An Investigation into

GOLD DEPORTMENT STUDY ON FOUR COMPOSITE SAMPLES FROM THE

LINGMAN LAKE GOLD PROPERTY

prepared for

SIGNATURE EXPLORATION

Project 21021-01 – Final Report
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NOTES

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Table of Contents

List of Tables

List of Figures

Executive Summary

Four composite samples, identified as WZB, NZB, SZA and CZA, from Lingman Lake Gold Property were submitted to SGS Metallurgical Services for mineralogical examination, on behalf of Mr. Walter Hanych of Signature Exploration.

The objectives of this investigation were to determine the (I) bulk mineralogy of the samples and liberation of the sulphides, (II) occurrences of microscopic gold minerals (>0.5 µm), including speciation, grain size, liberation, and association, and (III) the overall gold distribution as determined through a comprehensive mineralogical and chemical analysis to assist the concurrent metallurgical testwork program.

This report describes a mineralogical test program using High Definition Mineralogy including XRD, TIMA-X (an acronym for TESCAN Integrated Mineral Analyzer), and chemical analysis. The sample preparation method is discussed in more detail in the body of this report.

Chemical Characterization for the Bulk Composites

The chemical analyses for the four composite samples, including gold and silver by fire assay, sulphur as sulphide by Leco, and arsenic by XRF, and whole rock analysis (WRA) by ICP-AES, are presented in Table I.

Table I: Chemical Characterization of the Four Composite Samples

Sample ID	Au g/t	Ag g/t	$S^=$ %	As %	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	K2O %	TiO2 %	MnO %	Cr2O3 %	V2O5 %
WZB	12.7	25.8	4.40	0.48	70.7	7.91	9.25	2.14	1.8	2.27	0.64	0.055	0.03	0.03
NZB	33.8	50.3	4.55	0.012	44.6	14.0	14.9	3.94	4.9	0.22	1.16	0.063	0.04	0.04
SZA	9.1	6.1	1.15	1.10	41.5	10.0	13.8	8.53	12.1	0.20	0.88	0.20	0.03	0.04
CZA	6.1	5.5	1.49	0.43	27.5	5.53	6.03	13.3	21.4	0.96	0.39	0.28	< 0.03	0.02

The chemical composition of the four composite samples exhibits distinct chemical signatures, reflecting a systematic variation in major oxides and trace elements.

WZB is strongly enriched in SiO_2 (70.7%) with low CaO (1.8%) and MgO (2.14%). NZB and SZA represent a transitional composition, with reduced SiO_2 (44.6% and 41.5%, respectively) and significantly increased Al_2O_3 (14.0% and 10.0%), Fe_2O_3 (14.9% and 13.8%), CaO (4.9% and 12.1%) and MgO (3.94% and 8.53%), intermediate in composition between WZB and CZA. CZA exhibits the most carbonate-dominated chemistry, with the lowest SiO_2 (27.5%) and the highest CaO (21.4%) and MgO (13.3%).

Precious metal content follows a different trend: NZB hosts the highest gold (33.8 g/t) and silver (50.3 g/t), while WZB carries moderate levels (Au 12.7 g/t, Ag 25.8 g/t), and SZA and CZA contain substantially lower grades (<10 g/t Au and Ag).

Sulphur as sulphide is high in WZB and NZB (~4.4 and 4.6%) but much lower in SZA and CZA (<1.5%).

Arsenic is notably high in SZA (1.1%), followed by WZB (0.48%) and CZA (0.43%), but negligible in NZB (0.012%).

Bulk Mineralogy

The bulk mineralogy of the sample was determined by a comprehensive TIMA study and complemented by XRD-SQ analysis. A summary of the calculated mineral distributions by TIMA is presented in Table II.

Table II: Modal Mineralogy of the Four Composite by TIMA Analyses

Mineral (%)	WZB	NZB	SZA	CZA
Gold	0.00	0.00	0.00	0.00
Pyrrhotite	0.08	0.02	0.01	0.65
Pyrite	6.33	6.57	1.30	1.75
Chalcopyrite	0.02	0.14	0.02	0.05
Arsenopyrite	1.21	0.00	3.37	1.27
Other Sulphides	0.06	0.04	0.04	0.03
Fe-Oxides	0.31	3.68	6.41	0.25
Ilmenite	0.12	2.02	0.02	0.00
Rutile	0.35	0.22	0.08	0.19
Quartz	54.6	1.07	1.95	15.4
Plagioclase	5.71	57.3	24.4	3.32
K-feldspars	5.98	0.06	0.28	3.72
Muscovite	5.31	0.02	0.08	0.97
Biotite	7.76	1.20	0.19	5.14
Chlorite	6.69	16.2	21.8	14.2
Pyroxenes	0.11	0.12	0.17	0.39
Amphibole	2.28	0.31	24.0	2.53
Epidote	0.39	0.18	2.07	0.16
Titanite	0.23	0.00	1.09	0.30
Other Silicates	0.59	0.05	0.85	0.22
Calcite	0.61	3.17	8.58	12.9
Dolomite	0.02	4.60	0.37	33.5
Ankerite	0.02	1.07	0.64	0.42
Apatite	0.23	0.82	0.18	0.17
Other Minerals	0.93	1.13	2.17	2.44
Total	100	100	100	100

The four composite samples contain different major minerals in varying abundances.

WZB consists primarily of quartz (54.6%), with moderate levels of mica (13.1%), minor amounts of chlorite (6.7%), pyrite (6.3%), plagioclase (5.7%), and potassium feldspar (6.0%), and trace amounts of arsenopyrite (1.2%), iron oxides (0.3%), other silicates (0.6%), and other minerals.

NZB consists primarily of plagioclase (57.3%), moderate of concentrations of chlorite (16.2%), minor amounts of pyrite (6.6%), iron oxide (3.7%), ilmenite (2.0%), calcite (3.2%), and dolomite (4.6%), and trace amounts of quartz (1.1%), biotite (1.2%), ankerite (1.1%), apatite (0.8%), and other minerals.

SZA consists of moderate concentrations of plagioclase (24.4%), amphibole (24.0%), and chlorite (21.8%), minor amounts of calcite (8.6%), iron oxide (6.4%), arsenopyrite (3.4%), epidote (2.1%), and other minerals, and trace amounts of quartz (1.9%), pyrite (1.3%), titanite (1.1%), ankerite (0.6%), dolomite (0.4%), and other silicates.

CZA consists primarily of dolomite (33.5%), moderate levels of quartz (15.4%), chlorite (14.2%), and calcite (12.9%), minor amounts of micas (6.0%), plagioclase (3.3%), potassium feldspar (3.7%), amphibole (2.5%) and other minerals, and trace amounts of pyrite (1.7%), arsenopyrite (1.3%), pyrrhotite (0.7%), ankerite (0.4%), iron oxide (0.2%), and other silicates.

Overall, the bulk mineralogy data correlates well with the chemical assay results, reflecting a systematic transition from quartz-dominated WZB to feldspar- and chlorite-rich NZB, then to SZA with additional amphibole and calcite, and finally to CZA, which is characterized by major dolomite content.

Gold Deportment

A – Elemental Distribution for Gravity Preconcentration Products

Approximately 1 kg of each composite sample was ground to 80% passing 150 µm and subjected to heavy liquid separation (HLS) at a specific gravity (SG) of 2.85 for preconcentration. Chemical assays for gold, iron, arsenic, and sulphur as sulphide (S^{2-}) were performed on the as-received head samples and on subsamples from the HLS products. The weights and assay results of each product are presented in Table III, along with calculated grades and elemental distributions.

Table III: Elemental Distribution for Heavy Liquid Separation (HLS) Products

Sample ID	Mass	Assays					Elemental Distribution				
		Au	Ag	Fe	As	$S^{=}$	Au	Ag	Fe	As	$S^{=}$
	%	g/t	g/t	%	%	%	%	%	%	%	%
WZB	**100**	**12.7**	**25.8**	**6.47**	**0.480**	**4.40**	**100**	**100**	**100**	**100**	**100**
WZB HLS Sink	23.2	*43.8*	*45.4*	*20.2*	*1.606*	*17.3*	*80.0*	*40.9*	*72.3*	*77.6*	*91.1*
WZB HLS Float	76.8	3.31	19.8	2.33	0.14	0.51	20.0	59.1	27.7	22.4	8.90
NZB	**100**	**33.8**	**50.3**	**10.4**	**0.012**	**4.55**	**100**	**100**	**100**	**100**	**100**
NZB HLS Sink	28.8	*97.9*	*138.4*	*25.4*	*0.032*	*14.8*	*83.5*	*79.3*	*70.2*	*76.3*	*93.6*
NZB HLS Float	71.2	7.81	14.6	4.36	0.004	0.41	16.5	20.7	29.8	23.7	6.42
SZA	**100**	**9.11**	**6.10**	**9.65**	**1.150**	**1.10**	**100**	**100**	**100**	**100**	**100**
SZA HLS Sink	45.1	*16.6*	*10.8*	*12.1*	*2.000*	*2.02*	*82.3*	*80.2*	*56.8*	*78.5*	*83.0*
SZA HLS Float	54.9	2.94	2.20	7.60	0.450	0.34	17.7	19.8	43.2	21.5	17.0
CZA	**100**	**6.06**	**5.45**	**4.22**	**0.430**	**1.49**	**100**	**100**	**100**	**100**	**100**
CZA HLS Sink	31.8	*13.6*	*10.3*	*6.6*	*1.173*	*4.37*	*71.2*	*59.9*	*49.7*	*86.7*	*93.1*
CZA HLS Float	68.2	2.56	3.20	3.11	0.084	0.15	28.8	40.1	50.3	13.3	6.87

Italic - Calculated by difference; Italic underline - grades by back calculation

Around 71% to 84% of gold, 41% to 80% of silver, 50% to 72% of iron, 76% to 87% of arsenic, and 83% to 94% of sulphur as sulphide are concentrated in the HLS sink fraction, which accounts for between 23% and 55% of the total mass. The remaining elemental grades report to the HLS float fraction.

B – Gold Deportment Study through TIMA Analysis

About 150 g of HLS Sink and 100 g of HLS material for each composite sample are riffled out for superpanning (SP) for further upgrading. A total of 20 to 24 polished sections per sample were prepared from the various SP products for microscopic gold mineral (gold particles that are >0.5 µm) scanning, performed using TIMA-X technology.

Table IV summarizes the comprehensive characterization of gold minerals detected by TIMA scanning by using all polished sections prepared for these four samples.

Table IV: Gold Mineral Characterization of the Four Composite Samples

Sample ID	Gold Mineral Type	Grain Counts	Mass Dist. (%)	Gold Mineral Exposure	Mass (%)	Gold Associated Minerals	Mass (%)	Gold Grain Size Dist.	Mass %	Grain Size Statistics	(µm)
WZB	Native Gold	113	23.8			Pure/Free/Liberated	73.3	>70 µm	2.43	Minimum	<0.5
	Electrum	269	19.0	Exposed	72.9	Fe/Fe-As and other Sulphide	4.42	50-70 µm	16.2	Median	22.8
	Kustelite	143	56.8	Exposed (0-80%)	18.1	Qtz/Fsp/Chl/Other silicates	19.3	50-20 µm	33.0	Maximum	102.7
	Petzite	61	0.16	Locked	8.96	Oxides and Carbonates	0.0	20-3µm	45.5	Mean	6.15
	Other Gold Minerals	6	0.25			Complex	2.98	<3 µm	2.83		
	Total	592	100	Total	100	Total	100		100		
NZB	Native Gold	221	5.18			Pure/Free/Liberated	52.5	>70 µm	0.44	Minimum	<0.5
	Electrum	1080	65.7	Exposed	48.4	Fe/Fe-As and other Sulphide	2.20	50-70 µm	8.80	Median	9.39
	Kustelite	846	28.9	Exposed (0-80%)	31.4	Qtz/Fsp/Chl/Other silicates	37.3	50-20 µm	22.3	Maximum	97.2
	Petzite	214	0.26	Locked	20.2	Oxides and Carbonates	2.36	20-3µm	62.3	Mean	5.81
	Other Gold Minerals	54	0.05			Complex	5.57	<3 µm	6.14		
	Total	2415	100	Total	100	Total	100		100		
SZA	Native Gold	513	16.9			Pure/Free/Liberated	22.8	>70 µm	0.00	Minimum	<0.5
	Electrum	783	36.7	Exposed	22.3	Fe/Fe-As and other Sulphide	2.35	50-70 µm	0.38	Median	8.52
	Kustelite	227	45.8	Exposed (0-80%)	63.3	Qtz/Fsp/Chl/Other silicates	47.0	50-20 µm	4.53	Maximum	65.8
	Petzite	43	0.35	Locked	14.4	Oxides and Carbonates	1.22	20-3µm	84.76	Mean	3.67
	Other Gold Minerals	9	0.20			Complex	26.7	<3 µm	10.34		
	Total	1575	100	Total	100	Total	100		100		
CZA	Native Gold	250	15.5			Pure/Free/Liberated	82.9	>70 µm	0.00	Minimum	<0.5
	Electrum	332	76.9	Exposed	79.4	Fe/Fe-As and other Sulphide	4.33	50-70 µm	0.00	Median	5.47
	Kustelite	88	7.34	Exposed (0-80%)	15.2	Qtz/Fsp/Chl/Other silicates	5.70	50-20 µm	0.00	Maximum	18.0
	Petzite	16	0.21	Locked	5.46	Oxides and Carbonates	0.79	20-3µm	84.37	Mean	3.30
	Other Gold Minerals	22	0.14			Complex	6.26	<3 µm	15.63		
	Total	708	100	Total	100	Total	100		100		

The main gold minerals found in the deposit are dominated by gold-silver alloys (AuAg), including native gold (Au≥75%, Ag≤25%), electrum (75%≤Au≤50%, 25%≤Ag≤50%) and kustelite (50%≤Au≤25%, 50%≤Ag≤75%), and trace amounts of petzite (Ag_3AuTe_2) and other gold minerals.

A total of 592 gold grains were detected in the WZB composite sample, which is dominated by electrum (56.8%), with native gold (23.8%) and kustelite (19.0%) as significant phases. Most grains are fully exposed (72.9%), with moderate grains as exposed (18.1%), and minor locked gold (8.96%). About 73.3% of gold occurs as pure/free/liberated particles, while the remainder is mainly associated with silicates (19.3%), and minor with sulphides (4.4%) and as complex (3%). Grain sizes range from <0.5 µm to 102.7 µm, averaging 6.2 µm with a median of 22.8 µm. To summarize the gold mineral size distributions: >50 µm (18.6%), 20–50 µm (33%), 3–20 µm (45.5%), and <3 µm (2.8%).

A total of 2,415 gold grains were detected in the NZB composite sample, which is dominated by electrum (65.7%), followed by kustelite (28.9%), and native gold (5.2%) as significant phases. Most grains are fully exposed (48.4%), with moderate amounts as exposed (31.4%) and locked gold (20.4%). About 52% of gold occurs as pure/free/liberated particles, while the remainder is mainly associated with silicates (37.3%), minor (2-10%) with sulphides, other oxides, and as complex. Grain sizes range from <0.5 µm to 97 µm, averaging 5.8 µm with a median of 9.4 µm. To summarize the gold mineral size distributions: >50 µm (9.3%), 20–50 µm (22.3%), 3–20 µm (62.3%), and <3 µm (6.1%).

A total of 1575 gold grains were detected in the SZA composite sample, which is dominated by kustelite (45.8%), electrum (36.7%), and native gold (16.9%) as significant phases. Most grains are fully exposed (22.3%) and exposed (63.3%) with moderate locked gold (14.4%). About 22.8% of gold occurs as pure/free/liberated particles, while the remainder is mainly associated with silicates (47%), moderate as complex (26.7%), and minor with sulphides, oxides and carbonates. Grain sizes range from <0.5 µm to 65.8 µm, averaging 3.7 µm with a median of 8.5 µm. To summarize the gold mineral size distributions: >50 µm (0.4%), 20–50 µm (4.5%), 3–20 µm (84.6%), and <3 µm (10.3%).

A total of 708 gold grains were detected in the CZA composite sample, which is dominated by electrum (76.9%), with native gold (15.5%) and kustelite (7.3%) as significant phases. Most grains are fully exposed (79.4%), with moderate exposed (15.2%) and minor locked gold (5.5%). About 82.9% of gold occurs as pure/free/liberated particles, while the remainder is mainly associated as complex (6.3%), and with silicates (5.7%), and sulphides (4%). Grain sizes range from <0.5 µm to 18 µm, averaging 3.3 µm with a median of 5.5 µm. Size distribution is skewed toward fine particles: 3–20 µm (84.4%), and <3 µm (15.6%).

C – Mineralogical Gold Recovery Estimation

Mineralogical gold recovery estimation can be calculated by two methods:

1 – Gold recovery based on gold mineral exposure:

Gold recovery based on gold mineral exposure assumes that all exposed particles (including fully exposed and those exposed with 0–80% surface area) at the current grinding size (150 µm, P_{80}) are leachable. The results are summarized in Table V.

Table V: Gold Recovery Estimated through Exposure

Sample ID	Gold Mineral Exposure	Mass (%)	Leachable Gold (%) (150µm P_{80})
WZB	Exposed	72.9	**91.0**
	Exposed (0-80%)	18.1	
	Locked	8.96	
NZB	Exposed	48.4	**79.8**
	Exposed (0-80%)	31.4	
	Locked	20.2	
SZA	Exposed	22.3	**85.6**
	Exposed (0-80%)	63.3	
	Locked	14.4	
CZA	Exposed	79.4	**94.6**
	Exposed (0-80%)	15.2	
	Locked	5.46	

The leachable gold estimated from mineral exposure at 150 µm (P_{80}) ranges from 79.8% to 94.6% across the four samples, with CZA showing the highest potential recovery and NZB the lowest. This recovery can be improved through finer grinding but may be influenced by gold mineral types, particularly high silver content in Au–Ag alloys and to a lesser extent, the petzite. Therefore, the estimation is based solely on the mineralogical data and does not consider any metallurgical processes that may affect recovery.

2 – Gold recovery based on gravity and leaching combination method.

The gravity and leaching recovery combination method involves first subjecting each composite sample to Heavy Liquid Separation (HLS at SG 2.85). A portion of the non-gravity recoverable (HLS Float) subsamples is then submitted for leaching tests. The estimated gold recovery for each sample is calculated based on the gold grade distribution in the HLS Sink after gravity separation, combined with the proportion of leached gold from the HLS Float. The results are summarized in Table VI.

Table VI: Gold Recovery to HLS Sink and Leached from HLS Float

Sample ID	Gold Recovery by Heavy Liquid Separation (@SG 2.85)		Au Recovery for HLS Float by CN Leach, %	Gold Recovery for HLS Float	Gold Recovery for Overvall Sample
	HLS Sink	HLS Float	24 h	(%)	(%)
WZB	80.00	20.0	63.2	12.64	**92.64**
NZB	83.50	16.5	79.6	13.13	**96.63**
SZA	82.30	17.7	60.5	10.71	**93.01**
CZA	71.20	28.8	74.4	21.43	**92.63**

Gold recovery estimated using the combined mineralogy and metallurgy method ranges from 92.6% to 96.6% across all samples, with most gold reporting to the HLS Sink fraction (at SG 2.85) and additional recovery achieved by leaching the HLS Float. This recovery can be further improved through finer grinding and more efficient gravity separation methods but may be influenced by gold mineral types, particularly high silver content in Au–Ag alloys.

Introduction

Four composite samples, referred to as WZB, NZB, SZA and CZA, from the Lingman Lake Gold Property, were received by the Advanced Mineralogy Facility at SGS Canada, Lakefield site, for bulk mineralogical characterization and gold mineral deportment study. The objectives of this investigation were to determine: (1) the bulk mineralogy of the sample, (2) the gold deportment including mineral speciation, grain size, exposure, liberation, and association, and (3) the overall gold distribution as determined through a comprehensive mineralogical, metallurgical and chemical analysis, to assist the concurrent geology investigation and possible future metallurgy testwork.

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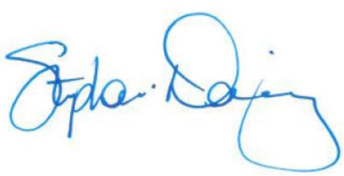

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Testwork Summary

1. Sample Reception, Preparation, and Characterization

1.1. Sample Preparation

Approximately 2 to 4 kg of four composite samples were received for TIMA modal mineralogy, XRD-SQ bulk analysis, and mineralogical gold deportment studies. About 1,500 g of each as-received sample was riffled out, stage-crushed, and ground to a P_{80} of 150 µm. The ground material was then riffled for the various testwork.

Subsamples were taken for chemical assays for the whole rock chemistry, arsenic, and sulphur as sulphide for data validation purposes, and for polished section preparation for the TIMA analysis. For the TIMA bulk mineralogy analysis, each sample was analyzed as one size fraction with an approximate P_{80} of 150 µm.

For the XRD-SQ analysis, a cut (~20 g) of the ground sample was riffled out and reground to 100% passing 75 µm. A representative 2 g subsample was prepared as a pressed mount and scanned by the XRD instrument for crystalline mineral identification and semi-quantitative analysis.

