Progress Report

Interpretation of Regional Geophysical and RGS Geochemical Surveys on the Loon Property

Omineca Mining Division Tenure Numbers: 851692

NTS: 093F/12

UTM Zone 10 (NAD 83) Easting 303000 Northing 5947000

Work performed April 12, 2012-April 13, 2012

For

RKG Exploration 1535 Westall Avenue Victoria, BC V8T 2G6

By

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BC Geological Survey Assessment Report 34069

Item 1: Summary

The Loon property lies in central British Columbia, approximately 70 kilometres south of Bums Lake, B.C. The claim lies at 303000E, 5947000N in UTM Zone 10 (NAD 83) on NTS map sheet 93 F/12. The property is located approximately 85km to the northwest of the Blackwater-Davidson (5.5 million ounce gold) discovery now owned by New Gold Inc.

The property is situated on the Windfall Hills, of the Nechako Plateau. Topography in the area consists of gently rolling northeast oriented hills with elevations ranging from approximately 1,190m to 1,220 metres. Outcrop is sparse and limited to hill tops and steep slopes. Access to the historical Loon showing is at km 8 of the Chief Louis spur off of the Ootsa Main logging road. The claim which is the subject of this report consists of 8 cells and lies both the north and east of the Loon Minfile location and is believed to cover the northeast extension to mineralization found at that location.

The Loon claim lies within the central portion of the Stikine Terrain, which locally consists of three volcanic-stratigraphic groups ranging in age from Jurassic to Miocene. An Eocene extensional tectonic event, which resulted in basin and range type topography, is associated with epithermal, volcanic-hosted gold mineralization. The Loon claim is located near the southwestern border of the Cheslatta Caldera Complex on the northwestern extension of the Nechako Arch. The property is underlain by a faulted block of Ootsa Lake Group rhyolite, dacite and related tuffs and breccias. A small stock of Miocene aged alkaline volcanic rocks, belonging to the Chilcotin Group - Cheslatta Lake Complex, lies immediately to the north. The claim is 100% owned by the author, in partnership with Ralph Keefe and Shawn Turford of Francois Lake.

It is the author's belief that previous exploration programs on the Loon property demonstrate the potential for significant epithermal style gold mineralization. These programs also failed to adequately test this potential. Additional exploration in the form of geological, geophysical and geochemical surveys and drilling is warranted to determine if one or more economic mineralized bodies are present within the existing property boundaries.

Item 2: Introduction

This report is being prepared for the author for the purposes of filing assessment on the claims comprising the Loon property and to create a base from which further exploration will be completed.

2.1 Qualified Person and Participating Personnel

Mr. Kenneth D. Galambos P.Eng. conducted the current evaluation and interpretation of data to focus further exploration expected to be completed in the summer of 2012, and to make recommendations to test the economic potential of the area. This report describes the property in accordance with the guidelines specified in National Instrument 43-101 and is based on historical information and an examination and interpretation of technical data covering the property. This evaluation was completed by the author over a time period from April 12, 2012-April 13, 2012.

2.2 Terms, Definitions and Units

- All costs contained in this report are denominated in Canadian dollars.
- Distances are primarily reported in metres (m) and kilometers (km) and in feet (ft) when reporting historical data.
- GPS refers to global positioning system.
- Minfile showing refers to documented mineral occurrences on file with the British Columbia Geological Survey.
- The term ppm refers to parts per million, equivalent to grams per metric tonne (g/t).
- ppb refers to parts per billion.
- The abbreviation oz/t refers to troy ounces per imperial short ton.
- The symbol % refers to weight percent unless otherwise stated. 1% is equivalent to 10,000ppm.
- Elemental and mineral abbreviations used in this report include: arsenic (As), copper (Cu), gold (Au), iron (Fe), lead (Pb), molybdenum (Mo), zinc (Zn), chalcopyrite (Cpy), molybdenite (MoS2) and pyrite (Py).

2.3 Source Documents

Sources of information are detailed below and include the available public domain information and private company data.

- Research of the Minfile data available for the area at <u>http://www.empr.gov.bc.ca/Mining/Geoscience/MINFILE/Pages/default.aspx</u>
- Research of mineral titles at https://www.mtonline.gov.bc.ca/mtov/home.do
- Review of company reports and annual assessment reports filed with the government at http://www.empr.gov.bc.ca/Mining/Geoscience/ARIS/Pages/default.aspx
- Review of geological maps and reports completed by the British Columbia Geological Survey at <u>http://www.empr.gov.bc.ca/Mining/Geoscience/MapPlace/MainMaps/Pages/defa</u> ult.aspx.
- Published scientific papers on the geology and mineral deposits of the region and on mineral deposit types.

2.4 Limitations, Restrictions and Assumptions

The author has assumed that the previous documented work in the area of the property is valid and has not encountered any information to discredit such work.

2.5 Scope

This report describes the geology, previous exploration history, interpretation of regional geophysical and geochemical surveys; and the mineral potential of the Loon project. Research included a review of the historical work that related to the immediate and surrounding areas. Regional geological data and current exploration information have been reviewed to determine the geological setting of the mineralization and to obtain an indication of the level of industry activity in the area.

Item 3: Reliance on Other Experts

Some data referenced in the preparation of this report was compiled by geologists employed by various companies in the mineral exploration field. These individuals would be classified as "qualified persons" today, although that designation did not exist when some of the historic work was done. The author believes the work completed and results reported historically to be accurate but assumes no responsibility for the interpretations and inferences made by these individuals prior to the inception of the "qualified person" designation.

Item 4: Property Description and Location

The Loon property consists of 1 claim covering an area of 153.40ha (8 cells), on the south shore of Ootsa Lake in central British Columbia. The claim lies within the 093F/12 1:50,000 mapsheet in the Windfall Hills of the Nechako plateau. The property is centered at UTM Zone 10 (NAD 83) 303000E, 5947000N and is located approximately 85km to the northwest of the Blackwater-Davidson (5.5 million ounce gold) discovery now owned by New Gold Inc.



Figure 1: Loon Property Location Map

Upon acceptance of this report, the highlighted mineral tenures will have their expiry dates moved to September 5, 2013.

