Geochemical Report

on the

Pilot Soil / Till Heavy Metal Concentrating Program

on the

King George Gold Project

Event Number: 5477934

Tenure #'s: 1023930, 1023645

Vernon Mining Division

British Columbia

Trim Map 082E.097

49° 58' 11" N, 118° 39' 59" W

NAD 83 11N 380503mE., 5536595mN.

Owner: Hard Rock Gold Ltd.,

PO Box 1192,

Kamloops, BC, V2C 6H3, Canada

Operator: John Bakus

Contractor: Billiken Gold Ltd.,

561 Glenmary Road, Enderby,

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Date: January 20, 2014

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Vernon, M.D.

Kettle River Area, British Columbia

<u>Summary</u>

A total of 5 Traverse HMC samples were gathered over various portions of the King George Mine gold property belonging to Hard Rock Gold Ltd. on November 7th 2011. The property is situated about 99 km by road east of Vernon BC in the Kettle River valley. Access is easily gained by two wheel drive vehicle via a series of logging roads that are in relatively good condition. The terrain consists of a moderate south slope situated along the north side of the Kettle River.

The purpose of this HMC program is to try and locate an economic gold / silver deposit on the property and to delineate target areas worthy of further exploration. Strong HMC case history signatures, of the main shear on the Brett and the Kalamalka gold deposits, increase the possibility of following a Soil / Till HMC lead to a previously undiscovered blind gold deposit. This is a reasonable expectation in spite of the widespread spotty gold values that occur in the Vernon map area. Concentration of our bulk HMC samples reduces the nugget effect and therefore the possibility of being misled by the many problems inherent with gold geochemistry in areas covered by glacial till.

As a result of the sampling this year, a target area, that occurs both up slope and up ice from the old King George shafts, has been indicated This target area correlates roughly with a gold geochemical anomaly found during the 2009 soil sampling program. Future programs should focus on further expansion and delineation of this highly anomalous HMC target.

Introduction

This report summarizes the Pilot Soil / Till Heavy Metal Concentrating (HMC) Program conducted during the month of November 2013 by Billiken Gold Ltd. The program was completed on behalf of Hard Rock Gold Ltd. on their King George Gold project situated near the confluence of Bruer creek with the Kettle River in the Vernon Mining Division of British Columbia.

The object of this HMC project is to try and locate an economic gold / silver deposit on Hard Rock Gold Ltd.'s Kettle River Gold Property. The project is designed to delineate roughly areas of interest worthy of the high cost of geochemistry, geophysics and or trenching and drilling.

The program was largely successful in indicating a somewhat large area of interest to be followed up with further HMC sampling and trenching. This target area correlates roughly with a previously outlined gold geochemical anomaly and has not been outlined completely so far. A follow up program of sampling and trenching will hopefully develop a dispersal plume that will lead to a blind or hidden gold deposit.

Physiography

The King George property is located on the Eastern boundary of the major physiographic region known as the Okanagan Highland, immediately West of the Monashee mountains. The claims mostly cover a south slope on a moderate hillside occurring along the north side of the Kettle River.

Elevation on the property varies between 1000 m where the Kettle River cuts through the centre of the claim block to about 1200 m at the north and eastern limits of the property. Most areas can be easily traversed on foot.

The principal water sources would be either Bruer Creek or the Kettle River both of which are year round sources with ample water for mining purposes. Most of the claim block is well drained and is centrally transected by the Kettle River which would provide ample easy access water for Diamond drilling. The area in general is quite industrial in nature as it has chiefly been used for Mining and Logging purposes for the last 80 years at least.

A large part of the upslope target area has been logged in the past and is easily accessed by a series of haul roads and skid trails that will prove very handy in future sampling and trenching programs. Most of the discoveries in the Vernon map area to date have been made as a result of road building and trenching. This exploration approach will very likely continue to be productive in the future.



Figure 1 - Table of Claim Information

Tenure Number	<u>Type</u>	Claim Name	<u>Good Until</u>	<u>Area</u> (ha)	
1023645	Mineral	King George Mine 2	20211020	20.783	
1023930	Mineral		20231201	83.1229	
Total Area: 103.9059 ha					

Claim Information

The property consists of 2 mineral tenures covering an area of 103.9059 ha. The claims are situated within the Vernon Mining Division on Trim map 082E.097.

The centre of the property is located at approximately, 11N 380503mE., 5536595mN.

The claims are registered to Hard Rock Gold Ltd. of Kamloops, BC Canada. The property has been maintained by doing grid work and completing geochemical surveys. This year's pilot geochemical program is an effort to move the property data base ahead and provide a new sense of direction that focuses on the discovery of a blind gold deposit masked by overburden near or up slope / ice from the quartz veins exposed near the King George shafts. The above mentioned expiry dates are dependent on this Pilot HMC program being accepted for assessment work credit.

