Homestake Ridge.

2001 Report.

521126
103P/12-13

1.0 – Introduction

This property has seen a prolonged period of exploration from 1914 to the present. The Homestake Ridge property is partially owned at present by Steve Coombes and optioned to Teck Cominco Ltd. who can earn a 100% interest in the property (2% NSR retained by Coombes). The balance of the property is owned 100% by Teck. Work in 2001 by Teck Cominco Ltd. was restricted to detailed mapping and rock sampling on the property. Work was focussed on determining the geological environment on the property and to examine the styles of the numerous mineralized occurrences. The property has in excess of 300 mineral showings hosted in lower Jurassic Hazelton volcanics and recently recognized lower Jurassic intrusives equated to Goldslide intrusives. There is potential for Eskay analogue VMS systems on the property and Red Mtn./Premier intrusive related high grade (Au-Ag) vein systems and a couple of bulk tonnage Au-Ag and Cu-Au-Ag targets on the property.

Location and Access (Fig.1)

The Homestake Ridge property is located approximately 32 kilometres southeast of Stewart on NTS 103P/12E and 103P/13E centred near 55 degrees 45 minutes north, 129 degrees, 35 minutes east. The property is approximately 5 kilometres north of the Dolly Varden camp and is located 25 kilometres north of tidewater and the community of Kitsault along the Kitsault River. The property is accessed by helicopter from Stewart with an old cat trail previously accessing the south end of the property from the village of Kitsault.

1.2 - Property Status (Fig.2)

The Homestake Ridge property consists of the Cambria 1 and 2 claims optioned from Coombes and the KW and WK claims owned by Teck Corp, for a total of 116 units.

Claim Name	# of units	Record No.	Expiry Date
WK 1	10	377241	May 23, 2011 *
WK 2	20	377242	May 23, 2011 *
WK 3	16	377243	May 23, 2011 *
WK 4	18	380949	Sept. 20, 2011*
WK 5	18	380950	Sept. 20, 2011*
WK 6	6	383037	Nov. 28, 2011*
WK 7	16	383038	Nov. 28, 2011*
KW 1	1	380951	Sept. 20, 2011*
KW 2	1	380952	Sept. 20, 2011*
KW 3	1	380953	Sept. 20, 2011*
KW 4	1	383017	Nov. 28, 2011*
KW 5	1	383016	Nov. 28, 2011*
Cambria 1	4	251427	May 6, 2011 *
Cambria 2	3	251428	May 6, 2011 *

* upon acceptance of the assessment report

1.3 - Physiography and Climate

The property lies within the Skeena coast physiographic unit and locally covers north-south alpine ridges cross cut by steeply incised valleys hosting E-W trending tributary creeks to the major creek valley (hosting the south flowing Kitsault River). Mountain topography of the property varies from moderate to extreme with elevations ranging from 900-1450 meters. Alpine style vegetation occurs above elevations of approximately 1000 metres while forest vegetation below this elevation consists of fir, hemlock, spruce and cedar with areas of thick brush comprised of alder, willow and devil's club in wet seeps and avalanche areas. Prolific seasonal plants are common forming a thick vegetable mass in some areas. Glaciers within the valleys extend down to lower elevations of 500 metres below the ridges. Valleys are commonly covered by extensive morraines and glacial-fluvial debris.

Precipitation within the coastal climatic zone is very high with winter precipitation resulting in heavy snowfalls of 5-12 meters. Snow covers the property from late September to late June and coastal weather strongly affects airborne access to the property during the summer exploration season.

1.4 - History

The property has seen an extended exploration history including:

1914-1939 -Discovery of a number of gold showings on the Cambria claims as a spinoff from exploration on the adjacent Homestake, Vanguard and Vanguard Gold properties.

1964-1979 -Dwight Collison (a local prospector) put in extensive time working a number of the showings and staked the entire area.

1979-1980 -Newmont Canada optioned the property from Collison and put in a grid, for mag and Max-Min geophysical surveys as well as geological mapping , with rock and soil collection.

1986-1988 -The open ground was staked by S. Coombes and D. Nelles and was optioned to Cambria Resources Ltd. They conducted geological mapping, rock sampling, blast trenching, and an I.P. and resistivity geophysical surveys.

1989-1991- Noranda optioned the property . They established a grid , and collected extensive silts, soil and rock samples. They also conducted geological mapping and magnetic, I.P. and resistivity surveys followed up by twelve diamond drill holes.

1994 - Property was to be optioned by Lac Minerals until Barrick took over the company.

2000 - The reduced Cambria claims held by S.Coombes were optioned by Teck Corp. and Teck staked the balance of the property. An orientation geological survey was conducted to examine numerous occurences and to determine the geological environment.