Table 1: Claim Data

Tenure #	Claim	Issue date	Expiry date	Area (Ha)	Owner
851692	Loon	2011/Apr/14	2013/Sep/05	153.40	GALAMBOS, KENNETH D 100%

Loon Property Claim Map



Fig. 2: Loon Project Claim Map

The claims comprising the Loon property as listed above are being held as an exploration target for possible hardrock mining activities which may or may not be profitable. Any exploration completed will be subject to the application and receipt of necessary Mining Land Use Permits for the activities recommended in this report. There is no guarantee that this application process will be successful.

The Claims lie in the Traditional territories of a number of local First Nations and to date no dialog has been initiated with these First Nations regarding the Loon property. There is no guarantee that approval for the proposed exploration will be received.

Item 5: Accessibility, Climate, Local Resources, Infrastructure and Physiography

The Loon property lies in central British Columbia, approximately 75 kilometres south of Bums Lake, B.C. The claims lie between Intata Reach and Chelaslie River on NTS map

sheet 93 F/12. Access is from Bums Lake via the Marilla Forest Service Road. south for 75km to the ferry landing and then south across Intata Reach. The property is accessed via a network of forestry roads approximately 7.5 kilometres southwest of the ferry landing.



Plate 1: Satellite Image of Loon Project

The property is situated on the Windfall Hills, of the Nechako Plateau. Topography consists of gently rolling northeast oriented hills with elevations ranging from approximately 860m at Ootsa Lake to 1220m. Outcrop is sparse and limited to hill tops and steep slopes. Forest cover consists primarily of spruce and pine heavily affected by the Mountain Pine beetle with poplar and cottonweed in low-lying areas. The climate is typical of central British Columbia with below freezing temperatures (0° C to -40° C) from November to April and periods of hot weather in the summer ranging from 20° to 40° C. Precipitation averages 427.8 millimetres a year, with a substantial portion in the form of snow, averaging 90.5 centimetres per year.

Lodging, groceries, a helicopter charter company and building supply stores are available in the small community of Burns Lake while nearby centers such as Smithers and Terrace host regional airports serviced from Vancouver, diamond drilling and exploration service companies.

Item 6: History

A brief description of the gold exploration programs conducted by major mining companies in the general area is summarized below:

1980-1994, Amax Exploration Ltd./A&M Exploration/Asitka Resources Corp./Chalice Mining Inc./Pacific Comox Resources Ltd.

Amax staked claims in the Uduk Lake area just south of the Loon property. The claims were allowed to lapse by Amax and were subsequently re-staked by A&M Exploration as the Duk

claims to cover a large area of argillized, quartz-veined, and locally brecciated rhyolitic volcanic rocks. In 1984, geochemical sampling identified anomalous areas of molybdenum (up to 44 ppm), silver (up to 3.6 ppm), gold (up to 700 ppb), arsenic (up to 100 ppb), lead (up to 68 ppm) and zinc (up to 464 ppm) in soil and rock. B-horizon soil sampling was determined not to be effective in identifying underlying values in bedrock due to the often thin (<2m) but widespread glacial till present on the property. Sampling the following year returned results of up to 3800 ppb Au from grab samples of intensely quartz-veined rhyolite. A short winky drill program, in 1986 returned 1600ppb Au/1m, at a depth of 5m. Chip sampling in 1994 returned 0.41g/t Au over 42m from trench 94-4 and grab samples to 5.7g/t Au.

1988-1994, Mingold/Hudson Bay Mining and Smelting Ltd.

In 1988, Mingold staked the Loon claims after tracing mineralized epithermal boulders south of Ootsa Lake up-ice to outcroppings of similar material which contained up to 1026 grams per tonne silver and 5.4 grams per tonne gold. In 1990, a small VLF-EM resistivity survey was completed and succeeded in outlining two distinct anomalous zones which coincided with the known areas of silicification and precious metal mineralization. In 1994, Hudson Bay Mining and Smelting completed 773.4 metres of diamond drilling in 5 holes, testing IP anomalies. In 1996, a further 6 holes, totalling 1610 metres were completed, testing deeper IP targets. Trenching exposed cream coloured rhyolite to dacite that is variably silicified and argillically altered. Silica occurs as quartz-chalcedony veinlets, lenses and drusy cavities in clay altered volcanic rock. Pyrite (and marcasite?) is the only observable sulphide and is present in trace amounts to 5 per cent. Sulphides vary from coarsely crystalline to very fine grained and locally exhibit colloform banding. Gold and silver mineralization appears to be related to the presence of dark grey chalcedony. A 2-metre channel sample from trench 89-9 assayed 0.22 grams per tonne gold and 4.5 grams per tonne silver. In 1994, a sample across 2.35 metres in DD94-4 assayed 4.25 grams per tonne gold and 29.7 grams per tonne silver. Soil surveys suggested that epithermal mineralization associated with the western most trenches (TR88-4, 5, 6) trends at approximately 020° AZ over a distance of 300m and possibly 1100m. Mingold ceased operations in 1990 and no further work was done. The Loon 2 claim was transferred to Hudson Bay Exploration in 1993.

1992-1994 Cogema Resources Ltd.

In 1992 Cogema Resources began exploring the area by conducting a regional till geochemical and prospecting program covering the entire Nechako basin. Results from this work lead to the company acquiring several mineral claims through staking throughout the area specifically the Snag, Yellow Moose and Cutoff claims. In 1993 an airborne magnetometer and electromagnetic survey covering the Yellow Moose property totalling 377 line-kilometers was completed. In the summer of that year follow up prospecting, geological mapping, and till geochemistry were conducted over the property. In late 1993 Cogema staked the Lucas Lake, Lucas West, and the Saunders claims primarily based on data released from the B.C. Provincial government's RGS data. The 1994 program for the area included 353 metres of trenching, and 625.7 meters of diamond drilling. Work on the Lucas and Saunders properties consisted of till sampling and prospecting.

1995 Phelps Dodge Corporation of Canada

Phelps Dodge optioned Cogema's claims in the area and conducted soil geochemistry, rock sampling, prospecting and geological mapping during the summer of 1995. In the summer

of 1996 the company conducted an Induced Polarization/ resistivity survey on the Yellow Moose Claims.

