85**	**Mafic Intrusive:** Medium grained mafic intrusive. Dark greenish-grey to black colour. Finer grained areas are generally darker. Granular texture. Weak to moderate sericite alteration. Weak chlorite and silica alteration. Local areas of moderate clay alteration of the feldspars. Green alteration of feldspars (likely epidote). Viens are dominantly <0.5cm calcite veins. Some epidote veining. Weak to moderate magnetism. 3% pyrite dominantly along veins and fractures. Some disseminated pyrite.
		116.40 - 122.00m: Area of stronger clay and chlorite alteration. Local areas of soft gouge-like core. Patchy magnetism.
127.85	**133.75**	**Silicious Zone:** Grey silica/quartz to green-grey highly silicious zones. Chlorite altered green areas. Some weak crackle breccia. Calcite veinlets. 3% pyrite along fractures.
133.75	**202.95**	**Mafic Intrusive:** Medium grained dark greenish-grey to black coloured mafic intrusive. Variable weak sericite ateration and weak to moderate chlorite alteration. Minor areas of epidote alteration. Local zone of strong chlorite and clay alteration. Local silicous zone/large quartz veins. Quartz and calcite veining. Calcite veins are generally smaller. Some veins brecciate the host rock. Hematite in some of the quartz and calcite veins. Some epidote veining. Most veins between 1mm and 1cm width. Overall 3% pyrite primarily in veins and fractures. Disseminated pyrite as well. Weak to moderate magnetism.
		144.85 - 153.95: Area of strong chlorite alteration and moderate sericite and epidote alteration with extremely silicious zones/quartz veins up to 60cm. Grey brittle silica. Light to dark green intrusive. Local areas of moderate clay alteration. 4% pyrite in silica zones.
		189.95 - 202.95m: Area of strong chlorite, epidote and clay alteration. Light to dark green colour. Soft core. Pyrite veins up to 3cm wide.
202.95	**215.30**	**Silicious Zones and Silicious Mudstone:** Grey silica to greenish-grey highly silicious mudstone. Mudstone is almost completely replaced by silica over majority of unit. Weak crackle breccia becomes more defined in areas of higher silica content. Grey silica veinlets filling fractures. 2% sulphides along fractures(1.75% pyrite, 0.25% arsenopyrite). Majority of arsenopyrite is between 207.00-209.00m (1.5% arsenopyrite, 2.5% pyrite in interval). Pyrite appears to be replacing arsenopyrite.

215.30	232.35	**Mudstone:** Light to dark brown to brownish-green mudstone. Mod-strong silicification. Weak-mod chlorite alteration. Crackle breccia throughout unit. Local areas of mosiac breccia. Stockwork of alteration in brittle fractures. Alteration halos around silica with pyrite veinlets. Silica, chlorite, and clacite veinlets. Calcite veins increasing with depth in unit. From 230.70-231.30m calcite and quartz veins froming mosiac-chaotic breccia of host rock. Overall, 3% pyrite in fractures and veins. 217.95-219.25m interval of 8% fine grained disseminated pyrite in an area with fine wispy alteration fabric and a fine grainy texture possibly siltstone/fine grained sandstone.
232.35	254.15	**Mudstone, Sandstone, and Silicious Zones:** Light to medium greyish- to brownish-green silicious mudstone. Gery to brownish-grey sandstone. Light to medium grey silica/quartz zones. Medium to coarse rounded grains in sandstone can be easily recognized in some areas but difficult in others. Sandstone can be differentiated from silica zones by brownish hue and are less brittle. Alteration halos around fractures and veinlets in mudstone. Local areas of a very fine grained texture (siltstone/fine grained sandstone). Sulphides are highest in sandstone and silica zones. 4% pyrite overall. Pyrite dominantly along fractures.
		232.35 - 232.85m, 234.70 - 236.45m, 245.40 - 250.80m, 252.10 - 252.50m: Sandstone: Brownish-grey to grey sanstone. Medium to coarse rounded quartz grains are visible in some areas. Sulphides occur with silica in fractures. 6% pyrite overall. Local stockwork of pyrite veinlets from 235.70-236.00m with up to 20% pyrite.
		238.30 - 239.40m, 240.00 - 242.65m, 252.70 - 254.15m: Silicious Zones/Veins: Light to medium grey silica/quartz zones/veins. Brittle fracturing. Crackel breccia. 4% pyrite along fractures.
254.15	300.00	**Mafic Intrusive and Mudstone:** Fine-medium grained mafic intrusive from dark grey to black to greenish-grey to blue-grey colour. Lesser light yellowish-brown to darker brown grey coloured mudstone. Areas of frequent alternations of intrusive and mudstone. Weak chlorite alteration. Areas of crackle breccia. Some silicious zones. Calcite and quartz veining. Sulphides are strongest in top 25m of unit. 3% pyrite overall.
		254.15 - 258.85m: Frequent alternating of mafic intrusive and silicified mudstone with numerous silicious zones/quartz veins. Medium grained dark greenish-grey intrusive. Weak-moderate sericite and chlorite alteration. Light brownish-green mudstone with moderate silicification. Light-medium grey quartz. Brittle fracturing of the quartz. Quartz veins are 7cm at average and are up to 25cm wide. Quartz veins only intrude mudstones and not the intrusive. 5% pyrite in disseminations and along fractures. Sulphides are highest in the intrusive (7% pyrite in blebby disseminations).
		258.85 - 271.00m: Frequent alternating of mafic intrusive and mudstone. Fine grained dark greenish-grey to black intrusive. Light-medium greenish brown mudstone/hornfels. Moderate silicification. Muds are deformed and hornfels'd. Small areas of crackle brecciation near more abundant silica veinlets. 10cm silcia vein with chaotic brecciation of the host rock. Most veins are a combination of calcite and quartz. 4% pyrite in blebs and along veins and fractures.
		271.00 - 289.20m: Alternating mafic intrusive and mudstone. Light greenish-grey to black fine to medium grained mafic intrusive. Light yellowish-greenish-brown to grey-brown coloured mudstone. Both rock types are highly altered and somewhat bleached in areas. Argillic(?) alteration (softer clay-like alteration in highest altered/bleached areas). Some rubble. Several areas of crackle breccia. Silica veinlets filling brittle fractures. Local areas of wispy-like lighter green alteration. Calcite plus quartz veins. Larger veins brecciate the host rock. 2% pyrite along veins and fractures.
		289.20 - 300.00m: Alternating mafic-intermediate intrusive and mudstone. Greenish-blue-grey medium grained intrusive. Lower percentage of mafic minerals(mostly hornblende) and increased plagioclase than usual intrusive but same granular texture. Plagioclase is altered or stained giving the greenish-blue-grey colour. Greenish-brownish-grey mudstone. Areas of crackle breccia in mudstone with grey silica filling fractures. Calcite with quartz veins. Larger calcite veins are brecciated internally (mosaic to choatic). 1.5% pyrite along fractures and veins.
300.00	312.60	**Mafic Intrusive:** Medium grained mafic intrusive. Granular texture. Dark grey to dark greenish-grey. Highly altered intrusive is greenish-white to greenish-grey colour. Weak to strong white clay alteration. Moderate sericite alteration. Weak to moderate chlorite alteration. Weak epidote alteration. Calcite and quartz veins. Calcite micro-veinlets in fractures. 1.5% pyrite in fractures.
		300.00 - 305.25m: Highly altered mafic intrusive. Green and white colour to greenish-grey colour. Weak to strong white clay alteration of feldspars. Moderate sericite alteration. Weak to moderate chlorite alteration. Weak epidote alteration. Alteration is variable across unit. Quartz with calcite veins. Calcite and chlorite veinlets. 1.5% pyrite along fractures.
		305.25 - 312.60m: Dark greenish-grey colour. Moderate silicification. Weak chlorite and sericite alteration. Calcite veining. 1.5% pyrite in fractures and some disseminations.
312.60	321.05	**Mudstone/Silicious Zone:** Yellowish- to greyish-brown coloured hornfels'd silicified mudstone with large grey silica zones/quartz veins. Minor hornfels'd intrusive. Crackle breccia throughout unit with greater intensity with increasing silica. Grey silica veinlets filling brittle fracturing. Sulphides are strongest in quartz vein-like zones. 2.5% pyrite overall. 5% pyrite in quartz veins.

321.05	**353.50**	**Mafic Intrusive:** Medium grained mafic intrusive. Granular texture. Dark greenish-grey to greenish-brownish-grey to green-white colours. Weak to strong white clay alteration of the feldspars. Weak to moderate chlorite alteration of the mafics. Weak to moderate sericite alteration. Weak epidote alteration. Whole unit is altered however alteration intensity is highly variable. Highly broken up/rubble from 325.60-334.00m. Wash out between 333.00-334.00m. Veins are a mixture of calcite and quartz with some banding. Chlorite veining as well. Rare white talc veins. Large white silica plus caclite veins, with more pure silica along margins, that brecciate the intrusive with large clasts floating in vein. 2% pyrite along veins and fractures. Trace chalcopyrite.
353.50	**365.90**	**Altered and Silicious Zone:** Silicified, heavily deformed, altered, and brecciated mafic intrusive and mudstone/hornfels with abundant quartz veining. Rock lithology is unidentifyable in much of unit. Strong silica and chlorite alteration. Some white clay alteration. Brittle fracturing throughout. Crackle to mosaic breccia. Local areas appear to be strongly foliated. Large with quartz veins up to 20cm that brecciate the host rock. Veinlets are dominantly white or grey quartz and chlorite. 4% sulphides overall (mostly pyrite, 0.25% chalcopyrite). From 356.00-359.75m 6% pyrite, 1% chalcopyrite. Chalcopyrite is being replaced by pyrite. Trace distict green coloured mineral (possibly fuchsite?).
365.90	**383.20**	**Mudstone and Sandstone:** Medium brownish-grey-green coloured mudstone interbedded with blueish-grey-green medium-coarse grained sandstone. Mudstone dominated. Sandstone increases with depth. 1-2cm packages of alternating sand and mud with coarsening upwards sequences. Numerous zones of rubble and wash out. Aproximately 3m of lost core between 367.00-371.00m due to wash out and grind. 1.5m of lost core between 374.00-377.00m due to wash out. Veins are white with an orange hue dolomite and/or white talc along brittle fractures. 1% pyrite along fractures.
383.20	**401.00**	**Mudstone, Sandstone and Quartz Pebble Conglomerate:** Blue-grey quartz pebble conglomerate with same mudstone and sandstone as previous unit. Clast supported, moderately sorted, quartz pebble conglomerate. Sub-angular clasts up to 1cm in diameter. Decreasing mudstone, increasing sandstone and conglomerate with depth. Mud and sand packages still show coarsening upwards sequences but are smaller and more deformed. Crackel breccia with small zones of mosaic breccia between 385.00-387.50m. Calcite and dolomite veining. 1% pyrite along fractures.
	EOH	

Target:	Wildrose	Start:	18-Sep-11	Depth	Azm	Dip	11WR016	Logged By: Cory Gunson
East:	374099	Finish:	24-Sep-11	266.0	220.0	-45.0		Hole ID: 11WR016
North:	5437382	Length:	266					S.G. By:
Elevation:	1295			Survey refer to sheet 3				Drilling Co. T Drilling
Section:								Assayed By: Inspectorate Labs
Samp. # 550883 - 551097								Assay Checks By:
								Date Log'd: Sept 22 - 26

From	To	Description
0.00	**3.00**	**Overburden**
3.00	**49.50**	**Brecciated and Altered Meta-Basalt?:** Fine grained greenish-dark grey coloured volcanics(?). Lighter and brown colours in heavily altered sections. Minor greyish-brown mudstone. Entire unit is intensely brecciated. Autobrecciation(?). Larger clasts are internally brecciated. Clasts of all shapes and sizes down to <1mm. Many clasts have been rounded. Wispy-like lighter coloured fluid alteration between clasts. Local crackle to chaotic breccia. Small slip planes with up to 1.5cm in movement in both dexteral and sinistral directions. Abundant circular possible pseudomorphs of garnets(?) which have now been converted to white and brownish-white clays. Pseudomorphs up to 13mm in diameter, typically around 5mm. Local areas of purple garnet(?) with same circular shape. Local areas of purple garnet(?) with white reaction rims. Garnets(?) and pseudomorphs(?) are typicall found in clusters. Weak sericite and chlorite alteration. Weak to very strong silicification. Veins larger than 2mm are typical of quartz plus calcite which brecciate the host rock. Smaller veinlets of talc, chlorite, silica, and calcite. Local deformed stockwork of talc fracture fills. Overall 2% pyrite dominantly along veins and fractures with a stron
		3.00 - 8.85m: Heavily deformed region. Local deformed stockwork of white talc veinlets. Local strong silicification. Local clusters of purple garnet and pseudomorphs of clay after garnet. Some rubble. Rusty joints. 0.25% pyrite.
		8.85 - 11.55m: Altered Intrusive(?): Slightly coarser grained. Stronger sericite alteration. Light brownish-grey colour. Higher plagioclase content. Granular-like texture. 0.5% pyrite along chlorite and silica veinlets.
		11.55 - 17.85m: Mudstone: Massive greyish-brown crackle brecciated mudstone to intensely brecciated lighter brown altered mudstone. Talc and chlorite fracture fills. Circular clay pseudomorphs in areas of highest alteration. Some silica plus calcite veining. 1% pyrite dominantly along silica and chlorite veinlets. Locally up to 5% pyrite in intensely brecciated zones.
		21.90 - 23.50m: Mudstone: Heavily brecciated. Numerous talc fracture fills. Chlorite, silica, and calcite veinlets. Numerous clusters of pseudomorphs. 2% pyrite along fracture fills and veinlets.
		25.50 - 26.30m: Heavily altered and deformed clasts. Light brown colour due to alteration or mudstone clasts?
		27.90 - 30.75m: Lighter brownish-green-grey colour. Coarser grained. Moderate clay and sericite alteration. Weak chlorite and silica alteration. Chlorite fracture fills. Rusty fractures between 28.00-29.20m. 30.55-30.70m is chaotic-mosaic breccia with silica matrix. 3% pyrite in veins and blebs.
		39.20 - 41.35m: Altered Intrusive(?): White-green colour. Medium grained. Strongly clay altered with later very strong silicification. Strong chlorite alteration. Feldspars have converted to white talc. Grey silica fracture filling veinlets in areas of crackle breccia. Abundant purple garnets(?) with white reation rims and fully replaced circular clay pseudomorphs. 5% pyrite concentrated around silica veinlets.
		41.35 - 49.50m: Higher argillic(?) alteration. Lighter brownish-green colour. Wispy fluid alteration between clasts is much stronger. Lighter coloured clay-rich wisps. The ligher colours highlight the auto-breccia. Strong silicification. Numerous deformed, brecciating grey silica veins and blotchy fracture fills. Common white calcite with silica viens. 6cm silica plus calcite vein with chaotic breccia of host rock containing large clasts up to 2cm in diameter. Some white talc fracture fills. 2.5% pyrite mostly associated with silica veining.
49.50	**101.70**	**Mafic Intrusive:** Medium grained mafic intrusive. Dark greenish-grey colour. Ligher greenish-grey to greenish-brown in areas of higher alteration. Minor massive dark brown mudstone. Some zones of brecciation. Strongly silicified. Weak sericite alteration. Zones of strong sericite, clay, and chlorite alteration. 2.5% pyrite overall. Sulphides dominantly associated with silica plus calcite veins but also in disseminations in the lower half of unit.
		49.50 - 51.20m: Medium grained brecciated mafic intrusive with minor large mudstone clasts. Soft core. Strong clay alteration. Moderate chlorite alteration. Small (>1mm) to large (several cm's) clasts. Some calcite veinlets. Rusty fractures. 1% pyrite along fractures.

		51.20 - 52.00m: Silicious Breccia: Grades from chaotic to crackle breccia. Polymictic breccia with angular to rounded clasts up to 2cm in diameter. Wispy matrix with some fabric. White talc and grey silica fracture fills and veins. 3% pyrite associated with silica.
		52.00 - 54.00m: Moderate sericite alteration. Moderate silicification. Rusty fractures. 1.5% pyrite along veins and in blebs.
		54.00 - 56.00m: Moderate to very strong clay alteration. Areas of very soft clay-rich core. Rusty fractures. 1.5% pyrite along chlorite, talc, and silica veining.
		56.00 - 59.95m: Grades into fine grained dark rocks very similar to previous basalts. Lighter green, bleached wispy fluid alteration around fractures. Strong chlorite alteration and brecciation with weak fabric from 56.65-57.65m. Rusty fractures. 1.5% pyrite along fractures and veins. **58.30-58.50m: Mudstone?** in highly silicious zone. Very deformed. Crackle to mosaic breccia. Silica filled fractures. Abundant clusters of purple garnets? (odd irregular crystal shapes).
		59.95 - 74.05m: Brecciated over entire interval. Clasts of same composition but of slighty different shades. Wispy chlorite in matrix with weak fabric. Moderate to strong clay alteration. Moderate chlorite alteration. Areas of moderate silicification. White talc veinlets. Multiple 0.5-1cm wide massive sulphides veins with silica and calcite. Rusty fractures. Both dextral and sinistral slip planes displacing veins up to 1.5cm. 1.5% pyrite almost entirely in veins.
		74.05 - 101.70m: Dark greenish-grey strongly silicified medium grained mafic intrusive with some massive dark brown mudstone and areas of brecciation and strong alteration. Numerous calcite veinlets. Semi-massive pyrite in silica plus calcite veins. 4% pyrite in disseminations, blebs, and in veins and fractures. Trace chalcopyrite. Mudstone over intervals 78.70-79.10m, 83.60-85.20m, and 97.30-98.55m with alteration halos around veins and fractures. 76.80-77.95m is stronly chlorite altered, brecciated with a chlorite-rich matrix creating a weak fabric. 79.10-79.50 and 80.00-81.60m are intervals of strong sericite alteration and bleaching. 86.00-89.00m is moderately sericite, clay, and chlorite altered with minor brecciation, talc veinlets, and grey silica veins up to 16cm. Mosaic breccia and silica veining from 100.00-100.45m.
101.70	**133.80**	**Brecciated Volcanic Sandstone and Silicious Mudstone Zone:** Deformed variable breccia with wispy/wavy matrix. Unbreciated to weak crackle to chaotic brecciation. Very strong silicification throughout entire unit. Poorly sorted coarse grained volcanic sandstone of greenish-grey colour to pinkish-brownish-grey. Creamy greenish-brown to greenish-grey mudstone. Light bleached yellow to pinkish-brown wispy/wavy matrix. Grey Silica. Minor grey silica zones, likely large veins. Minor altered mafic intrusive near bottom of unit. Grey silica fracture fills in crackle breccia. Rubble from 131.80-133.30m. Some calcite veining. 5% blebby pyrite. Local weak stockwork of pyrite along fractures. Some fine grained pyrite disseminations.
133.80	**136.90**	**Altered Biotite Phyric Mafic Intrusive:** Green-yellow with spotted black colours. Strong sericite and chlorite alteration. Black biotite phenocrysts up to 5mm being replaced by brown mica, likely phlogopite. Brecciated and silicified by numerous hard, clear with a purple hue, cubic or pseudocubic quartz veins. Chaotic breccia in quartz veins with angular to rounded clasts up to 2.5cm. Clasts are dominantly of the mafic intrusive with some grey silica clasts. Deformed and broken up creamy white quartz veinlets. 0.25% pyrite in areas of chaotic brecciation.
136.90	**138.95**	**Brecciated Altered Mafic Intrusive:** Dark green colour. Deformed and brecciated with clasts of varying alteration and grains sizes of the mafic intrusives. No clasts of previous biotite phyric unit. Lighter coloured wispy matrix. Weak crackle to weak mosaic brecciation. Some white talc veinlets. Multiple grey silica veins up to 10cm wide with majority of sulphides. 5% pyrite in silica veins. 0.5% pyrite overall in unit.
138.95	**153.85**	**Altered Mafic Intrusive:** Medium grained mafic intrusive. Granular texture with varying percentages of plagioclase and hornblende. Variable alteration across unit. Dark blueish-grey to greenish-grey colour in moderatedly silicified areas with weak sericite alteration. Green and white in areas of strong clay, sericite, and chlorite alteration. Very strong sericite and white clay alteration from 142.25-143.90m. Strong clay and chlorite alteration from 143.90-145.15m and152.00-153.85m. Weak carbonate alteration from 147.25-149.70m. Brecciating silica veins from 142.00-142.50cm with veins up to 8cm. Calcite veinlets and larger, 1cm veins, that brecciate the host rock. 1% pyrite along veins and in disseminations.
153.85	**161.80**	**Silicious Zone:** Brecciated, deformed, silica-rich zone. Bluish-grey silica with light greyish-brown wavy texture of similar appearance to volanic sandstone or mudstone. Crackle breccia througout unit. Some rubble. 5% blebby pyrite along fractures.
161.80	**184.55**	**Altered Mafic Intrusive:** Medium grained mafic intrusive. Variable sericite, clay, silica, chlorite, and epidote alterations. Some breccia and some silicious mudstone. Sections of abundant rubble. Average of 1.5% pyrite over unit, mostly along veins and fractures.
		161.80 - 165.55m: Greenish-grey to bluish grey colour. Medium grained. Weak to moderate sericite and clay alteration. Silicious zones/veins similar to previous unit up to 35cm from 162.25-163.00m. Rubble from 164.75-165.30m. 2% pyrite.

		165.55 - 168.70m: Breccia: Brecciated altered mafic intrusive and muddy silica. Matrix supported in areas with wispy light green matrix with fabric and deformed clasts. Silicious zones or hornfels'd mudstone(?) are crackle brecciated with sulhides along fractures. Some small clusters of clay circles similar to those near the beginning of hole, up to 4mm in diameter. Abundant rubble. Most sulphides occur in crackle breccia, locally 6%, 1% average over interval.
		168.70 - 172.05m: Brownish-grey to dark grey coloured medium grained mafic intrusive. High silicification. Weak sericite alteration. 2% pyrite along veins and in fine grained disseminations.
		172.05-174.95m: Silicious mudstone: Crackle to mosaic breccia of greyish- to yellowish-brown heavily silicified mudstone. Grey silica filling fractures. Grey silica veins up to 6cm wide. 1% pyrite along fractures.
		174.95 - 184.55m: Dark grey to green to green-white to bluish-grey coloured medium grained mafic intrusive. Variable alteration. Weak to strong sericite alteration. Strong white clay, sericite, and chlorite alteration from 176.00-177.50m. Moderate epidote alteration from 179.00-181.20m. Chaotic breccia from 175.40-175.80m with darker matrix. Small local areas of highly silicious mudstone with crackle breccia. Some calcite veinlets. 1% pyrite.
184.55	**188.50**	**Andesite:** Light greenish-grey colour. Massive. Porphyritic texture. Larger rectangular, rounded, and irregular shaped fragments/crystals of feldspar and calcite. Calcite veinlets. No visible sulphides.
188.50	**223.20**	**Altered Mafic Intrusive:** Medium grained light to dark green-ish grey coloured mafic intrusive. Variable Alteration. Weak to moderate sericite, clay, and chlorite alteration. Moderate silicification. Local weak epidote alteration. Some brecciation. Crakle to chaotic brecciated silicious mudstone from 188.50-188.70m. Local patches of brecciation with wispy fabric-like matrix over interval 189.00-196.50m. Grey silica vein from 194.25-194.50cm. Chaotic breccia from 209.00-209.30m. Veins are dominantly of calcite. Larger veins brecciate the host rock. Some silica and chlorite veinlets. 3% pyrite in fractures and in disseminations. Trace arsenopyrite. Arsenopyrite in small grey silica vein.
223.20	**233.55**	**Altered Mafic Intrusive and Silicious Zones:** Transitional or fault zone of altered mafic medium grained intrusive with silicious areas and large numerous large quartz veins. Many areas of rubble. Most of unit is brecciated with large sections of chaotic breccia. Some fabric in matrix of breccias. Crackle brecciated quartz veins with sulphide stockwork along fractures. Sulphides domainatly in quartz veins and fractures. 4% pyrite and 0.25% chalcopyrite over entire unit.
		223.20 - 227.80m: Medium to dark grey coloured intrusive with several large white to grey quartz veins and brecciated zones. Medium-strong silicification. Weak sericite alteration. Some rubble. Small brecciated areas appear to be foliated with biotite matrix. Quartz veins up to 20cm wide with stockwork of sulphides. Up to 20% sulphides in quartz veins. 6% sulphides overall. 5.5% pyrite, 0.5% chalcopyrite.
		227.80 - 229.10m: Light green coloured brecciated and deformed unit. Strong sericite, clay, and epidote alteration. Some rubble. Moderate chlorite and silica alteration. Patchy black biotie. Distinct bright emerald green coloured mineral in quartz veins, possibly fuchsite(?). Deformed and broken up white quartz veins. 1% pyrite along fractures.
		229.10 - 233.55m: Pinkish-blue coloured sericite altered mafic intrusive with large grey quartz veins and minor greyish-green mudstone. Moderate to strong sericite alteration. Weak to strong silicification. Abundant rubble. Chaotic breccia throughout. Crackle brecciated quartz vein from 229.10-230.05m with strockwork pyrite along fractures. Some white talc fracture fills. 3% pryite along fractures typically in more silica-rich areas.
233.55	**266.00**	**Mudstone, Sandstone, and Quartz Pebble Conglomerate:** Greyish green mudstone interbedded with bluish-grey coarse grained sandstone and quartz pebble conglomerate. Unit is mudstone and sandstone dominated with quartz pebble conglomerate becoming more frequent with depth. Alternating beds and laminea of mud and sand in coarsening upwards sequences. Pebble conglomerate is clast-supported with sub-angular to rounded clasts up to 13mm in diameter. Local talc plus silca veins the brecciate the host rock creating a chaotic breccia up to 20cm. Many areas of rubble. 1.5% pyrite in fractures and in talc plus silica veins.
	EOH	

