YUKON MINERAL EXPLORATION PROGRAM (YMEP)

3 ACE PROPERTY

WATSON LAKE MINING DISTRICT, YUKON
NTSMAP SHEETS: 105H/9,16
UTM-NAD 83 – ZONE 9N
Property Centre – 533700mE 6843800mN

List of claims

Ace 1-152, Al 1-114, Fred 1-52, 249-326, Full 1-196, Cozy 1-10, House 1-50, Jack 1-39, Jake 1-20, Jan 1-4, Joe 1-102, King 1-112, OCS 1-82, Queen 1-14

Prepared by:

Michael Burke, B.Sc

Golden Predator Mining Corp.

Table of Contents

List of Tables

List of Figures

Summary

During 2014 Golden Predator Mining Corp initiated and completed metallurgical tests on three large volume samples collected from the Sleeping Giant vein zone at the 3 Aces property. The large volume samples, ~600 – 800 kg each, where collected in 2013.

The large volume samples were collected from outcrops of massive quartz vein material that contain obvious coarse and visible gold. It is well documented that sampling and analyzing samples with coarse gold can be problematic to obtain reliable assays and to be able to estimate what the true contained gold content is.

The program was designed with many goals to help understand the coarse gold in this vein system;

1. Assist with identifying a reliable assay technique that can be used during exploration on relatively small samples so a confident potential mineral resource estimate can eventually be estimated by using the identified reliable assay method on all future samples.
2. Determine the total good content of the large volumes by processing the entire sample and relating this back to small volume assay techniques.
3. Obtain information on the amenability of the samples to be processed by gravity methods for gold recovery if a future mine was ever built.
4. Conduct a detailed mineralogical study on the gold forms i.e. native or combined with various other sulphide and non-sulfide minerals.

The results of the metallurgical characterizations test accomplished all the goals;

1. Data has shown that a screen metallic assay technique using a 2,000 gram pulp (P_{80} -150 mesh) can produce reliable results that compare well to the total gold content after processing an entire large volume sample. The technique can work well for all ranges of gold grades at 3 Aces.
2. The entire large volume samples were processed and their total gold content compared favorably to the gold content estimated by smaller sample assays using the screen metallic method.
3. Gravity recoverable gold tests and total gold recoveries showed that very high gold recoveries were achieved by gravity methods alone at nominal grind sizes (P_{80} 190 mesh), 74.6% - 88.5% and with cyanide leaching of the gravity tails total gold recoveries 93.5% - 98.3% were achieved.
4. A detailed mineralogical study showed that the gold primarily occurs as free native gold grains with about 91.9% gold and 8.1% silver. Sulfide material when present is less than 1% by volume and is usually arsenopyrite and this can have gold particles attached.

Introduction

The 3 Ace property consists of 1,105 contiguous quartz claims located in southeast Yukon. The property is located along the Nahanni Range Road which accesses the operational Cantung Mine located 40 kilometers to the north. Since acquiring the project in 2010, Northern Tiger has drilled 11,410 meters, conducted airborne and ground geophysics, stream sediment and soil sampling, prospecting and geological mapping.

Northern Tiger has undergone a corporate amalgamation and name change and is now Golden Predator Mining Corp.

Exploration in the area has been conducted since the mid-1960's recognizing the gold potential in this belt of rocks in the Selwyn Basin. Exploration by several operators in the area has identified gold mineralization however the first discovery of bonanza grade gold mineralization was not made until 2009 at the Main Zone on the 3 Ace property. Northern Tiger optioned the property in 2010 and has conducted 11,410 meters of drilling from 2010-2012. Exploration work including drilling, airborne and ground geophysics, stream sediment and soil sampling, prospecting and geological mapping has resulted in the identification of several new areas of mineralization in addition to the Main Zone. Visible gold has been identified in new zones including the Sleeping Giant zone where surface sampling returned samples with abundant visible gold and "bonanza" grades. Drilling intersected quartz veining and stockwork with alteration with the best intersection returning 7.3 meters of 3.3 grams per tonne gold. Drilling has identified the nuggety distribution of gold in the Sleeping Giant zone.

Geology and Mineralization

The 3Ace Property is located in the Selwyn Basin; a lenticular belt of sedimentary rocks that extends across the Yukon. The property is underlain by interbedded clastic and carbonate sedimentary rocks of the Hyland Group, the basal unit of the Selwyn Basin. The stratigraphic sequence is assigned to the Yusezyu and Narchilla formations; although recent regional mapping suggests a distinct package of calcareous sedimentary rocks occurs between the two classic formations of the Hyland Group. Polyphase fold and fault systems overprint the stratigraphy, structurally preparing the rocks for later hydrothermal fluids and acting as pathways for the mineralizing fluids. Sulphide (i.e., pyrite and arsenopyrite) and associated gold mineralization occurs along late, brittle faults formed within an extensional step-over zone between two regional dextral trans-extensional faults. Mineralised hydrothermal fluids migrated through these faults during late phases of brittle fault displacement. Gold mineralization on the property is associated with extensive argillic, iron carbonate, and limonitic alteration zones that broadly overprint the stratigraphy and early structural fabrics.

The current exploration strategy on the 3Ace Property is based on the metallogenic models developed for orogenic gold deposits. These types of deposits have been described extensively throughout the northern Cordillera of Alaska and BC (e.g., Groves et al., 1998; Kerrich, 2000; Goldfarb et al., 2001; Goldfarb et al., 2004), but have not been extensively explored for in Yukon Territory. The primary characteristics of the 3 Ace Property that make the orogenic gold model an appropriate analogy for the property are: mid- to upper-crustal level crack-seal style quartz veins, high competency contrast between lithologies, transextensional crustal-scale regional faults that provide fluid pathways for deeply

sourced metamorphic fluids, and a prolonged polyphase deformation history that allowed multiple generations of fluid to pass through the region.

SLEEPING GIANT ZONE

The Sleeping Giant Zone was discovered in 2010. The zone is a series of gently to moderately dipping Au-bearing quartz veins hosted in quartz pebble conglomerate interbedded with black phyllite. Chip samples across the main exposures of the quartz veins in 2010 yielded abundant multi-gram samples, 'bonanza' grades, and several visible gold occurrences. However, the 2010 drill program did not intersect the surface mineralisation at depth. However, due to the extent of mineralised quartz veins and tenor of the gold concentrations from surface samples this prospect remains a high-priority exploration target.

A total of seven 50m drill holes were completed on the zone in 2012. Each of the drill holes target a surface or trenched quartz vein exposure with high-grade gold assay and/or visible gold occurrences. The drill was mounted on skids during this portion of the drill program, unfortunately this configuration combined with steep terrain and shallow overburden limited the number of viable drill pads.

Mineralisation at the Sleeping Giant Zone is characterised by the presence of pyrite+arsenopyrite±gold. Drill sections from each of the 2012 drill holes display broad intersections of highly-anomalous to above detection As, which correlates to medium- and coarse-grained arsenopyrite in the core. However, Au concentrations are often limited to narrow, low- to medium-grade intersections within the arsenic halo. The best assay results from the seven drill holes are in holes 3ASG-12-001 which returned 2.1 g/t Au over 5.0 metres and 3ASG-12-007 which intersected 7.3 g/t Au over 3.3 metres. The 25m spaced holes targeted the strike-length of a 10m-12m thick quartz vein with abundant coarse grained visible gold. Channel samples collected prior to drilling returned multiple 'bonanza' grade assays, the best of which was 449 g/t Au over 5.2m, including 1,882 g/t Au over 1.0m. The lack of very high-grade Au assays from the drill holes is interpreted as in indication of the nuggety nature of the gold distribution in the quartz vein system.

The Sleeping Giant Zone is a system of discontinuous, but significant quartz vein segments with complex, poorly constrained structural controls. The most apparent control on the distribution of quartz veins and associated mineralisation is the orientation of the clastic package and the geometry of the intersection between stratigraphy and the controlling faults. Although the series of short drill holes tested several parts of the structure, longer holes will be required to test the dip extent of stratigraphy and the controlling structure. An additional problem at the Sleeping Giant Zone is the inaccuracy of the available DEM, which underestimates the topography. Discrepancies in the elevation of drill hole collars and outcrop/trench locations makes it challenging to construct an accurate model of the geological and structural components of the zone.

METALLURGICAL SAMPLING

In 2013 three large volume metallurgical samples were blasted from the Sleeping Giant Zone. The samples were collected in order to determine the distribution of coarse gold in the vein system at

Sleeping Giant. The samples were collected and shipped to SGS Labs Metallurgical Operations in Vancouver for processing.

The sample locations were spread out along about 140 meters of strike length. Samples BS-3A13-01 and BS-3A13-02 were collected from the Mesa outcrop area and sample BS3A13-03 was collected from the 2012 Trench 1 area about 100 meters south of the Mesa outcrop. Location of the blast trenches and the volume of the material excavated are shown in Table 1. All three samples were collected in areas that were previously channel sampled and the areas were selected in order to obtain samples from areas with low, medium and high gold values. Selected channel sample results adjacent or close to the three metallurgical samples sites are shown in Table 2. Figure 1 shows the location of the blast trenches, channel samples and drill holes in the vicinity of the blast trenches.

Table 1. Location of large volume metallurgical samples.

Metallurgical Sample #	Blast Trench #	UTM East	UTM North	Length (m)	Width (m)	Depth (m)	Volume (m3)	Tonnes
BS-3A13-01	SGZ-3A13-BT002	534598	6844203	3.5	1.8	1	6.3	17.6
BS-3A13-02	SGZ-3A13-BT002a	534593	6844172	2.3	1.9	1	4.37	12.2
BS-3A13-03	SGZ-3A13-BT001	534631	6844072	2.6	2.5	0.8	5.2	14.6

Table 2. Channel samples collected in vicinity of Metallurgical samples.

Metallurgical Sample #	Channel Sample ID	Composite Gold g/t	Composite Length (m)
BS-3A13-01	Channel-26796	1.56	14.3
BS-3A13-02	Channel-26786	10.7	11.0
	Chanel-26751	15.5	16.7
BS-3A13-03	Channel #5	25.9	3.1
	Channel #6	448.9	5.2

A portion of the blasted material was then hand cobbed and placed in supersacks. The amount of material collected for sample BS-3A13-01 was 855 kg, sample BS-3A13-02 was 835 kg and sample B-S3A13-03 was 620 kg. The samples were security sealed and transported by commercial transport to the SGS Laboratory facility in Burnaby, British Columbia.

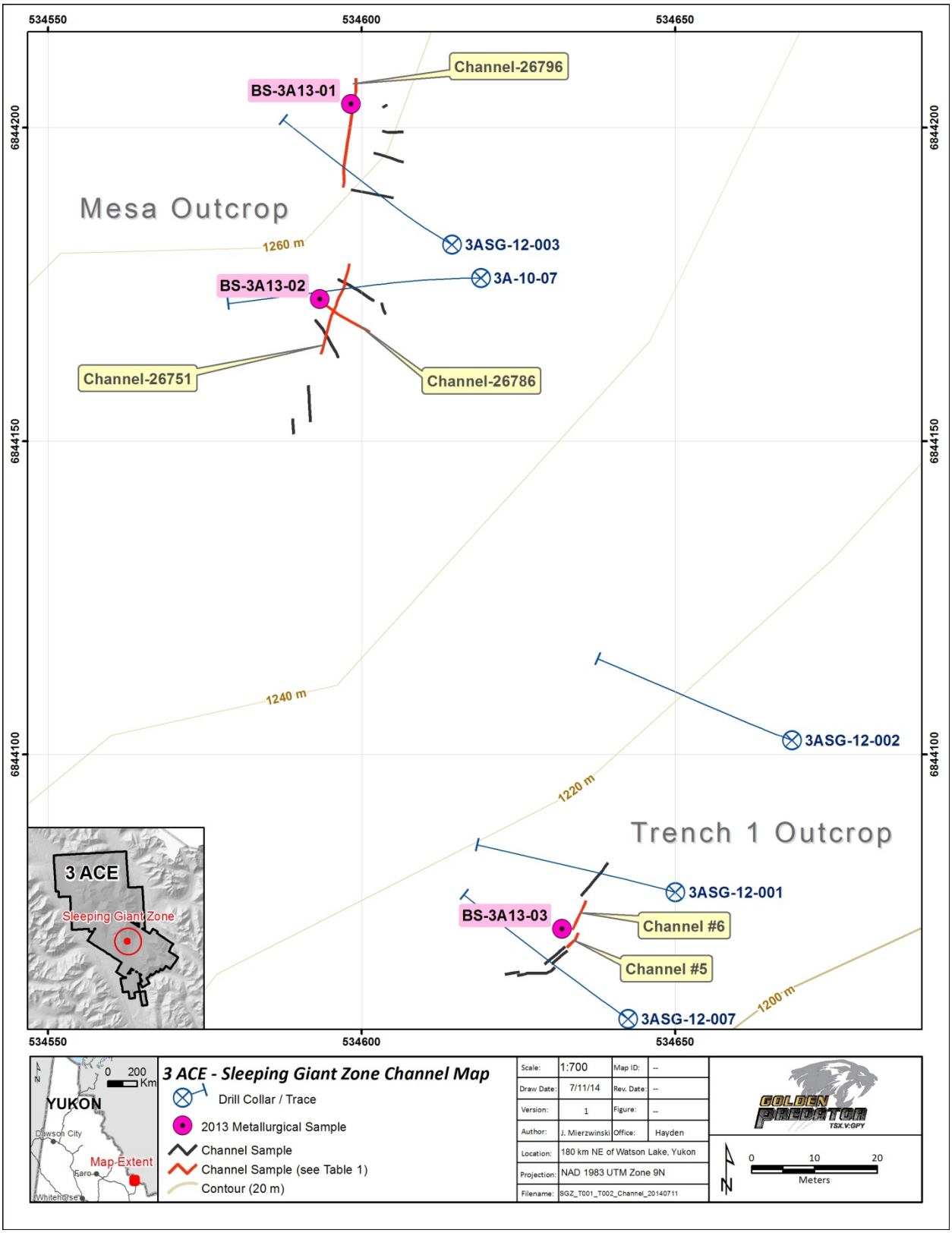


Figure 1. Location map of metallurgical samples, channel samples and drill holes at Sleeping Giant.

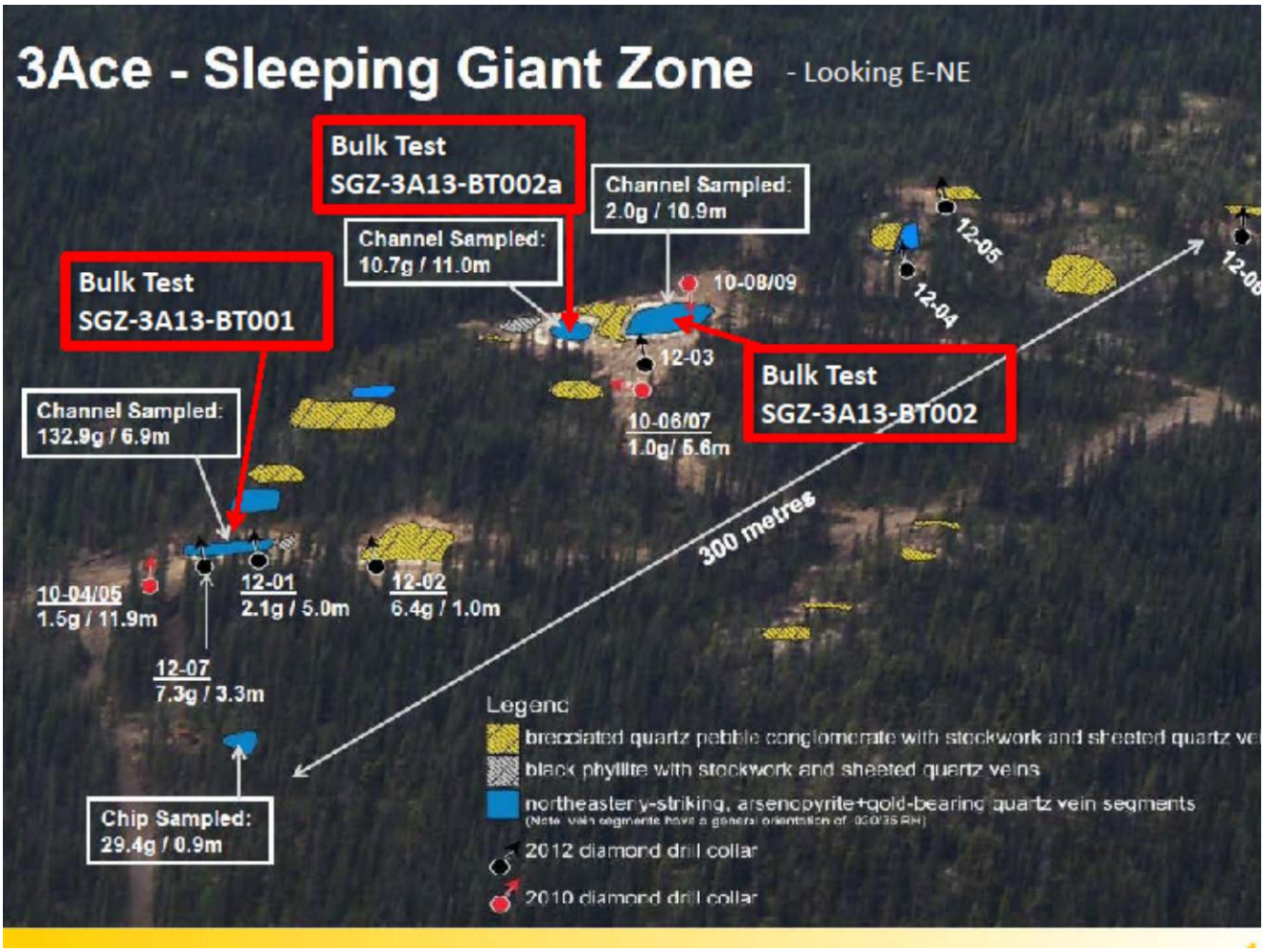


Figure 2 – Sleeping Giant zone 2010 and 2012 drilling, channel sampling and 2013 bulk samples.

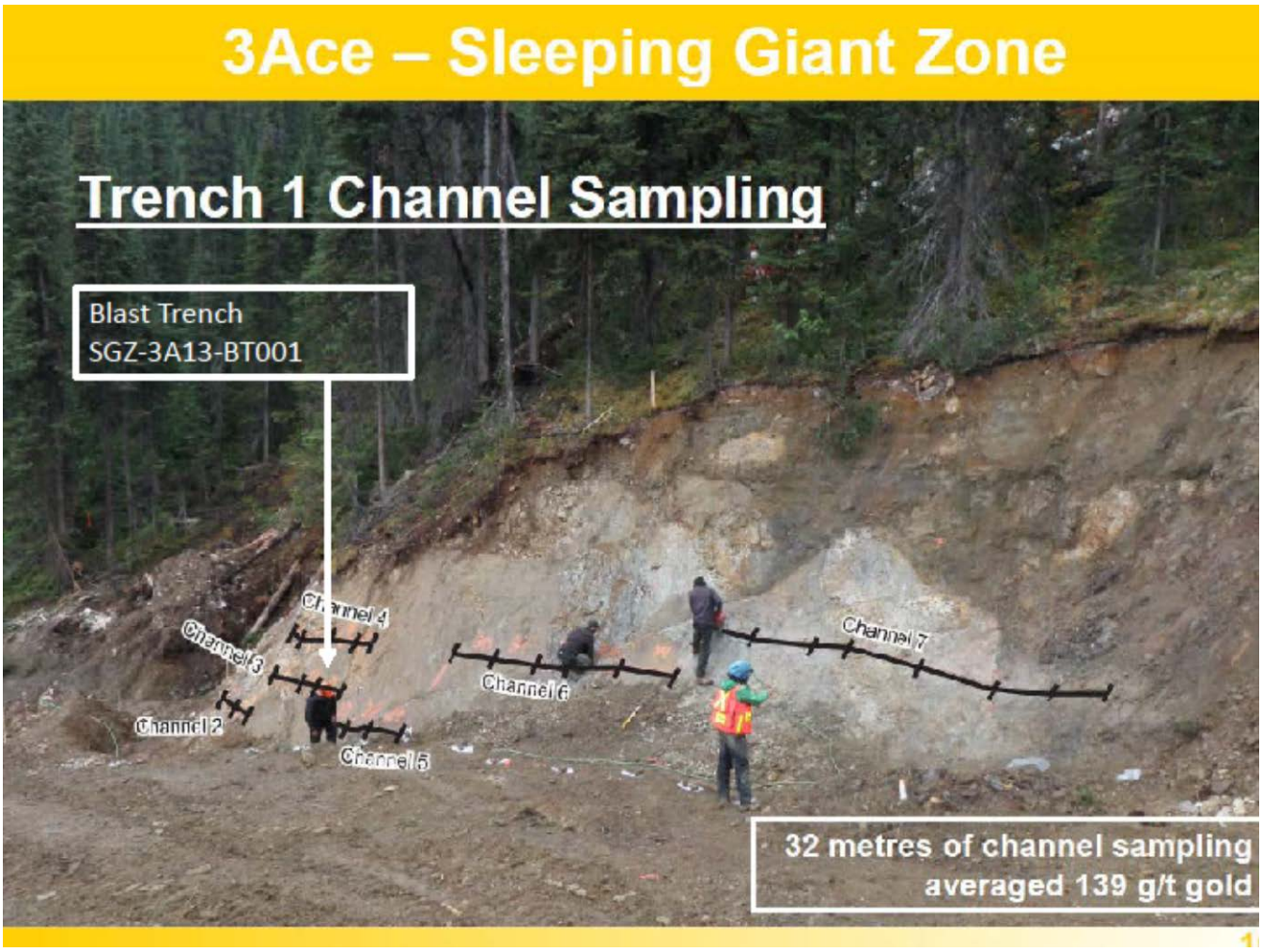


Figure 3 – Photo of Trench 1 showing location of channel samples and bulk sample.

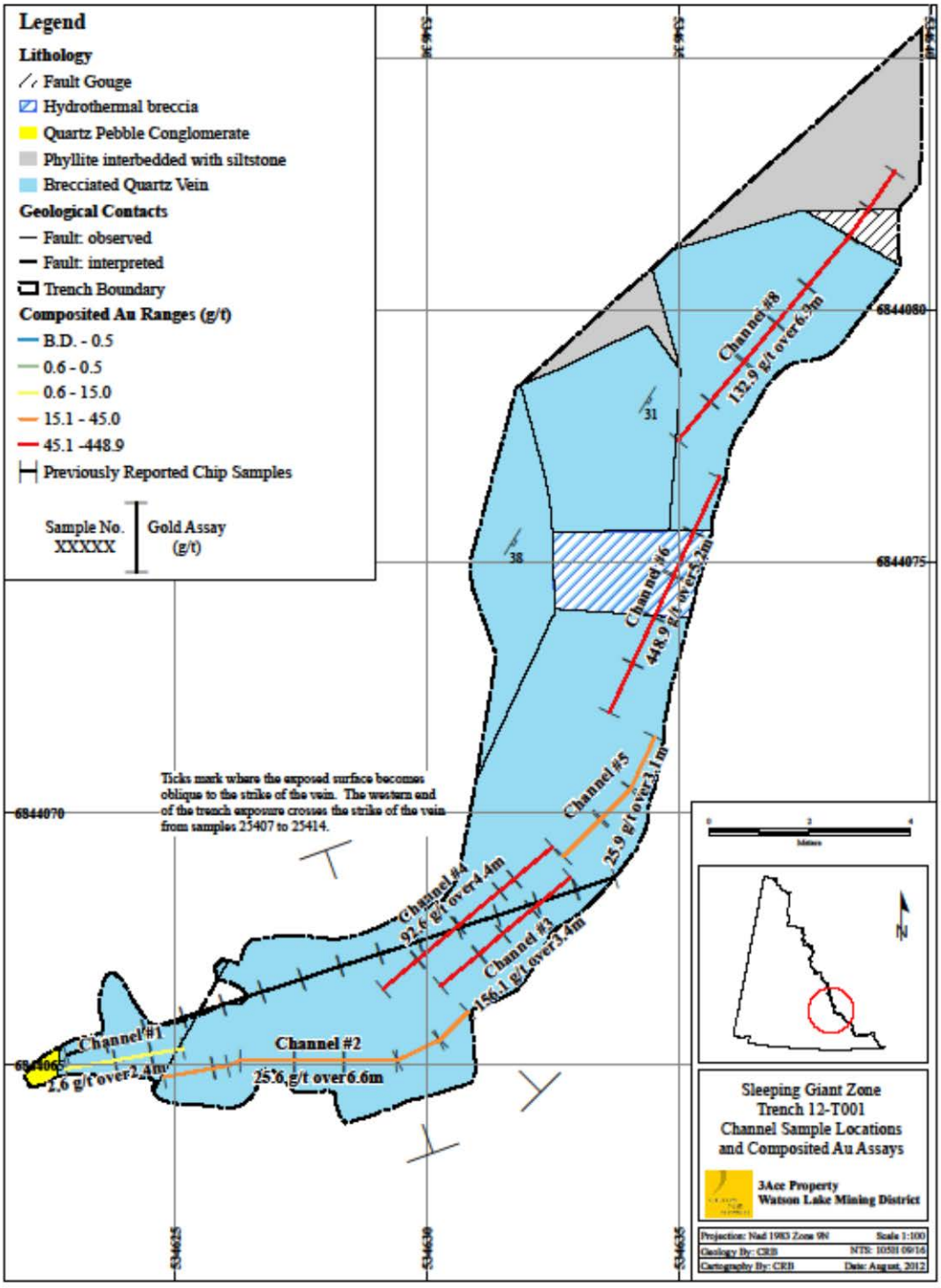


Figure 4 – Map of Trench 1 showing high grade surface results from channel sampling.

Figure 5 – Photos of bulk sample SGZ-3A13-BT001

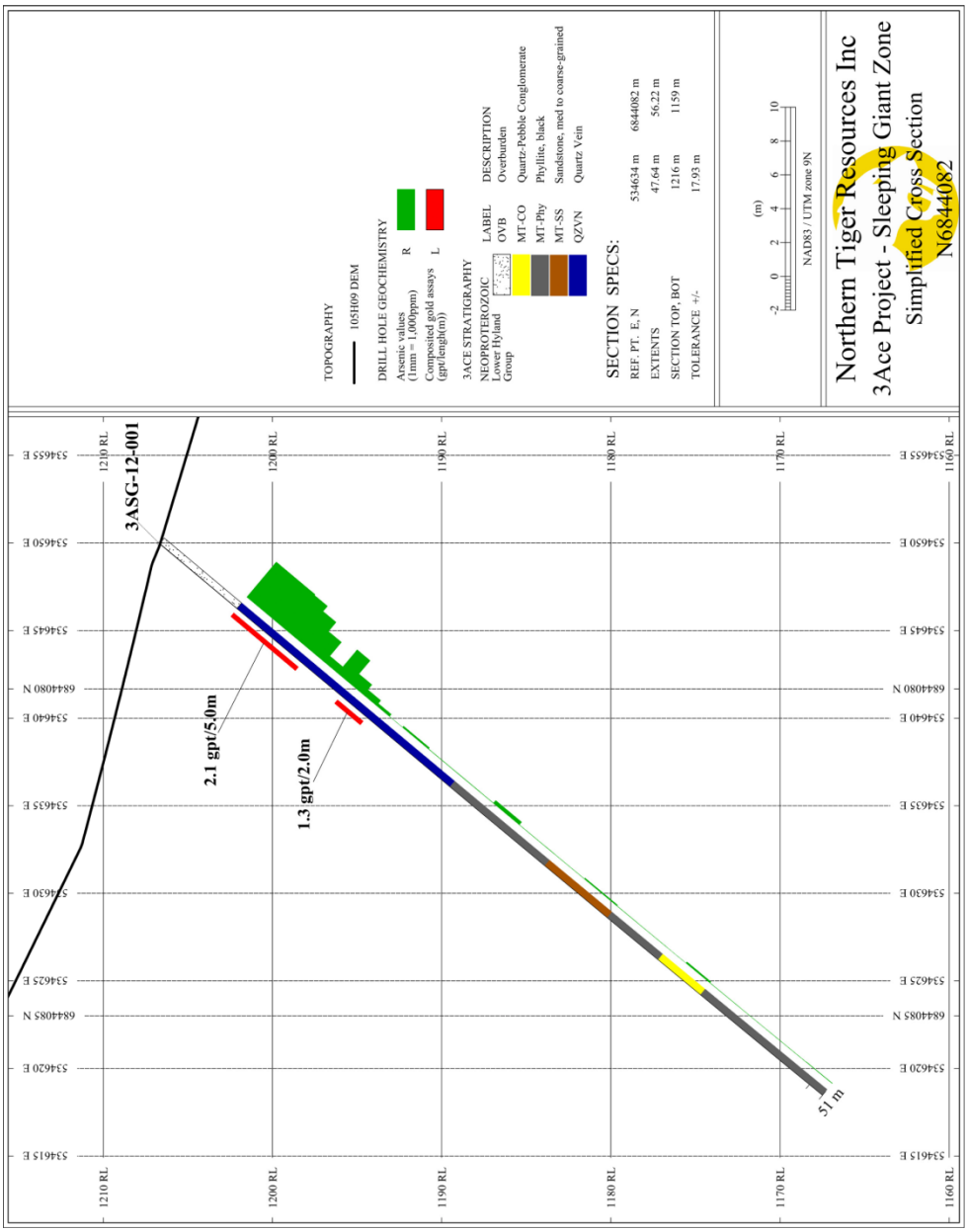


Figure 6 – Drill hole 3ASG-12-01 cross section.

This drill hole was directly below Trench 1 where channel sampling returned values up to 132.9 g/t gold over 6.9 metres. The drill hole intersected quartz vein however returned much lower grades than

surface sampling. Bulk sample SGZ 3A13-BT001 was collected on this section.

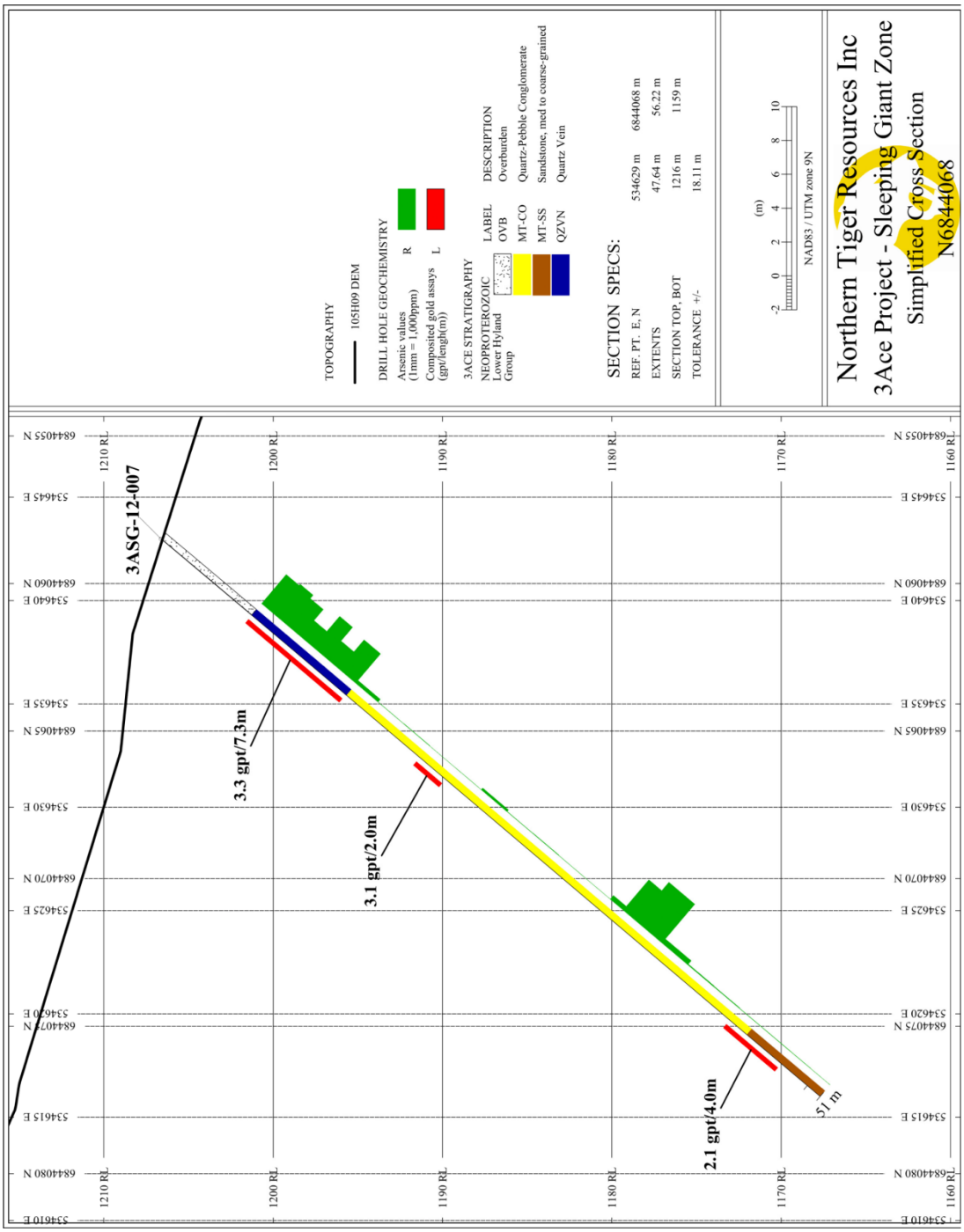


Figure 7 – Drill hole 3ASG-12-007 cross section.

Figure 8 – Photos of bulk sample SGZ-3A13-BT002a.

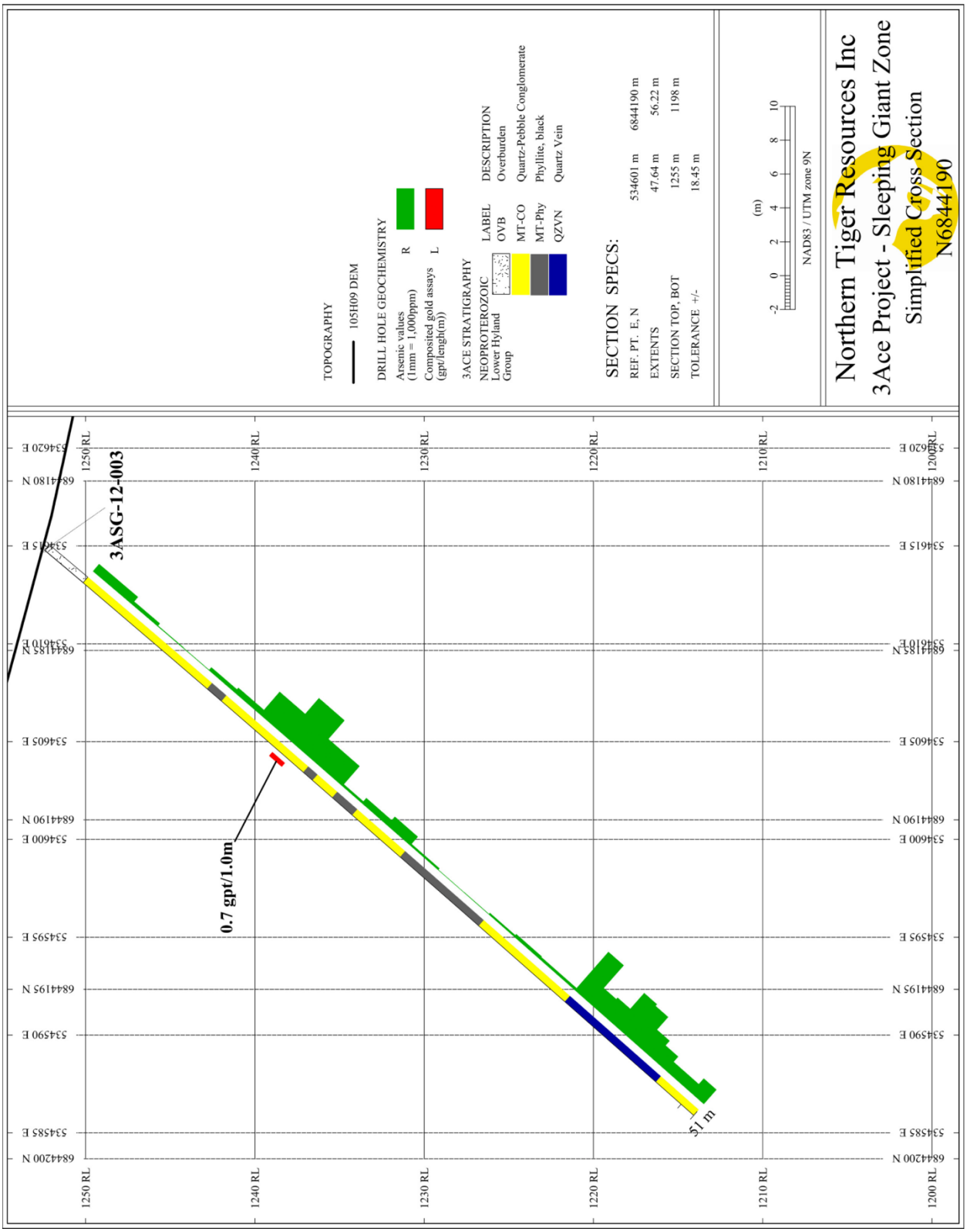


Figure 9 – Drill hole ASG12-003 cross section. Drilled below bulk test SGZ-3A13-BT002 where channel sampling at surface returned a value of 2.0 g/t gold over 10.9 metres.

Figure 10 – Photos of bulk sampling at SGZ-3A13-BT002

Test Work and Results

Recovery & Assay Tests

A work proposal and design for the large volume samples was submitted by SGS Laboratories in May 2014. The proposal was designed to conduct metallurgical testing on all three samples in a staged or phased approach and to also conduct a detail mineralogical study, gold deportment, on one select sample.

The primary goals of this program were to identify an assay method that would produce reliable results on exploration samples from this coarse and nuggety gold material, to determine the total contained gold content of the large samples and to determine the particle size and distribution of the gold.

Initially all three large samples were weigh to obtain starting volumes. Sample 01 was 855 kg, sample 02 was 835 kg and sample 03 was 620 kg. The samples were then completely stage crushed to -10 and -20 mesh.

The first characterization test was to cut a sub-sample of approximately 2,000 grams from each large sample and conduct a screen metallic assay. The 2,000 gram sub-samples were ground in a rod mill to 93% -95% passing 150 mesh. The sample was then screen at 150 mesh with the plus 150 fraction assayed to extinction and the minus 150 fraction is homogenized and two 30 gram samples are split out and assayed. The table 3 shows the results of the screen metallic assays.

Table 3: Screen Metallic Assays Summary

Metallurgical Sample ID	Screen Metallic Total Au g/t	+150 fraction Au g/t	-150 fraction Au g/t
BS-3A13-01	1.6	6.3	1.3
BS-3A13-02	10.5	117.9	6.5
BS-3A13-03	215.5	2,109.8	105.3

The second characterization test was to conduct Extended Gravity Recoverable Gold (GRG) tests on the samples. This test gives an indication of the materials amenability to gravity concentration as a function of size distribution. A 20 kg sub-sample was split for each of the large samples and then the sub-samples were submitted for three sequential liberation and recovery stages at different grind sizes. Below is a summary of the GRG results at the three grind sizes and the total calculated GRG %.

Table 4: Gravity Recoverable Gold Test Summary

Metallurgical Sample ID	Head Grade (Au g/t)	Total GRG %	GRG% P_{80} -20 mesh	GRG% P_{80} -75 mesh	GRG% P_{80} -200 mesh
BS-3A13-01	1.79	86.9	52.1	27.5	7.3
BS-3A13-02	10.5	93.7	51.7	37.2	4.8
BS-3A13-03	212.5	95.8	69.2	22.0	4.6

The third characterization test was to take the remaining sample in its entirety and process it in bulk fashion. The final bulk processing of the three large samples was conducted by grinding the entire sample in batches of 10 kg to a target grind size of 80% passing 200 microns. After grinding, the whole sample was fed through a Knelson concentrator for gold recovery. The results show the gravity gold recoveries at this grind size ranged from 74.6% to 88.5%. A split of the gravity tails from each sample was then ground to 80% passing 75 microns and subjected to cyanide leaching. The results showed the leach kinetics are very fast within the first 24 hours and gold extraction from the tails ranged from 74.3% to 90.2% for the samples. Table 5 shows the gravity, CN leach and overall total gold recoveries for the samples.