For the gold deportment study, approximately 200 g of each sample was initially riffled out for chemical assays (Au, Ag, Fe, As, and S), and approximately 1000 grams was then submitted for gravity preconcentration procedure using heavy liquid separation at a special gravity of 2.85, and superpanning (SP)(Figure 1).

The purpose of the HLS and SP technique is to concentrate the minerals in a sample based on their specific gravity. Subsamples of SP products, including SP Tip, SP Sulphides (Sul), SP Middlings (Mid), and SP Tails were generated through superpanning. Subsamples of each SP product were riffled out for polished section preparation for gold mineral examination. Subsamples with enough material were also submitted for gold and silver fire assay for metal distribution analysis.

A total of 22 polished sections (PS) per sample were prepared from the various SP products for microscopic or visible (typically gold grains >0.5µm) gold scanning by TIMA-X.

In order to determine the overall gold recovery and also aid in the mineralogy deportment characterization of gold in the HLS Float products, a 300 g subsample of the HLS Float were subjected to cyanide leach gold extraction without additional grinding or pre-treatment.

The general glossary and terminology for gold deportment studies is provided in Appendix A, the certificates of chemical analyses are presented in Appendix B, XRD-SQ bulk report in Appendix C, the bulk mineralogy results by TIMA in Appendix D, the data for gold deportment TIMA-X study in Appendix E, and cyanide leach report for HLS Floats in Appendix F.

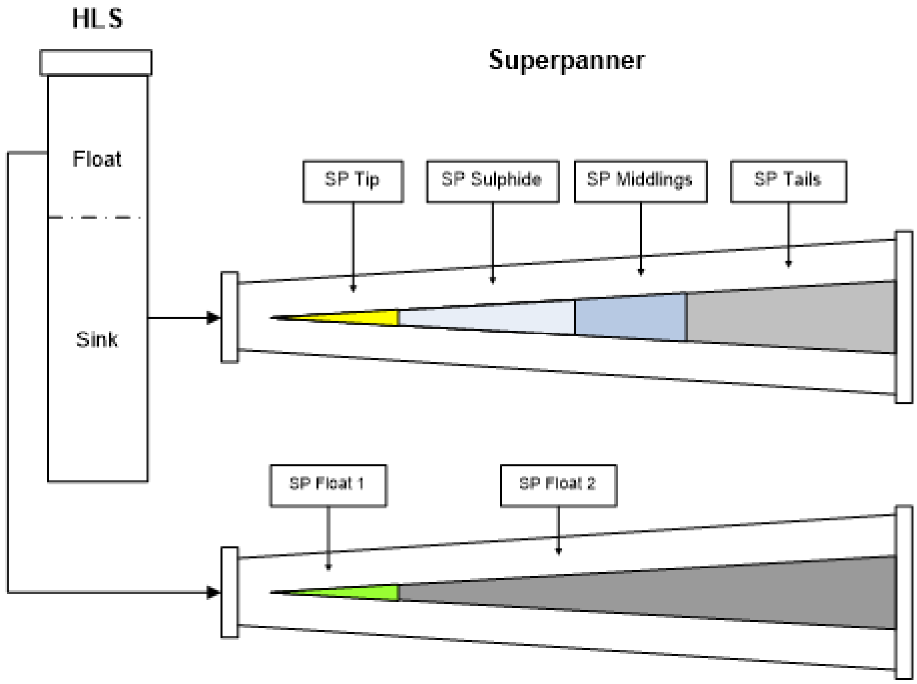


Figure 1: Schematic Illustration of the Heavy Liquid Separation and Superpanning Preconcentration Procedure

2. Chemical Analysis for the Composite Samples

Chemical analyses were conducted on the as-received subsamples for gold and silver by fire assay, Whole Rock Analysis (WRA) (including Al, Ca, Cr, Fe, K, Mg, Mn, Si, Ti, and V) by ICP sodium peroxide fusion method, and sulphur as sulphide by Leco, and arsenic by XRF. The results are listed in Table 1.

Table 1: Chemical Assays for the Antelope Master Composite

Sample ID	Au g/t	Ag g/t	$S^{=}$ %	As %	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	K2O %	TiO2 %	MnO %	Cr2O3 %	V2O5 %
WZB	12.7	25.8	4.40	0.48	70.7	7.91	9.25	2.14	1.8	2.27	0.64	0.055	0.03	0.03
NZB	33.8	50.3	4.55	0.012	44.6	14.0	14.9	3.94	4.9	0.22	1.16	0.063	0.04	0.04
SZA	9.1	6.1	1.15	1.10	41.5	10.0	13.8	8.53	12.1	0.20	0.88	0.20	0.03	0.04
CZA	6.1	5.5	1.49	0.43	27.5	5.53	6.03	13.3	21.4	0.96	0.39	0.28	< 0.03	0.02

WZB is strongly enriched in SiO_2 (70.7%), with minor amounts of Al_2O_3 (7.9%), Fe_2O_3 (9.2%), K_2O (2.3%) and MgO (2.1%), and low CaO (1.8%), and trace of TiO_2 (0.64%) and other elements.

NZB and SZA represent an intermediate composition between WZB and CZA, with reduced SiO_2 (44.6% and 41.5%, respectively) and significantly increased Al_2O_3 (14.0% and 10.0%), Fe_2O_3 (14.9% and 13.8%), CaO (4.9% and 12.1%) and MgO (3.94% and 8.53%), and trace of TiO_2 (1.2% and 0.88%) and other elements.

CZA exhibits the most carbonate-dominated chemistry, with the lowest SiO_2 (27.5%) and the highest CaO (21.4%) and MgO (13.3%), with minor amounts of Fe_2O_3 (6.0%), Al_2O_3 (5.5%), and trace of TiO_2 (0.39%), K_2O (0.96%) and other elements.

Precious metal content follows a different trend: NZB hosts the highest gold (33.8 g/t) and silver (50.3 g/t), while WZB carries moderate levels (Au 12.7 g/t, Ag 25.8 g/t), and SZA and CZA contain substantially lower grades (Au 9.1 g/t and 6.1g/t, Ag 6.1 g/t and 5.5 g/t respectively).

Sulphur as sulphide is high in WZB and NZB (~4.4–4.6%) but much lower in SZA (1.1%) and CZA (1.5%).

Arsenic is notably higher in the SZA (1.1%), followed by WZB (0.48%) and CZA (0.43%), but negligible in NZB (0.012%).

3. Mineralogical Characterization

The bulk mineralogy of the four Composite samples was determined by a comprehensive TIMA study and complemented by XRD-SQ analysis.

3.1. X-Ray Diffraction Results

X-ray Diffraction (XRD) quantitative analysis through RIR (Reference Intensity Ratio) method is performed based on the comparison of the intensity (I) of one peak from the phase being quantified to the intensity of a standard peak from a reference material (e.g. Ic for corundom). Each mineral/crystalline phase has a constant I/Ic value which is used to determine the amount of that mineral/phase in a sample.

The abundances (in weight %) of all minerals identified for the bulk sample are generated by Bruker-EVA Software. These data are reconciled with a bulk chemistry (e.g. whole rock analysis including SiO2, Al2O3, Na2O, K2O, CaO, MgO, Fe2O3, Cr2O3, MnO, TiO2, P2O5, V2O5, or other chemical data) to show the difference between the assay results and elemental concentrations determined by XRD.

The results are summarized in Table 2, including the mineral abundance and formula. The complete XRD report, with the summary and the patterns, is presented in Appendix C.

Table 2: Semi-Quantitative X-Ray Diffraction Results

Mineral	Formula/Composition	WZB (wt %)	NZB (wt %)	SZA (wt %)	CZA (wt %)
Quartz	SiO_2	53.9	1.2	1.5	12.2
Plagioclase	$(NaSi,CaAl)AlSi_2O_8$	7.2	57.9	25.4	3.3
Amphibole	$(Na,K)Ca_2(Fe,Mg)_5(Al,Si)_8O_{22}(OH)_2$	3.9	-	24.7	2.2
Diopside	$CaMgSi_2O_6$	2.1	-	2.9	-
Biotite	$K(Mg,Fe)_3(AlSi_3O_{10})(OH)_2$	5.0	1.3	-	6.0
Muscovite	$KAl_2(AlSi_3O_{10})(OH)_2$	9.6	-	-	-
Chlorite	$(Fe,(Mg,Mn)_5,Al)(Si_3Al)O_{10}(OH)_8$	4.4	13.7	25.7	10.7
Microcline	$KAlSi_3O_8$	3.6	0.5	1.2	1.8
Talc	$Mg_3Si_4O_{10}(OH)_2$	-	1.6	-	9.8
Pyrite	FeS_2	7.7	8.5	1.3	2.3
Arsenopyrite	FeAsS	1.0	-	2.2	0.9
Ilmenite	$FeTiO_3$	-	1.4	0.6	-
Rutile	TiO_2	0.4	0.3	0.6	0.4
Magnetite	Fe_3O_4	-	1.2	-	-
Calcite	$CaCO_3$	0.5	5.9	13.2	14.8
Dolomite	$CaMg(CO_3)_2$	-	2.0	0.5	33.8
Ankerite	$CaFe(CO_3)_2$	-	3.8	-	1.5
Rhodochrosite	$MnCO_3$	-	-	0.3	0.5
Stilpnomelane	$K(Fe^{2+},Mg,Fe^{3+})_8(Si,Al)_{12}(O,OH)_{27}\cdot nH_2O$	0.8	0.7	-	-
TOTAL		100	100	100	100

WZB consists primarily of quartz (54%), with minor amounts (2-10%) of muscovite, biotite, pyrite, chlorite, plagioclase, potassium-feldspar, amphibole and pyroxene, and trace amounts (<2%) of arsenopyrite, rutile, calcite and stilpnomelane.

NZB consists primarily of plagioclase (57.9%), moderate levels of chlorite (13.7%), minor amounts (2-10%) of pyrite, calcite, ankerite and dolomite, and trace amounts (<2%) of quartz, biotite, talc, potassium-feldspar, ilmenite, magnetite, rutile and stilpnomelane.

SZA consists of moderate concentrations of plagioclase (25.4%), amphibole (24.7%), chlorite (25.7%) and calcite (13.2%), minor amounts (2-10%) of diopside and arsenopyrite, and trace amounts (<2%) of quartz, potassium- feldspar, pyrite, rutile, ilmenite, dolomite and rhodochrosite.

CZA consists primarily of dolomite (33.8%), moderate levels of quartz (12.2%), chlorite (10.7%), and calcite (14.8%), minor amounts (2-10%) of talc, biotite, plagioclase, pyrite and amphibole, and trace amounts (<2%) of arsenopyrite, potassium feldspar, rutile, ankerite and rhodochrosite.

Overall, the bulk mineralogy data correlates well with the chemical assay results.

3.2. TIMA Bulk Analysis

The modal mineralogy and the liberation and association characteristics of key sulphide minerals for the as-received sample was performed using high-definition mineralogical analysis by TIMA technology.

All the TIMA bulk mineralogy data for the four samples, including mineral abundance (wt%), average size, and target sulphide mineral liberation, association and size distribution is presented in Appendix D, and summarized below.

3.2.1. Modal Mineralogy

The bulk modal mineralogy results of the four composite samples are summarized in Table 3, including mineral mass (%) and main grain size by frequency (µm), and is presented in Figure 2.

The four composite samples contain different major minerals in varying abundances.

WZB consists primarily of quartz (54.6%), with moderate levels of mica (13.1%), minor amounts of chlorite (6.7%), pyrite (6.3%), plagioclase (5.7%), and potassium feldspar (6.0%), and trace amounts of arsenopyrite (1.2%), iron oxides (0.3%), other silicates (0.6%), and other minerals.

NZB consists primarily of plagioclase (57.3%), moderate of concentrations of chlorite (16.2%), minor amounts of pyrite (6.6%), iron oxide (3.7%), ilmenite (2.0%), calcite (3.2%), and dolomite (4.6%), and trace amounts of quartz (1.1%), biotite (1.2%), ankerite (1.1%), apatite (0.8%), and other minerals.

SZA consists of moderate concentrations of plagioclase (24.4%), amphibole (24.0%), and chlorite (21.8%), minor amounts of calcite (8.6%), iron oxide (6.4%), arsenopyrite (3.4%), epidote (2.1%), and other minerals, and trace amounts of quartz (1.9%), pyrite (1.3%), titanite (1.1%), ankerite (0.6%), dolomite (0.4%), and other silicates.

CZA consists primarily of dolomite (33.5%), moderate levels of quartz (15.4%), chlorite (14.2%), and calcite (12.9%), minor amounts of micas (6.0%), plagioclase (3.3%), potassium feldspar (3.7%), amphibole (2.5%) and other minerals, and trace amounts of pyrite (1.7%), arsenopyrite (1.3%), pyrrhotite (0.7%), ankerite (0.4%), iron oxide (0.2%), and other silicates.

Overall, the bulk mineralogy data correlates well with the chemical assay and XRD results, reflecting a systematic transition from quartz-dominated WZB to feldspar- and chlorite-rich NZB, then to SZA with additional amphibole and calcite, and finally to CZA, which is characterized by major dolomite content.

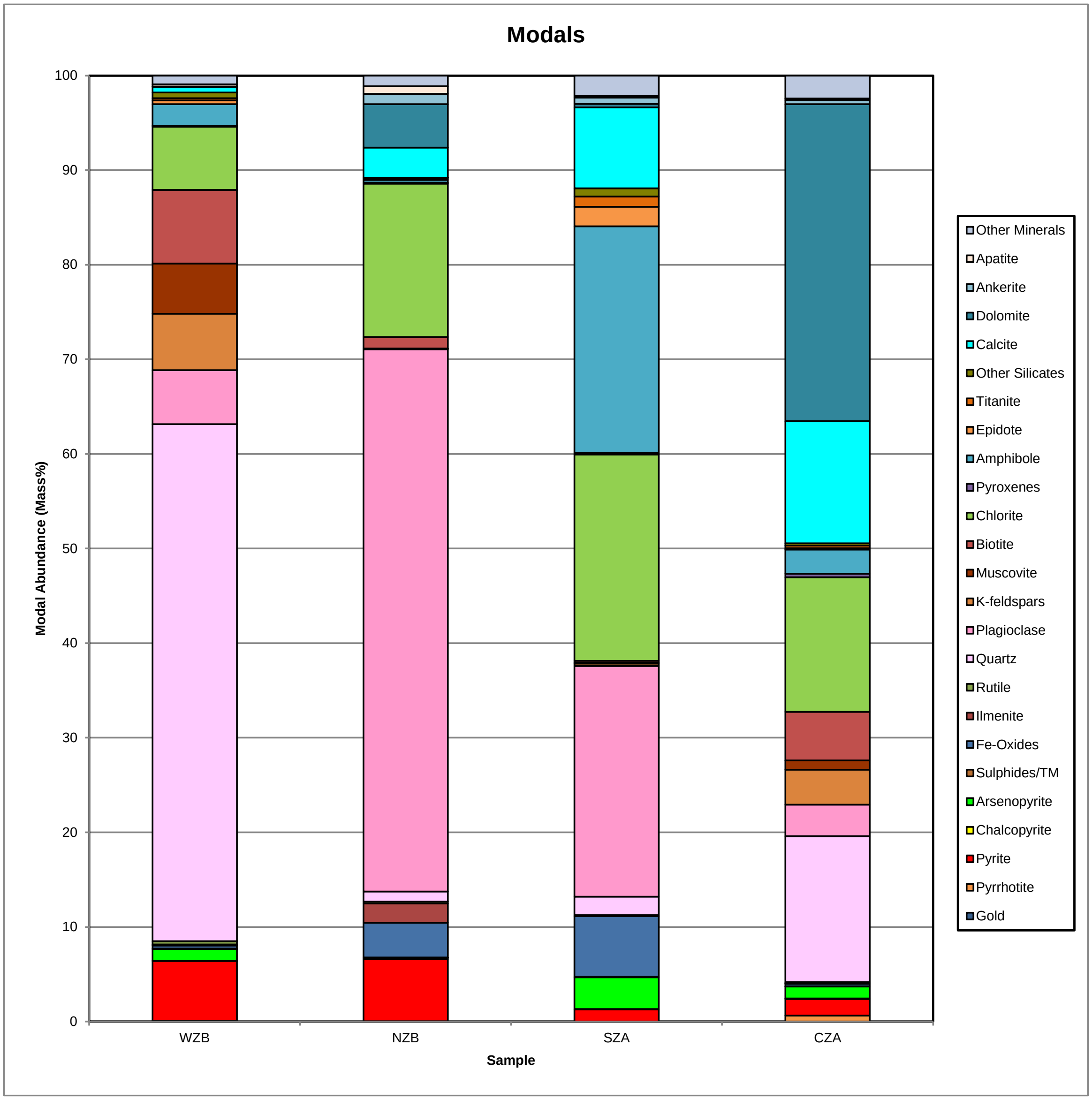


Figure 2: TIMA Mineral Distribution (wt. %)

Table 3: TIMA Modal Mineralogy for the Four Composite Samples

Survey		**21021-01 / MI5014-JUL25**			
Project		**Signature Exploration Ltd**			
Sample		**WZB**	**NZB**	**SZA**	**CZA**
Mass % of Size Fraction [%]		100.0	100.0	100.0	100.0
Mineral Mass (%)	Gold	0.00	0.00	0.00	0.00
	Pyrrhotite	0.08	0.02	0.01	0.65
	Pyrite	6.33	6.57	1.30	1.75
	Chalcopyrite	0.02	0.14	0.02	0.05
	Arsenopyrite	1.21	0.00	3.37	1.27
	Other Sulphides	0.06	0.04	0.04	0.03
	Fe-Oxides	0.31	3.68	6.41	0.25
	Ilmenite	0.12	2.02	0.02	0.00
	Rutile	0.35	0.22	0.08	0.19
	Quartz	54.6	1.07	1.95	15.4
	Plagioclase	5.71	57.3	24.4	3.32
	K-feldspars	5.98	0.06	0.28	3.72
	Muscovite	5.31	0.02	0.08	0.97
	Biotite	7.76	1.20	0.19	5.14
	Chlorite	6.69	16.2	21.8	14.2
	Pyroxenes	0.11	0.12	0.17	0.39
	Amphibole	2.28	0.31	24.0	2.53
	Epidote	0.39	0.18	2.07	0.16
	Titanite	0.23	0.00	1.09	0.30
	Other Silicates	0.59	0.05	0.85	0.22
	Calcite	0.61	3.17	8.58	12.9
	Dolomite	0.02	4.60	0.37	33.5
	Ankerite	0.02	1.07	0.64	0.42
	Apatite	0.23	0.82	0.18	0.17
	Other Minerals	0.93	1.13	2.17	2.44
	Total	100	100	100	100
Mean Line Intercept Length (μm)	Gold	4	5	5	7
	Pyrrhotite	10	7	11	15
	Pyrite	19	20	17	17
	Chalcopyrite	7	9	7	6
	Arsenopyrite	12	9	12	17
	Other Sulphides	8	6	6	6
	Fe-Oxides	6	13	9	6
	Ilmenite	9	11	10	6
	Rutile	8	6	7	7
	Quartz	20	10	9	18
	Plagioclase	12	16	13	10
	K-feldspars	10	7	10	14
	Muscovite	7	6	8	8
	Biotite	9	8	5	10
	Chlorite	8	9	8	10
	Pyroxenes	9	7	5	7
	Amphibole	12	5	9	8
	Epidote	8	6	6	6
	Titanite	8	4	10	9
	Other Silicates	6	5	8	7
	Calcite	9	10	9	10
	Dolomite	7	12	7	19
	Ankerite	6	7	5	7
	Apatite	8	10	7	8
	Other Minerals	5	5	5	6

3.2.2. Liberation and Association of the Main Sulphides

The categories related with TIMA Liberation and Associations definitions are summarized below:

Pure – A particle that has 100% volume of mineral of interest.
Free- A particle that has ≥ 95% volume of mineral of interest.
Liberated - A particle that has ≤ 95%-≥80% volume of mineral of interest.
Binary Associations- A particle that has ≥ 95 area% of the two minerals of interest individually or grouped.
Complex - Particles that do not fall into the above categories

The liberation and association of the main gold carrier minerals including iron sulphide (pyrite and pyrrhotite) and arsenopyrite are presented in the Appendix D and summarized below.