Location and Access

The property is located in the Kettle River Valley of British Columbia, Canada approximately 60 km south east of the city of Vernon. Access to the property is gained by travelling East on Highway 6 about 99 km to the Kettle River Forest service road which branches off at an angle to the south. After traveling south down the Kettle River about 15 km you reach the Bruer Creek camp site which lies just beyond the southern property boundary. Radio monitoring of the Kettle River FSR frequency is recommended but if that is not an option wait for a log truck and follow the log truck in so that your whereabouts are known to the log truck drivers.

The roads are in reasonably good condition but quads are by far the most economical and effective means of access to all parts of the property.



History of Previous Relevant Work in the Area

The King George Mine is located about 13 km northwest of the Lightning Peak Camp which produced high grade silver ore until the mid-1930's and about 24 km southwest of the Monashee Camp which produced lode gold and silver ores as well as placer gold from the mid nineteenth century until early in the twentieth century. Many of these old properties are being re-evaluated or explored again for precious metals. The Sab property which lies immediately to the south of the King George Mine was first staked by York-Hardy and Arnold in 1972 to cover sulphide bearing Quartz veins and altered zones exposed during logging road construction. The Sab property has had about a million dollars' worth of work performed on it over the past forty years.

The King George Mine was apparently high graded during the 1930's during which time two shafts were sunk about 15 metres deep and about 8 metres apart. The old workings were lost for many years but were relocated in 1988 by Barnes Creek Minerals Corp Limited. Sampling of the three exposed quartz veins in the original pit yielded gold values ranging from 1.33 to 52.98 g/t in select grab samples.

During the summer of 2007 15.2 km of line cutting and grid were established and 561 soil samples were gathered at 25 metre spacing and 10 hard rock samples were also taken. In 2009 additional grid was established and another 198 soil samples were picked up.

I am not aware of any additional work that may have taken place between 2009 and November 7 2013 when this HMC program began.

Regional Geology

A detailed description of the Regional Geology is beyond the scope of the author so a description has been taken from ARIS Report #18533.

"The property is in an area of the interior plateau of British Columbia that is dominated by granitic rocks. The rocks in this area are mapped as the Cretaceous (?) Nelson or Valhalla Intrusions and tentatively grouped together into the greater Nelson Batholith. The Batholith is composed of granite, granitic porphyritic granite, granodiorite, diorite, monzonite and quartz monzonite.

Roof pendants of the Anarchist Group volcanic and sedimentary rocks exist in the area (Little 1957) shows small areas tentatively identified as Monashee (?) Group rocks. Recent work near the property indicates that these areas should be mapped as Anarchist Group rocks.

Tertiary basalts of the Kamloops Group occur in the region south and west of the property.

Late stage basalt and lamprophyre dykes intrude the older volcanic sedimentary and granitic rocks. These dykes are possibly Tertiary in age and related to the Kamloops Group Tertiary basalts.

Mineralization in the region is hosted by the intrusives and the volcanic and sedimentary rocks. The recent basaltic rocks generally post-date the economic base and precious metal mineralization."

Property Geology

This description of the property geology begins with the King George Shaft area where at least three quartz veins are known to exist in the discovery pit. Two shafts each about 15 m deep and 8 m apart are known to exist one of which is flooded. Limited sampling of the 3 quartz veins has yielded gold values ranging from 1.33 to 52.98 g/t in 5 grab samples. These 3 quartz veins strike at about 10 to 20 degrees and dip 40 to 60 degrees to the west. The following description of the Property Geology has been taken from Aris Report # 29603.

"The Nelson Plutonic complex is massively fractured due to a local mass of fault stresses in the area, this may have resulted in a large stockwork of gold-silver bearing mesothermal quartz veins. Numerous gold soil anomalies on the east side of the grid may indicate that mesothermal quartz veins are being detected through relatively thin overburden cover.

Immediately to the south of the King George mine is an outcrop of Triassic aged Okanagan Plutonic rocks consisting of horneblend biotite gneiss, paragneiss, minor schist, some marble, quartzite and amphibolite. This Okanagan stockwork probably represents the basement rock of highly metamorphosed sediments overlain by the Nelson Plutonic complex.

Locally quartz veins up to 2 metres cut the Nelson Formation and are highly mineralized with pyrite, galena, chalcopyrite, sphalerite, bornite and arsenopyrite. These veins found to date strike from 10 to 20 degrees and dip 40 to 60 degrees to the west. The entire complex is believed to be massively fractured due to extensive faulting and young volcanic intrusives."

Glaciation

<u>K. L. Daughtry and W. R. Gilmour</u> while working in the Whiteman Creek area point out that "much of the property is covered by glacial overburden and that follow up of the soil anomalies will require careful attention to the difficulties inherent in exploration on till covered ground". I think this precaution is relevant to the Kettle River area as well.