2011 Canarc Resources Limited

Canarc conducted a Phase 1 exploration program on their newly acquired Windfall Hills property which covered the Uduk Minfile showing optioned from Atna Resources Limited. The company conducted a 340-sample soil geochemical program on a 100-metre-by-25-metre grid over the main 2.8-square-kilometre historic prospect area. Two anomalies were delineated on the basis of multi-element geochemistry. A review of the soil data shows the primary trend of gold, silver, arsenic and antimony to the northeast between 40° and 60° AZ. Silver in soils also has a second trend to the north and with the anomaly remaining open to the south.

Item 7: Geological Setting and Mineralization

7.1 Regional Geology

The Tertiary geologic elements of the Nechako Basin are part of a regional extensional system that extends from the Republic area of northern Washington State, northwesterly for some 1000 kilometres into the Babine district of north central British Columbia. This belt trends northwest with the approximate dimensions of 1000 x 200km. It crosses major terrane boundaries and underlies the Quesnel, Kootenay and Omineca Terranes in the south and the Stikine Terrane in the north, crossing the oceanic Cache Creek Group. It overlaps the southern margin of the Bowser Basin where it continues northward as a thin strip along the eastern margin of the Coast Range.

Stratigraphic and intrusive rocks in the Stikine Terrane range in age from Palaeozoic to Pleistocene. With respect to the Eocene mineral setting, the geologic elements of the Stikine Terrane may be divided into three separate packages: basement rocks, latest Upper Cretaceous-Eocene rocks associated with mineralization, and cover rocks (Table 2).

Table 2. Main Geologic Map Units of the Nechako Basin

Stratified Rocks		Intrusive and Metamorphic Rocks	
11. Anahim Volcanics (Pliocene-Pleistocene)			
10. Chilcotin Volcanics (Miocene)			
9. Endako Group (Eocene-Oligocene)			
8. Ootsa Lake Group (Eocene and Paleocene) gabbro)		Eocene (stocks, plugs, dykes, rhyolite, felsite, porphyry, diorite,	
7. Kasalka-Kingsvale Groups (Upper Cretaceous) quartz monzonite)		Upper Cretaceous-Paleocene (Quanchus Intrusions: stocks and batholiths, diorite to	
6. Skeena-Jackass Mountain Groups (Lower Cretaceous)		Mid-Cretaceous (mainly tonalite to quartz monzonite of Coast Range	
complex))		(
5. Gambier Group (Upper Jurassic-Lower Cretaceous)		Jurassic-Cretaceous	
includes quartz-feldspar porphyry)		(i rançois care batholith, quartz dionte to granite,	
4. Relay Mountain-Bowser Groups (Upper Jurassic-Lower Cretaceous)			
3. Hazelton Group (Lower and Middle Jurassic)		Middle Jurassic (locally foliated granodiorite and quartz monzonite)	
2. Stuhini Group (Upper Triassic)			
1. Cache Creek Group (Upper Palaeozoic)		Permian (mainly granodiorite in lower Chilcotin River)	
	Α.	Metamorphic Rocks (gneiss, schist, metavolcanics, cataclasites	

Basement Rocks - Lower Upper Cretaceous and Older

Basement rocks to the Tertiary in the Nechako Basin comprise Upper Triassic to lower Upper Cretaceous strata grouped into two major time-stratigraphic assemblages.

The oldest assemblage consists of arc volcanics of Upper Triassic to Middle Jurassic age that includes limestone, volcanics and sediments of the Upper Paleozoic Cache Creek Assemblage, submarine and marine island arc volcanics and sediments of the Carnian to Norian subalkaline, basaltic Stuhini (Takla) Group, and the Sinemurian to Bajocian calc-alkaline Hazelton Group.

The arc volcanic assemblages are overlain by two sedimentary assemblages; the Middle Jurassic to Lower Cretaceous Bowser Lake Group and the Lower and Upper Cretaceous Skeena Group. Deltaic assemblages of the Bowser Lake Group were deposited mainly in the Bowser Basin to the north of the Nechako reconnaissance area, except for its basal beds. These basal beds belong to the Ashman Formation and represent a black clastic-chert pebble conglomerate unit that covers much of the Stikine Terrane. Marine and nonmarine sediments of the Neocomian to Cenomanian Skeena and Jackass Mountain Groups blanketed much of the Stikine Terrane and sourced from the east, off the Cache Creek, Quesnel and Omineca Terranes. The blanket of Skeena Group clastics across Stikinia outlines a regional datum to which deformation and deposition of younger strata may be related. This surface represents one of three main erosional surfaces in central BC.

The basement rocks have been affected by regional compressive tectonics. Westerly verging compression along the east margin of the Stikine Terrane, associated with the amalgamation of Stikinia, Quesnellia and the Cache Creek Terranes to the North American Craton, affects rocks as young as Upper Jurassic. Easterly verging compression along the west margin of the Stikine Terrane, associated with the amalgamation of the Wrangellia with Stikinia affects rocks as young as Late Cretaceous.

Intrusive rocks associated with the basement strata include the Upper Jurassic-Lower Cretaceous François Lake intrusions to the northeast of the reconnaissance area, and mid-Cretaceous plutons of the Coast Crystalline Complex.

Many of the northwest and northeast trending fault zones that control the distribution of the Tertiary geologic elements are fault zones whose activity can be traced back to the Upper Triassic and Lower Jurassic.

Upper Cretaceous to Miocene

The Upper Cretaceous to Eocene metallogenic event is associated with three stratigraphic assemblages, the late Upper Cretaceous andesitic Kasalka Group, the felsic Eocene Ootsa Lake Group and the basaltic Eocene to Oligocene Endako Group. These assemblages represent a generalized cycle of early andesitic volcanism, explosive felsic volcanism, bimodal felsite-basic volcanism and later basic volcanism. The early andesitic Kasalka Group, and the felsic Ootsa Lake Group strata were deposited in calderas and caldera complexes. The distribution of the older facies of the Endako Group are in part controlled by the felsic calderas. The felsic calderas are large, composite features that may measure more than 50 kilometres in diameter and are nested caldera complexes. The volcanic assemblages are associated with a fault array whose main expression is extensional. This sequence of caldera associated volcanism and extensional faulting is a common sequence through the length of the extensional belt, from the Mexican border to Babine Lake and is associated with a vast array of significant mineral deposits.