Target:	Wildrose	Start:	24-Sep-11	Depth	Azm	Dip	11WR017	Logged By: Cory Gunson
East:	374175	Finish:	27-Sep-11	272.0	220.0	-45.0		Hole ID: 11WR017
North:	5437324	Length:	272					S.G. By:
Elevation:	1272			Survey refer to sheet 3				Drilling Co. T Drilling
Section:								Assayed By: Inspectorate Labs
Samp. # 551098 - 551302								Assay Checks By:
								Date Log'd: Sept 27 - 29

From	To	Description
0.00	3.00	**Overburden**
3.00	41.00	**Brecciated and Altered Mafic Intrusive:** Greyish-green colour. Several clasts of medium grained altered mafic intrusive (plagioclase and amphilboles). Difficult to determine if there are more lithologies due to strong brecciation and alteration. Strong clay and chlorite alteration of enitire unit. Patchy, strongly silicified clasts. Weak to moderate sericite alteration from 32.00-41.00m. Fault zone with high amounts of rubble from 3.00-29.00m with multiple small sections of soft, gouge. Several joints with slicken-lines. Very strong, intense brecciation, chaotic and mosaic, in top half of unit. Brecciation gradually decreases with depth. Rock in lower unit is more compitant and contains sections that are unbrecciated. Multiple clusters of small, 2-5mm, hard, dull pinkish-brown, circlular shaped possible pseudomorphs(?). Dominantly talc and chlorite veinlets and fracture fills. Increasing calcite veining with depth. 0.5% blebby pyrite in both matrix and clasts of breccias and also along fractures in more compitant rocks.
41.00	66.65	**Andesite:** Mafic volcanic flow with porphyritic texture. Highly variable compostion of phenocrysts, phenocryst to groundmass ratio, and crystal size and shape over entire flow. Phenocrysts are of white to translucent with a greenish hue plagioclase, black hornblende and/or pyroxenes(?). Large phenocrysts, up to 4mm, are rare. Alteration is also variable. Dark grey colour in moderately silicified areas. Grey coloured in areas of slightly green altered plagioclase. Light grey areas of moderate clay alteration. Moderate calcite alteration. Moderate magnetism. Magnetism becomes weaker as rock colour becomes lighter. Numerous calcite veins and fracture fills. Crackle brecciated silicious mudstone from 62.50-63.10m. Chaotic breccia with clay altered gouge material as matrix and large clasts up to 4cm wide from 63.10-64.45m. No visible sulphides in unit.
66.65	101.20	**Altered Mafic Intrusive:** Fine to medium grained strongly altered mafic intrusive with minor mudstone, silicious veins, and possible basalt. Alteration is highly variable throughout unit. Altered by clay, chlorite, sericite, and silica. Difficult to determine lithologies due to strong alteration and deformation. Highly brecciated intervals. Veins are dominantly of calcite. Larger veins brecciate the host rock. Average of 3% pyrite in silica veins, fractures, and disseminations.
		66.65 - 68.80m: Silicious Zone: Fine grained mafic intrusive or basalt altered by dirty/muddy grey silica veins. Alteration from silica veins has a distorted light brown muddy-look. Strong silicification. Weak to moderate sericite alteration. Moderate clay alteration of plagioclase where larger crystals are visible. Large crackle brecciated silica vein from 67.05-67.50m with stockwork pyrite. Local 15cm of 20% sub-massive pyrite in silica vein. Overall 6% pyrite along fractures.
		68.80 - 71.25m: Basalt(?): Dark grey colour with very vauge porphyritic(?) texture (can see very faint phenocyrsts of plagioclase and mafic minerals in some locations). Deformed or brecciated(?) appearance. Strongly silicified. Weak sericite alteration. 4% blebby pyrite.
		71.25 - 75.55m: Green to greenish-grey colour. Moderate silicification. Weak to moderate sericite alteration. Unknown green alteration? (possibly epidote?). Brecciated with large rounded and deformed clasts floating in a wispy deformed matrix with some fabric. Many clasts of medium grained mafic intrusive. Some silica clasts. 3% disseminated pyrite.
		75.55 - 79.05m: Light pinkish-greyish-green colour. Strong clay and sericite alteration. Weak silicification. Areas of deformation and chaotic breccia. 3% pyrite in blebs, disseminations, and fractures.
		79.05 - 83.10m: Dark grey to green colour. Very fine grained. Highly deformed and brecciated with large clasts of varying lithologies. Strong silcification. Unknown green alteration (epidote)? Weak sericite alteration. 1.5% pyrite dominantly in silica blobs and veins.

		83.10 - 88.80m: Strongly clay, sericite, and chlorite altered medium grained mafic intrusive. Chlorite alteration decreases with depth in interval. Chaotic breccia from 87.75-88.40m. 2% pyrite mostly along fractures and veins.
		88.80 - 96.10m: Dark grey fine to medium grained mafic intrusive with multiple intervals of creamy light pinkish-brown silicified mudstone. Very strongly silicified. Weak sericite alteration of intrusive. Sulpides are higher in intrusive due to disseminations. 3% pyrite overall in disseminations and along fractures.
		96.10 - 101.20m: Strong clay and sericite alteration of fine to medium grained mafic intrusive. Moderate chlorite alteration. Rubble from 100.00-101.20m. 2% pyrite in disseminations and along fractures.
101.20	**106.75**	**Sandstone:** Grey coloured medium-coarse grained sandstone. Grains are somewhat altered/recrystallized(?). Rare crossbedding. Some grey silicious mudstone. Mudstone increase lower in unit. Some brecciation. Abundant rubble. White quartz veins up to 40cm with sulphides along brittle fractures. White talc filling fractures. 1.5% pyrite along fractures.
106.75	**120.10**	**Altered Mafic Intrusive:** Strongly altered medium grained mafic intrusive. Very strong clay alteration. Strong chlorite and sericite alteration. Local patches of weak silicification. Minor biotite phyric altered intrusive. Large zones of rubble from 112.85-120.10m. Soft gouge clay material from 112.10-112.85 and with rubble zones. Highly brecciated and deformed over much of unit. Talc and calcite veinlets and fracture fills. 2.5% pyrite in disseminations and along fractures.
		111.50 - 112.10m and 116.65 - 117.60m: Biotite Phyric Altered Mafic Intrusive: Sections within mafic intrusive unit with abundant irregular patches of biotite or possibly hornblende(?) up to 4mm. Strong chlorite, clay and sericite alteration. 3% disseminated pyrite.
120.10	**126.90**	**Quartz Vein:** White quartz in top half of unit and grey quartz in lower half. Gradual colour change at approximately 124.65m. Most of interval is rubble or broken up. Sulphides are much higher in grey quartz. Stockwork of sulphides along fractures in grey quartz. 1% pyrite in white quartz. 5% pyrite in grey quartz. 3% pyrite overall.
126.90	**147.00**	**Brecciated Mudstone, Altered Mafic Intrusive, and Basalt(?):** Random intervals of brown silicified mudstone, brown to grey fine to medium grained altered mafic intrusive, and dark grey to black possible basalt(?). Entire unit is highly clay and sericite altered. Strong chlorite alteration in intrusive units. Highly variable silicification from none to strong silica alteration. Brecciation throughout most of unit from local crackle breccia to polymictic breccia. Lighter coloured deformed wispy matrix. Abundant rubble throught unit. Multiple 20-30cm sections of fault breccia and gouge. Veins are dominantly calcite with silica, chlorite and biotite veining as well. Some unknown red mineral (not hematite) occurring in vienlets associted with pyrite and biotite. 2% pyrite along veins and fractures. Pyrite has a strong association with the biotite plus chlorite veins.
147.00	**150.70**	**Andesite:** Grey to dark grey mafic volcanic flow with porphyritic texture. Darker areas may have more of a basaltic composition. Variations in flow similar to previous andesite unit. Some rubble sections. Calcite fracture coatings. No visible sulhides.
150.70	**159.45**	**Brecciated Altered Mafic Intrusive, Mudstone, Andesite, and Fault Breccia:** Greenish-grey moderately clay and chlorite altered fine to medium grained mafic intrusive. Greenish-brownish-grey silicious mudstone. Porphyritic greenish-brownish-grey andesite from 156.80-1157.80m. Most of unit is rubble. Soft fault gouge and fault breccia between 151.00-154.00m with approximately half of the interval of core loss. Some grey silica veins up to 12cm. Brecciated between various lithologies. Some small chaotic breccias. White cacite plus silica veinlets and fracture fills. 0.5% pyrite along fractures.
159.45	**177.45**	**Chaotic Breccia:** Green to grey monomictic chaotic breccia with some crackle, mosaic, and polymictic breccia. Difficult to determine lithologies, however most of unit appears to be of the andesite with some silicious zones and minor mudstone and mafic intrusive. Matrix is typically slightly lighter coloured than clasts. Clasts are angular to sub-rounded of various sizes. Strongly silicious breccia from 159.45-162.50m and from 174.40-177.45m. Mixture of dolomite and silica veinlets, fracture fills and in matrix. 1% pyrite in matrix and fractures. Sulphides are strongest in silicious intervals.
177.45	**194.45**	**Transitional Zone from Mudstone to Altered Mafic Intrusive:** Light greenish- to greyish-brown coloured mudstone and fine to medium grained altered mafic intrusive. Intrusive may actually be a volcanic sandstone in areas or likely just highly argillic altered (very clay rich muddy brown apperance). Strong clay alteration. Medium to strong sericite alteration. Areas of moderate silicification. Crackle brecciated with silica filled fractures and multiple silica veins up to 7cm wide in upper part of unit. Random intervals of brecciation with wispy fabric in matrix from 182.00-191.00m. No mudstone after 190.55m. End of unit is all mafic intrusive. Dolomite plus silica veins and fracture fills. Chlorite plus silica fractures fills as well. Sulphides highest in silica veins and silica filled fractures in crackle breccia (up to 20% sub-massive pyrite locally in silica veins). 4% pyrite in veins, fractures, and disseminations.

194.45	200.35	**Feldspar Porphyry Volcanic Flow:** Grey groundmass with high percentage of with white plagioclase phenocrysts up to 4mm in length. Some biotite and chlorite. Silicious groundmass. Flow banding (crude alignment of phenocrysts). Calcite and chlorite veining. 5% very fine grained disseminated pyrite.
200.35	212.40	**Altered Mafic Intrusive:** Light green to greenish-grey colour. Strong clay, chlorite, and sericite alteration. Very intense clay alteration, soft core and gouge, from 209.10-211.10m. Locallized brecciated sections. Calcite veining. Some silica veins. 3% pyrite in disseminations and along fractures.
212.40	226.50	**Brecciated Altered Mafic Intrusive:** Brecciated and highly deformed and altered fine to medium grained mafic intrusive with some mudstone. Light greenish-grey to greenish-greyish brown coloured. Messy mudstone (difficult to distinguish lithologies in areas) in upper half of unit. Wispy deformation giving a fabric to the rocks in the upper half of unit up to 220.00m. Brecciated throughout unit. Local small areas of chaotic breccia. Strong clay, chlorite, and sericite alteration. Weak to moderate silicification. Patches of biotite and chlorite. Calcite and chlorite veining. 4% pyrite disseminations and along fractures. Possible arsenopyrite(?).
226.50	272.00	**Mudstone, Sandstone, and Quartz Pebble Conglomerate:** Deformed interbeds of brownish-green mudstone and bluish-grey medium to coarse grained sandstone with larger beds of bluish-grey clast-supported quartz pebble conglomerate. Sub-angular to rounded clasts up to 14mm in diameter in conglomerate. Conglomerate becomes more frequent with depth and is the dominant lithology from 255.10-272.00m. Unit contains some large intervals of andesite. Some rubble. White calcite and peachy-white dolomite veins and fracture fills. 1% pyrite along fractures.
		230.35 - 232.85m: Andesite: Dark greenish-grey colour. Porphyritic texture. Slight variations of phenocrysts in flow. Trace pyrite.
		249.50 - 255.10m: Andesite: Similar to previous andesite except phenocrysts are much larger up to 0.5cm. Plagioclase phenocrysts are soft and slightly green altered. No visible sulphides.
	EOH	

Target:	Wildrose	Start:	27-Sep-11	Depth	Azm	Dip		Logged By: Cory Gunson
East:	374226	Finish:	29-Sep-11	207.0	220.0	-45.0		Hole ID: 11WR018
North:	5437272	Length:	207m					S.G. By:
Elevation:	1270m			Survey refer to sheet 3			11WR018	Drilling Co. T Drilling
Section:								Assayed By: Inspectorate Labs
Samp. # 551303 - 551468								Assay Checks By:
								Date Log'd: Sept 30 - Oct 1

From	To	Description
0.00	3.00	**Overburden**
3.00	87.55	**Brecciated Altered Mafic Intrusive:** Dark greenish-grey to light greyish-green coloured fine to medium grained altered mafic intrusive. Numerous short creamy light-medium brown silicious mudstone intervals. Most of unit is highly deformed and brecciated. Brecciation has a vauge appearance with a lighter coloured, fluid altered, deformed, wispy matrix. Weak chlorite and sericite alteration. Strongly silicified. Clear, grey slica viens and blobs(possibly clasts of broken up veins?). Several local areas of weakly developed crackle breccia with silica filled fractures typically in mudstone. Veins are dominantly calcite and silica. 2% pyrite in veins and fractures. Majority of sulphides are strongly associated to silica veins and clasts. Some disseminations in unbrecciated sections.
		78.15 - 87.55m: Unbrecciated meduim grained altered mafic intrusive. Some areas of moderate clay alteration. 2% disseminated pyrite and along fractures.
87.55	110.15	**Andesite:** Grey to light grey intermediate-mafic volcanic flow. Porphyritic texture. High percentage of small phenocyrsts typically <2mm. Relatively massive. May be slight variations in phenocyrsts thoughout unit. Plagioclase phenocyrsts altered to a soft and faintly green coloured mineral (saussuritization?). Clay alteration increasing with depth. Moderate magnetism in darker less altered areas. Calcite veining. Soft gouge and fault breccia from 109.10-110.5m. 40cm of lost core due to wash out in fault gouge and breccia. No sulphides in unit with the exception of 0.25% pyrite in the gouge and breccia with chlorite and silica.
110.15	113.90	**Quartz Vein:** Massive grey quartz. Sulphides and biotite along stockwork of brittle fractures. 4% pyrite.
113.90	140.00	**Altered Mafic Intrusive:** Fine to medium grained light greyish-brownish-green to dark greenish-grey coloured altered mafic intrusive. Some mudstone and larger quartz veins. Several small and large intervals of brecciation throughout unit with a deformed, lighter coloured, fluid altered, wispy matrix. Alteration gives a muddy-look in many areas. Highly variable alteration. Weak to strong chlorite, sericite, and clay alteration. Moderate to strong silicification over majority of unit. Minor areas of rubble. Grey quartz veins up to 30cm. Calcite veinlets and veins up to 2cm. 1.5% pyrite along fractures and some disseminations.
		113.90 - 118.40m: Highly brecciated zone with multiple large grey quartz veins. Clasts floating in wispy, muddy, deformed matrix. Angular to rounded clasts of variable sizes up to 8cm. Many clasts of quartz vein. Stockwork pyrite along fractures of quartz. Large quartz vein from 117.00-118.40m. 3% pyrite along fractures.
140.00	155.55	**Sandstone and Mudstone:** Grey to greyish-brown fine to medium grained sandstone with lesser greyish-brown mudstone. Some immature volcanic sandstone with moderate amounts of plagioclase grains. Moderate to strong silicification. Very minor sericite and chlorite altered medium grained mafic intrusive. Some rubble. Crackle to mosaic breccia thoughout much of unit. Fractures are filled with biotite altering to chlorite, sulphides, and some silica. Several grey quartz veins up to 16cm. Some calcite veinlets and fractrue coatings. 4% sulphides dominantly along fractures of crackle and mosaic breccia. Sulphides are pyrite with up to 0.5% chalcopyrite being replaced by pyrite.
155.55	169.50	**Altered Mafic Intrusive:** Fine to medium grained light greyish-brownish-green to dark green altered mafic intrusive with minor light greenish-brown and pinkish-brown silicious mudstone. Moderate chlorite and sericite alteration. Moderate silicification. Some rubble. Much of unit is brecciated with lighter coloured wispy, deformed matrix. Deformed silica veins. Chlorite and silica fracture fills in areas of brecciation. Calcite veinlets. 2.5% pyrite dominantly along veins and fractures, some disseminations. Trace arsenopyrite and chalcopyrite found in veins of silica plus calcite.

169.50	**179.65**	**Brecciated Transitional Unit/Fault Zone:** Fine to medium grained altered mafic intrusive transitions into interbedded greyish-green mudstone and bluish-grey sandstone in a highly deformed breccia. Breccia intensity is strongest in middle of unit with biotite, chlorite, and silica making up matrix with deformed clasts and weak foliation. Foliation is vauge and variable but approximately 60 degrees to core axis. Abundant rubble. Crackle to chaotic breccia in undeformed areas. Strong chlorite, sericite, and clay alteration of mafic intrusive. Weak to moderate silicification of both units. Rough contact between units is at 175.65m. Several slicken line surfaces near bottom of unit on joints between 10-20 degrees to core axis and with two directions of movement. Calcite and talc fracture coatings. 2% pyrite along fractures and in matrix of breccias. 25cm of 6% stockwork pyrite along fractures of mosaic breccia at 171.00m.
179.65	**207.00**	**Mudstone, Sandstone, and Quartz Pebble Conglomerate:** Greyish-green mudstone interbedded with bluish-grey coarse to very coarse sandstone and large beds of quartz pebble conglomerate. Some intervals of feldspar hornblende porphyry intrusive. Alternating laminae and beds of mudstone and sandstone are deformed. Sandstone and conglomerate become more dominant with depth. Clast-supported conglomerate with sub-angular to rounded clasts up to 2.5cm. Abundant rubble. Calcite veining. Talc fracture coatings. Some bladed calcite with white powder-like percipitate coating(possibly adularia?). 1% pyrite along fractures. Pyrite decreases with depth.
		187.75 - 191.00m: Feldspar Hornblende Porphyry Intrusive: Green aphanitic groundmass with white plagioclase and dark green amphibole phenocrysts. Variation over unit in size of phenocrysts (amphiboles are larger in areas, plagioclase in others). Phenocrysts up to 1cm. Rough undulating contacts with occasional clasts of host rock floating in intrusion near contact. No chill margins however. Calcite veinlets. Trace pyrite.
	EOH	

Target:	Wildrose	Start:	29-Sep-11	Depth	Azm	Dip	11WR019	Logged By: Cory Gunson/SM
East:	374129	Finish:	3-Oct-11	317.0	220.0	-45.0		Hole ID: 11WR019
North:	5437641	Length:	317m					S.G. By:
Elevation:	1310			Survey refer to sheet 3				Drilling Co. T Drilling
Section:								Assayed By: Inspectorate Labs
Samp. #								Assay Checks By:
								Date Log'd: Oct 1 - 5

From	To	Description
0.00	**3.00**	**Overburden**
3.00	**50.75**	**Cherty Silicious zones, Silicious Mudstone, and Sandstone:** Alternating large intervals of chert, mudstone, and sandstone. The entire unit is extremely hard and silicified. White to dark massive grey chert covered in chatter marks from the drill. Chert has intrusive like contacts and may actually be silicious veining but contacts may just be a result of deformation. The chert is full of healed brittle fracturing. Light to dark greyish-green silicified massive mudstone. Light pinkish-greenish-grey siltstone and very fine to medium grained sandstone. Rare areas of preserved alternating beds of fine and coarser sands however most of unit is deformed. Mudstone increases and sandstone decreases with depth. Minimal sandstone after approximately 20.30m depth. Several sections of rubble, dominantly in the silicious mudstone intervals. Very weakly developed crackle breccia. Chlorite and silica micro-veinlets filling brittle fracturing. Very rusty fractures until approximately 16m depth. 0.5% pyrite along fractures.
50.75	**145.41**	**Altered Basalt(?):** Greyish-green to black altered basalt. Entire unit is strongly silicified. Other alteration is variable across unit (chlorite, epidote, sericite, and clay alteration). Large zones of highly altered, somewhat bleached basalt. Patchy moderate magnetism in areas of least alteration. Zone of porphyritic basalt(?) with large plagioclase phenocrysts in a black groundmass. Minor porphyritic mafic intrusive with smaller plagioclase phenocrysts. Minor altered mafic intrusive. A couple large grey silica veins. Some rubble. Some brecciation. Possible auto-brecciation displayed by lighter wispy fliud alteration around clasts. Veining is dominantly calcite with some silica, chlorite, talc, and epidote veins as well. Sulphides increase with depth. Overall average of 3% pyrite in disseminations and along veins and fractures.
		50.75 - 77.70m: Light to medium greyish-green highly altered basalt. Minor black colour in areas of less alteration. Fluids have bleached the colour of the rock shown by alteration halos around fractures. Very strongly silicification. Moderate chlorite alteration. Wavy/wispy deformed texture of lighter coloured alteration, giving a brecciated appearance in some areas. Some altered mafic intrusive from 57.80-63.15m. Porphyritic textured altered mafic intrusive from 68.00-73.00m. Large grey silica veins at 59.90-61.15m and 68.70-70.15m. Some zones of rubble. Abundant calcite veinlets. Patchy magnetism in least altered sections. 2% pyrite overall, in
		57.80 - 63.15m: Altered Mafic Intrusive: Light greyish-green fine-medium grained mafic intrusive with some white quartz and grey silica veining. Srongly silicified. Moderate chlorite alteration. Local weak sericite alteration. Abundant rubble. Locally brecciated. White quartz veins up to 15cm in small areas between 58.80-59.15m. Large grey silica vein from 59.90-61.15m. Rusty along fractures. Calcite veinlets. Non-magnetic. 0.5% pyrite. Majority of pryite is in the quartz and silica veins along brittle fractures.
		68.00 - 73.00m: Porphyritic Altered Mafic Intrusive: Greyish-green porphyritic to nearly granular textured altered mafic intrusive. Different unit than usual mafic intrusive. Small <3mm plagioclase phenocrysts in a chlorite-rich groundmass. Some zoned plagioclase phenocrysts. Strong silicification. Strong chlorite alteration. Large silica vein from 68.70-17.15m. Non-magnetic. 4% disseminated pyrite. Trace chalcopyrite along a silica plus calcite veinlet.
		59.90 - 61.15m and 68.70 - 70.15m: Silica Veins: Grey silica/quartz veins. Pyrite along brittle fractures with minor disseminations. 1% pyrite in vein from 59.90-61.15m. 2.5% pyrite in vein from 68.70-70.15m.
		77.70 - 88.20m: Porphyritic Basalt or Mafic Intrusive(?): Dark greyish-green to black colour. Dark aphanitic groundmass with large, up to 12mm, plagioclase phenocrysts. Strong silicification. Moderate chlorite alteration. Faint green and pink alteration of plagioclase phenocrysts. Cross-cut by small dykes of a darker version of previous porphyritic mafic intrusive. Calcite veining with some chlorite, epidote, and hematite along veins. Patchy moderate magnetism. 3% pyrite along fractures and in disseminations.
		88.20 - 94.40m: Brecciated Altered Basalt(?): Greyish-green colour brecciated altered basalt and/or possible altered mafic intrusive(?). Strong chlorite alteration. Weak to strong clay alteration. Local weak sericite alteration. Weak to moderate silicification. Some of the larger clasts appear to be of the mafic intrusive. Several locallized areas of crackle to mosaic breccia. Rubble from 88.75-90.55m with fault breccia and gouge. Silica, talc, chlorite, and calcite fracture fills. 1% pyrite along fractures and in blebs associated with chlorite and silica.