The Kettle River area has seen at least four and possibly more periods of glaciation in the last two million years. The most recent and therefore relevant ice movement in the area however was likely north to south.

Please refer to the ice flow map Figure 8.

Sampling Method

After becoming familiar with the property, the roads and trails in areas to be tested are chosen that will give the best and most promising samples. Soil type and availability on different sections of roads and trails can be very important. Some properties are more suited than others for this type of sample program.

The ideal soil condition of course would be undisturbed residual soil; however, it should be kept in mind that soil cover forms the medium or carrier which could contain particles of gold radiating from a lode deposit. The soil conditions therefore can be less than ideal for the sample program to be successful.

Quads are generally used to gain access and transport the samples. A crew of four men on two quads usually forms the sampling crew. A 20' construction trailer is often used to transport the quads and the sampling gear to and from the property.

Step 1 Taking the Sample

To produce a Traverse sample, soil is gathered along roads or skid trails by taking a shovel full of the most promising looking soil every 5 to 10 meters or so and placing it into a 30x30x50cm plastic tote bin. Each shovel full of sample is generally taken as close to bedrock as possible and usually from the high side of the road. Some till covered areas have a small amount of residual soil development immediately above bedrock and this is what we try to sample whenever possible.

When the tote bin is full, (usually after a traverse of 200m or so depending on soil conditions) the end of the sample interval is marked on the ground and recorded on a tablet with GPS capabilities. To identify the sample bins a piece of flagging is marked with the sample number and dropped into the bottom of the bin before any sample is put in. When the bin is full another piece of numbered flagging is buried in the top of the sample as a further precaution. The sample number is also written on the bin with a permanent type felt pen.

Sometimes a full box of sample is taken all from one location (at a gossan zone, contact or shear zone for example). This sample type we refer to as a **Spot Sample**. A sample taken along a section of road or trail is simply called a **Traverse Sample**.

Step 2 Screening the Bulk Sample

A tote bin of **Bulk Sample** begins processing with a brief description of the soil forming the sample. The **Bulk Sample** is then vibrated through a 12.5 mm (1/2 inch) screen to remove any of the larger rocks. This **Plus 12.5 mm** fraction of rocks is discarded after a quick examination for anything of interest (i.e.: mineralization, vein material, alteration etc.). Any rocks of interest are put in a sample bag or container, labeled with the sample number and set aside for closer examination later. A representative **Soil Sample** is sometimes taken and placed into a wet strength Kraft paper bag, and labeled (i.e.:K-1 Soil). This representative **Soil Sample** fraction is cataloged and put into storage for further examination or analysis if desired.

The **Minus 12.5 mm** fraction is then weighed and the weight recorded, a photograph is taken and the sample is briefly described. At this stage the screened sample (**Minus 12.5 mm fraction**) usually weighs about 35 kg on average. After each sample is screened the screen is removed and pressure washed completely clean to avoid cross contamination between samples.

Step 3 Concentrating

The samples are then transported to the nearest small creek or as in this case returned to our facility and put very slowly through a small sluice box. The sluice box is 21cm wide x 10cm deep and 125cm long (8" wide x 4" deep x 48" long) and is of wood construction lined with aluminum so that it can be completely cleaned out to eliminate any chance of cross contamination between samples. The sluice box has been fitted with special rubber matting full of small pockets which are very effective at catching fine gold particles. At the head or feed section of the sluice box there is a hopper fitted with a 6.3 mm (1/4 inch) stainless steel screen.

The ideal slope of the sluice box is about 10 to 12 degrees and the volume of water should be kept at about 25 Liters per Minute (LPM). Here again consistency must be maintained between all samples to avoid varied results. The sample is fed through a hopper using the water flow and a small garden shovel to create the slurry. Sluicing the sample has to be done very slowly. It usually takes a good hour to concentrate a sample including clean up. After each sample has been sluiced the plastic bin that held the sample is carefully rinsed into the sluice box in case any particles have worked their way to the bottom of the bin during transport.

The slow and careful completion of this and all steps in the concentrating process is crucial to ensure that very small particles of micron gold are not washed away. If for example there are only three small particles of "angular gold" in an entire sample program one always has to be certain not to lose them by accident or sloppiness once they have been gathered in the field.

As the sample is being worked slowly through the screened hopper on the sluice box a careful watch is kept for vein material, mineralization, alteration etc.in the plus fraction. This (**Plus 6.3 mm**) fraction from the hopper is placed in a new plastic food container with a soft aluminum tag denoting the sample number and is further marked **Sluice Reject**. The lid is then placed on and duct taped in place to avoid accidental spillage. The lid of the container is then further marked with the sample number and "**Sluice Reject**". A small **Sluice Reject** sub sample is set aside for megascopy at a later date.