Table 5: Gravity & CN Leach Total Gold Recoveries

Sample	Au Rec., %	Gravity	Gr-tail CN	Combined Gr & Gr-tail CN
		GR-1	CN-1	
BS-3A13-03	Conc.	78.9	90.2	97.9
	Tail	21.1	9.80	2.1
		GR-2	CN-2	
BS-3A13-02	Conc.	88.5	85.4	98.3
	Tail	11.5	14.6	1.7
		GR-3	GR-3	
BS-3A13-01	Conc.	74.6	74.3	93.5
	Tail	25.4	25.7	6.5

The final test results provided evidence that the use of a screen metallic assay method with an approximate 2,000 gram pulp (80% passing 150 mesh) is an appropriate method to obtain reliable gold grades from exploration and development samples. Table 6 shows the assay head grade versus the sample sizes and methods.

Table 6: Gold Grade by Test Method

Test Method	Gold Head Grade grams per tonne		
	BS-3A13-01	**BS-3A13-02**	**BS-3A13-03**
Screen Metallic (2,000 gram sub-sample)	1.6	10.5	215.5
GRG Testing (20kg sub-sample)	1.79	10.5	212.5
Bulk Gravity Processing	1.85	13.2	260.4
Sample weight for bulk process	800kg	730kg	530kg

Gold Deportment Study

The detailed gold mineralogy, gold deportment, study was conducted on material form the highest grade sample BS-3A13-03. The study was completed using a combination of X-Ray Diffraction (XRD), Quantitative Evaluation of Materials by Scanning Electron Microscopy (QEMSCAN), optical microscopy, Scanning Electron Microscopy (SEM) equipped with Energy Dispersive Spectrometers (EDS), and chemical analysis. The study allowed determination of the overall mineral assemblage, gold-bearing minerals and mass balance of microscopic gold and silver.

The results show that the sample material primarily consisted of silicate minerals (99%) with trace oxides (<1%) and sulphide minerals mainly arsenopyrite in trace amounts and gold particles.

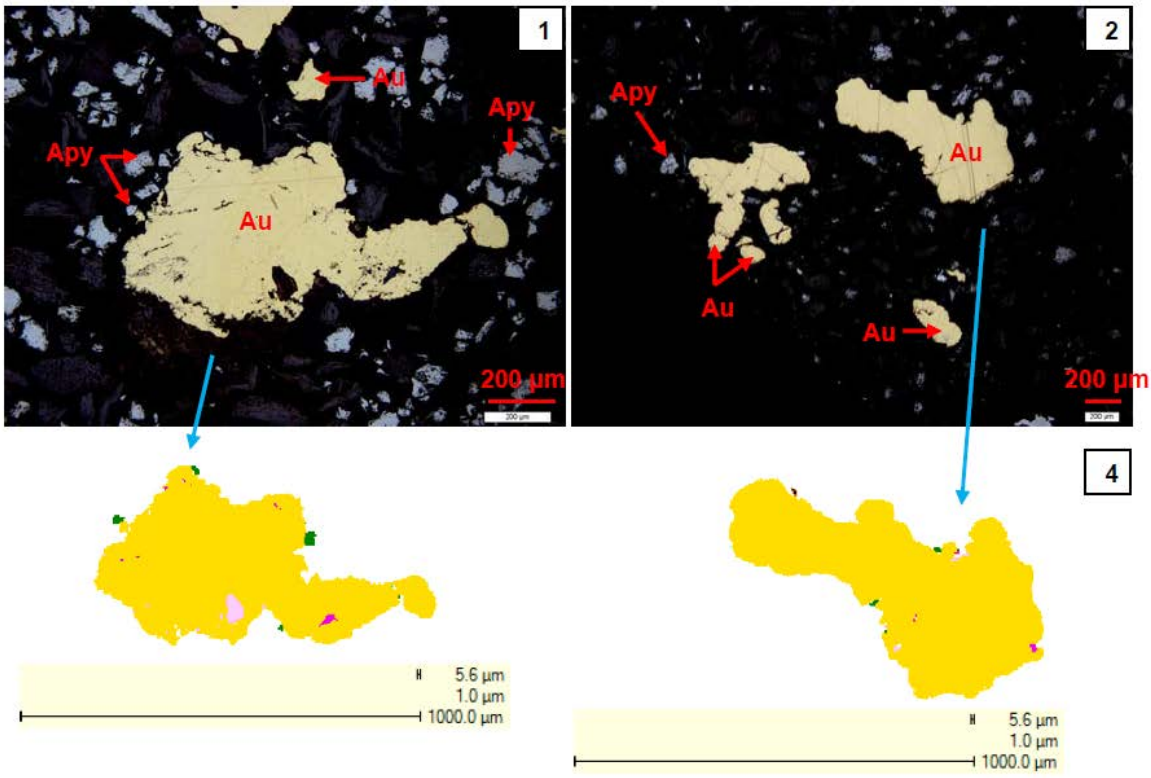
One part of the deportment study was measure how much of the gold was liberated by grinding to about 140 mesh. Besides counting grains liberated they quantified which minerals the gold grains were associated with and also the gold particle size distribution. Table 7 is a summary of these results and shows that 13% of the particles are over 300 microns in size and that about 57% of the particles were between 100 and 300 microns in size.

Table 7: Gold Grain Distribution

Gold Minerals		**Sample BS-3A13-03**
Liberation & Association (Au Dist. %)	Liberated Gold	90.0
	Gold Minerals w/sulphides	3.2
	Gold Minerals w/ Quartz/Feldspar	0.6
	Gold Minerals w/ Oxides/Hydroxides	2.7
	Gold Minerals w/ Arsenopyrite: Fe-As Oxides/Hydroxides	0.2
	Complex	3.2
Grain Size (Au Dist. %)	>300 micron	13.3
	200-300 micron	24.4
	100-200 micron	32.3
	50-100 micron	12.1
	0-50 micron	17.9

SEM-EDS analysis of 45 grains indicates the gold is native gold with an average weight percent of 91.9% gold and 8.1% silver.

Additional details are provided in the final detailed report by SGS Laboratories. The image below is from the SGS final report and shows photomicrographs from optical microscopy and the corresponding QEMSCAN pseudo images.



3 Aces Project – Metallurgical Studies Statement of Expenditures

SGS invoice – June 5, 2014	- $20,000.00
SGS invoice – July 15, 2014 #2044889	- $3,550.00
SGS invoice – August 11, 2014 #2045425	-$15,367.50
SGS invoice – August 26, 2014 #2045816	-$6,800.00
SGS invoice – September 10, 2014 #2046101	-$12,975.00
SGS invoice – September 15, 2014 #2046166	-$900.00
SGS invoice- October 7, 2014 #2046487	-$12,592.50
SGS invoice – November 11, 2014 #2047131	-$13,075.00
Golden Predator – report writing, printing	-$1,000.00
Total	**$86,260.00**

An Investigation into

METALLURGICAL TESTWORK ON SAMPLES FROM THE 3 ACES PROPERTY

prepared for

GOLDEN PREDATOR MINING CORPORATION

Project 14196-002 – Final Report
November 18, 2014

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Member of the SGS Group (SGS SA)

Table of Contents

List of Tables

List of Figures

Executive Summary

A metallurgical test program was completed using three "mini bulk" samples (BS-3A13-01, BS-3A13-02, and BS-3A13-03) from the 3 Aces Property in Yukon. The 3 Aces Property contains a number of quartz veins and vein zones that cut Cambrian aged limestone, shale, quartz grits, and pebble chert conglomerates of the Hyland Group.

In July of 2013 the SGS Vancouver Metallurgical Operation facility received a shipment of three mini bulk samples containing 3 Aces material; this material was stored until mid 2014.

The program scope included sample preparation, mineralogy using Quantitative Evaluation of Minerals by scanning electron microscopy, (QEMSCAN^{TM}), determining the gold grade as accurately as possible using screened metallics, extended gravity recoverable gold (E-GRG) testing, gold recovery through a gravity test using Knelson gravity concentrator, and cyanide leaching of the gravity tailings.

The sample processing and analysis of the bulk sample material were conducted in two phases as;

Phase I: Sample preparation and characterization gold deportment study and screened metallics (SM) as well as (E-GRG) testing.

Phase II: Gravity separation using Knelson concentrator and cyanide leaching testing of the gravity tails.

All available material for each sample was dry crushed to minus 10 mesh, and split into 2 kg and 10 kg test charges. To avoid cross-contamination, sample handling was minimized and milling consistency was maintained by using a dedicated 2 kg rod mill and set of screens.

Gold Deportment Study

Detailed mineralogy investigations were conducted to determine the gold deportment by QEMSCAN^{TM} (quantitative mineralogy) for sample BS-3A13-03. The findings of these examinations are reported separately under "SGS Project number 14196-102, Mineralogy Report".

Screened Metallics

Head analysis was determined by screen metallics.

E-GRG Testing

A Knelson extended gravity recoverable gold (E-GRG) study was conducted on each sample. The feed was processed through a Knelson MD-3 concentrator at progressively finer grind sizes (3 stages). After each stage the concentrate and a representative tailings sample were collected for assay. All samples and subsamples were assayed for gold (concentrates to extinction) on a size fractional basis. This

procedure enables the evaluation of gravity gold recovery as a function of particle size and produces an E-GRG number and other data used for design purposes and performance prediction.

As presented in Table 1, E-GRG numbers 95.8, 93.7, and 86.9 were achieved for the samples BS-3A13-03, BS-3A13-02 and BS-3A13-01, respectively.

Table 1: E-GRG Test Results for All Three Samples

Test/ Sample	Stage	Feed Size	Concentrate, Cumulative		
		P80, µm	% Mass Recovery	Au, g/t	% Au Recovery
E-GRG1 BS-3A13-03	1	651	0.50	29416.5	69.2
	2	204	0.42	11129.3	22.0
	3	79	0.42	2286.2	4.60
	Head (Calc.)			212.5	
				E-GRG Number =	**95.8**
E-GRG2 BS-3A13-02	1	675	0.41	1321.8	51.7
	2	187	0.39	992.0	37.2
	3	74	0.37	135.4	4.80
	Head (Calc.)			10.5	
				E-GRG Number =	**93.7**
E-GRG3 BS-3A13-01	1	665	0.47	196.3	52.1
	2	193	0.41	119.7	27.5
	3	74	0.44	29.8	7.27
	Head (Calc.)			1.79	
				E-GRG Number =	**86.9**

Gravity Tests

The remaining material from each of the three samples was submitted for total gold recovery through a laboratory model Knelson concentrator; no upgrading of the gravity concentrate was investigated. The results show 78.9% of gold recovered at grind sizes of K_{80} 190 microns for sample BS-3A13-03. Gravity tests on sample BS-3A13-02 resulted in 88.5% Au recovery and for samples BS-3A13-01, 74.6% recovery was achieved.

Cyanide Leach Tests

To identify additional gold recovery, a representative split of the gravity tails were ground to target K_{80} 75 microns and leached with cyanide.

Gravity tail leach test for sample BS-3A13-03 produced excellent gold leach recovery of 90.2%. The results show that gold leach recoveries were 85.4% and 74.3% for sample BS-3A13-02 and BS-3A13-01, respectively. The cyanide consumptions ranged between 0.06 kg/t and 0.16 kg/t and are considered low. The lime consumptions were between 0.38 and 0.52 kg/t and are considered low.

Overall Gold Recovery

The recovery of gold for each sample through a combination of metallurgical routes at the conditions used in this test program is presented in Table 2.

Based on the current test program, only gravity and cyanidation of the gravity tail options were investigated. The combination of gravity and gravity tail leaching increased the gold recovery to 97.9%, 98.3% and 93.5% for the samples BS-3A13-01, BS-3A13-02 and BS-3A13-01, respectively.

Table 2: Comparison of Metallurgical Test Results for All Three Samples

Sample	Au Rec., %	Gravity	Gr-tail CN	Comb Gr & Gr-tail CN
		GR-1	CN-1	
BS-3A13-03	Conc.	78.9	90.2	97.9
	Tail	21.1	9.80	2.1
		GR-2	CN-2	
BS-3A13-02	Conc.	88.5	85.4	98.3
	Tail	11.5	14.6	1.7
		GR-3	CN-3	
BS-3A13-01	Conc.	74.6	74.3	93.5
	Tail	25.4	25.7	6.5

Introduction

A metallurgical and mineralogical test program was initiated by Mr. Mike Maslowski on behalf of the Golden Predator Mining Corporation. Mr. Maslowski requested mineralogical and metallurgical testing of three samples from 3 Aces Property.

The scope of the testwork program on three samples from the 3 Aces materials involved sample preparation, mineralogy using QEMSCAN, gold analysis using screened metallics method, E-GRG testing, and gravity testing.

Mr. Maslowski represented the client and the test results were forwarded to his attention as the testwork progressed. Regular email communications were held over the duration of the project.

Jalal Tajadod, Ph.D., P.Eng.,
Senior Metallurgist, Metallurgical Operations

Jake Lang, B.E.Sc.,
Manager Metallurgy, Metallurgical Operations

Experimental work by: Benito Rectitud, Yatish Lal, Ricky Kumar, Essa Alqassab, Fraser Beguma
Report preparation by: Jalal Tajadod
Reviewed by: Jake Lang, Cheryl Mina

Testwork Summary

1. Sample Receipt and Preparation

A shipment containing a total of approximately 2,400 kg material (BS-3A13-03 = 600 kg, BS-3A13-02 = 835 kg, BS-3A13-01 = 855 kg) was received by SGS Vancouver Metallurgical Operations through Golden Predator Mining Corporation. The material was used to prepare three samples for metallurgical and mineralogical tests as well as chemical analysis.

Samples received were very coarse and required hand hammer to nominal 5" to prepare appropriate feed sizes for dry crushing. Each sample was stage crushed to minus 10 mesh and blended before splitting into 2 kg and 10 kg test charges.

One 2 kg charge from each sample was reground to 150 mesh and used for screened metallics. To avoid cross-contamination, sample handling was minimized and milling consistency was maintained by using a dedicated 2 kg rod mill and set of screens.

One 10 kg charge was rotary split to prepare 2,000 g subsamples. Each 2,000 g subsample generated from each crushed bulk sample was then ground in a 2 kg dry rod mill. Each sample was ground to ~95% passing 150 mesh (P_{95} = 106 µm) by dry rod mill grinding. The 2,000 g subsamples were subjected to the screened metallics analysis procedure for gold and silver.

One 20 kg minus 20 mesh sample was also prepared for E-GRG testing on each sample.

The approach to the testwork and the test procedures and results are described for work conducted on each sample in the following sections with full data provided in the Appendices.

Figure 1 illustrates the process flowsheet for the screen metallics tests conducted on each sample in Phase I.

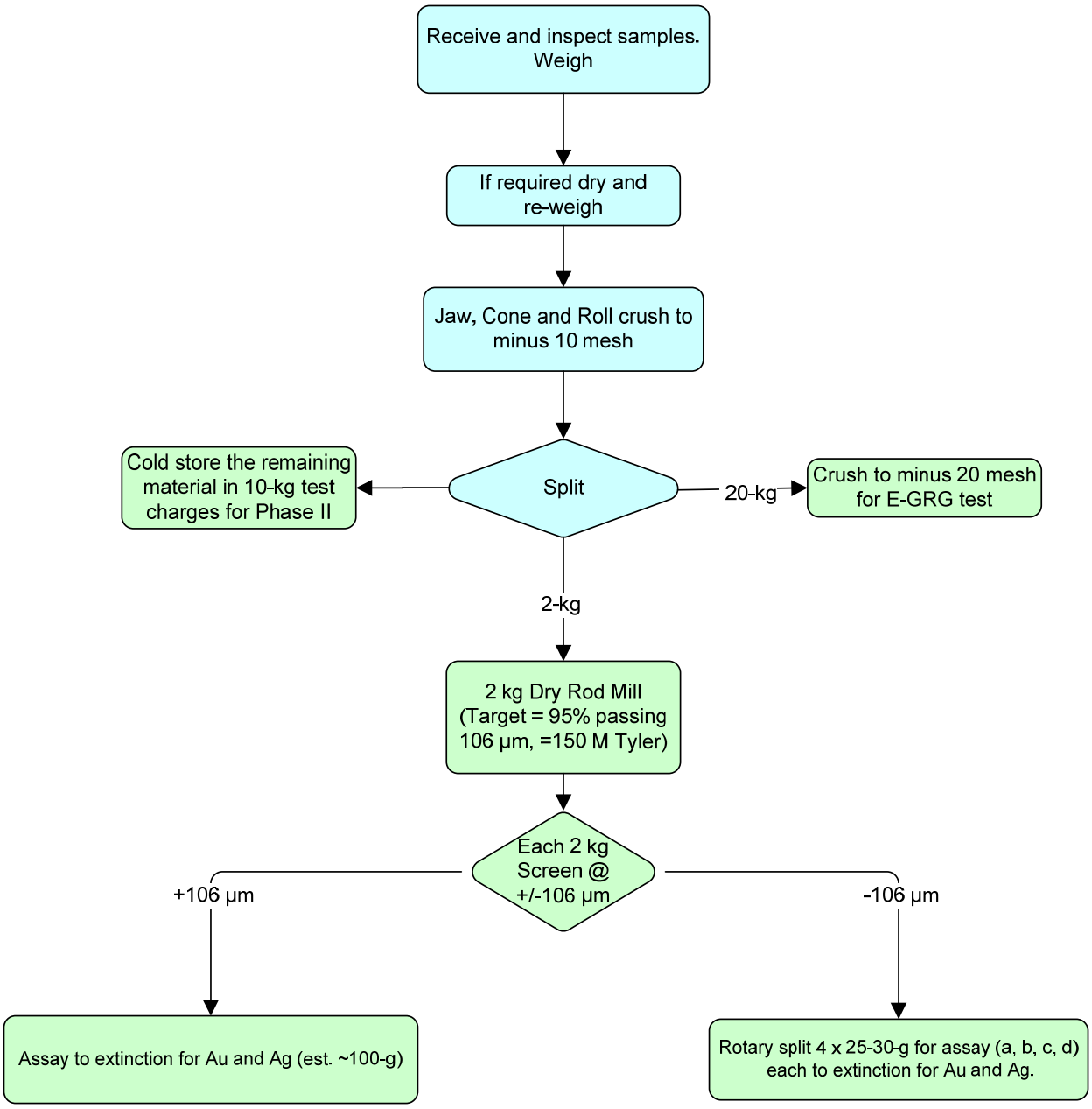

Figure 1: Screened Metallics Sample Preparation Flowsheet

1.1. Crushing

During sample preparation, the material was initially hammer crushed to reduce the maximum particles size to nominal 5 inch, blended, and homogenized and subsequently crushed to nominal 3/4" using a jaw crusher followed by cone and roll crushing to minus 10 mesh. The material was then split to prepare a 20 kg for E-GRG testing and 2 kg charges for screen metallics and mineralogy. The remainder of the material was stored in 10 kg test charges in the freezer for use in Phase II. The sample split for E-GRG was further stage-crushed to minus 20 mesh. The sample preparation diagram is shown in Figure 1.

1.2. 2 kg Dry Rod Milling

Each 2,000 g sub-sample generated from each crushed bulk sample was then re-ground in 2 kg dry rod mill. Each sample was ground to target 95% passing 150 mesh (P_{95} = 106 µm) by dry rod mill grinding.

1.3. 2 kg Screened Metallics

The analysis of free gold containing ores is hampered by the nugget effect of the metallic gold present in the ore. A sampling process was developed that isolates the potentially problematic coarse gold in a low weight fraction, which is then assayed to extinction. This is followed by duplicate subsamples being cut from the remaining non-coarse gold fraction for assay and then using both coarse and non-coarse gold fraction data to calculate the head assay.

The 2,000 g subsamples were subjected to the screened metallics analysis procedure for gold and silver. Each sample was screened at 106 microns using a Ro-tap. The plus fraction was placed in a plastic bag inside a labelled paper envelope. The combined bulk screen undersize was blended to form a homogenous composite. The minus 150 mesh material was rotary split and four subsamples were collected and submitted for gold and silver assays. Chemical analysis results are presented in Appendix A.

2. Initial Testing Program (Phase I)

Three samples were submitted for initial testing to determine the gold and silver grades as well as E-GRG testing for each sample. One sample (BS-3A13-03) was designated for a gold deportment study.

2.1. Screened Metallics

Based on the 2 kg rod mill discharge grind calibration test using 2 kg sample BS-3A13-03 requiring 85 minutes of grinding to achieve the target product size for the other two samples.

The procedures followed for the initial testing program (Phase I) are as follows;

1. Each sample was ground to minus 10 mesh and split into 10 kg test charges.
2. One 10 kg charge was rotary split to produce 2 kg charges for screened metallics.
3. Each 2 kg charge individually/separately dry ground in a 2 kg rod mill to produce 100-120 g of +106 micron (150 mesh) and the remainder of undersize;
    a. Mill product screened at 150 mesh to produce +/- fractions.
    b. The +150 mesh split 3 ways and assayed to extinction.
    c. The -150 fraction rotary split to produce two (60-70 g each) portions;
        1. Each portion split into two and sent for assay;
            1.1. Four cuts were produced form the undersize for fire assay gold and silver from each 2 kg split.
    d. This process was followed for all 3 samples.

For sample BS-3A13-03 two screened metallics tests were conducted on two portions of the sample as well as one screened metallic test on a representative sample from the whole sample. Table 3 shows the assay results for the initial testing program by sample designation. Detailed test conditions and results are presented in Appendix B.

Table 3: Assay Results for the Samples Using Screened Metallics

Sample #	Sample Designation	Screened Metallics Analysis								
		Starting Mass, g	Calculated Head,	+106 μm		-106 μm				
				% Mass		% Mass	Au, g/t			
			Au, g/t		Au, g/t		a	b	c	d
1	BS-3A13-03 (First Sample)	2,000.0	215.5	5.50	2109.8	94.5	109	106	104	102
2	BS-3A13-03 (Second Sample)	2,000.0	241.7	3.25	3759.3	96.8	131	120	120	123
3	BS-3A13-03 (Whole Sample)	2,000.0	232.7	5.65	2001.2	94.4	140	113	130	124
4	BS-3A13-02	2,000.0	10.5	3.57	118.0	96.4	6.08	5.98	7.78	6.15
5	BS-3A13-01	2,000.0	1.6	6.38	6.4	93.6	1.30	1.46	1.47	0.90
							Ag, g/t			
			Ag, g/t		Ag, g/t		a	b	c	d
1	BS-3A13-03 (First Sample)	2,000.0	44.3	5.50	632.9	94.5	9.4	9.9	9.5	11.3
2	BS-3A13-03 (Second Sample)	2,000.0	25.0	3.25	395.4	96.8	13.0	10.7	14.5	12.1
3	BS-3A13-03 (Whole Sample)	2,000.0	23.9	5.65	175.2	94.4	16.5	13.8	13.6	15.3
4	BS-3A13-02	2,000.0	<1.1	3.57	<10	96.4	0.30	1.70	0.30	0.60
5	BS-3A13-01	2,000.0	<1.1	6.38	<10	93.6	0.50	0.40	0.40	0.60

For each sample, a representative 2,000 g subsample was tested and the results for each sample are presented in Table 4.

The achieved proportion of the coarse fraction was 5.7%. The gold and silver contained in the coarse fraction was 48.6% Au and 41.5% Ag respectively for BS-3A13-03 whole sample. The head grade was 233 g/t Au and 23.9 g/t Ag.

For sample BS-3A13-02 the gold and silver contained in the coarse fraction was 40.2% Au and 33.6% Ag respectively. The calculated head grade was 10.5 g/t Au and less than 1.1 g/t Ag.

The gold and silver contained in the coarse fraction was 25.0% Au and 57.7% Ag respectively for BS-3A13-01 sample. The calculated head grade was 1.6 g/t Au and less than 1.1 g/t Ag.

Table 4: Summary of Assay Results for the Samples

Sample #	Sample Designation	Sample Fraction	Mass		Au		Ag	
			g	%	g/t	%	g/t	%
1	BS-3A13-03 (First Sample)	+106 μm fraction	110.0	5.50	2110	53.8	633	78.6
		-106 μm fraction	1890.0	94.5	105	46.2	10.0	21.4
		Total sample	2000.0	100.0	216	100.0	44.3	100.0
2	BS-3A13-03 (Second Sample)	+106 μm fraction	65.0	3.25	3759	50.5	395.4	51.3
		-106 μm fraction	1935.0	96.8	124	49.5	12.6	48.7
		Total sample	2000.0	100.0	242	100.0	25.0	100.0
3	BS-3A13-03 (Whole Sample)	+106 μm fraction	113.0	5.65	2001	48.6	175	41.5
		-106 μm fraction	1887.0	94.4	127	51.4	14.8	58.5
		Total sample	2000.0	100.0	233	100.0	23.9	100.0
4	BS-3A13-02	+106 μm fraction	71.4	3.57	118	40.2	<10.0	33.6
		-106 μm fraction	1928.6	96.4	6.5	59.8	0.73	66.4
		Total sample	2000.0	100.0	11	100.0	<1.1	100.0
5	BS-3A13-01	+106 μm fraction	127.6	6.38	6.4	25.1	<10.0	57.7
		-106 μm fraction	1872.4	93.6	1.3	74.9	0.50	42.3
		Total sample	2000.0	100.0	1.6	100.0	<1.1	100.0

2.1. E-GRG Testing

A standard Knelson extended gravity recoverable gold (E-GRG) test was conducted on each sample using a Knelson MD-3 concentrator. The corresponding E-GRG numbers of 95.8, 93.7, and 86.9 were achieved for the samples BS-3A13-03, BS-3A13-2, and BS-3A13-01, respectively.

Table 5 summarizes the results of E-GRG testing. Complete results and procedures are provided in Appendix C.

Table 5: E-GRG Test Results

Test/ Sample	Stage	Feed Size	Concentrate, Cumulative		
		P80, µm	% Mass Recovery	Au, g/t	% Au Recovery
E-GRG1 BS-3A13-03	1	651	0.50	29416.5	69.2
	2	204	0.42	11129.3	22.0
	3	79	0.42	2286.2	4.60
	Head (Calc.)			212.5	
			E-GRG Number =		**95.8**
E-GRG2 BS-3A13-02	1	675	0.41	1321.8	51.7
	2	187	0.39	992.0	37.2
	3	74	0.37	135.4	4.80
	Head (Calc.)			10.5	
			E-GRG Number =		**93.7**
E-GRG3 BS-3A13-01	1	665	0.47	196.3	52.1
	2	193	0.41	119.7	27.5
	3	74	0.44	29.8	7.27
	Head (Calc.)			1.79	
			E-GRG Number =		**86.9**

3. Gravity and Cyanidation Test Program (Phase II)

3.1. Gravity Testing

The remaining material from each of the three samples was submitted for total gold recovery through Knelson concentrator.

In this testwork program, a process flowsheet (Figure 2) to recover gold was investigated comparing gravity concentration and gravity tail leach processes for the three major ore types of the 3 Aces deposit. The evaluations compared the gold extraction and cyanide consumptions of the circuit option; a gravity-gravity tail leach circuit for the three samples. In all of the cases, the projected gold recoveries up to 48 hours of leaching are considered.

All of the material from each composite was tested on a laboratory model Knelson concentrator, no upgrading of the gravity concentrate was investigated. Each sample was ground in batches of 10 kg test charges to a target grind size of 80% passing 200 microns. After grinding, the whole sample was fed to the Knelson concentrator. For sample BS-3A13-03 the Knelson tails were passed through the Knelson as the second pass. The gravity concentrate was split into three and one split assayed to extinction for gold and silver by standard fire assay methods. Triplicate subsamples of the gravity tailings were also submitted for gold and silver assays by direct analysis.

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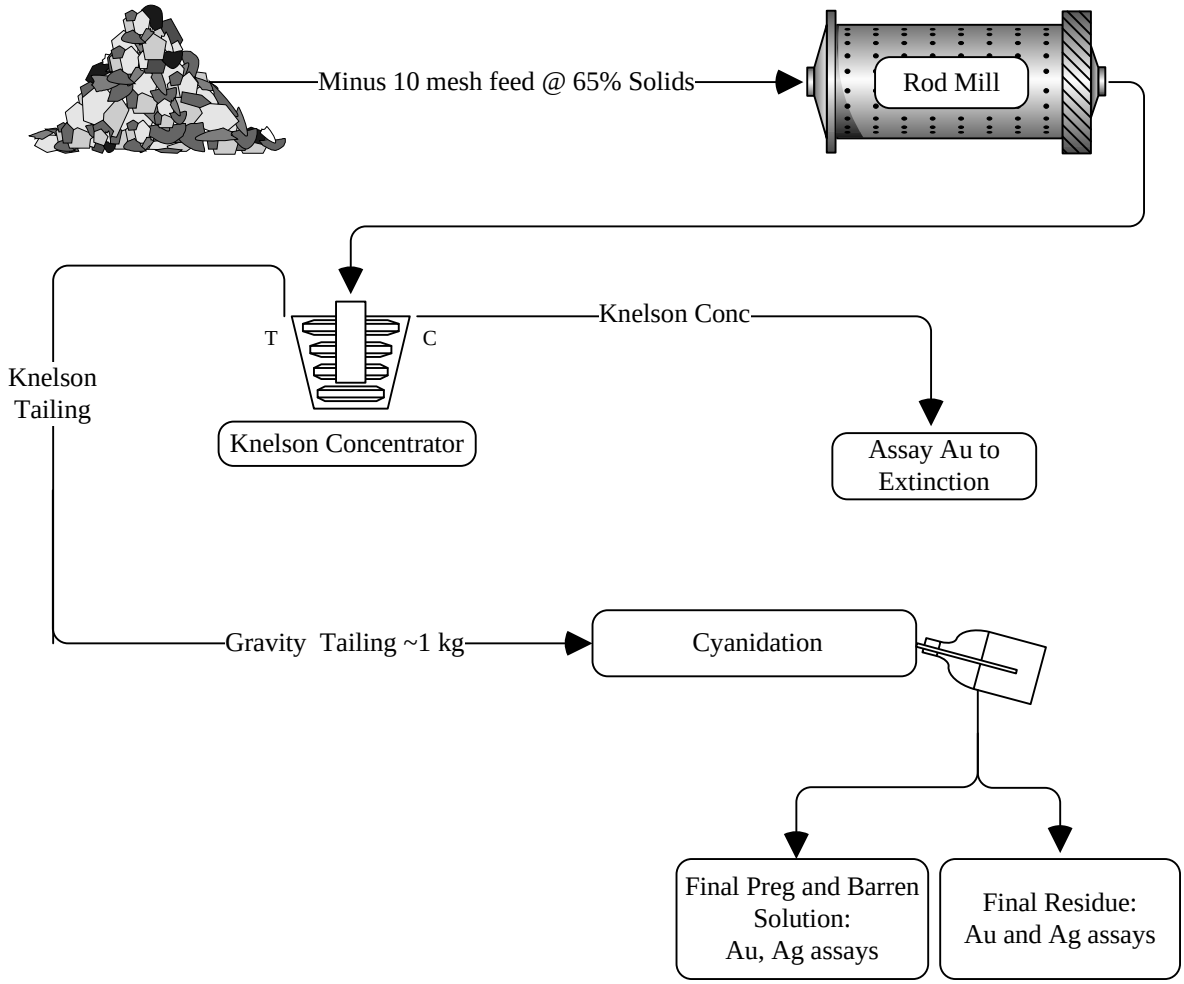

Figure 2: Process Flowsheet

Table 6 summarizes the metallurgical performance of the Knelson gravity tests. Figure 3 shows the Knelson gravity test grade-recovery relationships for the samples. The results show 80% of gold recovered at grind sizes of K_{80} 190 microns for sample BS-3A13-03.

Gravity test on sample BS-3A13-02 resulted in 88.5% Au recovery and for samples BS-3A13-01 74.6% recovery was achieved.

A split of the Knelson gravity concentrate from each sample was assayed to extinction for gold conducting 20 assays by the fire assay method and then gravimetric finish. As for silver only 5 assays using 2 g sample sizes were conducted using AAS42E of which 4 acids including HF were used. Detailed gravity tests results are presented in Appendix D.

Table 6: Knelson Gravity Test Results

Test	Composite	P_{80} µm	Product	Weight %	Assays, g/t Au	Assays, g/t Ag	% Distribution Au	% Distribution Ag
GR-1	BS-3A13-03	191	Knelson Concentrate	0.24	85591	239	78.9	10.0
			Knelson Tails	99.76	55.10	5.20	21.1	90.0
			Head (calc.)		260.4	5.76		
			(direct)		232.7	23.9		
GR-2	BS-3A13-02	183	Knelson Concentrate	0.17	6925	640	88.5	67.0
			Knelson Tails	99.83	1.52	0.5	11.5	33.0
			Head (calc.)		13.2	1.6		
			(direct)		10.5	<1		
GR-3	BS-3A13-01	186	Knelson Concentrate	0.09	1508	141	74.6	24.4
			Knelson Tails	99.91	0.47	0.4	25.4	75.6
			Head (calc.)		1.85	0.5		
			(direct)		1.61	<1		

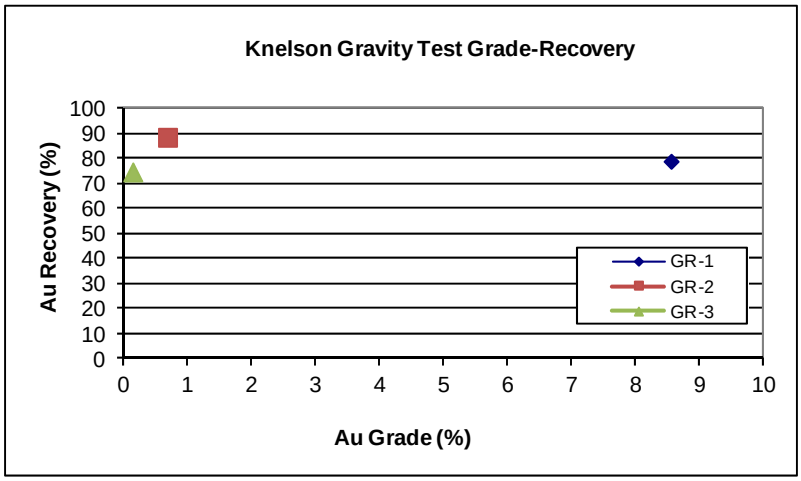

Figure 3: Knelson Gravity Test Grade-Recovery Relationship

3.2. Cyanide Leach Test

One test charge of each composite was ground to a target grind size K_{80} of 200 microns and tested using a laboratory model Knelson concentrator. A cyanide leach test was conducted on Knelson gravity tailings of each sample at target K_{80} 75 microns.

The leaching kinetics and recovery processes of gold were investigated in cyanide leach tests to evaluate the gold extraction of gravity tail. In this series of tests, the gravity tailings from the gravity test program were used for cyanidation tests. The tests were conducted at target grind K_{80} 75 µm. CN leach kinetics were evaluated at 2, 8, 24 and 48 hours maintaining 0.5 g/L NaCN. The tests were performed in bottles

on rolls at 40% solids. The pulp was brought to pH 10.5-11 with lime and 0.5 g/L of cyanide was added. The pulp was rolled for 48 hours. The NaCN, pH and DO were monitored over the duration of the test. Intermittent solution samples were removed at 2, 8, and 24 hours for gold and silver assay to monitor the rate of extraction. At the termination of the test, the pulp was filtered and the residue was washed well with fresh water. The final leach solution and the residue were submitted for gold and silver assay.

The summary of the test results are provided in Table 7 and the gold leach kinetics are presented in Figure 4. Detailed tests results are presented in Appendix E.

The results show the leach kinetics are very fast within the first 24 hours, and there is a small increase in gold recovery within another 24 hours leach time. The extraction of gold was between 74.3% and 90.2% for the three samples. The silver leach recoveries ranged between 47.3% and 84.5%.

The sodium cyanide consumptions in the leach tests were between 0.06 and 0.16 kg/t which are considered low. The lime consumptions were in the range of 0.38-0.52 kg/t and are considered low.

In conclusion, the cyanide leach gold and silver recoveries of the samples were excellent, demonstrating that the gravity tail samples are amenable to recover gold and silver by cyanide leach.

Table 7: CN Leach Test Results for Knelson Gravity Tails

Sample ID	Reagent Consumption kg/t of		Extraction/Recovery, %		Residue Grade	Head Grade Calc.
	NaCN	CaO	Au	Ag	g/t Au	Au total, g/t
CN-1, BS-3A13-03,Gravity tail, 77 µm	0.14	0.49	90.2	84.5	0.55	43.5
CN-2, BS-3A13-02,Gravity tail, 82 µm	0.06	0.38	85.4	63.3	0.10	1.51
CN-3, BS-3A13-01,Gravity tail, 67 µm	0.16	0.52	74.3	47.3	0.09	0.45

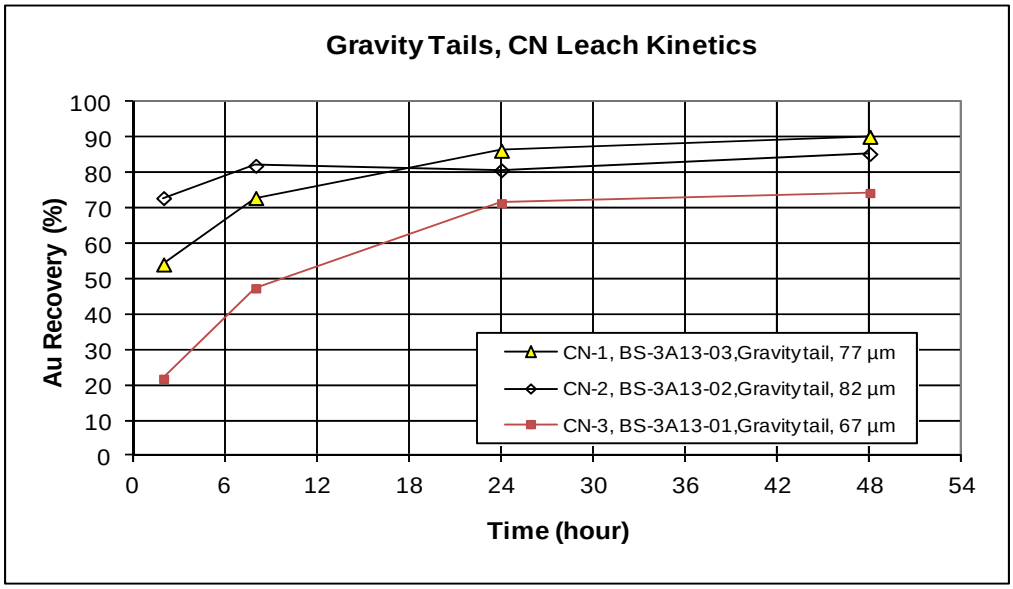

Figure 4: Knelson Gravity Tails Leach Kinetics

3.3. Overall Gold Recovery

The gold metallurgical test results are presented in Table 8 and the projected metallurgical test results using a gravity separation + gravity tails leaching of the three samples are compared.

The results demonstrate that maximizing the recovery of gold is obtained through gravity and gravity tailings leaching. The gravity + CN leaching of the gravity tailing offers 10-19% improved gold recovery for the three samples compared to gravity only.

Table 8: Overall Gold Metallurgical Test Results for All Three Samples

Sample	Au Rec., %	Gravity	Gr-tail CN	Comb Gr & Gr-tail CN
		GR-1	CN-1	
BS-3A13-03	Conc.	78.9	90.2	97.9
	Tail	21.1	9.80	2.1
		GR-2	CN-2	
BS-3A13-02	Conc.	88.5	85.4	98.3
	Tail	11.5	14.6	1.7
		GR-3	CN-3	
BS-3A13-01	Conc.	74.6	74.3	93.5
	Tail	25.4	25.7	6.5

Conclusions and Recommendations

A test program was completed on three samples from the 3 Aces deposit to accurately determine the head grade of the samples and to investigate the gold recovery for each sample.