3.2.2.1. Liberation and Association of the Main Iron Sulphides

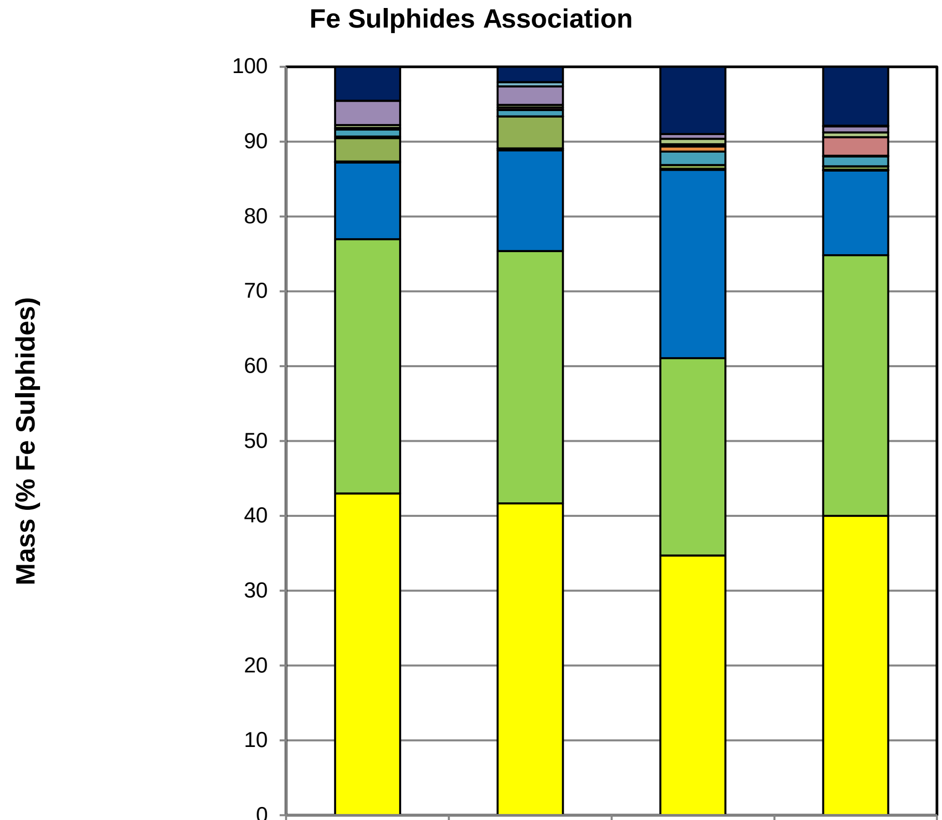
The liberation and association characteristics of iron sulphide (mainly as pyrite but also minor as pyrrhotite) for the four composite samples are presented in Figure 3.

The total amount of iron sulphide in sample WZB is 6.4%. Of this amount, approximately 87.2% of the iron sulphide particles are pure, free, and liberated; 0.1% are binary and associated with arsenopyrite, other sulphides, and iron/titanium oxides; 8.1% are associated with silicates; 0.03% are associated with carbonates and 4.5% are associated with complex associations.

The total amount of iron sulphide in sample NZB is 6.6%. Of this amount, approximately 88.8% of the iron sulphide particles are pure, free, and liberated; 0.28% are binary and associated with arsenopyrite, other sulphides, and iron/titanium oxides; 7.9% are associated with silicates; 0.8% are associated with carbonates, and 2.1% are associated with complex associations.

The total amount of iron sulphide in sample SZA is 1.3%. Of this amount, approximately 86.2% of the iron sulphide particles are pure, free, and liberated; 0.15% are binary and associated with arsenopyrite, other sulphides, and iron/titanium oxides; 4.4% are associated with silicates; 0.2% are associated with carbonates, and 9.0% are associated with complex associations.

The total amount of iron sulphide in sample CZA is 2.4%. Of this amount, approximately 86.1% of the iron sulphide particles are pure, free, and liberated; 0.11% are binary and associated with arsenopyrite, other sulphides, and iron/titanium oxides; 3.4% are associated with silicates; 2.5% are associated with carbonates, and 7.9% are associated with complex associations.



	WZB	NZB	SZA	CZA
Complex	4.54	2.09	8.99	7.90
FeS: Qtz/Feld:Carb	0.01	0.52	0.01	0.06
FeS: Qtz/Feld:Chl/Bt	3.25	2.48	0.62	0.81
FeS: Other Minerals	0.41	0.34	0.76	0.65
FeS: Carbonates	0.02	0.30	0.22	2.46
FeS: Other Silicates	0.06	0.00	0.08	0.00
FeS: Amph/Pyx/Ep	0.10	0.05	0.65	0.12
FeS: Chlorite/Biotite	0.96	0.85	1.79	1.29
FeS: Muscovite/Kaolinite	0.23	0.00	0.00	0.01
FeS: Quartz/Feldspars	3.11	4.27	0.53	0.48
FeS: Ilmenite/Rutile	0.01	0.05	0.00	0.00
FeS: Fe-Oxides	0.04	0.19	0.02	0.05
FeS: Sulphides/TM	0.01	0.04	0.02	0.03
FeS: Arsenopyrite	0.04	0.00	0.11	0.02
Lib Fe Sulphides	10.3	13.5	25.2	11.3
Free Fe Sulphides	34.0	33.7	26.3	34.8
Pure Fe Sulphides	43.0	41.7	34.7	40.0

Figure 3: Iron Sulphide Liberation and Association for the Four Composite Samples

3.2.2.2. Liberation and Association of Arsenopyrite

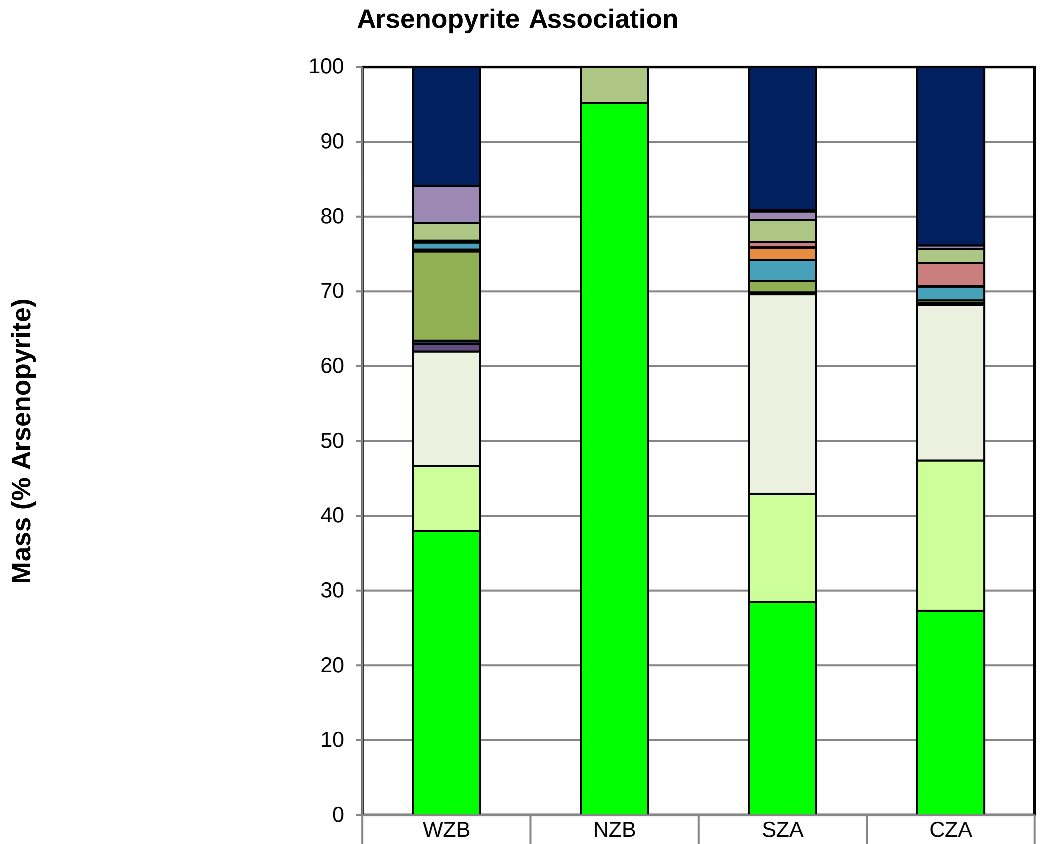
The liberation and association characteristics of arsenopyrite for the four composite samples are presented in Figure 4.

The total amount of arsenopyrite in sample WZB is 1.21%. Of this amount, approximately 61.9% of the arsenopyrite particles are pure, free, and liberated; 1.46% are binary and associated with iron sulphide, other sulphides, and iron/titanium oxides; 20.6% are associated with silicates; 0.03% are associated with carbonates; and 16% are associated with complex associations.

The total amount of arsenopyrite in sample NZB is very trace. Of this amount, approximately 95.2% of the arsenopyrite particles are pure, free, and liberated; 4.8% are associated with silicates.

The total amount of arsenopyrite in sample SZA is 3.37%. Of this amount, approximately 69.6% of the arsenopyrite particles are pure, free, and liberated; 0.28% are binary and associated with iron sulphide, other sulphides, and iron/titanium oxides; 10.1% are associated with silicates; 0.88% are associated with carbonates; and 19.1% are associated with complex associations.

The total amount of arsenopyrite in sample CZA is 1.27%. Of this amount, approximately 68.2% of the arsenopyrite particles are pure, free, and liberated; 0.23% are binary and associated with iron sulphide, other sulphides, and iron/titanium oxides; 4.7% are associated with silicates; 3.08% are associated with carbonates; and 23.9% are associated with complex associations.



	WZB	NZB	SZA	CZA
Complex	16.0	0.00	19.1	23.9
Arsenopyrite: Qtz/Feld:Carb	0.00	0.00	0.19	0.01
Arsenopyrite: Qtz/Feld:Chl/Bt	4.92	0.00	1.17	0.52
Arsenopyrite: Other Minerals	2.33	4.80	2.93	1.81
Arsenopyrite: Carbonates	0.03	0.00	0.69	3.07
Arsenopyrite: Other Silicates	0.02	0.00	0.05	0.00
Arsenopyrite: Amph/Pyx/Ep	0.22	0.00	1.61	0.11
Arsenopyrite: Chlorite/Biotite	0.94	0.00	2.88	1.82
Arsenopyrite: Muscovite/Kaolinite	0.23	0.00	0.01	0.00
Arsenopyrite: Quartz/Feldspars	11.9	0.00	1.47	0.38
Arsenopyrite: Ilmenite/Rutile	0.02	0.00	0.00	0.00
Arsenopyrite: Fe-Oxides	0.38	0.00	0.16	0.15
Arsenopyrite: Sulphides/TM	0.05	0.00	0.04	0.03
Arsenopyrite: FeS	1.02	0.00	0.09	0.05
Lib Arsenopyrite	15.3	0.00	26.7	20.8
Free Arsenopyrite	8.65	0.00	14.4	20.1
Pure Arsenopyrite	38.0	95.2	28.5	27.3

Figure 4: Arsenopyrite Liberation and Association for the Four Composite Samples

3.2.3. Cumulative Grain Size Distribution

The size report serves to study the distribution of the grain size of a specific phase. Figure 5 to Figure 8 illustrate the cumulative grain size distribution of iron sulphides (pyrite, and pyrrhotite), arsenopyrite, and all particles (combined silicates, carbonates, oxides and sulphides) in the four composite samples respectively. The curve referred to as "Particles" reflects all the measured minerals in the sample.

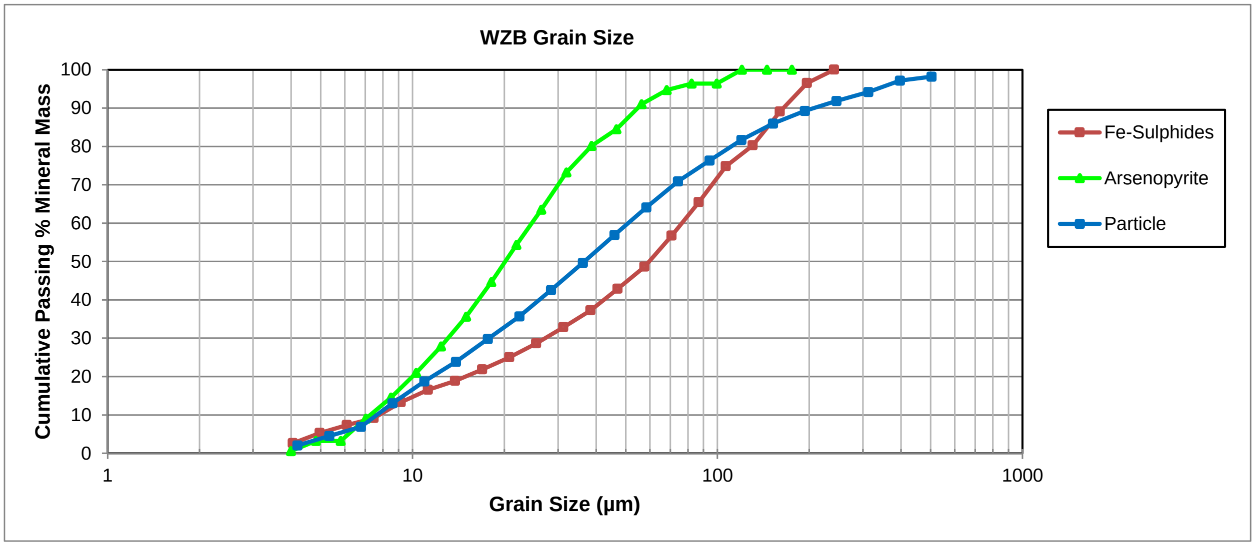


Figure 5: Cumulative Grain Size Distribution of Sulphides and Other Minerals for WZB

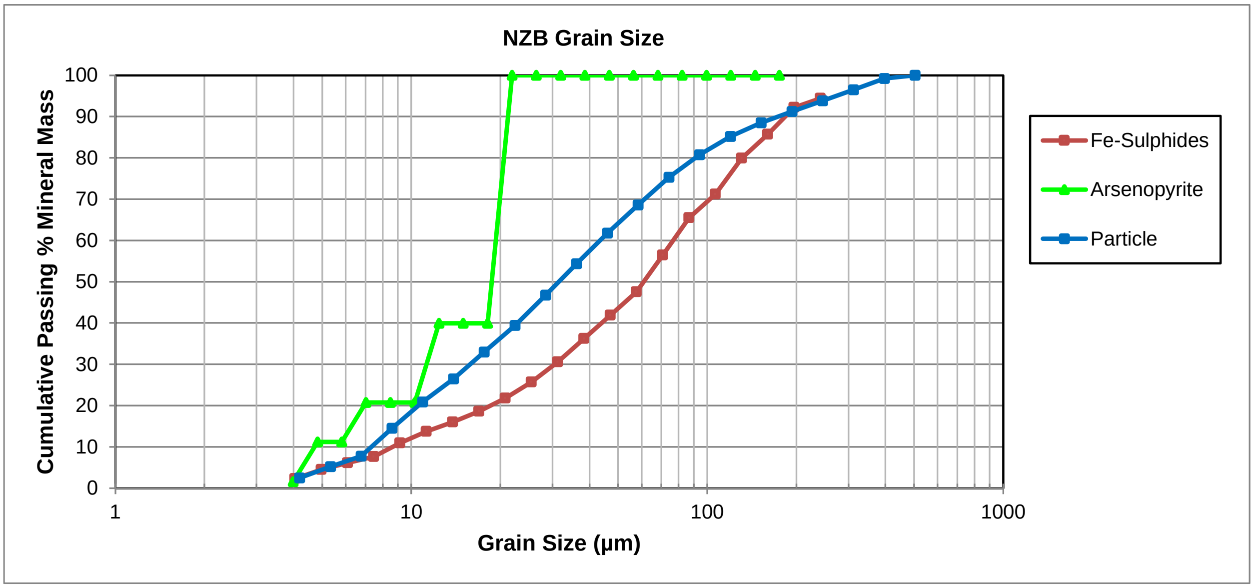


Figure 6: Cumulative Grain Size Distribution of Sulphides and Other Minerals for NZB

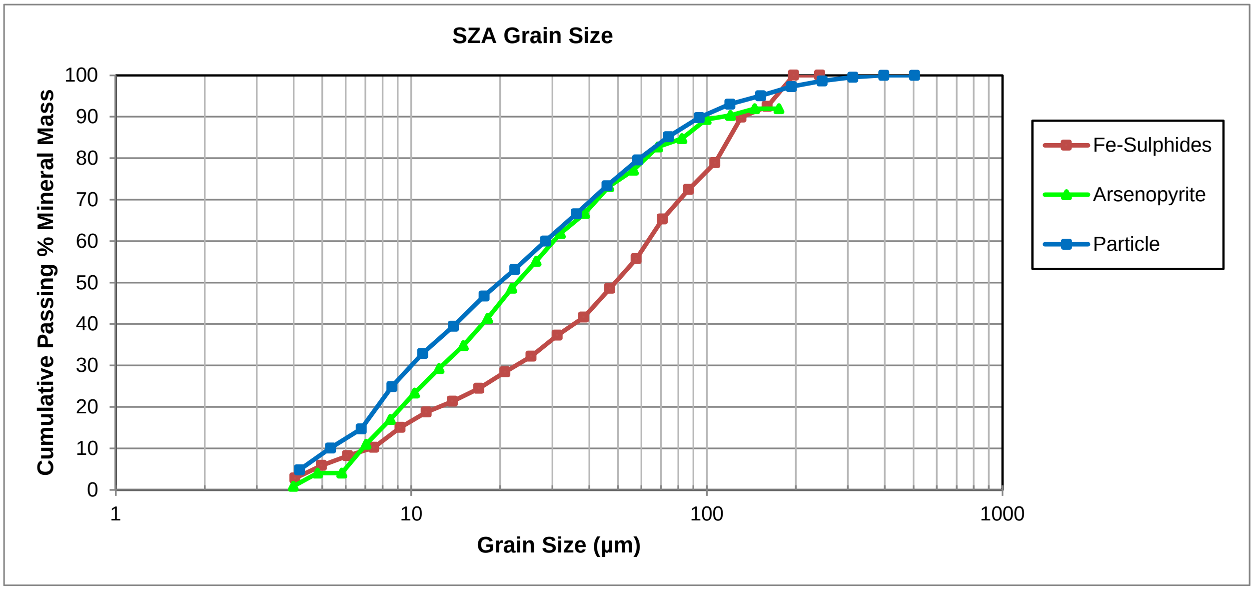


Figure 7: Cumulative Grain Size Distribution of Sulphides and Other Minerals for SZA

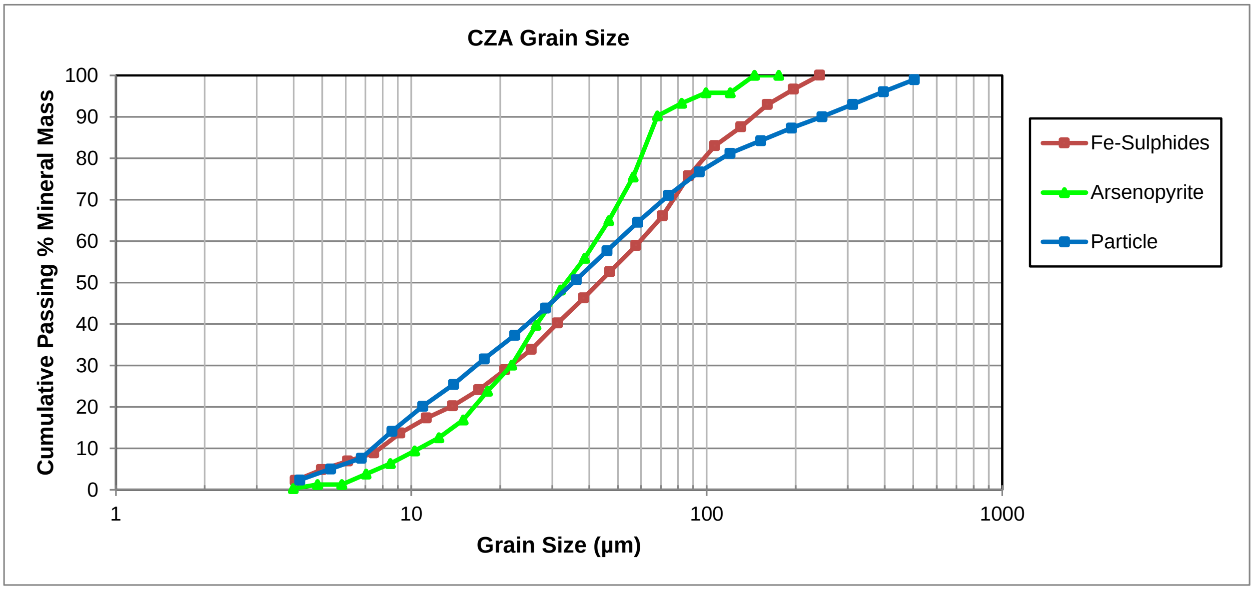


Figure 8: Cumulative Grain Size Distribution of Sulphides and Other Minerals for CZA

The diameter at 50% passing (D50) for all these mineral particles are summarized in Table 4.

Table 4: The D50 (Diameter at 50% passing) for the Four Composite Samples

D50 (µm)	WZB	NZB	SZA	CZA
Fe-Sulphides	59	62	50	43
Arsenopyrite	20	21	23	34
Particle	37	31	20	35

In sample WZB, the grain size of iron sulphide is coarser than arsenopyrite and all particles. The D50 values for Fe-sulphide, arsenopyrite, and all particles are 59 µm, 20 µm, and 37 µm, respectively.

In sample NZB, arsenopyrite particles are very sparse, and their distribution is irregular. The grain size of iron sulphide remains coarser than that of arsenopyrite and the overall particle population. The D50 values for Fe-sulphide, arsenopyrite, and all particles are 62 µm, 21 µm, and 31 µm, respectively.

In sample SZA, the grain size of iron sulphide is coarser than that of arsenopyrite and the overall particle population. The cumulative trend of arsenopyrite is similar to that of the overall particles. The D50 values for Fe-sulphide, arsenopyrite, and all particles are 50 µm, 23 µm, and 20 µm, respectively.