		94.40 - 145.41m: Greyish-green to black coloured altered basalt. Fine grained. Areas that are slighlty coarser, possibly due to metamorphism(?). Variable alteration intensity. Strong silicification. Weak to strong chlorite alteration. Local weak epidote and sericite alteration. Very small alteration halos around fractures and veins. Some faint auto-brecciation(?). Veining is dominantly calcite with some chlorite, silica, and epidote. Large calcite veins brecciate the host rock. Patchy weak to moderate magnetism. 4% pyrite along veins and fractures and in disseminations.
145.41	**182.19**	**Mudstone:** fine grained. Medium grey-green. Moderately to strongly foliated. Foliation at varying angles, 5-90^{o} TCA, finely bedded, folded and chaotic foliation (soft sediment deformation??). Silicified with intense patchy silicification. Chlorite alteration throughout. some bleaching and clay alteration mostly overprinted by silicification. patchy tan-yellowish Fe-carbonate (?) alteration, also mostly overprinted. sulfide mineralization is mostly pyrite (2%) with minor pyrrhotite (0.25%), as blebs, disseminated, and <1 to 1.5mm stringers. trace sphalerite seen in a couple of carbonate veins. occasional late carbonate +/- quartz veining throuhgout. a couple of rubbley faults also noted. lower contact brecciated and irregular, ~60^{o} TCA.
		156.79-156.93m mafic dyke: black, fine grained, sharp contacts
		157.20m 1cm carbonate vein with coarse sphalerite, ~50^{o} TCA
		158.00-159.32m fault: broken, clay and crushed rock gouge
		161.85-161.95m feldspar porphyry dyke
		167.97-178.84m intensely silicified and quartz veined, grey quartz with fine brittle fractures, tan-yellow Fe
		178.75-178.84m fault: healed, brecciated contacts, ~55^{o} TCA
182.19	**185.27**	**Diorite:** altered. 1-3mm biotite (30%) and feldspar (70%) phenocrysts. Minor quartz looks to be replacing feldspar and not primary. Fine grained matrix is sericite and chlorite altered. Yellowish mineral seen as distinct grains and alteration rims. Bleached and soft in middle of interval. blebby pyrite (1.5%) and minor pyrrhotite (0.2%) throughout, occasional pyrite stringers to 2mm. occasional 1-3mm carbonate veining seen. lower contact irregular and somewhat indistinct, ~35^{o} TCA.
185.27	**240.09**	**Mudstone:** similar to previous (145.41-182.19m). Medium grey-green. Fine grained. Massive to strongly foliated. Foliation variable, folded and somewhat chaotic. Silicified throughout, with patches of strong alteration, overprinting chlorite and clay alteration. minor patchy tan-yellow Fe-carbonate (?) alteration. blebs and stringers of pyrite (2%) throughout, trace to minor pyrrhotite (0.1%) seen. cut by a couple of mafic and porphyritic dykes. minor patchy carbonate +/-quartz veining seen. a couple of fault zones encountered, with minor gouge. lower contact sharp, ~50^{o} TCA.
		193.70-194.34m fault: minor clay gouge, angular to subround clasts
		202.92-204.0m patchy tan carbonate alteration and silicification
		205.68-206.75m mafic dyke: black, fine grained, massive
		213.25-213.97m fault: subround clasts, no gouge
		215.26-220.18m strongly foliated, patchy Fe-carbonate alteration, strong silicification
		220.18-220.70m feldspar porphyry dyke: grey-green, 0.5-1.5mm feldspar and mafic phenocrysts, chlorite alteration of matrix, contacts sharp, 20-30^{o} TCA
		227.82-228.09m 3cm wide fault, clay and crushed rock gouge, ~10^{o} TCA
		232.47-233.36m fault: clay and crished rock gouge
240.09	**247.55**	**Basalt:** fine grained. Dark grey-green. Massive to weakly foliated. Foliation 60-75^{o} TCA. Patchy disseminated and blebby pyrite (1%) and minor pyrrhotite (0.1%). Rare pyrite stringers. Moderate to strong pervasive chlorite alteration. A couple of breccia zones seen that are strongly chlorite and clay altered with soft friable sections, and also possible tan-yellow Fe-carbonate alteration. weak late carbonate veining, 1-3mm, throughout. a couple of subround basalt/mudstone xenoliths, 2-3cm, seen near lower contact. lower contact is irregular and somewhat indistinct.
247.55	**270.94**	**Mudstone:** medium grey-green. Fine grained. Finely bedded. Moderately to strongly foliated. Foliation wavy and folded, angle variable, 5-90o TCA. Chlorite alteration throughout. Patchy tan Fe-carbonate (?) alteration and silicification, strong in places and overprinting other alteration. sulfide mineralization patchy with with blebby and disseminated pyrite (1.5%) and trace to minor pyrrhotite. occasional pyrite rich stringers seen. a couple of faults seen, including a sizeable fault zone with significant core loss near the bottom of the unit. carbonate veining throughout, strongest over lower ~2m of interval. lower contact sharp, ~45^{o} TCA.
		250.95-259.35m strong silicification, tan-yellow alteration (Fe-carbonate??)
		258.72-258.79m fault: clay and crushed rock gouge, ~60^{o} TCA
		263.18-269.13m fault zone: several faults, subround to angular clasts, clay and crushed rock gouge, core loss
270.94	**279.62**	**Feldspar Porphyry:** light grey, medium grained. Massive. Crowed porphyry texture. 2-4mm feldspar phenocrysts in a fine grained matrix containing feldspar, mafics and quartz. The quartz may or may not be primary. Sericite alteration of feldspars in matrix and phenocrysts. chlorite alteration of mafics. a couple of short silicified zones seen. trace disseminated pyrite (0.5%) seen. the only significant sulfides are in mudstone xenoliths in upper half of interval. a couple of fine pyrite stringers also seen. lower contact sharp, ~50^{o} TCA.

		272.65m 2cm tan carbonate(?)/quartz vein, small country rock xenoliths, ~10^{o} TCA
		278.46-278.55m fault: clay gouge, ~90^{o} TCA
279.62	**313.26**	**Basalt:** fine grained. Medium to dark grey-green. Massive to weakly foliated. Moderate to strong pervasive chlorite alteration. Patchy moderate to strong silicification, and minor patchy tan-yellow (Fe-carbonate?) alteration, associated with silicification. several 30-50cm grey quartz veins, most well mineralized with blebs and stringers of pyrite, seen. sulfide mineralization is somewhat patchy with disseminated, blebby, and occasional stringers of pyrite (2%). a couple of faults seen. cut by a mafic dyke near middle of unit. carbonate +/- quartz veining throughout. lower contact sharp. wavy, ~50^{o} TCA.
		281.26-281.77m quartz vein: grey, fine grained, pyrite (2-3%) disseminated and as fracture fill
		284.17-284.43m quartz vein: grey, fine grained, 5-7% pyrite blebs and stringers
		290.69-291.66m fault: minor crushed rock and clay gouge
		291.66-298.31m strongly silicified, patchy tan-yellow (Fe-carbonate??) alteration, 2-3% pyrite
		291.66-296.00m 3-5% pyrite, blebby and stringers
		298.63-299.43m mafic dyke: black, porphyritic, with 1-5mm olivine phenocrysts throughout in a very fine grained matrix, 1-3cm grey alteration at margins, cut by 1-3mm carbonate veining
		299.43-301.74m 5-7% pyrite, disseminated, blebs, and stringers
		308.51m 6cm fault: clay gouge, ~80^{o} TCA
		309.06-309.36m fault: broken, minor clay gouge, ~40^{o} TCA
313.26	**317.00**	**Feldspar Porphyry:** medium grey green. Two generations of feldspar phenocrysts: angular 1-2mm laths, and a larger (2-5mm) zoned, and somewhat resorbed looking population. Occasional 2-4mm biotites, most partially pyrite altered. Matrix fine grained and chlorite altered. weak to moderate sericite alteration of feldspars. patchy weak silicification. minor fine disseminated pyrite (0.25%) throughout.carbonate +/-quartz veining throughout. small fault seen near top of interval.
		313.45-313.78m fault: minor clay and crushed rock gouge
		317.00m EOH

PROJECT: WildRose

HOLE NO: 11WR-20 **REF TO CLAIM#:** ______

CASING COLLAR ELEV: ____ **GROUND ELEVATION:** ______________ **DATUM:** NAD83 Z11 **DATE STARTED:** 7-Oct-11

COORDINATES: **NORTHING:** __5438494____________ **EASTING:** __373902__________ **DATE COMPLETED:** 8-Oct-11 **LOGGED BY: SM**

INCLINATION: _-45___ **AZ.** _220___ **CASING:** ___3_______ **HQ** ___________ **NQ** __251_____ **TOTAL DEPTH:** 251

NOTES:

FROM (m)	TO (m)	LITHOLOGY	ALTERATION: K	SER	SIL	ARG	CHL	Carbonates	SIZE (mm) & %: Qtz Phenocrysts	Feldspar Pheocrysts	Mafic Phenocrysts	MINERALIZATION EST. %: Pyrite	Pyrrhotite	Magnetite	Chalcopyrite		DESCRIPTIVE GEOLOGY
0.00	3.00	CSG															**Casing**
3.00	251.00	BST			w		w-m					1			trace		**Basalt:** fine grained. Medium to dark green. Massive to weakly foliated, ~50-60 ^{o} TCA, somewhat wavy in places. Pervasive weak to moderate chlorite alteration. Patchy epidote seen throughout. Minor weak patchy silicification. Patchy interstitial earthy red hematite. limonite staining along fractures over upper ~10m, minor fracture controlled hematite to ~50m. sulfide mineralization is weak throughout with trace disseminated pyrite and mnor pyrite and trace to minor chalcopyrite seen in quartz/carbonate veining and as fracture fill. quartz +/- carbonate and carbonate veining throughout. a couple of short breccia zones seen. a couple of small faults noted. tan mineral seen in patches throughout, as distinct grqains and alteration rims, more prominant at bottom of hole. some grain size and textual variations seen throughout (flow banding, crystal settling??).
																	22.28m 8cm quaqrtz/carbonate vein with ~5% coarse chalcopyrite, ~60 ^{o} TCA
																	50.73m 1.5cm quartz/carbonate vein with minor coarse chalcopyrite, ~40 ^{o} TCA

																	79.71-80.00m fault: crushed rock and clay gouge, 3cm grey quartz vein at upper margin
																	82.45m 0.5-1.5cm quartz/carbonate vein with coarse pyrite, ~30^{o} TCA
																	82.81-83.00m grey quartz vein, brecciated margins, subangular xenoliths to 2cm, ~60^{o} TCA
																	95.80-95.95m carbonate vein breccia
																	119.50-136.50m patchy interstitial red hematite
																	120.23-120.28m fault: clay gouge, ~50^{o} TCA
																	135.06-136.07m breccia: carbonate infill at top, clay over rest of interval, possible healed fault
																	138.68m 8cm carbonate/epidote vein, rounded country rock xenoliths, ~60^{o} TCA
																	140.25m 1.5-2cm quartz/carbonate vein with minor coarse chalcopyrite, ~20^{o} TCA
																	181.72-182.00m carbonate vein breccia
																	198.52-198.92m patchy hematite and epidote
																	203.55-204.46m patchy epidote/Fe-carbonate (?) alteration, fracture controlled hematite
					m		w-m										222.80-227.35m pervasive moderate hematite, overprinted by moderate silicification
																	228.17-228.28m fault: clay and crushed rock gouge, ~60^{o} TCA
												2			trace		229.61-231.51m strongly silicified, 3-5% pyrite disseminated blebs and fine stringers, trace chalcopyrite
																	231.51-251.00m weak pervasive silicification with moderate to strong sections
																	251.00m EOH

PROJECT: Wildrose

HOLE NO: 11WR-21 **REF TO CLAIM#:** ____

CASING COLLAR ELEV: __ **GROUND ELEVATION:** __1147____ **DATUM:** NAD83 Z11 **DATE STARTED:** 9-Oct-11

COORDINATES: **NORTHING:** __5438520______ **EASTING:** ___374173_____ **DATE COMPLETED:** 11-Oct-11 **LOGGED BY: SM**

INCLINATION: _-45__ **AZ.** __220__ **CASING:** __3m_____ **HQ** __________ **NQ** __299_____ **TOTAL DEPTH:** 299m

NOTES:

FROM (m)	TO (m)	LITHOLOGY	ALTERATION: K	SER	SIL	ARG	CHL	Carbonates	SIZE (mm) & %: Qtz Phenocrysts	Feldspar Phenocrysts	Mafic Phenocrysts	MINERALIZATION EST. %: Pyrite	Pyrrhotite	Magnetite	Chalcopyrite		DESCRIPTIVE GEOLOGY
0.00	4.80	OVB															**Overburden/Casing:** casing to 3m through bouldery overburden
4.80	128.22	BST		w	w-m		m-s					1.5		trace	trace		**Basalt:** medium to dark green. Fine to medium grained. Massive to weakly foliated. Foliation appears to be 50-60^o TCA. Grain size and minor textural variations throughout (flow banding, crystal settling, different flows). Occasional short breccia zones. sulfide mineralization is somewhat patchy, consisting of blebs stringers and disseminated pyrite (1-2% overall, to 5% locally), with trace chalcopyrite. moderate pervasive chlorite alteration, with strong intervals. patchy silicification, and epidote and hematite alteration. minor weak to very weak sericite alteration seen. Fe staining seen on fractures over upper ~30m., less frequent with depth. patchy occurence of tan mineral as alteration rims and discrete grains. occasional small faults seen. quartz +/- carbonate and carbonate veining throughout, weak to moderate. lower contact sharp, ~15^o TCA.
												4					15.50-16.00m blebby pyrite (3-5%), blebby magnetite partially altered to hematite
												1.5		trace	trace		24.30-24.76m breccia: epidote matrix, subangular clasts, coarse blebby pyrite a base of unit
																	32.07m fault: 3.5cm clay seam, carbonate rich, ~80^o TCA
												2.5		trace	trace		38.30-39.25m moderately to strongly silicified, 2-3% blebby pyrite
												1.5		trace	trace		42.25-44.20m fault: minor clay and crushed rock gouge, broken core, Fe staining on fracture surfaces
																	47.79m 3-5cm pinkish carbonate vein with coarse pyrite, ~35^o TCA
																	58.10-58.78m fault: minor crushed rock and clay gouge
																	87.02-87.33m quartz veining with very coarse pyrite (~25%), minor blebby chalcopyrite in top vein

																	91.69-92.23m fault: clay and crushed rock gouge, broken core, hematite on fractures
																	103.45-109.20m fault zone: three 50-100cm faults, crushed rock and clay gouge, some core loss
																	118.04m fault: 5cm carbonate rich clay gouge, ~60^{o} TCA
																	119.85-120.68m fault: broken core, crushed rock and carbonate rich clay gouge
128.22	135.00	INT		w-m	w					60% 0.5-1	40% 0.5-2			1			**Mafic Intrusive:** dark grey to black. Massive. Very fine grained matrix with 0.5-2mm feldspar and mafic (biotite, amphibole) phenocrysts. Weak sericite alteration and silicification. No visible sulfides. Weakly magnetic. Greyish clay alteration at margins. weak late carbonate veining (1-3mm) throughout. lower contact sharp, ~35^{o} TCA.
135.00	164.85	BST		w	w2		m-s					1			trace		**Basalt:** similar to previous (4.80-128.22m). Medium grey-green. Fine to medium grained. Massive. Some variation in grain size. Moderate pervasive chlorite alteration. Weak sericite alteration seen. significant epidote throughout, patchy, as cement in breccia zones, as fracture fill. minor patcchy hematite. patchy tan alteration mineral as rims and discrete grains. pyrite as stringers and trace disseminated. trace chalcopyrite. occasional 15-20cm breccia zones with epidote and occasionally carbonate cement. weak carbonate veining throughout. lower contact sharp, ~50^{o} TCA.
																	155.46-155.97m fault: minor clay and crushed rock gouge
																	160.35-164.52m patchy hematite
164.85	192.48	SYN		w-m			w-m	w		65% 2-5	35% 2-5			0.5			**Syenite:** reddish brown to dark green. Massive. Fine grained matrix with 2-5mm feldspar, amphibole, and minor biotite phenocrysts. Feldspar phenocrysts are weakly sericite altered. Mafic phenocrysts show patchy chlorite and carbonate alteration. Matrix shows zones of sericite, chlorite, and carbonate alteration. no visible sulfides. weakly magnetic, minor very fine magnetite in matrix. 1-3mm carbonate veining throughout. lower contact sharp, ~70^{o} TCA.
192.48	196.90	BST					m-s					0.5		0.1	trace		**Basalt:** dark grey-green. Fine grained. Massive. Moderate to strong chlorite alteration. Minor patchy hematite. Weak sulfide mineralization with trace disseminated pyrite, most pyrite in fine stringers. Trace chalcopyrite in stringers. Moderate to strong fine black chlorite, hematite and magnetite veining throughout. lower contact sharp ~40^{o} TCA.
																	195.52m blebby chalcopyrite, 2cm X 0.5cm
196.90	221.70	SYN		w			w	w		85% 2-5	15% 1-3			0.5			**Syenite:** reddish brown to green brown. Massive. Fine grained matrix with feldspar and lesser amphibole phenocrysts. Feldspars sericite altered. Carbonate and minor chlorite alteration of mafics. No visible sulfides. Weakly magnetic, fine magnetite in matrix. weak fine carbonate veining throughout. lower contqact obscured by broken core.
221.70	238.18	BST			w		m-s					0.1					**Basalt:** medium to dark green. Fine grained. Strongly foliated, somewhat wavy in places, 35-50^{o} TCA. Moderate to strong pervasive chlorite alteration. Minor patchy hematite and epidote. Patchy silicification in lower part of interval. Trace to minor disseminated pyrite (0.5%). quartz/carbonate and carbonate veining throughout. quartz/carbonate veining usually along foliation, carbonate veining mostly cuts foliation. lower contact sharp ~55^{o} TCA.
																	224.96-225.54m hematite, interstitial and fine stringers
238.18	258.17	BST					m-s	w				1					**Basalt:** medium to dark grey-green. Fine grained. Massive. Moderate to strong pervasive chlorite alteration. Patchy epidote and weak hematite. Weak carbonate alteration over lower half of unit. Pyrite seen mostly as fine stringers, and trace disseminated. late carbonate and rare quartz/carbonate veining throughout. lower contaqct sharp, ~60^{o} TCA.
258.17	268.29	QTZ										1-1.5			trace		**Quartz Vein:** light grey. Fine grained. Massive. A couple of 30-70cm basalt intervals/xenoliths. Tan-yellow alteration seen at contacts of basalt

																	xenoliths. Some chlorite and epidote seen within quartz vein. Fine pyrite stringers throughout, minor fine disseminated pyrite. trace chalcopyrite. fine fractures throughout filled with chlorite, carbonate, pyrite, minor epidote and hematite. cut by occasional 1-5mm later carbonate and rare quartz veins. lower contact sharp, ~60^{o} TCA.
268.29	274.00	BST			w-m		m-s					1.5			trace		**Basalt:** medium grey-green. Fine grained. Massive. Moderate to strong pervasive chlorite alteration. Patchy carbonate alteration. A couple of strongly silicified/quartz vein zones to ~50cm. Sulfide mineralization patchy (to 5% pyrite locally), disseminated and as stringers. trace chalcopyrite and hematite also seen in stringers. patchy occurrence of tan alteration mineral (discrete grains and alteration rims). moderate to weak carbonate veining throughout, decreasing strength with depth. lower contact sharp but irregular, ~60^{o} TCA.
274.00	276.44	QTZ										0.5			trace		**Quartz Vein:** light grey. Fine grained. Massive. Minor chlorite and epidote within quartz vein. Minor blebby, disseminated, and stringers of pyrite, and trace blebby chalcopyrite. Somewhat vuggy over lower ~75cm. Lower contact wavy and irregular but sharp, marked by blebby pyrite and hematite.
276.44	279.77	BST			m		m-s					0.8			trace		**Basalt:** medium grey-green. Fine grained. Massive. Moderate to strong pervasive chlorite alteration. Epidote in upper half of unit. One silicified interval near lower contact. Minor pyrite disseminated, as blebs, and stringers. Trace chalcopyrite in stringers. weak fine carbonate veining throughout. lower contact wavy but sharp, ~15^{o} TCA.
279.77	284.04	BST			s		m-s					trace					**Silicifed Basalt:** light green. Fine grained. Massive. Moderate to strong pervasive chlorite alteration overprinted by strong silicification. Trace fine disseminated pyrite, except at lower contact with 2% blebby pyrite over lower ~15cm. A couple of 2-3cm quartz veins at top of interval. rare fine carbonate veining throughout. lower contact sharp but irregular, ~15^{o} TCA.
284.04	299.00	BST			w		m-s					1					**Basalt:** medium to drk grey-green. Fine grained. Massive to weakly foliated, ~70o TCA. Pervasive moderate to strong chlorite alteration throughout. Weak to moderate patchy silicification and minor weak patchy epidote seen. patchy pyrite mineralization, blebs, stringers, and disseminated (1% overall, to 3% locally), strongest mineralization over upper 3-4m. weak carbonate veining throughout.
																	286.38-287.40m strong silicification, ~3% blebby pyrite
																	296.00-297.26m 2-3cm felsic dyke, quartz/feldspar/biotite, pink grey, ~5^{o} TCA
																	299.00m EOH

PROJECT: Wildrose

HOLE NO: 11WR-22 | **REF TO CLAIM#:** ______

CASING COLLAR ELEV: ____ **GROUND ELEVATION:** _1154________ **DATUM:** NAD83 Z11 **DATE STARTED:** 11-Oct-11

COORDINATES: **NORTHING:** __5438449______ **EASTING:** _374264____ **DATE COMPLETED:** 12-Oct-11 **LOGGED BY: SM**

INCLINATION: __-45_ **AZ.** _220___ **CASING:** _3m_______ **HQ** ___________ **NQ** ___137_____ **TOTAL DEPTH:** 137

NOTES:

FROM (m)	TO (m)	LITHOLOGY	ALTERATION: K	SER	SIL	ARG	CHL	Carbonates	SIZE (mm) & %: Qtz Phenocrysts	Feldspar Pheocrysts	Mafic Phenocrysts	MINERALIZATION EST. %: Pyrite	Pyrrhotite	Magnetite	Chalcopyrite		DESCRIPTIVE GEOLOGY
0.00	5.05	OVB															**Overburden/Casing:** casing to 3m through broken bouldery overburden
5.05	79.88	BST					m-s	w				0.75		trace	trace		**Basalt:** medium to dark grey-green. Fine to medium grained. Massive. Some variation in grain size is seen, ans is generally gradational (flow banding?, crystal settling?). Pervasive moderate to strong chlorite alteration. Patchy epidote throughout. Weak patchy interstitial hematite, also seen along fracturesw and with carbonate veining. weak patchy carbonate alteration. sulfide mineralization is generally weak, with most pyrite in fine stringers with trace disseminated. trace chalcopyrite seen in stringers. weak quartz +/- carbonate and carbonate veining throughout. lower contact sharp, ~50 ^{o} TCA.
																	13.58-14.93m mafic dyke: dark green-grey, 0.5-1mm feldspar and mafic phenocrysts in very fine grained matrix, massive, moderately magnetic, no visible sulfides, upper contact sharp ~45 ^{o} CA, lower contact obscured
																	30.68m 1cm quartz/pyrite stringer, ~50 ^{o} TCA
																	46.25-50.50m patchy hematite and minor magnetite, weakly magnetic patches
																	50.90m 1-1.5cm quartz/carbonate/pyrite vein, ~15 ^{o} TCA
																	56.50-56.61m vuggy grey quartz vein, carbonate infilling fractures, blebby pyrite and chalcopyrite with

																	carbonate, ~30^{o} TCA
79.88	88.56	SYN		w-m				w		40% 1-4	60% 1-4			trace			**Syenite:** brown-green at margins, red-brown in middle of unit. Massive. Fine grained matrix is feldspar rich with minor mafics. Feldspar and amphibole phenocrysts, 1-4mm. Sericite alteration of fledspars, strongest in upper and lower parts of unit. Patchy carbonate aleration of feldspar and mafoce phenocrysts. no visible sulfides. weakly magnetic. weak carbonate +/- quartz veining throughout. lower contact is sharp but wavy and irregular,~35$^{o.}$
																	82.90-83.00m cabronate/quartz vein, ~35^{o} TCA
88.56	137.00	BST			w		m-s	w				1			trace		**Basalt:** medium to dark grey-green. Fine to medium grained. Massive. Near pervasive moderate to strong chlorite alteration. Patchy epidote. Weak patchy carbonate alteration. Pyrite mineralization as blebs and stringers, somewhat patchy, trace chalcopyrite. fine black chlorite veining. weak carbonate +/- hematite +/- quartz veining throughout. minor silicification near end of hole.
																	97.39m 0.5cm pyrite/quartz vein, ~50^{o} TCA
																	113.56-115.28m weakly brecciated, carbonate epidote and hematite infill
																	133.62m 1cm pyrite/quartz vein, ~55^{o} TCA
																	135.05-136.26m fault: broken core, minor crushed rock and clay gouge
																	137.00m EOH

PROJECT: Wildrose

HOLE NO: 11WR-23

REF TO CLAIM#: ____

CASING COLLAR ELEV: ____ **GROUND ELEVATION:** __1154_______ **DATUM:** NAD83 Z11 **DATE STARTED:** 12-Oct-11

COORDINATES: **NORTHING:** __5438457_______ **EASTING:** ___374257______ **DATE COMPLETED:** 14-Oct-11 **LOGGED BY: SM**

INCLINATION: _-45__ **AZ.** __220__ **CASING:** __3m_______ **HQ** ___________ **NQ** __225.50______ **TOTAL DEPTH:** 225.5

NOTES:

FROM (m)	TO (m)	LITHOLOGY	ALTERATION						SIZE (mm) & %			MINERALIZATION EST. %					DESCRIPTIVE GEOLOGY
			K	SER	SIL	ARG	CHL	Carbonates	Qtz Phenocrysts	Feldspar Pheocrysts	Mafic Phenocrysts	Pyrite	Pyrrhotite	Magnetite	Chalcopyrite		
0.00	3.53	OVB															**Overburden/Casing:** casing to 3m through bouldery overburden
3.53	94.65	BST					m-s	w				0.75		trace	trace		**Basalt:** medium to dark grey-green. Fine to medium grained. Massive. Some graine size variation seen. sulfide mineralization weak and somewhat patchy, with pyrite stringers and minor disseminated and blebby. Trace chalcopyrite in quartz/carbonate veins. moderate to strong pervasive shlorite alteration. patchy epidote and minor hematite/magnetite. broken and blocky over upper ~8m. limonite and hematite staining on fractures in upper ~15m. a couple of breccia zones seen, with carbonate, hematite, and minor epidote cement. weak carbonate +/- quartz veining throughout. weak to very weak patchy magnetism over lower ~30m. lower contact sharp, ~65^{o} TCA.
																	15.01m 0.5-1cm brecciated carbonate vein with blebby pyrite and chalcopyrite, ~45^{o} TCA
																	18.93-20.14m mafic dyke: dark green-grey, massive, 0.5-1mm mafic and occasional feldspar phenocrysts in very fine grained matrix, weakly magnetic, 1-3cm light grey vlay alteration at upper and lower contacts. Contacts sharp ~70-80^{o} TCA
																	32.95-34.04m patchy hematite and minor intermixed magnetite, weak patchy magnetism
																	33.65-33.80m fault: crushed rock and clay gouge
																	34.26m 3cm coarse pyrite/carbonate vein, ~50^{o} TCA