For sample BS-3A13-03 three samples assayed; returning values ranging from 216 up to 242 g/t Au. The nugget effect is very pronounced with the +150 mesh "metallics" ranging from 2,001 up to 3,759 g/t Au. The values from the -150 mesh material (4 assays for each sample) for the first portion ranged from 102 to 109 g/t Au, for the second portion ranged from 120 to 131 g/t Au and for the combined sample ranged from 113 to 140 g/t Au. This demonstrates that the "metallics" assaying method and the chosen cut point (150 mesh, 106 microns) was the appropriate methodology to obtain precise values for this ore.

For sample BS-3A13-02 one sample assayed; with 10.5 g/t Au and the -150 mesh material resulted in 6.5 g/t Au and finally sample BS-3A13-02 assayed 1.6 g/t Au with the -150 mesh material contained 1.3 g/t Au.

An extended gravity recoverable gold (E-GRG) study was conducted on each sample. The feed was processed through a Knelson MD-3 concentrator at progressively finer grind sizes (3 stages). After each stage the concentrate and representative tailings samples were collected for assay. This procedure enables the evaluation of gravity gold recovery as a function of particle size and produces an E-GRG number and other data used for design purposes and performance prediction. E-GRG numbers 95.8, 93.7, and 86.9 were achieved for the samples BS-3A13-03, BS-3A13-02 and BS-3A13-01, respectively.

The results of the Knelson gravity tests show 80% of gold recovered at grind sizes of K_{80} 190 microns for sample BS-3A13-03. Gravity testing on sample BS-3A13-02 resulted in 88.5% Au recovery and for samples BS-3A13-01 74.6% recovery was achieved.

To identify additional gold recovery a representative split of the gravity tails was ground to target K_{80} 75 microns and leached with cyanide. Gravity tail leach testing for sample BS-3A13-03 produced a gold leach recovery of 90.2%. The results show that gold leach recoveries were 85.4% and 74.3% for sample BS-3A13-02 and BS-3A13-01, respectively. The cyanide consumptions ranged between 0.06 kg/t and 0.16 kg/t and the lime consumptions were between 0.38 and 0.52 kg/t. Cyanide and lime consumptions are considered low.

Considering the high grade of the ore samples and the apparent coarseness of the gold content, this material is a likely candidate for a hybrid gravity-leach or gravity-flotation treatment. From the mineralogical report for sample BS-3A13-03, it appeared that the gold present should liberate fairly easily as liberated gold accounts for 90% of the gold within the sample. However some of the gold mineralization appeared too fine for gravity recovery only (<10% of the gold is less than 10 µm in size) and will likely require further processing.

It is important to note and recommend that any flowsheet evaluation to compare processing alternatives (i.e. flotation versus leaching) must include upfront gravity recovery. Preparing a bulk gravity tail and splitting into charges is recommended.

Appendix A – Chemical Analysis

Certificate of Analysis

Work Order : VC142214

[Report File No.: 0000007900]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Jul 17, 2014

P.O. No.	:	PO: 14196-002 / TEST: BS-3A13-01 +106
Project No.	:	CAVM-14196-002
No. Of Samples	:	1
Date Submitted	:	Jul 14, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Comments:

One fusion was lost during Fire Assay. Report reflects remaining four fusions.

Certified By : _____

Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R.	= Listed not received	I.S.	= Insufficient Sample
n.a.	= Not applicable	--	= No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted

Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

SGS

Final : VC142214 Order: PO: 14196-002 / TEST: BS-3A13-01 +106

Report File No.: 0000007900

Element	Au	Ag
Method	GO_FAG333	GO_FAG333
Det.Lim.	1	10
Units	g/t	g/t
BS-3A13-01 +106	6.38	<10.00

Certificate of Analysis

Work Order : VC141992

[Report File No.: 0000007566]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Jun 24, 2014

P.O. No.	:	PO: 14196-002 / TEST: BS-3A13 -106
Project No.	:	CAVM-14196-002
No. Of Samples	:	4
Date Submitted	:	Jun 20, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Certified By :

Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R. = Listed not received
n.a. = Not applicable
I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC141992 Order: PO: 14196-002 / TEST: BS-3A13 -106

Report File No.: 0000007566

Element	Ag@	Au
Method	AAS42E	FAA303
Det.Lim.	0.3	0.01
Units	g/t	g/t
BS-3A13-03 a -106	9.4	109
BS-3A13-03 b -106	9.9	106
BS-3A13-04 c -106	9.5	104
BS-3A13-05 d -106	11.3	102

Certificate of Analysis

Work Order : VC141993

[Report File No.: 0000007599]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Jun 25, 2014

P.O. No.	:	PO: 14196-002 / TEST: BS-3A13 +106
Project No.	:	CAVM-14196-002
No. Of Samples	:	1
Date Submitted	:	Jun 20, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Certified By :

Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R. = Listed not received
n.a. = Not applicable
I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC141993 Order: PO: 14196-002 / TEST: BS-3A13 +106

Report File No.: 0000007599

Element	Au	Ag
Method	GO_FAG333	GO_FAG333
Det.Lim.	1	10
Units	g/t	g/t
BS-3A13-3 +106	2109.79	632.92

Certificate of Analysis

Work Order : VC142129

[Report File No.: 0000007813]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Jul 08, 2014

P.O. No.	:	PO: 14196-002 / TEST: BS-3A13-02 +106
Project No.	:	CAVM-14196-002
No. Of Samples	:	1
Date Submitted	:	Jul 04, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Distribution of unused material:
Active files:

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R. = Listed not received
n.a. = Not applicable
I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142129 Order: PO: 14196-002 / TEST: BS-3A13-02 +106

Report File No.: 0000007813

Element	Au	Ag
Method	GO_FAG333	GO_FAG333
Det.Lim.	1	10
Units	g/t	g/t
BS-3A13-02 +106	117.96	<10.00

Certificate of Analysis

Work Order : VC142130

[Report File No.: 0000007815]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Jul 09, 2014

P.O. No.	:	PO: 14196-002 / TEST: BS-3A13-02 -106
Project No.	:	CAVM-14196-002
No. Of Samples	:	4
Date Submitted	:	Jul 04, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Distribution of unused material:
Active files:

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R. = Listed not received
n.a. = Not applicable
I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142130 Order: PO: 14196-002 / TEST: BS-3A13-02 -106

Report File No.: 0000007815

Element	Ag@	Au
Method	AAS42E	FAA303
Det.Lim.	0.3	0.01
Units	g/t	g/t
BS-3A13-02 a (-106)	0.3	6.08
BS-3A13-02 b (-106)	1.7	5.98
BS-3A13-02 c (-106)	0.3	7.78
BS-3A13-02 d (-106)	0.6	6.15

Certificate of Analysis

Work Order : VC142213

[Report File No.: 0000007882]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Jul 16, 2014

P.O. No.	:	PO: 14196-002 / TEST: BS-3A13 -01
Project No.	:	CAVM-14196-002
No. Of Samples	:	4
Date Submitted	:	Jul 14, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

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Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142213 Order: PO: 14196-002 / TEST: BS-3A13 -01

Report File No.: 0000007882

Element	Ag@	Au
Method	AAS42E	FAA303
Det.Lim.	0.3	0.01
Units	g/t	g/t
BS-3A13-01 a -106	0.5	1.30
BS-3A13-01 b -106	0.4	1.46
BS-3A13-01 c -106	0.4	1.47
BS-3A13-01 d -106	0.6	0.90

Certificate of Analysis

Work Order : VC142647

[Report File No.: 0000008377]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Aug 22, 2014

P.O. No.	:	PO: 14196-002/TEST: BS-3A13-03-Com -106
Project No.	:	CAVM-14196-002
No. Of Samples	:	4
Date Submitted	:	Aug 19, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Distribution of unused material:
Active files:

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

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I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142647 Order: PO: 14196-002/TEST: BS-3A13-03-Com -106

Report File No.: 0000008377

Element	Ag@	Au
Method	AAS42E	FAA303
Det.Lim.	0.3	0.01
Units	g/t	g/t
BS-3A13-03-Comb. a (-106)	16.5	140
BS-3A13-03-Comb. b (-106)	13.8	113
BS-3A13-03-Comb. c (-106)	13.6	130
BS-3A13-03-Comb. d (-106)	15.3	124

Certificate of Analysis

Work Order : VC142646

[Report File No.: 0000008394]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Aug 22, 2014

P.O. No.	:	PO: 14196-002/TEST: BS-3A13-03-Com +106
Project No.	:	CAVM-14196-002
No. Of Samples	:	1
Date Submitted	:	Aug 19, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Distribution of unused material:
Active files:

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

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M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142646 Order: PO: 14196-002/TEST: BS-3A13-03-Com +106

Report File No.: 0000008394

Element	Au	Ag
Method	GO_FAG333	GO_FAG333
Det.Lim.	1	10
Units	g/t	g/t
BS-3A13-03-Comb (+106)	2001.17	175.22

Certificate of Analysis

Work Order : VC142660

[Report File No.: 0000008378]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Aug 22, 2014

P.O. No.	:	PO: 14196-002/TEST: BS-3A13-03-Sec -106
Project No.	:	CAVM-14196-002
No. Of Samples	:	4
Date Submitted	:	Aug 19, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Distribution of unused material:
Active files:

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

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M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142660 Order: PO: 14196-002/TEST: BS-3A13-03-Sec -106

Report File No.: 0000008378

Element	Ag@	Au
Method	AAS42E	FAA303
Det.Lim.	0.3	0.01
Units	g/t	g/t
BS-3A13-03-Second a (-106)	13.0	131
BS-3A13-03-Second b (-106)	10.7	120
BS-3A13-03-Second c (-106)	14.5	120
BS-3A13-03-Second d (-106)	12.1	123

Certificate of Analysis

Work Order : VC142659

[Report File No.: 0000008395]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Aug 22, 2014

P.O. No.	:	PO: 14196-002/TEST: BS-3A13-03-Sec +106
Project No.	:	CAVM-14196-002
No. Of Samples	:	1
Date Submitted	:	Aug 19, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Distribution of unused material:
Active files:

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R.	= Listed not received	I.S.	= Insufficient Sample
n.a.	= Not applicable	--	= No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142659 Order: PO: 14196-002/TEST: BS-3A13-03-Sec +106

Report File No.: 0000008395

Element	Au	Ag
Method	GO_FAG333	GO_FAG333
Det.Lim.	1	10
Units	g/t	g/t
BS-3A13-03-Second (+106)	3759.26	395.39

Certificate of Analysis

Work Order : VC142268

[Report File No.: 0000007961]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Jul 23, 2014

P.O. No.	:	PO: 14196-002 /TEST: E-GRG1 Pass 3 Conc
Project No.	:	CAVM-14196-002
No. Of Samples	:	7
Date Submitted	:	Jul 17, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

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n.a. = Not applicable
I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142268 Order: PO: 14196-002 /TEST: E-GRG1 Pass 3 Conc

Report File No.: 0000007961

Element Method Det.Lim. Units	Au@ GO_FAG303 1 g/t
+150	6088.10
+106	6066.29
+75	2197.10
+53	1568.09
+38	1318.52
+25	1709.95
-25	2885.43

Certificate of Analysis

Work Order : VC142189

[Report File No.: 0000007881]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Jul 15, 2014

P.O. No.	:	PO: 14196-002 /TEST: E-GRG1 Pass 2 Conc
Project No.	:	CAVM-14196-002
No. Of Samples	:	9
Date Submitted	:	Jul 10, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

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*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142189 Order: PO: 14196-002 /TEST: E-GRG1 Pass 2 Conc

Report File No.: 0000007881

Element Method Det.Lim. Units	Au@ GO_FAG303 1 g/t
+300	48307.35
+212	11648.82
+150	7427.77
+106	6494.02
+75	6571.90
+53	6723.55
+38	6721.88
+25	8470.95
-25	13456.45

Certificate of Analysis

Work Order : VC142073

[Report File No.: 0000007734]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Jul 02, 2014

P.O. No.	:	PO: 14196-002 / TEST: GRG1 Pass1 Conc
Project No.	:	CAVM-14196-002
No. Of Samples	:	11
Date Submitted	:	Jun 27, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Comments:

Samples analyzed gravimetrically due to high Au.
Uncertainty of Au is greater subject to sample wieght availability.

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

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n.a.	= Not applicable	--	= No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142073 Order: PO: 14196-002 / TEST: GRG1 Pass1 Conc

Report File No.: 0000007734

Element Method Det.Lim. Units	Au@ GO_FAG303 1 g/t
GRG1 Pass 1 Conc +600	34791.19
GRG1 Pass 1 Conc +425	30812.54
GRG1 Pass 1 Conc +300	21911.74
GRG1 Pass 1 Conc +212	19755.77
GRG1 Pass 1 Conc +150	24456.70
GRG1 Pass 1 Conc +106	29776.40
GRG1 Pass 1 Conc +75	31562.68
GRG1 Pass 1 Conc +53	35514.86
GRG1 Pass 1 Conc +38	39559.00
GRG1 Pass 1 Conc +25	41820.75
GRG1 Pass 1 Conc -25	95923.08

Certificate of Analysis

Work Order : VC142092

[Report File No.: 0000007739]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Jul 03, 2014

P.O. No.	:	PO: 14196-002 / TEST: GRG1 Pass1 Tails
Project No.	:	CAVM-14196-002
No. Of Samples	:	12
Date Submitted	:	Jul 02, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

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I.S. = Insufficient Sample
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*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142092 Order: PO: 14196-002 / TEST: GRG1 Pass1 Tails

Report File No.: 0000007739

Element	Au
Method	FAA303
Det.Lim.	0.01
Units	g/t
GRG1 Pass 1 Tails +850	4.04
GRG1 Pass 1 Tails +600	30.8
GRG1 Pass 1 Tails +425	53.7
GRG1 Pass 1 Tails +300	63.6
GRG1 Pass 1 Tails +212	61.8
GRG1 Pass 1 Tails +150	56.3
GRG1 Pass 1 Tails +106	46.8
GRG1 Pass 1 Tails +75	40.9
GRG1 Pass 1 Tails +53	38.4
GRG1 Pass 1 Tails +38	39.8
GRG1 Pass 1 Tails +25	49.8
GRG1 Pass 1 Tails -25	62.5

Certificate of Analysis

Work Order : VC142190

[Report File No.: 0000007873]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Jul 14, 2014

P.O. No.	:	PO: 14196-002/TEST: E-GRG1 Pass 2 Tails
Project No.	:	CAVM-14196-002
No. Of Samples	:	9
Date Submitted	:	Jul 10, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

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M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142190 Order: PO: 14196-002/TEST: E-GRG1 Pass 2 Tails

Report File No.: 0000007873

Element	Au
Method	FAA303
Det.Lim.	0.01
Units	g/t
+300	2.29
+212	15.5
+150	21.8
+106	21.4
+75	21.3
+53	19.3
+38	21.7
+25	21.1
-25	27.4

Certificate of Analysis

Work Order : VC142269

[Report File No.: 0000007936]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Jul 21, 2014

P.O. No.	:	PO: 14196-002 /TEST: E-GRG1 Pass3 Tails
Project No.	:	CAVM-14196-002
No. Of Samples	:	6
Date Submitted	:	Jul 17, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

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I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142269 Order: PO: 14196-002 /TEST: E-GRG1 Pass3 Tails

Report File No.: 0000007936

Element	Au
Method	FAA303
Det.Lim.	0.01
Units	g/t
+106 Tails	12.1
+75 Tails	6.66
+53 Tails	5.93
+38 Tails	5.96
+25 Tails	5.74
-25 Tails	11.5

Certificate of Analysis

Work Order : VC142400

[Report File No.: 0000008075]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Jul 30, 2014

P.O. No.	:	PO: 14196-002 /TEST: E-GRG2 Pass 3 Conc
Project No.	:	CAVM-14196-002
No. Of Samples	:	6
Date Submitted	:	Jul 28, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Distribution of unused material:
Active files:

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

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n.a. = Not applicable
I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142400 Order: PO: 14196-002 /TEST: E-GRG2 Pass 3 Conc

Report File No.: 0000008075

Element Method Det.Lim. Units	Au@ GO_FAG303 1 g/t
+106	264.39
+75	129.92
+53	92.01
+38	98.78
+25	118.49
-25	249.24

Certificate of Analysis

Work Order : VC142307

[Report File No.: 0000007978]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Jul 24, 2014

P.O. No.	:	PO: 14196-002 /TEST: E-GRG2 Pass 1 Conc
Project No.	:	CAVM-14196-002
No. Of Samples	:	11
Date Submitted	:	Jul 21, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Distribution of unused material:
Active files:

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R. = Listed not received
n.a. = Not applicable
I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142307 Order: PO: 14196-002 /TEST: E-GRG2 Pass 1 Conc

Report File No.: 0000007978

Element Method Det.Lim. Units	Au@ GO_FAG303 1 g/t
+850	4995.09
+600	739.88
+425	859.93
+300	1089.46
+212	1024.06
+150	1342.46
+106	1816.47
+75	1656.00
+53	1989.67
+38	3698.41
-38	11248.61

Certificate of Analysis

Work Order : VC142313

[Report File No.: 0000007979]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Jul 24, 2014

P.O. No.	:	PO: 14196-002 /TEST: E-GRG2 Pass1 Tails
Project No.	:	CAVM-14196-002
No. Of Samples	:	12
Date Submitted	:	Jul 21, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Distribution of unused material:
Active files:

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

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n.a. = Not applicable
I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

SGS

Final : VC142313 Order: PO: 14196-002 /TEST: E-GRG2 Pass1 Tails

Report File No.: 0000007979

Element	Au
Method	FAA303
Det.Lim.	0.01
Units	g/t
+850	0.28
+600	2.24
+425	9.19
+300	3.62
+212	2.98
+150	2.25
+106	3.49
+75	1.93
+53	1.54
+38	4.51
+25	8.92
-25	17.6

Certificate of Analysis

Work Order : VC142345

[Report File No.: 0000008058]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Jul 29, 2014

P.O. No.	:	PO: 14196-002 /TEST: E-GRG2 Pass 2 Conc
Project No.	:	CAVM-14196-002
No. Of Samples	:	8
Date Submitted	:	Jul 23, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

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n.a. = Not applicable
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*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted

Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142345 Order: PO: 14196-002 /TEST: E-GRG2 Pass 2 Conc

Report File No.: 0000008058

Element Method Det.Lim. Units	Au@ GO_FAG303 1 g/t
+300	6675.35
+212	1064.85
+150	652.69
+106	605.86
+75	619.14
+53	720.50
+38	689.92
-38	1396.17

Certificate of Analysis

Work Order : VC142344

[Report File No.: 0000008019]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Jul 28, 2014

P.O. No.	:	PO: 14196-002 /TEST: E-GRG2 Pass2 Tails
Project No.	:	CAVM-14196-002
No. Of Samples	:	9
Date Submitted	:	Jul 23, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R. = Listed not received
n.a. = Not applicable
I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted

Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142344 Order: PO: 14196-002 /TEST: E-GRG2 Pass2 Tails

Report File No.: 0000008019

Element	Au
Method	FAA303
Det.Lim.	0.01
Units	g/t
+300	0.10
+212	1.14
+150	1.31
+106	1.47
+75	1.00
+53	0.82
+38	0.66
+25	1.47
-25	2.05

Certificate of Analysis

Work Order : VC142399

[Report File No.: 0000008062]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Jul 29, 2014

P.O. No.	:	PO: 14196-002 /TEST: E-GRG2 Pass3 Tails
Project No.	:	CAVM-14196-002
No. Of Samples	:	6
Date Submitted	:	Jul 28, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Distribution of unused material:
Active files:

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R.	= Listed not received	I.S.	= Insufficient Sample
n.a.	= Not applicable	--	= No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142399 Order: PO: 14196-002 /TEST: E-GRG2 Pass3 Tails

Report File No.: 0000008062

Element	Au
Method	FAA303
Det.Lim.	0.01
Units	g/t
+106	0.34
+75	0.45
+53	0.47
+38	0.49
+25	0.66
-25	0.79

Certificate of Analysis

Work Order : VC142470

[Report File No.: 0000008182]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Aug 07, 2014

P.O. No.	:	PO: 14196-002 /TEST: E-GRG3 Pass 1 Conc
Project No.	:	CAVM-14196-002
No. Of Samples	:	10
Date Submitted	:	Aug 01, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R. = Listed not received
n.a. = Not applicable
I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142470 Order: PO: 14196-002 /TEST: E-GRG3 Pass 1 Conc

Report File No.: 0000008182

Element Method Det.Lim. Units	Au@ GO_FAG303 1 g/t
+600	284.94
+425	80.74
+300	119.08
+212	193.73
+150	221.13
+106	35.43
+75	278.27
+53	311.80
+38	434.44
-38	1144.68

Certificate of Analysis

Work Order : VC142465

[Report File No.: 0000008159]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Aug 06, 2014

P.O. No.	:	PO: 14196-002 /TEST: E-GRG3 Pass3 Tails
Project No.	:	CAVM-14196-002
No. Of Samples	:	6
Date Submitted	:	Aug 01, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R. = Listed not received
n.a. = Not applicable
I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142465 Order: PO: 14196-002 /TEST: E-GRG3 Pass3 Tails

Report File No.: 0000008159

Element	Au
Method	FAA303
Det.Lim.	0.01
Units	g/t
+106	0.14
+75	0.18
+53	0.12
+38	0.14
+25	0.16
-25	0.39

Certificate of Analysis

Work Order : VC142466

[Report File No.: 0000008160]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Aug 06, 2014

P.O. No.	:	PO: 14196-002 /TEST: E-GRG3 Pass2 Tails
Project No.	:	CAVM-14196-002
No. Of Samples	:	9
Date Submitted	:	Aug 01, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R. = Listed not received
n.a. = Not applicable
I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142466 Order: PO: 14196-002 /TEST: E-GRG3 Pass2 Tails

Report File No.: 0000008160

Element	Au
Method	FAA303
Det.Lim.	0.01
Units	g/t
+300	0.08
+212	0.17
+150	0.46
+106	0.21
+75	0.22
+53	0.41
+38	0.26
+25	0.47
-25	0.82

Certificate of Analysis

Work Order : VC142467

[Report File No.: 0000008161]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Aug 06, 2014

P.O. No.	:	PO: 14196-002 /TEST: E-GRG3 Pass1 Tails
Project No.	:	CAVM-14196-002
No. Of Samples	:	12
Date Submitted	:	Aug 01, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R. = Listed not received
n.a. = Not applicable
I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted

Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142467 Order: PO: 14196-002 /TEST: E-GRG3 Pass1 Tails

Report File No.: 0000008161

Element	Au
Method	FAA303
Det.Lim.	0.01
Units	g/t
+850	0.13
+600	0.18
+425	0.42
+300	0.36
+212	0.58
+150	0.60
+106	0.64
+75	0.60
+53	0.64
+38	0.69
+25	1.46
-25	3.76

Certificate of Analysis

Work Order : VC142468

[Report File No.: 0000008183]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Aug 08, 2014

P.O. No.	:	PO: 14196-002 /TEST: E-GRG3 Pass 3 Conc
Project No.	:	CAVM-14196-002
No. Of Samples	:	7
Date Submitted	:	Aug 01, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Comments:

Quality control failed but no more sample available for re-analysis

Certified By :
John Chiang
QC Chemist

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R. = Listed not received
n.a. = Not applicable
I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted

Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142468 Order: PO: 14196-002 /TEST: E-GRG3 Pass 3 Conc

Report File No.: 0000008183

Element Method Det.Lim. Units	Au@ GO_FAG303 1 g/t
+150	91.62
+106	20.23
+75	21.33
+53	20.51
+38	23.97
+25	27.27
-25	70.64

Certificate of Analysis

Work Order : VC142469

[Report File No.: 0000008181]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Aug 07, 2014

P.O. No.	:	PO: 14196-002 /TEST: E-GRG3 Pass 2 Conc
Project No.	:	CAVM-14196-002
No. Of Samples	:	9
Date Submitted	:	Aug 01, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Certified By : _____

Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R. = Listed not received
n.a. = Not applicable
I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142469 Order: PO: 14196-002 /TEST: E-GRG3 Pass 2 Conc

Report File No.: 0000008181

Element Method Det.Lim. Units	Au@ GO_FAG303 1 g/t
+300	442.97
+212	146.35
+150	78.94
+106	67.35
+75	60.08
+53	38.52
+38	106.60
+25	182.89
-25	502.20

Certificate of Analysis

Work Order : VC142969

[Report File No.: 0000008680]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Sep 17, 2014

P.O. No.	:	PO:14196-002/TEST: GR-1(BS-3A13-03) Tail
Project No.	:	CAVM-14196-002
No. Of Samples	:	3
Date Submitted	:	Sep 12, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R. = Listed not received
n.a. = Not applicable
I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted

Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

SGS

Final : VC142969 Order: PO:14196-002/TEST: GR-1(BS-3A13-03) Tail

Report File No.: 0000008680

Element	Ag@	Au@
Method	GE_AAS42E	GO_FAG303
Det.Lim.	0.3	1
Units	g/t	g/t
GR-1 Knelson Tails (A)	4.2	48.41
GR-1 Knelson Tails (B)	5.4	53.11
GR-1 Knelson Tails (C)	6.1	63.91

Certificate of Analysis

Work Order : VC142941

[Report File No.: 0000008691]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Sep 18, 2014

P.O. No.	:	PO: 14196-002/TEST: GR-1(BS-3A13-03)
Project No.	:	CAVM-14196-002
No. Of Samples	:	1
Date Submitted	:	Sep 11, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Comments:

Au results based on 20 assays
Ag results based on 5 assays

Certified By : _____
John Chiang
QC Chemist

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R. = Listed not received
n.a. = Not applicable
I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC142941 Order: PO: 14196-002/TEST: GR-1(BS-3A13-03)

Report File No.: 0000008691

Element	Ag@	Au@
Method	GE_AAS42E	GO_FAG303
Det.Lim.	0.3	1
Units	g/t	g/t
GR-1 Knelson Conc.	239	85590.66

Certificate of Analysis

Work Order : VC143162

[Report File No.: 0000008957]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Oct 07, 2014

P.O. No.	:	PO:14196-002/TEST: GR-2(BS-3A13-02) Tail
Project No.	:	CAVM-14196-002
No. Of Samples	:	3
Date Submitted	:	Oct 03, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R. = Listed not received
n.a. = Not applicable
I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC143162 Order: PO:14196-002/TEST: GR-2(BS-3A13-02) Tail

Report File No.: 0000008957

Element	Ag@	Au@
Method	GE_AAS42E	GO_FAA303
Det.Lim.	0.3	0.01
Units	g/t	g/t
GR-2 Knelson Tails (A)	0.7	1.52
GR-2 Knelson Tails (B)	0.5	1.54
GR-2 Knelson Tails (C)	0.4	1.49

Certificate of Analysis

Work Order : VC143148

[Report File No.: 0000009095]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Oct 20, 2014

P.O. No.	:	PO: 14196-002/TEST: GR-2(BS-3A13-03)
Project No.	:	CAVM-14196-002
No. Of Samples	:	1
Date Submitted	:	Oct 02, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Distribution of unused material:
Active files:

Comments:

Au results based on 20 assays
Ag results based on 5 assays

Certified By :
John Chiang
QC Chemist

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R.	= Listed not received	I.S.	= Insufficient Sample
n.a.	= Not applicable	--	= No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC143148 Order: PO: 14196-002/TEST: GR-2(BS-3A13-03)

Report File No.: 0000009095

Element	Ag@	Au@
Method	GE_AAS42E	GO_FAG303
Det.Lim.	0.3	1
Units	g/t	g/t
GR-2 Knelson Conc.	640	6924.97

Certificate of Analysis

Work Order : VC143314

[Report File No.: 0000009155]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Oct 23, 2014

P.O. No.	:	PO:14196-002/TEST: GR-3(BS-3A13-01) Tail
Project No.	:	CAVM-14196-002
No. Of Samples	:	3
Date Submitted	:	Oct 21, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Distribution of unused material:
Active files:

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R.	= Listed not received	I.S.	= Insufficient Sample
n.a.	= Not applicable	--	= No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC143314 Order: PO:14196-002/TEST: GR-3(BS-3A13-01) Tail

Report File No.: 0000009155

Element	Ag@	Au@
Method	GE_AAS42E	GO_FAA303
Det.Lim.	0.3	0.01
Units	g/t	g/t
GR-3 Knelson Tails (A)	0.4	0.38
GR-3 Knelson Tails (B)	0.5	0.51
GR-3 Knelson Tails (C)	<0.3	0.51

Certificate of Analysis

Work Order : VC143327

[Report File No.: 0000009249]

To: **Met - Jalal Tajadod**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Oct 30, 2014

P.O. No.	:	PO: 14196-002/TEST: GR-3(BS-3A13-01)
Project No.	:	CAVM-14196-002
No. Of Samples	:	1
Date Submitted	:	Oct 22, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Distribution of unused material:
Active files:

Certified By : _____
John Chiang
QC Chemist

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R. = Listed not received
n.a. = Not applicable
I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC143327 Order: PO: 14196-002/TEST: GR-3(BS-3A13-01)

Report File No.: 0000009249

Element	Ag@	Au@
Method	GE_AAS42E	GO_FAG303
Det.Lim.	0.3	1
Units	g/t	g/t
GR-3 Knelson Conc.	141	1507.50

Certificate of Analysis

Work Order : VC143048

[Report File No.: 0000008766]

To: **Met - Alexandria Hall**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Sep 24, 2014

P.O. No.	:	PO: 14196-002 /TEST: CN-1 Preg Sol
Project No.	:	CAVM-14196-002
No. Of Samples	:	4
Date Submitted	:	Sep 19, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R. = Listed not received
n.a. = Not applicable
I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC143048 Order: PO: 14196-002 /TEST: CN-1 Preg Sol

Report File No.: 0000008766

Element	Au	Ag
Method	GC_FSA84T	GC_SOL82T
Det.Lim.	0.01	0.03
Units	mg/L	mg/L
CN-1 2 Hour Preg Sol	19.234	2.101
CN-1 8 Hour Preg Sol	25.416	2.792
CN-1 24 Hour Preg Sol	29.416	3.210
CN-1 48 Hour Preg Sol	29.937	3.129

Certificate of Analysis

Work Order : VC143062

[Report File No.: 0000008779]

To: **Met - Alexandria Hall**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Sep 24, 2014

P.O. No.	:	PO:14196-002/TEST: CN-1
Project No.	:	CAVM-14196-002
No. Of Samples	:	1
Date Submitted	:	Sep 22, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Distribution of unused material:
Active files:

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R. = Listed not received
n.a. = Not applicable
I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

SGS

Final : VC143062 Order: PO:14196-002/TEST: CN-1

Report File No.: 0000008779

Element	Ag@	Au@
Method	GE_AAS42E	GO_FAA303
Det.Lim.	0.3	0.01
Units	g/t	g/t
CN-1 Residue	0.7	0.55

Certificate of Analysis

Work Order : VC143223

[Report File No.: 0000009054]

To: **Met - Alexandria Hall**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Oct 16, 2014

P.O. No.	:	PO: 14196-002 /TEST: CN-2 Preg Sol
Project No.	:	CAVM-14196-002
No. Of Samples	:	4
Date Submitted	:	Oct 10, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Distribution of unused material:
Active files:

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R.	= Listed not received	I.S.	= Insufficient Sample
n.a.	= Not applicable	--	= No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted

Elements marked with the @ symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC143223 Order: PO: 14196-002 /TEST: CN-2 Preg Sol

Report File No.: 0000009054

Element	Au	Ag
Method	GC_FSA84T	GC_SOL82T
Det.Lim.	0.01	0.03
Units	mg/L	mg/L
CN-2 2 Hour Preg Sol	0.676	0.247
CN-2 8 Hour Preg Sol	0.744	0.247
CN-2 24 Hour Preg Sol	0.713	0.259
CN-2 48 Hour Preg Sol	0.738	0.265

Certificate of Analysis

Work Order : VC143271

[Report File No.: 0000009075]

To: **Met - Alexandria Hall**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Oct 17, 2014

P.O. No.	:	PO:14196-002/TEST: CN-2
Project No.	:	CAVM-14196-002
No. Of Samples	:	1
Date Submitted	:	Oct 16, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R. = Listed not received
n.a. = Not applicable
I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted

Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC143271 Order: PO:14196-002/TEST: CN-2

Report File No.: 0000009075

Element	Ag@	Au@
Method	GE_AAS42E	GO_FAA303
Det.Lim.	0.3	0.01
Units	g/t	g/t
CN-2 Residue	<0.3	0.10

Certificate of Analysis

Work Order : VC143411

[Report File No.: 0000009286]

To: **Met - Alexandria Hall**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Nov 03, 2014

P.O. No.	:	PO: 14196-002 /TEST: CN-3 Preg Sol
Project No.	:	CAVM-14196-002
No. Of Samples	:	4
Date Submitted	:	Oct 30, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Distribution of unused material:
Active files:

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R. = Listed not received
n.a. = Not applicable
I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC143411 Order: PO: 14196-002 /TEST: CN-3 Preg Sol

Report File No.: 0000009286

Element	Au	Ag
Method	GC_FSA84T	GC_SOL82T
Det.Lim.	0.01	0.03
Units	mg/L	mg/L
CN-3 2 Hour Preg Sol	0.061	0.064
CN-3 8 Hour Preg Sol	0.131	0.113
CN-3 24 Hour Preg Sol	0.195	0.125
CN-3 48 Hour Preg Sol	0.198	0.141

Certificate of Analysis

Work Order : VC143441

[Report File No.: 0000009291]

To: **Met - Alexandria Hall**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Nov 03, 2014

P.O. No.	:	PO: 14196-002/TEST: CN-3 Residue
Project No.	:	CAVM-14196-002
No. Of Samples	:	1
Date Submitted	:	Oct 31, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Distribution of unused material:
Active files:

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R. = Listed not received
n.a. = Not applicable
I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

Final : VC143441 Order: PO: 14196-002/TEST: CN-3 Residue

Report File No.: 0000009291

Element	Ag@	Au@
Method	GE_AAS42E	GO_FAA303
Det.Lim.	0.3	0.01
Units	g/t	g/t
CN-3 Residue	<0.3	0.09

Appendix B – Screened Metallics

Date Prepared: **June 20, 2014**
Department: **Met**
Project Number: **14196-002**
Technician(s): **Essa**

Sample #	Sample Name	Screened Metallics Mass (GRAMS)			*Special Instructions*
		START	Grind Time Minutes	+106 µm	
1	BS-3A13-03	2000.0	85.0	110.0	Target ~100 gr, +106 um
2	BS-3A13-02	2000.0	85.0	71.4	"
3	BS-3A13-01	2000.0	85.0	127.6	"

Sample #	Sample Name	Screened Metallics Mass (GRAMS)			*Special Instructions*
		START	Grind Time Minutes	+106 µm	
1	BS-3A13-03	2000.0	85.0	110.0	Target ~100 gr, +106 um
2	BS-3A13-02	2000.0	85.0	71.4	"
3	BS-3A13-01	2000.0	85.0	127.6	"

Dry Rod Milling of ~2kg charges to target 95% (~100 g +106 um) passing 106um (150 mesh)
Mill product will be screened at 150 mesh to produce +/-

The +150 mesh will be split three ways and assayes to extinction.(three samples submitted but one results will be reported)

The -150 mesh fraction will be rotary split to produce two portions (A and B portions).
A & B will be assayed in duplicate (this will produce 4 cuts of the undersize).
(Rotary split ~1900 g to 12 portions, recombine 4 portions and re-split into A and B portions (~ 60 g each), finally split A and B into 2 x ~30 each).

Project: 14196-002
Screened Metallics Data, Up-dated July 17 , 2014

Sample #	Sample Designation	Screened Metallics Analysis								
		Starting Mass, g	Calculated Head,	+106 µm		-106 µm				
				%		%	Au, g/t			
			Au, g/t	Mass	Au, g/t	Mass	a	b	c	d
1	BS-3A13-03	2,000.0	215.5	5.5	2109.79	94.5	109	106	104	102
2	BS-3A13-02	2,000.0	10.5	3.6	118.0	96.4	6.08	5.98	7.78	6.15
3	BS-3A13-01	2,000.0	1.61	6.4	6.38	93.6	1.30	1.46	1.47	0.90
							Ag, g/t			
			Ag, g/t		Ag, g/t		a	b	c	d
1	BS-3A13-03	2,000.0	44.3	5.5	632.9	94.5	9.4	9.9	9.5	11.3
2	BS-3A13-02	2,000.0	<1.1	3.6	<10	96.4	0.30	1.70	0.30	0.60
3	BS-3A13-01	2,000.0	<1.1	6.4	<10	93.6	0.50	0.40	0.40	0.60

Date Prepared: **June 20, 2014**
Department: **Met**
Project Number: **14196-002**
Technician(s): **Essa**

Sample #	Sample Name	Screened Metallics Mass (GRAMS)			*Special Instructions*
		START	Grind Time Minutes	+106 µm	
1	BS-3A13-03 (First Sample)	2000.0	85.0	110.0	240 kg
2	BS-3A13-03 (Second Sample)	2000.0	85.0	65.0	360 Kg
3	BS-3A13-03 (Whole Sample)	2000.0	85.0	113.0	600 kg

Sample #	Sample Name	Screened Metallics Mass (GRAMS)			*Special Instructions*
		START	Grind Time Minutes	+106 µm	
1	BS-3A13-03 (First Sample)	2000.0	85.0	110.0	240 kg
1	BS-3A13-03 (Second Sample)	2000.0	85.0	65.0	360 Kg
2	BS-3A13-03 (Whole Sample)	2000.0	85.0	113.0	600 kg

Dry Rod Milling of ~2kg charges to target 95% (~100 g +106 um) passing 106um (150 mesh)
Mill product will be screened at 150 mesh to produce +/-

The +150 mesh will be split three ways and assayes to extinction.(three samples submitted but one results will be reported)

The -150 mesh fraction will be rotary split to produce two portions (A and B portions).
A & B will be assayed in duplicate (this will produce 4 cuts of the undersize).
(Rotary split ~1900 g to 12 portions, recombine 4 portions and re-split into A and B portions (~ 60 g each), finally split A and B into 2 x ~30 each).

Project: 14196-002
Screened Metallics Data, Up-dated July 17 , 2014

Sample #	Sample Designation	Screened Metallics Analysis								
		Starting Mass, g	Calculated Head,	+106 μm		-106 μm				
				%		%	Au, g/t			
			Au, g/t	Mass	Au, g/t	Mass	a	b	c	d
1	BS-3A13-03 (First Sample)	2,000.0	215.5	5.50	2109.8	94.5	109	106	104	102
2	BS-3A13-03 (Second Sample)	2,000.0	241.7	3.25	3759.3	96.8	131	120	120	123
3	BS-3A13-03 (Whole Sample)	2,000.0	232.7	5.65	2001.2	94.4	140	113	130	124
							Ag, g/t			
			Ag, g/t		Ag, g/t		a	b	c	d
1	BS-3A13-03 (First Sample)	2,000.0	44.3	5.50	632.9	94.5	9.4	9.9	9.5	11.3
2	BS-3A13-03 (Second Sample)	2,000.0	25.0	3.25	395.4	96.8	13.0	10.7	14.5	12.1
3	BS-3A13-03 (Whole Sample)	2,000.0	23.9	5.65	175.2	94.4	16.5	13.8	13.6	15.3

Appendix C – E-GRG Tests

Test: E-GRG-1 **Project No.: 14196-002** **Technician:** Fraser Date: 07-Jul-14

Sample: BS-3A13-03

Purpose: To determine the gravity-recoverable gold number (GRG) applying the standard E-GRG procedure to the sample **BS-3A13-03**

Procedure: For stage 1, 20-kg of -20 mesh sample was passed through the Knelson concentrator, collecting a concentrate and tailing sample. The Knelson concentrate and tailing samples were filtered and submitted for size-fraction analysis for Au. The remainder of the tail was decanted to ~65% solids, and ground in Rod Mill for 26.3 minutes. For stage 2, the gravity separation, sampling, and size-fractional assaying procedure was repeated. Stage 2 Knelson tail was split into two equal parts and each part ground at ~65% solids in the Rod Mill for 67.7 minutes. Stage 3 gravity separation was performed as per the above stages repeating the gravity separation, sampling, and size-fractional assaying procedure.