After all of the **Minus 12.5 mm** fraction has been put through the sluice box, the sluice concentrate is then rinsed thoroughly and completely out of the box and into a clean container. Pressurized water is used to clean out the sluice box and rubber matting as it must be <u>absolutely</u> clean. At this point, the sluice concentrate is washed through an 850 micron sieve (No. 20 ASTM). The **Plus 850 Micron** fraction is examined labeled and set aside as **Pan Reject**.

All weights from here on are determined with a Fischer Scientific torsion balance.

The remaining **Minus 850 Micron** fraction is then panned down to between 100 to 200 grams. The pan con size depends on how much heavy fraction is layering in the pan. A course fraction (850 Micron) was chosen as we are looking for short transport gold such as that derived from residual disintegrated gold bearing vein material.

This initial panning usually takes 1 to 1.5 hours to complete and is done using clean water between each sample in a spotlessly clean plastic tote bin. A couple of drops of detergent are added to the water as a surfactant. The pan reject is thoroughly rinsed from the bin and added to the **Pan Reject** container and the **Pan Con** is placed into a clean plastic container labeled with the sample number and "**Pan Con**". A careful watch is kept for particles of gold while this initial panning is taking place but closer inspection comes later.

Step 4 Pan Con Fractioning

This initial **Pan Con** sample is then examined wet under a microscope before being dried and the weight recorded. After being dried and weighed the next step is to remove the magnetic fraction carefully using a sheathed magnet. A two part process has been developed to remove the magnetic fraction that ensures fine gold particles are not caught up and removed accidently in the process. The **Pan Con Magnetic** fraction is then weighed, labeled and set aside. The remainder of the **Pan Con** is then passed through a 300 micron (Tyler 50 mesh) sieve. The plus fraction is labeled weighed and set aside for further examination as the **Plus 300 Micron** fraction.

The remaining **Minus 300 Micron** fraction is then re - panned by an experienced and patient panner down to about 20 to 35 grams (It can take up to and sometimes more than an hour to do this careful panning). The panning is done in a thoroughly clean plastic tote bin using fresh clean water. After the re - panning the **Re Pan Reject** is thoroughly rinsed from the bin and then both **Re Pan Reject** and the **Re Pan Con** are dried, and set aside. At this time 0.5 grams is removed from the **Re Pan Con** labeled and placed in inventory for further reference or examination if needed.

The **Re Pan Con** fraction is visually inspected for gold particles during the panning and again when panning is completed. Any particles spotted are examined under a Bausch & Lomb microscope and when possible photographed.

Step 5 Analysis

Having reached this point you have nine fractions at the forefront namely:

- Soil Sample (representative 200 to 300 grams)
- Sluice Reject
- Sluice Reject Sub Sample that was sent for megascopic analysis and returned to inventory
- Pan Reject
- Pan Con Magnetic Fraction
- Plus 300 Micron Fraction (Pan Con Non magnetic Fraction)
- Re Pan Reject Fraction
- Re Pan Con Fraction
- O.5 grams of Re Pan Con in inventory

The fractions are photographed and decisions are made as to what analytical methods if any to proceed with.

Field Observations

One of the great things about this process is that a pretty good evaluation of the sample can take place on the spot, in the field after the first panning. This HMC method gives some results (i.e. visible gold or no visible gold in the field). With the aid of a microscope the colors that you find can be examined closely to determine whether they are low transport gold (pristine particles) or rounded off and hammered placer products. Survey grids and sample sites can be immediately adjusted in the field according to these results as they become available.

If for example, 15 sample intervals have no visible gold in them but the 16th one obviously has low transport particles then efforts can be concentrated uphill or up ice depending on soil type (i.e. residual or glacial till). Typically, more sampling followed by trenching takes place. If a Geochemical survey is chosen, then the grid and sample locations can at least be more wisely placed.

Sample Number	Type of Sample	UTM's START Eastings	UTM's START Northings	UTM's FINISH Eastings	UTM's FINISH Northings
K-1	Traverse	379771	5536547	380003	5536389
K-2	Traverse	380003	5536389	380245	5536287
K-3	Traverse	380245	5536287	380501	5536935
K-4	Traverse	380501	5536935	380819	5536844
K-5	Traverse	380269	5536258	380218	5535992

Figure 2 – Table of Sample Type and Locations

Figure 3 – Table of Sample Weight and Descriptions

Sample Number	Weight of unprocessed sample (kg)	Description of Sample
K-1	34.8	Rusty looking, soil
K-2	38.4	Brown, good soil
K-3	34.2	Brown, good soil
K-4	40	Brown, good soil
K-5	27	Brown, good soil

Figure 4 – Table of Fraction Weights

Sample Number	Pan Con fraction (grams)	Pan Con Magnetic fraction (grams)	Plus 300 Micron fraction (grams)	<u>Re Pan Con</u> fraction (grams)
K-1	35.47	17.89	2.98	18.82
K-2	34.67	19.85	3.06	18.25
K-3	41.48	21.47	6.93	15.2
K-4	45.53	19.02	3.53	22.13
K-5	29.22	13.09	3.09	20.7