																	38.67-38.80m carbonate/quartz vein breccia, coarse quartz crystals in vugs
																	53.36m 2-2.5cm vuggy quartz/carbonate vein, minor blebby pyrite along vein margins, ~25 ^{o} TCA
																	59.45-60.17m breccia zone: carbonate, chlorite cement with hematite at lower margin, angular clasts
																	68.85m 5cm carbonate vein breccia
																	71.27-71.87m intrusive dyke: strongly altered, equigranular, 1-2mm feldspars with lesser mafics, strong sericite and chlorite alteration, trace fine disseminated pyrite, contacts sharp, upper ~65 ^{o}, lower ~45^{o} TCA
																	73.94m 1.5-2cm carbonate/pyrite/epidote vein, ~35^{o} TCA
																	85.02-85.20m fault: broken core, minor clay gouge
94.65	117.44	SYN					w	w		35% 1-4	65% 1-4			trace			**Syenite:** green-brown to red-brown. Massive. Porphyritic. Amphibole and feldspar phenocrysts 1-4mm, in fine grained feldspar rich matrix. Weak chlorite alteration of mafics. Patchy carbonate alteration of phenocrysts and matrix. No visible sulfides. Weakly magnetic. weak 1-3mm carbonate veining throughout. lower contact sharp, ~50^{o} TCA.
117.44	141.10	BST					m	w				0.75					**Basalt:** medium grey-green. Fine to medium grained. Massive. Some graine size variation, gradational. Moderate pervasive chlorite alteration. Patchy hematite and minor epidote. Weak patchy carbonate alteration over lower ~5m of interval. Weak sulfide mineralization, mostly fine stringers of pyrite with minor to trace disseminated and blebs. a couple of short breccia zones noted. weak carbonate +/- quartz veining throughout. lower contact sharp, ~15^{o} TCA.
																	123.49-123.57m carbonate vein breccia
																	123.92m 2cm quartz/carbonate/fluorite vein, coarse grained purple fluorite, ~30 ^{o} TCA
																	124.13-126.30m patchy interstitial hematite
																	132.39-141.10m patchy hematite alteration
																	139.48-139.91m syenite dyke
141.10	142.98	SYN					w	w		65% 1-4	35% 1-2			trace			**Syenite:** brown-green. Massive. Very fine grained matrix with 1-4mm feldspar and 1-2mm amphibole phenocrysts. Weak carbonate and chlorite alteration. No visible sulfides. Weakly magnetic. 10cm chilled margin at upper contact. 5cm rounded basalt xenolith at top of interval. weak carbonate veining throughout. lower contact sharp, ~35^{o} TCA.
142.98	149.80	BST					m					0.5		trace			**Basalt:** medium to dark grey-green. Fine grained. Massive to strongly foliated. Foliated from ~146m on, ~40-50^{o} TCA, slightly wavy in places. Minor pyrite (<1%) in fine stringers and trace disseminated. Patchy weak magnetism. Moderate to strong chlorite alteration. patchy hematite and epidote. fine chlorite/hematite veining along foliation. weak carbonate veining throughout. ~75cm syenite dyke at lower contact. lower contact sharp, ~45^{o} TCA.
																	149.09-149.80m syenite dyke

149.80	175.76	INT					w	w-m						trace			**Mafic Intrusive:** dark grey. Massive. Porphyritic, with 1-4mm amphibole and pyroxene phenocrysts in very fine grained matrix. No visible sulfides. Weakly magnetic. Patchy carbonate and chlorite alteration of phenocrysts and matrix. Patchy hematite alteration of phenocrysts also seen. a couple of sizable fault zones encountered. weak carbonate qnd minor chlorite veining throughout. lighter grey chilled margins to 20cm wide. lower contact sharp, ~25^o TCA.
																	156.50-166.53m fault zone: broken core, minor crushed rock and clay gouge
																	171.26-173.90m fault: broken, carbonate rich clay and crushed rock gouge
175.76	194.40	BST					m-s					0.5					**Basalt:** medium to dark grey-green. Fine grained. Moderately to strongly foliated, and in places brecciated. Foliation wavy, ~25-50^o TCA. Trace to minor pyrite, disseminated and in fine stringers. Moderate to strong chlorite alteration. Patchy hematite and lesser epidote. tan fine grained mineral in veins and as cecment in breccia zones along with hematite, chlorite, and epidote. weak to moderate carbonate +/- hematite veining throughout. occasional fine dark green to black chlorite veins. lower contact sharp, ~60 ^{o} TCA.
194.40	196.43	QTZ										1			trace		**Quartz Vein:** medium to light grey. Fine grained. Massive. Minor chlorite and epidote within vein. Disseminated and blebby pyrite and trace chalcopyrite throughout. Altered basalt xenolith near top of unit. Fine carbonate and black chlorite veining in brittle fractures. lower contact sharp, ~60 ^{o} TCA.
196.43	218.11	BST					m-s					1.25					**Basalt:** medium to dark grey-green. Fine to medium grained. Massive. Some graine size variation seen. pervasive moderate to strong chlorite alteration. Minor patchy epidote and hematite. Patchy weak silicifiaction. Pyrite seen in fine stringers and as blebs and minor disseminated. rare fine black chlorite veining. weak to moderate carbonate veining throughout. lower contact sharp, ~60 ^{o} TCA.
218.11	225.50	QTZ															**Quartz Vein:** medium to light grey. Fine grained. Massive. Minor chlorite and epidote seen throughout. Disseminated, blebby, and fine stringers of pyrite throughout. Trace chalcopyrite. Fine fractures throughout, filled by chlorite and carbonate. occasional, 10-30cm basalt xenoliths seen, weakly to strongly silicified.
																	EOH

PROJECT:

HOLE NO: 11WR-24

REF TO CLAIM#:

CASING COLLAR ELEV: **GROUND ELEVATION: _1350________** **DATUM:** NAD83 Z11 **DATE STARTED:** 15-Oct-11

COORDINATES: **NORTHING: _5437714_________** **EASTING: __373610_______** **DATE COMPLETED:** 20-Oct-11 **LOGGED BY: SM**

INCLINATION: _-55___ **AZ. _220___** **CASING: _3m_______** **HQ ___________** **NQ __389______** **TOTAL DEPTH:** 389m

NOTES:

FROM (m)	TO (m)	LITHOLOGY	ALTERATION						SIZE (mm) & %			MINERALIZATION EST. %					DESCRIPTIVE GEOLOGY
			K	SER	SIL	ARG	CHL	Carbonates	Qtz Phenocrysts	Feldspar Pheocrysts	Mafic Phenocrysts	Pyrite	Pyrrhotite	Magnetite	Chalcopyrite		
0.00	3.38	OVB															**Overburden/Casing:** casing to 3m through bouldery overburden
3.38	11.00	BST			m-s		m-s					0.5					**Basalt:** medium to dark grey-green. Fine to medium grained. Massive. Some gradational grain size variation seen. core is blocky and broken throughout, with Fe staining on fractur surfaces. Minor blebby and disseminated pyrite, somewhat patchy. Pervasive moderate to strong chlorite alteration. patchy moderate to strong silicification. weak fine carbonate and rare epidote veining. lower contact sharp ~60 ^{o} TCA.
11.00	15.72	QTZ			s		m					1.5					**Quartz Veining/Silicified:** grey to green-grey fine grained. Massive. Grey quartz veining and strongly silicified basalt. Quartz veins 2-30cm. Basalt appears to have been chlorite altered prior to silicification. Blebs and stringers of pyrite throughout, somewhat patchy. fine brittle fracturing throughout with chlorite, carbonate, and occassionally epidote infill. weak 1-3mm carbonate veining. lower contact obscured by broken core.
15.72	21.51	BST			m-s		m-s					2					**Basalt:** medium to dark grey-green. Fine grained. Massive to moderately foliated. Foliation ~45-65 ^{o} TCA, wavy and folded. Some minor grain size variation seen. pyrite mineralization is somewhat patchy with fine disseminated, blebs, and occasional fine stringers. moderate to strong pervasive chlorite alteration. patchy moderate to strong silicification - strongest over lower ~2m. Fe staining on some fractures, somewhat vuggy

																	moderate to strong silicification., strongest over lower ~2m. Fe staining on some fractures. somewhat vuggy over lower ~50cm of unit. a few 2-4cm felsic dykes seen at top of interval, grey to pink-grey. lower contact obscured by broken core.
																	15.99m 2cm felsic dyke: grey, medium grained, feldspar rich with lesser biotite, minor quartz, minor pyrite as an alteration pruduct of biotite, ~50^{o} TCA
																	16.61-16.77m felsic dyke: meium grey, quartz with lesser feldspar and minor mafics, medium grained, ~65^{o} TCA
																	16.92-16.99m felsic dyke: as above (16.61-16.77m), ~80^{o} TCA
																	17.06m felsic dyke: pink-grey, medium grained, feldspar rich, minor quartz and mafics, blebby pyrite, 2cm wide, ~50^{o} TCA
																	17.68m felsic dyke: grey, medium grained, feldspar with minor quartz and mafics, 2cm wide, ~50^{o} TCA
21.51	23.49	DIO		m			m	w-s				2					**Diorite:** medium to light grey. Massive. Medium grained. Equigranular. Feldspar rich with lesser biotite and rare quartz, 1-4mm. Pyrite throughout, disseminated, blebby, and occasional stringers. Chlorite and sericite alteration throughout. Carbonate alteration, strong in middle of interval, weak and patchy elsewhere. weak carbonate veining seen. lower contact sharp, ~65^{o} TCA.
23.49	31.37	BST			m-s		m-s					2-3					**Basalt:** medium to dark green. Fine grained. Massive. Moderately to strongly chlorite altered thoughout. Patchy silicification, strong in sections. Blebs, disseminated, and stringers of pyrite throughout. Fe staining on fracture planes. Grey massive fine grained quartz veins seen, 5-30cm. diorite dyke at top of unit. 1-3mm late carbonate veining throughout. lower contact sharp ~65^{o} TCA.
																	23.49-24.58m strong silicification
																	24.58-24.89m diorite dyke
																	25.62-26.02m quartz vein: grey, fine grained, blebby pyrite, ~45^{o} TCA
																	26.71m 6cm grey quartz vein, ~80^{o} TCA
																	27.68-27.87m fault: partially healed, quartz cement with subangular 0.5-1cm clasts, minor clay gouge at contacts, Fe staining
																	31.08-31.24m quartz vein: grey, fine grained, blebby pyrite, ~40^{o} TCA
31.37	36.89	QTZ			s		m					2-3					**Quartz Vein/Silicified:** grey to grey-green. fine grained. Massive. Large grey quartz veins and strongly silicified basalt. Basalt appears chlorite altered prior to silicification. Blebby, disseminated and occasional stringers of pyrite throughout (2-3% overall, 5-7% locally). fine fractures throughout with chlorite and carbonate infill. weak late carbonate veining. lower contact sharp, ~65^{o} TCA.
																	34.89-35.12m brecciated basalt
																	36.65-36.89m 5-7% blebby pyrite

36.89	50.84	BST		w			w-m	w				2		trace			**Basalt:** dark grey-green. Fine to medium grained. Massive. Some grain size variation seen, gradational. Weak to moderate pervasive chlorite alteration. Weak patchy sericite and carbonate alteration. Epidote seen in fine veins and breccia zones. Pyrite mineralization mostly as stringers and in carbonate veins, minor fine disseminated. weak to moderate carbonate +/- quartz +/- epidote +/- hematite veining throughout. mafic intrusive dyke near lower contact with 20-50cm alteration halos into basalt, clay altered halos. a couple of small breccia zones seen. patchy weak magnetism. lower contact sharp, ~65^{o} TCA.
																	40.19m 2cm quartz/carbonate vein with coarse pyrite, ~65^{o} TCA
																	42.44-42.60m breccia zone: subround clasts, epidote cement
																	45.60m 5cm pyrite/carbonate vein, epidote at margins, ~40^{o} TCA
																	48.35-50.10m mafic dyke: medium to coarse grained, dark grey-green, amphibole (4-10mm), and feldspar (2-4mm) phenocrysts, weak-moderate chlorite alteration of matrix, fine disseminated pyrite throughout, occasional pyrite stringers, weakly to moderately magnetic, contacts obscured by broken core.
50.84	86.66	QTZ			s		m	m				2-3					**Quartz Veining/Silicified Basalt:** light to mediun grey. Fine grained. Massive. A mixture of quartz veining, to ~5m, and intensely silicified basalt. Basalt appears to have been chlorite altered proir to silicification. Fine grained tan-yellow veining/alteration throughout (Fe-carbonate??), strongest in breccia zones. sulfide mineralization consists of disseminated, blebby, and stringers of pyrite, coarse pyrite seen in late quartz/carbonate veins. fine brittle fracturing throughout with chlorite quartz, minor carbonate infill. broken and blocky sections. a couple of short breccia zones seen. lower contact obscured by broken core.
																	62.13-63.78m breccia: 4-5cm intrusive dyke at ~10o TCA brecciating core. 0.5-2cm angular to subangular clasts. Tan-yellow alteration/veining is strong adjacent to dyke for 10-30cm
																	78.27m 3cm carbonate vein breccia
86.66	115.82	BST			m-s		m					3		trace			**Basalt:** medium to dark grey-green. Fine grained. Massive. Patchy moderate to strong chlorite alteration. Moderate to strong patchy silicification. Minor patchy epidote, mostly associated with pyrite. Sulfide mineralization is fairly weak over upper 15-20m, becoming stronger below ~105m. pyrite disseminated, as blabs, and stringers (3% overall, 10-15% locally). occasional 5-15cm mudstone xenoliths seen, subround. broken and blocky sections (some core loss). weak 1-3mm carbonate veining throughout. lower contact sharp, ~60^{o} TCA.
																	91.90-92.03m carbonate vein breccia
																	96.98-97.11m mudstone xenolith, coarse blebby pyrite
																	104.35-106.80m 3-5% fine disseminated pyrite
																	106.80-110.69m 12-15% pyrite, disseminated, blebby, stringers, patchy magnetite and epidote
																	108.15m 6cm fresh basalt xenolith, strongly magnetic, blebby pyrite

																	112.57-113.82m breccia: strongly silicified, blebby pyrite
115.82	137.25	MST			m-s		m					2					**Mudstone:** tan-green to medium green. Fine grained. Massive to moderately foliated. Foliation ~30-50 ^{o} TCA, wavy in places. Occasional brecciated intervals. Pyrite mineralization somewhat patchy, disseminated blebs, and stringers seen. moderate pervasive silicification. chlorite alteration is somewhat patchy. fine fractures throughout, with fine grey quartz infilling. weak late carbonate veining. lower contact sharp, ~65 ^{o} TCA.
																	120.77-121.18m 2-3cm carbonate vein with angular basalt and lesser mudstone xenoliths (40-50%), ~5 ^{o} TCA
																	125.84-126.15m breccia: clast supported, chlorite rich matrix, angular clasts
																	128.95m 2-3cm quartz/coarse pyrite vein, ~40 ^{o} TCA
137.25	142.01	BST			w-m		m-s					3					**Basalt:** medium to dark grey-green. Fine grained. Massive. Patchy moderate to strong chlorite alteration. Patchy silicification. Minor patchy epidote. Pyrite mineralization as stringers, blebs, and disseminated. Patchy weakly to moderately magnetic. occasional mudstone xenoliths seen. lower contact sharp, ~60 ^{o} TCA.
142.01	149.00	MST			m		m-s					2					**Mudstone:** dark to light grey-green. Fine grained. Massive to weakly foliated. Foliation wavy, 20-30 ^{o} TCA. Somewhat brecciated, quartz and chlorite matrix. ~2% pyrite, as stringers and blebs. Moderate to strong chlorite alteration throughout, somewhat patchy. patchy silicification. fine fracturing throughout with quartz and chlorite infill. weak carbonate veining throughout. lower contact obscured by broken core.
																	146.63-146.91m fault: crushed rock and minor clay gouge
149.00	170.97	BST			w		m-s					2-3					**Basalt:** medium to dark grey-green. Fine grained. Massive to moderately foliated. Foliation is wavy and irregular, 30-60 ^{o} TCA. Brecciated at top of unit, chlorite rich matrix. 2-3% pyrite as blebs, stringers, finely disseminated, and in quartz/carbonate veins. patchy moderate to strong chlorite aleration. patchy silicification. patchy epidote and clay alteration. mudstone xenoliths to ~50cm seen. carboante +/- quartz and occasional fine chlorite veining throughout. lower contact sharp, ~50 ^{o} TCA.
																	151.08-155.24m breccia: angular to subangular clasts, 0.5-2cm, chlorite and minor carbonate matrix is very fine grained, matrix and clasts supported sections
																	158.28-159.55m epidote and clay altered, blebby pyrite
																	164.06-164.62m strongly foliated musdstone xenolith, epidote and tan-yellow alteration
																	169.62m 2-3cm quartz/carbonate/pyrite vein, ~10 ^{o} TCA
																	170.90m 3cm quartz/carbonate vein with 1cm pyrite band at core, ~80 ^{o} TCA
170.97	175.90	MST			w-m		s					0.75					**Mudstone:** dark to medium green. Very fine grained. Massive. Strong pervasive chlorite alteration. Patchy silicification overprinting other alteration.weak pyrite mineralization as occasional fine stringers, and in quartz/carbonate veining. Very fine medium green chlorite veining throughout, very strong in places. weak

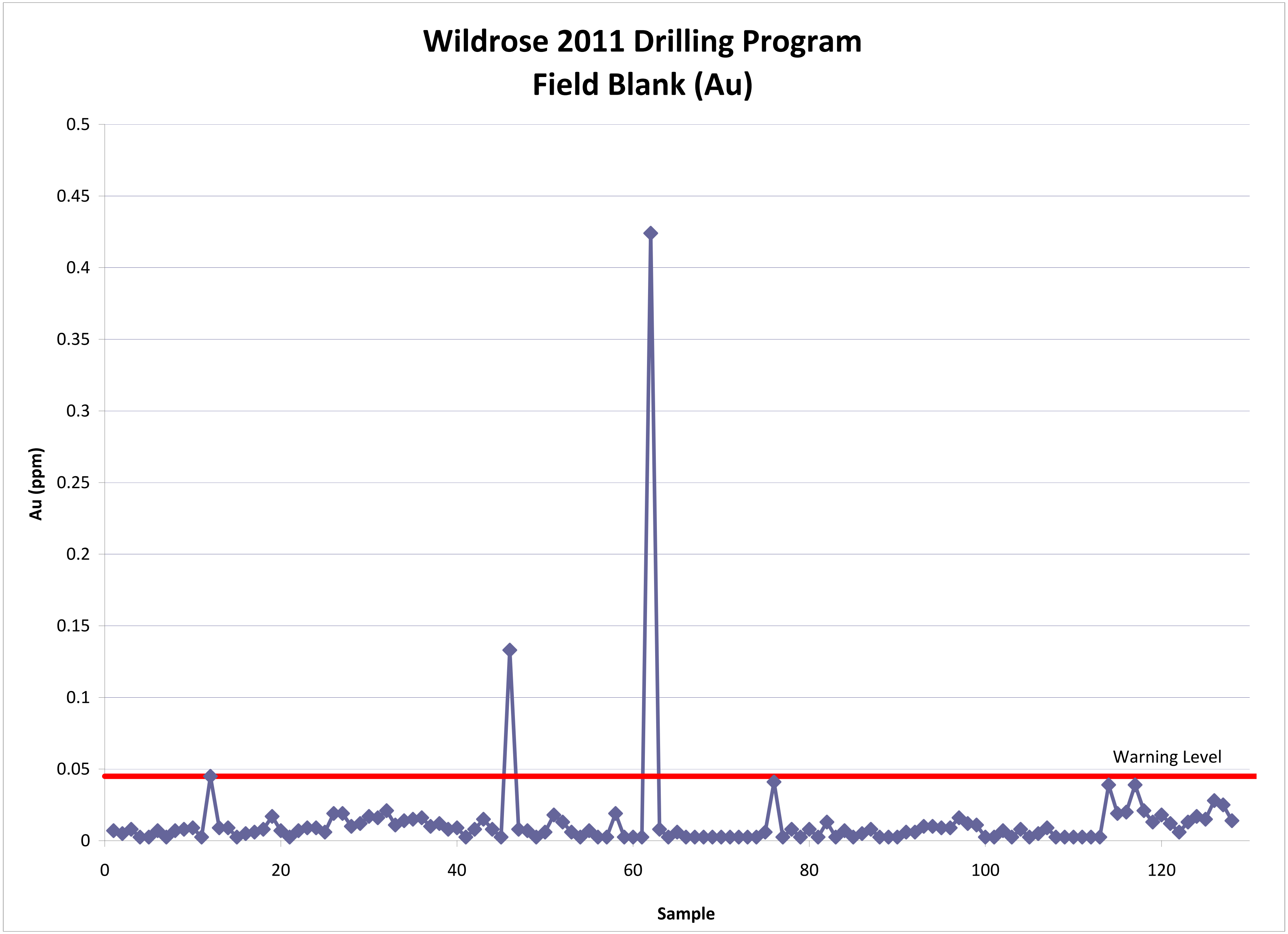
																	quartz/carbonate veining. Very fine medium green chlorite veining throughout, very strong in places. weak carbonate +/-quartz veining. lower contact charp but wavy and irregular, ~25^{o} TCA.
175.90	195.37	BST			w		m-s					2-3					**Basalt:** dark grey to medium grey-green. Fine grained. Massive. Patchy moderate to strong chlorite alteration. Patchy silicification. Minor epidote, usually associated with pyrite, and occasionally as fine veins. Pyrite mineralization mostly as blebs and in quartz/carbonate veins, minor fine disseminated, and occasional fine stringers. weak carbonate +/- quartz veining. one breccia zone seen and occasional mudstone xenoliths in lower part of interval. lower contact sharp, ~20^{o} TCA.
																	182.30m 2cm carbonate/pyrite vein, minor hematite, ~10^{o} TCA
																	183.19-183.58m carbonate vein breccia: angular mudstone and lesser basalt xenoliths (40-50%), 0.5-2cm
																	189.45m 1cm carbonate/pyrite vein, ~35^{o} TCA, cut by later 3mm carbonate vein, ~60^{o} TCA
																	193.80m 0.5-2cm pyrite/carbonate vein, ~10^{o} TCA
195.37	268.35	MST			s		w-m					3					**Mudstone:** grey to medium green. Fine grained, with minor coarser sections. Massive with short foliated zones, foliation 60-70^{o} TCA. Patchy moderate to strong chlorite alteration. Moderate to strong somewhat patchy silicification. Minor epidote seen. sulfide mineralization consists of blebby, disseminated, and stringers of pyrite (2-3% overall, 15-20% locally). large fault zone, minor clay and crushed rock gouge. weak late carbonate veining throughout. lower contact obscured by broken core.
																	203.26-204.39m strongly silicified, 15-20% pyrite stringers and blebs
																	204.39-205.21m medium grained, massive, silicified sandstone
																	212.29-213.76m fault: broken core, minor crushed rock gouge
																	219.44-219.77m 15-20% pyrite stringers and blebs
																	222.38-251.20m fault zone: strongly silicified, broken sections, clay and crushed rock gouge, blebby and stringers of pyrite throughout.
																	235.69-236.61m silicified sandstone, 7-10% pyrite stringers and blebs
																	257.00-259.07m silicified sandstone, 7-10% pyrite stringers and blebs
																	259.26-260.14m fault: clay and crushed rock gouge, significant core loss
																	261.95-263.23m fault: broken core, minor clay and crushed rock gouge
																	265.07-265.25m fault: clay and crushed rock gouge
																	266.25-266.89m fault: broken core, crushed rock and minor clay gouge
268.35	277.39	BST			s		m-s					2					**Basalt:** medium green. Fine to medium grained. Massive. Moderate to strong prevasive chlorite alteration. Strong patchy silicification and quartz veining associated with it. Pyrite mineralization consists of blebs and stringers, stronger in lower half of interval. core is broken and blocky throughout. faulted in lower half. core loss. lower contact obscured by broken core.