Feed: 20-kg -20 mesh Sample BS-3A13-03

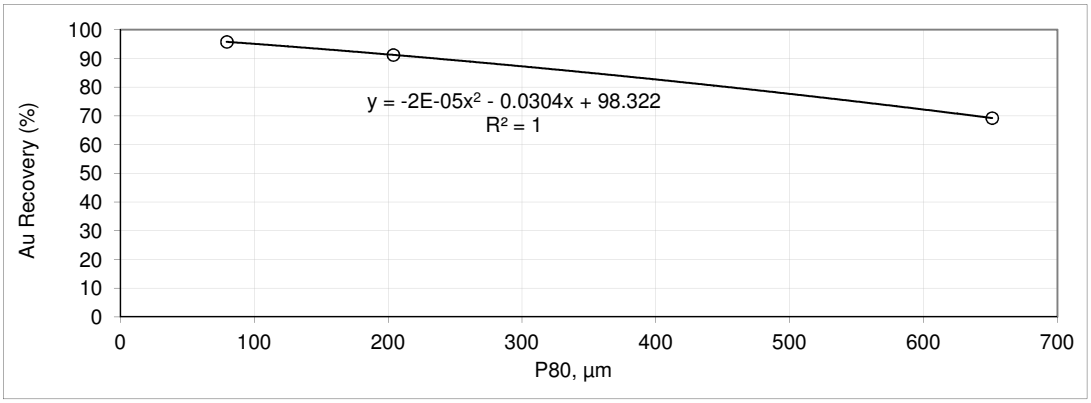
Grind:

Stage 1:	no grind. (100% passing 20 mesh)	P_{80} =	651 µm
Stage 2:	26.3 min @ 65% solids in Rod Mill	P_{80} =	204 µm
Stage 3:	67.7 min @ 65% solids in Rod Mill	P_{80} =	79 µm
	total = 94 minutes		

Metallurgical Balance:

Grind Size	Product	Mass		Assay	Units	Dist'n
		grams	%	Au (g/t)	Au	%
P_{80} = 651 µm	Stage 1 Conc	92.1	0.50	29,416.5	2,709,260	**69.2**
	Sampled Tails	327.0	1.78	48.9	15,987	**0.41**
P_{80} = 204 µm	Stage 2 Conc	77.3	0.42	11,129.3	860,295	**22.0**
	Sampled Tails	309.3	1.68	20.6	6,365	**0.16**
P_{80} = 79 µm	Stage 3 Conc	77.9	0.42	2,286.2	178,098	**4.6**
	Final Tails	17,533	95.2	8.16	143,137	**3.7**
	Totals (Head)	18,416.1	100.0	**212.5**	3,913,142	**100.0**
	Direct Head			**215.5**		
	Knelson Conc	247.3	1.34	15,154.3	3,747,653	**95.8**

GRG Number =95.8



Test: E-GRG-1 **Project No.: 14196-002** **Technician:** Fraser Date: 07-Jul-14

Sample: BS-3A13-03

Stage 1: Metallurgical Balance

		Concentrate 1				Tailing 1					
Size		Conc 1 Mass		**Assay**	Au Dist.	Tail 1 Mass		**Assay**	Au Dist.	% Au Recovery	
Mesh	(µm)	gram	%	**Au g/t**	%	gram	%	**Au g/t**	%	From Au available in size fraction	From total Au avail. in this stage
28	600	27.1	29.4	**34,791.19**	34.8	4,419.2	25.0	**29.3**	15.0	87.9	**26.4**
35	425	21.2	23.0	**30,812.54**	24.1	3,780.9	21.4	**53.7**	23.5	76.3	**18.3**
48	300	15.9	17.3	**21,911.74**	12.9	2,645.0	15.0	**63.6**	19.5	67.4	**9.75**
65	212	9.70	10.5	**19,755.77**	7.07	1,925.6	10.9	**61.8**	13.8	61.7	**5.36**
100	150	6.60	7.17	**24,456.70**	5.96	1,428.0	8.07	**56.3**	9.30	66.8	**4.52**
150	106	4.60	4.99	**29,776.40**	5.06	1,000.7	5.66	**46.8**	5.42	74.5	**3.83**
200	75	3.00	3.26	**31,562.68**	3.49	778.9	4.40	**40.9**	3.68	74.8	**2.65**
270	53	1.90	2.06	**35,514.86**	2.49	459.8	2.60	**38.4**	2.04	79.3	**1.89**
400	38	1.00	1.09	**39,559.00**	1.46	346.2	1.96	**39.8**	1.59	74.2	**1.11**
500	25	0.60	0.65	**41,820.75**	0.93	167.7	0.95	**49.8**	0.97	75.0	**0.70**
-500	-25	0.50	0.54	**95,923.08**	1.77	735.6	4.16	**62.5**	5.32	51.06	**1.34**
Total		92.1	100.0	**29,416.50**	100.0	17,687.7	100.0	**48.9**	100.0		**75.8**

Stage 2: Metallurgical Balance

		Concentrate 2				Tailing 2					
Size		Conc 2 Mass		**Assay**	Au Dist.	Tail 2 Mass		**Assay**	Au Dist.	% Au Recovery	
Mesh	(µm)	gram	%	**Au g/t**	%	gram	%	**Au g/t**	%	From Au available in size fraction	From total Au avail. in this stage
28	600										
35	425										
48	300	5.60	7.24	**48307.35**	31.4	586.4	3.33	**2.29**	0.37	99.5	**22.1**
65	212	18.4	23.8	**11648.82**	24.9	2476.7	14.1	**15.5**	10.6	84.8	**17.5**
100	150	18.5	23.9	**7427.77**	16.0	3575.6	20.3	**21.8**	21.5	63.8	**11.2**
150	106	12.6	16.3	**6494.02**	9.51	2994.8	17.0	**21.4**	17.7	56.1	**6.69**
200	75	9.50	12.3	**6571.9**	7.26	2328.7	13.2	**21.3**	13.7	55.7	**5.11**
270	53	5.60	7.24	**6723.55**	4.38	1554.4	8.83	**19.3**	8.28	55.7	**3.08**
400	38	4.30	5.56	**6721.88**	3.36	1155.8	6.56	**21.7**	6.92	53.5	**2.36**
500	25	2.10	2.72	**8470.95**	2.07	723.1	4.11	**21.1**	4.21	53.8	**1.45**
-500	-25	0.70	0.91	**13456.45**	1.09	2214.8	12.6	**27.4**	16.7	13.4	**0.77**
Total		77.3	100.0	**11129.31**	100.0	17,610.4	100.0	**20.6**	100.0		**70.4**

Stage 3: Metallurgical Balance

		Concentrate 3				Tailing 3					
Size		Conc 3 Mass		**Assay**	Au Dist.	Tail 3 Mass		**Assay**	Au Dist.	% Au Recovery	
Mesh	(µm)	gram	%	**Au g/t**	%	gram	%	**Au g/t**	%	From Au available in size fraction	From total Au avail. in this stage
65	212										
100	150	2.20	2.82	**6088.10**	7.52					100.0	**4.17**
150	106	6.20	7.96	**6066.29**	21.1	706.2	4.03	**12.1**	5.97	81.5	**11.7**
200	75	19.3	24.8	**2197.10**	23.8	3,299.3	18.8	**6.66**	15.4	65.9	**13.2**
270	53	19.2	24.6	**1568.09**	16.9	3,033.0	17.3	**5.93**	12.6	62.6	**9.37**
400	38	15.8	20.3	**1318.52**	11.7	2,836.2	16.2	**5.96**	11.8	55.2	**6.49**
500	25	8.60	11.0	**1709.95**	8.26	1,794.3	10.2	**5.74**	7.20	58.8	**4.58**
-500	-25	6.60	8.47	**2885.43**	10.7	5,863.5	33.4	**11.5**	47.1	22.0	**5.93**
Total		77.9	100.0	**2286.24**	100.0	**17532.5**	100	**8.16**	100.0		**55.4**

Test: E-GRG-1 **Project No.: 14196-002** **Technician:** Fraser Date: 07-Jul-14

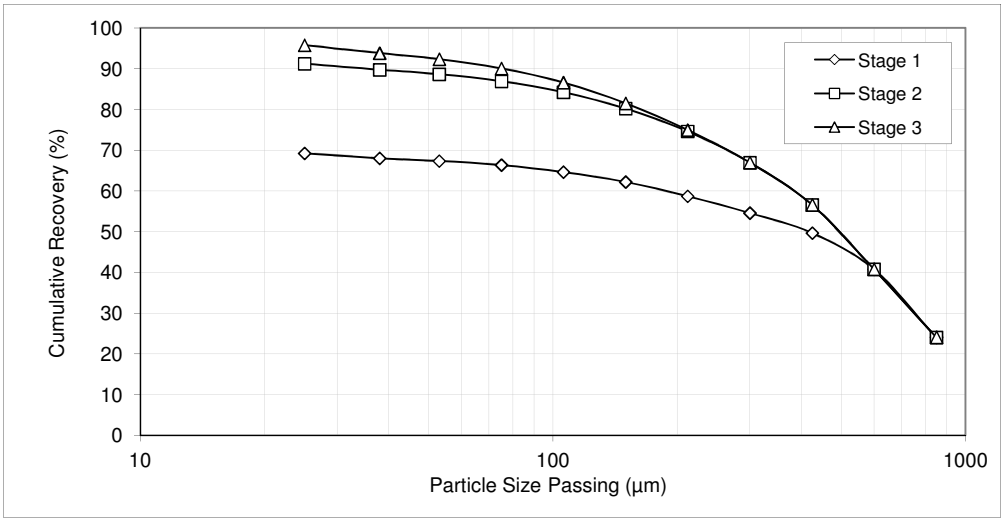
Sample: BS-3A13-03

Overall Metallurgical Balance

Size		Units of Au				Units Lost to Sampling	
Mesh	(µm)	Conc 1	Conc 2	Conc 3	Tail 3	Tail 1	Tail 2
28	600	942,841	0	0	0	2396	0
35	425	653,226	0	0	0	3754	0
48	300	348,397	270,521	0	0	3110	24
65	212	191,631	214,338	0	0	2200	674
100	150	161,414	137,414	13,394	0	1486	1369
150	106	136,971	81,825	37,611	8,545	866	1126
200	75	94,688	62,433	42,404	21,973	589	871
270	53	67,478	37,652	30,107	17,986	326	527
400	38	39,559	28,904	20,833	16,904	255	441
500	25	25,092	17,789	14,706	10,300	154	268
-500	-25	47,962	9,420	19,044	67,430	850	1066
Total		2,709,260	860,295	178,098	143,137	15987	6365

Total units of Au in Feed	3,913,142
Feed Grade (g/t Au)	**212.5**

Size		Overall Recoveries			Incremental Au Rec	Cumulative Recovery (GRG)		
Mesh	(µm)	Stage 1	Stage 2	Stage 3	**Fraction**	**Stage 1**	**Stage 2**	**Stage 3**
	850							
28	600	24.1	0.00	0.00	**24.1**	**24.1**	**24.1**	**24.1**
35	425	16.7	0.00	0.00	**16.7**	**40.8**	**40.8**	**40.8**
48	300	8.90	6.91	0.00	**15.8**	**49.7**	**56.6**	**56.6**
65	212	4.90	5.48	0.00	**10.4**	**54.6**	**67.0**	**67.0**
100	150	4.12	3.51	0.34	**7.98**	**58.7**	**74.6**	**75.0**
150	106	3.50	2.09	0.96	**6.55**	**62.2**	**80.2**	**81.5**
200	75	2.42	1.60	1.08	**5.10**	**64.6**	**84.2**	**86.6**
270	53	1.72	0.96	0.77	**3.46**	**66.4**	**86.9**	**90.1**
400	38	1.01	0.74	0.53	**2.28**	**67.4**	**88.7**	**92.3**
500	25	0.64	0.45	0.38	**1.47**	**68.0**	**89.8**	**93.8**
-500	-25	1.23	0.24	0.49	**1.95**	**69.2**	**91.2**	**95.8**
Total		69.2	22.0	4.55	**95.8**			



Test: E-GRG2 **Project No.: 14196-002** **Technician:** Fraser Date: 21-Jul-14

Sample: BS-3A13-02

Purpose: To determine the gravity-recoverable gold number (GRG) applying the standard E-GRG procedure to the sample **BS-3A13-02**

Procedure: For stage 1, 20-kg of -20 mesh sample was passed through the Knelson concentrator, collecting a concentrate and tailing sample. The Knelson concentrate and tailing samples were filtered and submitted for size-fraction analysis for Au. The remainder of the tail was decanted to ~65% solids, and ground in Rod Mill for 28 minutes. For stage 2, the gravity separation, sampling, and size-fractional assaying procedure was repeated. Stage 2 Knelson tail was split into two equal parts and each part ground at ~65% solids in the Rod Mill for 67 minutes. Stage 3 gravity separation was performed as per the above stages repeating the gravity separation, sampling, and size-fractional assaying procedure.

Feed: 20-kg -20 mesh Sample BS-3A13-02

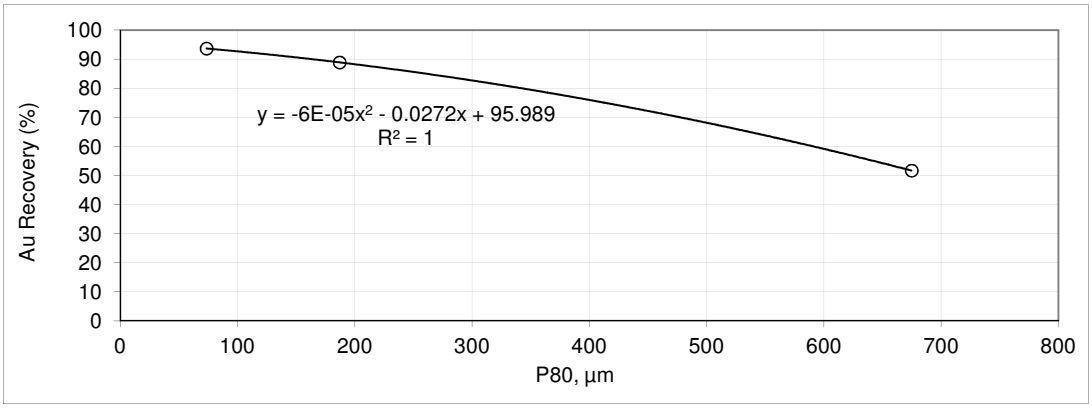
Grind:

Stage 1:	no grind. (100% passing 20 mesh)	P_{80} =	675 µm
Stage 2:	28 min @ 65% solids in Rod Mill	P_{80} =	187 µm
Stage 3:	67 min @ 65% solids in Rod Mill	P_{80} =	74 µm
	total = 95 minutes		

Metallurgical Balance:

Grind Size	Product	Mass		Assay	Units	Dist'n
		grams	%	Au (g/t)	Au	%
P_{80} = 675 µm	Stage 1 Conc	78.2	0.41	1,321.8	103,361	**51.7**
	Sampled Tails	302.3	1.59	4.44	1,342	**0.67**
P_{80} = 187 µm	Stage 2 Conc	75.0	0.39	992.0	74,400	**37.2**
	Sampled Tails	298.4	1.57	1.28	381	**0.19**
P_{80} = 74 µm	Stage 3 Conc	70.5	0.37	135.4	9,547	**4.8**
	Final Tails	18,229.5	95.7	0.60	10,921	**5.5**
	Totals (Head)	19,053.9	100.0	**10.5**	199,953	**100.0**
	Direct Head			**10.5**		
	Knelson Conc	223.7	1.17	837.3	187,309	**93.7**

GRG Number =93.7



Test: E-GRG2 **Project No.: 14196-002** **Technician:** Fraser Date: 21-Jul-14

Sample: BS-3A13-02

Stage 1: Metallurgical Balance

		Concentrate 1				Tailing 1					
Size		Conc 1 Mass		**Assay**	Au Dist.	Tail 1 Mass		**Assay**	Au Dist.	% Au Recovery	
Mesh	(µm)	gram	%	**Au g/t**	%	gram	%	**Au g/t**	%	From Au available in size fraction	From total Au avail. in this stage
28	600	20.9	26.7	**1,106.40**	22.4	5,124.1	27.9	**2.10**	13.2	68.2	**12.5**
35	425	14.4	18.4	**859.93**	12.0	3,890.2	21.2	**9.19**	43.8	25.7	**6.70**
48	300	12.0	15.3	**1089.46**	12.6	2,771.7	15.1	**3.62**	12.3	56.6	**7.07**
65	212	9.40	12.0	**1024.06**	9.31	1,841.8	10.0	**2.98**	6.73	63.7	**5.20**
100	150	7.80	9.97	**1342.46**	10.1	1,501.4	8.17	**2.25**	4.14	75.6	**5.66**
150	106	5.40	6.91	**1816.47**	9.49	1,039.4	5.66	**3.49**	4.45	73.0	**5.30**
200	75	3.80	4.86	**1656.0**	6.09	747.6	4.07	**1.93**	1.77	81.3	**3.40**
270	53	2.40	3.07	**1989.67**	4.62	498.4	2.71	**1.54**	0.94	86.2	**2.58**
400	38	1.30	1.66	**3698.41**	4.65	370.8	2.02	**4.51**	2.05	74.2	**2.60**
-400	-38	0.80	1.02	**11248.61**	8.71	589.6	3.21	**14.7**	10.6	50.94	**4.87**
Total		78.2	100.0	**1,321.76**	100.0	18,375.0	100.0	**4.44**	100.0		**55.9**

Stage 2: Metallurgical Balance

		Concentrate 2				Tailing 2					
Size		Conc 2 Mass		**Assay**	Au Dist.	Tail 2 Mass		**Assay**	Au Dist.	% Au Recovery	
Mesh	(µm)	gram	%	**Au g/t**	%	gram	%	**Au g/t**	%	From Au available in size fraction	From total Au avail. in this stage
28	600										
35	425										
48	300	3.00	4.00	**6675.35**	26.9	276.0	1.51	**0.10**	0.12	99.9	**20.5**
65	212	13.7	18.3	**1064.85**	19.6	1888.9	10.3	**1.14**	9.23	87.1	**14.9**
100	150	19.0	25.3	**652.69**	16.7	3734.8	20.4	**1.31**	21.0	71.7	**12.7**
150	106	14.3	19.1	**605.86**	11.6	3403.7	18.6	**1.47**	21.4	63.4	**8.86**
200	75	10.2	13.6	**619.14**	8.49	2624.8	14.3	**1.00**	11.2	70.6	**6.46**
270	53	7.10	9.47	**720.50**	6.88	1668.1	9.12	**0.82**	5.86	78.9	**5.23**
400	38	4.90	6.53	**689.92**	4.54	1410.5	7.71	**0.66**	3.99	78.4	**3.46**
500	25					717.5	3.92	**1.47**	4.52	0.00	**0.00**
-500	-25	2.80	3.73	**1396.17**	5.25	2575.7	14.1	**2.05**	22.6	42.5	**4.00**
Total		75.0	100.0	**992.00**	100.0	18,300.0	100.0	**1.28**	100.0		**76.1**

Stage 3: Metallurgical Balance

		Concentrate 3				Tailing 3					
Size		Conc 3 Mass		**Assay**	Au Dist.	Tail 3 Mass		**Assay**	Au Dist.	% Au Recovery	
Mesh	(µm)	gram	%	**Au g/t**	%	gram	%	**Au g/t**	%	From Au available in size fraction	From total Au avail. in this stage
65	212										
100	150										
150	106	4.40	6.24	**264.39**	12.2	561.0	3.08	**0.34**	1.75	85.9	**5.68**
200	75	13.7	19.4	**129.92**	18.6	2,876.1	15.8	**0.45**	11.9	57.9	**8.70**
270	53	17.9	25.4	**92.01**	17.3	3,337.7	18.3	**0.47**	14.4	51.2	**8.05**
400	38	15.6	22.1	**98.78**	16.1	3,096.2	17.0	**0.49**	13.9	50.4	**7.53**
500	25	9.90	14.0	**118.49**	12.3	1,945.8	10.7	**0.66**	11.8	47.7	**5.73**
-500	-25	9.00	12.8	**249.24**	23.5	6,412.6	35.2	**0.79**	46.4	30.7	**11.0**
Total		70.5	100.0	**135.42**	100.0	**18229.5**	100.0	**0.60**	100.0		**46.6**

Test: E-GRG2 **Project No.: 14196-002** **Technician:** Fraser Date: 21-Jul-14

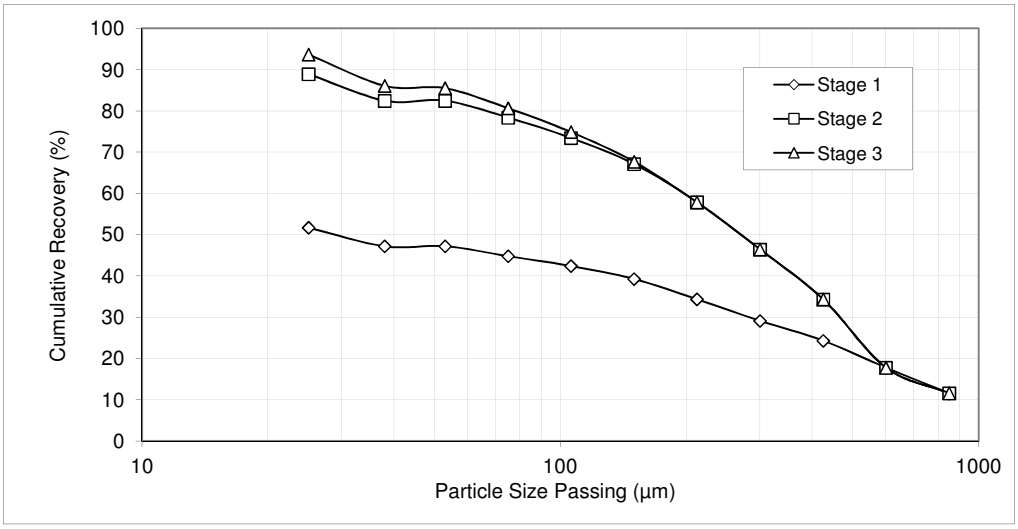
Sample: BS-3A13-02

Overall Metallurgical Balance

Size		Units of Au				Units Lost to Sampling	
Mesh	(µm)	Conc 1	Conc 2	Conc 3	Tail 3	Tail 1	Tail 2
28	600	23,124	0	0	0	177	0
35	425	12,383	0	0	0	588	0
48	300	13,074	20,026	0	0	165	0
65	212	9,626	14,588	0	0	90	35
100	150	10,471	12,401	0	0	56	80
150	106	9,809	8,664	1,163	191	60	82
200	75	6,293	6,315	1,780	1,294	24	43
270	53	4,775	5,116	1,647	1,569	13	22
400	38	4,808	3,381	1,541	1,517	28	15
500	25	0	0	1,173	1,284	0	17
-500	-25	8,999	3,909	2,243	5,066	143	86
Total		103,361	74,400	9,547	10,921	1342	381

Total units of Au in Feed	199,953
Feed Grade (g/t Au)	**10.5**

Size		Overall Recoveries			Increment-al Au Rec	Cumulative Recovery (GRG)		
Mesh	(µm)	Stage 1	Stage 2	Stage 3	**Fraction**	**Stage 1**	**Stage 2**	**Stage 3**
	850							
28	600	11.6	0.00	0.00	**11.6**	**11.6**	**11.6**	**11.6**
35	425	6.19	0.00	0.00	**6.19**	**17.8**	**17.8**	**17.8**
48	300	6.54	10.0	0.00	**16.6**	**24.3**	**34.3**	**34.3**
65	212	4.81	7.30	0.00	**12.1**	**29.1**	**46.4**	**46.4**
100	150	5.24	6.20	0.00	**11.4**	**34.3**	**57.9**	**57.9**
150	106	4.91	4.33	0.58	**9.82**	**39.3**	**67.1**	**67.7**
200	75	3.15	3.16	0.89	**7.20**	**42.4**	**73.4**	**74.9**
270	53	2.39	2.56	0.82	**5.77**	**44.8**	**78.4**	**80.6**
400	38	2.40	1.69	0.77	**4.87**	**47.2**	**82.4**	**85.5**
500	25	0.00	0.00	0.59	**0.59**	**47.2**	**82.4**	**86.1**
-500	-25	4.50	1.96	1.12	**7.58**	**51.7**	**88.9**	**93.7**
Total		51.7	37.2	4.77	**93.7**			



Test: E-GRG3 **Project No.: 14196-002** **Technician:** Fraser Date: 01-Aug-14

Sample: BS-3A13-01

Purpose: To determine the gravity-recoverable gold number (GRG) applying the standard E-GRG procedure to the sample **BS-3A13-01**

Procedure: For stage 1, 20-kg of -20 mesh sample was passed through the Knelson concentrator, collecting a concentrate and tailing sample. The Knelson concentrate and tailing samples were filtered and submitted for size-fraction analysis for Au. The remainder of the tail was decanted to ~65% solids, and ground in Rod Mill for 27 minutes. For stage 2, the gravity separation, sampling, and size-fractional assaying procedure was repeated. Stage 2 Knelson tail was split into two equal parts and each part ground at ~65% solids in the Rod Mill for 68 minutes. Stage 3 gravity separation was performed as per the above stages repeating the gravity separation, sampling, and size-fractional assaying procedure.

Feed: 20-kg -20 mesh Sample BS-3A13-01

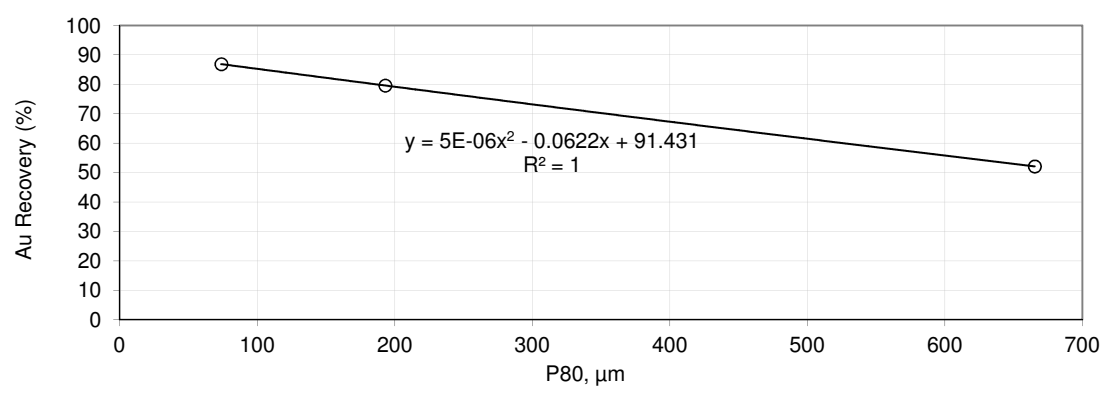
Grind:

Stage 1:	no grind. (100% passing 20 mesh)	P_{80} =	665 µm
Stage 2:	27 min @ 65% solids in Rod Mill	P_{80} =	193 µm
Stage 3:	68 min @ 65% solids in Rod Mill	P_{80} =	74 µm
	total = 95 minutes		

Metallurgical Balance:

Grind Size	Product	Mass grams	Mass %	Assay Au (g/t)	Units Au	Dist'n %
P_{80} = 665 µm	Stage 1 Conc	90.9	0.47	196.3	17,845	**52.1**
	Sampled Tails	302.0	1.57	0.48	145	**0.42**
P_{80} = 193 µm	Stage 2 Conc	78.6	0.41	119.7	9,410	**27.5**
	Sampled Tails	230.4	1.20	0.37	84	**0.25**
P_{80} = 74 µm	Stage 3 Conc	83.6	0.44	29.8	2,489	**7.27**
	Final Tails	18,393	95.9	0.23	4,267	**12.5**
	Totals (Head)	19,179	100.0	**1.79**	34,241	**100.0**
	Direct Head			**1.61**		
	Knelson Conc	253.1	1.32	117.5	29,744	**86.9**

GRG Number =86.9



Test: E-GRG3 **Project No.: 14196-002** **Technician:** Fraser Date: 01-Aug-14

Sample: BS-3A13-01

Stage 1: Metallurgical Balance

Size		Concentrate 1				Tailing 1				% Au Recovery	
		Conc 1 Mass		**Assay**	Au Dist.	Tail 1 Mass		**Assay**	Au Dist.		
Mesh	(µm)	gram	%	**Au g/t**	%	gram	%	**Au g/t**	%	From Au available in size fraction	From total Au avail. in this stage
28	600	23.5	25.9	**284.94**	37.5	4,933.8	26.6	**0.17**	9.38	88.9	**25.0**
35	425	20.4	22.4	**80.74**	9.23	3,901.6	21.0	**0.42**	18.3	50.1	**6.15**
48	300	15.4	16.9	**119.08**	10.3	2,703.5	14.6	**0.36**	10.9	65.3	**6.85**
65	212	11.4	12.5	**193.73**	12.4	2,076.7	11.2	**0.58**	13.5	64.7	**8.25**
100	150	7.60	8.36	**221.13**	9.42	1,554.5	8.38	**0.60**	10.4	64.3	**6.27**
150	106	4.60	5.06	**35.43**	0.91	1,099.8	5.93	**0.64**	7.88	18.8	**0.61**
200	75	3.60	3.96	**278.27**	5.61	835.61	4.50	**0.60**	5.61	66.6	**3.74**
270	53	1.80	1.98	**311.8**	3.15	516.11	2.78	**0.64**	3.70	63.0	**2.10**
400	38	1.30	1.43	**434.44**	3.16	405.52	2.19	**0.69**	3.13	66.9	**2.11**
500	25				0.00	196.61	1.06	**1.46**	3.21	0.00	**0.00**
-500	-25	1.30	1.43	**1144.68**	8.34	331.79	1.79	**3.76**	14.0	54.4	**5.56**
Total		90.9	100.0	**196.3**	100.0	18,555.5	100.0	**0.48**	100.0		**66.6**

Stage 2: Metallurgical Balance

Size		Concentrate 2				Tailing 2				% Au Recovery	
		Conc 2 Mass		**Assay**	Au Dist.	Tail 2 Mass		**Assay**	Au Dist.		
Mesh	(µm)	gram	%	**Au g/t**	%	gram	%	**Au g/t**	%	From Au available in size fraction	From total Au avail. in this stage
28	600										
35	425										
48	300	5.30	6.74	**442.97**	24.9	417.0	2.26	**0.08**	0.49	98.6	**14.5**
65	212	17.2	21.9	**146.35**	26.8	2173.3	11.8	**0.17**	5.45	87.2	**15.6**
100	150	19.4	24.7	**78.94**	16.3	3705.0	20.1	**0.46**	25.2	47.3	**9.46**
150	106	13.8	17.6	**67.35**	9.88	3280.0	17.8	**0.21**	10.2	57.4	**5.74**
200	75	10.2	13.0	**60.08**	6.51	2590.3	14.0	**0.22**	8.41	51.8	**3.79**
270	53	6.10	7.76	**38.52**	2.50	1692.1	9.16	**0.41**	10.2	25.3	**1.45**
400	38	3.80	4.83	**106.60**	4.30	1411.4	7.64	**0.26**	5.42	52.5	**2.50**
500	25	1.80	2.29	**182.89**	3.50	810.0	4.38	**0.47**	5.62	46.4	**2.03**
-500	-25	1.00	1.27	**502.20**	5.34	2397.8	13.0	**0.82**	29.0	20.3	**3.10**
Total		78.6	100.0	**119.72**	100.0	18,476.9	100.0	**0.37**	100.0		**58.1**

Stage 3: Metallurgical Balance

Size		Concentrate 3				Tailing 3				% Au Recovery	
		Conc 3 Mass		**Assay**	Au Dist.	Tail 3 Mass		**Assay**	Au Dist.		
Mesh	(µm)	gram	%	**Au g/t**	%	gram	%	**Au g/t**	%	From Au available in size fraction	From total Au avail. in this stage
65	212										
100	150	3.90	4.67	**91.62**	14.4					100.0	**5.29**
150	106	5.30	6.34	**20.23**	4.31	491.9	2.67	**0.14**	1.61	60.9	**1.59**
200	75	16.2	19.4	**21.33**	13.9	3,014.1	16.4	**0.18**	12.7	38.9	**5.11**
270	53	21.7	26.0	**20.51**	17.9	3,254.3	17.7	**0.12**	9.15	53.3	**6.59**
400	38	18.5	22.1	**23.97**	17.8	3,208.5	17.4	**0.14**	10.5	49.7	**6.56**
500	25	11.1	13.3	**27.27**	12.2	2,041.8	11.1	**0.16**	7.66	48.1	**4.48**
-500	-25	6.90	8.25	**70.64**	19.6	6,382.7	34.7	**0.39**	58.3	16.4	**7.21**
Total		83.6	100.0	**29.77**	100.0	**18393.3**	100.0	**0.23**	100.0		**36.8**

Test: E-GRG3 **Project No.: 14196-002** **Technician:** Fraser Date: 01-Aug-14

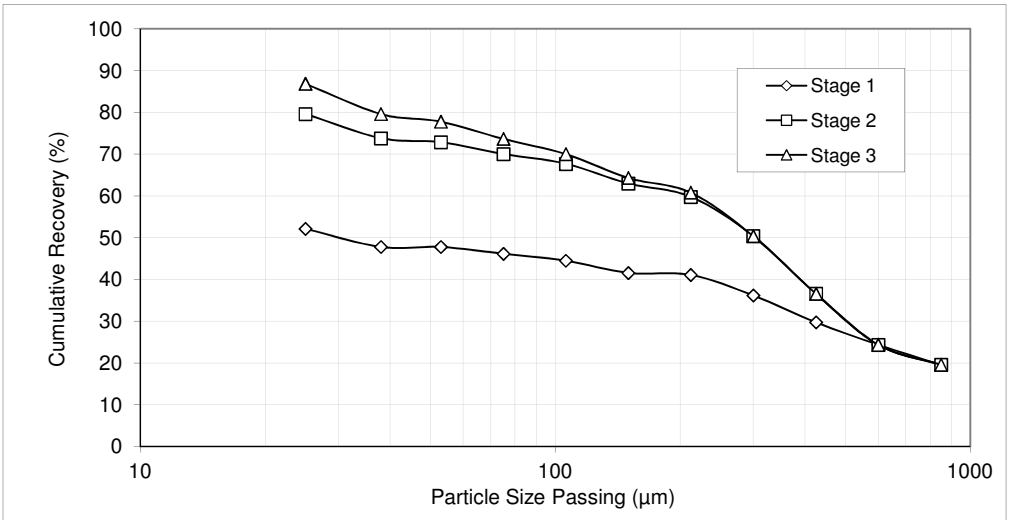
Sample: BS-3A13-01

Overall Metallurgical Balance

Size		Units of Au				Units Lost to Sampling	
Mesh	(µm)	Conc 1	Conc 2	Conc 3	Tail 3	Tail 1	Tail 2
28	600	6,696	0	0	0	14	0
35	425	1,647	0	0	0	27	0
48	300	1,834	2,348	0	0	16	0
65	212	2,209	2,517	0	0	20	5
100	150	1,681	1,531	357	0	15	21
150	106	163	929	107	69	11	9
200	75	1,002	613	346	543	8	7
270	53	561	235	445	391	5	9
400	38	565	405	443	449	5	5
500	25	0	329	303	327	5	5
-500	-25	1,488	502	487	2,489	20	25
Total		17,845	9,410	2,489	4,267	145	84

Total units of Au in Feed	34,241
Feed Grade (g/t Au)	**1.79**

Size		Overall Recoveries			Increment-al Au Rec	Cumulative Recovery (GRG)		
Mesh	(µm)	Stage 1	Stage 2	Stage 3	**Fraction**	**Stage 1**	**Stage 2**	**Stage 3**
	850							
28	600	19.6	0.00	0.00	**19.6**	**19.6**	**19.6**	**19.6**
35	425	4.81	0.00	0.00	**4.81**	**24.4**	**24.4**	**24.4**
48	300	5.36	6.86	0.00	**12.2**	**29.7**	**36.6**	**36.6**
65	212	6.45	7.35	0.00	**13.8**	**36.2**	**50.4**	**50.4**
100	150	4.91	4.47	1.04	**10.4**	**41.1**	**59.8**	**60.8**
150	106	0.48	2.71	0.31	**3.50**	**41.6**	**63.0**	**64.3**
200	75	2.93	1.79	1.01	**5.72**	**44.5**	**67.7**	**70.0**
270	53	1.64	0.69	1.30	**3.63**	**46.1**	**70.0**	**73.7**
400	38	1.65	1.18	1.30	**4.13**	**47.8**	**72.8**	**77.8**
500	25	0.00	0.96	0.88	**1.85**	**47.8**	**73.8**	**79.6**
-500	-25	4.35	1.47	1.42	**7.24**	**52.1**	**79.6**	**86.9**
Total		52.1	27.5	7.27	**86.9**			



Appendix D – Gravity Tests

SGS

Test No: GR-1 **Project No.:14196-002** **Operator:** Fraser **Date:** 10-Sep-14

Sample: BS-3A13-03

Purpose: To investigate gravity concentration of gold by Knelson and to produce gravity tails for CIL and environmental tes

Procedure: 10-kg laboratory Rod Mill was used to grind the feed for Knelson
530 kg sample (BS-3A13-03) was passed through the Knelson, collecting a concentrate, and a tailing.
The approach is two passes through the Knelson
The Knelson concentrate was submitted for gold and silver analysis to extinction.
The Knelson tails were sampled for assay in triplicate for Au and Ag. Split tails for PSA.
Wet split the Knelson tails for CN tests (Wet split into 10 and 1 kg charges)

Feed: 530 kg minus 10 mesh

Grind: 40 minutes / 10-kg at 65% solids in laboratory rod mill

Target K_{80} = 200 µm

Tails K_{80} = 191 µm

Metallurgical Balance

Test: GR-1 Composite: BS-3A13-03						
Product	Weight		Grade		Distribution	
			Au	Ag	Au	Ag
	g	%	g/t	g/t	%	%
Knelson Concentrate	1272.0	0.24	85590.7	239	78.9	10.0
Knelson Tails	528728	99.8	55.1	5.20	21.1	90.0
Cal. Head	530000	100.0	260.4	5.76	100.0	100.0
Direct Head			232.7	23.9		

Assay for: Au, Ag **Products:** Knelson Conc.
Knelson Tails in triplicate

PSA on final Tail

	Ag	Au
A	4.2	48.4
B	5.4	53.1
C	6.1	63.9
Ave.	5.2	55.1

SGS

Test No: GR-2 **Project No.:14196-002** **Operator:** Fraser **Date:**
Sample: BS-3A13-02
Purpose: To investigate gravity concentration of gold by Knelson and to produce gravity tails for CIL and environmenta
Procedure: 10-kg laboratory Rod Mill was used to grind the feed for Knelson
800 kg sample (BS-3A13-02) was passed through the Knelson, collecting a concentrate, and a tailing.
The Knelson concentrate was submitted for gold and silver analysis to extinction.
The Knelson tails were sampled for assay in triplicate for Au and Ag. Split tails for PSA.
Wet split the Knelson tails for CN tests (Wet split into 10 and 1 kg charges)
Feed: 730 kg minus 10 mesh
Grind: 40 minutes / 10-kg at 65% solids in laboratory rod mill

Target K_{80} = 200 µm
Tails K_{80} = 183 µm

Metallurgical Balance

Test: GR-1 Composite: BS-3A13-03						
Product	Weight		Grade		Distribution	
			Au	Ag	Au	Ag
	g	%	g/t	g/t	%	%
Knelson Concentrate	1226.4	0.17	6925.0	640	88.5	67.0
Knelson Tails	728774	99.8	1.52	0.53	11.5	33.0
Cal. Head	730000	100.0	13.2	1.6	100.0	100.0
Direct Head			10.5	<1		