Sample Number	Microscopy of " <u>Pan Con</u> " fraction 1st panning	Microscopy of " <u>Plus 300 Micron</u> " fraction	Microscopy of " <u>Re Pan</u> <u>Con</u> " fraction
K-1	No visible Au	No Au found. 5-10 pieces of grey-silver flakes found. Only slightly magnetic.	1 single particle Au photographed
K-2	1 piece visible Au possibly 2	1 piece Au	6 single particles Au photographed
K-3	No visible Au	3 pieces chalcopyrite found	5 single particles Au photographed. 1 photograph of 46 smaller particles Au
K-4	2 pieces visible Au	No Au found. 1 piece chalcopyrite	3 single particles Au photographed. 12 smaller pieces Au not photographed
K-5	1 piece visible Au	No Au found	2 single particles Au photographed. 4 smaller pieces Au not photographed.

Figure 5 – Table of Microscopy and Panning Observations

Photo	Sample	Fraction	Particle size	Dautiala akawa	Particle		Mallashis
Number	Number	Туре	(mm)	Particle snape	colour	wagnetic	walleable
K1 0001	K1	Plus 300		2 separate pieces formed together part angular and part spherical	Angular part is grey, spherical part is yellow		Malleable
K1 0002	K1	Re Pan Con	0.2154x0.065	Angular and thin	Dark yellow	Non magnetic	Malleable
K2 0003	K2	Plus 300	0.882x0.452	Sub angular		Non magnetic	Malleable
K2 0004	K2	Re Pan Con	0.172x0.086	Sub rounded	Pale yellow	Non magnetic	Malleable
K2 0005	K2	Re Pan Con	0.129x0.129	Rounded	Pale yellow	Non magnetic	Malleable
K2 0006	K2	Re Pan Con	0.215x0.194	Sub angular	Pale yellow	Non magnetic	Malleable
K2 0007	К2	Re Pan Con	0.065x0.043	Angular	Pale yellow	Non magnetic	Malleable
K2 0008	K2	Re Pan Con	0.065x0.065	Sub angular	Pale yellow	Non magnetic	Malleable
K2 0009	K2	Re Pan Con	0.086x0.065	Angular	Pale yellow	Non magnetic	Malleable
K3 0010	К3	Re Pan Con	0.280x0.108	Rounded - looks well travelled	Dull yellow	Non magnetic	Malleable
K3 0011	К3	Re Pan Con	0.172x0.108	Sub angular	Pale yellow	Non magnetic	Malleable
K3 0012	К3	Re Pan Con	0.215x0.129	Sub rounded	Pale yellow	Non magnetic	Malleable

Figure 6 – Table of Photographed Microscopy Observations

Photo Number	Sample Number	Fraction Type	Particle size (mm)	Particle shape	Particle colour	Magnetic	Malleable
			. ,				
K3 0013	К3	Re Pan Con	0.086x0.086	Sub angular	Pale yellow	Non magnetic	Malleable
K3 0014	К3	Re Pan Con	0.020x0.020	46 pieces most angular	45 pale yellow 1 dull yellow	Non magnetic	
K4 0015	K4	Re Pan Con	0.688x0.258	Rounded with folded corners	Dark yellow	Non magnetic	Malleable
K4 0016	K4	Re Pan Con	0.516x0.258	Sub rounded	Pale yellow	Non magnetic	Malleable
K4 0017	K4	Re Pan Con	0.323x0.258	Sub angular	Pale yellow	Non magnetic	Malleable
K4 no photo	K4	Re Pan Con	0.020x0.020	12 angular pieces	6 dark yellow and 6 pale yellow	Non magnetic	
K5 0018	K5	Re Pan Con	0.215x0.108	Rounded	Dark yellow	Non magnetic	Malleable
K5 0019	К5	Re Pan Con	0.301x0.172	Rounded	Dark yellow	Non magnetic	Malleable
K5 no photo	K5	Re Pan Con	0.020x0.020	4 sub angular pieces	2 dark yellow 2 pale yellow		
K5	К5	Re Pan Con	no size	1 piece lost			

Megascopy

Mr. Murray S. Morrison, B.Sc. Geologist, completed megascopic examination of the selected Sluice Reject samples as they contain important information about both the composition of the bulk HMC samples and their provenance. Prior to any further exploration programs this megascopic information should be fully understood and considered. Mr. Morrison did a very careful and thorough examination of the sluice reject samples. His sample descriptions are detailed and contain some very useful information derived in part from his over 30 years' experience in the area.

The full documents from Mr. M. Morrison B.Sc. Geologist are contained in Appendix A

Analytical Procedures

None of the samples were assayed in this survey as little would be gained by the additional information.