In sample CZA, the cumulative trend of Fe-sulphide is similar to that of the overall particles. The D50 values for Fe-sulphide, arsenopyrite, and all particles are 43 µm, 34 µm, and 35 µm, respectively.

4. Gold Deportment Study

The complete data from the gold mineralogy study through TIMA technique are given in Appendix E. The data are summarized below.

4.1. Operation Modes – TIMA-X

The identification of gold minerals was conducted with TIMA-X technology. TIMA-X is an acronym for TESCAN Integrated Mineral Analyzer, which is one of the more advanced Automated Scanning Electron Microscopy (ASEM) instruments on the market. It is based on four Energy Dispersive X-Ray (EDX) silicon drift detectors (SDD) attached to a TESCAN MIRA (field-emission gun – FEG) platform which also include a backscattered electron (BSE) and secondary electron (SE) detectors. The TIMA system utilizes both the EDX and BSE signals to identify minerals at each measurement point (or each homogenous segment of a grain, depending upon the analysis mode) and it is optimized to deal with rapidly acquired low-count spectra. These EDX (and BSE) spectra (and BSE data) are compared to entries in a mineral library on a first match principle to identify the mineral phase, where this mineral library is based on theoretical mineral/phase composition or created by the user based on BSE, X-ray spectral windows counts, and/or ratios.

The mode of analysis used for the gold mineral scan is the Trace Bright Phase Search (TBPS). This mode is a specific instance of the liberation analysis that is optimized to search for phases (usually scarce) with a specific BSE signal, chemical composition, or both. It adds an extra step of initial assessment of the phase as a phase of interest either based on a BSE value, or on a single spectrum, i.e., phase identification based on a certain "classification scheme" (phase filtering). The raw data as collected by the instrument is extracted, reviewed for quality, processed offline using TIMA software, and reported in a standardized format. Processing includes textural and chemical refining of the data and classification into categories in order to extract appropriate mineralogical data and classification for the program.

4.2. Gold, Silver, Iron, Arsenic, and Sulphide Distribution for the Bulk Sample and HLS and SP Products

Chemical assays including iron, arsenic, and sulphur as sulphide (S=) were conducted on the as-received sample and HLS products. Gold assays were carried out on all subsamples from SP products with sufficient mass. The distribution of the key elements (gold, silver, iron, arsenic, and sulphide) along with the mass balance in various HLS and SP products is summarized in Table 5 for all four composite samples.

Table 5: Mass Balance and Elemental Distribution

Sample ID	Mass	Assays					Elemental Distribution				
		Au	Ag	Fe	As	$S^=$	Au	Ag	Fe	As	$S^=$
	%	g/t	g/t	%	%	%	%	%	%	%	%
WZB	**100**	**12.7**	**25.8**	**6.47**	**0.480**	**4.40**	**100**	**100**	**100**	**100**	**100**
WZB HLS Sink	**23.2**	***43.8***	***45.4***	***20.2***	***1.606***	***17.3***	***80.0***	***40.9***	***72.3***	***77.6***	***91.1***
WZB SP Tip	0.16	*669*	-	-	-	-	*8.34*	-	-	-	-
WZB HLS Sink Mag	0.11	59.0	-	-	-	-	0.50	-	-	-	-
WZB SP Sul 1	1.68	23.8	-	-	-	-	3.16	-	-	-	-
WZB SP Sul 2	4.26	51.2	-	-	-	-	17.2	-	-	-	-
WZB SP Mid	3.71	72.8	-	-	-	-	21.3	-	-	-	-
WZB SP Tail 1	7.40	45.8	-	-	-	-	26.7	-	-	-	-
WZB SP Tail 2	5.87	6.14	-	-	-	-	2.84	-	-	-	-
WZB HLS Float	**76.8**	**3.31**	**19.8**	**2.33**	**0.14**	**0.51**	**20.0**	**59.1**	**27.7**	**22.4**	**8.90**
NZB	**100**	**33.8**	**50.3**	**10.4**	**0.012**	**4.55**	**100**	**100**	**100**	**100**	**100**
NZB HLS Sink	**28.8**	***97.9***	***138.4***	***25.4***	***0.032***	***14.8***	***83.5***	***79.3***	***70.2***	***76.3***	***93.6***
NZB SP Tip	0.27	*127*	-	-	-	-	*17.6*	-	-	-	-
NZB HLS Sink Mag	4.40		-	-	-	-		-	-	-	-
NZB SP Sul 1	2.00	91.1	-	-	-	-	5.41	-	-	-	-
NZB SP Sul 2	5.51	196	-	-	-	-	32.0	-	-	-	-
NZB SP Mid	1.91	150	-	-	-	-	8.51	-	-	-	-
NZB SP Tail 1	8.62	69.1	-	-	-	-	17.7	-	-	-	-
NZB SP Tail 2	6.08	13.2	-	-	-	-	2.38	-	-	-	-
NZB HLS Float	**71.2**	**7.81**	**14.6**	**4.36**	**0.004**	**0.41**	**16.5**	**20.7**	**29.8**	**23.7**	**6.42**
SZA	**100**	**9.11**	**6.10**	**9.65**	**1.150**	**1.10**	**100**	**100**	**100**	**100**	**100**
SZA HLS Sink	**45.1**	***16.6***	***10.8***	***12.1***	***2.000***	***2.02***	***82.3***	***80.2***	***56.8***	***78.5***	***83.0***
SZA SP Tip	0.28		-	-	-	-		-	-	-	-
SZA HLS Sink Mag	0.02	*111*	-	-	-	-	*26.2*	-	-	-	-
SZA SP Sul	1.85		-	-	-	-		-	-	-	-
SZA SP Mid	7.39	19.9	-	-	-	-	16.2	-	-	-	-
SZA SP Tail 1	19.1	16.9	-	-	-	-	35.5	-	-	-	-
SZA SP Tail 2	16.5	2.44	-	-	-	-	4.41	-	-	-	-
SZA HLS Float	**54.9**	**2.94**	**2.20**	**7.60**	**0.450**	**0.34**	**17.7**	**19.8**	**43.2**	**21.5**	**17.0**
CZA	**100**	**6.06**	**5.45**	**4.22**	**0.430**	**1.49**	**100**	**100**	**100**	**100**	**100**
CZA HLS Sink	**31.8**	***13.6***	***10.3***	***6.6***	***1.173***	***4.37***	***71.2***	***59.9***	***49.7***	***86.7***	***93.1***
CZA SP Tip	0.20		-	-	-	-		-	-	-	-
CZA HLS Sink Mag	0.66	*36.7*	-	-	-	-	*9.52*	-	-	-	-
CZA SP Sul	0.71		-	-	-	-		-	-	-	-
CZA SP Mid	11.5	8.80	-	-	-	-	16.6	-	-	-	-
CZA SP Tail 1	14.3	16.9	-	-	-	-	39.9	-	-	-	-
CZA SP Tail 2	4.44	7.01	-	-	-	-	5.14	-	-	-	-
CZA HLS Float	**68.2**	**2.56**	**3.20**	**3.11**	**0.084**	**0.15**	**28.8**	**40.1**	**50.3**	**13.3**	**6.87**

Italic - Calculated by difference; Italic underline - grades by back calculation

4.2.1. Elemental Distribution for WZB Composite

The head assay of gold and silver for the WZB Composite were 12.7 g/t and 25.8 g/t, respectively, while assays for iron, arsenic, and sulphur as sulphide were 6.47%, 0.48% and 4.4%, respectively.

Following gravity concentration via heavy liquid separation (HLS) at a specific gravity (SG) of 2.85 g/cc3, approximately 80% of gold, 40.9% of silver, 72.2% of iron, 77.6% of arsenic, and 91.1 % of sulphide were concentrated in the HLS Sink fraction, which accounts for 23.2% of the total mass, while the remainder was distributed in the HLS Float fraction, which accounts for 76.8% of total mass. These results indicate that HLS is highly efficient for gold, iron, arsenic, and sulphide, but only moderately efficient for silver.

Further superpanning generated several SP cuts from the HLS Sink. For the Sink material, results indicate that the gold grade is mainly concentrated in the SP Tips, SP Sink Mag, SP Sul and SP Mids products (50.5% of gold), which together account for only 9.9% of the total mass. The remaining gold is distributed in the SP Tails fractions (13.3% of gold), which accounts for 20% of the total mass.

The calculated gold grades reveal an exceptionally high value for SP Tip (669 g/t), demonstrating the efficiency of gravity recovery through superpanning.

4.2.2. Elemental Distribution for NZB Composite

The head assay of gold and silver for the NZB Composite were 33.8 g/t and 50.3 g/t, respectively, while assays for iron, arsenic and sulphur as sulphide were 10.3%, 0.012% and 4.55%, respectively.

Following gravity concentration via heavy liquid separation (HLS) at a specific gravity (SG) of 2.85 g/cc3, approximately 83.5% of gold, 79.3% of silver, 70.2% of iron, 76.3% of arsenic, and 93.6 % of sulphide were concentrated in the HLS Sink fraction, which accounts for 28.8% of the total mass, while the remainder was distributed in the HLS Float fraction, which accounts for 71.2% of total mass. These results indicate that HLS is highly efficient for all these elements, particularly for gold and sulphide.

Further superpanning generated several SP cuts from the HLS Sink. For the Sink material, results indicate that the gold grade is mainly concentrated in the SP Tips, SP Sink Mag, SP Sul and SP Mids products (63.5% of gold), which together account for only 14.1% of the total mass. The remaining gold is distributed in the SP Tails fractions (20% of gold), which accounts for 14.7% of the total mass.

The calculated gold grades reveal an exceptionally high value for the combined fraction of SP Tip and Sink Mag (127 g/t). Direct assays for SP Sul1, SP Sul2, and SP Mid are 91.1 g/t, 196 g/t, and 69.1 g/t, respectively, indicating that gold upgrading through superpanning is efficient, although it may be influenced by liberation, mineral association, and particle size.

4.2.3. Elemental Distribution for SZA Composite

The head assay of gold and silver for the SZA Composite were 9.11 g/t and 9.65 g/t, respectively, while assays for iron, arsenic and sulphur as sulphide were 9.95%, 1.15% and 1.10%, respectively.

Following gravity concentration via heavy liquid separation (HLS) at a specific gravity (SG) of 2.85 g/cc3, approximately 82.3% of gold, 80.2% of silver, 56.8% of iron, 78.5% of arsenic, and 83.0% of sulphide were concentrated in the HLS Sink fraction, which accounts for 45.1% of the total mass, while the remainder was distributed in the HLS Float fraction, which accounts for 54.9% of total mass. Since a large proportion of the mass is distributed in the HLS Sink for the SZA composite, a higher specific gravity should be applied in future gravity recovery tests.

Further superpanning generated several SP cuts from the HLS Sink. For the Sink material, results indicate that the gold grade is mainly concentrated in the SP Tips, SP Sink Mag, SP Sul and SP Mids products (42.3% of gold), which together account for only 9.54% of the total mass. The remaining gold is distributed in the SP Tails fractions (40.0% of gold), which accounts for 35.6% of the total mass.

The calculated gold grades reveal an exceptionally high value for the combined fraction of SP Tip, SP Sink Mag, and SP Sul1 (111 g/t), demonstrating the efficiency of gravity recovery through superpanning.

4.2.4. Elemental Distribution for CZA Composite

The head assay of gold and silver for the CZA Composite were 6.06 g/t and 5.45 g/t, respectively, while assays for iron, arsenic and sulphur as sulphide were 4.22%, 0.43% and 1.49%, respectively.

Following gravity concentration via heavy liquid separation (HLS) at a specific gravity (SG) of 2.85 g/cc3, approximately 71.2% of gold, 59.9% of silver, 49.7% of iron, 86.7% of arsenic, and 93.1% of sulphide were concentrated in the HLS Sink fraction, which accounts for 31.8% of the total mass, while the remainder was distributed in the HLS Float fraction, which accounts for 68.2% of total mass.

Further superpanning generated several SP cuts from the HLS Sink. For the Sink material, results indicate that the gold grade is partially concentrated in the SP Tips, SP Sink Mag, SP Sul, and SP Mids products (26.16% of gold), which together account for only 13.0% of the total mass. A significant portion of the gold is distributed in the SP Tails fraction (45.0% of gold), which accounts for 18.7% of the total mass.

The calculated gold grades reveal a high value for the combined fraction of SP Tip, SP Sink Mag, and SP Sul1 (36.7 g/t), demonstrating the efficiency of gravity recovery through superpanning.

The overall HLS and SP results indicate that the gravity processing will likely achieve high gold recovery for most of these samples. A finer grinding and a higher specific gravity split point for the HLS separation may improve the gravity recovery efficiency.

4.3. Gold Mineral Occurrence, Chemistry, and Grain Counts

4.3.1. Gold Mineral Occurrence

Representative plane-polarized reflected light (PPRL) microscopy images of gold minerals from the polished sections are presented in Figure 9 and Figure 10. SEM-BSE (scanning electron microscope backscattered electron) images from the TIMA with corresponding EDS (energy dispersive spectrometer) analysis data of gold and associated minerals are presented in Figure 11 through Figure 18 for all four samples.

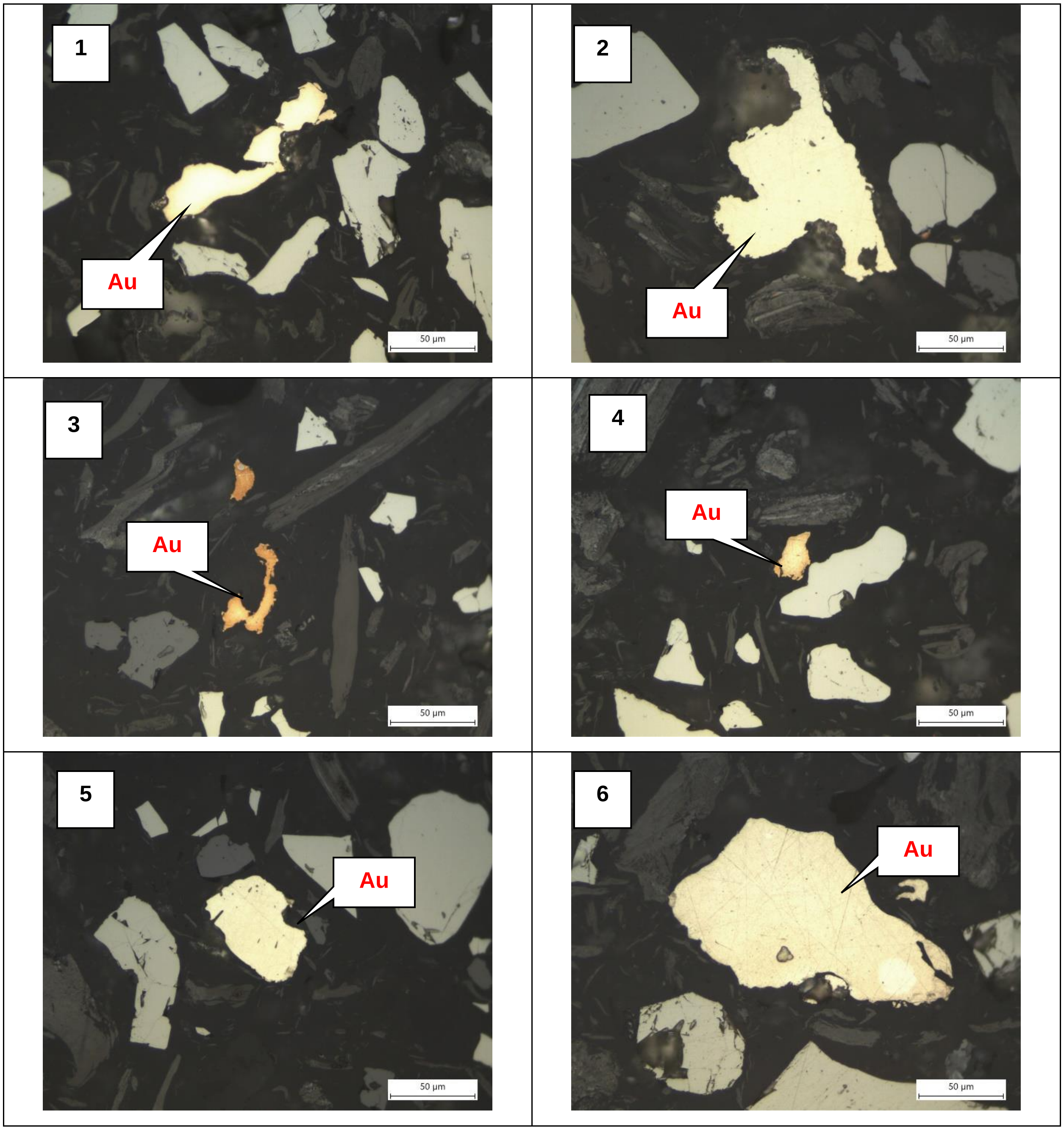


Figure 9: Photomicrographs of Gold Minerals

Photomicrographs taken in PPRL (Plane-polarized reflected light) show liberated gold minerals, indicated by Au. Photos 1-5, are from NZB sample, Photo 6 is from WZB sample.

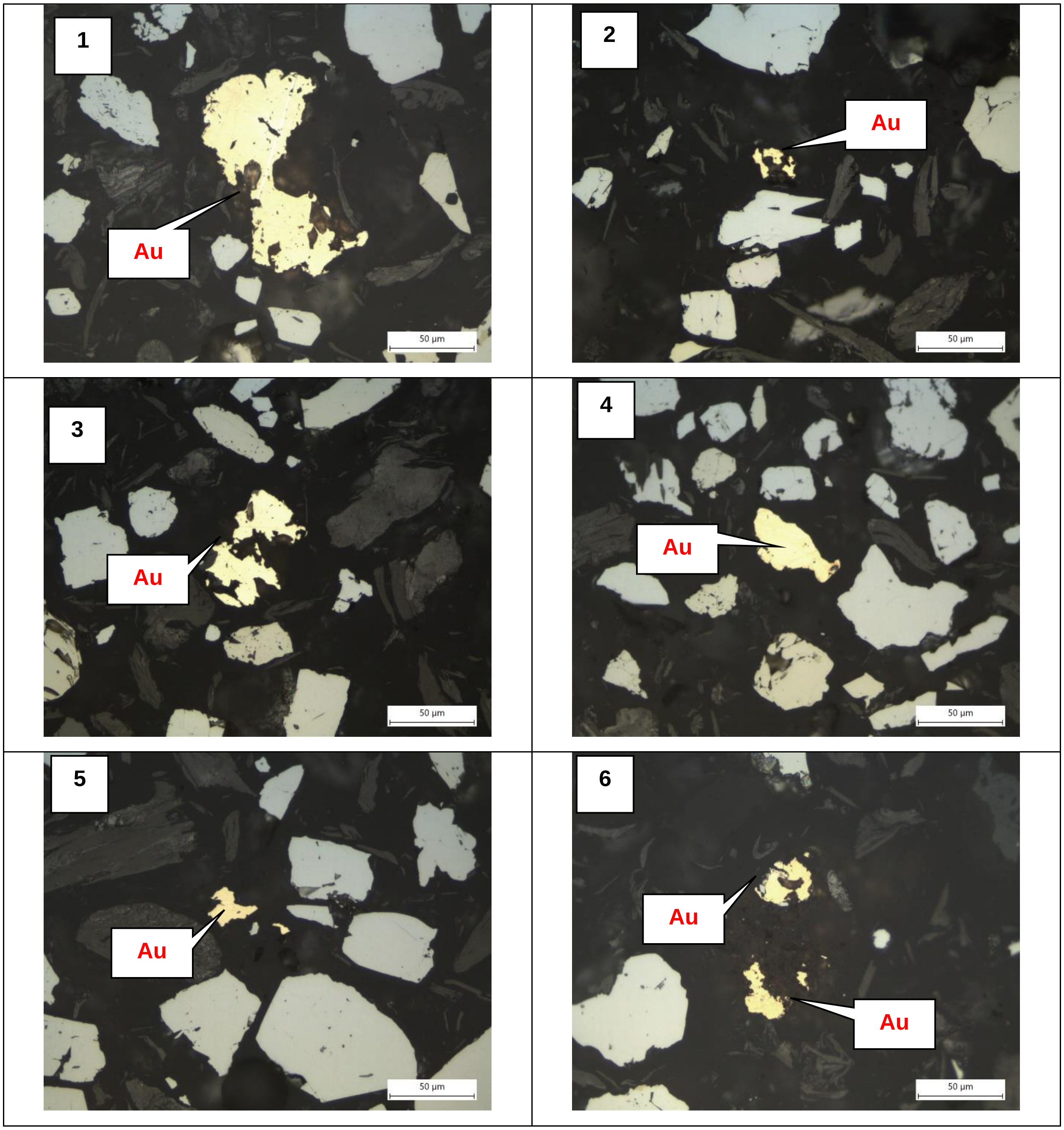
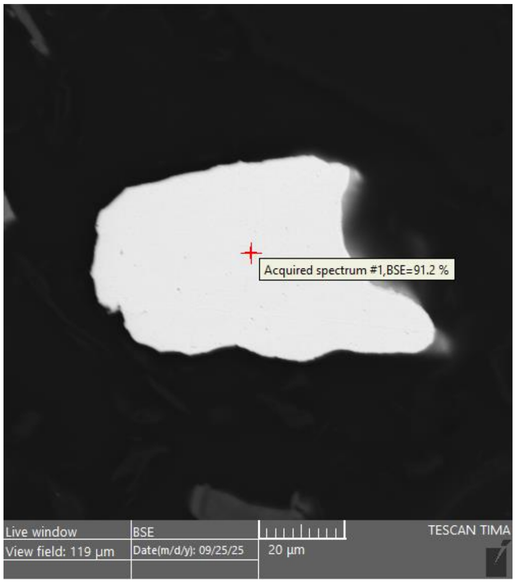
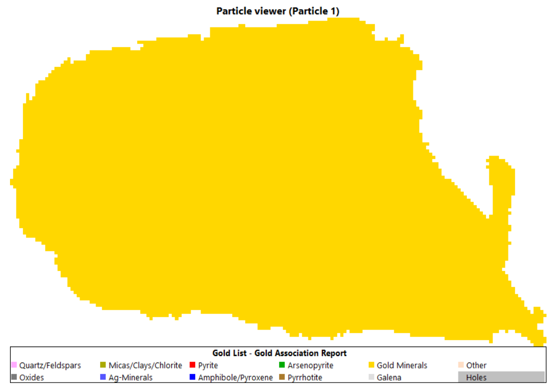