The Kasalka Group volcanics (McIntyre, 1985) occur as a number of caldera basins throughout west-central British Columbia, on the Stikine Terrane, between the Blackwater Linear zone and the north flank of the Skeena Arch. They are mainly feldspathic andesitic volcanics but local basins include explosive and passive felsic volcanism. They are associated with granodioritic stocks and-plugs of the Quanchus and Bulkley Intrusions. In a number of locations in central BC, red and green polylithic volcanic and granitic cobble conglomerate underlies basal Kasalka strata. The age of the Kasalka volcanics and associated intrusives range from 85My to 60My and fall mainly in the 72 to 67 My interval.

The Ootsa Lake Group volcanics (Duffel, 1959) are typified by light coloured felsic volcanics. They underlie broad areas of the southern Stikine Terrane from Babine Lake to the Chilcotin River and include a variety of depositional types. They occur in structurally controlled basins and in large caldera complexes. Two caldera complexes underlie the Nechako Reconnaissance area, the Mt. Dent Caldera Complex in the south and the Cheslatta Caldera Complex in the north. Subvolcanic intrusives are common; coeval plutonic rocks are rare within the caldera complexes but common in the basement. The Ootsa Lake Group ranges in age from 58 to 47 My with the interval of 52 to 48 My representing timing of the main felsic eruptive events.

The Endako Group (Armstrong, 1949) is a wide-ranging assemblage of mainly basaltic rocks. In a general sense, the Endako Group overlies and is younger than the Ootsa Lake Group. Basaltic and andesitic rocks are commonly associated with felsic rocks in the calderas. Ages of the Endako Group show a range from 50 to 37 My. The early basaltic rocks of the Endako Group overlap in both ages and depositional sites with the felsites of the Ootsa Lake Group. Although the Ootsa Lake Group and the early Endako Group are mapped as separate entities, the interval of their coincidence in space and time infers a genetic relationship.

Post-Ootsa Lake Group basaltic volcanism occurred intermittently throughout the area, from 45 My to Recent. (Mathews, 1984 and 1989; Rouse, 1988). Basaltic volcanics younger than 35 My are correlated with the Chilcotin Group. Felsic volcanics are known to be locally associated with intervals of this basalt event but no significant centre has yet been recognized.

Pliocene-Pleistocene

Outcrops of the Anahim Group peralkaline basalts have been observed in two locations of the South area: west of Nazko, a 3-km wide cinder cone overlies glacial till, and a few outcrops were found in the Moore Creek area.

"During the Pleistocene all of Central British Columbia was covered by glacier ice that molded a multitude of features from which the glacial events can be interpreted" (Tipper, 1971). The bulk of glacial features in Central British Columbia have been produced by the Fraser Glaciation, the last major advance. Minor late re-advances are observed around the Anahim volcanoes and along the Coast Ranges.

Within the study area glacial transport direction varies from N O° to 30°, south of the Blackwater lineament, to N 60° to 90° north of it. Glacial deposits consist mostly of lodgement till with some areas of ablation till, esker systems, and fluvio-glacial material. A thin veneer of ablation till may occasionally overlie lodgement till. There are no extensive glacial lake deposits (sands and clays). Evidence of multiple glaciation has been observed in a few localities in the form of lodgement till overlying fluvio-glacial deposits.



Figure 3: Regional Geology

Fig. 3: Regional Geology map

7.2. Regional Structure

The Nechako Basin is within the Intermontane Belt of the Canadian Cordillera, mainly on the Stikinia Terrane, but overlapping onto the Cache Creek Terrane. "A regional dextral transcurrent strain regime appears to have been important in the evolution of early Cenozoic structures in the southern part of the Intermontane Belt... These structures have been related to right lateral transform motions and to regional extension" (Gabrielse et al., 1992). This regime resulted in alternating basins and arches along the Intermontane Belt: Nechako Basin, Skeena Arch, Bowser Basin, and Stikine Arch (Figure 4). The Nechako Basin can be assimilated to a pull-apart basin formed between the Fraser River Fault System and the Coast Range Megalineament or one of its parallel structures extending north from the Yalakom Fault. The internal structure of the Nechako Basin reflects the same structural regime.

Table 3

Geology Legend

Bounding Box: North: 53.896 South: 53.430 West: -126.238 East: -125.026 NTS Mapsheets: 093E, 093F

Miocene to Pleistocene

Chilcotin Group

MiPlCvb basaltic volcanic rocks

Miocene

MiCCl Cheslatta Lake Complex: alkaline volcanic rocks

Eocene to Lower Miocene

Endako Group

EMIE basaltic volcanic rocks

Eocene to Oligocene

Nechako Plateau Group

- EOva Ootsa Lake Formation: andesitic volcanic rocks
- EO Ootsa Lake Formation: rhyolite, felsic volcanic rocks

Eocene

Efp	feldspar porphyritic intrusive rocks
Egb	gabbroic to dioritic intrusive rocks
Egr	granite, alkali feldspar granite intrusive rocks
Evf	intrusive rocks, undivided

Goosly Plutonic Suite EGo monzodioritic to gabbroic intrusive rocks Nechako Plateau Group EEva Endako Formation: andesitic volcanic rocks EOvc **Ootsa Lake Formation:** volcaniclastic rocks **Ootsa Lake Group** EO rhyolite, felsic volcanic rocks Late Cretaceous to Pliocene Skins Lake Pluton: feldspar porphyritic intrusive rocks LKTSfp LKi intrusive rocks, undivided Late Cretaceous LKH Holy Cross Pluton: feldspar porphyritic intrusive rocks LKCL Cabin Lake Pluton: quartz monzonitic to monzogranitic intrusive rocks Chelaslie River-Tetachuck Lake Plutonic Suite LKCT dioritic intrusive rocks Kasalka Group uKK andesitic volcanic rocks uKKsc coarse clastic sedimentary rocks Lower Cretaceous Skeena Group IKS undivided sedimentary rocks Middle Jurassic to Late Cretaceous Bowser Lake (or Skeena Group?) coarse clastic sedimentary rocks mJKB Middle to Late Jurassic Bowser Lake Group muJBsc coarse clastic sedimentary rocks uJBAmsc Ashman Formation: coarse clastic sedimentary rocks muJBF Fawnie Volcanics: undivided volcanic rocks **Middle Jurassic** Hazelton Group mJHNs Naglico Formation: undivided sedimentary rocks