2.0-2001 Program

During a period from June 18 to September 26, 2001 an intermittent program of geological mapping at a scale of 1:5000 was carried out by a field crew consisiting of up to five gelogists and two student geologists. Geological mapping was conducted over the Homestake Ridge property in an area considered the primary focus of the current exploration. In addition, reccomaissance traverses were conducted over surrounding properties. A total of 686 rock samples were collected for analysis by ICP and gold geochem with an additional 31 samples analyzed for XRF major element wholerock analysis. A total of 326 man days were spent on the property examining a number of occurences and conducting detailed mapping in an attempt to consolidate previous geological mapping and sampling data to further the geological understanding of this complex area. The total number of field mandays worked was negatively impacted due to poor weather as well as a late snow melt and inaccessability by air.

3.0 – Regional Geology (Fig.3)

The Homestake Ridge property is located over lower to middle Jurassic volcanics, intrusives and sediments deposited in a marine environment along the western margin of the Bowser basin. This sequence is collectively known as the "Hazelton Group" which consists of a well mineralized sequence formed in an island arc environment. This sequence in the Kitsault area is bounded by Tertiary intrusives to the west and the overlying marine-lacustrine Bowser basin to the east. The Hazelton Group in the Kitsault area has undergone west to east compression during the Cretaceous which has resulted in assymetric folding and thrusting, and produced only low grade greenschist metamorphism of the rocks.

The Kitsault area is the southern limit of a continuous belt of the Hazelton group which hosts the highly profitable Eskay Creek VMS deposit, owned and operated by Barrick Resources and located 80 km northwest of the Homestake Ridge property. This unusual high precious metal content VMS system has a total resource of 2.558 MT grading 48.4 g/T Au, 2152 g/T Ag, 2.5% Pb, 4.16% Zn and 0.54% Cu. This high grade resource is within a substantially larger resource of lower grade material. The Eskay deposit occurs in sediments overlying felsic volcanics in a setting similar to that seen on the Homestake Ridge property. Another system that remains undeveloped is the Red Mountain deposit with a resource of 13.2 Mt @ 0.074 opt Au. Wheaton River Minerals is presently exploring the potential of developing a higher grade portion of this system. The system is related to ~190 mya Goldslide intrusions which are also present on the Homestake Ridge property.

Located 4 to 5 km south of the property is the Dolly Varden camp owned by New Dolly Varden Minerals Inc. where there is an existing resource of 515 Kt grading 11.04 opt Ag. Previous production from the Dolly Varden, North Star and Torbrit mines totalled 19.9 million oz. Ag, and 11 million lbs of Pb. Recent work (Devlin, 87 and others) suggests this system is a possible VMS system.

3.1 – Property Geology Figs. 4-20

The property covers a complex sequence of lower Jurassic-middle Jurassic sediments, volcanics and intrusives collectively belonging to the Hazelton group. This sequence hosts in excess of 300 sulphide showings with extensive areas of alteration on the property , which are related to the early Jurassic sequence. This sequence contains the transition from lower Jurassic volcanism to the hiatus and sedimentation belonging to the Salmon River Fm. and Bowser group. Mineralization and alteration is focussed on subvolcanic HFP intrusions and their felsic volcanic equivalent belonging to the Mt. Dilworth Fm. at the culmination in volcanism. This is analogous to the Eskay Creek deposit and there is good potential for a number of economic mineral deposit types including the Eskay creek VMS deposit type on the property.

Structure on the property is slowly developing as stratigraphy becomes resolved. In general units on the property strike NW with common moderately to steep east dips. Early Jurassic basin development along the NW and NE growth faults controlled the emplacement of HFP subvolcanic intrusives and rhyolite dome complexes. These influenced Cretaceous compression directed in a SW-NE direction and developed a assymetric overturned antiform cored by competent rocks and an open syncline known regionally as the "Kitsault synform" related to the top of the volcanics and overlying Salmon River sediments. Several east directed thrust faults were also observed related to this folding. Numerous small assymetric folds were noted in the sediments where the main antiform displays steep east dipping west limbs with moderate to shallow east dipping east limbs, this is compatible with observed folds and thrusting in the region (Dawson, Alldrick and Greig). Tops evidence seen in several locations supports this overturned model. Numerous large NE faults are apparent but no significant offset has been noted on these late (Tertiary) faults which are related to E-W extension resulting in block faulting. Some of these faults have ankeritic alteration along them and often coincide with dramatic facies changes and felsic dome development reflecting a primary structure (ie. graben faults).

As mentioned the primary Jurassic stratigraphic sequence is complex, a general stratigraphic sequence is listed here and the lower Jurassic environment will be outlined in two main areas namely the Plateau area and the northern Homestake creek area. The lowest stratigraphic sequence throughout the property consists of a maroon to green complex andesitic pyroclastic-epiclastic unit (rocktypes 2.1-2.3). This sequence varies markedly with rapid facies changes and contains discrete flows and tuffaceous interbeds. This unit is equated to the Betty Creek Formation and exposures on the property reflect only the top 200-300 meters of this sequence. Above the basal Betty Creek Fm the

sequence becomes complex with rapid changes in facies and rocktypes due to sub basin development.