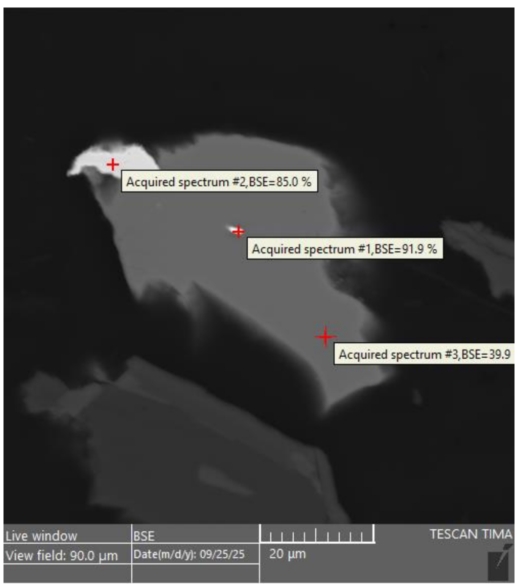
Figure 10: Photomicrographs of Gold Minerals

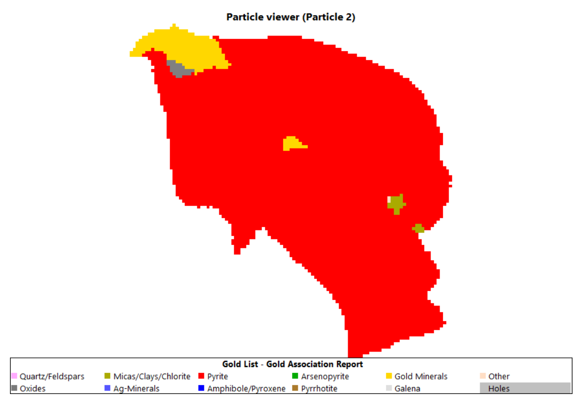
Photomicrographs taken in PPRL (Plane-polarized reflected light) show liberated gold minerals, indicated by Au. Photos 1-6, are from SZA Sample.





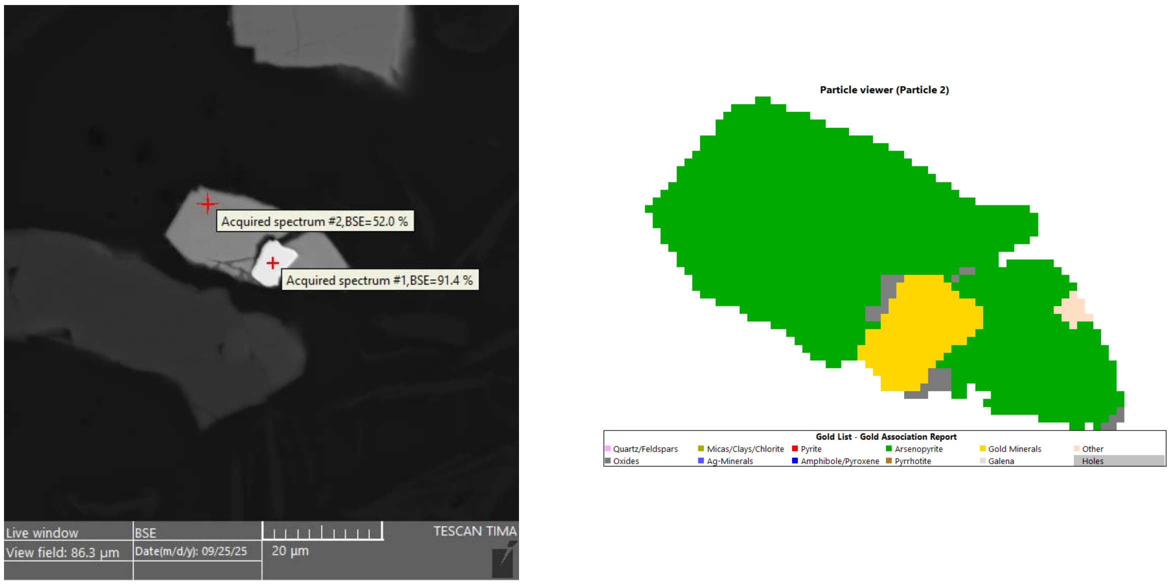
WZB Tip	Ag	Au	Mineral ID
Acquired spectrum #1,BSE=91.2 %	46.52%	53.47%	Electrum



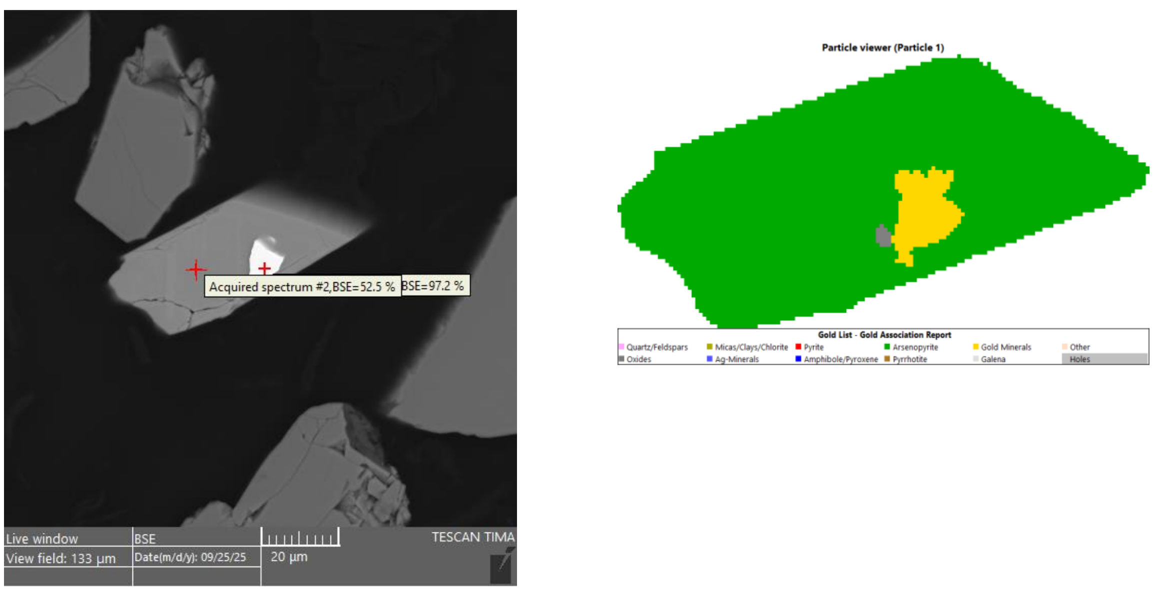


WZB Tail 1	S	Fe	Ag	Au	Mineral ID
Acquired spectrum #1,BSE=91.9 %	17.09%	18.75%	29.77%	34.37%	Electrum
Acquired spectrum #2,BSE=85.0 %	0.99%	5.65%	69.23%	24.11%	Kustelite
Acquired spectrum #3,BSE=39.9 %	52.33%	47.63%	0.01%	0.01%	Pyrite

Figure 11: Pseudo Colour Images and SEM BSE Images from the TIMA for Gold and Associated Minerals and Chemical EDS Data for WZB Sample (liberated and exposed gold)

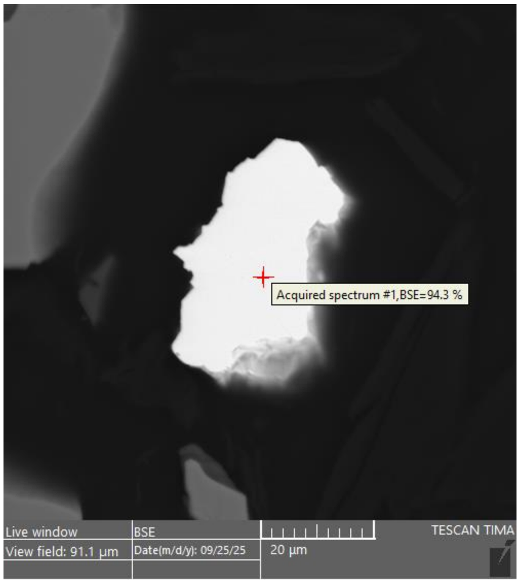


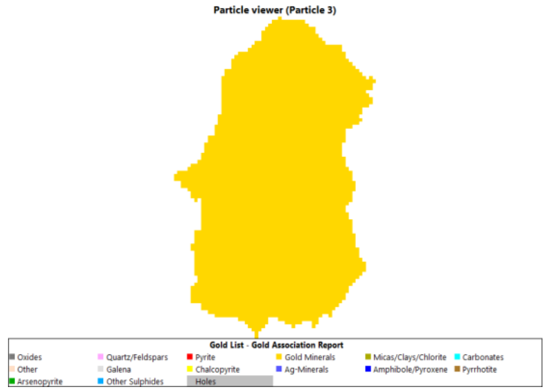
WZB Sul 1	S	Fe	As	Ag	Au	Mineral ID
Acquired spectrum #1,BSE=91.4 %	1.39%	3.72%	2.68%	41.16%	51.03%	Electrum
Acquired spectrum #2,BSE=52.0 %	18.42%	37.65%	43.88%	0.01%	0.01%	Arsenopyrite



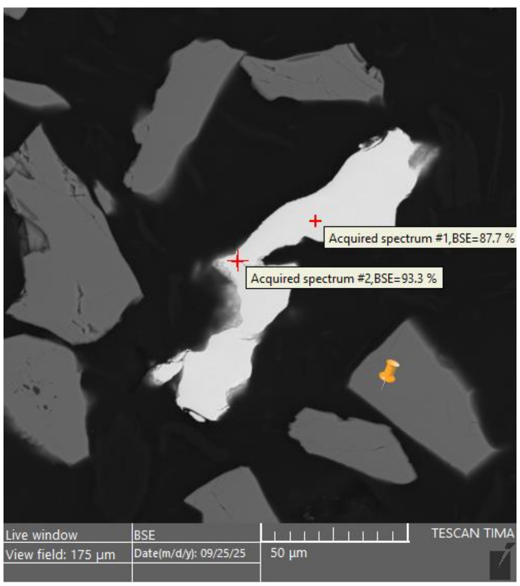
WZB Sul 1	S	Fe	As	Ag	Au	Mineral ID
Acquired spectrum #1,BSE=97.2 %	1.82%	3.23%	2.62%	13.90%	78.40%	Gold
Acquired spectrum #2,BSE=52.5 %	16.91%	35.97%	47.07%	0.01%	0.01%	Arsenopyrite

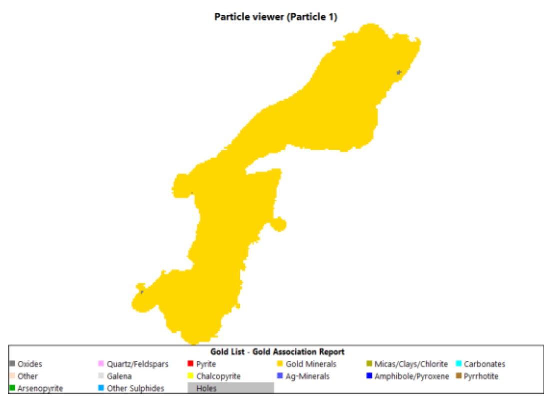
Figure 12: Pseudo Colour Images and SEM BSE Images from the TIMA for Gold and Associated Minerals and Chemical EDS Data for WZB Sample (exposed and locked gold)





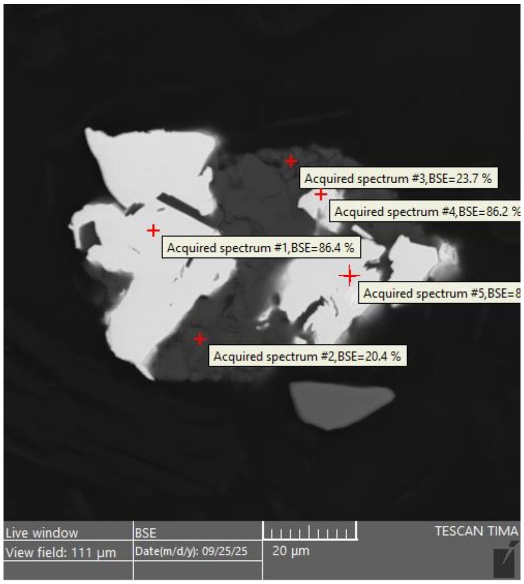
NZB Sul 2 Rep 2	Ag	Au	Mineral ID
Acquired spectrum #1,BSE=94.3 %	25.64%	74.35%	Electrum

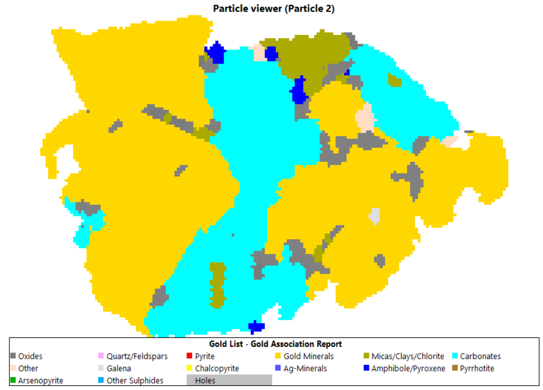




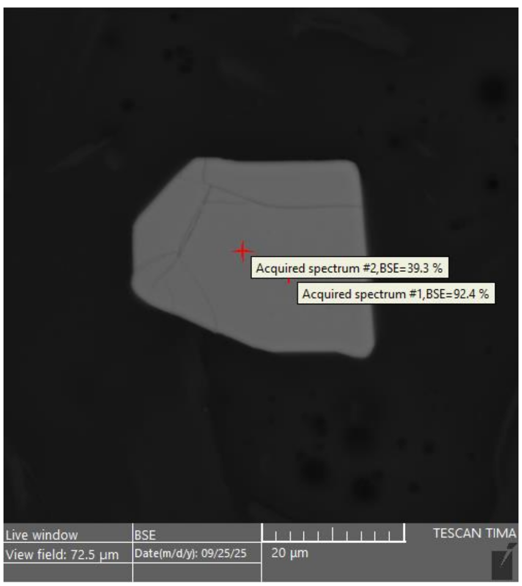
NZB Tip	Ag	Au	Mineral ID
ed spectrum #1,BSE=87.7 %	58.92%	41.07%	Kustelite
ed spectrum #2,BSE=93.3 %	47.09%	52.90%	Electrum

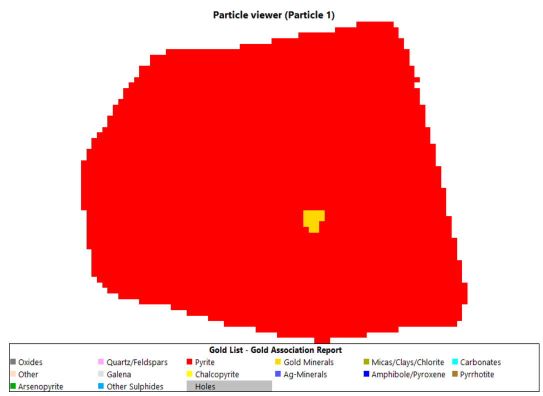
Figure 13: Pseudo Colour Images and SEM BSE Images from the TIMA for Gold and Associated Minerals and Chemical EDS Data for NZB Sample (liberated gold)





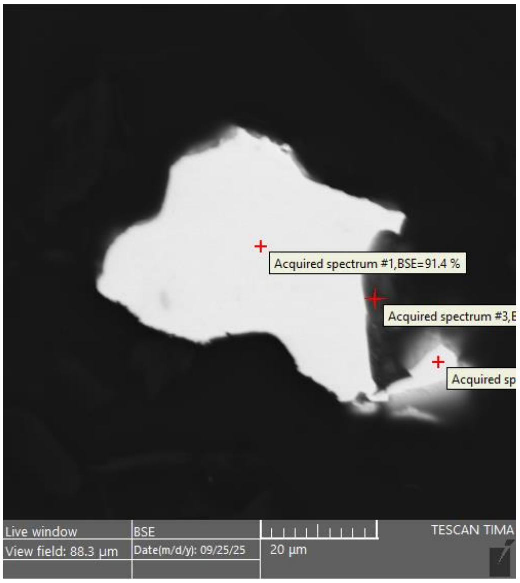
NZB Tip	O	Mg	Al	Si	Ca	Fe	Ag	Au	Mineral ID
Acquired spectrum #1,BSE=86.4 %	0.57%	0.58%	0.71%	0.77%	0.18%	0.50%	61.41%	34.31%	Kustelite
Acquired spectrum #2,BSE=20.4 %	32.63%	1.97%	1.54%	3.50%	53.35%	4.11%	2.52%	0.01%	Calcite
Acquired spectrum #3,BSE=23.7 %	43.24%	9.13%	7.88%	16.86%	0.65%	21.56%	0.48%	0.01%	Amphibole
Acquired spectrum #4,BSE=86.2 %	0.46%	0.61%	0.73%	0.79%	0.22%	0.87%	62.41%	32.90%	Kustelite
Acquired spectrum #5,BSE=85.9 %	0.82%	0.64%	0.74%	0.79%	0.20%	0.56%	62.31%	32.54%	Kustelite

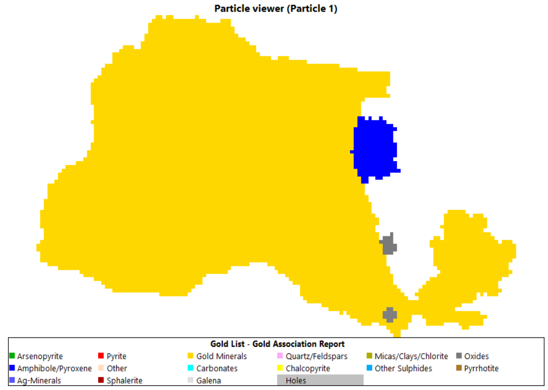




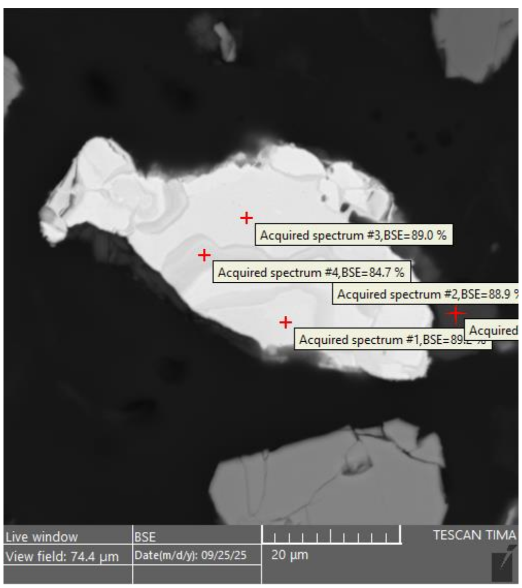
NZB Sul 2 Rep 2	S	Fe	Ag	Au	Mineral ID
red spectrum #1,BSE=92.4 %	17.43%	22.47%	31.29%	28.79%	Kustelite
red spectrum #2,BSE=39.3 %	52.39%	47.57%	0.01%	0.01%	Pyrite

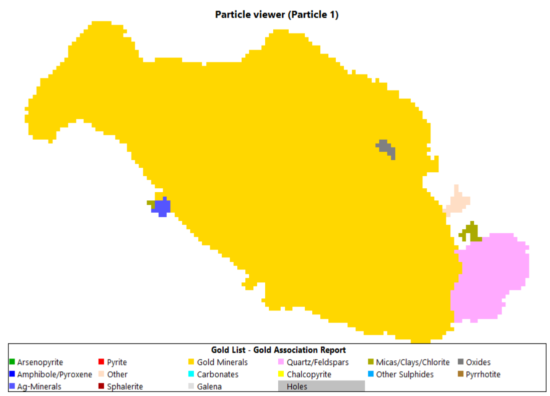
Figure 14: Pseudo Colour Images and SEM BSE Images from the TIMA for Gold and Associated Minerals and Chemical EDS Data for NZB Sample (exposed and locked gold)