Assay for: Au, Ag **Products:** Knelson Conc.
Knelson Tails in triplicate

PSA on final Tail

	Ag	Au
A	0.70	1.52
B	0.50	1.54
C	0.40	1.49
Ave.	0.53	1.52

SGS

Test No: GR-3 **Project No.:14196-002** **Operator:** Fraser **Date:**

Sample: BS-3A13-01

Purpose: To investigate gravity concentration of gold by Knelson and to produce gravity tails for CIL and environmenta

Procedure: 10-kg laboratory Rod Mill was used to grind the feed for Knelson
800 kg sample (BS-3A13-01) was passed through the Knelson, collecting a concentrate, and a tailing.
The Knelson concentrate was submitted for gold and silver analysis to extinction.
The Knelson tails were sampled for assay in triplicate for Au and Ag. Split tails for PSA.
Wet split the Knelson tails for CN tests (Wet split into 10 and 1 kg charges)

Feed: 800 kg minus 10 mesh

Grind: 40 minutes / 10-kg at 65% solids in laboratory rod mill

Target K_{80} = 200 µm

Tails K_{80} = 186 µm

Metallurgical Balance

Test: GR-1 Composite: BS-3A13-03						
Product	**Weight**		**Grade**		**Distribution**	
			Au	**Ag**	**Au**	**Ag**
	g	**%**	**g/t**	**g/t**	**%**	**%**
Knelson Concentrate	733.6	0.09	1507.5	141.0	74.6	24.4
Knelson Tails	799266	99.9	0.47	0.40	25.4	75.6
Cal. Head	800000	100.0	1.85	0.5	100.0	100.0
Direct Head			1.61	<1		

Assay for: Au, Ag **Products:** Knelson Conc.
Knelson Tails in triplicate

PSA on final Tail

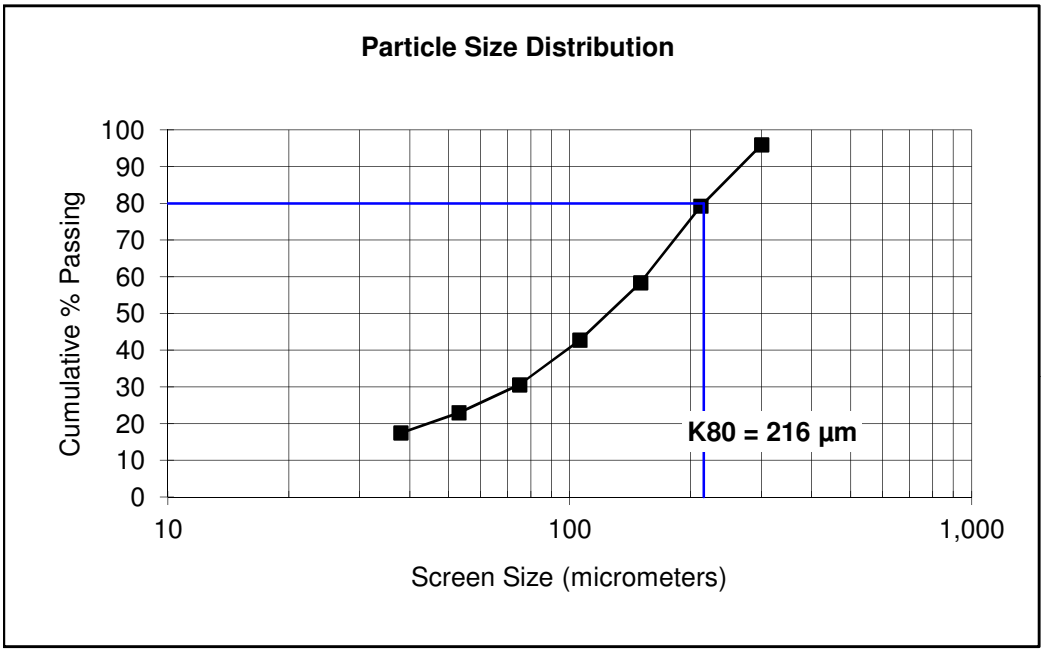
	Ag	Au
A	0.40	0.38
B	0.50	0.51
C	0.30	0.51
Ave.	0.40	0.47

SGS Minerals Services
Size Distribution Analysis

Project No.
14196-002

Sample: **10-kg BS-3A13-03** Test No.: **Grind calib. 37 min (10 kg F**

Size		Weight	% Retained		% Passing
Mesh	µm	grams	Individual	Cumulative	Cumulative
48	300	7.6	4.0	4.0	96.0
65	212	31.4	16.7	20.7	79.3
100	150	39.3	20.9	41.6	58.4
150	106	29.4	15.6	57.3	42.7
200	75	22.9	12.2	69.4	30.6
270	53	14.3	7.6	77.0	23.0
400	38	10.4	5.5	82.6	17.4
Pan	-38	32.8	17.4	100.0	0.0
Total	**-**	**188.1**	100.0	**-**	**-**
K80	**216**				

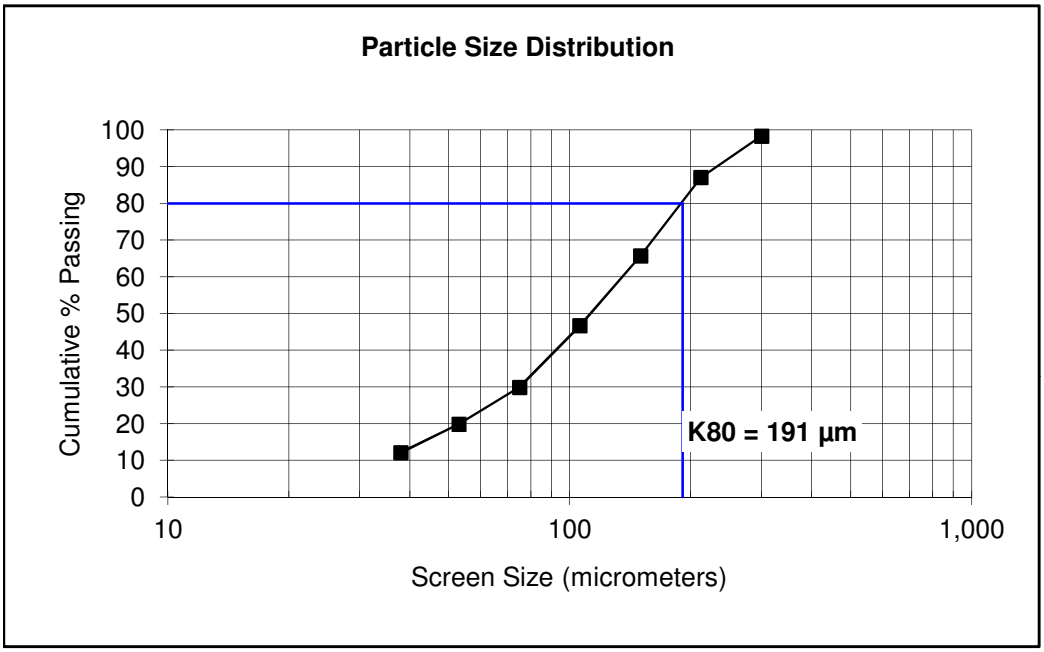


SGS Minerals Services
Size Distribution Analysis

Project No.
14196-002

Sample: **BS-3A13-03** Test No.: **GR-1 Tails**

Size		Weight	% Retained		% Passing
Mesh	µm	grams	Individual	Cumulative	Cumulative
48	300	2.4	1.7	1.7	98.3
65	212	16.3	11.3	12.9	87.1
100	150	30.9	21.4	34.3	65.7
150	106	27.5	19.0	53.3	46.7
200	75	24.3	16.8	70.1	29.9
270	53	14.5	10.0	80.2	19.8
400	38	11.2	7.7	87.9	12.1
Pan	-38	17.5	12.1	100.0	0.0
Total	**-**	**144.6**	100.0	**-**	**-**
K80	**191**				

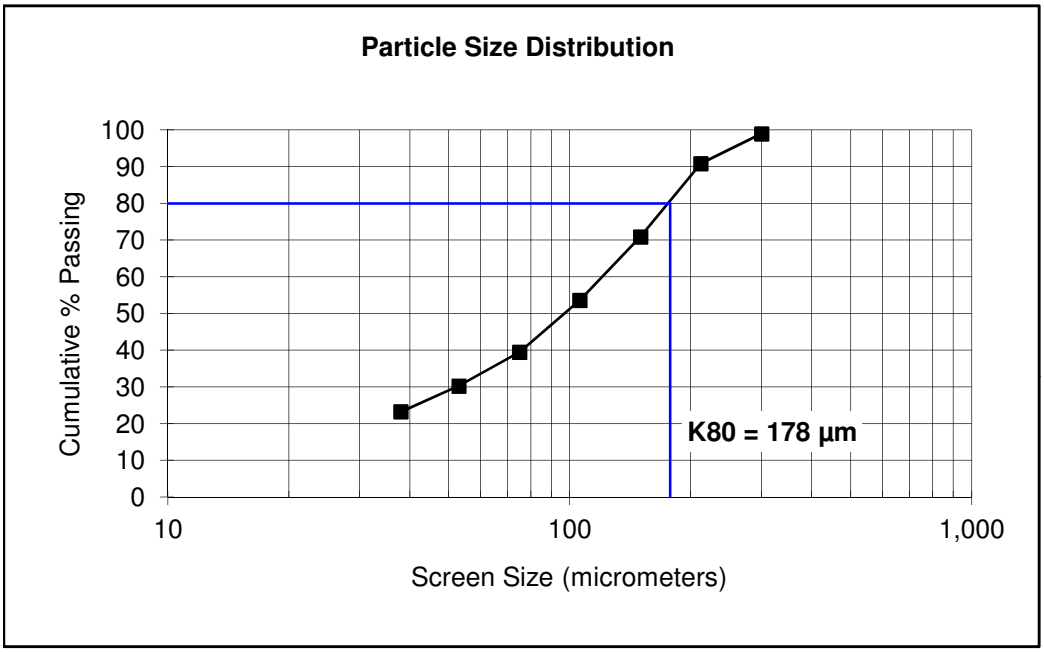


SGS Minerals Services
Size Distribution Analysis

Project No.
14196-002

Sample: **10-kg BS-3A13-02** Test No.: **Grind calib. 40 min (10 kg F**

Size		Weight	% Retained		% Passing
Mesh	µm	grams	Individual	Cumulative	Cumulative
48	300	4.6	1.1	1.1	98.9
65	212	35.1	8.1	9.2	90.8
100	150	86.4	20.0	29.1	70.9
150	106	74.7	17.3	46.4	53.6
200	75	61.3	14.2	60.6	39.4
270	53	39.7	9.2	69.8	30.2
400	38	30.4	7.0	76.8	23.2
Pan	-38	100.4	23.2	100.0	0.0
Total	**-**	**432.6**	100.0	**-**	**-**
K80	**178**				

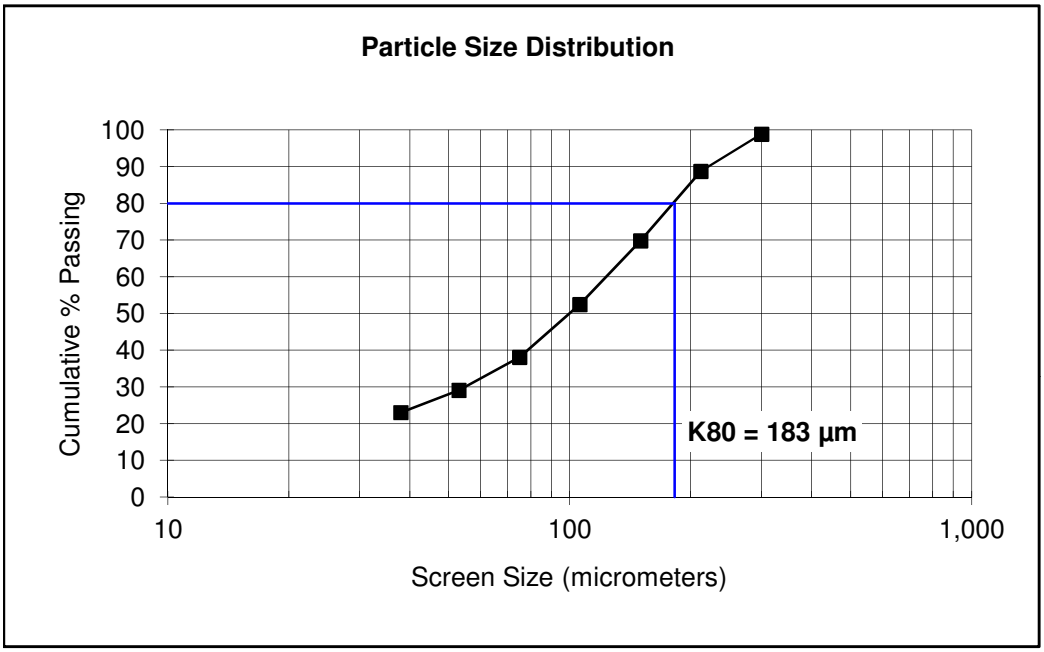


SGS Minerals Services
Size Distribution Analysis

Project No.
14196-002

Sample: **BS-3A13-02** Test No.: **GR-2 Tails**

Size		Weight	% Retained		% Passing
Mesh	µm	grams	Individual	Cumulative	Cumulative
48	300	2.3	1.1	1.1	98.9
65	212	20.4	10.1	11.3	88.7
100	150	38.2	18.9	30.2	69.8
150	106	34.9	17.3	47.5	52.5
200	75	29.1	14.4	62.0	38.0
270	53	18.1	9.0	70.9	29.1
400	38	12.2	6.1	77.0	23.0
Pan	-38	46.4	23.0	100.0	0.0
Total	**-**	**201.6**	100.0	**-**	**-**
K80	**183**				

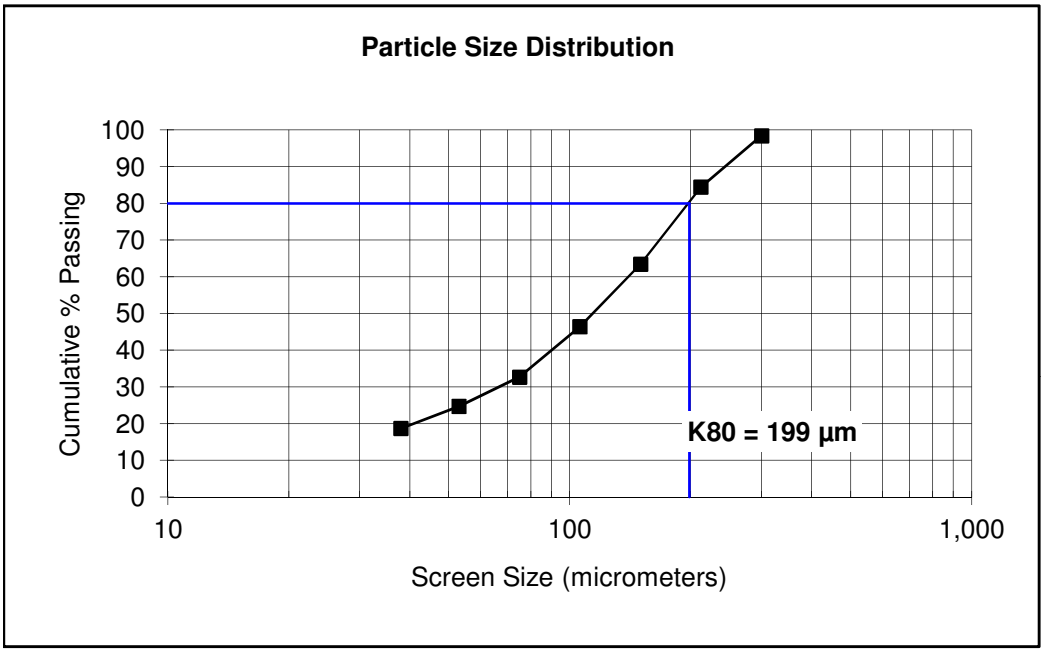


SGS Minerals Services
Size Distribution Analysis

Project No.
14196-002

Sample: **10-kg BS-3A13-01** Test No.: **Grind calib. 40 min (10 kg F**

Size		Weight	% Retained		% Passing
Mesh	µm	grams	Individual	Cumulative	Cumulative
48	300	1.2	1.6	1.6	98.4
65	212	10.7	14.0	15.6	84.4
100	150	16.1	21.0	36.6	63.4
150	106	13.0	17.0	53.6	46.4
200	75	10.5	13.7	67.3	32.7
270	53	6.1	8.0	75.3	24.7
400	38	4.6	6.0	81.3	18.7
Pan	-38	14.3	18.7	100.0	0.0
Total	**-**	**76.5**	100.0	**-**	**-**
K80	**199**				

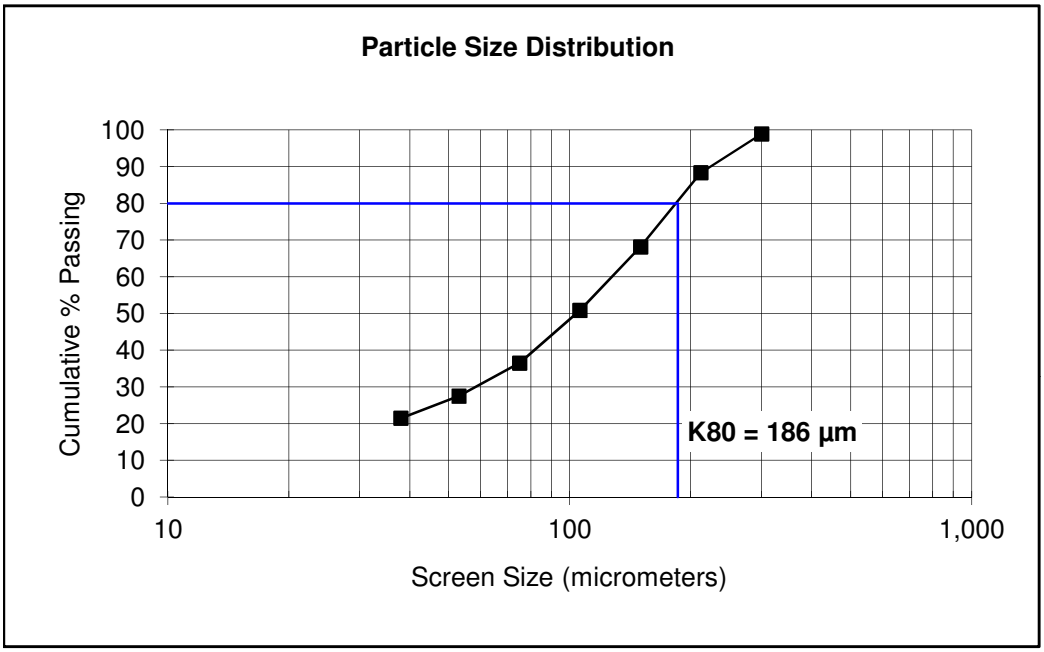


SGS Minerals Services
Size Distribution Analysis

Project No.
14196-002

Sample: **BS-3A13-01** Test No.: **knelson tail**

Size		Weight	% Retained		% Passing
Mesh	µm	grams	Individual	Cumulative	Cumulative
48	300	2.2	1.1	1.1	98.9
65	212	21.0	10.6	11.7	88.3
100	150	40.2	20.2	31.9	68.1
150	106	34.4	17.3	49.1	50.9
200	75	28.6	14.4	63.5	36.5
270	53	17.9	9.0	72.5	27.5
400	38	12.0	6.0	78.5	21.5
Pan	-38	42.7	21.5	100.0	0.0
Total	**-**	**199.0**	100.0	**-**	**-**
K80	**186**				



Appendix E – Cyanidation Tests

Test ID: CN-1 **Project:** 14196-002 **Date:** **September 16, 2014**

120

Sample ID: GR-1(BS-3A13-03) Gravity Tails

Purpose: To evaluate gold extraction by cyanide leaching.

Procedure: The ground feed sample was pulped to 40% solids. The pulp was brought to a pH range of 10.5-11 with lime. Then, 0.5 g/L of cyanide was added and the pulp was agitated. NaCN, pH and DO were monitored over the duration of the test. Intermittent solution samples were removed for Au and Ag assay. At 48h, the termination of the test, the pulp was filtered and the residue washed with fresh water. The final leach solution and the residue were submitted for Au and Ag analysis.

Feed: 1,000 g of GR-1(BS-3A13-03) Gravity Tails
Pulp Density: 40% solids
Solution Volume: 1,500 mL
Target Bottle Weight: 3,512 g

pH Range: 10.5 - 11 maintained with lime as required.
$Pb(NO_3)_2$ Concentration: 0 g/t
Cyanide Concentration: 0.50 g/L maintained
Target Additon: 0.76 g
Cyanide Purity: 98.9%

Grind: 1 kg for 25 min in #2 Rod mill at 50 % solids

Target K_{80} = 75 µm
Actual K_{80} = 77 µm

PSA on Residue: Y
Duplicate Residue Assay: N

Bottle #: 1
Bottle Tare: 1012 g

Time (h)	Added (g)				Residual (g)		Consumed (g)		pH	$D.O_2$	Air/ O2	Intermittent Weight (g)	$AgNO_3$		$H_2C_2O_4$
	Actual		Equivalent										Titration (mL)	C.F.	Titration (mL)
	NaCN	$Ca(OH)_2$	NaCN	CaO	NaCN	CaO	NaCN	CaO							
									9.4						
0-2	0.76	0.29	0.75	0.21	0.77	0.00	0.00		10.9	2.9		3515	1.06	1.05	
2-8	0.00	0.16	0.00	0.12	0.63	0.00	0.00		10.9	7.4		3512	0.88	1.05	
8-24	0.29	0.20	0.29	0.14	0.94	0.00	0.00		10.9	7.7		3513	1.30	1.05	
24-48	0.00	0.28	0.00	0.21	0.88	0.13	0.00	0.08	10.9	8.6		3514	1.22	1.05	0.96
Total	**1.05**	**0.92**	**1.04**	**0.68**	**0.88**	**0.13**	**0.16**	**0.55**							
Total (kg/t of sample feed)			**0.92**	**0.61**			**0.14**	**0.49**							

Cyanidation Results:

Product	Amount (g, mL)	Assays, mg/L, g/t, %			Sample (mg)			Total (mg)				**% Extraction**		
		Au	**Ag**		**Au**	**Ag**		**Au**	**Ag**			**Au**	**Ag**	
2hr PLS	1377	19.2	2.10		0.769	0.084		26.5	2.89			54.1	56.8	
8hr PLS	1374	25.4	2.79		1.017	0.112		35.7	3.84			72.9	75.3	
24hr PLS	1375	29.4	3.21		1.177	0.128		42.2	4.41			86.3	86.7	
48hr PLS	1376	29.9	3.13		1.197	0.125		44.2	4.31			90.2	84.5	
Residue	1,126	0.55	0.70					4.78	0.79			9.77	15.5	
Head (calc.)	1126	43.5	4.52											
Head (direct)		55.1	5.20											

SGS Vancouver Metallurgy

Test ID: CN-2 **Project:** 14196-002 **Date:** October 8, 2014

Sample ID: GR-2(BS-3A13-02) Gravity Tails

Purpose: To evaluate gold extraction by cyanide leaching.

Procedure: The ground feed sample was pulped to 40% solids. The pulp was brought to a pH range of 10.5-11 with lime. Then, 0.5 g/L of cyanide was added and the pulp was agitated. NaCN, pH and DO were monitored over the duration of the test. Intermittent solution samples were removed for Au and Ag assay. At 48h, the termination of the test, the pulp was filtered and the residue washed with fresh water. The final leach solution and the residue were submitted for Au and Ag analysis.

Feed: 1,000 g of GR-2(BS-3A13-02) Gravity Tails
Pulp Density: 40% solids
Solution Volume: 1,500 mL
Target Bottle Weight: 3,512 g

pH Range: 10.5 - 11 maintained with lime as required.
$Pb(NO_3)_2$ Concentration: 0 g/t
Cyanide Concentration: 0.50 g/L maintained
Target Additon: 0.76 g
Cyanide Purity: 98.9%

Grind: 1 kg for 25 min in #2 Rod mill at 50 % solids

Target K_{80} = 75 µm
Actual K_{80} = 82 µm

PSA on Residue: Y
Duplicate Residue Assay: N

Bottle #: 1
Bottle Tare: 1012 g

Time (h)	Added (g)				Residual (g)		Consumed (g)		pH	$D.O_2$	Air/ O2	Intermittent Weight (g)	$AgNO_3$		$H_2C_2O_4$
	Actual		Equivalent										Titration (mL)	C.F.	Titration (mL)
	NaCN	$Ca(OH)_2$	NaCN	CaO	NaCN	CaO	NaCN	CaO							
									8.7						
0-2	0.76	0.62	0.75	0.46	0.78	0.00	0.00		10.8	3.7		3514	0.96	1.05	
2-8	0.00	0.00	0.00	0.00	0.76	0.00	0.00		11.1	7.9		3512	0.93	1.05	
8-24	0.00	0.00	0.00	0.00	0.63	0.00	0.00		10.9	8.2		3512	0.78	1.05	
24-48	0.00	0.00	0.00	0.00	0.69	0.10	0.00	0.00	10.7	9.1		3511	0.85	1.05	0.65
Total	**0.76**	**0.62**	**0.75**	**0.46**	**0.69**	**0.10**	**0.06**	**0.36**							
Total (kg/t of sample feed)			**0.79**	**0.49**			**0.06**	**0.38**							

Cyanidation Results:

Product	Amount (g, mL)	Assays, mg/L, g/t, %			Sample (mg)			Total (mg)				**% Extraction**		
		Au	**Ag**		**Au**	**Ag**		**Au**	**Ag**			**Au**	**Ag**	
2hr PLS	1550	0.68	0.25		0.027	0.010		1.0	0.38			72.9	59.1	
8hr PLS	1548	0.74	0.25		0.030	0.010		1.2	0.38			82.0	59.0	
24hr PLS	1548	0.71	0.26		0.029	0.010		1.2	0.40			80.8	61.9	
48hr PLS	1547	0.74	0.27		0.030	0.011		1.2	0.41			85.4	63.3	
Residue	952	0.10	<0.3					0.21	0.24			14.6	36.7	
Head (calc.)	952	1.51	0.68											
Head (direct)		1.52	0.53											

SGS Vancouver Metallurgy

Test ID: CN-3 **Project:** 14196-002 **Date:** October 28, 2014

Sample ID: GR-3(BS-3A13-01) Gravity Tails

Purpose: To evaluate gold extraction by cyanide leaching.

Procedure: The ground feed sample was pulped to 40% solids. The pulp was brought to a pH range of 10.5-11 with lime. Then, 0.5 g/L of cyanide was added and the pulp was agitated. NaCN, pH and DO were monitored over the duration of the test. Intermittent solution samples were removed for Au and Ag assay. At 48h, the termination of the test, the pulp was filtered and the residue washed with fresh water. The final leach solution and the residue were submitted for Au and Ag analysis.

Feed: 1,000 g of GR-3(BS-3A13-01) Gravity Tails
Pulp Density: 40% solids
Solution Volume: 1,500 mL
Target Bottle Weight: 3,516 g

pH Range: 10.5 - 11 maintained with lime as required.
$Pb(NO_3)_2$ Concentration: 0 g/t
Cyanide Concentration: 0.50 g/L maintained
Target Additon: 0.76 g
Cyanide Purity: 98.9%

Grind: 1 kg for 23 min in #2 Rod mill at 50 % solids

Target K_{80} = 75 µm
Actual K_{80} = 67 µm
PSA on Residue: Y
Duplicate Residue Assay: N
Bottle #: 1
Bottle Tare: 1016 g

Time (h)	Added (g)				Residual (g)		Consumed (g)		pH	$D.O_2$	Air/ O2	Intermittent Weight (g)	$AgNO_3$		$H_2C_2O_4$
	Actual		Equivalent										Titration (mL)	C.F.	Titration (mL)
	NaCN	$Ca(OH)_2$	NaCN	CaO	NaCN	CaO	NaCN	CaO							
									8.8						
0-2	0.76	0.64	0.75	0.48	0.68	0.00	0.07		10.8	4.8		3515	0.85	1.05	
2-8	0.00	0.00	0.00	0.00	0.64	0.00	0.00		10.8	7.4		3516	0.79	1.05	
8-24	0.13	0.13	0.13	0.09	0.79	0.00	0.00		10.9	8.4		3515	0.98	1.05	
24-48	0.00	0.00	0.00	0.00	0.73	0.06	0.00	0.00	10.7	9.0		3515	0.90	1.05	0.41
Total	**0.89**	**0.77**	**0.88**	**0.57**	**0.73**	**0.06**	**0.16**	**0.51**							
Total (kg/t of sample feed)			**0.91**	**0.59**			**0.16**	**0.52**							

Cyanidation Results:

Product	Amount (g, mL)	Assays, mg/L, g/t, %			Sample (mg)			Total (mg)				**% Extraction**		
		Au	**Ag**		**Au**	**Ag**		**Au**	**Ag**			**Au**	**Ag**	
2hr PLS	1534	0.061	0.064		0.002	0.003		0.1	0.10			21.8	21.5	
8hr PLS	1535	0.131	0.113		0.005	0.005		0.2	0.17			47.4	37.9	
24hr PLS	1534	0.195	0.125		0.008	0.005		0.3	0.19			71.5	41.9	
48hr PLS	1534	0.198	0.141		0.008	0.006		0.3	0.22			74.3	47.3	
Residue	965	0.09	<0.3					0.11	0.24			25.7	52.7	
Head (calc.)	965	0.45	0.47											
Head (direct)		0.47	0.40											

SGS Vancouver Metallurgy

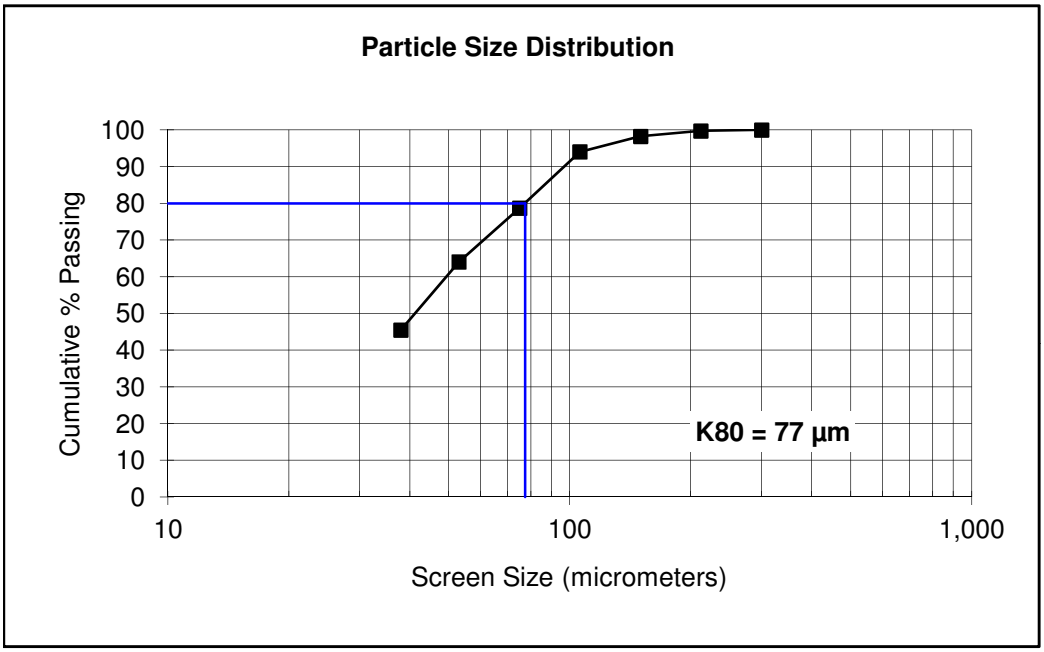
SGS Minerals Services
Size Distribution Analysis

Project No.
14196-002

Sample: **BS-3A13-03 Grav Tail**
1.27 kg

Test No.: **Grind cal. 30 min.**
Rod Mill 2@ 50%.

Size		Weight	% Retained		% Passing
Mesh	µm	grams	Individual	Cumulative	Cumulative
48	300	0.0	0.0	0.0	100.0
65	212	0.5	0.3	0.3	99.7
100	150	2.6	1.5	1.7	98.3
150	106	7.6	4.2	6.0	94.0
200	75	27.5	15.4	21.3	78.7
270	53	26.2	14.6	36.0	64.0
400	38	33.2	18.5	54.5	45.5
Pan	-38	81.4	45.5	100.0	0.0
Total	**-**	**179.0**	100.0	**-**	**-**
K80	**77**				

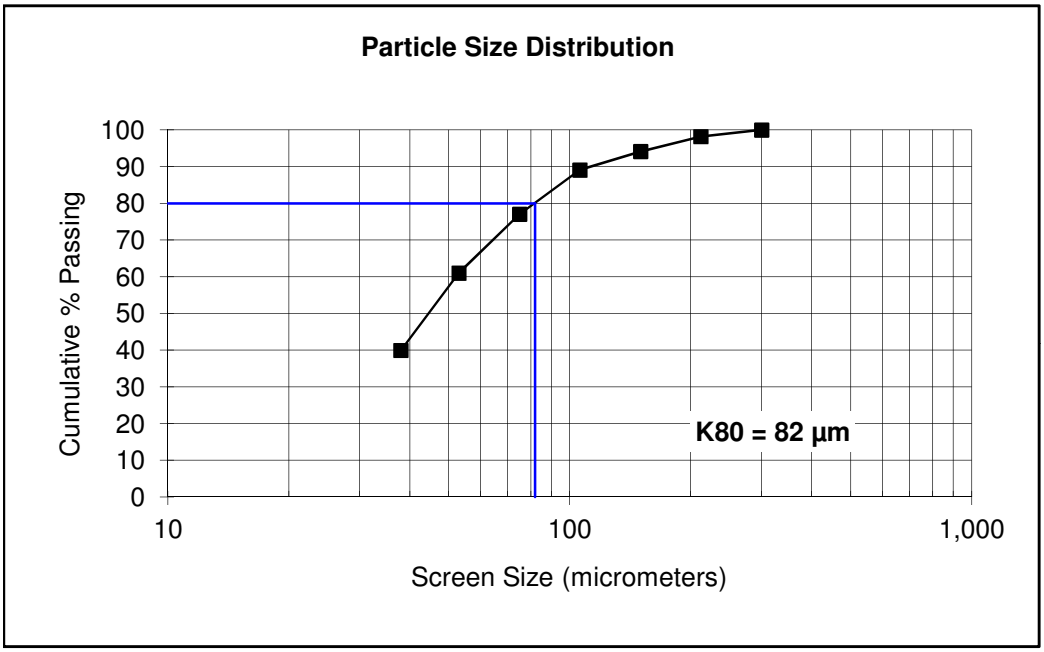


SGS Minerals Services
Size Distribution Analysis

Project No.
14196-002

Sample: **BS-3A13-02 Grav Tail** Test No.: **Grind cal. 30 min.**
Weight: **1262.5 g** **Rod Mill 2@ 50%.**

Size		Weight	% Retained		% Passing
Mesh	µm	grams	Individual	Cumulative	Cumulative
48	300	0.0	0.0	0.0	100.0
65	212	2.8	1.8	1.8	98.2
100	150	6.3	4.1	5.9	94.1
150	106	7.8	5.0	10.9	89.1
200	75	18.7	12.1	23.0	77.0
270	53	24.8	16.0	39.0	61.0
400	38	32.7	21.1	60.1	39.9
Pan	-38	61.9	39.9	100.0	0.0
Total	**-**	**155.0**	100.0	**-**	**-**
K80	**82**				

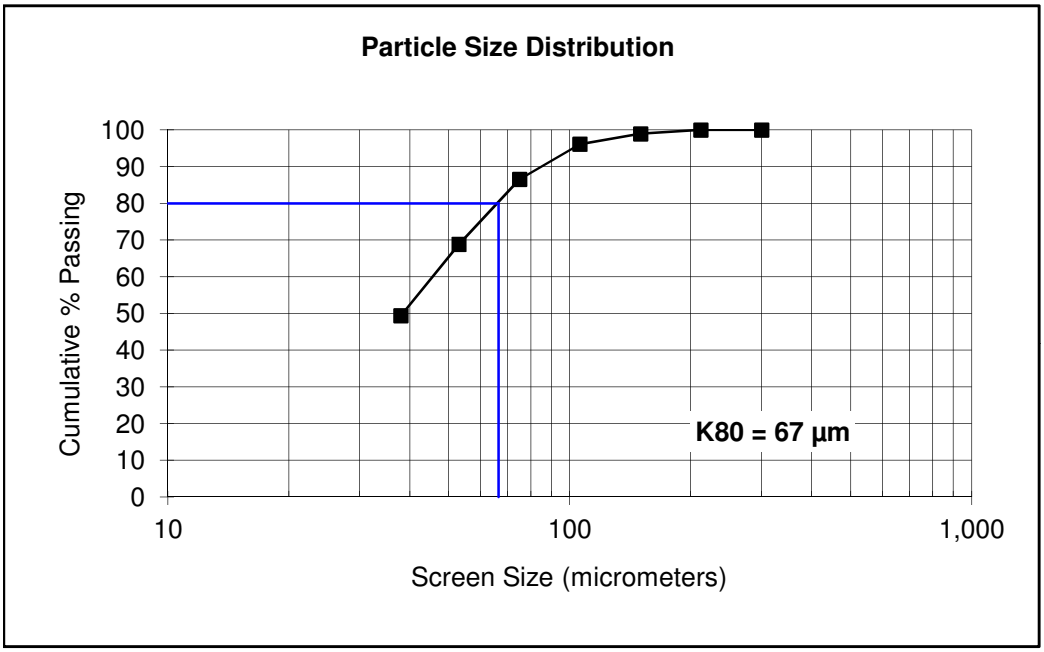


SGS Minerals Services
Size Distribution Analysis

Project No.
14196-002

Sample: **BS-3A13-01 Grav Tail** Test No.: **Grind cal. 30 min.**
Weight: **1125.3** **Rod Mill 2@ 50%.**

Size		Weight	% Retained		% Passing
Mesh	µm	grams	Individual	Cumulative	Cumulative
48	300	0.0	0.0	0.0	100.0
65	212	0.0	0.0	0.0	100.0
100	150	1.8	1.0	1.0	99.0
150	106	4.9	2.8	3.9	96.1
200	75	16.5	9.6	13.5	86.5
270	53	30.5	17.7	31.2	68.8
400	38	33.5	19.4	50.6	49.4
Pan	-38	85.1	49.4	100.0	0.0
Total	**-**	**172.3**	100.0	**-**	**-**
K80	**67**				



An Investigation into

GOLD MINERALOGY OF THE 3ACES PROPERTY

prepared for

GOLDEN PREDATOR MINING CORP.

Project 14196-102 – Final Report
November 4, 2014

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Member of the SGS Group (SGS SA)

Table of Contents

List of Tables

List of Figures

Executive Summary

A mineralogical characterization of one sample BS.3A13-03 from the 3Aces property was completed using a combination of X-Ray Diffraction (XRD), Quantitative Evaluation of Materials by Scanning Electron Microscopy (QEMSCAN), optical microscopy, Scanning Electron Microscopy (SEM) equipped with Energy Dispersive Spectrometers (EDS), and chemical analysis. The study allowed determination of the overall mineral assemblage, gold-bearing minerals and mass balance of microscopic gold and silver. A summary of the results is presented below.

Bulk Mineral Characterization

Modal Mineralogy

The sample is primarily comprised of silicate minerals (99%) with trace (<1%) oxides. Sulphide minerals, mainly arsenopyrite, occur in trace amounts.

Arsenopyrite Liberation and Association and Exposure

A summary of the liberation and association and exposure of arsenopyrite is presented in Table 1.