mJHN Naglico Formation: undivided volcanic rocks

mJHNvc Naglico Formation: volcaniclastic rocks

Early to Middle Jurassic

lmJH undivided volcanic rocks

Early Jurassic

IJHNk Nechako Formation: marine sedimentary and volcanic rocks

Lower Jurassic

IJHT Telkwa Formation: calc-alkaline volcanic rocks

Upper Triassic

Stuhini Group

uTrSsv marine sedimentary and volcanic rocks

7.3 Property Geology

The geology covered by the Loon claims appears quite simple as shown on MapPlace and consists of Ootsa Lake Group, rhyolite, felsic volcanics. One small plug of Miocene Cheslatta Lake Complex: alkaline volcanic rocks is mapped immediately to the north of the property. The faulting to the northwest of the Loon and the contact between the Eocene Ootsa lake Group rocks and the late Cretaceous intrusive rocks parallels the structure and mineralization noted at the Loon, Uduk and Snag showings that is to the north-northeast, between 20° and 30° AZ.



Fig. 5: Loon Property Geology map

Item 8: Deposit Types

A number of deposit models are relevant for the general area with the low sulphidation epithermal model being the main focus of the current program. Another intrusion related model that may be significant is the sub-volcanic copper/gold/silver model. The nearby Equity Silver mine fits into this deposit model.

8.1 Epithermal (low Sulphidation) Deposits

In British Columbia, Jurassic deposits are important while world-wide Tertiary deposits are most abundant. Significant examples of this deposit type in British Columbia include the Toodoggone district deposits - Lawyers (094E 066), Baker (094E 026), Shas (094E 050); Blackdome (092O 050, 092O 051, 092O 052, 092O 053); Premier Gold (Silbak Premier), (104B 054) and Cinola (103F 034).

Panteleyev (1996) describes low sulphidation epithermal deposits as quartz veins, stockworks and breccias that carry precious metals and variable amounts of base metals in high-level (epizonal) to near surface environments. Mineralization commonly exhibits open-space filling textures and is associated with volcanic-related hydrothermal to geothermal systems. The tectonic settings of the deposits are volcanic island arc, continent-margin magmatic arcs and continental volcanic fields with extensional structures. They are associated with regional-scale fracture systems related to grabens, resurgent calderas, flow-dome complexes and rarely with maar diatremes. Extensional structures are common and graben or caldera-fill clastic rocks may be present in higher level systems. Locally resurgent or domal structures are related to underlying intrusive bodies such as high-level (subvolcanic) stocks and/or dikes and pebble breccia diatremes.

Most deposits occur in calcalkaline volcanic rocks of andesitic composition while some deposits occur in areas with bimodal volcanism and extensive subaerial ashflow deposits. Ore zones are typically localized in extensional structures with high-grade ore shoots commonly found in dilational zones in faults at flexures, splays and in cymoid loops. Significant mineralization can occur where ore forming fluids invade permeable lithologies. Upward-flaring ore zones centered on structurally controlled hydrothermal conduits are typical. Individual veins can range from >1m and hundreds of metres in strike length to mm in scale. The vein systems can be laterally extensive but ore shoots generally have relatively restricted vertical extent of a few hundred metres. Deposits can be strongly zoned along strike and vertically. Deposits are commonly zoned vertically over 250 to 350 m from a base metal poor, Au-Ag-rich top to a relatively Ag-rich base metal zone and an underlying base metal rich zone grading at depth into a sparse base metal, pyritic zone

As a result of the confined nature of the mineralization, deposits are generally small. The median deposit size of 41 Comstock-type 'bonanza' deposits is 0.77 Mt grading 7.5 g/t Au, 110 g/t Ag with minor Cu, Zn and Pb.

8.2 Subvolcanic copper/gold/silver veins

Significant British Columbia examples are Equity Silver (093L 001) and the Thorn prospect (104K031, 116).

Panteleyev (1995) describes this transitional or intrusion-related (polymetallic) stockwork and vein model as pyritic veins, stockworks and breccias in subvolcanic intrusive bodies with stratabound to discordant massive pyritic replacements, veins, stockworks, disseminations and related hydrothermal breccias in country rocks. These deposits are located near or above porphyry Cu hydrothermal systems and commonly contain pyritic auriferous polymetallic mineralization with Ag sulphosalt and other As and Sb-bearing minerals. Extensional tectonic regimes allow high-level emplacement of the intrusions. Rhyodacite and dacite flow-dome complexes with fine to coarse-grained quartz-phyric intrusions are common. Dike swarms and other small subvolcanic intrusions are likely to be present.

These deposits represent a transition from porphyry copper to epithermal conditions with a combination of porphyry and epithermal characteristics. Mineralization is related to hydrothermal systems derived from porphyritic, subvolcanic intrusions and occurs in strongly fractured to crackled zones in cupolas and internal parts of intrusions and flowdome complexes and along faulted margins of high-level intrusive bodies. Stockworks and closely-spaced to sheeted sets of sulphide-bearing veins occur within intrusions and as structurally controlled and stratabound or bedding plane replacements along permeable units and horizons in surrounding country rock. Veins and stockworks form in transgressive hydrothermal fluid conduits that can pass into pipe-like and planar breccias. Breccia bodies are commonly tens of metres and, rarely, hundreds metres in size. Massive sulphide zones can pass outward into auriferous pyrite-quartz-sericite veins and replacements. Multiple generations of veining and hydrothermal breccias are common. Pyrite is dominant and guartz is minor to absent in veins. The vein and replacement style deposits can be separated from the deeper porphyry Cu mineralization by 200 to 700 m. Ore mineralogy consists of pyrite, commonly as auriferous pyrite, chalcopyrite, tetrahedrite/tennantite; enargite/luzonite, covellite, chalcocite, bornite, sphalerite, galena, arsenopyrite, argentite, sulphosalts, gold, stibnite, molybdenite, wolframite or scheelite, pyrrhotite, marcasite, realgar, hematite, tin and bismuth minerals. Depth zoning is commonly evident with pyrite-rich deposits containing enargite near surface, passing downwards into tetrahedrite/tennantite + chalcopyrite and then chalcopyrite in porphyry intrusions at depth.