Discussion of Results

Sluice Reject Samples

The 5 **Sluice Reject Samples** (angular rocks in the soil) were examined in detail by Murray Morrison B.Sc. Geologist in an effort to find vein material or altered silicified rocks that could be gold bearing. In Mr. Morrison's descriptions "**specimens of interest**" are noted that can be used to evaluate the precious metal potential of the sample interval.

Designated Area of Interest

As a result of the sampling last fall a target area upslope and up ice from the King George shaft area has once again been brought to light and should definitely be sampled aggressively at the earliest opportunity as this area could yield some very positive results. The large number of gold particles found in K-2, K-3 and K-4 warrant serious consideration. Sample number K-3 in particular had at least 46 particles of gold in the re pan con.

Case Histories

Of relevant interest are two HMC case history signatures of mesothermal / epithermal gold occurrences in the Vernon camp from our previous studies.

Kalamalka Mine Site

<u>ARIS Report # 21,454 dated April 20 1991</u> the author conducted a test to see if a geochemical signature exists using Soil / Till HMC on the Kalamalka gold deposit east of Vernon BC. Traverse HMC samples were taken immediately down slope from the main occurrence and yielded high gold values and many particles of angular gold.

It is important to note that these traverse samples from the Kalamalka were about 75kg or twice the size of the ones from the Brett.

- Sample # 1 90 ppm
- Sample # 2 1000 ppm (included some soil from right below the dump likely contaminated by mine muck)
- Sample # 7 32 ppm
- Sample # 8 23 ppm

Brett Main Shear Zone

Our case history test was conducted in close proximity to the main shear zone of the Brett deposit and produced definite signatures. The results are listed below. These traverse samples weighed about 35kg or half the weight of the ones from the Kalamalka.

Sample # 1124 (traverse sample): Some very fine particles of gold were seen in the **Re Pan Con.** This sample was taken immediately above the main shear zone and assayed 11.15 ppm in a 30 gram fire assay with a gravimetric finish.

Sample # 1125 (traverse sample): This sample covered a distance of about 75 m and was taken 50 m downslope from the main shear zone of the Brett deposit. Visible particles of gold could be seen in the **Re Pan Con**. Total metallic analysis was chosen for this sample which yielded 10.05 ppm in the total metallic plus fraction.

Sample # 1126 (traverse sample): Taken along the east side (not downslope) of open cut and assayed 4.28 ppm in a 30 gram fire assay with a gravimetric finish.



"The average gold content of most soils is low, but the element is enriched in certain types of soils and in a variety of glacial and weathered products in the vicinity of gold – bearing rocks or auriferous deposits" (Boyle, 1979).



BC Geological Survey Open File 2013-03

Author: T. Ferbey and H. Arnold

Conclusions

The precious metal potential of the King George Mine area has been positively indicated by the large number of gold particles found during the 2013 HMC sampling program. Many of these particles do not appear to have travelled very far. All of these gold particles were located up slope and up ice from the known occurrence and it is very unlikely that they travelled uphill after being liberated from their bedrock source. Further HMC sampling up slope from the King George mine site should be done on all the roads and trails. Depending on the results obtained the recommendations of a good geological engineer should be followed and may include the following: trenching and or VLF EM or MMI surveys might be considered.

Exposed areas of outcrop have likely been adequately explored, in most cases by some very competent geologists in the past. If there is an economically viable gold deposit in the above mentioned area it is likely completely masked by overburden. The possibility that most of the gold particles found in the area to date originate from a previously glaciated or decomposed gold deposit up slope cannot be overlooked.

The 2013 Soil / Till HMC brings a new set of useful information to the present data base. As a result of the sampling from this program the target area upslope from the King George mine site has been further reinforced and confirmed.

Recommendations

All of the upslope area above the King George Mine area that lies between Bruer Creek and the Kettle River should be staked to cover the possible source of the gold particles found during this survey.

Historically, in the Whiteman Creek area for example conventional geochemical surveys have not given definitive results but seem to point at widespread, spotty, poorly developed gold anomalies. Considering the geological history of the area and the wide spread spotty nature of these results, it is, in my opinion, difficult if not impossible to determine the source of the gold from conventional soil sample anomalies.

Soil / Till HMC programs create meaningful target definition in these environments because of its ability to moderate the nugget effect through concentration. Concentrating the sample first creates a higher threshold and eliminates the spotty highs that plague conventional soil sampling methods. Further Soil / Till HMC programs are therefore recommended.

Any alteration zones found should be sampled and thin sections should be prepared and studied to try and determine where **both** alteration and mineralizing events have taken place. Road building and trenching should be carried out (upslope) from the King George Mine in an attempt to locate the bedrock source of the gold particles.

The purpose of this future sampling program will be to try and identify a dispersal plume such as that found immediately downslope from the Main Shear on the Brett occurrence in Whiteman Creek or the Kalamalka occurrence south of Lavington. Particular attention should be paid to all areas where bedrock is masked by overburden.