Plateau Area Jurassic Geology and Stratigraphy (Fig. # 5&6)

Through the plateau area of the property (SW portion) FHP subvolcanic intrusives are present along a NW trending sub basin. These clearly crosscut rhyolites and andesites in this area and appears similar in composition to Goldslide intrusions seen at Red Mtn.(~190 MYA) located 25 km's to the NW of the property. The HFP subvolcanic intrusives are multiphase and form QFP cryptodomes at the the paleosurface within the Salmon River sediments and debris flows. In many areas they actually breach the primary seafloor as demonstrated by the common presence of peperites and HFP fragments within the surrounding sediments. In the west-central portion of the property the HFP intrusive forms a large coarser grained multiphase core area intruding much of the sequence. The basin model is supported with a similar timing, from core intrusions by the FHP Monzonite at a volcanic centre to distal contemporaneous sedimentation.

A gradational transition to overlying sediments on the west side of the thickest portion of the FHP monzonite suggests this was a paleo topographic high with sediments thickening to the SE basinwards. This is also supported by an apparent thick proximal rhyolite dome thinning and developing lobate features to the SE. These all reflect the intrusive core occupied a volcanic edifice within a sub basin deepening to the SE. The HFP intrusives are multiphase and forms sills and dykes within rhyolites and overlying sediments but ultimately form distinctive QFP and HFP cryptodomes within debris flows (unit 2.4).

The main rhyolite dome in the plateau area is thickest south of a NE fault (possibly a primary growth fault) and thins markedly SE into a thicker sedimentary basin. This felsic dome is similar visually and chemically to the Homestake creek felsic dome with many similar textures including flow banding, hyaloclastites and pyroclastics. Stratigraphically overlying sediments consist of mudstones and siltstones with limited chert conglomerates in the thicker portion of the basin to the SE. Locally thin rhyolite fragmental units persist up into the sediments above the rhyolite dome. Overlying the entire mudstone/siltstone sequence is a complex debris flow unit (unit 2.4) with a variable tuffaceous/siltstone matrix containing fragments of rhyolite, andesite, HFP intrusives, sediments and locally basalt flows(unit 1.1). The QFP cryptodomes were emplaced into this unit which was also contains the basalt flows, all likely restricted to this sub basin.

Extensive alteration and mineralization are contained within this sequence and form a vertical sequence similar to the restored Jurassic stratigraphic sequence. The alteration is consistent with a large hydrothermal cell related to felsic volcanics and HFP subvolcanic intrusives and agrees well with the subaqueous hotspring VMS Au-Ag model. This hydrothermal cell is much larger, more diverse and contains higher precious and base metal values than elsewhere on the property. This is likely due to the high volume of material within the proximal magma chamber. The lower portions of the sequence are pervasively chlorite and sericite altered in the feeders and pipes below the paleosurface.

Several styles of mineralization are associated with these zones of alteration and are discussed in detail in the alteration and mineralization sections. In general both high grade (Au +/- Ag, Cu) epithermal style targets and bulk tonnage targets exist in the sericite alteration. Bulk tonnage and high grade Cu, Au, Ag targets are present in the more discrete pipe like chlorite altered zones. The priority target areas are located in overlying sediments above the large rhyolite dome. Both the sediments and upper portion of the rhyolite domes are pervasively silicified at the upper portion of the hydrothermal system. Numerous styles of mineralization exist in this area including, sulphide veins, epithermal style veins, sulphide stockwork, sulphide rich diatremes and stratabound sulphides now known collectively as the "Dilly" and "Dilly West" zones. These are attractive targets with high values in Au, Ag, Pb and Zn. These VMS style showings have a distinctive metal suite highly anomalous in As, Bi, Cu, Hg and Sb and have numerous similarities to the Eskay Creek VMS system.

Homestake Creek Jurassic Geology and Stratigraphy (Fig#7)