The deposits can be quite large such as those at Equity Silver where the bulk mineable reserves were approximately 30Mt grading 0.25% Cu, 86g/t Ag and 1g/t Au. International examples include the Recsk deposit in Hungary where a shallow breccia-hosted Cu-Au ores overlie a porphyry deposit containing ~1000 Mt with 0.8% Cu. The closely spaced pyritic fracture and vein systems at Kori Kollo, La Joya district, Bolivia contained 10 Mt oxide ore with 1.62 g/t Au and 23.6 g/t Ag and had sulphide ore reserves of 64 Mt at 2.26 g/t Au and 13.8 g/t Ag.

Item 9: Exploration

9.1 Current Evaluation Program

A review of the regional geochemical and geophysical surveys including the Qwest West surveys were completed in preparation for an exploration program this upcoming season.

9.2 Review and Interpretation of Regional Geochemical Survey Data

The low lying topography on mapsheet 093F/12 was not conducive to traditional stream



sediment surveys and as a result, Regional till surveys were completed. Review of RGS data show that the Loon area till is anomalous in molybdenum (4ppm) which is greater that 95th percentile for the survey.

Fig: 6: RGS-Till molybdenum anomalies

9.3 Review and Interpretation of Regional Geophysical Survey Data

Regional 1st derivative magnetic data supports the theory of a buried intrusion underlying the Meteor claim group to the north of the Snag claims. This intrusion would lie at the centre of a potential cauldera setting with ring fractures showing up as discontinuous magnetic high anomalies. The 13km long x 1km wide anomaly covered by the Snag claims appears to represent an axial fault within this cauldera, possibly cored by a slightly magnetic dyke. Mineralized andesitic boulders found down-ice from the anomaly could give such an anomaly. Samples of silicified andesite with quartzchalcedony veining, collected in 1995, assayed as high as 3720ppb Au and 13,926ppb Ag. The concept of the Snag anomaly being fault related is supported by jointing and



quartz veining found in outcrop. oriented at 020-030°/90°, near the present claim group. Historic sampling of this bedrock material returned values as high as 280ppb Au and 24.2g.t Ag with anomalous As, Sb and Hg.

Fig 7: 1st derivative magnetics showing possible ring and axial faulting in a cauldera setting

The Loon property would lie near one of the ring fractures associated with the proposed collapse cauldera.

The Quest West surveys did not not cover the Loon area, but did cover the Meteor



target and 1st Vertical Derivative Gravity data supports the idea that there is a buried intrusion under and to the southeast of the Meteor claims. The gravity high anomalies surrounding the suspected intrusion correlate loosely with the suspected ring fractures surrounding the porphyry centre. The epithermal target associated with the IP Chargeability and Resistivity anomalies on the Meteor claim would lie on the northwestern flank of the gravity low.

Fig. 9: Quest West 1st Vertical Derivative Gravity

Item 10: Drilling

No drilling was completed as part of the exploration program.

Item 11: Sample Preparation, Analyses and Security

No samples were collected as part of the exploration program.

Item 12: Data Verification

No data verification was completed as part of the exploration program.

Item 13: Mineral Processing and Metallurgical Testing

No mineral processing or metallurgical testing was completed as part of the exploration program.

Item 14: Mineral Resource Estimates

No mineral resource estimates were completed as part of the exploration program

Item 15: Adjacent Properties

15.1 Uduk (Minfile 093F 057, rev. Karl A. Flower, 2009)

The Uduk Lake epithermal gold-silver prospect is located on the Duk claims about 70 kilometres south-southwest of Burns Lake and 2 kilometres east of Uduk Lake. The claims were originally staked in 1980 by Amax Exploration and later allowed to lapse in 1981. They were restaked by A & M Exploration Limited in 1984.

The Duk claims are underlain by a greater than 2 kilometre square area of hydrothermally altered rhyolitic to dacitic flows, tuffs and breccias of the Eocene Ootsa Lake Group.

Outcrop on the property is sparse; however, bedrock is commonly within 1 or 2 metres of the surface. A porphyritic rhyolite with varying amounts of argillization is the most common unit, while andesites of the Hazelton group and other granitic rocks occur in the northwestern and southwestern corner, respectively, of the claims. A zone of clay and silica- altered rhyolite in angular float and outcrop, measuring about 600 by 200 metres, occurs in the southwestern part of the property. Past exploration, including trenching and diamond drilling, focussed on a quartz-chalcedony (+/-pyrite) stockwork that locally grades into a more sulphide-rich, black matrix breccia. Host rocks are typically moderately to intensely clay-altered and locally moderately silicified. Pyrite is the only visible sulphide and is present in trace amounts ranging up to 5 per cent locally. It occurs mainly as fracture fillings and disseminations in vein, stockwork and breccia zones.

In 1984, geochemical sampling identified anomalous areas or molybdenum (up to 44 parts per million), silver (up to 3.6 parts per million), gold (up to 700 parts per billion), arsenic (up to 100 parts per billion), lead (up to 68 parts per million) and zinc (up to 464 parts per million) in soil and rock (Property File Rimfire Allen, D.G, 1984).

15.2 Rhub (Minfile 093F 054, rev. Nicole Barlow, 2009)

The Rhub showings are located 70 kilometres south of Burns Lake, on the north side of Intata Reach.

In 1980, Guichon Exploration Ltd. carried out silt and soil sampling in the claim area. In 1985, Hudson Bay Exploration conducted a reconnaissance exploration program on the old Mar 11 claims and discovered boulders of chalcedonic quartz. In 1986, Mingold carried out extensive soil sampling and VLF-EM surveys. In 1987, Mingold drilled 1,189 metres of reverse circulation drilling. In 1988, Mingold drilled 1036.9 metres focussed on the Silver Zone. In 1989, an induced polarization survey, 128 metres of trenching and rock chip sampling was conducted over the Silver Zone and area. In 1991, Equity Silver drilled 5 holes on the J Anomaly which is proximal to and on trend with the Silver Zone.