Structural geological interpretation and studies of host rock alteration in conjunction with aerial photograph interpretation may help to identify fracture systems in the bedrock which could have functioned as conduits for mineralizing hydrothermal solutions. These recommendations could also be very useful in delineating target areas for future HMC sampling.

General Discussion

I first began using Soil / Till HMC about 1981. This process provided a way to explore gold properties when there were little or no funds to pay for assaying. Originally we used to run about 75 kgs of soil sample through a sluice box. Over time we concluded that 75 kg of sample was just too heavy to handle and we gradually (but reluctantly) reduced the size of our sample down to about 35 kgs (the size of our samples today).

Samples sometimes have to be carried a long way out on foot and consequently are usually about 10 kg. These samples are generally called a "Post-Hole" or "Spot" sample. Post - Holeing is likely an Australian method whereby the sampler digs a hole with a shovel about 0.5 to 1 m deep (depending on conditions) and then takes all of the sample from the very bottom of the hole.

After sluicing the sample, the sluice con was then carefully panned and visually inspected. If we thought we could see minute gold particles and could afford to assay the sample we would. With some samples it became obvious that there was absolutely no gold in the sample and with other samples you could say for sure you were seeing gold particles. Originally, we didn't realize the importance of determining whether the particles were low transport or placer products.

In short, every time we conduct a HMC program changes are being made. We try to reduce the enormous amount of labour involved, speed things up, and continue to derive meaningful data, while keeping the process both cost effective and informative. Certainly, more improvements can and will be made as we continue to conduct HMC programs. I know that there is more information that we can glean from this process as we spend more time and energy on each of the different fractions.

In the area of the Brett deposit we have clearly established that our **Plus 300 Micron** fraction shows up as a very distinct "Buff" colour. This has also proven to be true throughout the sample area whenever we were near alteration zones. From this I believe we are able to surmise that we can detect alteration zones even when they are completely masked by overburden. I know of no other tool in use at present that can do this. In all environments locating alteration zones is very useful, especially if the alteration zone proves to be gold bearing.

There are many people who specialize in the science of gold particles, glaciation, heavy minerals, etc. Their understanding of certain aspects of this methodology far surpasses my ability to do so. I welcome any comments, questions or concerns that the reader may have about our HMC process. Any further discussion can only help us to continue to improve our methodology.

This HMC process may change the long practiced idea that soil samples are just gathered and sent to the lab. By processing the soil sample and separating out the fractions before assaying, a whole new level of information is being revealed. I believe the whole story may be hidden in these soils once we have learnt how to read and interpret it.

My official duty on this and past programs is that of a **data gatherer**. The samples in this program were gathered and carefully processed to the very best of my ability. My conclusions and recommendations come from the experiences gained from each of the many HMC projects completed to date.

Statement of Qualifications

I Eugene Allan Dodd of Enderby, British Columbia do hereby certify that:

- 1. I am an experienced prospector having commenced prospecting professionally full time in the North West Territories on February 15, 1968.
- 2. I am both President and Chief Exploration Manager for Billiken Gold Ltd. A position I have held for the past 3 years.
- 3. I am both President and Chief Exploration Manager for Trans Arctic Explorations Ltd. A position I have held for more than 46 years.
- I was Chief Instrument Operator and then President of Columbia Airborne Geophysical Services Ltd. for 7 years. Specializing in detailed low level combined airborne geophysical surveys in rugged terrain.
- I have successfully completed at UBC, a course titled: Geophysics in Mineral Exploration. The course included detailed technical aspects of most types of geophysical surveys including some practical interpretation.
- 6. I have operated and understand the principles of conducting a wide variety of ground and airborne geophysical surveys. I have experience as both an instrument operator and helper on I.P. and S.P. surveys.
- I have gained my experience by conducting numerous exploration programs for a wide variety of mining companies, oil and gas companies and consulting geologists and geophysicists.
- I have supervised projects in the North West Territories, British Columbia, Ontario, Quebec, Labrador, Yukon, Washington, Oregon, Alaska, California, Idaho, Nevada, and Montana.
- 9. For 10 years I owned and operated a contract drilling division in Matheson Ontario. We operated two medium depth unitized drill rigs for a variety of mining companies.
- 10. As well as my practical experience I am constantly reading and researching the technical aspects of exploration (geological, geophysical, and geochemical).
- 11. I am the Author of this report, which is based on my personal observations made while in the field, and from knowledge gained from the works cited in my bibliography.

Dated at Enderby BC. This 24th day of Sept 2013

Respectfully submitted Eugene A. Dodd President - Billiken Gold Ltd.