The stratigraphic sequence is somewhat different at the north end of the property in the Homestake creek area, largely reflecting differences in individual sub basins. The north end of the property has a well exposed moderately east dipping sequence with tops evidence clearly outlining an upright sequence on the eastern limb of the antiform and extending across the Kitsault synform. This sequence from W-E consists of a basal sequence of the green-maroon andesitic pyroclastics and epiclastics correlated to the Betty Creek formation. These are intruded and overlain by a high silica rhyolite dome in excess of one kilometer in surface area, which equates to the Mt. Dilworth formation. This dome commonly displays flow banding, hyaloclastites and margins which are often lobate with darker carapace type features. The dome indicates a flow direction to the south into the deeper portions of the basin away from the main NE conduit fault. A distinctive basal dacite pyroclastic unit forms an ideal marker horizon at the onset of felsic volcanism and is much more extensive than the felsic dome complex. It confirms the timing of felsic volcanism as developing at the break from underlying Betty Creek andesites to overlying Salmon River sediments in much of the Homestake valley. The dome has intruded into and is overlain by calcareous mudstones, grits and conglomerates of the Salmon River formation. Small rhyolite dykes and small rhyolite cryptodomes persist up into overlying mudstones again confirming that felsic volcanism and sediments are coeval. These sediments contain numerous belemnite, brachiopod fossil rich beds and coarser sections with angular rhyolite fragments and sulphide fragments reflecting proximal debris flows and pyroclastics. Sediments consist of mudstones, argillites, wackes and conglomerates all of a shallow marine origin. These show a general gradation from coarse felsic pyroclastic/epiclastic units through concretion rich mudstones to progressively finer laminated mudstones/siltstones often with marcasite rich beds. This reflects a fining upwards into the Bowser basin and large scale basin development at the end of Hazelton volcanism.

South of the main rhyolite dome numerous small ie.100 by 200 meter dacite domes crosscut Betty Creek andesites and form small localized domes. These form locally lobate

features and have distinctive autobrecciated margins and maybe originally rhyolite in composition with significant contamination from the enveloping andesites. These small domes commonly have localized sericite alteration and pyrite veinlets and stockwork associated with them. The large rhyolite dome also has extensive pyrite veins and stockwork associated with sericite alteration. These altered and mineralized zones often form subvertical feeders and form much more lateral blanket like zones at the top of the felsic domes at the sediment contact. Overlying sediments contain high levels of disseminated pyrite 10-30% and occasional sulphide fragments up to 5 cm in diameter confirming the exhalative nature of mineralization. Base and precious metal values are generally lower than the plateau area but are often anomalous in Au, Ag, As, Hg, Pb, Sb and Zn over a large area and are potentially significant. It is also interesting to note the epidote/calcite altered structures and replacement zones are located within underlying Betty Creek andesites between the rhyolite dome and southern dacite dome complexes. This fits well, as the alteration is believed to have formed due to seawater recharge sites between the hydrothermal cells proximal to the felsic domes. The most promising Eskay analogue in this area is extensions of the rhyolite dome to the NE under the Kitsault glacier.

3.3 ROCKTYPES

The following is a description of the individual rocktypes encountered on the property. A main decision was to map the geology based on lithologic units rather than mapping stratigraphipically to allow the geologic picture to develop without too many biases.

Unit 1.0 Mafic Basaltic Volcanics (Present both in Betty Creek Fm and the Salmon River Fm)

1.1 Basalt Flows –

These units are a distinctive package along the southwestern portion of the property and are easily distinguished in the field by the presence of pyroxene phenocrysts. The matrix is a fine grained mafic matrix with pervasive chlorite carbonate alteration which develops a distinctive brown coloration when weathered. These typically contain 10-50% 1-3mm pyroxene phenocrysts and a strong magnetite component which allows easy identification in the field. The discrete flows commonly contain 5-20mm amygdules and margins are commonly autobrecciated. Large amounts of reworked basalt fragments are common in the debris flows adjacent to basalt flows. Limited wholerock XRF supports a basalt protolith such as sample # 258969 being representative ie. 48.8% SiO_2, 14.4% Al_2O_3, 7.7% MgO, 3.9% Na_2O, 0.9% K_2O, 0.67% TiO_2 .

1.2 Flow Breccias –Autobreccia-

These units are discussed above.

1.3 Flows -Resedimented/ w volc. wackes

1.4 Tuffs

Components of Basalt wackes and tuffs are present proximal to basalt flows but are lumped into unit 2.4 for mapping purposes.

LOWER JURASSIC
Betty Creek Formation

Unit 2.0 Intermediate-Andesitic Volcanics

2.1 Andesite Flows

Commonly green to maroon in colour and varying from aphanitic to feldspar phyric. Feldspars vary from euhedral to anhedral crystals. Rare amygdaloidal flows with quartz ?? or calcite infill. This unit represents a small percentage of the rocks mapped in the area.

2.2 Maroon/Green Flow Breccias-volcanoclastics *

Dominantly maroon with lesser green volcaniclastic rocks are the most prominent unit within the map area. The volcaniclastic rocks are generally subdivided into autoclastic breccias and pyroclastics. The flow breccias appear to be restricted to minor flow top or flow breccias with angular, monolithic fragments incorporated in a matrix of similar composition. The pyroclastic breccia deposits represent the largest proportion of rocks exposed in the mapped area. These rocks likely interfinger with debris flow deposits and in some cases are indistinguishable due to rapid facies changes. Breccias range from lapilli to block sized fragments commonly matrix supported in a fine maroon matrix. Fragments are commonly fine grained to feldspar phyric and can be either heterolithic or homolithic. These rocks comprise the majority of the Betty Creek Fm. seen on the property.