The region is within the Intermontane Belt, underlain dominantly by Lower to Middle Jurassic volcanic and sedimentary rocks of the Hazelton Group. These assemblages are overlain by the Upper Cretaceous to Lower Tertiary Ootsa Lake Group and Miocene

plateau basalt. Intruding Lower Jurassic rocks of the Hazelton Group in the northeastern part of the map sheet is a belt of granodiorite, diorite and quartz diorite plutons of the Lower Jurassic Topley intrusive suite. Felsic plutons of probable Cretaceous age intrude both Lower and Middle Jurassic Hazelton strata.

Gold-bearing boulders were initially discovered and subsequently several zones of silica flooding and argillic alteration were delineated. These zones occur within rhyolite and rhyolite tuff of the Upper Cretaceous to Lower Tertiary Ootsa Lake Group. A felsic flow unit is distinguished by the presence of perlite. The zones comprise brecciated rhyolite healed by amorphous silica, a series of stockwork veins or amorphous silica with varying amounts of pyrite and marcasite. The main controls on mineralization appear to be fracture intensity and the porosity of the host rock, rhyolite flows and tuffs being preferable.

The Barb zone is 10 kilometres to the west of the discovery boulder area at the west end of the property. Veins are up to 1 metre wide. The main vein system here trends 140 degrees and a secondary set trends 045 degrees. Siliceous rhyolite breccia with pyrite and black silica was encountered in several drillholes. The best intersection was 2.16 grams per tonne gold over 1.52 metres (Property File - Alta Ventures Inc. Prospectus, Oct. 25, 1989).

In 2003, Southern Rio Resources Ltd. staked the Sam claims to cover the Rhub epithermal gold-silver showing. A total of 16.2 line-km of ground magnetometer and VLF-EM surveying was performed on the SAM property during the current field program. Readings were taken at 12.5 metre intervals along east-west cut gridlines.

15.3 Equity Silver (Minfile 093L 001, rev. Robinson, 2009)

Silver, copper and gold were produced from the Equity Silver deposit, located 150km to the southeast of the Property.

The mineral deposits are located within an erosional window of uplifted Cretaceous age sedimentary, pyroclastic and volcanic rocks near the midpoint of the Buck Creek Basin. Strata within the inlier strike 015 degrees with 45 degree west dips and are in part correlative with the Lower-Upper Skeena(?) Group. Three major stratigraphic units have been recognized. A lower clastic division is composed of basal conglomerate, chert pebble conglomerate and argillite. A middle pyroclastic division consists of a heterogeneous sequence of tuff, breccia and reworked pyroclastic debris. This division hosts the main mineral deposits. An upper sedimentary-volcanic division consists of tuff, sandstone and conglomerate. The inlier is flanked by flat-lying to shallow dipping Eocene andesitic to basaltic flows and flow breccias of the Francois Lake Group (Goosly Lake and Buck Creek formations).

Intruding the inlier is a small granitic intrusive (57.2 Ma) on the west side, and Eocene Goosly Intrusions gabbro-monzonite (48 Ma) on the east side.

The chief sulphides at the Equity Silver mine are pyrite, chalcopyrite, pyrrhotite and tetrahedrite with minor amounts of galena, sphalerite, argentite, minor pyrargyrite and other silver sulphosalts. These are accompanied by advanced argillic alteration clay minerals, chlorite, specularite and locally sericite, pyrophyllite, and alusite, tourmaline and minor amounts of scorzalite, corundum and dumortierite. The three known zones of significant mineralization are referred to as the Main zone, the Southern Tail zone and the more recently discovered Waterline zone. The ore mineralization is generally restricted to tabular fracture zones roughly paralleling stratigraphy and occurs predominantly as veins and disseminations with massive, coarse-grained sulphide replacement bodies present as local patches in the Main zone. Main zone ores are finegrained and generally occur as disseminations with a lesser abundance of veins. Southern Tail ores are coarse-grained and occur predominantly as veins with only local disseminated sulphides. The Main zone has a thickness of 60 to 120 metres while the Southern Tail zone is approximately 30 metres thick. An advanced argillic alteration suite includes andalusite, corundum, pyrite, quartz, tourmaline and scorzalite. Other zones of mineralization include a zone of copper-molybdenum mineralization in a guartz stockwork in and adjacent to the guartz monzonite stock and a large zone of tourmalinepyrite breccia located to the west and northwest of the Main zone.

Alteration assemblages in the Goosly sequence are characterized by minerals rich in alumina, boron and phosphorous, and show a systematic spatial relationship to areas of mineral deposits. Aluminous alteration is characterized by a suite of aluminous minerals including andalusite, corundum, pyrophyllite and scorzalite. Boron-bearing minerals consisting of tourmaline and dumortierite occur within the ore zones in the hanging wall section of the Goosly sequence. Phosphorous-bearing minerals including scorzalite, apatite, augelite and svanbergite occur in the hanging wall zone, immediately above and intimately associated with sulphide minerals in the Main and Waterline zones. Argillic alteration is characterized by weak to pervasive sericite-quartz replacement. It appears to envelope zones of intense fracturing, with or without chalcopyrite/tetrahedrite mineralization.

The copper-silver-gold mineralization is epigenetic in origin. Intrusive activity resulted in the introduction of hydrothermal metal-rich solutions into the pyroclastic division of the Goosly sequence. Sulphides introduced into the permeable tuffs of the Main and Waterline zones formed stringers and disseminations which grade randomly into zones of massive sulphide. In the Southern Tail zone, sulphides formed as veins, fracture-fillings and breccia zones in brittle, less permeable tuff. Emplacement of post-mineral dikes into the sulphide-rich pyroclastic rocks has resulted in remobilization and concentration of sulphides adjacent to the intrusive contacts. Remobilization, concentration and contact metamorphism of sulphides occurs in the Main and Waterline zones at the contact with the postmineral gabbro-monzonite complex.

The Southern Tail deposit has been mined out to the economic limit of an open pit. With its operation winding down, Equity Silver Mines does not expect to continue as an operating mine after current reserves are depleted. Formerly an open pit, Equity is mined from underground at a scaled-down rate of 1180 tonnes-per-day. Proven and

probable ore reserves at the end of 1992 were about 286,643 tonnes grading 147.7 grams per tonne silver, 4.2 grams per tonne gold and 0.46 per cent copper, based on a 300 grams per tonne silver-equivalent grade. Equity has also identified a small open-pit resource at the bottom of the Waterline pit which, when combined with underground reserves, should provide mill feed through the first two months of 1994 (Northern Miner - May 10, 1993).