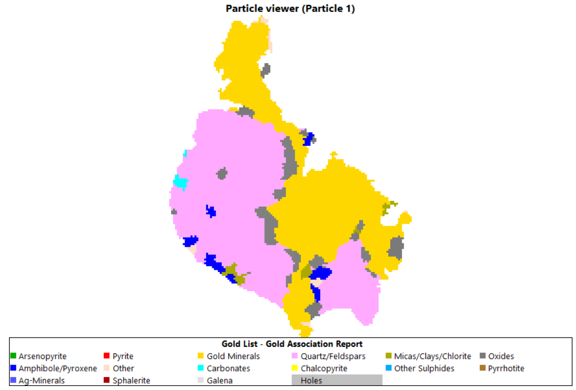
SZA Sul 1 Rep	O	Na	Mg	Al	Si	Ca	Fe	Ag	Au	Mineral ID
ectrum #1,BSE=91.4 %	0.81%	0.91%	0.67%	1.10%	0.91%	0.19%	0.29%	35.96%	59.11%	Electrum
ectrum #2,BSE=91.7 %	0.79%	0.89%	0.68%	1.11%	0.91%	0.20%	0.54%	36.67%	58.14%	Electrum
ectrum #3,BSE=18.2 %	38.03%	2.67%	3.57%	5.01%	16.79%	6.13%	6.86%	7.03%	13.86%	Amphibole



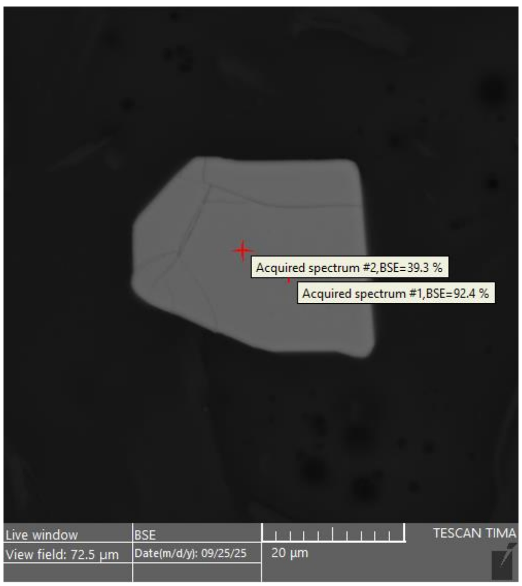


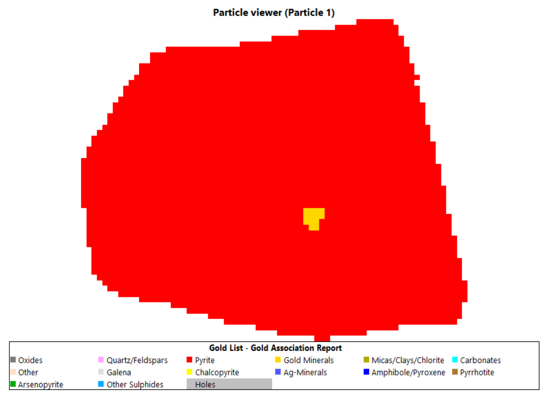
SZA Tip	O	Al	Si	K	Ag	Au	Mineral ID
Acquired spectrum #1,BSE=89.2 %	2.12%	0.64%	0.83%	0.60%	46.38%	49.41%	Electrum
Acquired spectrum #2,BSE=88.9 %	3.63%	0.73%	0.89%	0.52%	36.75%	57.44%	Electrum
Acquired spectrum #3,BSE=89.0 %	2.03%	0.64%	0.82%	0.62%	47.67%	48.18%	Electrum
Acquired spectrum #4,BSE=84.7 %	1.25%	0.56%	0.72%	0.77%	65.98%	30.70%	Kustelite
Acquired spectrum #5,BSE=22.0 %	42.40%	10.09%	32.39%	14.63%	0.45%	0.01%	Orthoclase

Figure 15: Pseudo Colour Images and SEM BSE Images from the TIMA for Gold and Associated Minerals and Chemical EDS Data for SZA Sample (liberated gold)



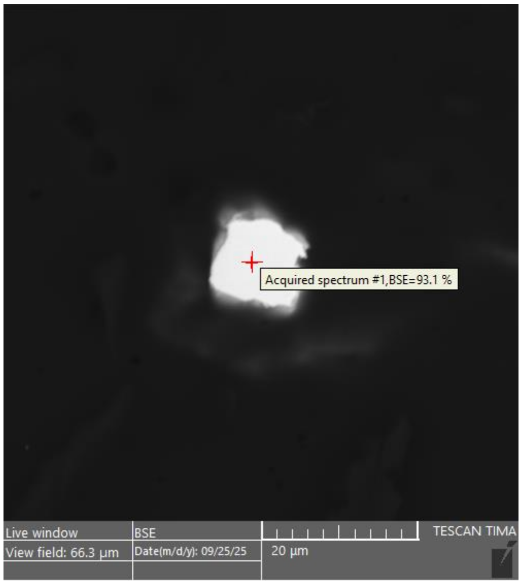
SZA Sul 1 Rep	O	Mg	Al	Si	Ca	Fe	Ag	Au	Mineral ID
Acquired spectrum #1,BSE=88.6 %	0.59%	0.62%	0.65%	0.83%	0.16%	0.37%	48.74%	47.99%	Kustelite
Acquired spectrum #2,BSE=89.3 %	0.61%	0.61%	0.66%	0.87%	0.19%	0.77%	51.00%	45.24%	Kustelite
Acquired spectrum #3,BSE=20.0 %	39.66%	4.20%	2.61%	24.27%	14.64%	6.99%	4.63%	2.94%	Amphibole
Acquired spectrum #4,BSE=21.3 %	45.92%	4.40%	2.58%	39.73%	2.44%	4.67%	0.21%	0.01%	Quartz

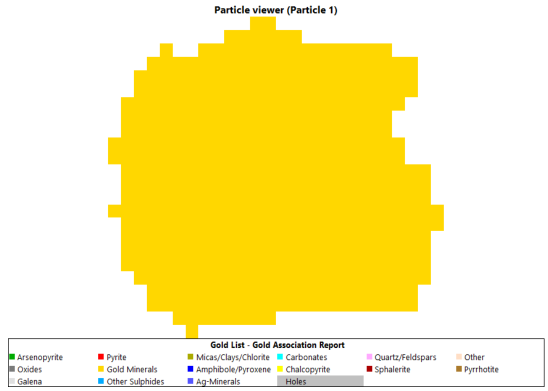




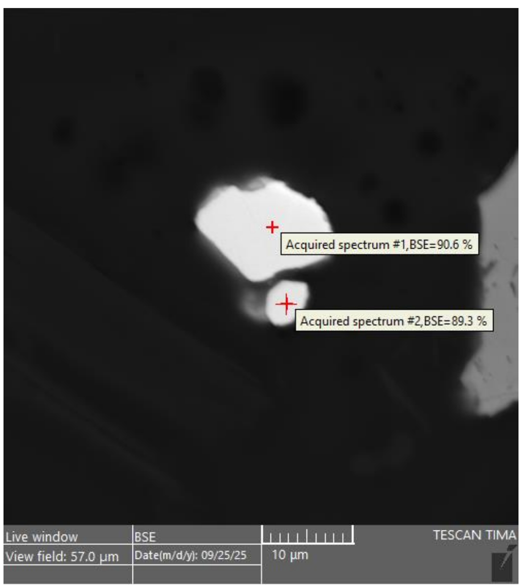
NZB Sul 2 Rep 2	S	Fe	Ag	Au	Mineral ID
red spectrum #1,BSE=92.4 %	17.43%	22.47%	31.29%	28.79%	Kustelite
red spectrum #2,BSE=39.3 %	52.39%	47.57%	0.01%	0.01%	Pyrite

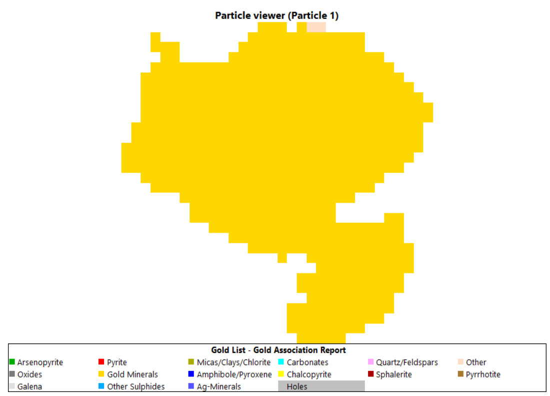
Figure 16: Pseudo Colour Images and SEM BSE Images from the TIMA for Gold and Associated Minerals and Chemical EDS Data for SZA Sample (exposed and locked gold)





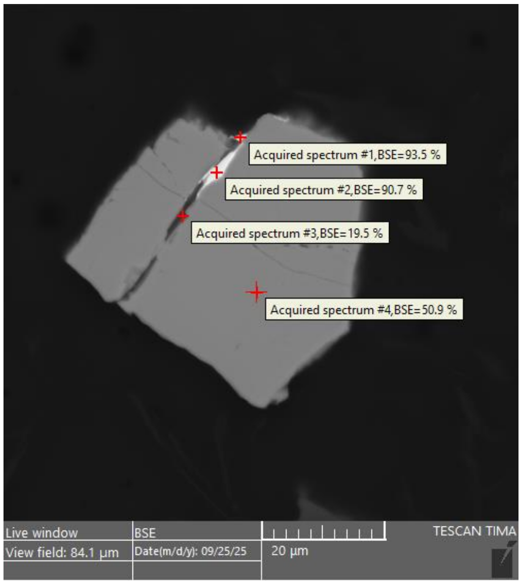
CZA Sul 1	Ag	Au	Mineral ID
Acquired spectrum #1,BSE=93.1 %	29.95%	70.04%	Electrum

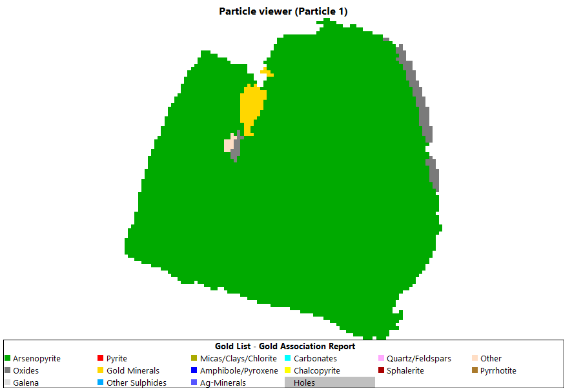




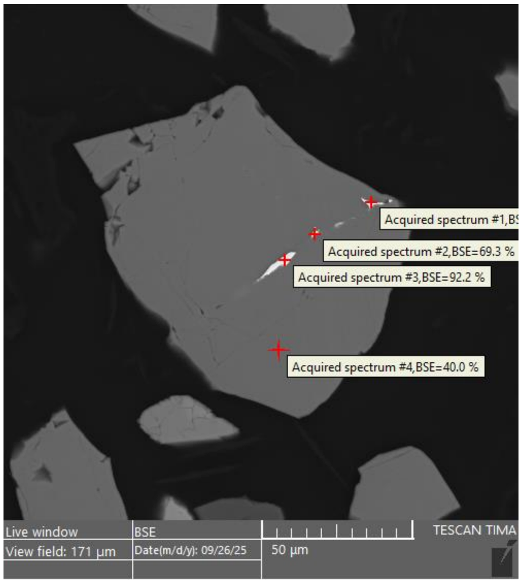
	Ag	Au	Mineral ID
quired spectrum #1,BSE=90.6 %	44.88%	55.11%	Electrum
quired spectrum #2,BSE=89.3 %	45.00%	54.99%	Electrum

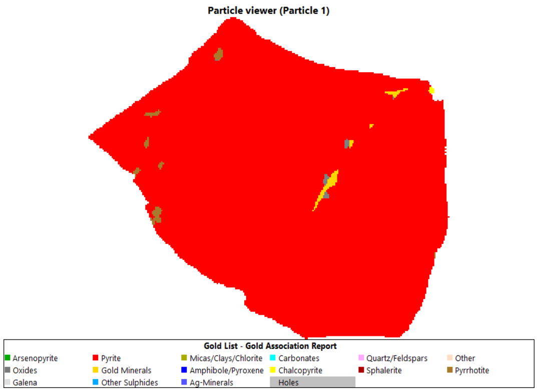
Figure 17: Pseudo Colour Images and SEM BSE Images from the TIMA for Gold and Associated Minerals and Chemical EDS Data for CZA Sample (liberated gold)





CZA Tip	O	Mg	Al	Si	S	Fe	As	Ag	Au	Mineral ID
ired spectrum #1,BSE=93.5 %	5.27%	1.33%	1.78%	1.41%	3.48%	3.90%	4.96%	33.55%	44.28%	Electrum
ired spectrum #2,BSE=90.7 %	0.68%	0.01%	1.24%	1.04%	1.85%	2.70%	4.84%	37.35%	50.26%	Electrum
ired spectrum #3,BSE=19.5 %	25.16%	1.52%	4.60%	6.64%	7.26%	26.79%	27.96%	0.01%	0.01%	Arsenopyrite
ired spectrum #4,BSE=50.9 %	1.53%	1.20%	0.91%	0.52%	18.00%	33.19%	44.59%	0.01%	0.01%	Arsenopyrite





CZA Tip	S	Fe	Ag	Au	Mineral ID
Acquired spectrum #1,BSE=92.6 %	9.23%	12.66%	32.83%	45.26%	Electrum
Acquired spectrum #2,BSE=69.3 %	22.05%	23.22%	20.47%	34.25%	Electrum
Acquired spectrum #3,BSE=92.2 %	1.71%	6.15%	38.83%	53.29%	Electrum
Acquired spectrum #4,BSE=40.0 %	52.51%	47.45%	0.01%	0.01%	Pyrite

Figure 18: Pseudo Colour Images and SEM BSE Images from the TIMA for Gold and Associated Minerals and Chemical EDS Data for CZA Sample (exposed and locked gold)

4.3.2. Gold Mineral Chemistry

The gold mineral chemistry was examined using TIMA-X EDS spectrometry. Different gold minerals were observed in these four samples, including Au-Ag alloys, petzite, aurostibite, calaverite, muthmannite, and other Au-Ag minerals. The predominant type is Au-Ag alloy, which includes native gold (Au: 75–100%, Ag: 0–25%), electrum (Au: 50–75%, Ag: 25–50%), and kustelite (Au: 25–50%, Ag: 50–75%).

A total of 178 Au-Ag particles were analyzed, and the normalized statistical data are summarized in Table 6. The main gold minerals are kustelite (averaging 41.2% Au and 58.8% Ag), electrum (averaging 62.0% Au and 38.0% Ag) and native gold (81.2% Au and 18.7% Ag).

Table 6: Gold Mineral Chemistry (TIMS-X EDS)

Gold Mineral Type	Total #	Statistic	Ag	Au
Native Gold	6	Average concentration	18.7%	81.2%
		Standard deviation	5.1%	5.1%
		Min	10.6%	75.7%
		Max	24.3%	89.4%
Electrum	98	Average concentration	38.0%	62.0%
		Standard deviation	5.2%	5.2%
		Min	26.2%	51.8%
		Max	48.2%	73.8%
Kustelite	74	Average concentration	58.8%	41.2%
		Standard deviation	5.6%	5.6%
		Min	49.4%	25.9%
		Max	74.1%	50.6%

4.3.3. Gold Grain Counts and Gold Mineral Distribution by Mass

Gold grain counts found for each sample are summarized Table 7. The gold mineral type distribution by mass % for each sample is summarized in Table 8, and displayed in Figure 19.

A total of 592 gold grains were detected in the WZB composite sample, which is dominated by kustelite (56.8%), with native gold (23.8%) and electrum (19.0%) as significant phases.

A total of 2,415 gold grains were detected in the NZB composite sample, which is dominated by electrum (65.7%), with kustelite (28.9%) and native gold (5.2%) as significant phases.

A total of 1,575 gold grains were detected in the SZA composite sample, which is dominated by kustelite (45.8%) and electrum (36.7%), and with native gold (16.9%) as a significant phase.

A total of 708 gold grains were detected in the CZA composite sample, which is dominated by electrum (76.9%), with native gold (15.5%) and kustelite (7.3%) as significant phases.

Table 7: Gold Grain Counts for Each Sample

Project		CA20M-00000-110-21021-01 / MI5014-JUL25											
Sample		WZB			NZB			SZA			CZA		
Product		Combined	Sink	Float	Combined	Sink	Float	Combined	Sink	Float	Combined	Sink	Float
Mass % of Size Fraction [%]		100	80.0	20.0	100	83.5	16.5	100	82.3	17.7	100	71.2	28.8
Number of Grains of Mineral	Native Gold	113	105	8	221	219	2	513	504	9	250	243	7
	Electrum	269	230	39	1080	1028	52	783	759	24	332	318	14
	Kustelite	143	131	12	846	809	37	227	218	9	88	87	1
	Petzite	61	60	1	214	211	3	43	41	2	16	16	0
	Aurostibite	2	2	0	5	5	0	0	0	0	0	0	0
	Calaverite	1	1	0	1	1	0	0	0	0	5	5	0
	Muthmannite	3	3	0	11	11	0	9	9	0	9	9	0
	Other Au-Ag Minerals	0	0	0	37	35	2	0	0	0	8	8	0
	Total	592	532	60	2415	2319	96	1575	1531	44	708	686	22

Table 8: Gold Mineral Mass Distribution (Au %) for Each Sample

Mass (% Au)	Combined	WZB Sink	WZB Float	Combined	NZB Sink	NZB Float	Combined	SZA Sink	SZA Float	Combined	CZA Sink	CZA Float
Native Gold	23.8	26.9	4.36	5.18	5.38	0.93	16.9	11.4	23.3	15.5	16.0	11.8
Electrum	19.0	16.7	33.0	65.7	65.5	69.6	36.7	41.9	30.7	76.9	75.3	88.0
Kustelite	56.8	55.9	62.5	28.9	28.8	29.1	45.8	46.3	45.3	7.34	8.36	0.19
Petzite	0.16	0.17	0.12	0.26	0.26	0.34	0.35	0.04	0.72	0.21	0.24	0.00
Aurostibite	0.03	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Calaverite	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.07	0.00
Muthmannite	0.21	0.24	0.00	0.02	0.02	0.00	0.20	0.37	0.00	0.03	0.04	0.00
Other Au-Ag Minerals	0.00	0.00	0.00	0.03	0.03	0.04	0.00	0.00	0.00	0.05	0.06	0.00
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

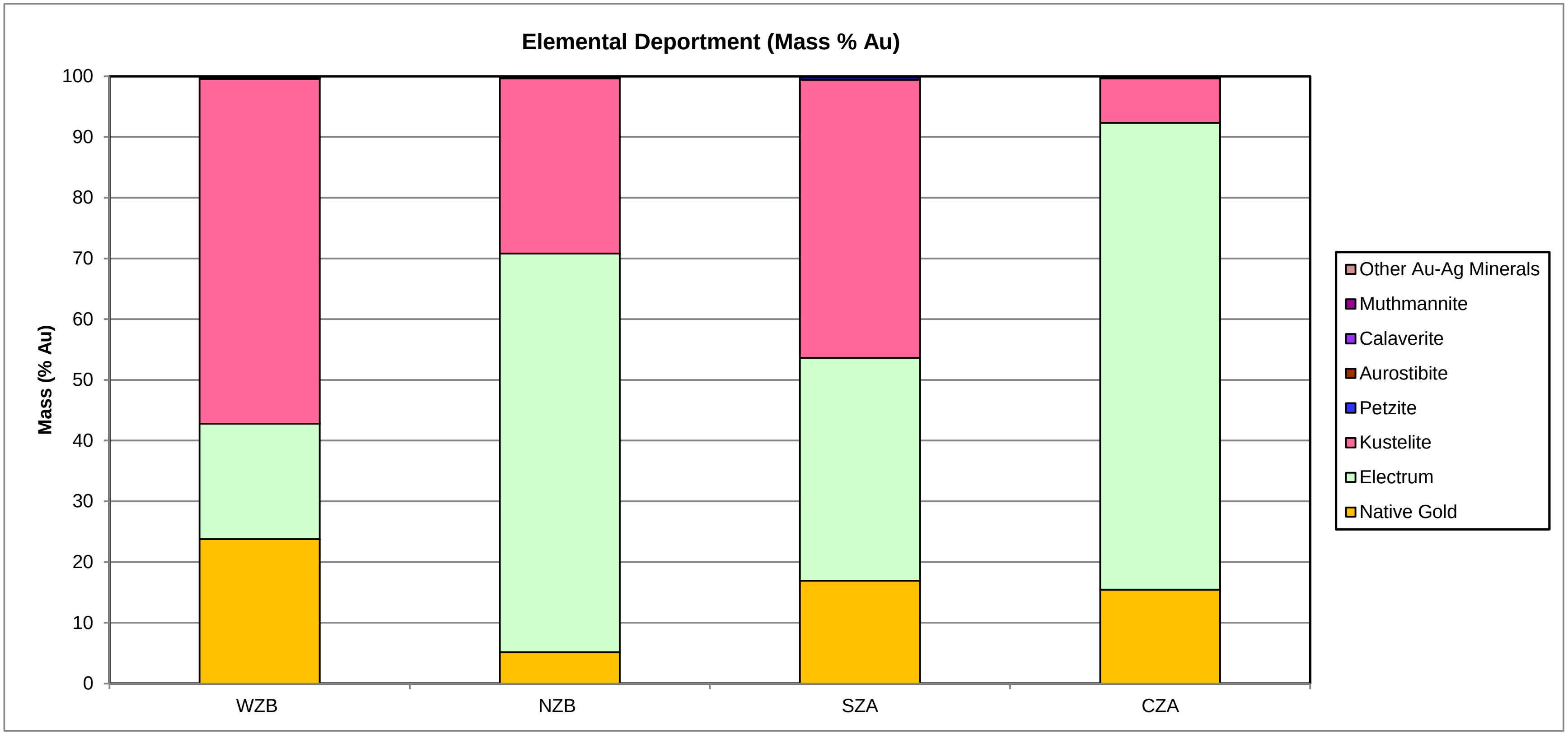


Figure 19: Gold Mineral Distribution (Mass%) for Each Sample for the Combined Head.