																	271.13-273,93m strongly silicified, fine grained grey quartz veining in lower ~60cm, broken
																	274.74-276.50m fault: broken core, clay and crushed rock gouge
277.39	280.37	DIO		w-m			m-s		<1 2-3	60% 1-6	39% 1-6	1-2					**Diorite dyke:** medium to dark green. Medium to coarse grained. massive. Feldspar, amphibole, and rare quartz phenocrysts. Occasional fine stringers of pyrite throughout, minor disseminated. Moderate to strong chlorite alteration. Patchy weak to moderate sericite alteration of feldspars. fine chlorite veining throughout. lower contact sharp, ~30^{o} TCA.
280.37	322.45	BST			w-m		m-s					2					**Basalt:** medium to dark grey-green. Fine grained. Massive with a couple of short foliated intervals. Foliation, ~5-15^{o} TCA. Broken and blocky sections throughout, mostly fault related. Finely disseminated and stringers of pyrite. Moderate to strong, somewhat patchy, chlorite alteration. patchy weak to modeate silicification. patchy fine chlorite veining. weak carbonate veining, more consistant over lower ~15m. Occasional mudstone xenoliths seen. lower contact obscured by broken core.
																	280.87-286.56m fault zone: broken and blocky core, clay and crushed rock gouge, core loss
																	291.00-292.05m fault: crushed rock and clay gouge
																	295.95-313.20m fault zone: several faults with bolcky core between, crushed rock and clay gouge
																	305.08-306.38m strongly silicified
																	313.28-313.87m 1cm quartz vein, grey, fine grained, disseminated pyrite, ~5^{o} TCA
322.45	342.67	MST			m-s		m					3			1		**Mudstone:** grey to grey-green. Fine grained with somewhat coarsergrained sections. Massive with strongly foliated zones. Foliation, ~40-70^{o} TCA. Sulfide mineralization weak over most of the interval, strong and patchy in foliated section. Blebs and stringers of pyrite. blebby chalcopyrite also seen in higher grade zone. patchy moderate chlorite alteration. moderate to strong silicification, somewhat patchy. minor epidote and tan alteration (Fe carbonate??). broken/faulted sections. weak carbonate +/- quartz veining. lower contact sharp, ~40^{o} TCA.
																	323.59-324.60m silicified sandstone: weakly foliated, 40-50^{o} TCA
																	325.04-327.57m foliated zone: 55-70^{o} TCA, blebby and occasional stringers of pyrite (5-7%), and chalcopyrite (3-5%)
																	327.16-327.57m blebby pyrite (10-12%) and chalcopyrite (7-10%)
																	327.57-331.07m fault: broken core, minor crushed rock gouge
																	328.34-329.10m quartz veined and silicified, 5-7% blebby pyrite, broken
																	330.05-330.45m quartz vein, broken, blebby pyrite, 3-5%, at end of vein
																	331.07-331.12m pyrite/chalcopyrite/quartz vein, ~70^{o} TCA
																	332.92-334.06m strongly silicified, weakly brecciated, silica matrix
342.67	362.10	MST/CON			w-s		w-m	w				0.75					**Interbedded Mustone and Sharp Pebble Conglomerate:** mudstone is grey-green to brown-green. Fine grained. Foliated. Foliation variable, ~5-80^{o} TCA, wavy and disrupted in places. Patchy chlorite and tan-

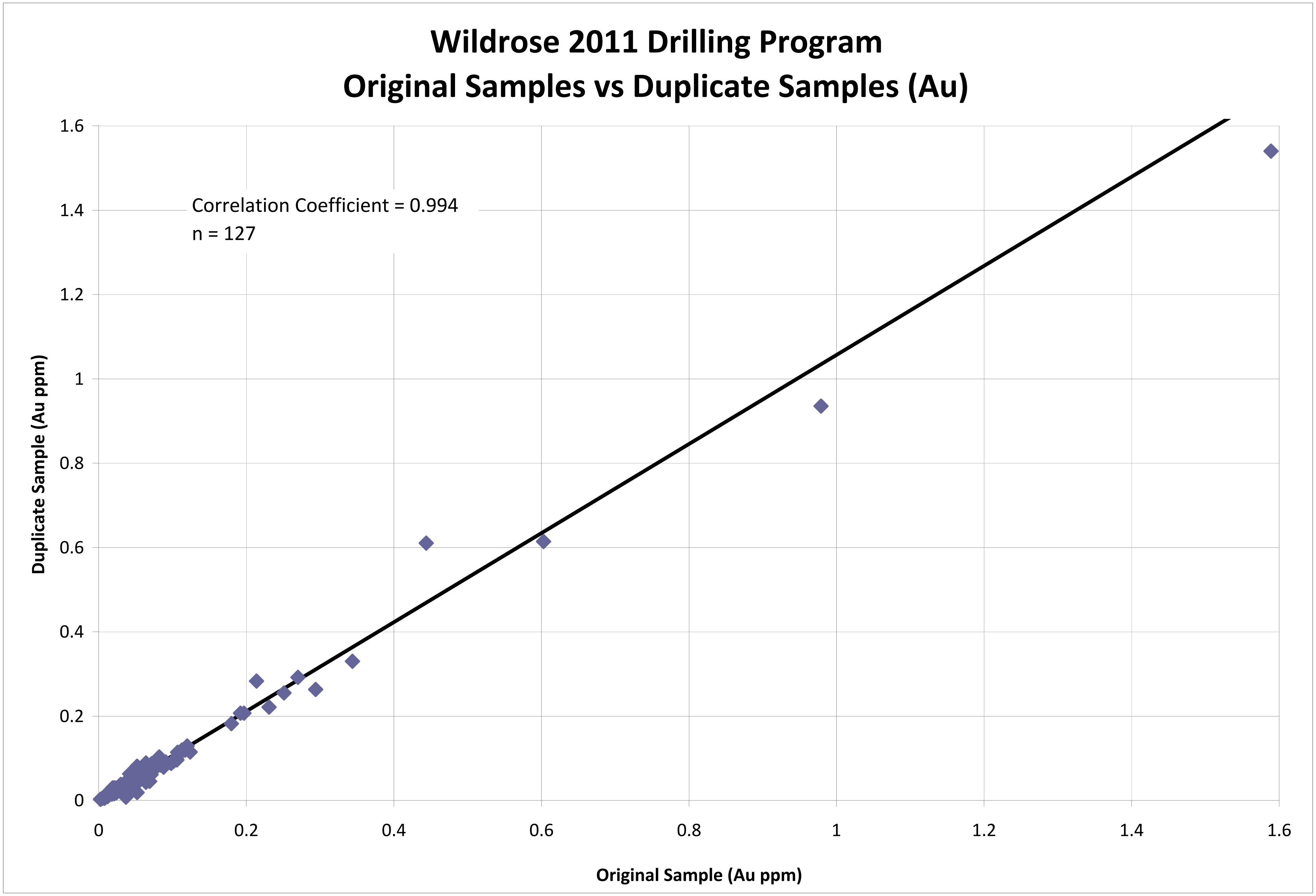
																	yellow (Fe-carbonate?) alteration. Weak patchy silicification. sharp pebble conglomerate is light to medium grey. medium to coarse grained. massive. angular to subround quartz and minor feldspar clasts in fine silica matrix. conglomerate intersections to ~2.5m, contacts are sharp, wavy, occasionally showing what appears to be soft sediment deformation. minor pyrite (0.5-1%) along fractures, and along foliation in mudstone, patchy. weak carbonate +/- quartz veining. lower contact sharp, wavy, ~65^{o} TCA.
362.10	385.67	MST			w-m		m-s					0.5					**Mudstone:** grey-brown to medium green. Fine grained. Massive with a couple of short beecciated intervals. Moderate to strong chlorite alteration, pervasive below 369m. Patchy weak to moderate silicification. sulfide mineralizationis weak and patchy, consisting of blebby and fine disseminarted pyrite. weak to moderate carbonate veining. lower contact sharp, ~45^{o} TCA.
385.67	388.31	FP		m-s			w	w		99% 1-4	1% 1-2						**Feldspar Porphyry Dyke:** brown-grey. Massive. Very fine grained matrix with 1-4mm feldspar and 1-2mm brown biotite phenocrysts. Weak patchy chlorite and carbonate alteration. Feldspars strongly sericite altered. Weak fine carbonate veiing. no visible sulfides. Lower contact obscured by broken core.
																	386.36-386.79m carbonate vein breccia
388.31	389.00	MST			m		s					0.5					**Mudstone:** as above (362.10-385.67m), moderate carbonate veining. Fine disseminated pyrite near upper contact.
																	EOH

Appendix 4 – Data Verification

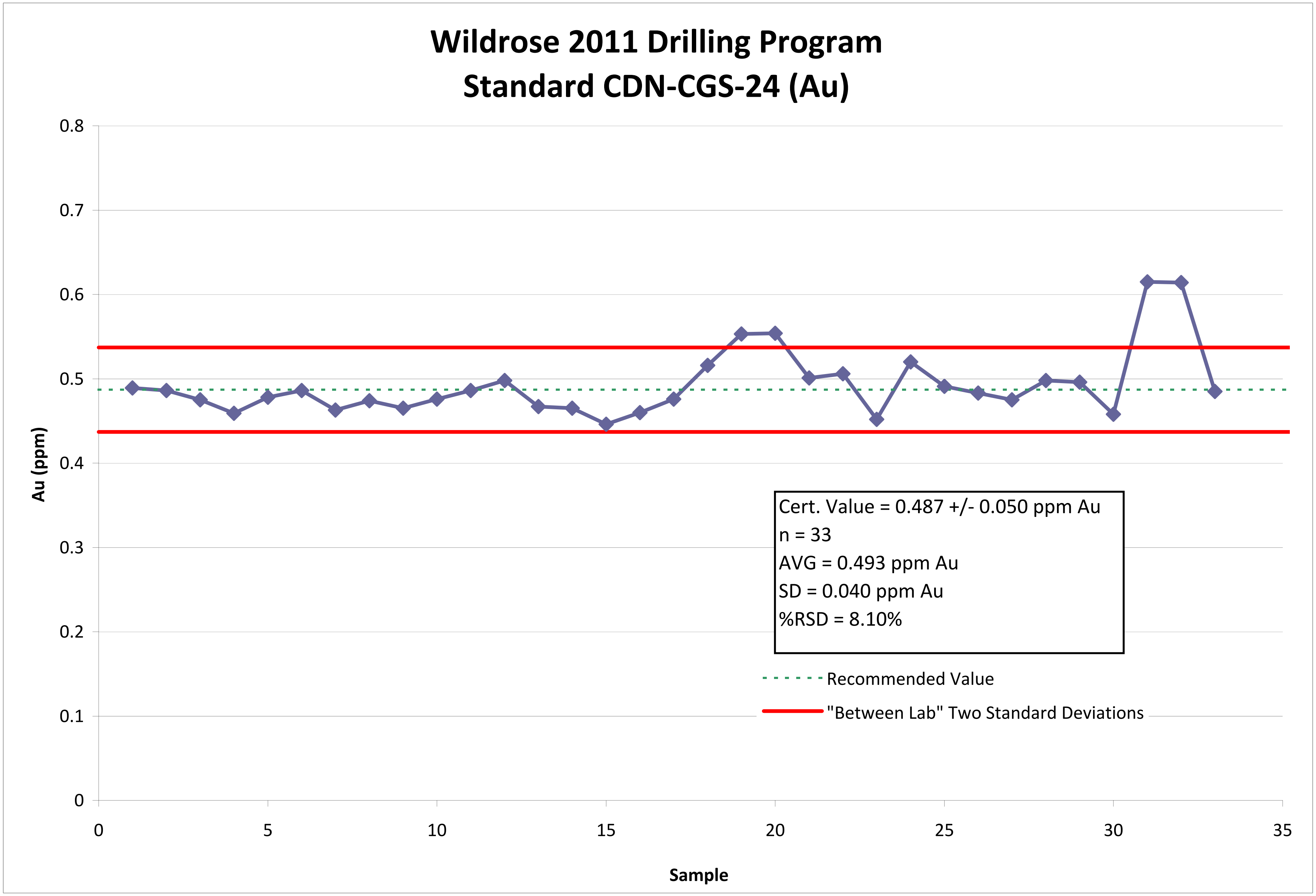
Appendix 4a – QA/QC Graphical Illustrations

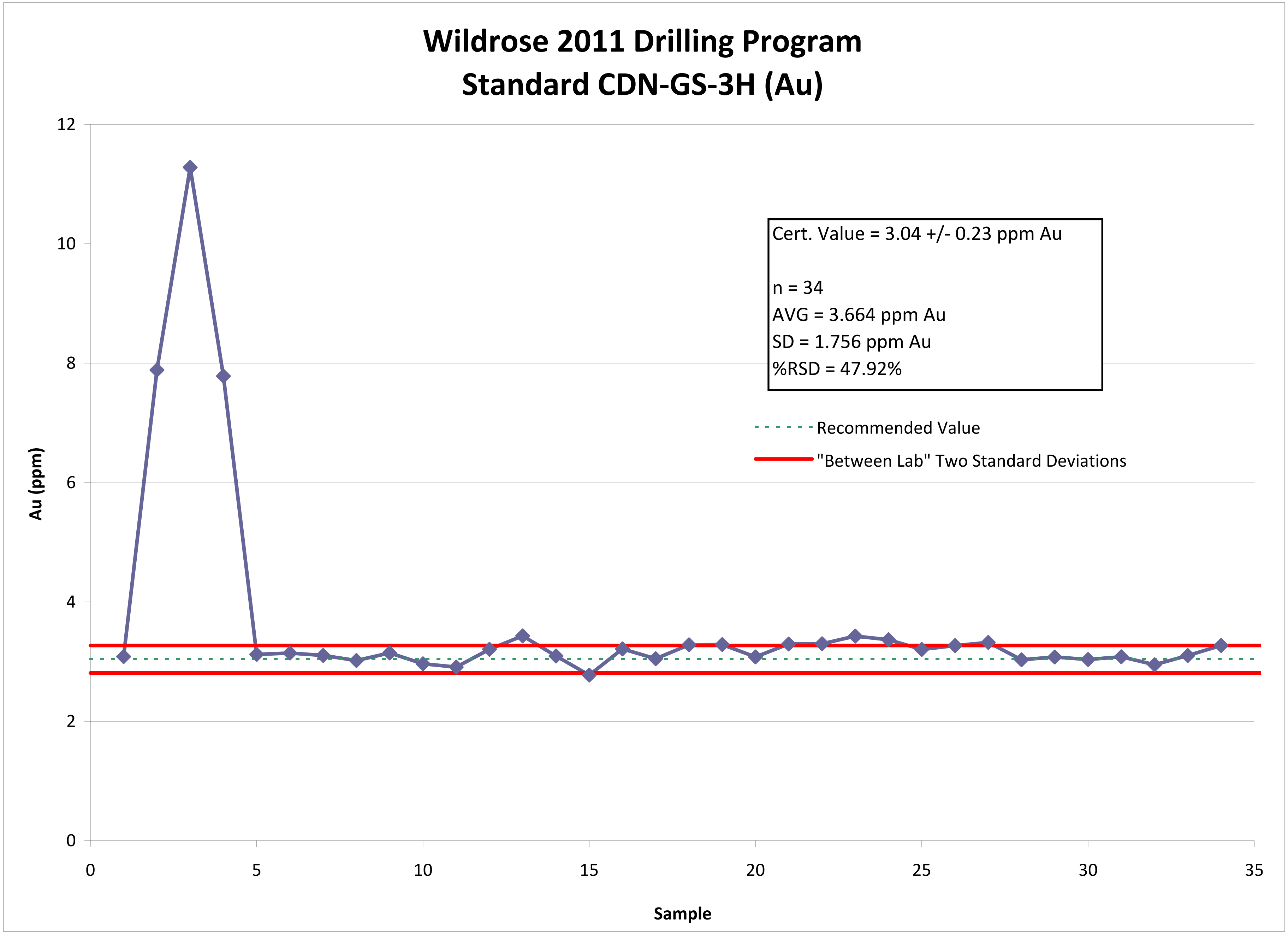


Wildrose 2011 Drilling Program
Field Blank (Au)
Au (ppm)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0
20
40
60
80
100
120
Sample
Warning Level

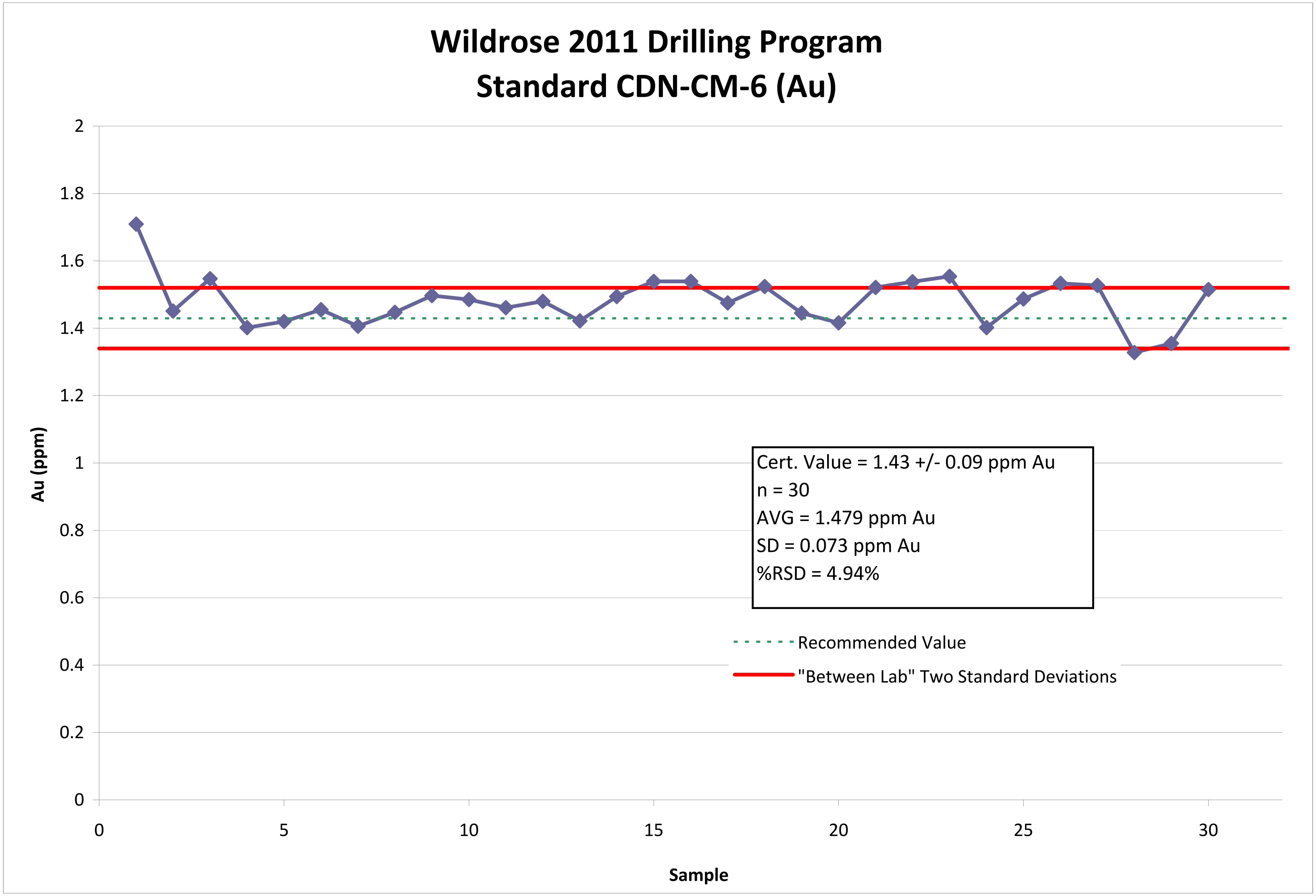


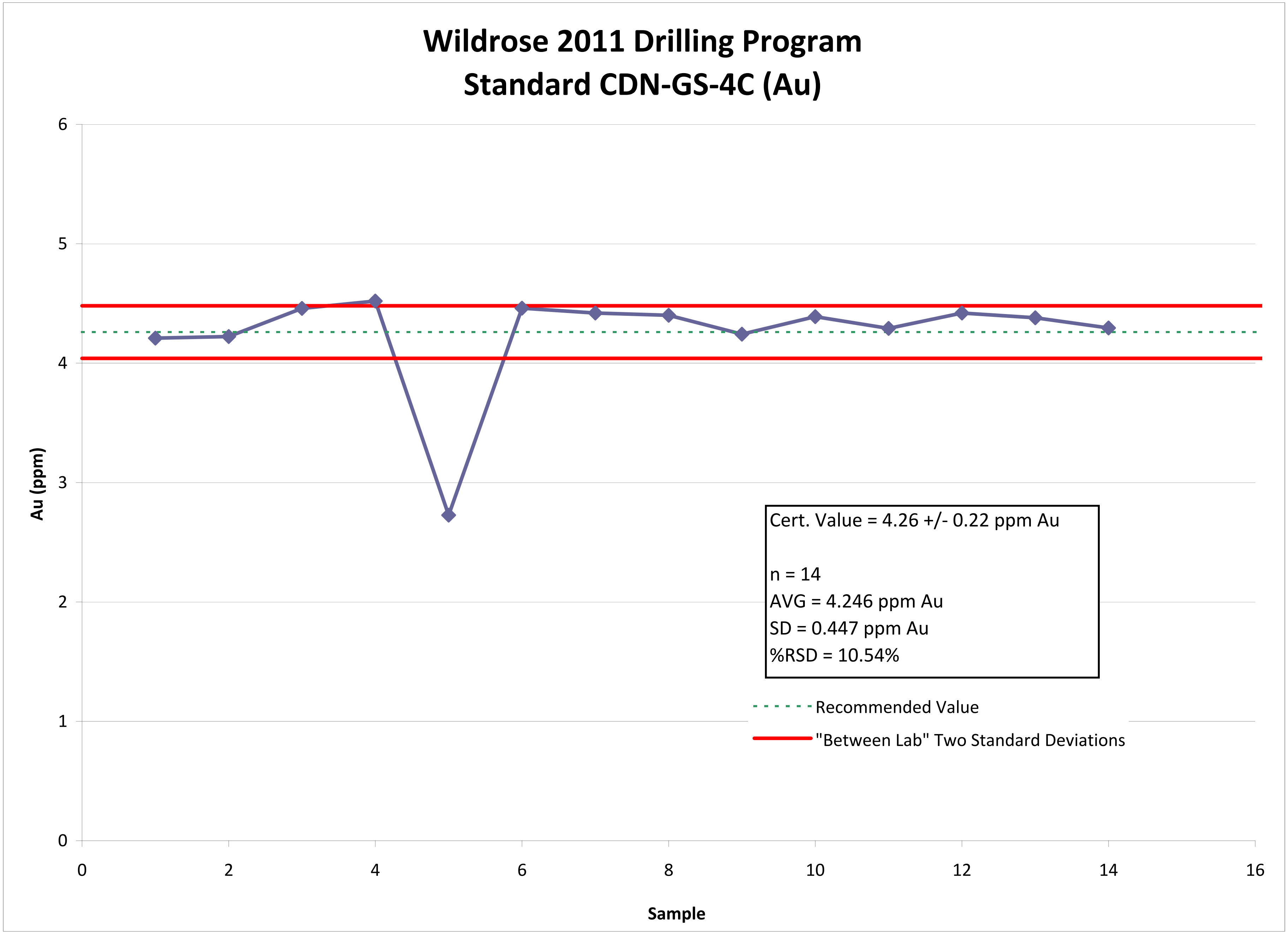
Wildrose 2011 Drilling Program
Original Samples vs Duplicate Samples (Au)
Correlation Coefficient = 0.994
n = 127
Duplicate Sample (Au ppm)
Original Sample (Au ppm)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6

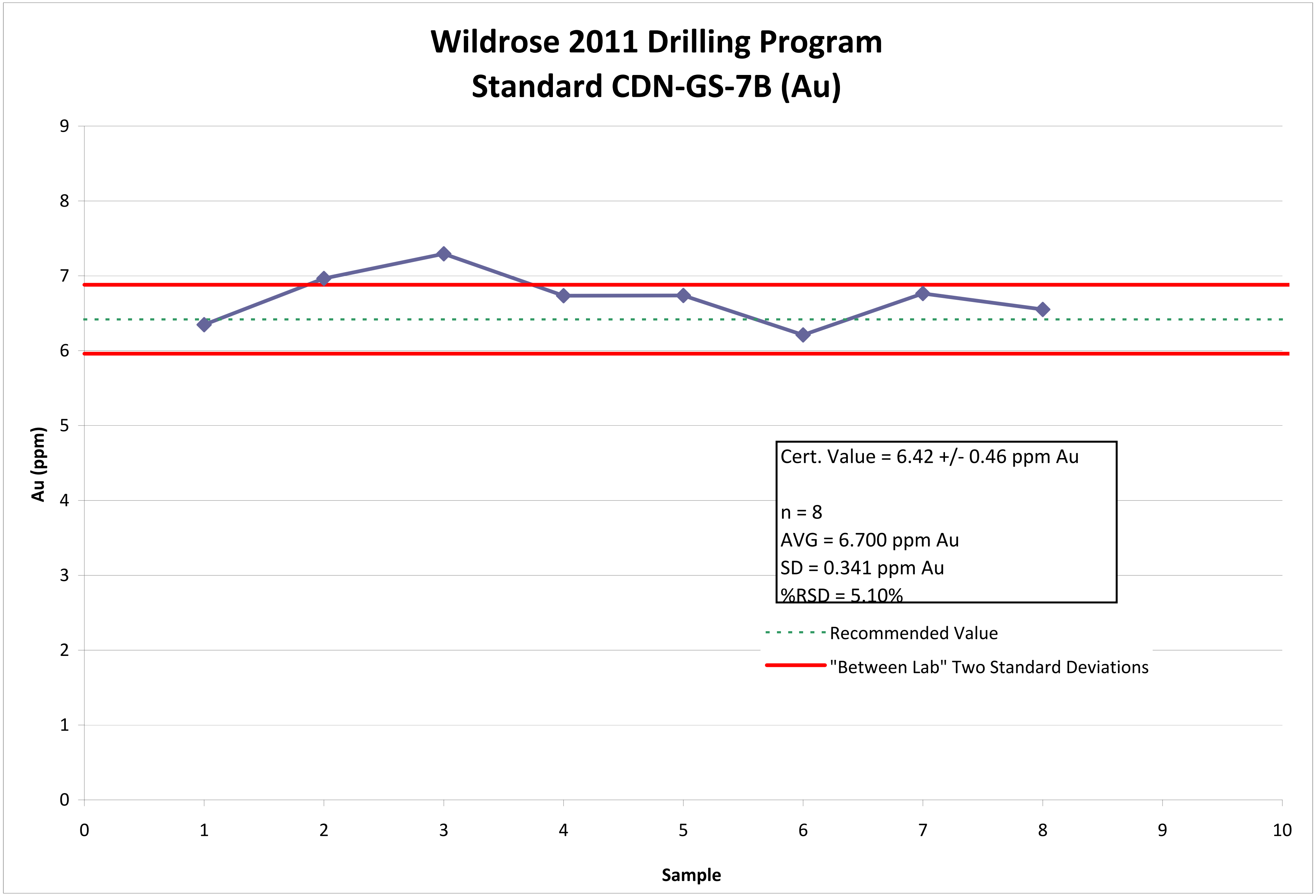

Wildrose 2011 Drilling Program
Standard CDN-CGS-24 (Au)
Au (ppm)
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
5
10
15
20
25
30
35
Sample
Cert. Value = 0.487 +/- 0.050 ppm Au
n = 33
AVG = 0.493 ppm Au
SD = 0.040 ppm Au
%RSD = 8.10%
Recommended Value
"Between Lab" Two Standard Deviations