Table 1: Summary of Arsenopyrite Occurrence

Arsenopyrite		BS.3A13-03
Liberation and Association (wt%)	Liberated	84.6
	Apy:Qtz/Feld	8.1
	Apy:Fe-As Oxides/Hydroxides	1.4
	Complex	5.9
Exposure (wt%)	Exposed	84.9
	20-80% Exposed	9.4
	0-20% Exposed	5.4
	Locked	0.3

Apy: arsenopyrite; Qtz: quartz; Feld: feldspars

Gold Mineralogy

The gold and silver grades and number of grains containing gold that were identified are summarized in Table 2.

Table 2: Gold Summary

Sample	Gold Grade (g/t)	Silver Grade (g/t)	# of Grains Containing Gold
BS.3A13-03	157	7.07	3956

Chemistry of Gold Minerals

SEM-EDS analysis of selected grains indicates that the gold in the sample is native gold. The average chemistry of the gold minerals is summarized in Table 3.

Table 3: Summary of Gold Minerals Chemistry

Sample	Mineral Name	No. of Analyses	(wt%)	
			Ag	Au
BS.3A13-03	Native Gold	45	8.1	91.9

Liberation and Association, Exposure, and Grain Size of Gold Minerals

A summary of the liberation and association, exposure, and grain size of the gold minerals is presented in Table 4. There is a slight difference in the total liberated verses exposed particles; this is due to some of the gold particles having arsenopyrite grains attached which then drops them into the 30-80% exposed category (mainly within the 50-80% exposed group).

Table 4: Summary of Gold Minerals Occurrence

Gold Minerals		BS.3A13-03
Liberation and Association (Au Dist. %)	Liberated	90.0
	Gold Minerals:Sulphides	3.2
	Gold Minerals:Quartz/Feldspar	0.6
	Gold Minerals:Oxides/Hydroxides	2.7
	Gold Minerals:Arsenopyrite:Fe-As Oxides/Hydroxides	0.2
	Complex	3.2
Exposure (Au Dist.%)	Exposed	64.3
	30-80% Exposed	32.4
	0-30% Exposed	2.8
	Locked	0.6
Grain Size (Au Dist.%)	>300 µm	13.3
	200-300 µm	24.4
	100-200 µm	32.3
	50-100 µm	12.1
	0-50 µm	17.9

Introduction

A mineralogical study using High Definition Mineralogy, including optical microscopy, QEMSCAN technology, X-Ray Diffraction (XRD), Scanning Electron Microscopy (SEM) equipped with Energy Dispersive Spectrometers (EDS), and chemical analysis was conducted on one sample from the 3Aces property submitted by Golden Predator Mining Corp. The purpose of this test program was to determine the overall mineral assemblage and the deportment of gold.

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Manager Metallurgy & Water Treatment

Experimental work by: Morgan Gibson-Wright, Kim Gibbs, Jocelyn Ross
Report preparation by: Jocelyn Ross
Reviewed by: Sarah Prout, Tassos Grammatikopoulos, Jake Lang, Cheryl Mina

Testwork Summary

1. Sample Receipt and Preparation

One sample from the 3Aces Property, named BS.3A13-03, was submitted to the Advanced Mineralogy Facility by the Metallurgy department at SGS Canada Inc. on behalf of Golden Predator Mining Corp. The project number CAVM-14196-102 was assigned to the testwork.

The sample preparation flowsheet is presented in Figure 1. Sample preparation is summarized as follows:

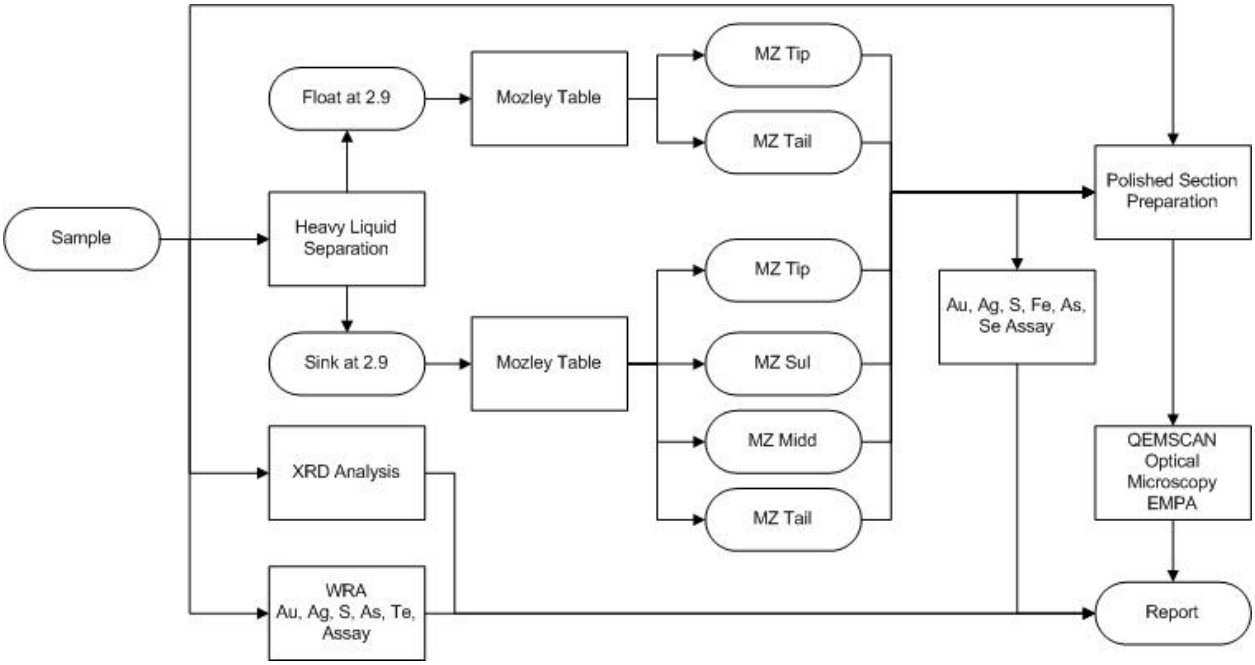


Figure 1: Flowsheet of the Sample Preparation and Testing for Sample BS.3A13-03

The Metallurgy department received 600 kg of the BS.3A13-03 sample. A riffled minus 10 mesh 2 kg charge was submitted to the Mineralogy department for gold department study. An approximately 120 g split was riffled from the 2 kg sample and stage pulverized to a P_{80} of 106 µm for the bulk mineral characterization study. From this split, an approximately 10 g subsample was riffled for qualitative XRD analysis, a 20 g subsample for sulphur by Leco, arsenic, tellurium, and antimony assay by Sodium peroxide fusion with a ICP-AES/MS finish, and a 10 g subsample for whole rock analysis (WRA) by XRF (X-ray Fluorescence). The XRD and assay subsamples were pulverized and submitted for analysis.

The remainder from the 120 g subsample was further reduced using a micro-riffler to produce approximately 1 g subsamples for polished section preparation. One graphite impregnated polished epoxy grain mount was prepared. The polished section was carbon coated and submitted for QEMSCAN analysis using the Particle Mineral Analysis (PMA) and Specific Mineral Search (SMS) modes of analysis.

The remaining as-received sample for gold deportment study (~1.9 kg) was stage pulverized to a P_{80} of 106 µm and submitted for Heavy Liquid Separation (HLS) at a specific gravity (SG) of 2.9 g/cm^3. This produced a sink and a float fraction. An approximately 50 g subsample was riffled from the HLS float fraction and pulverized; from this ~30 g subsample was submitted for gold and silver assay and ~20 g subsample submitted for sulphur assay. An approximately 100 g subsample was riffled for polished section preparation.

The HLS sink fraction was submitted for further separation by Mozley tabling. Mozley tabling produced four fractions: Sink MZ Tip, Sink MZ Sulphide, Sink MZ Middling, and Sink MZ Tail, referred to as Sink Tip, Sink Sulphide, Sink Mid, and Sink Tail in the report. The Mozley table fractions were weighed. Riffled cuts from the various Mozley table fractions were submitted for gold, silver, and sulphur assay when material was sufficient. The HLS and Mozley tabling procedure are summarized in Figure 2.

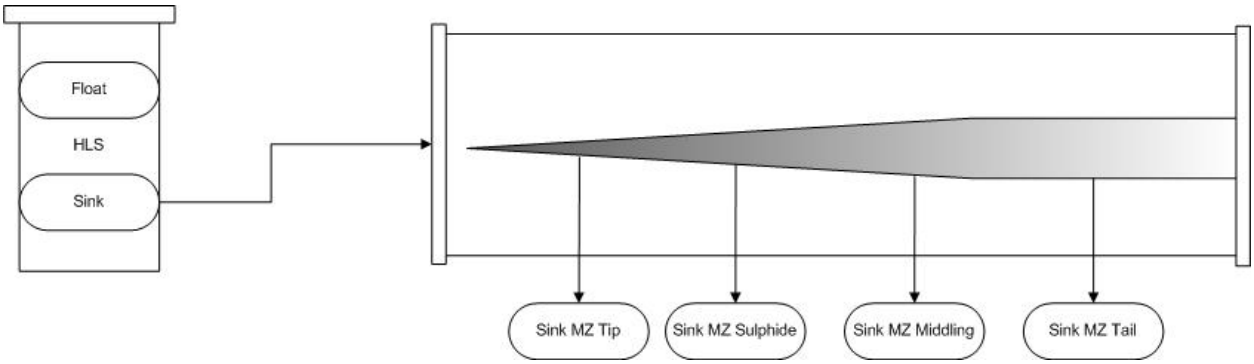


Figure 2: Pre-concentration Procedure by HLS and MZ

Approximately 1 g subsamples were split using a micro-riffler from the Mozley table fractions and the HLS float fraction for polished section preparation. A total of 19 graphite impregnated polished epoxy grain mounts were prepared: three polished sections each for the Sink Tip, Sink Sulphide, and Sink Mid fractions, four polished sections for the Sink Tail fraction, and six polished sections for the HLS float fraction.

The Sink Tip and Sink Sulphide polished sections were scanned optically using a petrographic microscope to identify visible gold minerals.

All of the polished sections from the Mozley table fractions and HLS float fraction were carbon coated and submitted for QEMSCAN analysis using the SMS mode of analysis for the Sink Tip polished sections and the Trace Mineral Search (TMS) mode of analysis for the other fractions.

One Sink Tip polished section was submitted for SEM-EDS analysis to determine the chemical composition of the gold minerals.

The Sink Tip and Sink Sulphide polished sections were submitted for gold and silver fire assay following QEMSCAN, optical microscopy, and SEM-EDS analysis, in order to acquire the gold and silver assays.

The certificates of chemical analysis are presented in Appendix A, the XRD report is presented in Appendix B, and the SEM-EDS mineral chemistries are presented in Appendix C.

2. Quality Control

2.1. X-Ray Diffraction (XRD) Analysis

The XRD analysis is performed for HLS calibration and as part of the QA/QC of the QEMSCAN data. In general, the XRD analysis is in agreement with the QEMSCAN analysis, but differences are noted which are due to the different analytical methods.

The BS.3A13-03 sample consists of major (>30%) quartz along with trace (<2%) pyrite, mica, K-feldspar, arsenopyrite, and plagioclase (Table 5).

Table 5: Qualitative X-Ray Diffraction Analysis

Sample ID	Major	Moderate	Minor	Trace
(1) BS.3A13-03	quartz	-	-	*pyrite, *mica, *potassium-feldspar, *arsenopyrite, *plagioclase

** tentative identification due to low concentrations, diffraction line overlap or poor crystallinity*
Crystalline Mineral Assemblage (relative proportions based on peak height)

2.2. Assay Reconciliation

The BS.3A13-03 sample was submitted for whole rock analysis (WRF) by XRF and sulphur by Leco. The QEMSCAN mineralogical assays were regressed with the chemical assays and are presented in Figure 3. The QEMSCAN calculated assays show good correlation with the chemical assays with overall correlation as measured by the R-squared criteria of 1.00 and a slope (m) of 0.99.

Sample	BS.3A13-03
Element	Unsized
Al (QEMSCAN)	0.36
Al (Chemical)	0.48
As (QEMSCAN)	0.33
As (Chemical)	0.39
Cr (QEMSCAN)	0.00
Cr (Chemical)	0.02
Fe (QEMSCAN)	0.35
Fe (Chemical)	0.59
K (QEMSCAN)	0.16
K (Chemical)	0.21
Mg (QEMSCAN)	0.01
Mg (Chemical)	0.05
Na (QEMSCAN)	0.01
Na (Chemical)	0.01
S (QEMSCAN)	0.09
S (Chemical)	0.08
Si (QEMSCAN)	45.8
Si (Chemical)	45.3
Ti (QEMSCAN)	0.02
Ti (Chemical)	0.02

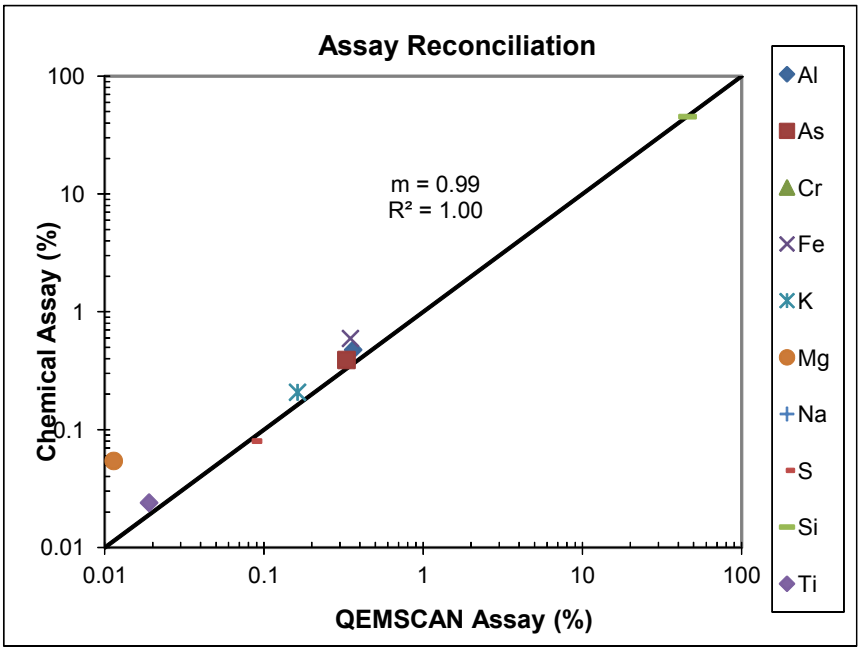


Figure 3: QEMSCAN and Assay Reconciliation

3. Bulk Mineral Characterization

Modal abundance data is based on the PMA analysis. Arsenopyrite liberation and association and exposure data is based on the SMS analysis. Mineral abundance is given in weight percent.

3.1. Mineral Abundance

The mineral abundance of the BS.3A13-03 sample are presented in Table 6 and graphically in Figure 4. The BS.3A13-03 sample is predominantly comprised of quartz (97%) along with minor mica (2%). Arsenopyrite and a Fe-As oxide/hydroxide mineral occur in trace (<1%) amounts.

Table 6: Modal Abundance of the BS.3A13-03 Sample

Survey	**CAVM-14196-102 / MI7012-JUN14**	
Project	**Golden Predator Mining Corp.**	
Sample	**BS.3A13-03**	
Fraction	**Unsized**	
Mass Size Distribution (%)	100.0	
Calculated ESD Particle Size	38	
Mineral	**Mineral Mass (%)**	**Mean Grain Size by Frequency (µm)**
Gold	0.00	0
Pyrite	0.00	5
Arsenopyrite	0.41	19
Other Sulphides	0.01	12
Quartz	96.9	39
K-Feldspar	0.03	7
Plagioclase	0.09	10
Mica	1.59	18
Chlorite	0.10	9
Clays	0.12	8
Other Silicates	0.01	7
Fe-Oxides	0.09	10
Fe-As Oxides/Hydroxides	0.51	17
Other Oxides	0.08	8
Carbonates	0.00	17
Other	0.02	11
Total	100.0	-

Note: The size of the minerals as shown in the table above is calculated statistically from the length of all the horizontal intercepts through each particle. It uses an assumption of random sectioning of spherical particles having uniform size, to obtain an estimate of the stereologically-corrected grain size in microns. The size calculation is a statistical property, which means that it is only valid when applied to a population of particles, and its accuracy increases as the population size increases. The accuracy of the size calculation is extremely low if applied to just a single cross-section.

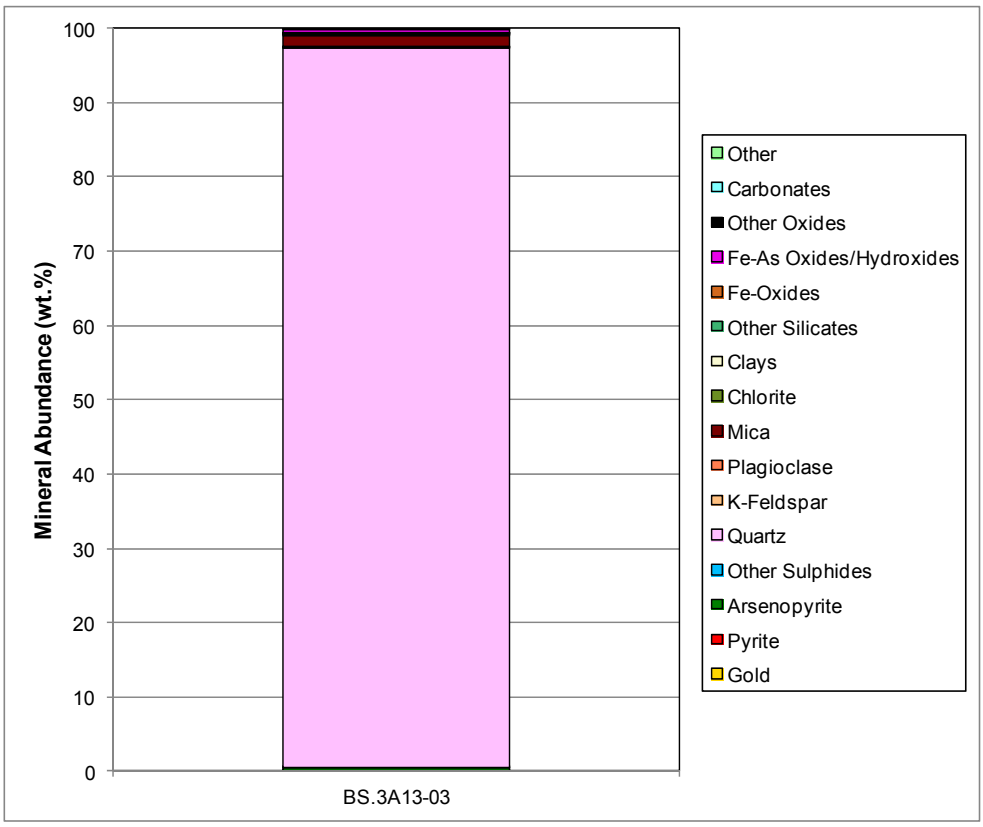


Figure 4: Distribution Profile of the Mineral Abundance

3.2. Arsenopyrite Liberation, Association, and Exposure

The liberation and association and exposure characteristics of arsenopyrite are presented below. The occurrence of arsenopyrite is of interest as arsenopyrite, although it occurs in trace amounts, is the main sulphide mineral in the sample and is a potential carrier of gold.

For this analysis, particle liberation is determined by the 2D particle area percent. Particles are classified by the area percent of the mineral of interest. For liberated grains, there are three groups: pure (100% of the total particle area), free (≥95% of the total particle area), and liberated (≥80% of the total particle area). Non-liberated grains are classified by their association characteristics. Binary particles are greater than or equal to 95% by area percent of two minerals or mineral groups. Complex particles have ternary, quaternary, or greater associations with the mineral of interest.

Mineral exposure measures the surface exposure of the mineral of interest. For example, when more than 80% of the mineral is exposed in a particle, then it is >80% exposed. The term locked is defined when the mineral is completely encapsulated in another mineral.

It is important to note that when minerals are present in trace amounts (about <0.5 wt%), statistical data may not be adequate to calculate liberation and association and exposure and must be taken with caution.

3.3. Arsenopyrite Liberation and Association

The liberation and association characteristics of arsenopyrite in the BS.3A13-03 sample are presented in Figure 5 and as an image grid in Figure 6. All data is expressed as weight percent (wt%).

Approximately 85% of arsenopyrite in the sample is liberated, at the grind size of a P_{80} of 106 µm. The remaining is associated with quartz/feldspars (8%), occurs in complex associations (6%), and is associated with Fe-As oxides/hydroxides (1%).

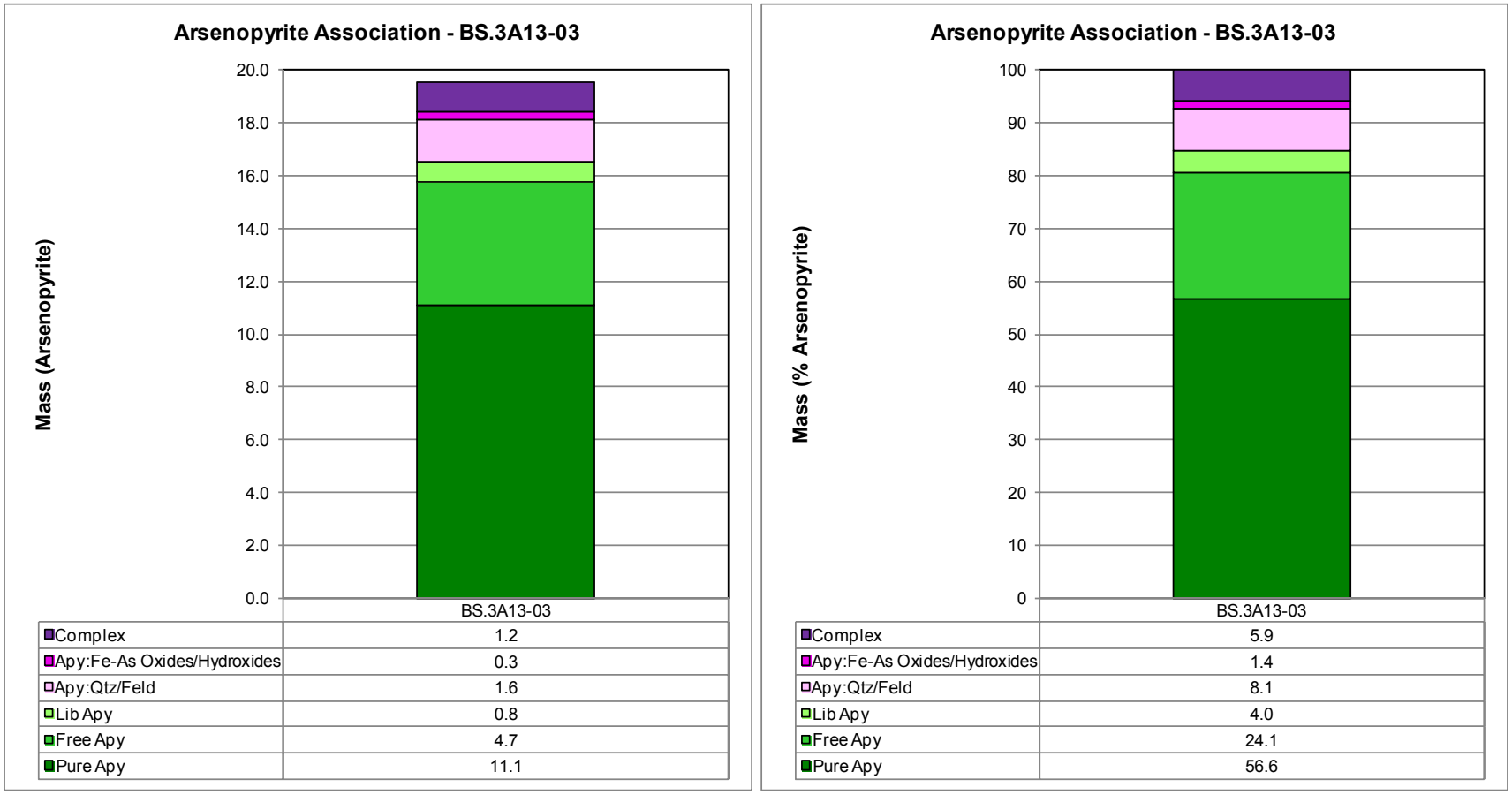


Figure 5: Arsenopyrite Liberation and Association of the BS.3A13-03 Sample

(Left: Absolute, Right: Normalized)

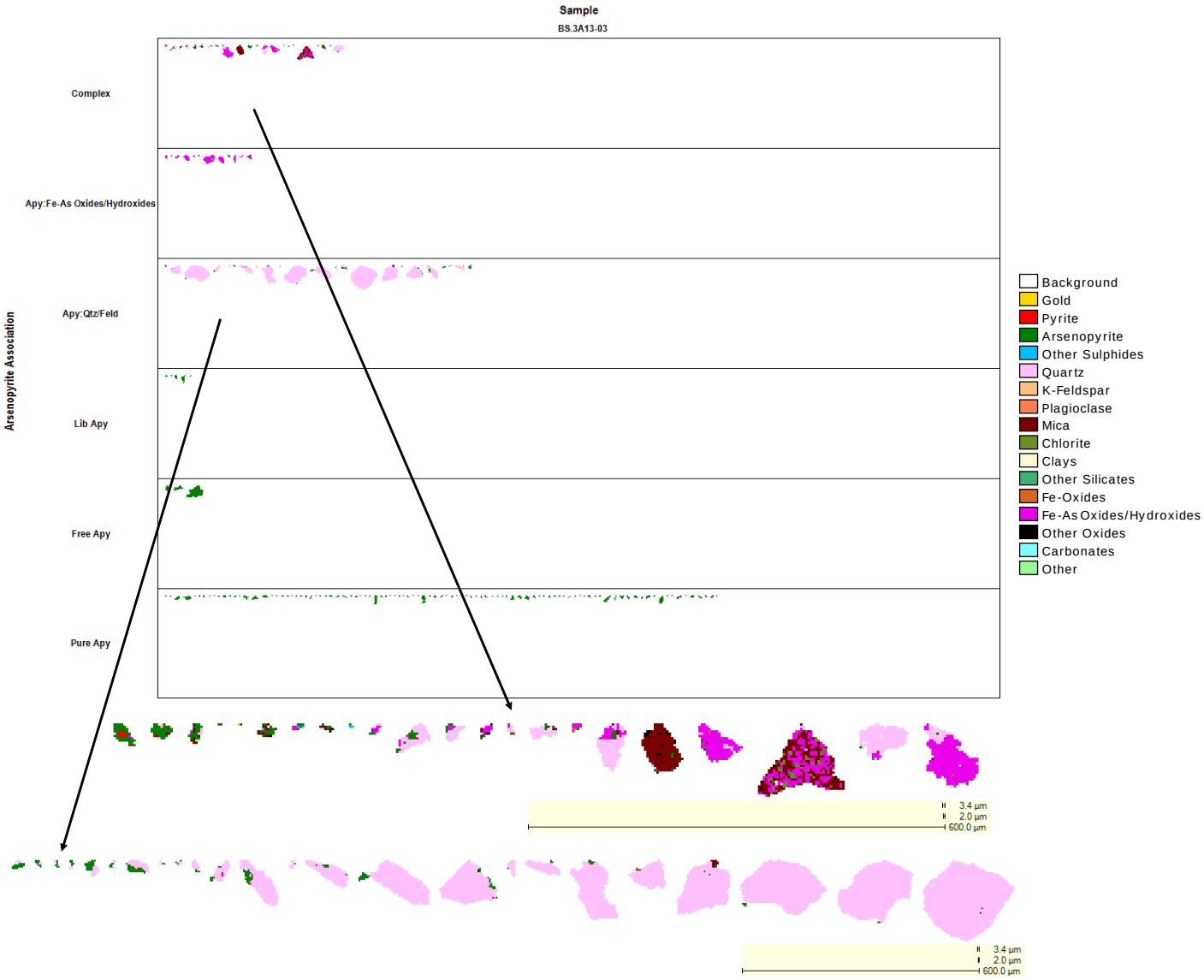


Figure 6: Image Grid of Arsenopyrite Liberation and Association in the BS.3A13-03 Sample

3.4. Arsenopyrite Exposure

The exposure characteristics of arsenopyrite in the BS.3A13-03 sample are presented in Figure 7 and as an image grid in Figure 8.

Arsenopyrite is highly exposed with approximately 85% of arsenopyrite having a surface area greater than 80% exposed. Approximately 9% of arsenopyrite is 20-80% exposed. About 5% of arsenopyrite is 0-20% exposed and less than 1% is locked.

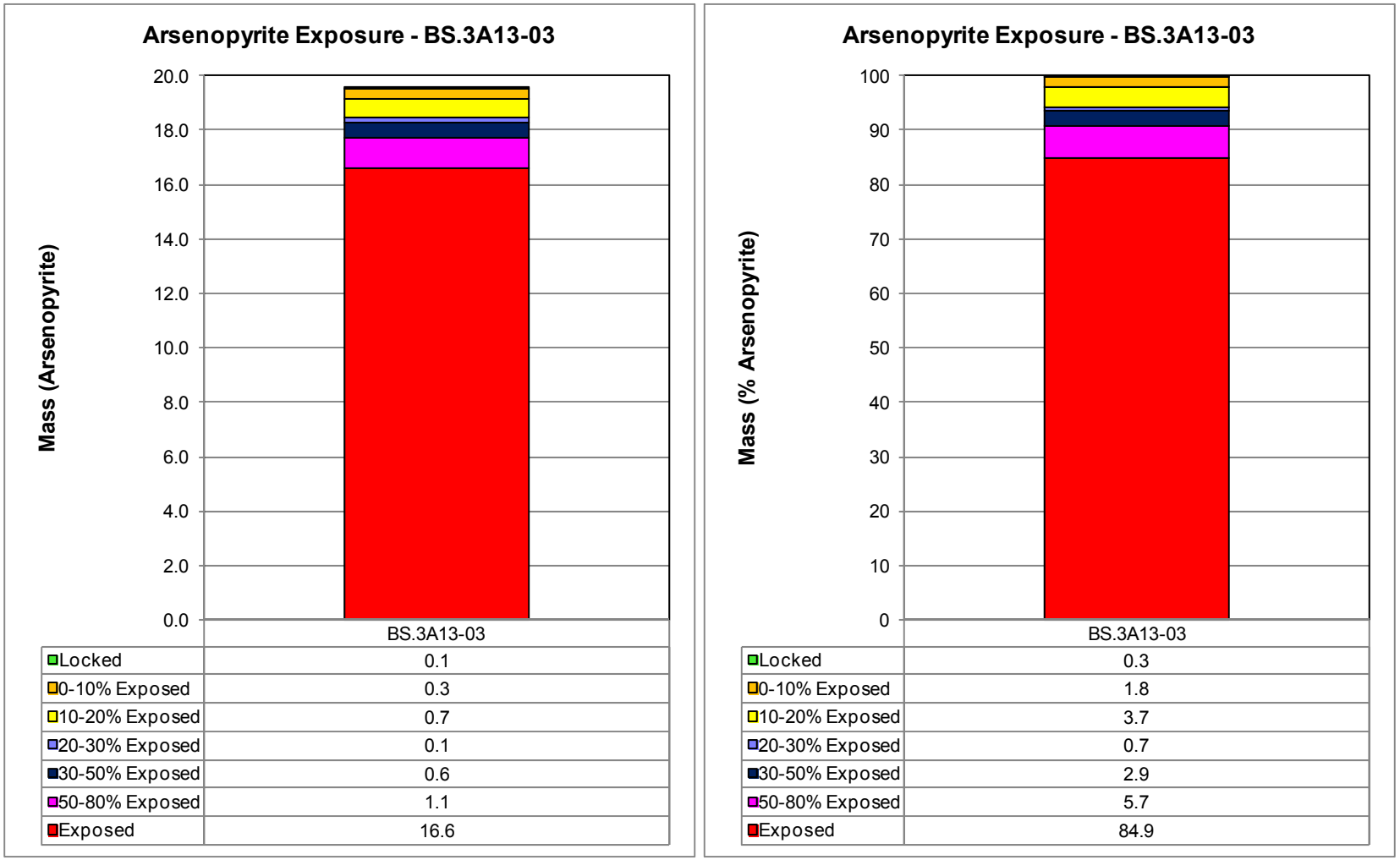


Figure 7: Arsenopyrite Exposure of the BS.3A13-03 Sample

(Left: Absolute, Right: Normalized)

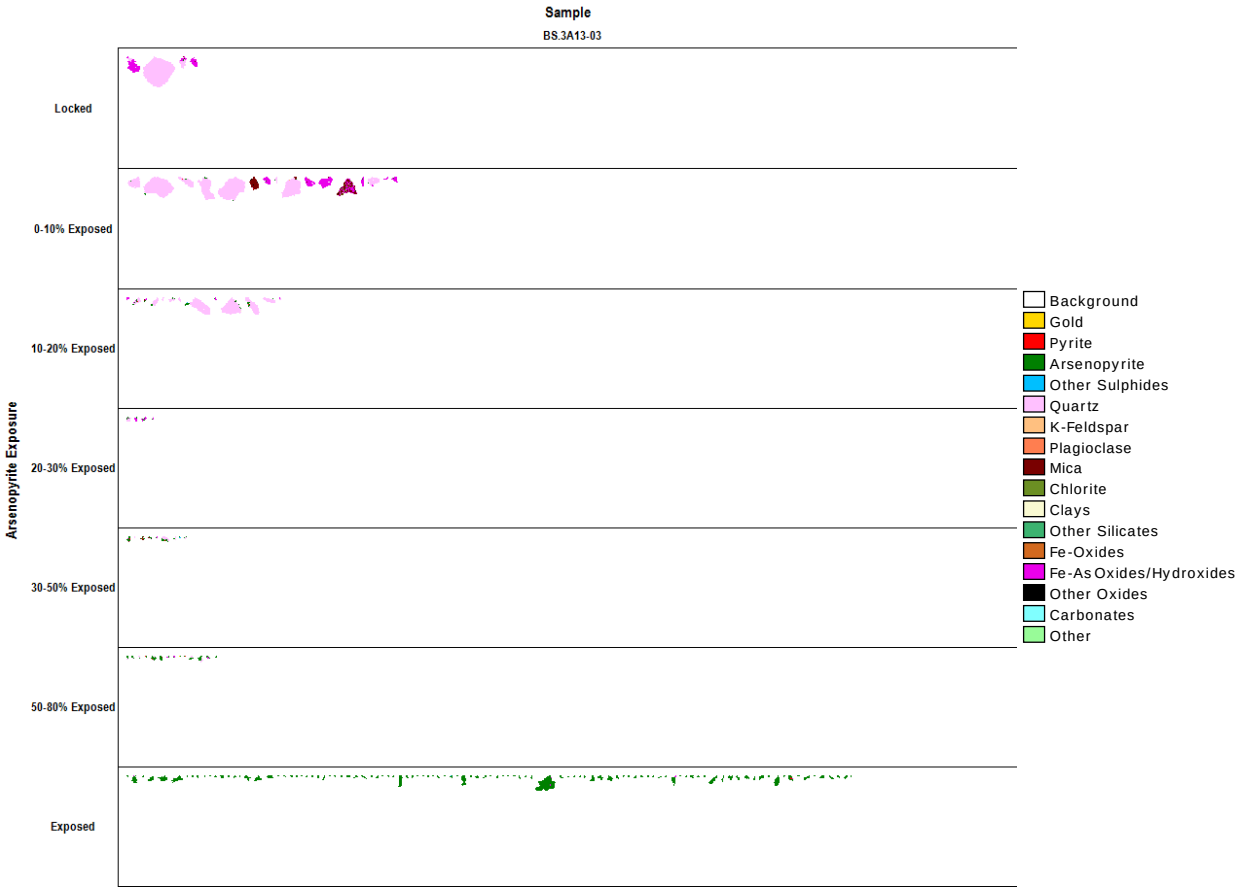


Figure 8: Image Grid of Arsenopyrite Exposure in the BS.3A13-03 Sample

4. Mass Balance, Gold and Silver Distribution

The mass distribution and mass balance of gold and silver in the BS.3A13-03 sample is presented in Table 7. It is important to note that the head gold and silver grades are calculated from the assays of the HLS and Mozley fractions.

The HLS float accounts for 92.4% of the mass, 10.9% of the gold, and 22.2% of the silver. The HLS sink accounts for 7.6% of the mass, 89.1% of the gold, and 77.8% of the silver, with the Sink Tip fraction accounting for 81.8% of the gold and 64.6% of the silver, indicating good separation.

Table 7: Mass Balance, Gold and Silver Distribution

Sample ID	HLS Product (2.9 g/cm^3)	Mozely Product	Mass Distribution (HLS)		Mass Distribution (Mozely)		Grade (g/t)		Distribution (%)	
			(g)	(%)	(g)	(%)	Au	Ag	Au	Ag
BS.3A13-03	Float	-	1703	92	-		19	1.7	10.9	22.2
	Sink	Tail	141	7.62	112	6.2	41	4.6	1.6	4.0
		Mid			19.7	1.1	94	10	0.6	1.6
		Sul			4.2	0.2	3459	233	5.1	7.6
		Tip			2.4	0.1	97298	3458	81.8	64.6
	BS.3A13-03 (calc)		1844	100	-	-	157	7.1	100	100
	BS.3A13-03 (direct)		1854	-			216	44	-	-

5. Gold Mineralogy

The following data are based on the Mozley table fractions produced from the HLS sink products and the HLS float. QEMSCAN data are based on the SMS analysis for the Sink Tip fraction and the TMS analysis for all other fractions.

5.1. Number of Gold Grains

A total of 19 polished sections were scanned using the SMS or TMS mode of analysis depending on the grade of the sample. A total of 3956 grains containing gold was identified with most of the grains in the Sink Tip and Sink Sulphide fractions.

Table 8: Gold Grains Identified by the QEMSCAN SMS or TMS Mode of Analysis

Sample ID	HLS Product	Mozely Product	Number of Grains Containing Gold		
			Sub-Total (#)		Total (#)
BS.3A13-03	Float at 2.9 g/cm^3	Float	55	55	3956
	Sink at 2.9 g/cm^3	Tail	74	3901	
		Mid	32		
		Sul	1050		
		Tip	2745		

5.2. Photomicrographs and QEMSCAN Images of Gold Grains

Selected photomicrographs from optical microscopy and the corresponding QEMSCAN pseudo images in the BS.3A13-03 Sample are presented in Figure 9 to Figure 12.