Equity Silver Mines Ltd. was British Columbia's largest producing silver mine and ceased milling in January 1994, after thirteen years of open pit and underground production. Production totaled 2,219,480 kilograms of silver, 15,802 kilograms of gold and 84,086 kilograms of copper, from over 33.8 Million tonnes mined at an average grade of 0.4 per cent copper, 64.9 grams per tonne silver and 0.46 gram per tonne gold.

Item 16: Other Relevant Data and Information

There is no other relevant data or information other than that included in this report.

Item 17: Interpretation and Conclusions

The Loon area has been explored since at least 1980 for significant epithermal deposits such as those found in the Great Basin of Nevada and adjacent states. Significant areas of hydrothermal alteration have been found at the nearby Uduk and Snag properties. At the Loon showing, similar boulder trains to that found at Uduk were successfully traced back to bedrock sources of like material. Extensions to the mineralization should extend to the northeast into an environment of possibly greater structural preparation associated with the proposed ring fractures associated with the collapse cauldera.

A review of Regional Geochemical data show that the Loon area till is anomalous in Mo, a feature that is common in most of the epithermal showings in the area. Much of the geochemical surveying done in the area has shown to be ineffective due to a thin but pervasive glacial till covering bedrock. Trenching on the Loon showing has revealed low grade mineralization associated with alteration that trends to the north-northeast.

Interpretation of regional 1st derivative magnetic data in the Loon area reveals a complex magnetic picture with the small plug of Miocene Cheslatta Lake Complex: alkaline volcanic rocks showing up as a magnetic low anomaly. Subtle breaks and shifts in the magnetic high signature may reflect the presence of the north trending ring fracture.

On review of the historical exploration data in conjunction with the interpretations of RGS, regional magnetic and 1st derivative gravity data, the Loon property presents as an intriguing exploration project with target areas worthy of further exploration. The author believes that the Loon property is a property of merit and has the potential of hosting one or more significant mineral deposits.

Item 18: Recommendations

The Loon property may host the extension of mineralization found at the Loon showing which has received only minimal preliminary evaluation in the past. A two phase program of exploration is proposed. Phase 1 would include establishing a grid over the area on trend with the Loon mineralization for follow up geochemical and geophysical (magnetic and Induced Potential) and prospecting surveys. Initial survey areas should be completed up ice from the known mineralized boulder trains. A baseline should be oriented at 030° AZ with cross lines every 200m. Samples should be collected on 50m centres. Orientation surveys should be completed with MMI, Ah and PH samples collected at each station to determine which medium provides the best contrast information. PH samples would be processed nightly to determine any PH-low anomalies present which would indicate oxidizing sulphides present in outcrop below the sample sites.

Magnetic surveys should be completed in order to accurately locate any magnetic anomalies on the ground. Prospecting should be completed over the grid and surrounding areas.

Phase 2 would be dependent on the results obtained in the geochemical and geophysical surveys and would include infill and additional geochemical sampling along the suspected northeast trending structure using the method that provided the best response. IP surveys should be completed over any geochemical anomalies located followed by the drilling of any targets located on the property. Samples should be assayed in 2m intervals from surface with the entire hole being analysed.

Proposed budget for 2012

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Phase 1		
Project Geologist (6 days @ \$600/day)		3,600
Prospector/sampler x 2 (6 days @ \$300/day)		3,600
Cook/first aid person (6 days @ 500)		3,000
Grid layout (8 line km @ \$100/km)		800
Assaying (160 MMI samples @ \$55/sample)		8,800
Assaying (160 Ah samples @ \$46/sample)		7,200
Assaying (20 rock samples @ \$55/sample)		1,100
Geophysical surveys mag (8 line km @ \$600/km)		4,800
Room and Board (30 person days @ \$125/day)		3,750
Mob/demob		5,000
Reporting		<u>5,000</u>
	subtotal	\$46,650
Contingency (15%)		<u>6,998</u>
	Phase 1 Total	\$53,648

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Item 20: Date and Signature Page

1) I, Kenneth Daryl Galambos of 1535 Westall Avenue, Victoria, British Columbia am self-employed as a consultant geological engineer, authored and am responsible for this report entitled "Interpretation of Regional Geophysical and Geochemical Surveys on the Loon Property", dated July 11, 2012.

2) I am a graduate of the University of Saskatchewan in Saskatoon, Saskatchewan with a Bachelor's Degree in Geological Engineering (1982). I began working in the mining field in 1974 and have more than 27 years mineral exploration and production experience, primarily in the North American Cordillera. Highlights of this experience include the discovery and delineation of the Brewery Creek gold deposit, near Dawson City, Yukon for Noranda Exploration Ltd.

3) I am a registered member of the Association of Professional Engineers of Yukon, registration number 0916 and have been a member in good standing since 1988. I am a registered Professional Engineer with APEGBC, license 35364, since 2010.

4) This report is based upon the author's personal knowledge of the region and a review of additional pertinent data.

5) As stated in this report, in my professional opinion the Loon property is of potential merit and further exploration work is justified.

6) To the best of my knowledge this report contains all scientific and technical information required to be disclosed so as not to be misleading.

7) I am partners with Ralph Keefe and Shawn Turford on the Snag property and a number of other properties in British Columbia. My professional relationship is as a non-arm's length consultant, and I have no expectation that this relationship will change.

8) I consent to the use of this report by Ralph Keefe and Shawn Turford for such assessment and/or regulatory and financing purposes deemed necessary, but if any part shall be taken as an excerpt, it shall be done only with my approval.

Dated at Victoria, British Columbia this 11th day of July, 2012. "Signed and Sealed"

Ken Galambos, P.Eng. (APEY Reg. No. 0916, APEGBC license 35364) KDG Exploration Services 1535 Westall Ave. Victoria, British Columbia V8T 2G6

Item 21: Statement of Expenditures

October 14, 2011 Personnel Interpretation and Report (1 day @ \$600/day)

600.00

Item 22: Software used in the Program

Adobe Acrobat 9 Adobe Photoshop Elements 8.0 Adobe Reader 8.1.3 Google Earth Internet Explorer Microsoft Windows 7 Microsoft Office 2010