2.3 Maroon/Green Epiclastics

Maroon with lesser green epiclastics occur throughout the Upper Betty Creek formation in the map area. The epiclastics range in fragment/clast size from mudstone to conglomerate and are found at any level within the local stratigraphy, although they appear to be more prominent within the upper rock units. This unit is dominated by moderate to poorly bedded silty mudstone. Thickness and lateral continuity of these finer grained sediments appears to be restricted possibly due to deposition within restricted, minor basins.

2.4 Debris Flow mixed tuffs/sediments w/ mafic, felsic , HFP intrusive and sediment fragments (**N.B. this sequence is believed to be a local unit within the Salmon River sequence.)**

Debris flow and/or lahar deposits were recognized interfingered with volcaniclastic and flow deposits along the western portion of the map area. Lapilli to ash tuffs composed of lithic and crystal fragments as well as epiclastic and sedimentary rocks occur within the intermediate andesitic package. This unit contains both mudstones and pervasive sericite altered andesitic tuffaceous matrix with a complex variety of rock fragments. This sequence shows a large diversity reflecting rapid localized facies changes. In the central portion of the property the unit consists of a mudstone matrix dominated by subangular HFP and Felsic fragments with a gradation upsection to the west into sericite altered andesite tuffs. To the south this section becomes a more sericite altered andesitic matrix with mudstone fragments and lesser felsic and HFP fragmentals. Proximal to basalt flows this unit contains an abundance of Px rieh basalt fragments and grades into basalt matrix lahars.

Felsics are equivalent of Mt. Dilworth Fm.

Unit 3.0 Felsic Volcanics- Dacite/Rhyolite

3.1 FP Dacite Flows/Domes/Dykes

Dacite flows and domes appear to be restricted to the uppermost interval of the Betty Creek formation as well as in the overlying Salmon River formation in the Homestake Creek area. The dacite is commonly darker weathering than the rhyolite, and generally is composed of a strong proportion of hyaloclastite. The dacite is aphanitic, medium to dark coloured and siliceous with some chlorite in the matrix and as cross cutting veinlets. Spherulites are common within the upper two metres of the flows. Flow domes encountered during the current mapping were restricted in lateral extent to a few hundred metres . The leading edge of the flows were commonly lobate and were very distinctive in mapping the front or leading edge of the unit. The dacites are likely Mt. Dilworth formation equivalents.

3.2 FP Dacite Flow Breccias volcanoclastics

Within the dacitic flows, flow top and flow breccias were commonly recognized. Near the top of the Betty Creek formation pyroclastic breccias were mapped as either dacitic or rhyolitic breccias. These pyroclastic deposits were difficult to classify as either dacitic or rhyolitic and a field determination based on the dominance of fragments of either dacite or rhyolite composition determined the classification of these units. A distinctive dacitic pyroclastic horizon forms an apron at the base of the rhyolite domes and in the contact area above Betty Creek andesites and below the Salmon River mudstones. This forms a distinctive marker horizon at the stratigraphic

equivalent of the base of the felsic domes with distinctive felsic and chlorite altered angular 1-10cm fragments in a fine grained dacitic matrix.

3.3 Dacite Tuff

Limited areas of very finely laminated dacitic tuffs were obserevd with a maximum of 10 meters thickness. These units display the the typical aphanitic pale to dark green dacitic matrix but contain well laminated 2-3mm scale 0.5-1.0mm diameter ash beds.

3.4 Flow Banded Rhyolite domes/dykes

The rhyolite is typically pale cream to buff or variably pale green-grey. It is siliceous, aphanitic to weakly feldspar porphyritic with rare quartz eyes. Weak iron stain on the weathered surface is commonly associated with fine-grained pyrite. Features of the rhyolite include distinct flow banding which is commonly disrupted and irregular near the margins, and minor spherulites observed over narrow intervals near flow tops. Near the margins of the rhyolite occur distinct black hyaloclastites and peperites produced due to contamination from introduced material resulting in colour and possibly chemistry changes. The hyaloclastites typically form on the top and margin of the domes with contamination of generally mudstones. Owing to the viscous nature of the rhyolite flow domes the lateral continuity of the rhyolite is very limited. The distal portions of the domes typically display lobate structures and occasional pillows. Theses rhyolites have been interpreted to be Mt. Dilworth formation equivalents. Limited wholerock sampling (only 6 samples) indicates an average of 77% SiO_2, 10.6% Al_2O_3, 0.9% Na, 3.5% K and 0.21% TiO_2 which is similar to Eskay felsic volcanics. The only marked difference is a slightly higher , more typical TiO_2 content. The difficulty with the wholerock sampling is an attempt to collect a "least altered" suite shows a wide composition range reflecting signifigant alteration is present and this makes the protolith composition a difficult value to determine.