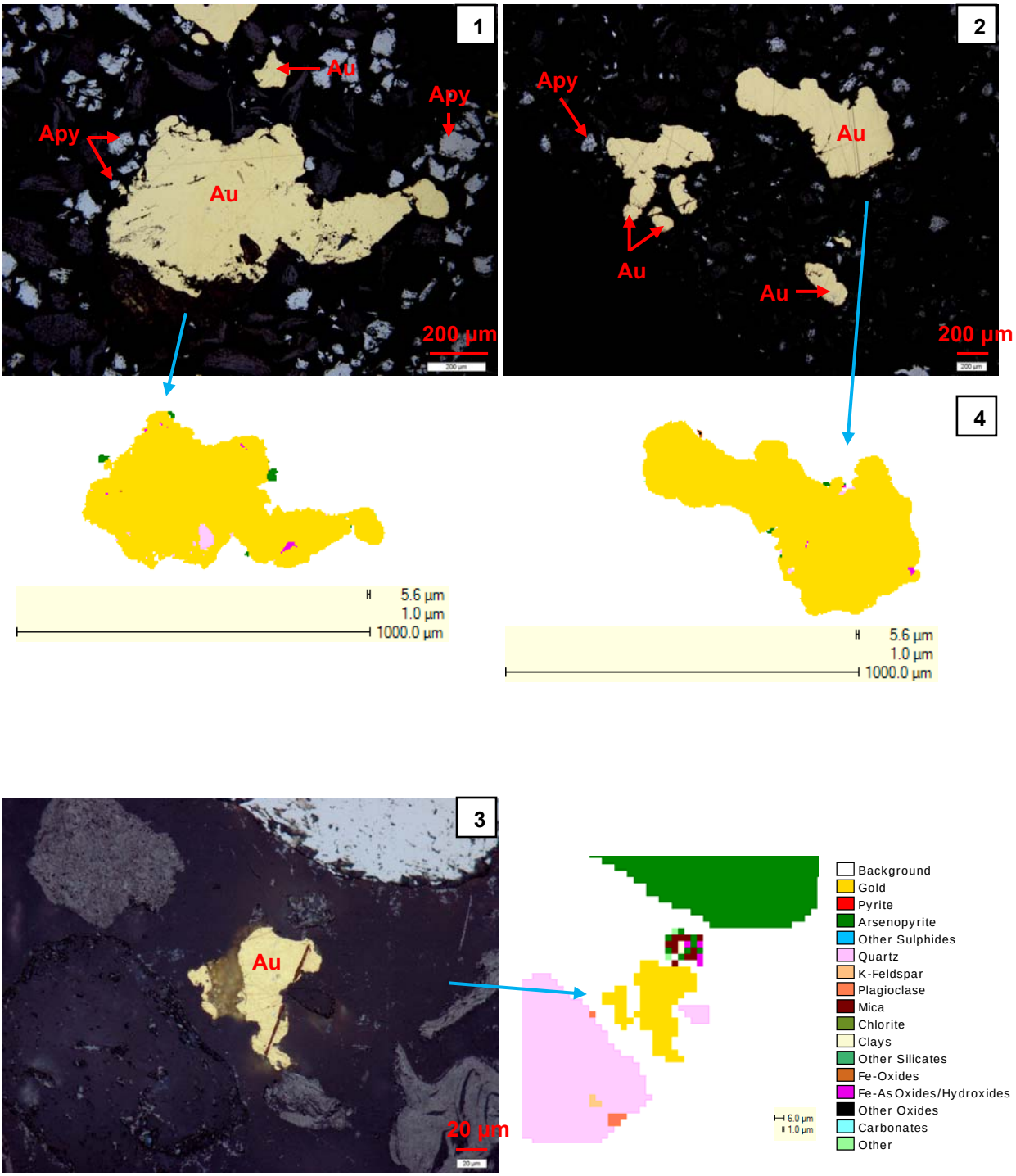


Figure 9: Optical Photomicrographs and QEMSCAN Images of Selected Gold Grains

Plate 1: Free gold (Au) grains along with fine-grained arsenopyrite (Apy). Plate 2: Free gold grains. Plate 3: Free gold grain. Plate 4: Corresponding QEMSCAN pseudo images of the gold grains. All photomicrographs are in plane polarized reflected light (PPRL).

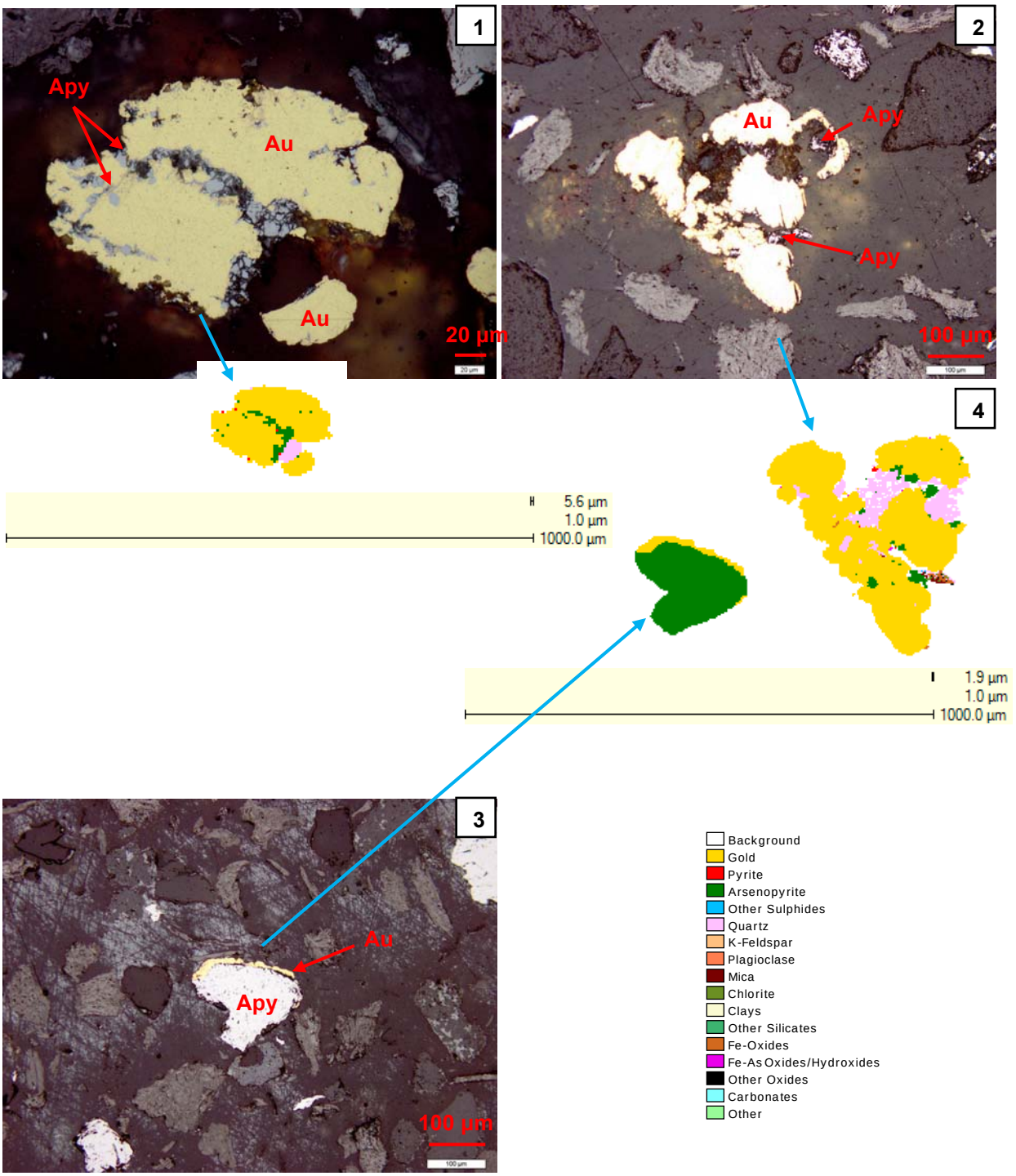


Figure 10: Optical Photomicrographs and QEMSCAN Images of Selected Gold Grains

Plate 1: Arsenopyrite (Apy) locked and attached to a gold (Au) grain. Plate 2: Arsenopyrite attached to a gold grain. Plate 3: Exposed gold rimming an arsenopyrite grain. Plate 4: Corresponding QEMSCAN pseudo images of the gold grains. All photomicrographs are in plane polarized reflected light (PPRL).

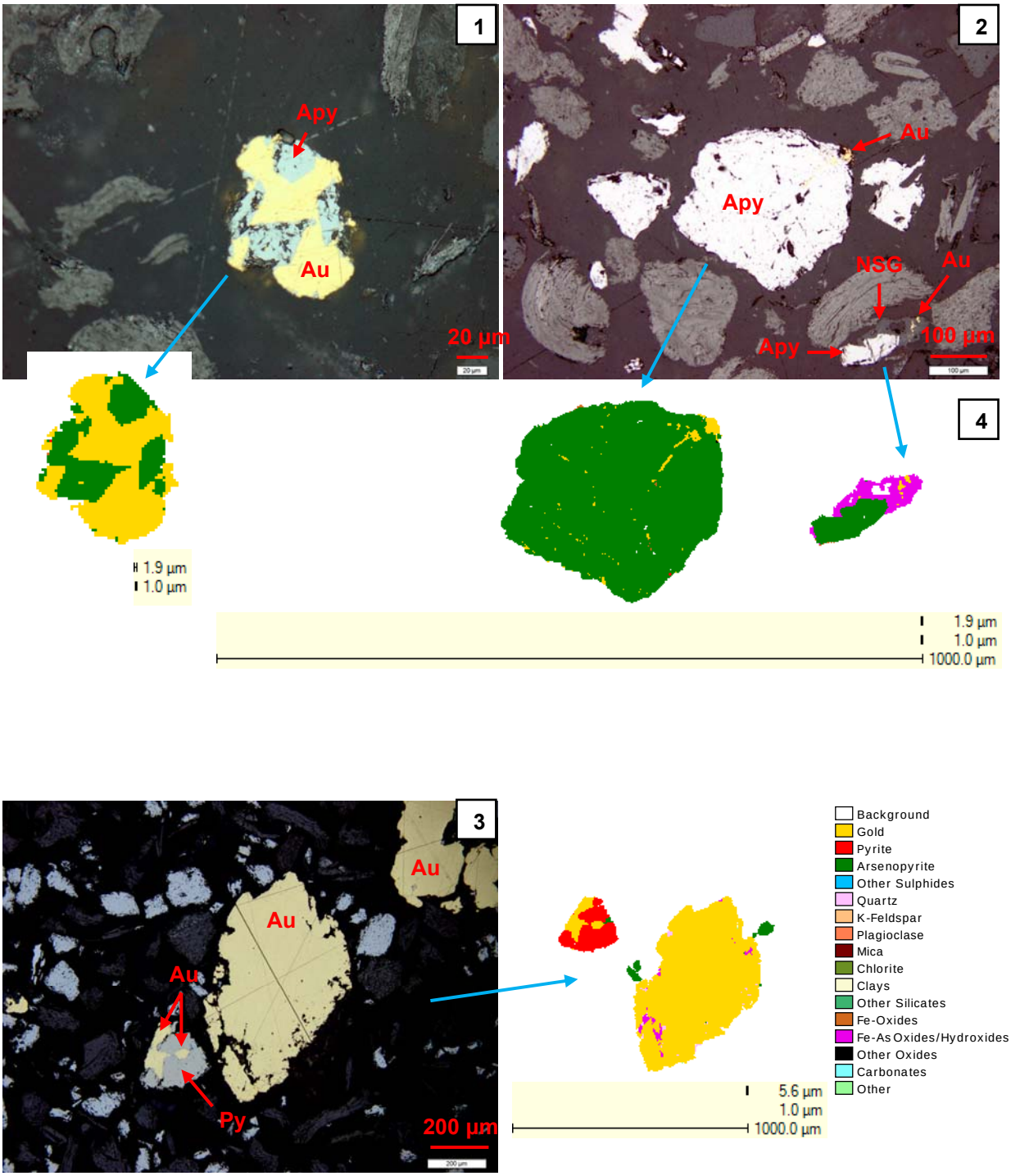


Figure 11: Optical Photomicrographs and QEMSCAN Images of Selected Gold Grains

Plate 1: Gold (Au) intergrown with arsenopyrite (Apy). Plate 2: Gold attached to arsenopyrite and gold locked in a non-sulphide gangue (NSG) mineral (Fe-As oxide/hydroxide). Plate 3: Free gold grains and gold attached to and locked in pyrite (Py). Plate 4: Corresponding QEMSCAN pseudo images of the gold grains. All photomicrographs are in plane polarized reflected light (PPRL).

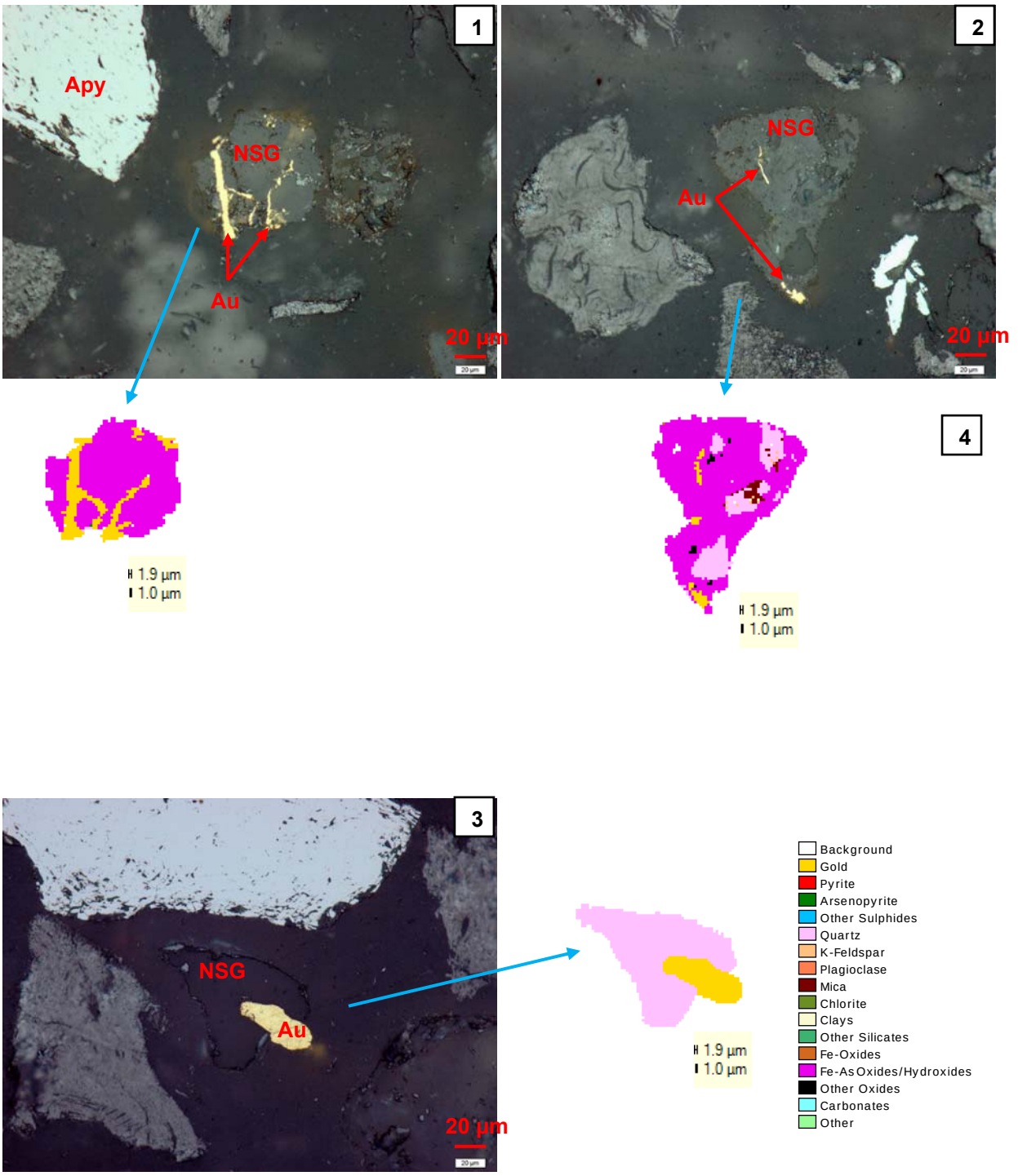


Figure 12: Optical Photomicrographs and QEMSCAN Images of Selected Gold Grains

Plate 1: Gold locked in a non-sulphide gangue (NSG) mineral (Fe-As oxide/hydroxide). Plate 2: Gold locked in a particle comprised of non-sulphide gangue minerals (Fe-As oxide/hydroxide and quartz). Plate 3: Gold attached to a non-sulphide gangue mineral (quartz). Plate 4: Corresponding QEMSCAN pseudo images of the gold grains. All photomicrographs are in plane polarized reflected light (PPRL).

5.3. Chemical Composition of Gold Minerals

The chemical composition of the gold minerals was determined by SEM-EDS standardless semi-quantitative analysis. The average chemistry of the gold minerals is presented in Table 9. The full SEM-EDS analysis is presented in Appendix C.

Table 9: Gold Minerals Chemistry

Sample	Mineral Name	No. of Analyses	(wt%)												
			S	Fe	Ni	Cu	Zn	As	Se	Ag	Sb	Te	I	Au	Pb	Bi
BS.3A13-03	Native Gold	45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1	0.0	0.0	0.0	91.9	0.0	0.0

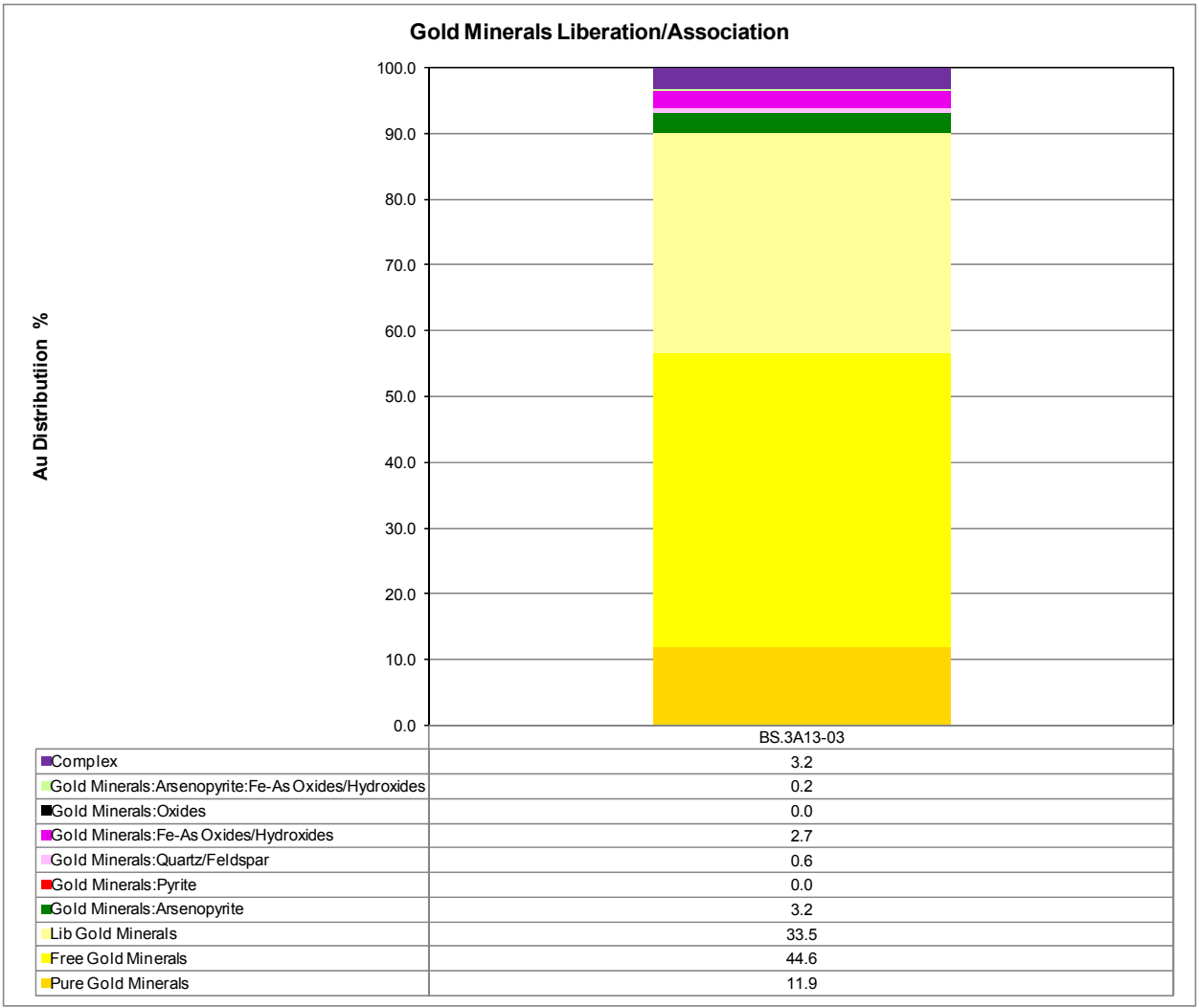
All gold minerals identified are native gold (Au/Ag alloy with Ag ≤25 wt%) with an average chemistry of 91.9 wt% Au and 8.1 wt% Ag.

The gold mineral chemistry is based on SEM-EDS analyses and electron microprobe analysis is needed to properly determine the chemistry of the gold grains.

5.4. Liberation and Association of Gold Minerals

The liberation and association characteristics of gold were examined. The data are weighted by the gold distribution in each of the fractions produced by HLS and Mozley tabling. It is important to note that the calculations reflect only the number of gold grains identified and the results must be interpreted with caution.

The liberation and association characteristics of gold minerals along with an image grid and particle maps are presented in Figure 13 to Figure 17. Approximately 90% of gold minerals occur as liberated grains (combined pure, free, and liberated gold minerals). The remaining gold minerals mainly occur in associations with arsenopyrite (3%) and Fe-As oxides/hydroxides (3%) and in complex particles (3%).



	BS.3A13-03
Complex	3.2
Gold Minerals:Arsenopyrite:Fe-As Oxides/Hydroxides	0.2
Gold Minerals:Oxides	0.0
Gold Minerals:Fe-As Oxides/Hydroxides	2.7
Gold Minerals:Quartz/Feldspar	0.6
Gold Minerals:Pyrite	0.0
Gold Minerals:Arsenopyrite	3.2
Lib Gold Minerals	33.5
Free Gold Minerals	44.6
Pure Gold Minerals	11.9

Figure 13: Gold Minerals Liberation and Association

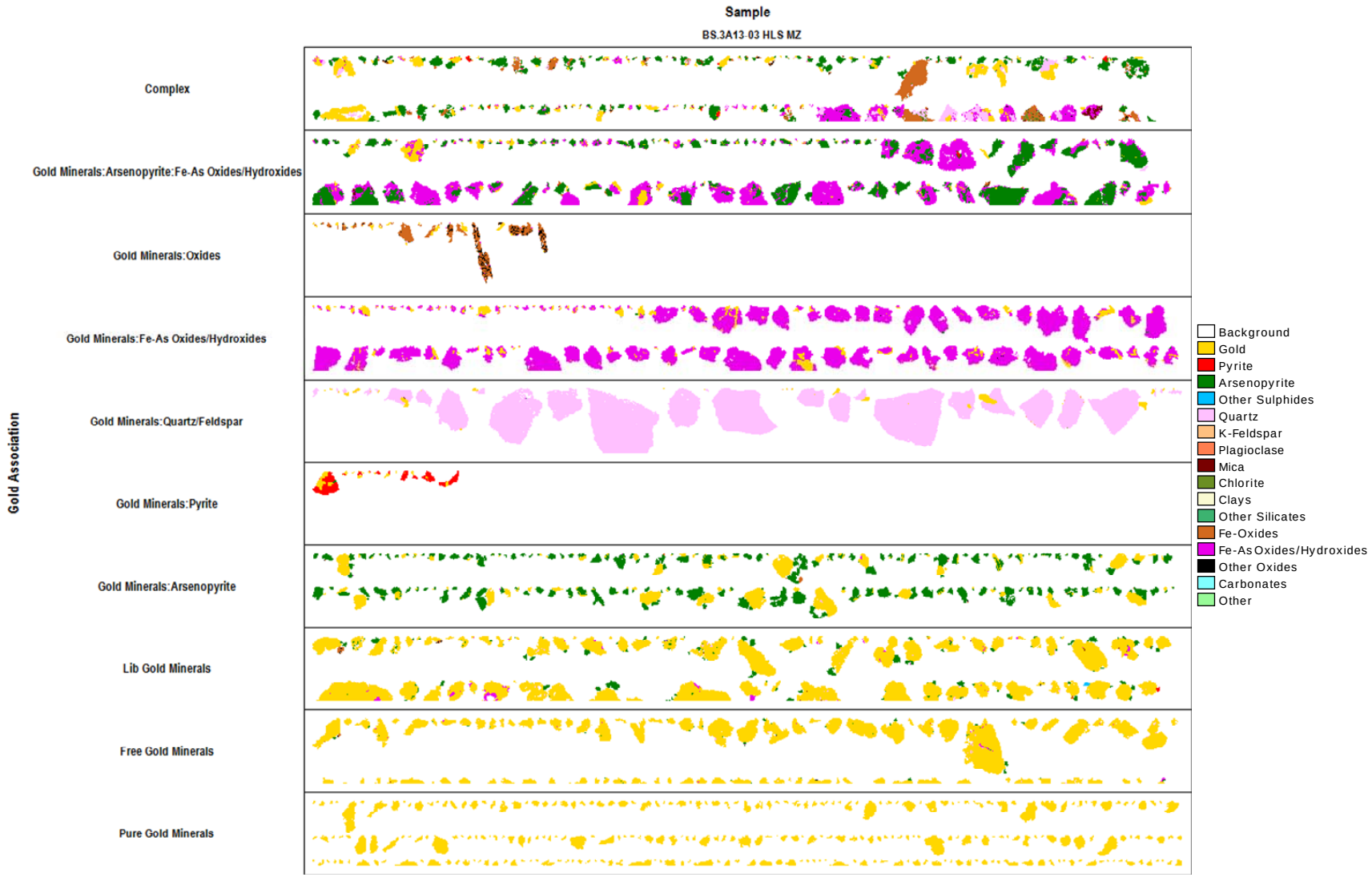
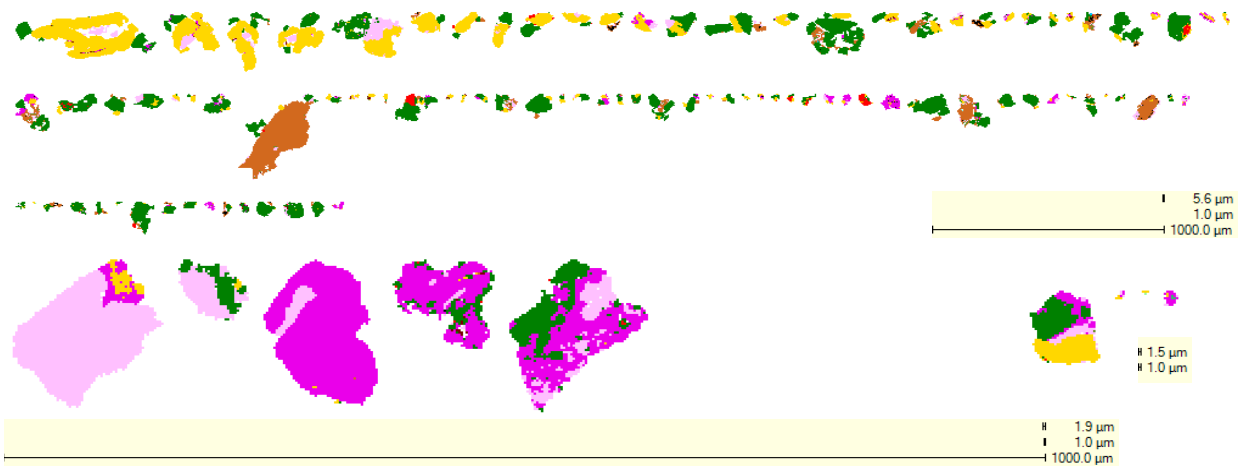


Figure 14: Image Grid of Gold Minerals Liberation and Association

Complex



Gold Minerals:Arsenopyrite:Fe-As Oxides/Hydroxides

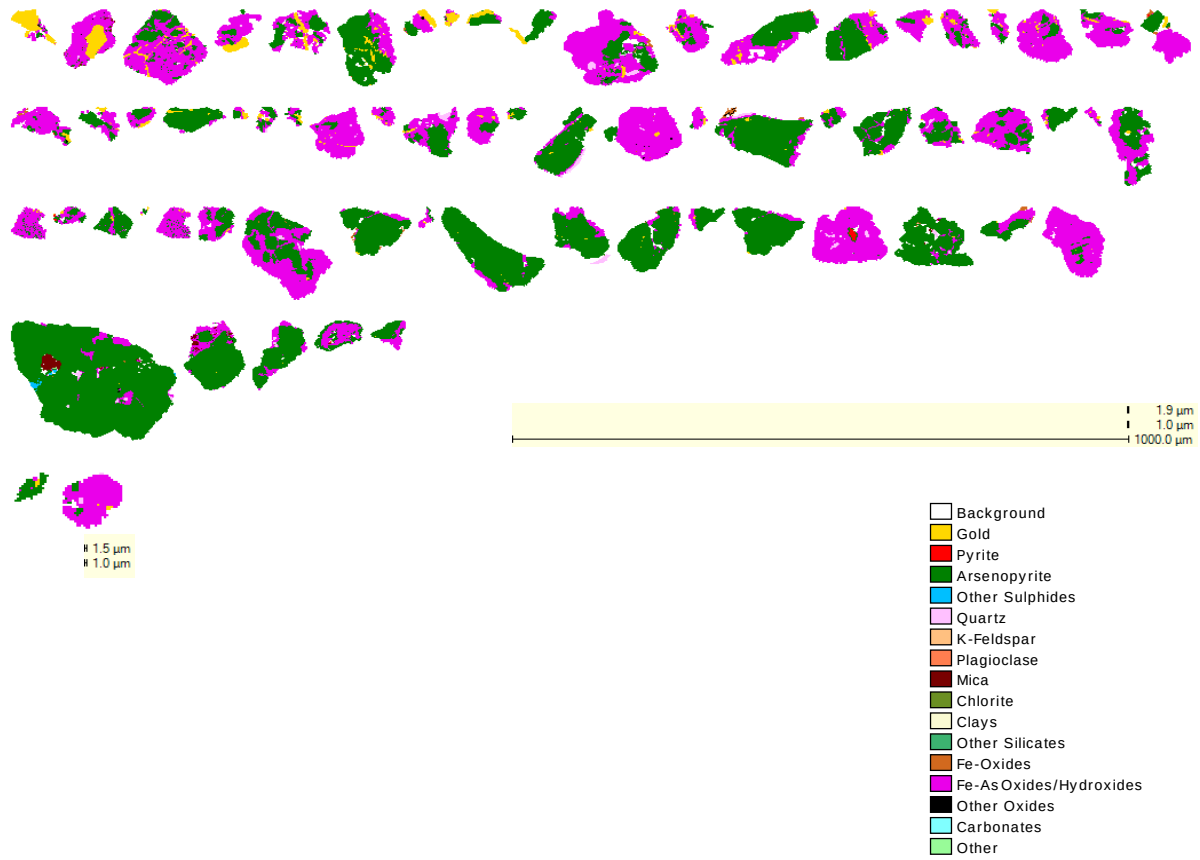


Figure 15: Selected QEMSCAN Particle Images of Gold Grain Associations

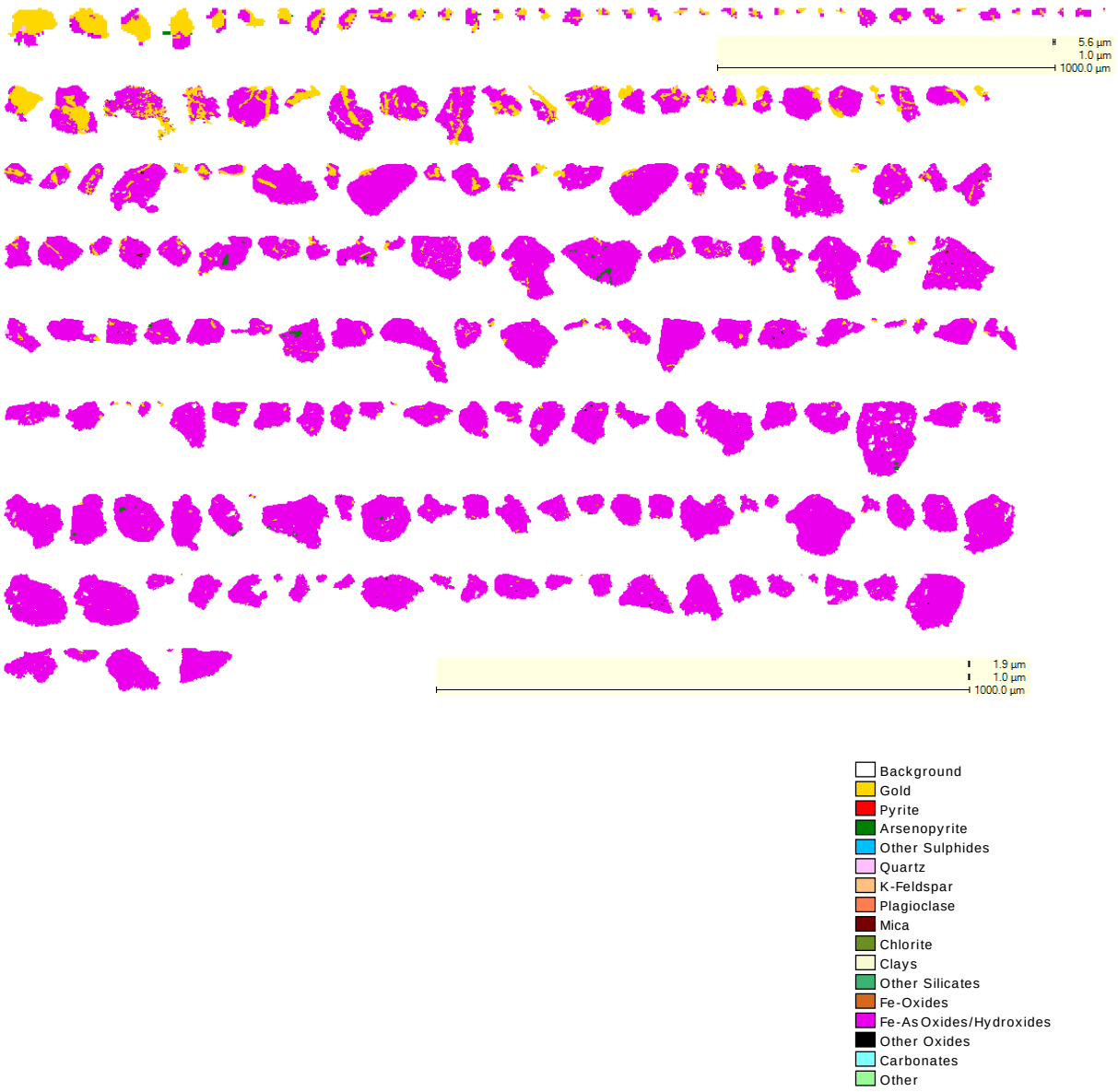


Figure 16: Selected QEMSCAN Particle Images of Gold Grain Associations with Fe-As Oxides/Hydroxides

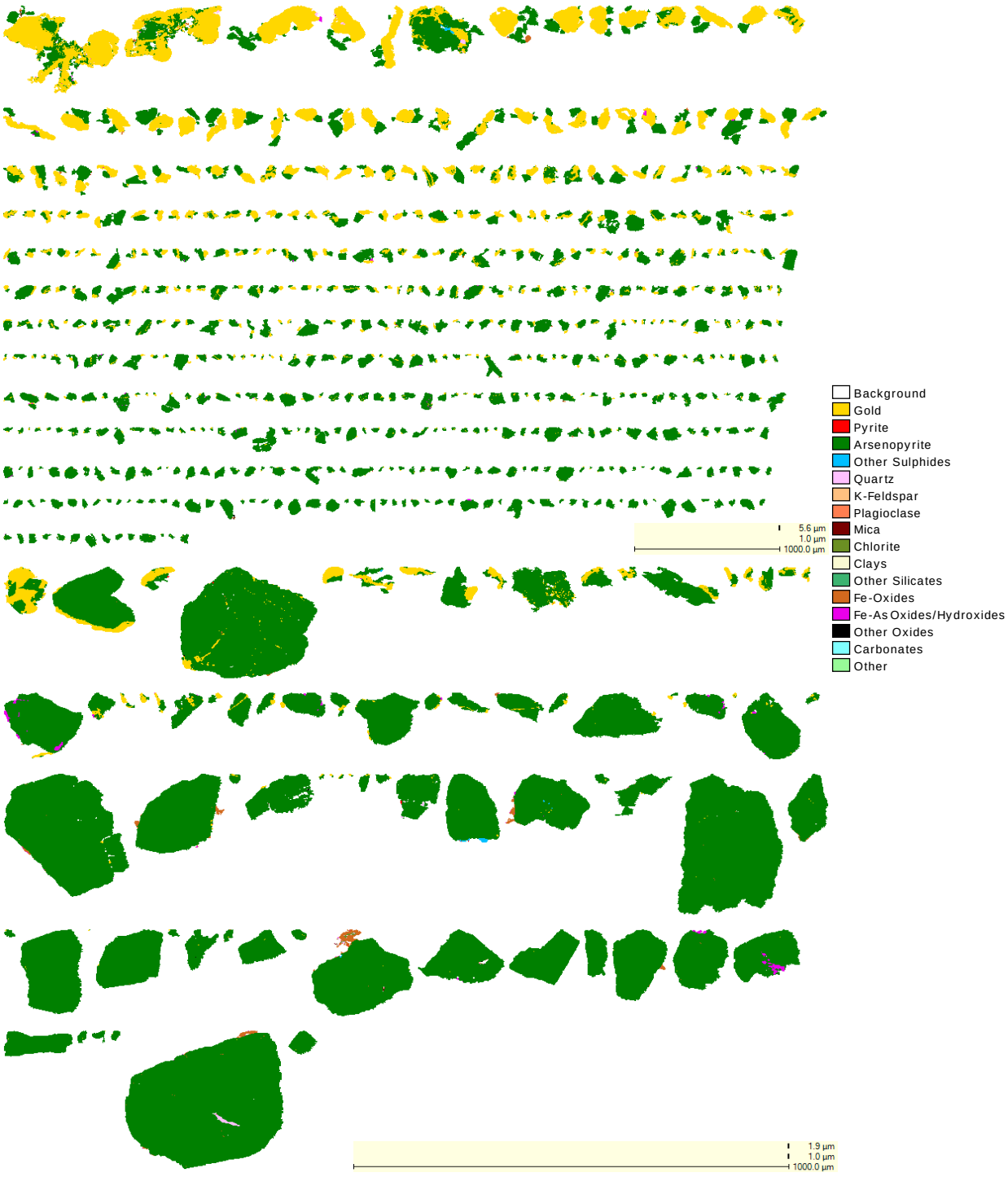
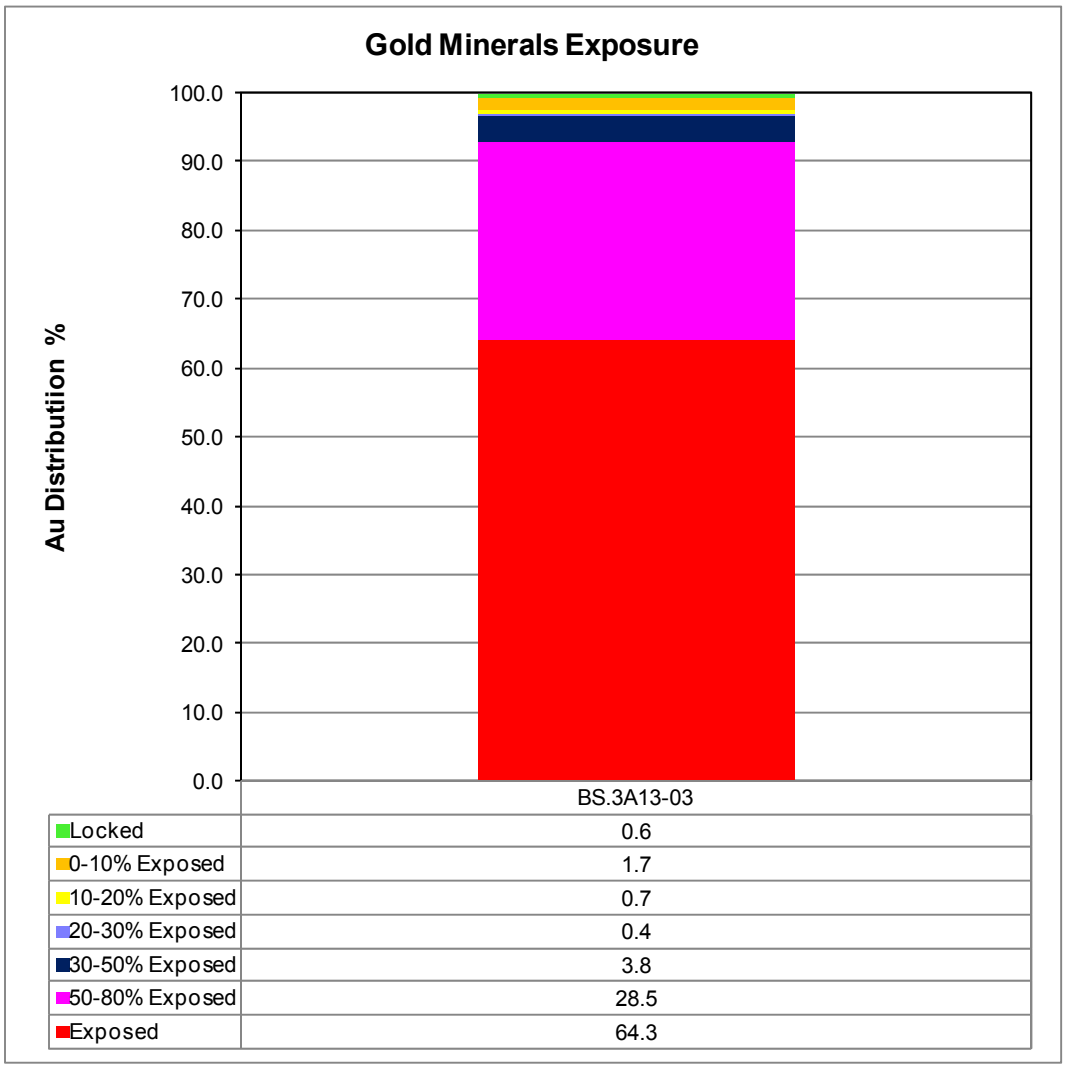


Figure 17: Selected QEMSCAN Particle Images of Gold Grain Associations with Arsenopyrite

5.5. Gold Minerals Exposure

The exposure characteristics of the gold minerals are presented below. Gold minerals exposure along with an image grid and particle maps are presented in Figure 18 to Figure 21.