4.4. Gold Mineral Association

Mineral association is defined as pure (a particle that has 100% of the target mineral by volume), free (with ≥90%, but ≤100% of the target mineral), liberated (a particle has ≥ 80% but ≤90% of the target mineral), associated (binary and/or ternary, a particle has over 90% target mineral and other mineral), and complex particle (any combination of the above definition).

Gold mineral association, including pure, free, liberated, and associated binary and complex gold particles are determined through TIMA measurement for all polished sections, and calculated for the HLS Sink, Float and the overall sample. All gold mineral association statistical data information is detailed in Appendix E and summarized in sections below for each sample.

4.4.1. Gold Mineral Association for WZB Sample

Gold mineral association statistical data presented as normalized mass % of HLS products and overall combined sample for WZB, are summarized in Table 9 and graphically illustrated in Figure 20.

In the WZB sample, 73.3% of gold occurs as pure/free/liberated particles, while the remainder is mainly associated with silicates (19.3%), and minor with sulphides (4.4%) and complex (3%).

Table 9: Gold Mineral Association for WZB Sample (Normalized Mass%)

Mineral Name	Combined	Sink	Float
Pure Gold Minerals	24.0	28.2	0.33
Free Gold Minerals	25.5	30.0	0.00
Lib Gold Minerals	23.7	27.8	0.00
Gold Minerals : Ag-Minerals	0.41	0.49	0.00
Gold Minerals : Pyrite	2.03	2.39	0.00
Gold Minerals : Pyrrhotite	0.00	0.00	0.00
Gold Minerals : Arsenopyrite	1.56	1.84	0.00
Gold Minerals : Galena	0.33	0.39	0.00
Gold Minerals : Sphalerite	0.00	0.00	0.00
Gold Minerals : Cu Sulphides	0.08	0.10	0.00
Gold Minerals: Other Sulphides	0.00	0.00	0.00
Gold Minerals :Quartz/Feldspars	17.6	4.48	93.2
Gold Minerals : Micas/Clays/Chlorite	0.01	0.01	0.00
Gold Minerals :Qtz/Felds/Chl/Mc/Clays	1.66	0.83	6.48
Gold Minerals :Amphibole/Pyroxene	0.00	0.00	0.00
Gold Minerals : Oxides	0.00	0.00	0.00
Gold Minerals : Carbonates	0.00	0.00	0.00
Complex	2.98	3.50	0.00
Total	100	100	100
Liberated	73.3	86.0	0.33

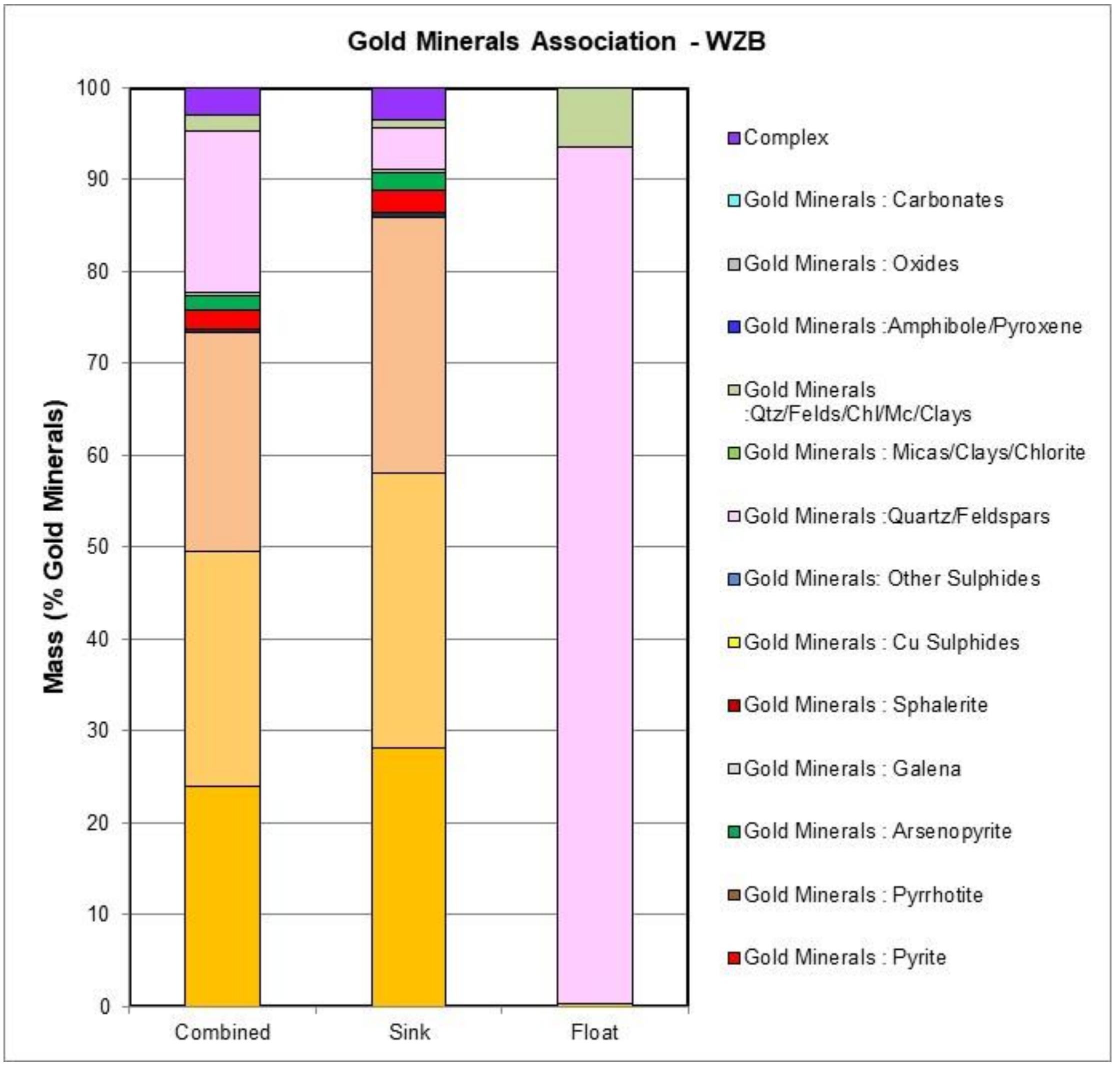


Figure 20: Gold Mineral Association for the WZB Sample (Normalized Mass%)

4.4.2. Gold Mineral Association for NZB Sample

Gold mineral association statistical data presented as normalized mass % of HLS products, and overall combined sample for NZB, are summarized in Table 10 and graphically illustrated in Figure 21.

In the NZB sample, 52.5% of gold occurs as pure/free/liberated particles, while the remainder is mainly associated with silicates (37.3%), and minor with complex (5.6%), sulphides (2.2%), oxides (1.0%), and carbonates (1.3%).

Table 10: Gold Mineral Association for NZB Sample (Normalized Mass%)

Mineral Name	Combined	Sink	Float
Pure Gold Minerals	22.0	22.2	16.0
Free Gold Minerals	21.1	22.1	0.00
Lib Gold Minerals	9.51	9.92	0.77
Gold Minerals : Ag-Minerals	0.05	0.05	0.00
Gold Minerals : Pyrite	1.10	1.15	0.00
Gold Minerals : Pyrrhotite	0.00	0.00	0.00
Gold Minerals : Arsenopyrite	0.00	0.00	0.00
Gold Minerals : Galena	0.12	0.12	0.00
Gold Minerals : Sphalerite	0.00	0.00	0.00
Gold Minerals : Cu Sulphides	0.93	0.98	0.00
Gold Minerals: Other Sulphides	0.00	0.00	0.00
Gold Minerals :Quartz/Feldspars	10.2	7.37	70.0
Gold Minerals : Micas/Clays/Chlorite	6.08	6.37	0.00
Gold Minerals :Qtz/Felds/Chl/Mc/Clays	21.1	22.0	1.19
Gold Minerals :Amphibole/Pyroxene	0.00	0.00	0.00
Gold Minerals : Oxides	1.01	1.05	0.00
Gold Minerals : Carbonates	1.36	1.42	0.00
Complex	5.57	5.26	12.0
Total	100	100	100
Liberated	52.5	54.2	16.8

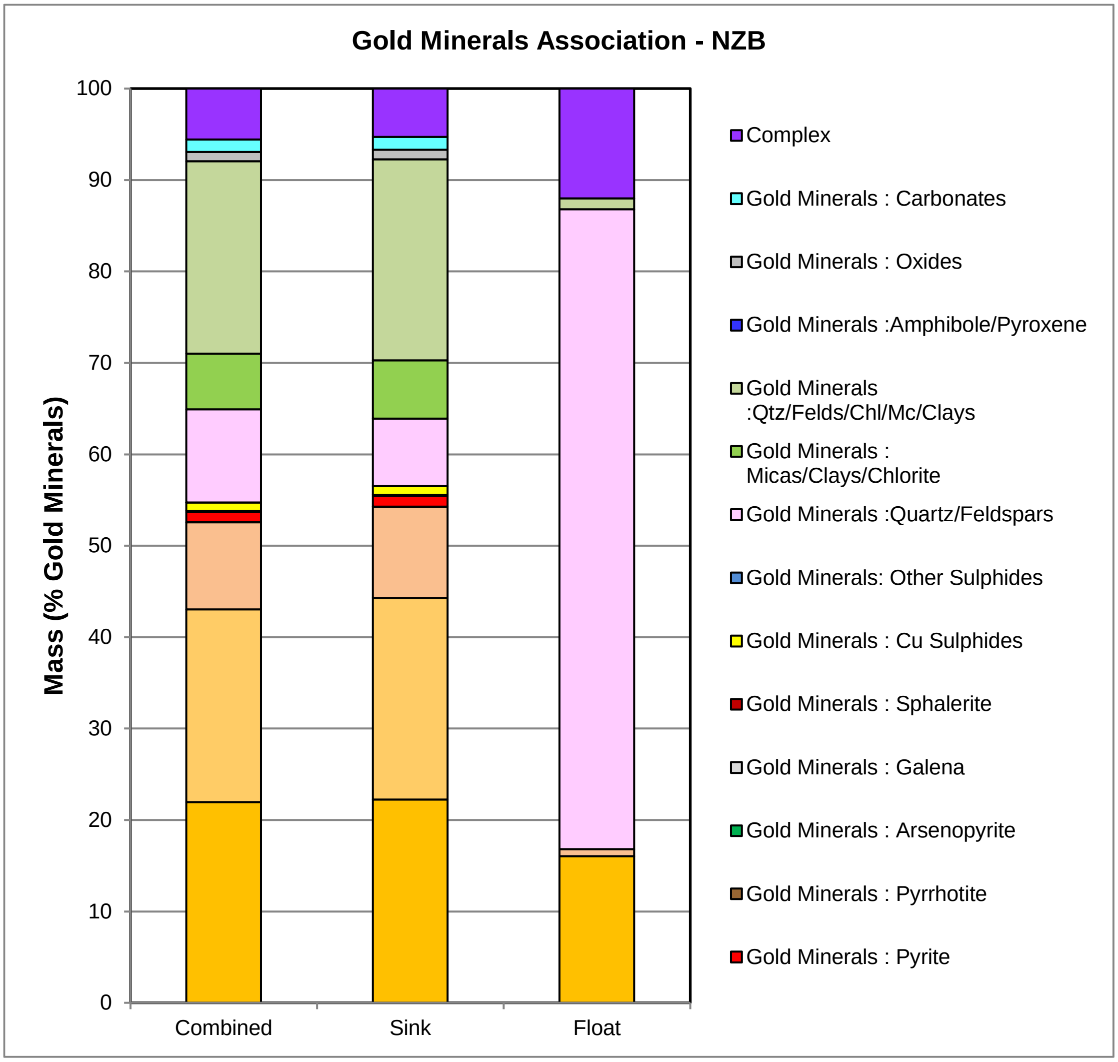


Figure 21: Gold Mineral Association for NZB Sample (Normalized Mass%)

4.4.3. Gold Mineral Association for SZA Sample

Gold mineral association statistical data presented as normalized mass % of HLS products, and overall combined sample for SZA, are summarized in Table 11 and graphically illustrated in Figure 22.

In the SZA sample, 22.8% of gold occurs as pure/free/liberated particles, while the remainder is mainly associated with silicates (47%), moderate with complex (26.7%) and minor with sulphides (2.4%), and carbonates (1.2%).

Table 11: Gold Mineral Association for SZA Sample (Normalized Mass%)

Mineral Name	Combined	Sink	Float
Pure Gold Minerals	12.6	16.0	8.46
Free Gold Minerals	8.26	3.91	13.5
Lib Gold Minerals	1.91	3.51	0.00
Gold Minerals : Ag-Minerals	0.00	0.00	0.00
Gold Minerals : Pyrite	0.97	1.77	0.00
Gold Minerals : Pyrrhotite	0.00	0.00	0.00
Gold Minerals : Arsenopyrite	1.39	2.54	0.01
Gold Minerals : Galena	0.00	0.00	0.00
Gold Minerals : Sphalerite	0.00	0.00	0.00
Gold Minerals : Cu Sulphides	0.00	0.00	0.00
Gold Minerals: Other Sulphides	0.00	0.00	0.00
Gold Minerals :Quartz/Feldspars	14.7	0.00	32.2
Gold Minerals : Micas/Clays/Chlorite	0.91	1.68	0.00
Gold Minerals :Qtz/Felds/Chl/Mc/Clays	26.0	12.2	42.6
Gold Minerals :Amphibole/Pyroxene	5.36	9.85	0.00
Gold Minerals : Oxides	0.00	0.00	0.00
Gold Minerals : Carbonates	1.22	2.25	0.00
Complex	26.7	46.3	3.26
Total	100	100	100
Liberated	22.8	23.5	21.9

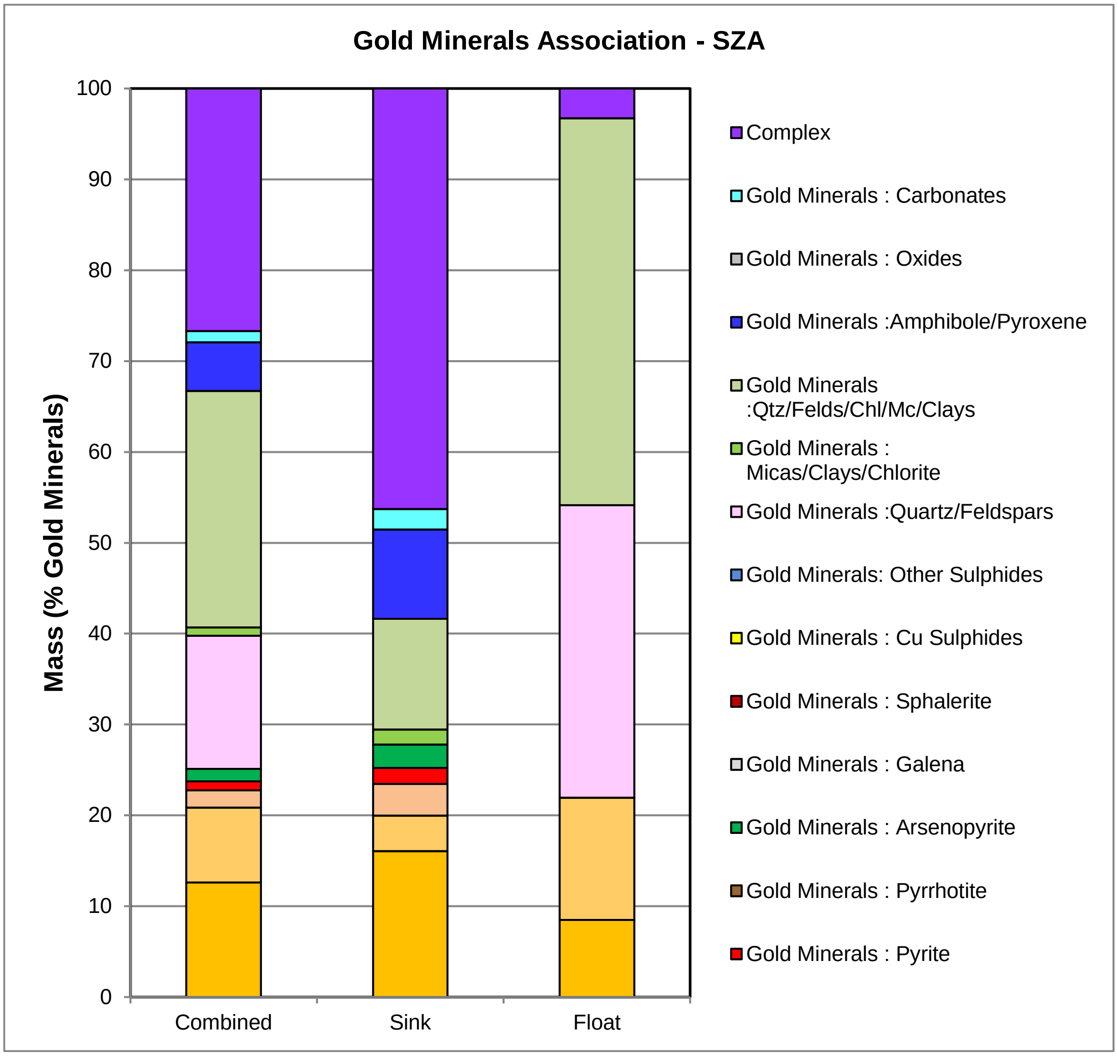


Figure 22: Gold Mineral Association for SZA Sample (Normalized Mass%)

4.4.4. Gold Mineral Association for CZA Sample

Gold mineral association statistical data presented as normalized mass % of HLS products, and overall combined sample for CZA, are summarized in Table 12 and graphically illustrated in Figure 23.

In the CZA sample, about 82.9% of gold occurs as pure/free/liberated particles, while the remainder is mainly associated with complex (6.3%), silicates (5.7%), and sulphides (4%).