A distinctive feature along the southwest portion of the property is the transition of HFP dykes into distinctive QFP felsic cryptodomes. This discovery provides a tangible link from the subvolcanic HFP intrusives to the felsic volcanic extrusives. These siliceous domes form at the top of the mudstone/siltstone Salmon River Fm and into the overlying andesitic volcanoclastics of unit 2.4. This unit is commonly rimmed by siliceous HFP while the cores are a siliceous aphanitic matrix +/- 5-20% 1-2 mm plagioclase and quartz phenocrysts.

3.5 Mixed Rhyolite Hyaloclastites

(Included in rhyolite package)

3.6 Rhyolite Volcanoclastics*

Rhyolite volcaniclastics can be subdivided into flow breccia, pyroclastic and epiclastic units. Flow top breccias and flow breccias appear to have limited areal distribution within the mapped area and are mapped as strictly a local feature. The breccias commonly have distinct fragments visible only on a weathered surface.

Rhyolite and dacite pyroclastic breccias are difficult to distiguish between each other in a field relationship. The fragments of these breccias are commonly white to light weathering ranging in size from mm to centimetres. Fragments are subrounded to angular and are variable in composition. These breccias are easily mapped as they have a greater latecal distribution relative to the felsic domes and are distinct in appearance with the predominance of light weathering fragments and in some cases are likely redoposited hyaloclastites.

Epiclastic rocks stratigraphically above the rhyolite are commonly itght buff to orange brown in colour. The epiclastic rocks are coarse immature sand to poorly sorted conglomerate composed dominantly of rhyolite fragments. These units grade laterally into brecciated fragmental rocks of similar composition.

3 .7 Tuffs

Rhyolite tuffs were subdivided into lapilli, crystal and ash tuffs, or any combination of these fragments. The felsic tuffs are generally light weathering and are composed of fragments similar to the rhyolites described in unit **3.4**. Crystal tuffs commonly display white, subhedral feldspar crystals ranging in size up to 2 mm. set in variably coloured matrix of ash.

Unit 4.0 Sediments-(Salmon River/Bowser Assemblage)

4.1 Mudstone/Siltstone (This sequence equates to the Lower Salmon River Fm.)

The mudstone/siltstone is dark grey to black with fine bedding/laminae common on a millimetre scale. The sediments vary from well-sorted siltstone to massive featureless mudstone. Bedding features such as slumping, load casts, soft sediment deformation and rip-up clasts are common. The weathered surface commonly displays varying iron stain due to pyrite/marcasite content and coarser material forms a distinctive orange color likely due to carbonate content. Immediately above the interpreted Betty Creek formation lies a fossiliferous sedimentary package with belemnites and brachiopods. In the northern dome area the sequence consists of a basal mudstone, wacke and felsic conglomerate unit 20-30m's thick grading upwards into a fossil rich mudstone with 5-40 cm carbonate concretions with a thickness of 20-30 meters, and a final gradation into mudstones with increasing laminations from 5% 1-5cm siltstone laminations to 50% 10-50cm siltstone laminations reflecting a gradation into a more quiescent basin over a 40-50 meter thickness.

4.2 Shale/Argillite (Generally equates to upper Salmon River Fm. And Lower Bowser Fm.)

Dark grey to black shale/argillite displays varying degrees of shaley cleavage. Bedding varies between rhythmically bedded alternating dark and light coloured, thin beds/laminae to relatively massive featureless units. Rusty weathering surfaces are common resulting from weathering of diagenetic pyrite/marcasite. Within this unit carbonate/marcasite concretions from 1-10cm. in diameter are quite common. Interbeds of mudstone are quite common as thicker 0.5-1.0m beds. This unit according to C.Greig (pers. Comm.) is probably part of the Salmon River Fm. rather than the Bowser Group.

4.3 Wacke

Wacke is medium to dark grey, moderate to poorly sorted, fine to coarse grained and rarely pebbly. Massive to well bedded. Clasts are commonly feldspar, volcanic and mudstone/siltstone fragments. Features within the wackes

4.4 Chert

At the south end of the property within the mudstone/siltstone sediments a distinctive chert breccia unit is present. This unit is 20-30 meters thick and consists of a siliceous matrix with polylithic chert and possibly rhyolite fragmentals. The fragments are sobrounded 0.5-3.0 cm brown, white and green siliceous and aphanitic fragments.

4.5 Conglomerate

Poorly sorted, relatively immature with variably sized clasts from pebble to boulder in size. Composition from felsic volcanic to andesitic in a wacke matrix. A restricted sequence as part of the Salmon River Fm.

4.6 Limestone

Not observed on the Homestake property.