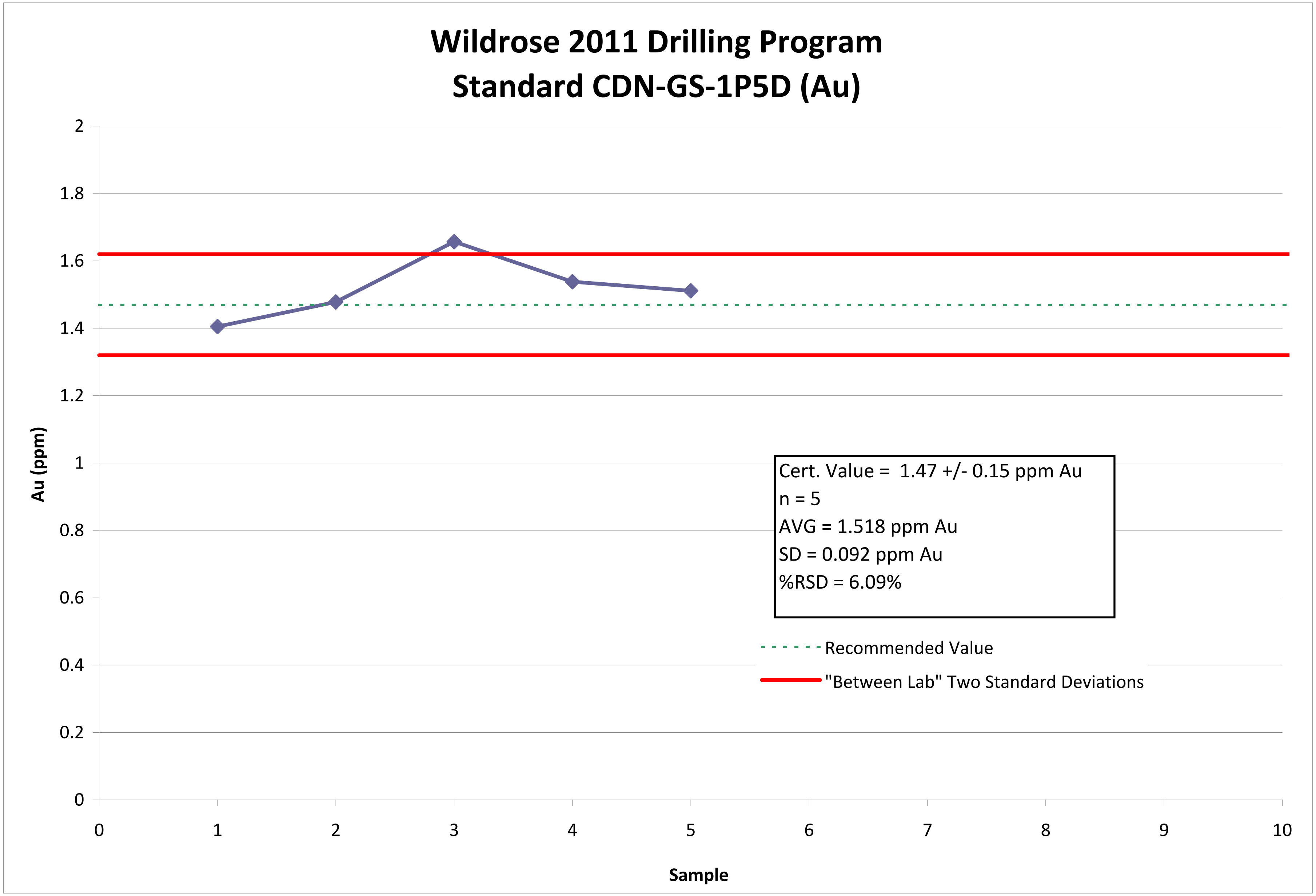


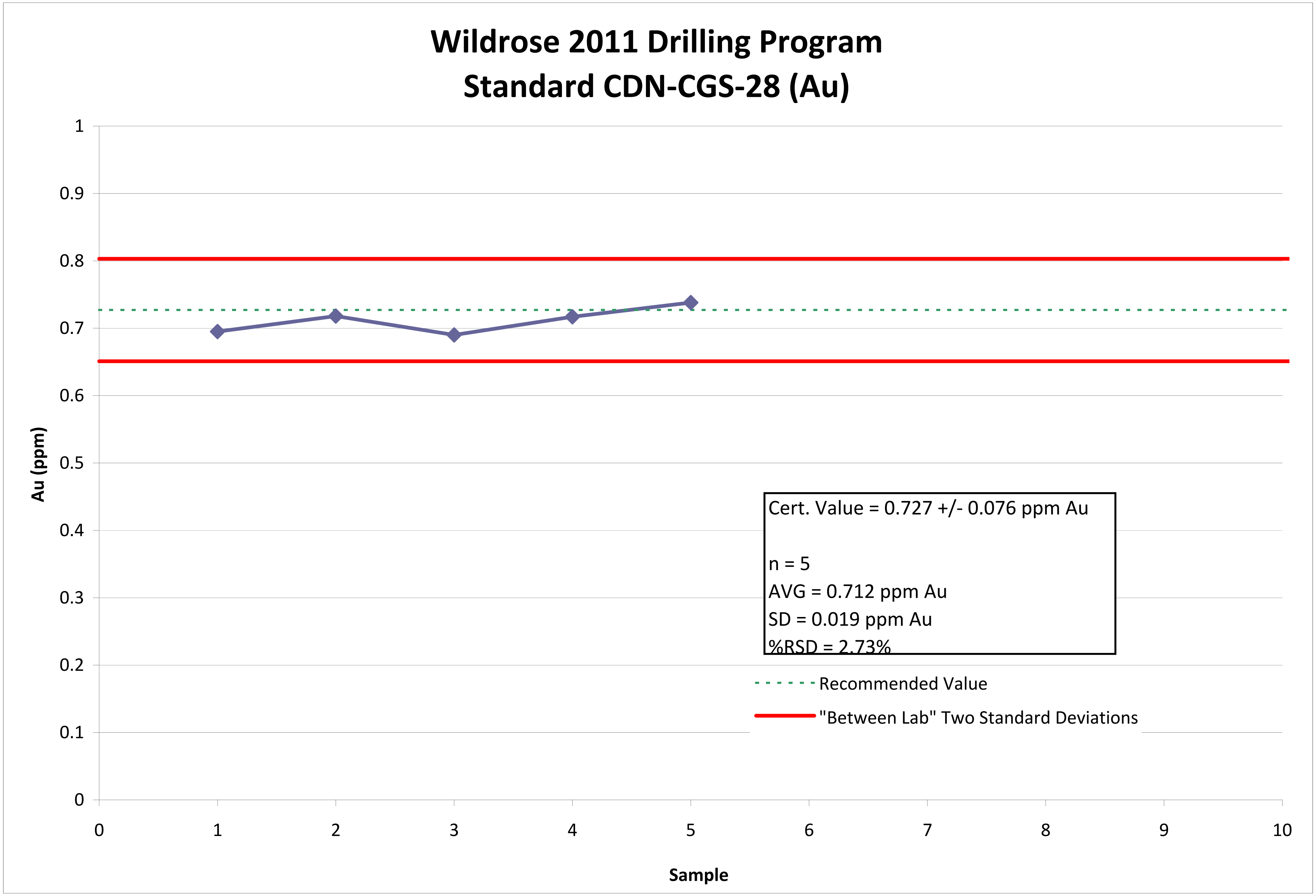
Wildrose 2011 Drilling Program
Standard CDN-GS-3H (Au)
Au (ppm)
Sample
0
2
4
6
8
10
12
0
5
10
15
20
25
30
35
Cert. Value = 3.04 +/- 0.23 ppm Au
n = 34
AVG = 3.664 ppm Au
SD = 1.756 ppm Au
%RSD = 47.92%
Recommended Value
"Between Lab" Two Standard Deviations


Wildrose 2011 Drilling Program
Standard CDN-CM-6 (Au)
Au (ppm)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
5
10
15
20
25
30
Sample
Cert. Value = 1.43 +/- 0.09 ppm Au
n = 30
AVG = 1.479 ppm Au
SD = 0.073 ppm Au
%RSD = 4.94%
Recommended Value
"Between Lab" Two Standard Deviations


Wildrose 2011 Drilling Program
Standard CDN-GS-4C (Au)
Au (ppm)
Sample
Cert. Value = 4.26 +/- 0.22 ppm Au
n = 14
AVG = 4.246 ppm Au
SD = 0.447 ppm Au
%RSD = 10.54%
Recommended Value
"Between Lab" Two Standard Deviations


Wildrose 2011 Drilling Program
Standard CDN-GS-7B (Au)
Au (ppm)
Sample
Cert. Value = 6.42 +/- 0.46 ppm Au
n = 8
AVG = 6.700 ppm Au
SD = 0.341 ppm Au
%RSD = 5.10%
Recommended Value
"Between Lab" Two Standard Deviations


Wildrose 2011 Drilling Program
Standard CDN-GS-1P5D (Au)
Au (ppm)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
1
2
3
4
5
6
7
8
9
10
Sample
Cert. Value = 1.47 +/- 0.15 ppm Au
n = 5
AVG = 1.518 ppm Au
SD = 0.092 ppm Au
%RSD = 6.09%
Recommended Value
"Between Lab" Two Standard Deviations



Wildrose 2011 Drilling Program
Standard CDN-CGS-28 (Au)
Au (ppm)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
1
2
3
4
5
6
7
8
9
10
Sample
Cert. Value = 0.727 +/- 0.076 ppm Au
n = 5
AVG = 0.712 ppm Au
SD = 0.019 ppm Au
%RSD = 2.73%
Recommended Value
"Between Lab" Two Standard Deviations

Appendix 4b – Standards Certificates

CDN Resource Laboratories Ltd.

#2, 20148 - 102nd Avenue, Langley, B.C., Canada, V1M 4B4, Ph: 604-882-8422 Fax: 604-882-8466
(www.cdnlabs.com)

REFERENCE MATERIAL: CDN-CGS-24

Recommended values and the “Between Lab” Two Standard Deviations

Copper concentration: 0.486 ± 0.034 %
Gold concentration: 0.487 ± 0.050 g/t

PREPARED BY: CDN Resource Laboratories Ltd.
CERTIFIED BY: Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia
INDEPENDENT GEOCHEMIST: Dr. Barry Smee., Ph.D., P. Geo.
DATE OF CERTIFICATION: January 14, 2010

METHOD OF PREPARATION:

Reject ore material was dried, crushed, pulverized and then passed through a 270 mesh screen. The +270 material was discarded. The -270 material was mixed for 5 days in a double-cone blender. Splits were taken and sent to 14 laboratories for round robin assaying.

ORIGIN OF REFERENCE MATERIAL:

This standard is made from a combination of Au / Cu ores.

Approximate chemical composition is as follows:

	Percent			Percent
SiO_2	60.8		MgO	2.3
Al_2O_3	13.9		K_2O	2.2
Fe_2O_3	7.7		TiO_2	0.6
CaO	4.6		LOI	4.2
Na_2O	2.6		S	1.3

Statistical Procedures:

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Data from any one laboratory was removed from further calculations when the mean of all analyses from that laboratory failed a t test of the global means of the other laboratories. The means and standard deviations were calculated using all remaining data. Any analysis that fell outside of the mean ±2 standard deviations was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data. This method is different from that used by Government agencies in that the actual “between-laboratory” standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

REFERENCE MATERIAL   CDN-CGS-24

Results from round-robin assaying:

Assay Procedures: **Au:** Fire assay pre-concentration, AA or ICP finish (30g sub-sample).
Cu: 4-acid digestion, AA or ICP finish.

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14
SAMPLE	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t
CGS-24-1	0.486	0.501	0.53	0.488	0.512	0.47	0.48	0.470	0.478	0.45	0.50	0.484	0.508	0.496
CGS-24-2	0.537	0.531	0.50	0.443	0.483	0.47	0.46	0.458	0.531	0.46	0.48	0.502	0.471	0.491
CGS-24-3	0.493	0.464	0.57	0.460	0.567	0.49	0.48	0.455	0.568	0.46	0.51	0.521	0.467	0.444
CGS-24-4	0.486	0.479	0.48	0.464	0.559	0.49	0.41	0.485	0.485	0.47	0.47	0.505	0.493	0.477
CGS-24-5	0.492	0.547	0.50	0.458	0.509	0.47	0.50	0.466	0.480	0.53	0.49	0.526	0.495	0.446
CGS-24-6	0.450	0.529	0.50	0.454	0.563	0.46	0.49	0.483	0.483	0.48	0.48	0.539	0.504	0.491
CGS-24-7	0.515	0.485	0.57	0.469	0.533	0.49	0.47	0.461	0.509	0.53	0.49	0.511	0.500	0.448
CGS-24-8	0.476	0.487	0.55	0.496	0.488	0.51	0.45	0.459	0.544	0.44	0.47	0.520	0.482	0.488
CGS-24-9	0.501	0.473	0.56	0.485	0.501	0.49	0.47	0.455	0.487	0.45	0.50	0.504	0.513	0.467
CGS-24-10	0.509	0.496	0.53	0.456	0.488	0.49	0.44	0.464	0.553	0.45	0.51	0.518	0.463	0.463
Mean	0.495	0.499	0.528	0.467	0.520	0.483	0.465	0.466	0.512	0.472	0.490	0.513	0.490	0.471
Std. Dev'n	0.0235	0.0277	0.0313	0.0170	0.0328	0.0149	0.0264	0.0108	0.0343	0.0326	0.0149	0.0153	0.0178	0.0203
%RSD	4.74	5.54	5.92	3.65	6.31	3.09	5.67	2.32	6.70	6.91	3.04	2.97	3.64	4.31
	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %
CGS-24-1	0.509	0.484	0.490	0.494	0.506	0.491	0.503	0.463	0.459	0.516	0.492	0.481	0.470	0.573
CGS-24-2	0.505	0.485	0.468	0.495	0.496	0.498	0.526	0.461	0.471	0.506	0.489	0.483	0.457	0.544
CGS-24-3	0.506	0.478	0.482	0.496	0.502	0.486	0.512	0.460	0.457	0.498	0.472	0.486	0.459	0.472
CGS-24-4	0.509	0.487	0.477	0.494	0.495	0.492	0.503	0.459	0.460	0.511	0.474	0.465	0.457	0.491
CGS-24-5	0.498	0.484	0.480	0.495	0.489	0.487	0.527	0.459	0.509	0.502	0.475	0.485	0.448	0.477
CGS-24-6	0.499	0.482	0.479	0.496	0.504	0.487	0.518	0.461	0.454	0.503	0.484	0.470	0.451	0.536
CGS-24-7	0.499	0.496	0.477	0.502	0.497	0.519	0.509	0.470	0.472	0.506	0.477	0.481	0.469	0.478
CGS-24-8	0.495	0.498	0.486	0.497	0.492	0.485	0.510	0.464	0.460	0.496	0.474	0.481	0.457	0.535
CGS-24-9	0.504	0.493	0.478	0.494	0.497	0.505	0.506	0.462	0.473	0.500	0.480	0.495	0.473	0.497
CGS-24-10	0.505	0.497	0.478	0.490	0.473	0.492	0.506	0.463	0.474	0.500	0.478	0.467	0.461	0.482
Mean	0.503	0.488	0.480	0.495	0.495	0.494	0.512	0.462	0.469	0.504	0.480	0.479	0.460	0.509
Std. Dev'n	0.0048	0.0070	0.0059	0.0030	0.0094	0.0105	0.0088	0.0032	0.0159	0.0062	0.0068	0.0094	0.0082	0.0354
%RSD	0.96	1.44	1.22	0.61	1.90	2.13	1.73	0.70	3.40	1.22	1.41	1.95	1.78	6.96

STANDARD REFERENCE MATERIAL   CDN-CGS-24

Participating Laboratories:
(not in same order as listed in table of results)

Acme Analytical Laboratories Ltd., Vancouver, B.C., Canada
Accurassay Laboratory, Thunder Bay, Ontario, Canada
Actlabs, Ancaster, Ontario, Canada
Actlabs, Thunder Bay, Ontario, Canada
ALS Chemex Laboratories, North Vancouver, B.C., Canada
Assayers Canada Ltd., Vancouver, B.C., Canada
Bourlamaque Laboratory, Quebec, Canada
Genalysis Laboratory Services Pty. Ltd., Australia
International Plasma Laboratories, Richmond, B.C., Canada
Labtium Laboratory, Finland
OMAC Laboratories Ltd., Ireland
SGS Toronto, Ontario, Canada
TSL Laboratories, Saskatoon, Canada
Ultra Trace Analytical Laboratories, Australia

Legal Notice:

This certificate and the reference material described in it have been prepared with due care and attention. However CDN Resource Laboratories Ltd. or Barry Smee accept no liability for any decisions or actions taken following the use of the reference material. Our liability is limited solely to the cost of the reference material.

Certified by   Duncan Sanderson
Duncan Sanderson, Certified Assayer of B.C.

Geochemist   BW Smee
Dr. Barry Smee, Ph.D., P. Geo.

CDN Resource Laboratories Ltd.

#2, 20148 – 102nd Avenue, Langley, B.C., Canada, V1M 4B4, 604-882-8422, Fax: 604-882-8466 (www.cdnlabs.com)

REFERENCE MATERIAL: CDN-GS-3H

Recommended value and the "Between Laboratory" two standard deviations

Gold concentration: 3.04 ± 0.23 g/t (30g Fire Assay / ICP)

PREPARED BY: CDN Resource Laboratories Ltd.
CERTIFIED BY: Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia
INDEPENDENT GEOCHEMIST: Dr. Barry Smee., Ph.D., P. Geo.
DATE OF CERTIFICATION: January 4, 2011

ORIGIN OF REFERENCE MATERIAL:

Standard CDN-GS-3H was prepared using a mixture of siliceous gold-bearing ores.

METHOD OF PREPARATION:

Reject ore material was dried, crushed, pulverized and then passed through a 270 mesh screen. The +270 material was discarded. The -270 material was mixed for 5 days in a double-cone blender. Splits were taken and sent to 15 commercial laboratories for round robin assaying. Round robin results are displayed below:

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
SAMPLE	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t
CDN-GS-3H-1	2.86	3.07	2.96	3.16	2.94	3.01	3.03	3.16	2.63	2.95	3.21	2.95	3.00	3.13	2.98
CDN-GS-3H-2	3.08	3.33	2.95	3.04	2.61	2.94	3.16	2.93	2.72	3.02	3.23	3.05	2.99	3.14	3.08
CDN-GS-3H-3	3.01	3.17	2.91	3.10	2.77	2.95	3.17	3.19	2.92	2.95	3.24	3.13	2.97	3.13	3.09
CDN-GS-3H-4	3.13	3.15	2.97	3.04	2.8	2.90	3.05	3.26	2.70	2.95	3.25	3.07	3.00	3.10	3.11
CDN-GS-3H-5	3.04	3.11	2.84	3.15	2.75	2.97	3.04	3.03	2.71	3.02	3.18	3.16	2.91	3.09	3.03
CDN-GS-3H-6	2.91	3.10	2.94	3.09	2.78	2.90	3.27	3.01	2.73	2.95	2.96	3.11	2.98	3.11	3.05
CDN-GS-3H-7	2.85	3.13	2.88	3.06	2.81	2.98	2.94	3.28	3.01	3.09	3.04	3.12	3.00	3.16	3.11
CDN-GS-3H-8	2.83	3.15	2.97	3.17	2.86	3.01	3.10	3.18	3.11	2.95	3.23	3.09	2.98	3.14	3.08
CDN-GS-3H-9	3.07	3.24	2.96	3.20	2.75	3.03	3.01	3.07	2.82	2.95	3.02	3.18	3.02	3.04	3.19
CDN-GS-3H-10	3.03	3.20	2.83	3.09	2.88	2.92	3.16	3.03	2.87	3.02	3.27	3.17	3.03	3.16	3.14
Mean	2.98	3.17	2.92	3.11	2.80	2.96	3.09	3.11	2.82	2.99	3.16	3.10	2.99	3.12	3.09
Std. Dev'n	0.1089	0.0760	0.0534	0.0568	0.0893	0.0481	0.0973	0.1164	0.1530	0.0495	0.1122	0.0685	0.0329	0.0365	0.0583
%RSD	3.65	2.40	1.83	1.83	3.20	1.63	3.15	3.74	5.42	1.66	3.55	2.21	1.10	1.17	1.89

APPROXIMATE CHEMICAL COMPOSITION (by whole rock analysis):

	Percent			Percent	
SiO2	60.4		Na2O	1.8	
Al2O3	11.2		MgO	2.7	
Fe2O3	9.6		K2O	2.1	
CaO	3.8		TiO2	0.6	
MnO	0.2		LOI	5.7	
Total S	2.4		Total C	1.4	

REFERENCE MATERIAL: CDN-GS-3H

Statistical Procedures:

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Data from any one laboratory was removed from further calculations when the mean of all analyses from that laboratory failed a t test of the global means of the other laboratories. The mean and standard deviation were calculated using all remaining data. Any analysis that fell outside of the mean ±2 standard deviations was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data. This method is different from that used by Government agencies in that the actual “between-laboratory” standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

Participating Laboratories: (not in same order as table of assays)

Acme Analytical Laboratories Ltd., Vancouver, B.C., Canada
Activation Laboratories, Ancaster, Ontario, Canada
Activation Laboratories, Thunder Bay, Ontario, Canada
AGAT Laboratories, Ontario, Canada
AHK Geochem, Alaska, USA
ASA Argentina
ALS Chemex, North Vancouver, B.C., Canada
Eco Tech Laboratory Ltd., Kamloops, B.C., Canada
Genalysis, Australia
Labtium Inc., Finland
OMAC Laboratory, Ireland
SGS, Vancouver, B.C., Canada
Skyline, Arizona, USA
TSL Laboratories Ltd., Saskatoon, SK, Canada
Ultra Trace, Australia

Legal Notice:

Certified by Duncan Sanderson

Duncan Sanderson, Certified Assayer of B.C.

Geochemist BW Smee

Dr. Barry Smee, Ph.D., P. Geo.

CDN Resource Laboratories Ltd.

#2, 20148 – 102nd Avenue, Langley, B.C., Canada, V1M 4B4, 604-882-8422, Fax: 604-882-8466 (www.cdnlabs.com)

REFERENCE MATERIAL: CDN-CM-6

Recommended values and the "Between Lab" Two Standard Deviations	***Gold:***	***1.43 ± 0.09 g/t***	***(RSD of 3.28%)***
	Copper:	***0.737 ± 0.039 %***	***(RSD of 2.65%)***
	Molybdenum:	***0.083 ± 0.008 %***	***(RSD of 4.80%)***
Provisional values:	***Silver:***	***3.3 ± 0.7 g/t***	***(RSD of 10%)***
	Rhenium:	***0.85 ± 0.16 ppm***	***(RSD of 9.65%)***

*Standards with an RSD of **near or less than 5 % are certified**, RSD's of **between 5 % and 15 % are Provisional**, and **RSD's over 15 % are Indicated**. Provisional and Indicated values cannot be used to monitor accuracy with a high degree of certainty*

PREPARED BY: CDN Resource Laboratories Ltd.
CERTIFIED BY: Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia
INDEPENDENT GEOCHEMIST: Dr. Barry Smee., Ph.D., P. Geo.
DATE OF CERTIFICATION: October 19, 2009

METHOD OF PREPARATION:

Reject ore material was dried, crushed, pulverized and then passed through a 270 mesh screen. The +270 material was discarded. The -270 material was mixed for 5 days in a double-cone blender. Splits were taken and sent to 14 laboratories for round robin assaying.

ORIGIN OF REFERENCE MATERIAL:

Standard CDN-CM-6 was prepared using ore supplied by Pacific Sentinel from their Casino property in Yukon, Canada. It is a copper-gold porphyry deposit. The standard was prepared using 750 kg of this ore, 30kg of a blank granitic material and 20 kg of a Au-Cu-Mo concentrate.

Approximate chemical composition is as follows:

	Percent			Percent
SiO_2	56.1		MgO	2.2
Al_2O_3	14.8		K_2O	3.7
Fe_2O_3	8.2		TiO_2	0.6
CaO	4.3		LOI	5.5
Na_2O	1.9		S	1.0

Statistical Procedures:

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Data from any one laboratory was removed from further calculations when the mean of all analyses from that laboratory failed a t test of the global means of the other laboratories. The means and standard deviations were calculated using all remaining data. Any analysis that fell outside of the mean ±2 standard deviations was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data. This method is different from that used by Government agencies in that the actual "between-laboratory" standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

Results from round-robin assaying are displayed on the following page.

REFERENCE MATERIAL   CDN-CM-6

Assay Procedures: **Au:** Fire assay pre-concentration, AA or ICP finish (30g sub-sample).
Cu, Mo, Ag, Re: 4-acid digestion, AA or ICP finish.