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Appendix A

Report of Megascopic Examination Sluice Reject Samples For Billiken Gold Limited Kettle River Project, Vernon Mining Division, British Columbia

Description of Sample

Sample Number

- K-1 35% subrounded to angular fragments of granodiorite; 15% dark green to black angular fragments comprised of 10% quartz, 10% feldspar and 80% green chlorite (altered biotite); 35% angular fragments of fine grained black basalt (with tan weathered surfaces) and 5% vesicles throughout; 15% subrounded fragments of quartz feldspar porphyry; and <1% subrounded to angular fragments of quartz. Specimen of interest: 5x2x2 cm angular fragment of quartz feldspar porphyry with some cavities and limonite staining.
- K-2 80% angular to subrounded fragments of granodiorite with weak limonite staining on some fragments, 20% subrounded fragments of tan weathering very fine grained black basalt and <<1% 1-2 mm angular quartz fragments.
 Specimen of interest:

3x2x1 cm angular fragment of granodiorite with limonite and manganese staining surfaces.

- K-3 55% of the sample is made up of a single large (15x8x8 cm) angular fragment of quartz feldspar porphyry comprised of 55% quartz and 40% orthoclase phenocrysts (up to 5 mm in size) plus 5% later interstitial quartz. The rock also has 5% voids and cavities with limonite and manganese staining the cavity surfaces. In addition to the fragment described above 20% of the sample is comprised of other angular fragments of quartz monzonite porphyry with orthoclase phenocrysts of 1-3 cm and some quartz crystals up to 1 cm (the rock may represent a nearby Valhalla quartz monzonite intrusive); another 20% of the sample is comprised of fine grained black basalt. The sample also contains 5% angular to subrounded granodiorite fragments and <1% angular 1-2 mm fragments of quartz.</p>
- K-4 40% angular to subrounded fragments of very fine grained light gray to dark gray (salt and pepper) andesite which could represent an intrusive dyke (?) or a volcanic flow (?), 20% angular fragments of very fine grained black basalt, 20% angular to subrounded fragments of granodiorite, <1% angular quartz fragments 1-3 mm in size and 20% specimens as noted below:
 Specimens of interest:

5x4x2 cm angular fragment of gray moderately altered granodiorite with small limonite and manganese stained cavities throughout and traces of very small disseminated pyrite cubes.

4x2x1 cm subangular fragment of granodiorite with the mafics altered out and manganese staining on one side.

K-5 70% angular fragments feldspar porphyry with 60% orthoclase crystals set in a white interstitial mass of quartz which has minor vugs and small pits with limonite staining (no mafic minerals observed); 15% angular platy fragments of a fine grained brown volcanic flow rock that is possibly a dacite; 10% subangular fragments of granodiorite; 1% angular fragments of black fine grained basalt; and 4% specimens as listed below:

continued on page 2....

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Specimens of interest:

2x2x2 cm angular fragment of purple brecciated quartz vein with vugs and strong hematite and manganese staining.

5x2x2 cm angular fragment of feldspar porphyry with very small (<1 mm) phenocrysts set in a very fine grained grey groundmass. Limonite staining on all surfaces.

There is only a trace of angular quartz fragments of over 2 mm in size in the sample.

Murray Morrison B.Sc. Geology December 9, 2013

Appendix B

Detailed Cost Breakdown Kettle River Project

Soil / Till Heavy Metal Concentrating Program

Kettle River Area, Vernon M.D.

Labour

E. Dodd (Supervisor) November 07, 2013	
1 Day @ \$325.00	\$325.00
J. Cross (Sampler) November 07, 2013	¢200.00
1 Day @ \$300.00	\$300.00
1 Day @ \$250.00	\$250.00
1 Day C \$250.00	<i>4250.00</i>
Truck	
1 Ton 4x4 November 07, 2013	
1 Day @ \$150.00	\$150.00
Quads	
November 07, 2013	
1 Quad 1 Day @ \$125.00	\$125.00
Camp	
Meals @ \$60.00 per man day	\$180.00
Sample Processing	
5 - 35 kg HMC Samples x 8 hours = 40 hours @ \$25.00 / hour	\$1,000.00
Bins and containers	\$60.00
Megascopy	
M. Morrison B.Sc. Geologist	
5 samples x \$20.00 / sample	\$100.00
Report	\$700.00
Shipping	\$33.50
<u>Total</u>	\$3,223.50
(Taxes not included)	
Dated: January 20, 2014	
Respectfully submitted	

Eugene A. Dodd, President

Billiken Gold Ltd.

Appendix C



Line up of fractions showing **Pan Con fractions** (forefront), **Sluice Reject** (middle), **Sluice Con** (rear).



Sample # K1 Photo # K1-0002 one piece, angular, thin



Sample # K2 Photo # K2-0003 one piece, sub angular



Sample # K3 Photo # K3-0014 some of the 46 pieces, mostly angular with insolubles



Sample # K4 Photo # K4-0015 one piece, rounded with folded corners

Appendix D

Flow Chart of Billiken's HMC Process

(Subject to change)





Kettle River 2014 Report.doc