Unit 5.0 Intrusives

5.1 Feldspar/Hornblende Porphyritic Monzonite (FHP)
(Goldslide –Texas Creek Intrusive Equivalents)

The intrusive is commonly medium grey-green on a fresh surface, but displays many variations of colour due to sericite, silica, carbonate and hematite alteration. This unit has been equated by Greig to be equivalent of the Goldslide intrusions dated at Red

meters in width. A single grab (#257968) of this style of mineralization produced surprising values of 11.2 g/t Au, and 0.19% Cu reflecting a high gold content. This style of mineralization appears to be a feeder for the Dilly West zone and other feeder areas should be located.

The Dilly zone to date has a longer indicated strike length of 1.5 kilometers and also remains open in both directions. Again a diverse range of mineralization occurs along a discrete horizon which is stratigraphically located 50-100 meters below the Dilly West zone. Host rocks are again silicified mudstones and siltstones. Styles of mineralization include massive sulphide base metal showings, semi massive to massive arsenopyrite showings, massive laminated ga/sp showings and sulphide stockworks within felsic volcanic pyroclastics. At the northern end of the zone silicification decreases in the sediments and the showings become base metals associated with massive to semi massive barite. This may reflect some primary zonation in the system.

Massive sulphides consist of pyrite or pyrhotite dominant matrix with variable amounts of Cpy, Aspy, Sp, Ga present and the altered margins include gangue varying from silicification, carbonate, chlorite and sericite in several combinations. Sulphides range from 0.5-1.8 g/t Au, 35-595 g/t Ag, 0.8-0.9% Cu, 0.3-1.6% Pb, 0.4-3.8% Zn with highly anomalous As, Bi, Hg, Sb over widths of 1.0 to 3.0 meters.

Arsenopyrite has similar appearances to zones in the Dilly West trend, with massive pyrite and arsenopyrite lenses and areas of arsenopyrite stockwork in silicified mudstone and siltstone. Disseminated and stockwork zones contain up to 2.1 g/t Au, 161 g/t Ag over 4.0 meters with highly anomalous Cu, As, Bi, Hg, Pb, Zn and Sb. Massive 1.0 meter sections of pyrite and arsenopyrite grade up to 7.9 g/t Au and 34.6 g/t Ag with the above mentioned anomalous elements. Additional work is required in some of the stockwork areas as they develop large areas and require additional sampling.

An unusual style of mineralization has been located in three showings at the SE end of the Dilly zone. It consists of finely laminated massive sphalerite and galena with minor amounts of pyrite. This style of mineralization has only been traced for 110 meters of strike length to date and is narrow from 10-30 cm in width. It is extremely finely laminated and combined with its stratiform mode offers the best evidence for VMS style mineralization on the property to date. Sampling to date of this mineralization has produced some impressive values ranging from 20.5-39.1 g/t Au, 208-578 g/t Ag, 7.3-22.5% Pb and 24.6-36.9% Zn with highly anomalous As, Cu, Bi, Hg, and Sb. This horizon is a priority target to determine if economic widths can be located.

Immediately above the laminated sp/ga mineralization is a thin rhyolite pyroclastic unit. This unit is pervasively silicified and contains 10-20% sulphide disseminations and stockwork including pyrite, sphalerite, galena and arsenopyrite. Values obtained to date are up to 23.3 g/t Au, 52.6 g/t Ag, 1.5% Pb and 5.2% Zn over a 2.8 meter width. This unit also contains highly anomalous values in As, Cu, Bi, Hg, and Sb and is likely directly related to the VMS style mineralization.

The northern end of the Dilly zone has several noticeable changes in alteration and styles of mineralization. The most obvious visual change is a noticeable decrease in pervasive silicification to the mudstones and siltstones. There is also a marked increase in the amount of HFP intrusives and cross cutting intrusive textures indicate a higher energy level including brecciation and peperites. These reflect a closer proximity to the intrusive center in this area. Mineralization still appears stratabound but the matrix is typically composed of a barite matrix with variable sulphide content. This may reflect a transition from sulphides to oxides if this mineralization is of an exhalitive origin. Values obtained are still quite impressive ie. sample # 258776 with 14.15 g/t Au, 5740 g/t Ag, 11.55% Pb and 3.3% Zn over 2.0 meters. These showings also contain highly anomalous values in As, Bi, Hg and Sb.

Several sulphide veins crosscut the upper silicified rhyolite and maybe sulphide feeders into the overlying sediments. These range in width from 1-10 meters and consist of variable sulphides including pyrite, galena, sphalerite, chalcopyrite, arsenopyrite and tetrahedrite. Vein selvages contain the usual variety of sericite, chlorite, carbonate and quartz (often vuggy and crudely banded). Values in these veins are up to 1.4 g/t Au, 563 g/t Ag, 0.5% Cu, 1.85% Pb and 6.22% Zn. These veins have strongly anomalous values in As, Bi, Hg and Sb which supports they are part of the overlying mineralizing sequence.