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14
SAMPLE	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t
CM6-1	1.42	1.38	1.41	1.37	1.48	1.52	1.07	1.49	1.53	1.37	1.40	1.41	1.44	1.44
CM6-2	1.46	1.40	1.53	1.43	1.43	1.50	0.97	1.37	1.44	1.39	1.45	1.48	1.42	1.40
CM6-3	1.45	1.38	1.43	1.42	1.40	1.61	1.14	1.38	1.55	1.35	1.41	1.37	1.47	1.37
CM6-4	1.46	1.39	1.44	1.35	1.45	1.41	0.99	1.41	1.39	1.48	1.44	1.40	1.48	1.44
CM6-5	1.45	1.40	1.52	1.42	1.44	1.49	1.03	1.36	1.48	1.44	1.46	1.42	1.39	1.41
CM6-6	1.44	1.33	1.44	1.33	1.34	1.45	1.25	1.45	1.45	1.42	1.37	1.34	1.46	1.46
CM6-7	1.53	1.47	1.47	1.37	1.49	1.37	1.15	1.48	1.52	1.43	1.40	1.39	1.49	1.47
CM6-8	1.46	1.31	1.46	1.44	1.42	1.45	1.25	1.43	1.47	1.34	1.37	1.36	1.45	1.43
CM6-9	1.43	1.38	1.53	1.40	1.44	1.43	1.23	1.54	1.56	1.41	1.46	1.42	1.41	1.47
CM6-10	1.43	1.46	1.49	1.39	1.42	1.39	1.26	1.36	1.49	1.42	1.49	1.39	1.45	1.38
Mean	1.45	1.39	1.47	1.39	1.43	1.46	1.13	1.43	1.49	1.41	1.43	1.40	1.45	1.42
Std. Dev'n	0.0317	0.0492	0.0437	0.0366	0.0420	0.0708	0.1113	0.0622	0.0533	0.0430	0.0409	0.0388	0.0317	0.0351
%RSD	2.19	3.54	2.97	2.63	2.94	4.85	9.83	4.36	3.58	3.06	2.87	2.78	2.19	2.46
	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %
CM6-1	0.773	0.720	0.736	0.760	0.732	0.675	0.75	0.764	0.734	0.695	0.748	0.709	0.727	0.760
CM6-2	0.745	0.721	0.729	0.762	0.715	0.666	0.75	0.763	0.739	0.700	0.742	0.722	0.750	0.789
CM6-3	0.765	0.709	0.725	0.767	0.724	0.719	0.74	0.758	0.735	0.692	0.740	0.737	0.731	0.772
CM6-4	0.747	0.701	0.735	0.767	0.732	0.726	0.75	0.772	0.729	0.695	0.743	0.729	0.738	0.788
CM6-5	0.765	0.710	0.734	0.775	0.744	0.725	0.74	0.764	0.746	0.688	0.754	0.720	0.706	0.791
CM6-6	0.746	0.712	0.733	0.765	0.736	0.721	0.76	0.764	0.738	0.688	0.752	0.739	0.722	0.738
CM6-7	0.736	0.708	0.737	0.752	0.728	0.720	0.75	0.762	0.732	0.700	0.744	0.726	0.743	0.727
CM6-8	0.744	0.719	0.739	0.748	0.738	0.718	0.75	0.773	0.727	0.689	0.751	0.743	0.726	0.739
CM6-9	0.748	0.714	0.733	0.753	0.747	0.724	0.76	0.765	0.740	0.696	0.756	0.700	0.711	0.727
CM6-10	0.736	0.713	0.742	0.759	0.743	0.726	0.75	0.762	0.742	0.698	0.758	0.784	0.725	0.750
Mean	0.751	0.713	0.734	0.761	0.734	0.712	0.750	0.765	0.736	0.694	0.749	0.731	0.728	0.758
Std. Dev'n	0.0127	0.0062	0.0048	0.0082	0.0099	0.0222	0.0067	0.0045	0.0059	0.0047	0.006	0.0229	0.0135	0.0256
%RSD	1.70	0.87	0.66	1.08	1.34	3.11	0.89	0.59	0.80	0.67	0.84	3.14	1.86	3.38
	Mo %	Mo %	Mo %	Mo %	Mo %	Mo %	Mo %	Mo %	Mo %	Mo %	Mo %	Mo %	Mo %	Mo %
CM6-1	0.079	0.079	0.080	0.084	0.081	0.088	0.085	0.089	0.081	0.079	0.082	0.089	0.085	0.082
CM6-2	0.079	0.081	0.079	0.088	0.079	0.081	0.082	0.090	0.084	0.077	0.083	0.089	0.084	0.076
CM6-3	0.081	0.076	0.081	0.087	0.081	0.087	0.084	0.090	0.082	0.078	0.081	0.088	0.084	0.080
CM6-4	0.078	0.076	0.080	0.086	0.081	0.087	0.084	0.090	0.083	0.081	0.078	0.090	0.086	0.080
CM6-5	0.084	0.077	0.081	0.087	0.080	0.088	0.083	0.088	0.083	0.080	0.082	0.092	0.086	0.075
CM6-6	0.080	0.077	0.081	0.091	0.079	0.085	0.083	0.089	0.083	0.078	0.080	0.090	0.085	0.083
CM6-7	0.080	0.079	0.081	0.084	0.081	0.087	0.084	0.087	0.083	0.080	0.080	0.088	0.085	0.083
CM6-8	0.079	0.075	0.081	0.083	0.082	0.085	0.083	0.089	0.085	0.082	0.078	0.089	0.084	0.080
CM6-9	0.081	0.076	0.082	0.083	0.080	0.087	0.084	0.088	0.083	0.079	0.081	0.090	0.084	0.078
CM6-10	0.081	0.077	0.081	0.079	0.080	0.086	0.082	0.088	0.083	0.081	0.081	0.091	0.085	0.068
Mean	0.080	0.077	0.081	0.085	0.080	0.086	0.083	0.089	0.083	0.079	0.081	0.090	0.085	0.079
Std. Dev'n	0.0016	0.0018	0.0008	0.0033	0.0010	0.0021	0.0010	0.0009	0.0011	0.0015	0.002	0.001	0.001	0.005
%RSD	1.98	2.37	1.01	3.90	1.20	2.41	1.16	1.01	1.27	1.86	2.04	1.41	0.93	5.83

Note: "Au" data from laboratory 7 was excluded from the calculations for failing the t test.

REFERENCE MATERIAL   CDN-CM-6

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14
	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t	Ag g/t
CM6-1	3.4	2.9	1.92	3.7	4	3.3	3.1	3.2	1.5	3	3.0	3	3.1	3.4
CM6-2	3.3	2.0	1.85	3.8	4	3.1	3.4	3.0	1.3	3	3.0	< 3	3.1	3.4
CM6-3	3.6	2.4	1.17	3.7	4	3.2	3.1	3.1	1.5	3	3.0	< 3	3.4	3.7
CM6-4	3.4	2.6	3.29	3.8	3	3.2	3.4	3.1	1.7	3	3.0	< 3	3.3	3.6
CM6-5	3.6	2.3	2.92	3.8	4	3.2	2.9	3.4	1.4	3	3.5	3	3.0	3.4
CM6-6	3.5	2.1	2.37	3.7	3	3.3	3.1	3.4	1.4	3	3.0	< 3	3.0	3.7
CM6-7	3.4	2.6	2.63	3.7	4	3.2	3.1	3.2	1.4	3	3.0	< 3	3.1	3.6
CM6-8	3.8	2.9	2.17	3.8	3	3.2	3.0	3.3	1.4	3	3.0	< 3	3.0	3.7
CM6-9	3.5	2.2	1.97	3.8	4	3.1	3.2	3.1	1.5	3	3.0	< 3	3.2	3.5
CM6-10	3.3	2.2	2.46	3.8	3	3.0	3.3	3.1	1.5	3	3.5	< 3	3.1	3.0
Mean	3.5	2.4	2.3	3.8	3.6	3.2	3.2	3.2	1.5	3.0	3.1		3.1	3.5
Std. Dev'n	0.1549	0.3190	0.6007	0.0516	0.5164	0.0919	0.1647	0.1448	0.1075	0.0000	0.211		0.134	0.216
%RSD	4.45	13.18	26.40	1.37	14.34	2.89	5.21	4.53	7.36	0.00	6.80		4.27	6.17
	Re g/t	Re g/t	Re g/t	Re g/t	Re g/t	Re g/t	Re g/t	Re g/t	Re g/t	Re g/t	Re g/t	Re g/t	Re g/t	Re g/t
CM6-1	0.937	0.741			0.869	0.96	0.725	0.780	0.869	0.90	0.9	1.02		0.85
CM6-2	0.951	0.751			0.906	0.92	0.739	0.732	0.876	0.86	0.9	1.03		0.87
CM6-3	0.958	0.711			0.841	0.93	0.752	0.705	0.883	0.89	0.9	1.03		0.76
CM6-4	0.963	0.742			0.892	0.94	0.762	0.729	0.874	0.89	0.8	1.07		0.82
CM6-5	0.933	0.716			0.867	0.94	0.734	0.765	0.908	0.86	0.9	1.09		0.81
CM6-6	0.958	0.719			0.886	0.91	0.755	0.790	0.885	0.85	0.9	1.08		0.83
CM6-7	0.944	0.741			0.939	0.91	0.709	0.688	0.877	0.85	0.9	1.07		0.82
CM6-8	0.964	0.728			0.917	0.96	0.710	0.821	0.871	0.95	0.9	1.00		0.81
CM6-9	0.916	0.751			0.937	0.90	0.691	0.764	0.876	0.85	0.9	1.04		0.80
CM6-10	1.045	0.713			1.004	0.89	0.676	0.871	0.892	0.90	0.9	1.00		0.80
Mean	0.957	0.731			0.906	0.926	0.725	0.764	0.881	0.880	0.890	1.043		0.817
Std. Dev'n	0.0345	0.0157			0.0465	0.0241	0.0285	0.0549	0.0117	0.0323	0.032	0.033		0.030
%RSD	3.60	2.15			5.14	2.61	3.93	7.18	1.33	3.67	3.55	3.16		3.65

Note: ***"Ag" data from laboratories 3 & 9 were excluded from the calculations for failing the t test.***
"Ag" data from laboratory 12 was not used.
"Re" data from laboratory 12 was excluded from the calculations for failing the t test.

Some laboratories were unable to provide rhenium analysis.

REFERENCE MATERIAL   CDN-CM-6

Participating Laboratories:
(not in same order as listed in table of results)

Acme Analytical Laboratories Ltd., Vancouver, B.C.
Activation Laboratories Ltd., Ancaster, Ontario
Activation Laboratories Ltd., Thunder Bay, Ontario
Assayers Canada Ltd., Vancouver, B.C.
ALS Chemex Laboratories, North Vancouver, B.C.
EcoTech, Kamloops, B.C.
SGS-Toronto, Ontario
Genalysis Laboratory Services Pty. Ltd., Australia
Inspectorate America Assay Labs, USA
Labtium, Finland
OMAC Laboratories Ltd., Ireland
Skyline Assayers & Laboratories, Tucson, USA
TSL Laboratories, Saskatoon
Ultra Trace Analytical Laboratories, Australia

Legal Notice:

This certificate and the reference material described in it have been prepared with due care and attention. However CDN Resource Laboratories Ltd. or Barry Smee accept no liability for any decisions or actions taken following the use of the reference material. Our liability is limited solely to the cost of the reference material.

Certified by Duncan Sanderson

Duncan Sanderson, Certified Assayer of B.C.

Geochemist BW Smee

Dr. Barry Smee, Ph.D., P. Geo.

CDN Resource Laboratories Ltd.

#2, 20148 – 102nd Avenue, Langley, B.C., Canada, V1M 4B4, 604-882-8422, Fax: 604-882-8466 (www.cdnlabs.com)

REFERENCE MATERIAL: CDN-GS-4C

Recommended value and the "Between Laboratory" two standard deviations

Gold concentration: 4.26 ± 0.22 g/t (30g Fire Assay / ICP)
Gold concentration: 4.25 ± 0.20 g/t (30g Fire Assay / Grav.)

PREPARED BY: CDN Resource Laboratories Ltd.
CERTIFIED BY: Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia
INDEPENDENT GEOCHEMIST: Dr. Barry Smee., Ph.D., P. Geo.
DATE OF CERTIFICATION: March 10, 2010

ORIGIN OF REFERENCE MATERIAL:

Standard CDN-GS-4C was prepared using ore supplied by Barrick Gold Inc. from their Goldstrike Mine in Nevada, USA. It is Carlin Style Mineralization in the prolific Northern Carlin Trend in Northern Nevada, USA. The source material is from Devonian carbonates of the Popovich Formation. Gold is strongly associated with pyrite and other sulfides including the arsenic minerals orpiment and realgar.

METHOD OF PREPARATION:

Reject ore material was dried, crushed, pulverized and then passed through a 270 mesh screen. The +270 material was discarded. The -270 material was mixed for 5 days in a double-cone blender. Splits were taken and sent to 15 commercial laboratories for round robin assaying. Round robin results are displayed below:

ICP	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t
CDN-GS-4C-1	4.23	4.18	4.52	4.16	4.11	4.01	4.46	4.20	4.34	4.41	4.34	4.10	4.26	4.23	4.21
CDN-GS-4C-2	4.48	4.20	4.44	4.13	4.13	4.08	4.56	4.30	4.29	4.40	4.21	4.19	4.22	4.47	4.15
CDN-GS-4C-3	4.23	4.16	4.37	4.20	4.21	4.05	4.47	4.27	4.32	4.39	4.30	4.18	4.29	4.43	4.09
CDN-GS-4C-4	4.24	4.20	4.27	4.25	4.22	4.13	4.58	4.20	4.38	4.44	4.30	4.16	4.24	4.41	4.15
CDN-GS-4C-5	4.46	4.27	4.59	4.14	4.21	4.09	4.47	4.29	4.28	4.38	4.25	4.11	4.27	4.39	4.17
CDN-GS-4C-6	4.18	4.34	4.60	4.26	4.27	4.07	4.35	4.36	4.26	4.33	4.32	4.13	4.22	4.39	4.11
CDN-GS-4C-7	4.27	4.26	4.46	4.30	4.24	4.06	4.40	4.28	4.29	4.34	4.27	4.19	4.30	4.25	4.20
CDN-GS-4C-8	4.15	4.41	4.38	4.16	4.24	4.02	4.27	4.22	4.31	4.34	4.25	4.14	4.26	4.43	4.16
CDN-GS-4C-9	4.29	4.29	4.59	4.27	4.20	4.06	4.28	4.13	4.28	4.39	4.37	4.00	4.32	4.35	4.12
CDN-GS-4C-10	4.21	4.33	4.46	4.15	4.27	4.13	4.28	4.18	4.22	4.41	4.27	3.95	4.31	4.43	4.13
Mean	4.27	4.26	4.47	4.20	4.21	4.07	4.41	4.24	4.30	4.38	4.29	4.12	4.27	4.38	4.15
Std. Dev'n	0.1109	0.0804	0.1092	0.0625	0.0533	0.0420	0.1146	0.0685	0.0440	0.0359	0.0476	0.0810	0.0349	0.0796	0.0381
%RSD	2.59	1.89	2.44	1.49	1.27	1.03	2.60	1.61	1.02	0.82	1.11	1.97	0.82	1.82	0.92

Gravimetric	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t
CDN-GS-4C-1	4.32	4.16	4.80	4.23	4.33	4.146	4.26	4.31	4.42		4.3		4.19	4.120	4.30
CDN-GS-4C-2	4.32	4.23	4.53	4.26	4.33	4.065	4.23	4.24	4.39		4.2		4.23	4.310	4.33
CDN-GS-4C-3	4.35	4.15	4.33	4.30	4.36	4.058	4.20	4.25	4.51		4.1		4.23	4.467	4.27
CDN-GS-4C-4	4.28	4.26	4.57	4.33	4.34	4.121	4.13	4.22	4.56		4.2		4.22	4.067	4.30
CDN-GS-4C-5	4.26	4.25	4.77	4.26	4.30	4.012	4.24	4.30	4.22		4.1		4.24	4.061	4.33
CDN-GS-4C-6	4.24	4.11	4.33	4.20	4.32	4.091	4.26	4.33	4.37		4.4		4.24	4.223	4.20
CDN-GS-4C-7	4.23	4.19	4.50	4.33	4.26	4.097	4.15	4.23	4.58		4.2		4.19	4.061	4.30
CDN-GS-4C-8	4.27	4.26	4.67	4.31	4.31	4.146	4.28	4.24	4.38		4.3		4.20	4.122	4.27
CDN-GS-4C-9	4.08	4.18	4.30	4.23	4.26	4.103	4.28	4.23	4.43		4.5		4.22	4.238	4.23
CDN-GS-4C-10	4.25	4.26	4.67	4.19	4.33	4.198	4.26	4.17	4.42		4.4		4.20	4.000	4.23
Mean	4.26	4.21	4.55	4.26	4.31	4.10	4.23	4.25	4.43		4.27		4.22	4.17	4.28
Std. Dev'n	0.0742	0.0544	0.1832	0.0517	0.0327	0.0527	0.0528	0.0480	0.1042		0.1337		0.0196	0.1426	0.0443
%RSD	1.74	1.29	4.03	1.21	0.76	1.28	1.25	1.13	2.35		3.13		0.46	3.42	1.04

Note: ***Labs 10 and 12 did not report gravimetric results.***
Gravimetric data from Lab 3 was excluded for failing the "t" test.

REFERENCE MATERIAL: CDN-GS-4C

APPROXIMATE CHEMICAL COMPOSITION:

	Percent			Percent			ppm
SiO_2	45.1		Na_2O	0.1		As	500
Al_2O_3	5.2		MgO	8.9		Sb	60
Fe_2O_3	2.7		K_2O	1.1			
CaO	14.3		TiO_2	0.2			
MnO	0.1		LOI	20.8			
Total S	1.4		Total C	5.9			
Sulphide S	1.2		Inorganic C	5.3			

Statistical Procedures:

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Data from any one laboratory was removed from further calculations when the mean of all analyses from that laboratory failed a t test of the global means of the other laboratories. The mean and standard deviation were calculated using all remaining data. Any analysis that fell outside of the mean ±2 standard deviations was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data. This method is different from that used by Government agencies in that the actual "between-laboratory" standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

Participating Laboratories: (not in same order as table of assays)

Acme Analytical Laboratories Ltd., Vancouver, B.C., Canada
Acme Analytical Laboratories Ltd., Santiago, Chile
Activation Laboratories, Ancaster, Ontario, Canada
Activation Laboratories, Thunder Bay, Ontario, Canada
Alaska Assay Lab, Anchorage, Alaska, USA
ASA Argentina
ALS Chemex, North Vancouver, B.C., Canada
ALS Chemex, Nevada, USA
Assayers Canada Ltd., Vancouver, B.C., Canada
Bourlamaque Assay Laboratories, Quebec, Canada
Eco Tech Laboratory Ltd., Kamloops, B.C., Canada
Labtium Inc., Finland
SGS, Toronto, Canada
SGS, Lima, Peru
TSL Laboratories Ltd., Saskatoon, SK, Canada

Legal Notice:

This certificate and the reference material described in it have been prepared with due care and attention. However CDN Resource Laboratories Ltd. nor Barry Smee accept any liability for any decisions or actions taken following the use of the reference material. Our liability is limited solely to the cost of the reference material.

Certified by   Duncan Sanderson

Duncan Sanderson, Certified Assayer of B.C.

Geochemist   BW Smee

Dr. Barry Smee, Ph.D., P. Geo.

CDN Resource Laboratories Ltd.

#2, 20148 – 102nd Avenue, Langley, B.C., Canada, V1M 4B4, 604-882-8422, Fax: 604-882-8466 (www.cdnlabs.com)

REFERENCE MATERIAL: CDN-GS-7B

Recommended value and the "Between Laboratory" two standard deviations

Gold concentration: 6.42 ± 0.46 g/t (Fire Assay / ICP)
Gold concentration: 6.37 ± 0.47 g/t (Fire Assay / Grav.)

PREPARED BY: CDN Resource Laboratories Ltd.
CERTIFIED BY: Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia
INDEPENDENT GEOCHEMIST: Dr. Barry Smee., Ph.D., P. Geo.
DATE OF CERTIFICATION: December 28, 2009

ORIGIN OF REFERENCE MATERIAL:

Standard CDN-GS-7B was prepared using ore supplied by Williams Operating Corporation from their Williams Mine in Ontario, Canada. 190 kg of Williams ore was mixed with 610 kg of a blank, granitic ore.

METHOD OF PREPARATION:

Reject ore material was dried, crushed, pulverized and then passed through a 270 mesh screen. The +270 material was discarded. The -270 material was mixed for 5 days in a double-cone blender. Splits were taken and sent to 15 commercial laboratories for round robin assaying. Round robin results are displayed below:

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
ICP	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t
CDN-GS-7B-1	6.66	6.64	6.25	6.57	6.32	6.30	6.17	6.34	6.17	6.77	6.29	6.18	6.70	6.58	5.70
CDN-GS-7B-2	6.78	6.72	6.45	6.33	6.54	6.32	6.08	5.97	6.36	6.67	6.36	6.82	6.29	6.82	6.19
CDN-GS-7B-3	6.54	6.76	6.35	6.49	6.33	6.48	5.84	6.21	6.16	6.66	6.39	6.65	6.73	6.96	6.48
CDN-GS-7B-4	6.37	6.32	6.27	6.30	6.57	6.30	5.76	6.37	6.40	6.29	6.24	6.03	6.46	6.81	6.02
CDN-GS-7B-5	6.09	6.54	6.57	6.32	6.27	6.10	6.65	6.39	6.06	5.87	6.25	6.40	6.53	6.70	6.57
CDN-GS-7B-6	6.93	6.88	6.40	6.45	6.94	6.69	6.17	6.14	6.37	6.15	6.16	6.77	6.70	6.99	6.58
CDN-GS-7B-7	6.61	6.72	6.54	6.29	6.93	6.16	6.05	6.49	6.35	6.38	6.61	6.25	6.81	6.37	6.12
CDN-GS-7B-8	6.44	6.40	6.30	6.21	6.74	6.41	6.44	6.14	6.49	6.06	6.24	6.10	6.50	6.16	6.42
CDN-GS-7B-9	6.60	6.51	6.35	6.20	6.63	6.14	6.44	5.99	6.19	6.54	6.33	6.00	6.49	6.75	6.54
CDN-GS-7B-10	6.20	6.29	6.25	6.28	6.87	6.68	6.55	6.42	6.65	6.67	6.45	6.64	6.86	6.63	6.01
Mean	6.52	6.58	6.37	6.34	6.61	6.36	6.22	6.25	6.32	6.41	6.33	6.38	6.61	6.68	6.26
Std. Dev'n	0.2552	0.1988	0.1158	0.1203	0.2540	0.2090	0.2981	0.1826	0.1769	0.3055	0.1293	0.3142	0.1798	0.2571	0.2998
%RSD	3.91	3.02	1.82	1.90	3.84	3.29	4.80	2.92	2.80	4.77	2.04	4.92	2.72	3.85	4.79

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
Gravimetric	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t
CDN-GS-7B-1	6.65	6.53	6.27	6.48	6.92	6.73	6.00		6.59	6.19	6.43	6.65	6.19	6.45	5.71
CDN-GS-7B-2	6.34	7.03	6.20	6.25	6.37	6.43	6.53		6.65	6.14	6.50	6.27	6.30	6.86	5.78
CDN-GS-7B-3	6.62	6.50	6.27	6.23	6.47	6.37	6.40		6.89	6.11	6.70	6.09	5.75	6.27	6.04
CDN-GS-7B-4	6.53	6.60	6.40	6.30	6.17	6.24	6.80		6.16	6.19	7.10	6.26	6.21	6.51	5.79
CDN-GS-7B-5	6.80	6.57	6.43	6.14	6.58	6.49	7.00		6.39	6.20	6.70	6.64	5.99	6.48	6.33
CDN-GS-7B-6	6.21	6.40	6.51	6.21	6.63	6.60	6.60		6.47	6.41	6.60	6.28	6.27	6.03	6.04
CDN-GS-7B-7	6.24	6.50	6.36	6.34	6.40	6.43	6.73		6.30	6.26	6.43	6.56	5.93	6.14	5.91
CDN-GS-7B-8	6.36	6.80	6.38	6.46	6.57	6.26	6.33		6.35	6.20	6.43	6.10	5.85	6.03	5.98
CDN-GS-7B-9	6.18	6.67	6.23	6.32	6.70	6.43	6.07		7.05	6.03	6.50	6.22	5.88	6.10	6.58
CDN-GS-7B-10	6.44	6.93	6.33	6.40	6.43	6.80	6.40		6.58	6.01	6.73	6.32	6.11	6.41	5.85
Mean	6.44	6.65	6.34	6.31	6.52	6.48	6.49		6.54	6.17	6.61	6.34	6.05	6.33	6.00
Std. Dev'n	0.2084	0.2045	0.0967	0.1106	0.2056	0.1841	0.3143		0.2717	0.1144	0.2087	0.2066	0.1934	0.2627	0.2700
%RSD	3.24	3.07	1.53	1.75	3.15	2.84	4.85		4.15	1.85	3.16	3.26	3.20	4.15	4.50

Note: ***Labs 8 did not report gravimetric results.***

Assay Procedure: ***Fire assay on 30g samples. Both ICP and gravimetric finishes were requested.***

REFERENCE MATERIAL: CDN-GS-7B

APPROXIMATE CHEMICAL COMPOSITION:

	Percent			Percent
SiO_2	82.9		Na_2O	0.8
Al_2O_3	2.4		MgO	1.9
Fe_2O_3	4.6		K_2O	0.5
CaO	3.1		TiO_2	0.3
MnO	0.1		LOI	1.7
S	1.0		C	0.1

Statistical Procedures:

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Data from any one laboratory was removed from further calculations when the mean of all analyses from that laboratory failed a t test of the global means of the other laboratories. The mean and standard deviation were calculated using all remaining data. Any analysis that fell outside of the mean ±2 standard deviations was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data. This method is different from that used by Government agencies in that the actual "between-laboratory" standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

Participating Laboratories: (not in same order as table of assays)

Acme Analytical Laboratories Ltd., Vancouver, B.C., Canada
Activation Laboratories, Ancaster, Ontario, Canada
Activation Laboratories, Thunder Bay, Ontario, Canada
ALS Chemex, North Vancouver, B.C., Canada
ALS Chemex, Nevada, USA
Assayers Canada Ltd., Vancouver, B.C., Canada
American Assay Laboratories, Nevada, USA
Bourlamaque Assay Laboratories, Quebec, Canada
Eco Tech Laboratory Ltd., Kamloops, B.C., Canada
Inspectorate America, Nevada, USA
International Plasma Laboratories, Richmond, B.C., Canada
Labtium Inc., Finland
Omac Laboratory, Ireland
SGS Canada, Toronto, Canada
TSL Laboratories Ltd., Saskatoon, SK, Canada

Legal Notice:

This certificate and the reference material described in it have been prepared with due care and attention. However CDN Resource Laboratories Ltd. nor Barry Smee accept any liability for any decisions or actions taken following the use of the reference material. Our liability is limited solely to the cost of the reference material.

Certified by Duncan Sanderson

Duncan Sanderson, Certified Assayer of B.C.

Geochemist BW Smee

Dr. Barry Smee, Ph.D., P. Geo.

CDN Resource Laboratories Ltd.

#2, 20148 - 102nd Avenue, Langley, B.C., Canada, V1M 4B4, Ph: 604-882-8422 Fax: 604-882-8466 (www.cdnlabs.com)

REFERENCE MATERIAL: CDN-GS-1P5D

Recommended value and the "Between Laboratory" two standard deviations

Gold concentration: 1.47 ± 0.15 g/t

PREPARED BY: CDN Resource Laboratories Ltd.
CERTIFIED BY: Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia
INDEPENDENT GEOCHEMIST: Dr. Barry Smee., Ph.D., P. Geo.
DATE OF CERTIFICATION: April 21, 2011

ORIGIN OF REFERENCE MATERIAL:

Standard CDN-GS-1P5D was prepared using 790 kg of a blank granitic ore and 11 kg of a high grade gold ore.