Approximately 64% of gold minerals are exposed (>80% surface exposure). Approximately 32% of gold minerals have a surface exposure between 30% and 80%. Approximately 3% of gold minerals have surface exposure less than 30%. Less than 1% of gold minerals are locked.



	BS.3A13-03
Locked	0.6
0-10% Exposed	1.7
10-20% Exposed	0.7
20-30% Exposed	0.4
30-50% Exposed	3.8
50-80% Exposed	28.5
Exposed	64.3

Figure 18: Gold Minerals Exposure

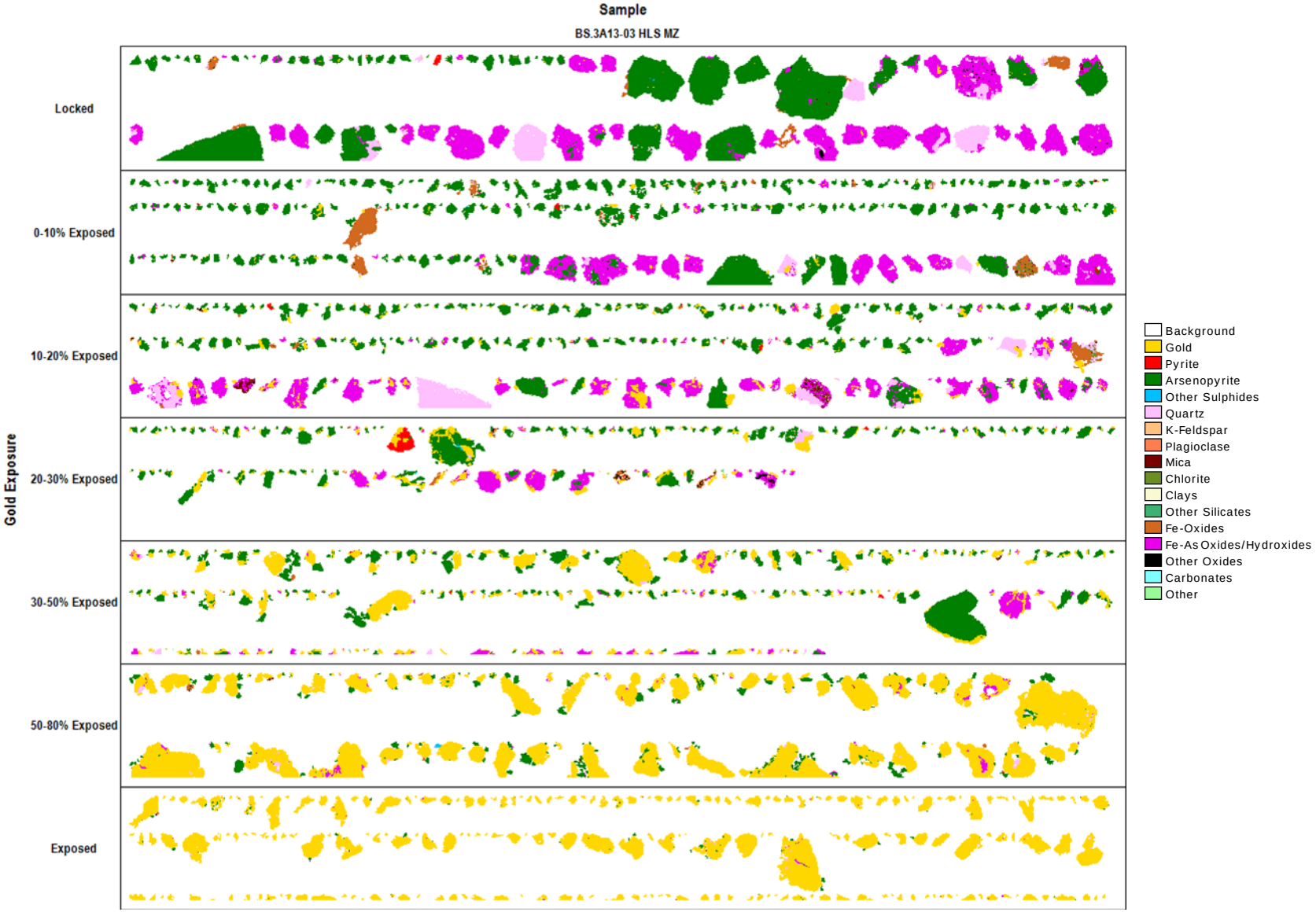


Figure 19: Image Grid of Gold Minerals Exposure

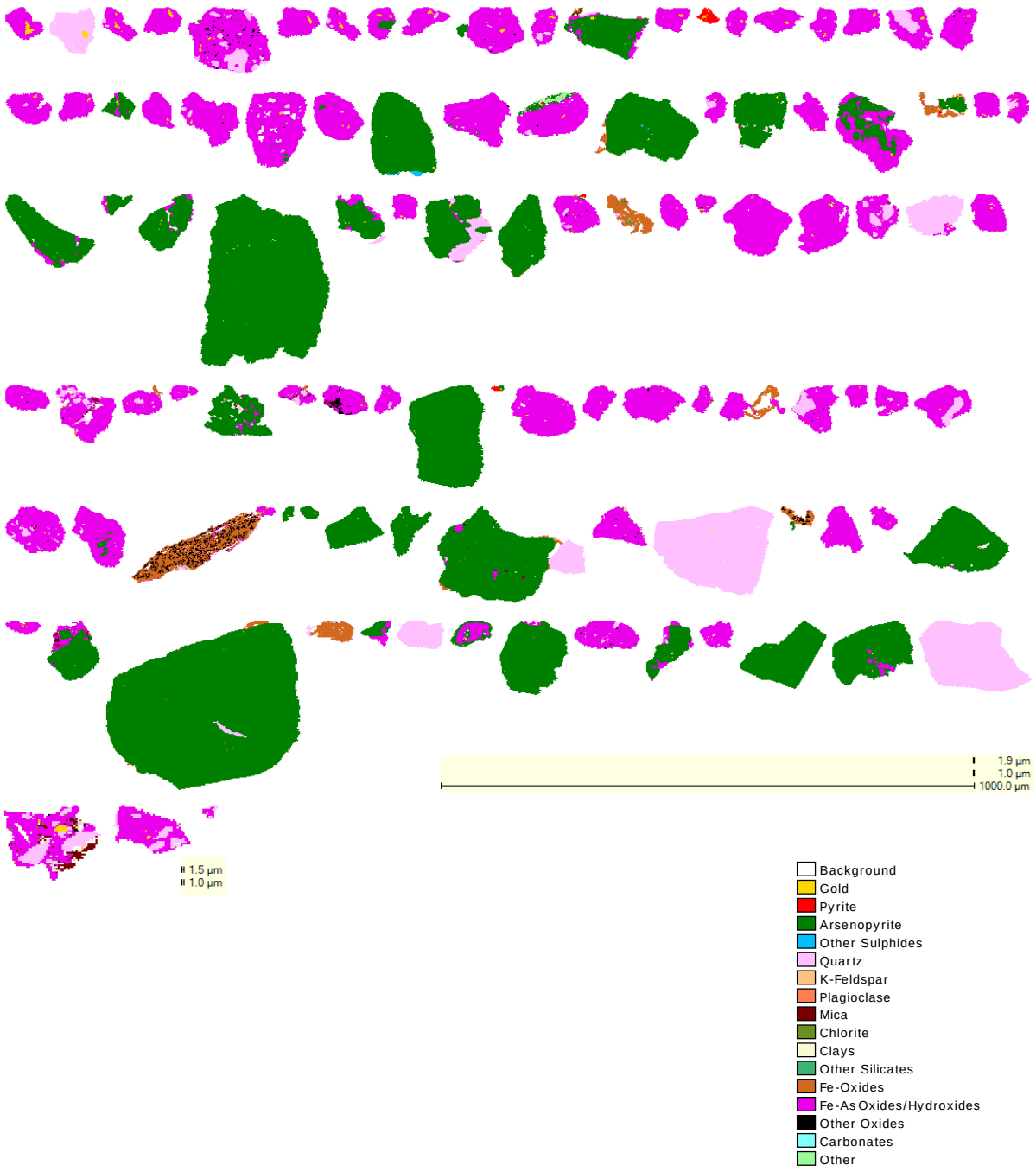


Figure 20: Selected QEMSCAN Particle Images of Locked Gold Grains

0-10% Exposed

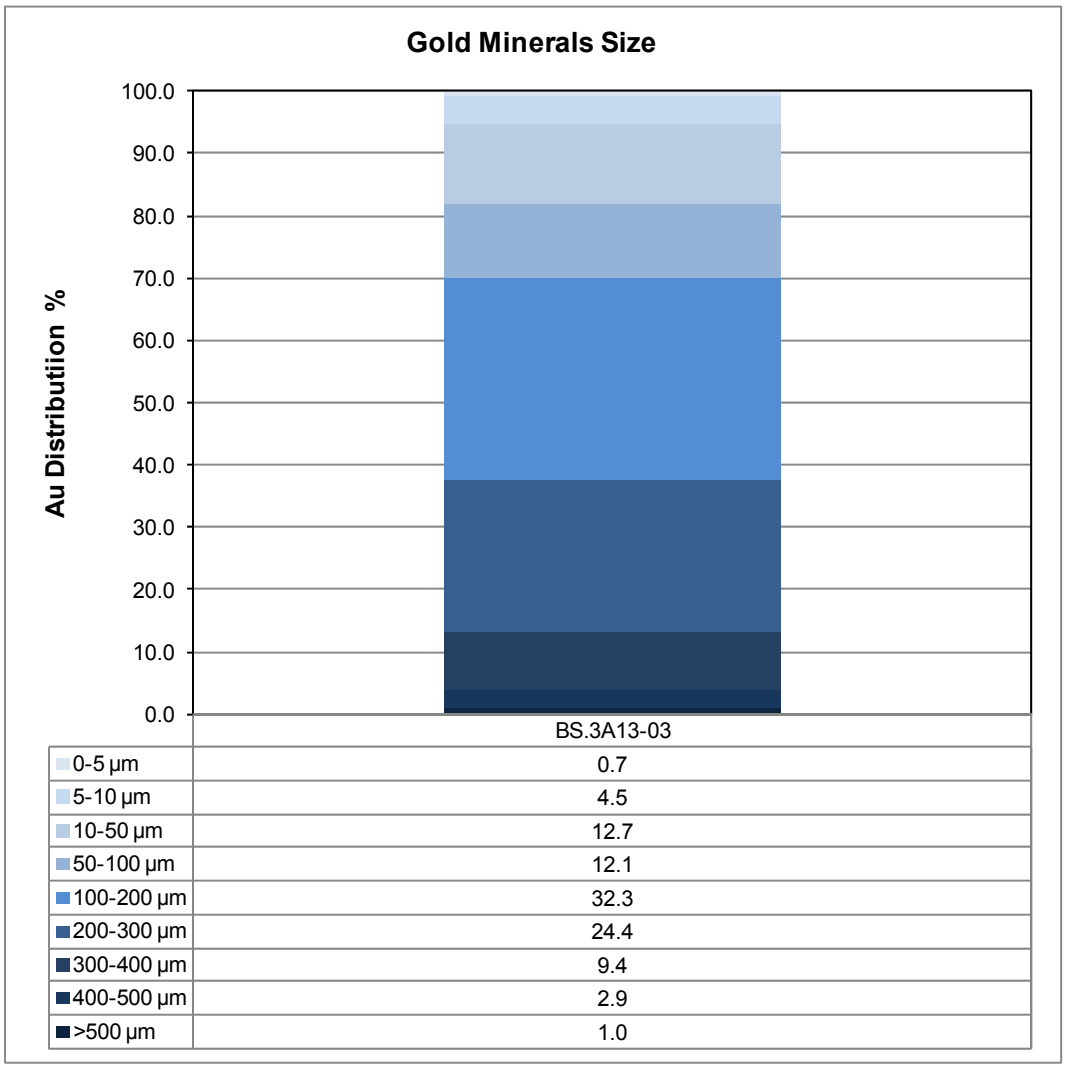
10-20% Exposed

Figure 21: Selected QEMSCAN Particle Images of Variously Exposed Gold Grains

5.6. Grain Size of Gold Minerals

Gold minerals grain size data along with an image grid are presented in Figure 22 and Figure 23. The data are weighted by the gold distribution in each of the fractions produced by HLS and Mozley tabling.

The majority of gold minerals are between 10 and 300 µm in size with approximately 57% of gold minerals between 100 and 300 µm in size. Approximately 13% of gold minerals are greater than 300 µm in size and 5% are less than 10 µm in size.



	BS.3A13-03
0-5 µm	0.7
5-10 µm	4.5
10-50 µm	12.7
50-100 µm	12.1
100-200 µm	32.3
200-300 µm	24.4
300-400 µm	9.4
400-500 µm	2.9
>500 µm	1.0

Figure 22: Gold Minerals Grain Size

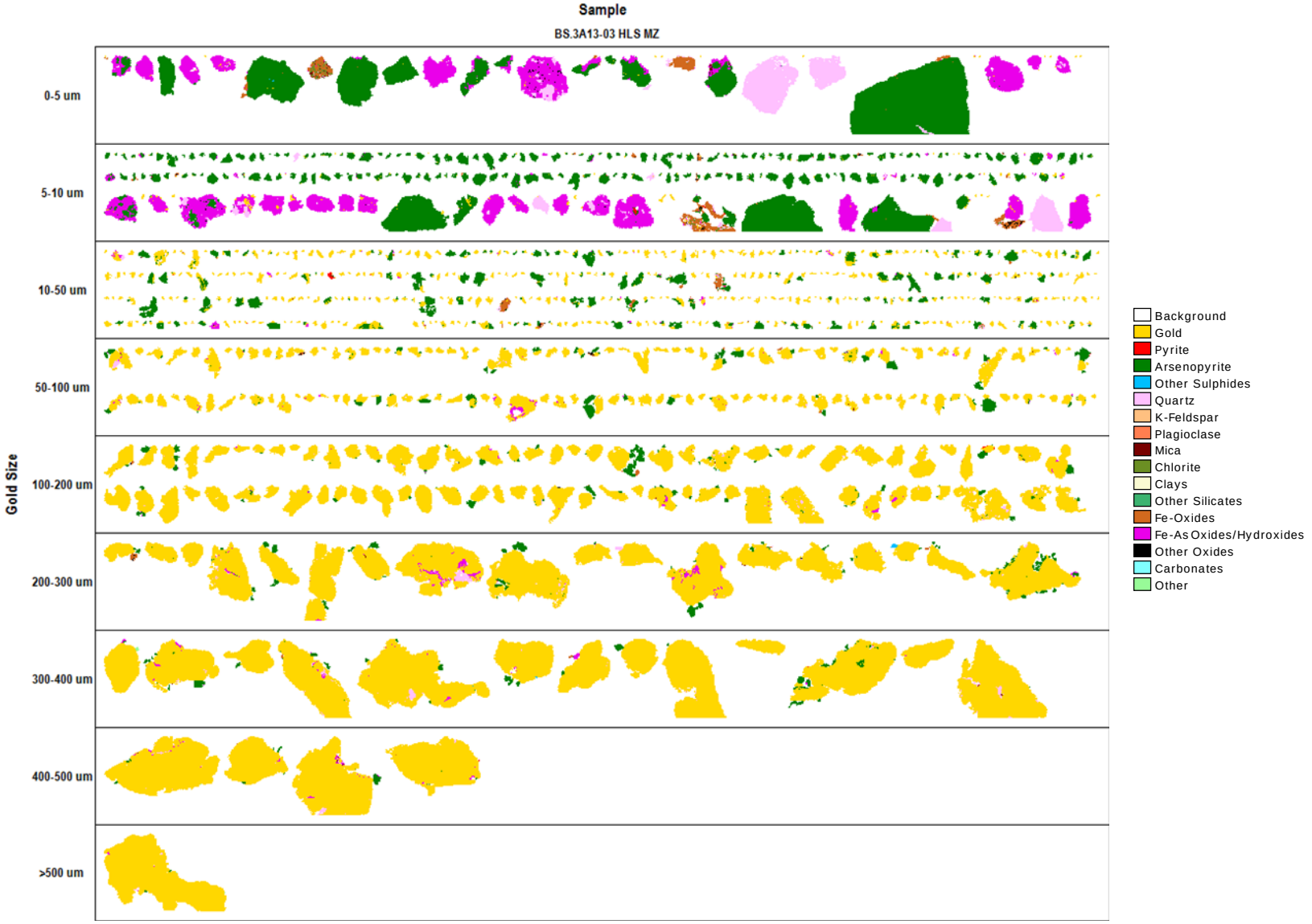


Figure 23: Image Grid of the Gold Mineral Size

Conclusions and Recommendations

The high definition mineralogical study of the BS.3A13-03 sample identified the following sample characteristics:

- The sample is mainly comprised of quartz along with minor mica. Arsenopyrite is the main sulphide mineral and occurs in trace (<1%) amounts. A Fe-As oxide/hydroxide mineral also occurs in trace amounts.

- The HLS sink fraction accounts for 7.6% of the sample mass and 89.1% of the gold and 77.8% of the silver. A total of 3901 gold grains were identified in the HLS sink fraction and 55 grains in the HLS float fraction.

- Approximately 90% of gold minerals are liberated with the remainder mainly occurring in associations with arsenopyrite and with Fe-As oxides/hydroxides and in complex particles. Approximately 97% of gold grains have surface exposure greater than 30% exposed. Gold in the sample is generally coarse grained with approximately 95% of the gold greater than 10 µm in size. The majority of the gold (81%) is between 10 and 300 µm in size.

- Silver mainly occurs in the gold minerals, which have an average composition of 91.9 wt% Au and 8.1 wt% Ag. Discrete silver minerals were not identified in this study and silver minerals liberation and association, exposure, and size characteristics are not reported.

Comments/Recommendations

- The HLS testwork indicates a very good upgrade of the gold through HLS (gravity) separation at the grind size of P_{80} of 106 µm. The losses to the float fraction are predominantly finer free gold grains (<50 µm) which could be lost due to entrainment. There are also occurrences of gold grains occurring locked or attached to quartz/feldspar and locked in Fe-As Oxides/Hydroxides.

- It is important to note that the occurrence of gold minerals in this report is based on the number of gold minerals identified in each fraction. As a result, there might be some bias due to poor statistical representation of gold minerals, particularly in the Sink Mid, Sink Tail, and Float fractions.

It must be noted that due to the difference in grain size, all size fractions contain particles that are close to the measurement area (1 µm) and the spacing of the measurement points and therefore can encounter less precision in the measurements. In addition, the X-ray beam can scatter at the edges of particles and can lead to inaccurate analytical results.

Appendix A – Certificate of Analysis

SGS

Certificate of Analysis

Work Order : VC141980

[Report File No.: 0000007570]

To: **Morgan Gibson-Wright**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Jun 24, 2014

P.O. No.	:	7012-JUN14
Project No.	:	CAVM-14196-102
No. Of Samples	:	2
Date Submitted	:	Jun 19, 2014
Report Comprises	:	Pages 1 to 4 (Inclusive of Cover Sheet)

Certified By : _____
Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R.	= Listed not received	I.S.	= Insufficient Sample
n.a.	= Not applicable	--	= No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted

Elements marked with the **@** symbol (e.g. @Cu) denote assays performed using accredited test methods

SGS Canada Inc. | Mineral Services Suite E - 3260 Production Way Burnaby BC t(604) 638-2349 f(604) 444-5486 www.ca.sgs.com

Member of the SGS Group (Société Générale de Surveillance)

SGS

Final : VC141980 Order: 7012-JUN14

Report File No.: 0000007570

Element	S	LOI	SiO2	Al2O3	Fe2O3	MgO	CaO	K2O
Method	GC_CSA06V	GO_XRF76V	GO_XRF76V	GO_XRF76V	GO_XRF76V	GO_XRF76V	GO_XRF76V	GO_XRF76V
Det.Lim.	0.005	-10.000	0.01	0.01	0.01	0.01	0.01	0.01
Units	%	%	%	%	%	%	%	%
BS.3A13-03 (S, As, Te, Sb)	0.083	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
BS.3A13-03 (WRA)	N.A.	0.598	97.0	0.90	0.85	0.09	<0.01	0.25

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Final : VC141980 Order: 7012-JUN14

Report File No.: 0000007570

Element	Na2O	TiO2	MnO	P2O5	Cr2O3	V2O5	Sum	As@
Method	GO_XRF76V	GO_XRF76V	GO_XRF76V	GO_XRF76V	GO_XRF76V	GO_XRF76V	GO_XRF76V	GE_ICM90A
Det.Lim.	0.01	0.01	0.01	0.01	0.01	0.01	0	5
Units	%	%	%	%	%	%	%	ppm
BS.3A13-03 (S, As, Te, Sb)	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	3890
BS.3A13-03 (WRA)	0.02	0.04	<0.01	<0.01	0.03	<0.01	99.7	N.A.

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Final : VC141980 Order: 7012-JUN14

Report File No.: 0000007570

Element	Te	Sb@
Method	GE_ICM90A	GE_ICM90A
Det.Lim.	0.05	0.1
Units	ppm	ppm
BS.3A13-03 (S, As, Te, Sb)	<0.05	4.0
BS.3A13-03 (WRA)	N.A.	N.A.

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Certificate of Analysis

Work Order : VC142395

[Report File No.: 0000008184]

To: **Morgan Gibson-Wright**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Aug 08, 2014

P.O. No.	:	MI7012-JUN14 BS.3A13-03 Sink
Project No.	:	CAVM-14196-102
No. Of Samples	:	6
Date Submitted	:	Jul 25, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Comments:

The first 3 samples were assayed to extinction due to high Au content

G_WGH79 has been included
This Report cancels and supersedes the Report No.008165 dated August 7, 2014 issued by SGS Canada (Production Way).

Certified By :

John Chiang
QC Chemist

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Report Footer:

L.N.R.	= Listed not received	I.S.	= Insufficient Sample
n.a.	= Not applicable	--	= No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted
Elements marked with the @ symbol (e.g. @Cu) denote assays performed using accredited test methods

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SGS

Final : VC142395 Order: MI7012-JUN14 BS.3A13-03 Sink

Report File No.: 0000008184

Element	Wt	Ag	Au@
Method	G_WGH79	GE_AAS21E	GO_FAG303
Det.Lim.	0	0.3	1
Units	g	g/t	g/t
BS 3A13-03 Sink Tip (21A)	12.611	447	10293.24
BS 3A13-03 Sink Tip Rep 1 (21B)	12.610	102	3015.11
BS 3A13-03 Sink Tip Rep 2 (21C)	11.470	153	6222.23
BS 3A13-03 Sink Sul (22A)	12.586	21.4	345.10
BS 3A13-03 Sink Sul Rep 1 (22B)	12.628	16.4	247.91
BS 3A13-03 Sink Sul Rep 2 (22C)	11.750	20.4	270.65

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SGS

Certificate of Analysis

Work Order : VC142123

[Report File No.: 0000007777]

To: **Morgan Gibson-Wright**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Jul 04, 2014

P.O. No.	:	MI7012-JUN14 BS.3A13-03 Sink Mid
Project No.	:	CAVM-14196-102
No. Of Samples	:	1
Date Submitted	:	Jul 03, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Certified By :

Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R. = Listed not received
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I.S. = Insufficient Sample
-- = No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted

Elements marked with the @ symbol (e.g. @Cu) denote assays performed using accredited test methods

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Final : VC142123 Order: MI7012-JUN14 BS.3A13-03 Sink Mid

Report File No.: 0000007777

Element	Ag@	Au
Method	AAS42E	FAA303
Det.Lim.	0.3	0.01
Units	g/t	g/t
BS.3A13-03 Sink Mid	10.1	93.9

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Certificate of Analysis

Work Order : VC142062

[Report File No.: 0000007676]

To: **Morgan Gibson-Wright**
F400101 SGS CANADA INC
3260 PRODUCTION WAY
BURNABY BC V5A 4W4

Date: Jun 30, 2014

P.O. No.	:	MI7012-JUN14 BS.3A13-03 Float, Sink
Project No.	:	CAVM-14196-102
No. Of Samples	:	4
Date Submitted	:	Jun 26, 2014
Report Comprises	:	Pages 1 to 2 (Inclusive of Cover Sheet)

Certified By :

Cam Chiang
Assistant Operations Manager

SGS Minerals Services Geochemistry Vancouver conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation which can be found at http://www.scc.ca/en/search/palcan/sgs

Report Footer:

L.N.R.	= Listed not received	I.S.	= Insufficient Sample
n.a.	= Not applicable	--	= No result

*INF = Composition of this sample makes detection impossible by this method

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

Methods marked with an asterisk (e.g. *NAA08V) were subcontracted

Elements marked with the @ symbol (e.g. @Cu) denote assays performed using accredited test methods

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Final : VC142062 Order: MI7012-JUN14 BS.3A13-03 Float, Sink

Report File No.: 0000007676

Element	Ag@	Au	S
Method	AAS42E	FAA303	GC_CSA06V
Det.Lim.	0.3	0.01	0.005
Units	g/t	g/t	%
BS.3A13-03 Float 34.7g	1.7	18.5	N.A.
BS.3A13-03 Float 20.4g	N.A.	N.A.	0.038
BS.3A13-03 Sink Tail 32.1g	4.6	41.0	N.A.
BS.3A13-03 Sink Tail 23g	N.A.	N.A.	0.090

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Appendix B – XRD Analysis

Qualitative X-Ray Diffraction

Report Prepared for:	*SGS Canada Inc*
Project Number/ LIMS No.	*14196-102/MI4524-JUN14*
Reporting Date:	*July 9, 2014*

Instrument:	BRUKER AXS D8 Advance Diffractometer
Test Conditions:	Co radiation, 40 kV, 35 mA Regular Scanning: Step: 0.02°, Step time:0.2s, 2θ range: 3-70°
Interpretations :	PDF2/PDF4 powder diffraction databases issued by the International Center for Diffraction Data (ICDD). DiffracPlus Eva software.
Detection Limit :	0.5-2%. Strongly dependent on crystallinity.

Contents:

Bernie C. Yeung, B.Sc.
Mineralogist

Huyun Zhou, Ph.D., P.Geo.
Senior Mineralogist

Report Prepared by: Kim Gibbs

SGS Minerals
a division of SGS Canada Inc.
P.O. Box 4300, 185 Concession Street, Lakefield, Ontario, Canada K0L 2H0
Tel: (705) 652-2000 Fax: (705) 652-6365 www.sgs.com www.sgs.com/met
Member of the SGS Group (SGS SA)

Method Summary

Mineral Identification and Interpretation:

Mineral identification and interpretation involve matching the diffraction pattern of an unknown test sample to patterns of single-phase reference materials. The reference patterns are compiled by the Joint Committee on Powder Diffraction Standards - International Center for Diffraction Data (JCPDS-ICDD) and released on software as a database of Powder Diffraction Files (PDF).

Interpretations do not reflect the presence of non-crystalline and/or amorphous compounds. Mineral proportions are based on relative peak heights and may be strongly influenced by crystallinity, structural group or preferred orientations. Interpretations and relative proportions should be accompanied by supporting petrographic and geochemical data (Whole Rock Analysis, Inductively Coupled Plasma - Optical Emission Spectroscopy, etc.).

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SGS Canada Inc
14196-102/MI4524-JUN14
09-Jul-14

Summary of Qualitative X-ray Diffraction Results

Crystalline Mineral Assemblage (relative proportions based on peak height)

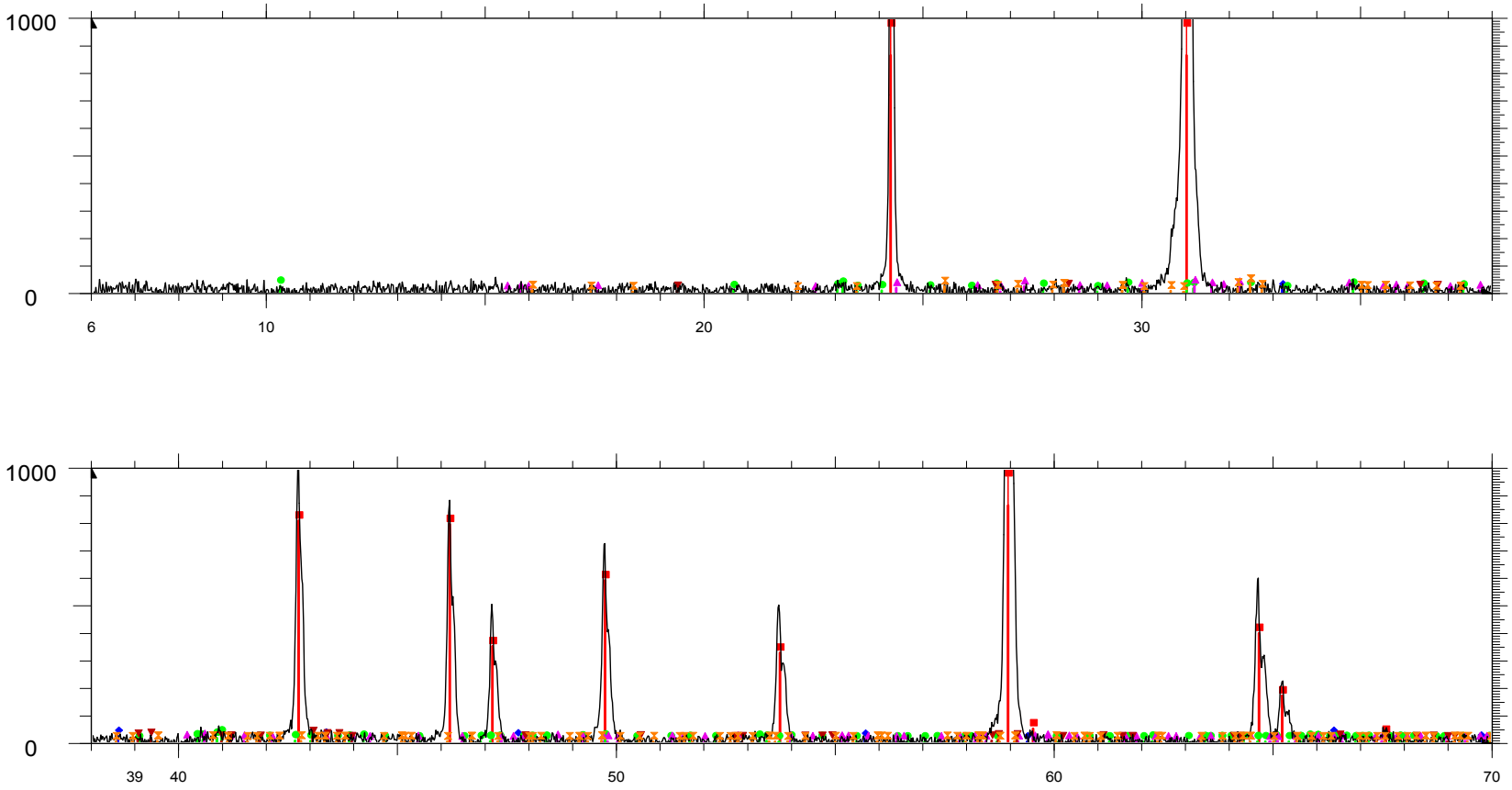
Sample ID	Major	Moderate	Minor	Trace
(1) BS.3A13-03	quartz	-	-	*pyrite, *mica, *potassium-feldspar *arsenopyrite, *plagioclase

** tentative identification due to low concentrations, diffraction line overlap or poor crystallinity*

Mineral	Composition
Arsenopyrite	FeAsS
Mica	$K(Mg,Fe)Al_2Si_3AlO_{10}(OH)_2$
Plagioclase	$Na(AlSi_3O_8)$
Potassium-Feldspar	$KAlSi_3O_8$
Pyrite	FeS_2
Quartz	SiO_2

The Qualitative XRD method (METH # 8-8-1) used by SGS Minerals Services, P.O. Box 4300, 185 Concession Street, Lakefield, Ontario, Canada K0L 2H0.
Tel: (705) 652-2000 Fax: (705) 652-6365 Mini-method available upon request.

BS.3A13-03


1000
0
6
10
20
30
1000
0
39
40
50
60
70
2-Theta - Scale
BS.3A13-03 - File: Jun4524-1.raw - Type: 2Th/Th locked - Start: 6.000 ° - End: 70.006 ° - Step: 0.019 ° - Step time: 12. s - Temp.: 25 °C (Room) - Time Started: 18 s - 2-Theta: 6.000 ° - Th
01-079-1910 (C) - Quartz - SiO2
01-071-2219 (C) - Pyrite - FeS2
01-082-2450 (C) - Muscovite - (Na0.07K0.90Ba0.01)(Al1.84Ti0.04Fe0.07Mg0.04)(Si3.02Al0.98)O10(
01-080-2106 (C) - Sanidine high - K(AlSi3O8)
00-025-1230 (D) - Arsenopyrite - FeAsS
01-076-0897 (C) - Albite low - Na(AlSi3O8)

Appendix C – Additional SEM-EDS Data

Sample	Spectrum	(wt%)														
		S	Fe	Ni	Cu	Zn	As	Se	Ag	Sb	Te	I	Au	Pb	Bi	Total
BS.3A13-03	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.0	0.0	0.0	92.3	0.0	0.0	100.0
	2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6	0.0	0.0	0.0	92.4	0.0	0.0	100.0
	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8	0.0	0.0	0.0	92.2	0.0	0.0	100.0
	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9	0.0	0.0	0.0	92.1	0.0	0.0	100.0
	5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.7	0.0	0.0	0.0	90.3	0.0	0.0	100.0
	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.6	0.0	0.0	0.0	90.4	0.0	0.0	100.0
	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	0.0	0.0	0.0	90.9	0.0	0.0	100.0
	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	0.0	0.0	0.0	90.2	0.0	0.0	100.0
	9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0	90.5	0.0	0.0	100.0
	10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.2	0.0	0.0	0.0	90.8	0.0	0.0	100.0
	11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8	0.0	0.0	0.0	92.2	0.0	0.0	100.0
	12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	92.0	0.0	0.0	100.0
	13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	92.0	0.0	0.0	100.0
	14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6	0.0	0.0	0.0	92.4	0.0	0.0	100.0
	15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.5	0.0	0.0	0.0	91.5	0.0	0.0	100.0
	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1	0.0	0.0	0.0	91.9	0.0	0.0	100.0
	17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4	0.0	0.0	0.0	91.6	0.0	0.0	100.0
	18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.8	0.0	0.0	0.0	91.2	0.0	0.0	100.0
	19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9	0.0	0.0	0.0	92.1	0.0	0.0	100.0
	20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2	0.0	0.0	0.0	91.8	0.0	0.0	100.0
	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2	0.0	0.0	0.0	91.8	0.0	0.0	100.0
	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	92.0	0.0	0.0	100.0
	23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4	0.0	0.0	0.0	91.6	0.0	0.0	100.0
	24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8	0.0	0.0	0.0	92.2	0.0	0.0	100.0
	25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6	0.0	0.0	0.0	92.4	0.0	0.0	100.0
	26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	92.0	0.0	0.0	100.0
	27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9	0.0	0.0	0.0	92.1	0.0	0.0	100.0
	28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8	0.0	0.0	0.0	92.2	0.0	0.0	100.0
	29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9	0.0	0.0	0.0	92.1	0.0	0.0	100.0
	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9	0.0	0.0	0.0	92.1	0.0	0.0	100.0
	31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	92.0	0.0	0.0	100.0
	32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8	0.0	0.0	0.0	92.2	0.0	0.0	100.0
	33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9	0.0	0.0	0.0	92.1	0.0	0.0	100.0
	34	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8	0.0	0.0	0.0	92.2	0.0	0.0	100.0
	35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.0	0.0	0.0	92.3	0.0	0.0	100.0
	36	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.0	0.0	0.0	92.3	0.0	0.0	100.0
	37	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6	0.0	0.0	0.0	92.4	0.0	0.0	100.0
	38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.5	0.0	0.0	0.0	92.5	0.0	0.0	100.0
	39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8	0.0	0.0	0.0	92.2	0.0	0.0	100.0
	40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.0	0.0	0.0	92.3	0.0	0.0	100.0
	41	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3	0.0	0.0	0.0	92.7	0.0	0.0	100.0
	42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.5	0.0	0.0	0.0	92.5	0.0	0.0	100.0
	43	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.5	0.0	0.0	0.0	91.5	0.0	0.0	100.0
	44	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6	0.0	0.0	0.0	92.4	0.0	0.0	100.0
	45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.0	0.0	0.0	92.3	0.0	0.0	100.0

n=45	S	Fe	Ni	Cu	Zn	As	Se	Ag	Sb	Te	I	Au	Pb	Bi
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1	0.0	0.0	0.0	91.9	0.0	0.0
Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	0.0	0.0	0.0	92.7	0.0	0.0
Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3	0.0	0.0	0.0	90.2	0.0	0.0
Std Dev	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.6	0.0	0.0

Appendix D – QEMSCAN Modes of Operation

QEMSCAN Operational Modes

The modes of QEMSCAN analysis used for this project were Particle Mineral Analysis (PMA), Specific Mineral Search (SMS), and Trace Mineral Search (TMS).

PMA is a two-dimensional mapping analysis aimed at resolving liberation and locking characteristics of a generic set of particles. A pre-defined number of particles are mapped at a point spacing selected in order to spatially resolve and describe mineral textures and associations. This mode is often selected to characterize concentrate products as both gangue and value minerals report in statistically abundant quantities to be resolved.

SMS is a modified PMA routine. However, in an SMS routine, a phase reports as a low-grade constituent and can be located by thresholding of the back-scattered electron intensity. Any accompanying phases of similar and higher brightness are also mapped. For example, this mode of measurement would be selected in ores of low sulphide grade, searching specifically for particles containing sulphide minerals.

TMS is similar to the SMS, but is used when a phase reports as a trace constituent which can be located by thresholding of the back-scattered electron intensity. The objective of this routine is to reject barren fields and increase analysis efficiency. This mode of measurement was conducted to identify and quantify the gold minerals in the Sink Sulphide, Sink Mid, Sink Tail, and HLS float fractions.

It should be noted that the energy dispersive X-ray characteristics for magnetite and hematite are nearly identical and that these two minerals cannot reliably by distinguished by QEMSCAN. Light elements such as Li, B, C, Be, O, and H cannot by discriminated by QEMSCAN analysis.