Carbonate Alteration

As mentioned previously disseminated carbonate is widespread in sericite, chlorite and epidote alteration and is also common as selvages on many of the sulphide veins. This alteration is ubiquitous throughout the property and is generally related to the other forms of lower Jurassic alteration styles.

Distinctive pervasive orange ankeritic alteration is present along many of the late NE striking fault zones for up to 600 meter strike lengths and widths of 10-20 meters. Tertiary lamprophyre dykes following these same structures are altered by this ankerite alteration which is believed to also be Tertiary in age. These ankerite zones can have bladed and laminated calcite veins up to 1 meter in width and often contain 1-5% disseminated pyrite. Limited sampling to date indicates no elevated base or precious metal values.

4.-CONCLUSIONS & RECOMMENDATIONS

The Homestake Ridge property has a early to middle Jurassic sequence of volcanics, intrusives and sediments very similar to the setting at the Eskay Creek deposit with comparable styles of alteration and mineralization. The property has preserved the transition from early Jurassic volcanism to overlying sediments and at this transition contains favorable felsic volcanics and related intrusives with large areas of hydrothermal alteration and mineralization. Extensive areas of HFP monzonite believed to be equivalent to the Goldslide intrusions at Red Mtn. form centres in NW trending sub basins. On the property these subvolcanic intrusives are co-eval to slightly post felsic domes and have a

complex multiphase history culminating as extrusive QFP cryptodomes in mixed Salmon River sediments. There is extensive areas of precious and base metal mineralization associated with a complex large hydrothermal cell associated with these HFP intrusives and felsic dome complexes. These zones form a complex multiple phase history but a coherent alteration and mineralization pattern is developing spatially related to the intrusives and felsic volcanics. The property has a very high chance of containing a Eskay VMS styles deposit as well as good potential for several styles of bulk tonnage targets and high grade structural Au-Ag vein systems.

The alteration and mineralized styles indicate a general transition from extensive subsurface serieite and chlorite altered stockwork zones and discrete feeder pipes to the upper pervasive silicified areas developed at or near the paleosurface. These silicified sediments above felsic volcanic domes offer the best VMS targets (ie. Dilly Zones) but several other VMS target areas exist as well, in areas of mineralized sediments above felsic domes and sulphide feeders (Homestake Creek , QFP cryptodomes and areas east of Vanguard Copper). Numerous constraints on timing of alteration and mineralization bracket the timing of mineralization clearly to late Felsic volcanism and related HFP subvolcanic intrusives. Chlorite altered pipes offer high grade Cu-Au-Ag targets as well as bulk tonnage targets along the Vanguard Au-Cu structure. Large areas of sericite alteration may offer large bulk tonnage Au targets, but contact areas (ie. intrusive/ volcanic contacts) offer high grade- high sulphide epithermal. These targets such as the Homestake showings (High Au,Ag,Cu +/- Zn) and are a more attractive target and have similarities to Red Mtn. and epithermal systems at Premier

Detailed geological mapping and sampling with hand or mechanical trenching will be required prior to drill testing in several of the areas. As emphasized the geology, alteration and mineralization on the property are very complex and will require perseverance and a strong commitment to properly assess.

The following work is recommended in order of priority for each deposit type:

1/ VMS Targets

1)- Dilly Zones- require systematic hand or mechanical trenching with detailed mapping and sampling prior to selecting drill targets. Both horizons remain open on strike and the rhyolite/sediment contact should be tested at the same time. Pending additional results this area stands out as a priority drill target but will require numerous drill holes to adequately test.

2)-North Homestake Creek- the thickest portion of the rhyolite dome in this area is located under the Kitsault Glacier. Testing will require somewhat blind collaring of drill holes from the glacier or from sediments on the east side of the valley.

3)-Detailed trenching is required to assess the VMS potential above the QFP felsic cryptodomes along the SW side of the property. These domes form the top of the intrusive cycle and are altered and mineralized but VMS potential has not been assessed.

4)- Mapping and sampling is required to the east of Vanguard Copper to determine the VMS potential in overlying mineralized Salmon River sediments.

High Grade Precious Metal Epithermal Vein Targets

1)– Drill testing of the Homestake showing area (drilling should be directed N-S to test ladder veins). Mapping and sampling in detail along the N-S extensions of the contact and the Silver Tip contact trend is needed prior to any additional drilling.

Bulk Tonnage Targets

1)- The most obvious target is the Vanguard Gold-Copper structure for a bulk Cu-Au-Ag target. Prior to drill testing this area will will require detailed mapping and channel sampling with some hand trenching to assess the overall potential.

2)- The large 2.0+ square kilometer area of sericite alteration also offers a bulk Au target, but a thorough review of historic work particularly Noranda's 89-90 work would be required. This could be followed up with detailed mapping and channel sampling prior to any drilling.

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