METHOD OF PREPARATION:

Reject ore material was dried, crushed, pulverized and then passed through a 270 mesh screen. The +270 material was discarded. The -270 material was mixed for 5 days in a double-cone blender. Splits were taken and sent to 14 commercial laboratories for round robin assaying. Round robin results are displayed below:

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14
Sample	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t
GS-1P5D-1	1.22	1.46	1.54	1.51	1.43	1.37	1.41	1.31	1.41	1.58	1.45	1.50	1.51	1.42
GS-1P5D-2	1.24	1.50	1.60	1.56	1.47	1.44	1.45	1.49	1.40	1.52	1.44	1.48	1.42	1.61
GS-1P5D-3	1.20	1.43	1.51	1.60	1.39	1.46	1.50	1.45	1.43	1.56	1.48	1.63	1.40	1.41
GS-1P5D-4	1.19	1.51	1.53	1.63	1.38	1.46	1.39	1.46	1.40	1.62	1.44	1.46	1.45	1.56
GS-1P5D-5	1.17	1.41	1.43	1.52	1.40	1.44	1.41	1.46	1.43	1.63	1.45	1.50	1.37	1.44
GS-1P5D-6	1.22	1.44	1.36	1.58	1.55	1.37	1.53	1.43	1.44	1.56	1.45	1.33	1.40	1.43
GS-1P5D-7	1.17	1.47	1.59	1.58	1.60	1.29	1.39	1.45	1.33	1.65	1.44	1.41	1.40	1.47
GS-1P5D-8	1.16	1.41	1.35	1.53	1.48	1.39	1.49	1.56	1.64	1.68	1.47	1.54	1.38	1.52
GS-1P5D-9	1.21	1.57	1.54	1.59	1.61	1.42	1.38	1.45	1.47	1.63	1.42	1.39	1.43	1.49
GS-1P5D-10	1.17	1.45	1.54	1.51	1.46	1.39	1.37	1.37	1.58	1.67	1.39	1.46	1.33	1.48
Mean	1.19	1.47	1.50	1.56	1.48	1.40	1.43	1.44	1.45	1.61	1.44	1.47	1.41	1.48
Std. Dev'n	0.0255	0.0499	0.0893	0.0419	0.0841	0.0525	0.0555	0.0665	0.0914	0.0535	0.0248	0.0831	0.0486	0.0646
%RSD	2.14	3.41	5.96	2.68	5.69	3.74	3.88	4.61	6.29	3.33	1.72	5.66	3.45	4.36

Assay Procedure: all assays were fire assay, ICP or AA finish on 30g samples.

Data from Lab 1 was excluded for failing the t test.

APPROXIMATE CHEMICAL COMPOSITION (by whole rock analysis):

	Percent			Percent
SiO_2	75.2		Na_2O	2.8
Al_2O_3	10.1		MgO	1.4
Fe_2O_3	5.4		K_2O	1.1
CaO	2.4		TiO_2	0.5
MnO	0.1		LOI	1.5
S	0.1			

REFERENCE MATERIAL: CDN-GS-1P5D

Statistical Procedures:

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Data from any one laboratory was removed from further calculations when the mean of all analyses from that laboratory failed a t test of the global means of the other laboratories. The mean and standard deviation were calculated using all remaining data. Any analysis that fell outside of the mean ±2 standard deviations was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data. This method is different from that used by Government agencies in that the actual "between-laboratory" standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

Participating Laboratories:
(not in same order as table of assays)

Acme Analytical Laboratories Ltd., Vancouver, B.C., Canada
Activation Laboratories, Ancaster, Ontario, Canada
Activation Laboratories, Thunder Bay, Ontario, Canada
ALS Chemex, North Vancouver, B.C., Canada
AHK Geochem, Alaska, USA
Alex Stewart, Mendoza, Argentina
Alex Stewart, Kamloops, B.C., Canada
Genalysis Lab. Services, Perth, Australia
Inspectorate, Richmond, B.C., Canada
Omac Laboratory, Ireland
Skyline Assayers & Laboratories Ltd, Arizona, USA
SGS, Lima, Peru
TSL Laboratories Ltd., Saskatoon, SK, Canada
Ultra Trace Pty. Ltd., Perth, Australia

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Certified by Duncan Sanderson

Duncan Sanderson, Certified Assayer of B.C.

Geochemist BW Smee

Dr. Barry Smee, Ph.D., P. Geo.

CDN Resource Laboratories Ltd.

#2, 20148 - 102nd Avenue, Langley, B.C., Canada, V1M 4B4, Ph: 604-882-8422 Fax: 604-882-8466
(www.cdnlabs.com)

REFERENCE MATERIAL: CDN-CGS-28

Recommended values and the "Between Lab" Two Standard Deviations

Copper concentration: ***2.089 ± 0.096 % (4-acid)***
Copper concentration: ***2.033 ± 0.108 % (aqua regia)***
Gold concentration: ***0.727 ± 0.076 g/t (30g FA, instrumental finish)***

PREPARED BY: CDN Resource Laboratories Ltd.
CERTIFIED BY: Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia
INDEPENDENT GEOCHEMIST: Dr. Barry Smee., Ph.D., P. Geo.
DATE OF CERTIFICATION: August 17, 2011

METHOD OF PREPARATION:

Reject ore material was dried, crushed, pulverized and then passed through a 270 mesh screen. The +270 material was discarded. The -270 material was mixed for 5 days in a double-cone blender. Splits were taken and sent to 14 laboratories for round robin assaying.

ORIGIN OF REFERENCE MATERIAL:

The ore was supplied by Capstone Mining Corp. from the Minto Mine in Yukon, Canada. Mineralization is primary chalcopyrite and bornite pervasively disseminated and as stringers within foliated granodiorite units rich in secondary biotite. Sulphide mineralization is typically accompanied by magnetite. Gold is associated with the sulphide mineralization, typically intimately associated with bornite and rarely observed as free gold.

Approximate chemical composition (by whole rock analysis) is as follows:

	Percent			Percent
SiO2	64.1		MgO	0.9
Al2O3	11.2		K2O	2.9
Fe2O3	9.6		TiO2	0.3
CaO	2.1		LOI	3.1
Na2O	2.3		S	1.0

Statistical Procedures:

The final limits were calculated after first determining if all data was compatible within a spread normally expected for similar analytical methods done by reputable laboratories. Data from any one laboratory was removed from further calculations when the mean of all analyses from that laboratory failed a t test of the global means of the other laboratories. The means and standard deviations were calculated using all remaining data. Any analysis that fell outside of the mean ±2 standard deviations was removed from the ensuing data base. The mean and standard deviations were again calculated using the remaining data. This method is different from that used by Government agencies in that the actual "between-laboratory" standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

REFERENCE MATERIAL   CDN-CGS-28

Results from round-robin assaying:

Assay Procedures: **Au:** Fire assay pre-concentration, AA or ICP finish (30g sub-sample).
Cu: 4-acid digestion, AA or ICP finish as well as aqua regia digestion, AA or ICP.

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12	Lab 13	Lab 14	Lab 15
SAMPLE	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t
CGS-28-1	0.744	0.723	0.741	0.669	0.752	0.669	0.792	0.665	0.84	0.855	0.67	0.701	0.677	0.720	0.780
CGS-28-2	0.715	0.724	0.773	0.737	0.758	0.665	0.802	0.691	0.72	0.783	0.75	0.660	0.685	0.729	0.777
CGS-28-3	0.693	0.728	0.767	0.736	0.784	0.711	0.785	0.711	0.75	0.711	0.69	0.703	0.678	0.726	0.747
CGS-28-4	0.663	0.701	0.715	0.685	0.738	0.751	0.878	0.678	0.84	0.684	0.78	0.730	0.798	0.756	0.777
CGS-28-5	0.774	0.719	0.723	0.696	0.893	0.718	0.820	0.719	0.74	0.730	0.74	0.688	0.720	0.655	0.760
CGS-28-6	0.754	0.727	0.748	0.712	0.746	0.725	0.786	0.698	0.77	0.672	0.69	0.749	0.716	0.749	0.770
CGS-28-7	0.735	0.709	0.772	0.695	0.846	0.633	0.840	0.616	0.76	0.736	0.76	0.679	0.688	0.705	0.743
CGS-28-8	0.808	0.738	0.716	0.687	0.751	0.709	0.891	0.659	0.79	0.670	0.77	0.692	0.722	0.789	0.743
CGS-28-9	0.748	0.724	0.750	0.687	0.815	0.705	0.859	0.698	0.79	0.706	0.74	0.669	0.713	0.790	0.750
CGS-28-10	0.810	0.739	0.720	0.700	0.791	0.738	0.793	0.645	0.81	0.771	0.74	0.717	0.706	0.695	0.770
Mean	0.744	0.723	0.743	0.700	0.787	0.702	0.825	0.678	0.781	0.732	0.733	0.699	0.710	0.731	0.762
Std. Dev'n	0.0466	0.0116	0.0232	0.0220	0.0505	0.0363	0.0399	0.0320	0.0407	0.0579	0.0371	0.0275	0.0354	0.0418	0.0148
%RSD	6.26	1.61	3.12	3.15	6.42	5.16	4.84	4.72	5.21	7.91	5.07	3.93	4.98	5.71	1.94
4 acid	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %
CGS-28-1	2.08	2.15	2.01	2.14	1.98	2.10	2.18	2.14	2.15	2.08	2.04	2.00	2.00	2.06	2.12
CGS-28-2	2.09	2.11	2.03	2.12	2.00	2.03	2.18	2.16	2.15	2.07	1.98	2.04	2.07	2.05	2.16
CGS-28-3	2.10	2.10	2.03	2.16	1.95	2.06	2.09	2.17	2.10	2.07	2.11	2.02	2.00	2.06	2.19
CGS-28-4	2.07	2.07	2.03	2.14	1.94	2.09	2.10	2.13	2.12	2.07	2.03	2.15	2.06	2.02	2.17
CGS-28-5	2.10	2.13	2.03	2.11	1.97	2.09	2.13	2.13	2.15	2.11	2.03	2.08	2.05	2.07	2.13
CGS-28-6	2.09	2.09	2.03	2.11	1.98	2.06	2.20	2.13	2.18	2.07	2.07	2.06	2.08	2.05	2.17
CGS-28-7	2.08	2.13	2.05	2.16	1.94	2.06	2.12	2.14	2.14	2.06	2.01	2.03	2.00	2.08	2.16
CGS-28-8	2.05	2.09	2.08	2.13	2.02	2.09	2.11	2.14	2.17	2.07	2.01	2.05	2.07	2.05	2.16
CGS-28-9	2.02	2.08	2.04	2.12	1.95	2.08	2.23	2.13	2.13	2.05	1.99	2.12	2.01	2.07	2.17
CGS-28-10	2.01	2.10	2.06	2.13	2.03	2.07	2.13	2.10	2.14	2.08	2.08	2.08	2.05	2.09	2.11
Mean	2.07	2.11	2.04	2.13	1.97	2.07	2.15	2.14	2.14	2.07	2.04	2.06	2.04	2.06	2.15
Std. Dev'n	0.0321	0.0251	0.0210	0.0184	0.0302	0.0223	0.0472	0.0189	0.0231	0.0158	0.0412	0.0460	0.0328	0.0194	0.0263
%RSD	1.55	1.19	1.03	0.86	1.53	1.08	2.20	0.88	1.08	0.76	2.02	2.23	1.61	0.94	1.22
Aqua Regia	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %
CGS-28-1	2.06	2.07	1.98	1.99	2.06	2.01	1.99	1.98	2.08	2.03	1.89	2.08	2.09		2.06
CGS-28-2	2.04	2.09	2.00	1.98	1.98	2.05	1.99	1.99	2.13	2.02	1.96	1.97	2.03		2.06
CGS-28-3	2.03	2.08	2.00	1.96	2.01	2.13	2.19	1.97	2.08	2.03	1.95	2.08	2.12		2.06
CGS-28-4	2.02	2.09	2.02	1.97	2.04	2.06	2.05	1.98	2.12	2.03	1.90	2.02	2.02		2.06
CGS-28-5	2.05	2.08	2.00	2.01	2.03	2.03	2.05	1.94	2.13	2.02	1.92	2.03	2.00		2.09
CGS-28-6	2.03	2.07	1.99	1.99	2.03	2.13	2.14	1.98	2.15	2.02	1.93	1.96	2.05		2.10
CGS-28-7	2.05	2.08	2.01	1.93	1.96	2.10	2.06	1.93	2.15	2.02	1.93	2.06	1.99		2.05
CGS-28-8	2.00	2.09	2.00	1.94	2.01	2.10	2.10	1.98	2.14	2.04	2.08	2.04	2.03		2.06
CGS-28-9	2.05	2.05	2.01	2.00	2.00	2.15	2.10	1.98	2.16	2.02	1.93	2.05	2.04		2.08
CGS-28-10	2.04	2.04	1.95	1.97	2.04	2.07	2.13	2.00	2.13	2.01	2.00	2.07	1.99		2.05
Mean	2.04	2.07	2.00	1.97	2.01	2.08	2.08	1.97	2.13	2.03	1.95	2.04	2.04		2.07
Std. Dev'n	0.0177	0.0171	0.0189	0.0242	0.0288	0.0460	0.0645	0.0216	0.0275	0.0105	0.0555	0.0425	0.0422		0.0178
%RSD	0.87	0.83	0.95	1.23	1.43	2.21	3.10	1.10	1.29	0.52	2.85	2.09	2.07		0.86

Note: **Au data from Laboratory 7 was excluded for failing the t test.**
Cu data (4 acid) from Laboratory 5 was excluded for failing the t test.

STANDARD REFERENCE MATERIAL   CDN-CGS-28

Participating Laboratories:
(not in same order as listed in table of results)

Acme Analytical Laboratories Ltd., Vancouver, B.C., Canada
Actlabs, Ancaster, Ontario, Canada
Actlabs, Thunder Bay, Ontario, Canada
ALS Chemex Laboratories, North Vancouver, B.C., Canada
American Assay Laboratories, Nevada, USA
Alex Stewart, Mendoza, Argentina
Alex Stewart, Kamloops, B.C., Canada
CIMM, Lima, Peru
Genalysis Laboratory Services Pty. Ltd., Australia
Inspectorate, Richmond, B.C., Canada
OMAC Laboratories Ltd., Ireland
SGS, Lima, Peru
Skyline Assayers & Laboratories, Arizona, USA
TSL Laboratories, Saskatoon, Canada
Ultra Trace Analytical Laboratories, Australia

Certified by   Duncan Sanderson
Duncan Sanderson, Certified Assayer of B.C.

Geochemist   BW Smee
Dr. Barry Smee, Ph.D., P. Geo.

Appendix 4c – Inspectorate Technical Response

Technical Response

Golden Dawn Minerals INC

4/3/2012

Client contacted Inspectorate Lab with some questions regarding standards and blanks from 2011. 3 Failed blanks, (2xAu and 1xAg) and 4 failed Au standards.

Pulp re-assays were performed on the failed standards, blanks and unknowns either side of the failures. The jobs with failed blanks, the reject was located, re-prepped and re-assayed.

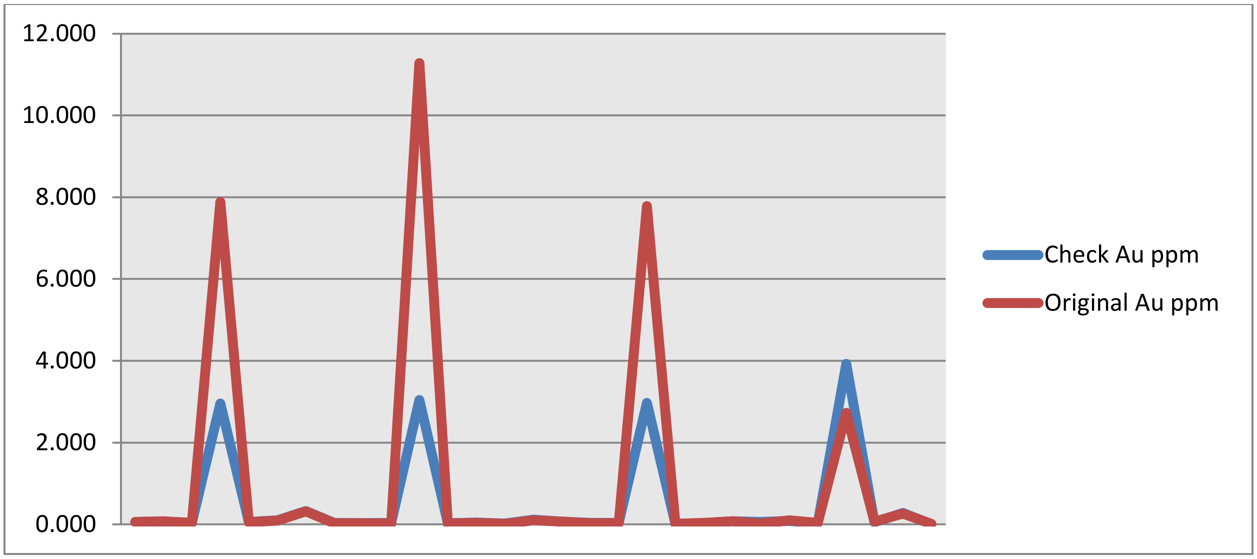
Failed standards:

11-360-07901-01, samples 550336, 57 and 48. CDN-GS-3H = 3.04ppm.

11-360-08789-01, samples 556021, CDN-GGS-4C = 4.26ppm

See below the table/graph showing original and re-assay results.

Sample Desc	Check Au ppm	Original Au ppm		Sample Desc	Check Au ppm	Original Au ppm
550333	0.063	0.059		550375	0.072	0.065
550334	0.067	0.074		550376	0.036	0.033
550335	0.038	0.039		550377	0.037	0.028
550336	2.958	7.886		550378	2.968	7.783
550337	0.057	0.053		550379	0.011	0.010
550338	0.103	0.096		550380	0.032	0.035
550339	0.330	0.318		550381	0.072	0.080
550354	0.037	0.027				
550355	0.028	0.025		556018	0.061	0.024
550356	0.033	0.023		556019	0.086	0.103
550357	3.040	11.280		556020	0.032	0.040
550358	0.030	0.025		556021	3.927	2.727
550359	0.042	0.038		556022	0.050	0.065
550360	0.024	0.017		556023	0.277	0.260
550374	0.113	0.104		556024	0.006	0.016



Failed blanks:

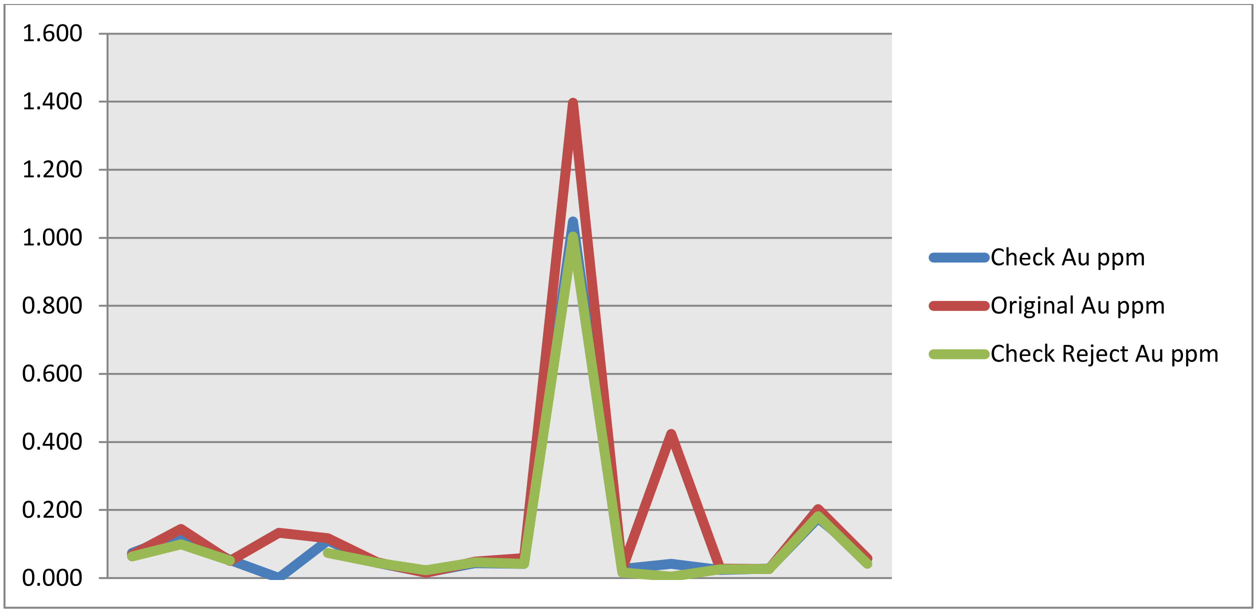
11-360-08001-01 sample 551001, Au.

11-360-08363-01 sample 551332 Au.

11-360-08987-01 sample 556280 Ag

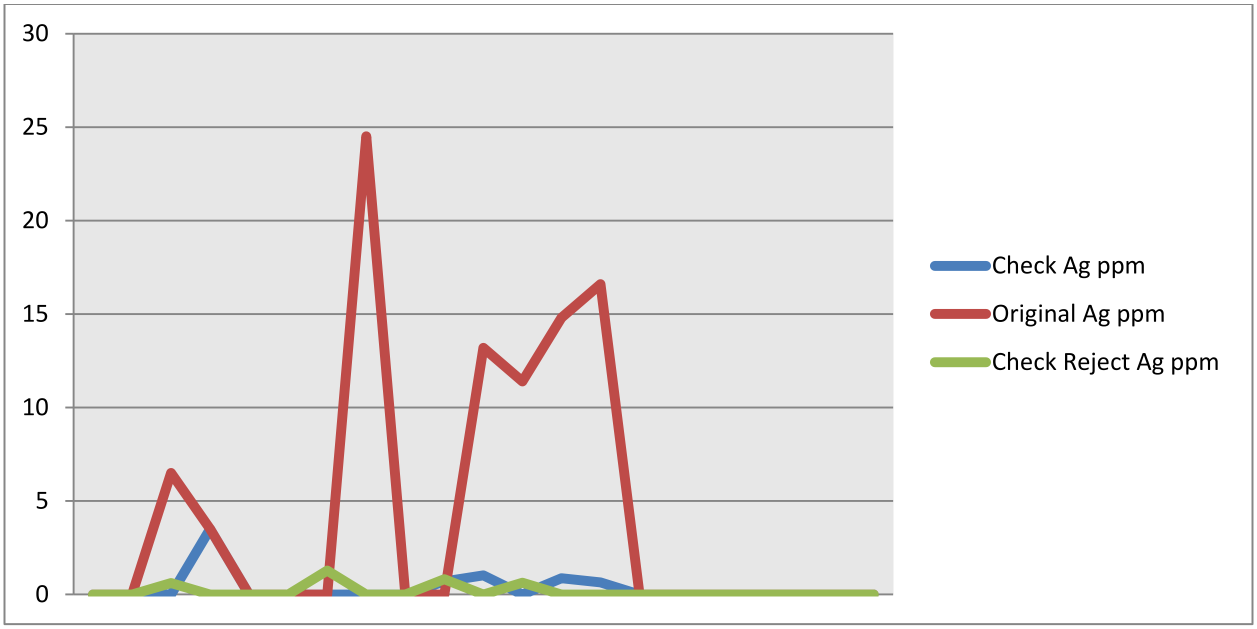
See below tables/graphs showing, original, re-assay pulp and re-assay reject

Sample Desc	Check Au ppm	Original Au ppm	Check Reject Au ppm
550998	0.074	0.068	0.063
550999	0.129	0.145	0.100
551000	0.053	0.050	0.051
551001	0.001	0.133	N.S.
551002	0.110	0.117	0.074
551003	0.044	0.047	0.045
551327	0.017	0.016	0.023
551328	0.044	0.048	0.047
551329	0.042	0.059	0.042
551330	1.048	1.397	1.004
551331	0.027	0.027	0.017
551332	0.042	0.424	0.004
551333	0.024	0.028	0.026
551334	0.028	0.027	0.027
551335	0.176	0.203	0.182
551336	0.057	0.058	0.042



Ag:

Sample Desc	Check Ag ppm	Original Ag ppm	Check Reject Ag ppm
556270	<0.5	<0.5	<0.5
556271	<0.5	<0.5	<0.5
556272	<0.5	6.5	0.62
556273A	3.50	3.5	<0.5
556274	<0.5	<0.5	<0.5
556275	<0.5	<0.5	<0.5
556276	<0.5	<0.5	1.29
556277	<0.5	24.5	<0.5
556278	<0.5	<0.5	<0.5
556279	0.70	<0.5	0.82
556280	1.03	13.2	<0.5
556281	<0.5	11.4	0.64
556282	0.87	14.8	<0.5
556283	0.64	16.6	<0.5
556284	<0.5	<0.5	<0.5
556285	<0.5	<0.5	<0.5
556286	<0.5	<0.5	<0.5
556287	<0.5	<0.5	<0.5
556288	<0.5	<0.5	<0.5
556289	<0.5	<0.5	<0.5
556290	<0.5	<0.5	<0.5



Observations:

For the Au, both standards and blanks, the re-assay of the pulps/rejects agreed well with the original results with the exception of the standard, with the re-assay standards were now in the range expected.

For Ag, the blank was now in line, but re-assay showed that there was contamination of 4 unknowns in addition to the blank.

Conclusions:

The definitive reason for the original high Au standards is unknown. There was likely contamination, although the fact that it only affected the standards is unusual. Without being able to go back to the time of the analysis time and witness the procedure again, the reasoning will remain speculation. What is positive is that the unknown samples were not affected and re-assays confirmed original assay results.

The Ag contamination seen is likely from Teflon beakers that in 2011 were shared between the High Grade samples and GeoChem samples. Towards the end of 2011 this source of contamination was discovered and the lab has since created separate sets for the 2 sample grades to prevent re-occurrence.

Actions:

Communicate this reported with the client, so that they are aware of the investigation that has occurred and the results/conclusions.

Re-publish 11-360-08987-01 with the re-assay Ag results to the client

Lab management to discuss this report with their staff, explaining the issues that can occur if contamination happens and way that we can prevent contamination in the laboratory.

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