Table 12: Gold Mineral Association for CZA Sample (Normalized Mass%)

Mineral Name	Combined	Sink	Float
Pure Gold Minerals	35.1	36.5	25.1
Free Gold Minerals	30.8	29.7	38.9
Lib Gold Minerals	17.0	18.9	3.58
Gold Minerals : Ag-Minerals	0.00	0.00	0.00
Gold Minerals : Pyrite	0.68	0.77	0.00
Gold Minerals : Pyrrhotite	0.02	0.02	0.00
Gold Minerals : Arsenopyrite	3.13	3.56	0.00
Gold Minerals : Galena	0.00	0.00	0.00
Gold Minerals : Sphalerite	0.00	0.00	0.00
Gold Minerals : Cu Sulphides	0.50	0.57	0.00
Gold Minerals: Other Sulphides	0.00	0.00	0.00
Gold Minerals :Quartz/Feldspars	0.06	0.06	0.00
Gold Minerals : Micas/Clays/Chlorite	0.35	0.19	1.49
Gold Minerals :Qtz/Felds/Chl/Mc/Clays	5.22	2.76	23.1
Gold Minerals :Amphibole/Pyroxene	0.08	0.09	0.00
Gold Minerals : Oxides	0.00	0.00	0.00
Gold Minerals : Carbonates	0.79	0.89	0.00
Complex	6.26	6.03	7.90
Total	100	100	100
Liberated	82.9	85.0	67.5

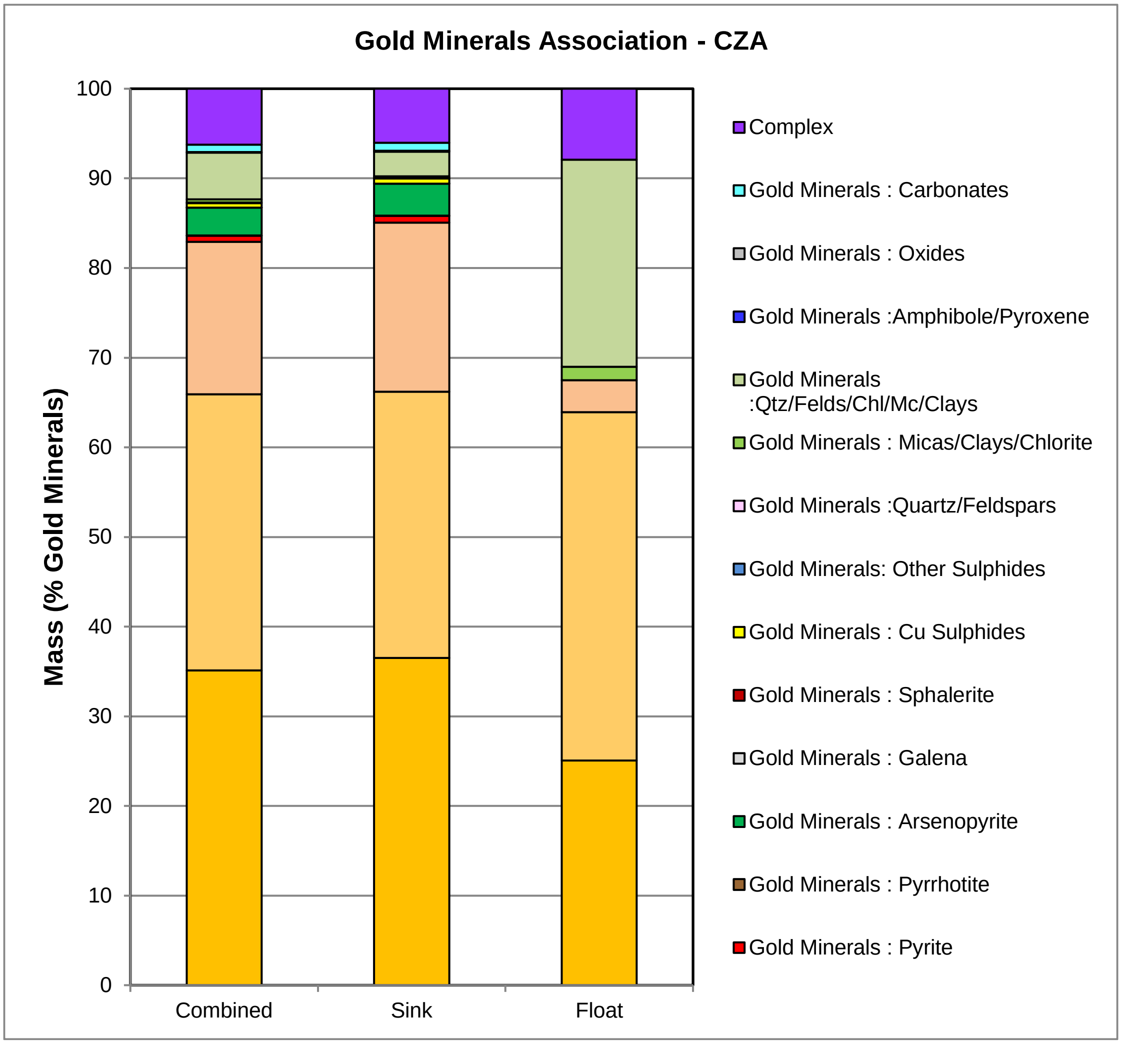


Figure 23: Gold Mineral Association for CZA Sample (Normalized Mass%)

An image grid of the gold mineral associations for both the sink and float products are presented in Figure 24 for all four samples.

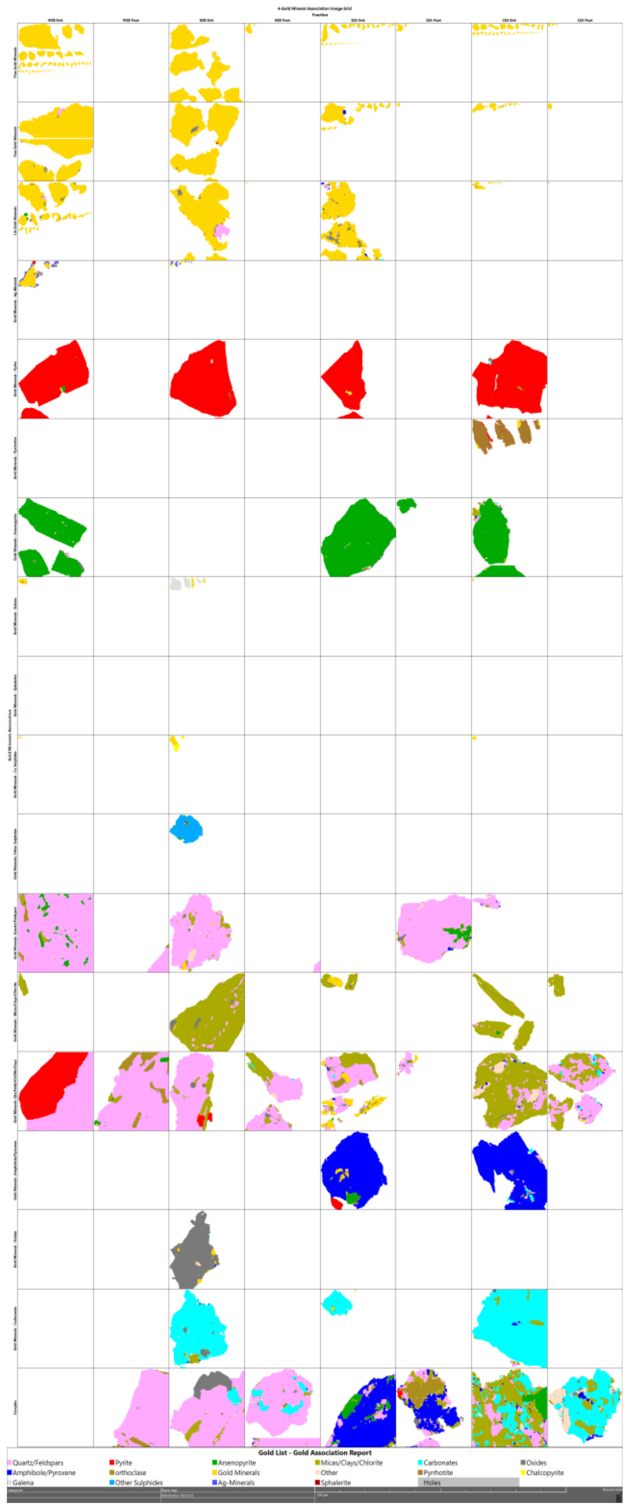


Figure 24: Image Grid of the Gold Mineral Associations for the Sink and Float Fractions of All Four Samples

4.5. Exposure of Gold Minerals

Exposure is used to describe a target grain surface area exposure to the epoxy medium and may occur adjacent to other minerals. Three categories are defined to classify the target mineral liberation based on the exposure:

- Fully exposed (or liberated): a target grain containing >80% of surface area exposure to the epoxy.
- Exposed: a target grain containing <80% of surface area exposure to the epoxy medium and occurs adjacent to another mineral.
- Locked: a target grain totally enclosed in another mineral or particle, with 0% exposure to the epoxy medium in a two-dimensional plane.

The exposure characteristics (liberated, exposed, and locked) of the gold grains are determined through TIMA measurement for all polished sections, and calculated for HLS Sink, HLS Float, and the overall sample.

The statistic data presented as absolute and normalized mass % of HLS fractions and combined for the overall sample, are presented in Appendix E, and summarized for each sample in sections below.

4.5.1. Exposure of Gold Mineral for WZB Sample

The statistical data for gold mineral exposure, presented as normalized percentages for HLS Sink and Float fractions and combined for the overall WZB sample, are summarized in Table 13 and Figure 25.

The data indicate that most gold grains are fully exposed at 72.9%, with moderately exposed grains accounting for 18.1%, and a minor proportion occurring as locked gold at 8.96%.

Table 13: Gold Mineral Exposure (normalized) of WZB Sample

Gold Exposure - WZB	Combined	Sink	Float
Exposed	72.9	85.6	0.33
Exposed 50-80%	1.48	1.74	0.00
Exposed 30-50%	1.22	1.43	0.00
Exposed 20-30%	0.50	0.59	0.00
Exposed 10-20%	2.38	2.80	0.00
Exposed 0-10%	12.5	5.40	53.5
Locked	8.96	2.49	46.2
Total	100	100	100

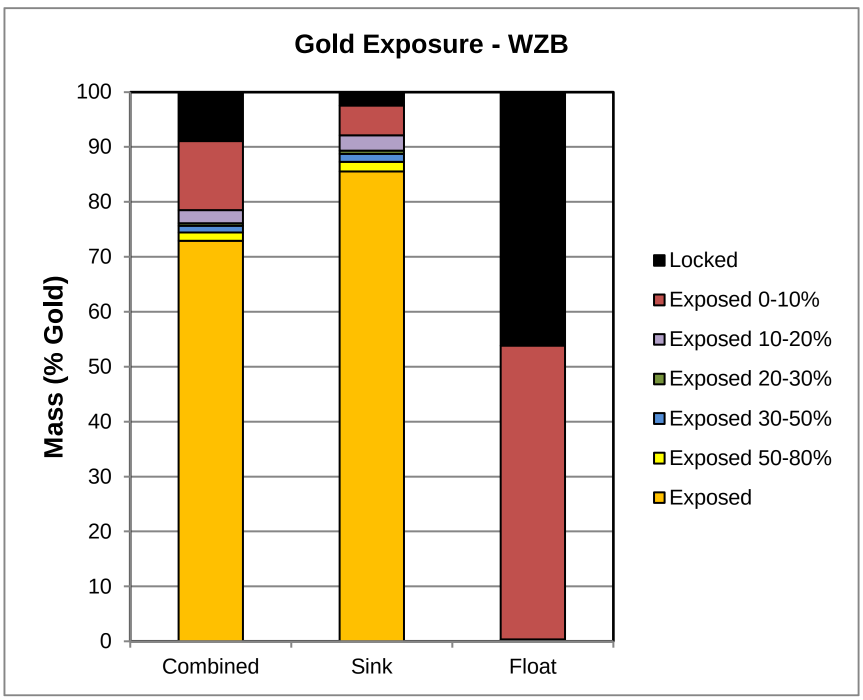


Figure 25: Gold Mineral Exposure (normalized) of WZB Sample

4.5.2. Exposure of Gold Mineral for NZB sample

The statistical data for gold mineral exposure, presented as normalized percentages for the HLS Sink and Float fractions and combined for the overall NZB sample, are summarized in Table 14 and Figure 26.

The data indicate that most gold grains are fully exposed at 48.4%, with exposed grains accounting for 31.4%, and a moderate proportion occurring as locked gold at 20.4%.

Table 14: Gold Mineral Exposure (normalized) of NZB Sample

Gold Exposure - NZB	Combined	Sink	Float
Exposed	48.4	49.9	16.8
Exposed 50-80%	8.27	8.63	0.65
Exposed 30-50%	7.02	7.30	0.97
Exposed 20-30%	0.69	0.71	0.30
Exposed 10-20%	4.93	5.08	1.80
Exposed 0-10%	10.5	8.53	52.3
Locked	20.2	19.9	27.2
Total	100	100	100

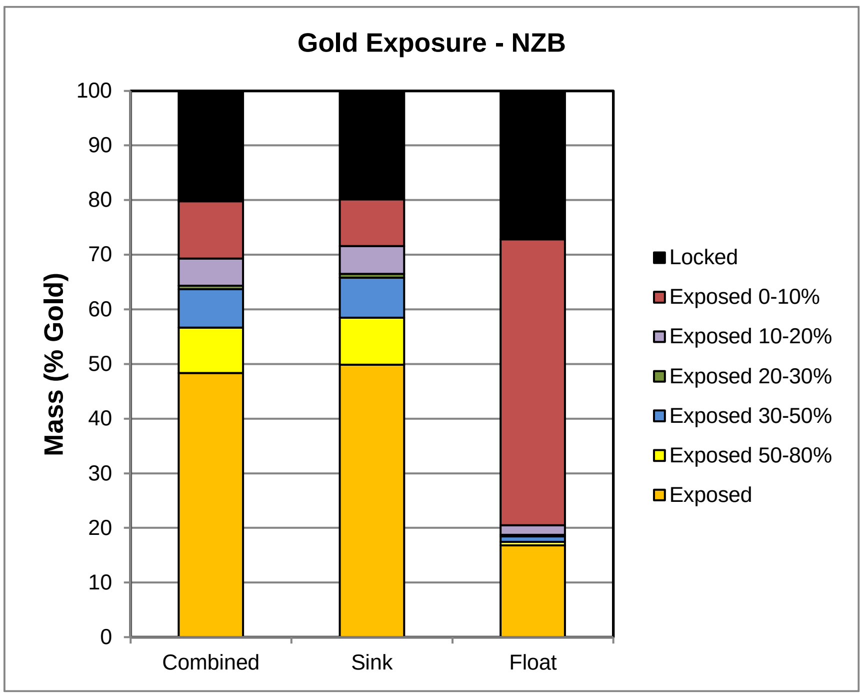


Figure 26: Gold Mineral Exposure (normalized) of NZB Sample

4.5.3. Exposure of Gold Mineral for SZA sample

The statistical data for gold mineral exposure, presented as normalized percentages for the HLS Sink and Float fractions and combined for the overall SZA sample, are summarized in Table 15 and Figure 27.

The data indicate that most gold grains are moderately exposed at 63.3%, with fully exposed grains accounting for 22.3%, and locked gold accounting for 14.4%.

Table 15: Gold Mineral Exposure (normalized) of SZA Sample

Gold Exposure - SZA	Combined	Sink	Float
Exposed	22.3	22.6	21.9
Exposed 50-80%	7.39	13.6	0.00
Exposed 30-50%	0.91	1.67	0.00
Exposed 20-30%	19.4	0.00	42.6
Exposed 10-20%	0.97	1.79	0.00
Exposed 0-10%	34.6	36.6	32.3
Locked	14.4	23.8	3.14
Total	100	100	100

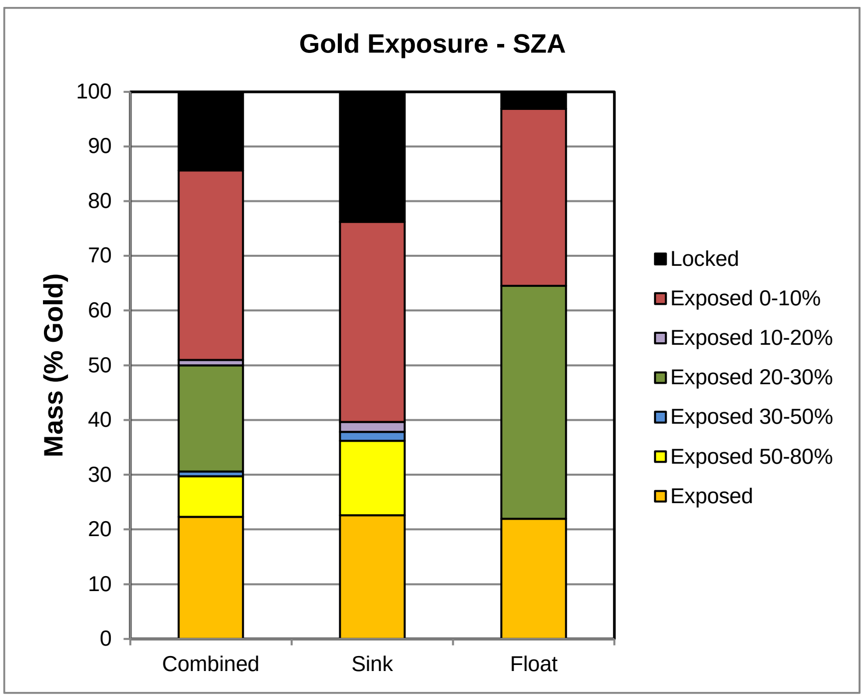


Figure 27: Gold Mineral Exposure (normalized) of SZA Sample

4.5.4. Exposure of Gold Mineral for CZA sample

The statistical data for gold mineral exposure, presented as normalized percentages for the HLS Sink and Float fractions and combined for the overall CZA sample, are summarized in Table 16 and Figure 28.

The data indicate that most gold grains are fully exposed at 79.4%, with moderately exposed grains accounting for 15.2%, and a minor proportion occurring as locked gold at 5.5%.

Table 16: Gold Mineral Exposure (normalized) of CZA Sample

Gold Exposure - CZA	Combined	Sink	Float
Exposed	79.4	81.5	63.9
Exposed 50-80%	4.21	4.14	4.74
Exposed 30-50%	0.00	0.00	0.00
Exposed 20-30%	1.11	1.27	0.00
Exposed 10-20%	1.89	2.15	0.00
Exposed 0-10%	7.97	6.41	19.3
Locked	5.46	4.56	12.0
Total	100	100	100

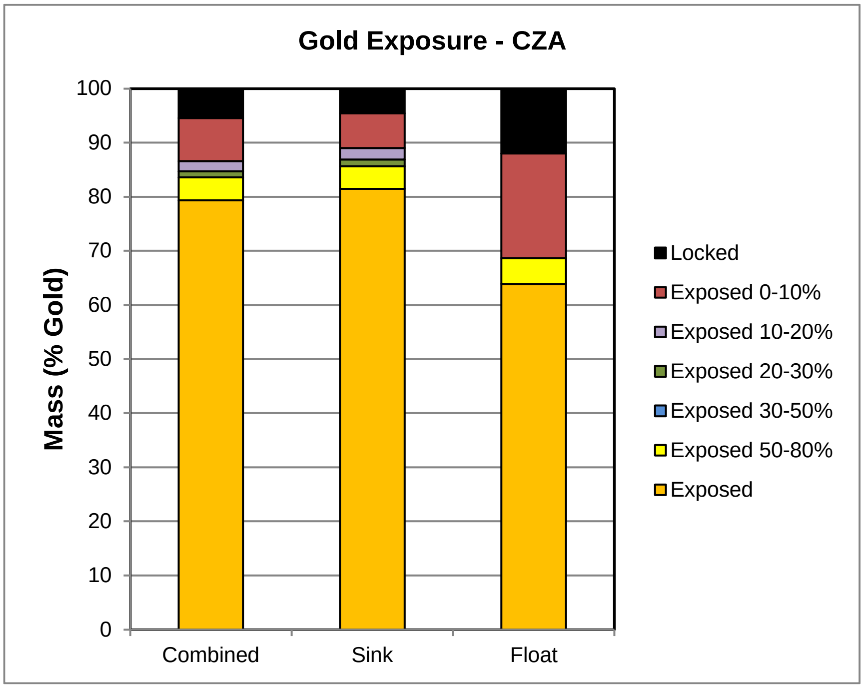


Figure 28: Gold Mineral Exposure (normalized) of CZA Sample

4.6. Grain Size Distribution of Gold Minerals

Gold particle size distributions were measured by TIMA-X. The statistics of gold grain sizes (µm) per product and combined for the overall samples are listed in Table 17. The mass of gold mineral grains, normalized by size classes of 3 µm, 5 µm, 10 µm, and larger intervals, is shown in the sections below for each sample.

Table 17: Statistics of Gold Grain Size (µm) for all Four Samples

Statistics (Mass % of phase) / Fraction	WZB			NZB			SZA			CZA		
	Combined	Sink	Float	Combined	Sink	Float	Combined	Sink	Float	Combined	Sink	Float
Minimum	0.5	0.5	1.13	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.49
Median	22.77	17.89	27.64	9.39	13.14	5.64	8.52	10.92	6.11	5.47	4.48	6.45
Maximum	102.68	102.68	28.41	97.17	97.17	14.83	65.84	65.84	12.83	18.01	18.01	9.74
Mean	6.15	7.63	4.66	5.81	8.02	3.59	3.67	3.96	3.38	3.30	3.12	3.47

4.6.1. Grains Size Distribution of Gold Minerals – WZA

Gold grain size distribution, expressed as the mass of gold mineral grains normalized by size classes of 3 µm, 5 µm, 10 µm, and larger intervals for the Sink and Float fractions, as well as the combined WZA sample, is shown in Table 18 and summarized for the overall sample in Figure 29.

Grain sizes range from 0.5 to 102.7 µm, averaging 6.15 µm with a median of 22.8 µm (Table 17).

For the size distribution, 18.6% of gold are over 50 µm where 33% are between 20 to 50 µm. A major proportion of grains are between 3 to 20 µm at 45.5%, and only 2.8% are less than 3 µm.

Table 18: Gold Mineral Size Distribution (Normalized Mass%) by Product – WZB

Gold Size	Combined	WZB Sink	WZB Float
>75 um	2.43	2.86	0.00
70-75 um	0.00	0.00	0.00
65-70 um	0.00	0.00	0.00
60-65 um	1.80	2.11	0.00
55-60 um	14.4	16.9	0.00
50-55 um	0.00	0.00	0.00
45-50 um	3.75	4.40	0.00
40-45 um	0.37	0.43	0.00
35-40 um	13.4	15.7	0.00
30-35 um	0.24	0.28	0.00
25-30 um	11.7	0.75	74.5
20-25 um	3.60	4.23	0.00
15-20 um	6.59	7.73	0.00
10-15 um	7.15	8.39	0.00
5-10 um	7.27	6.67	10.7
3-5 um	24.5	26.8	11.2
< 3 um	2.83	2.70	3.59
Total	100	100	100

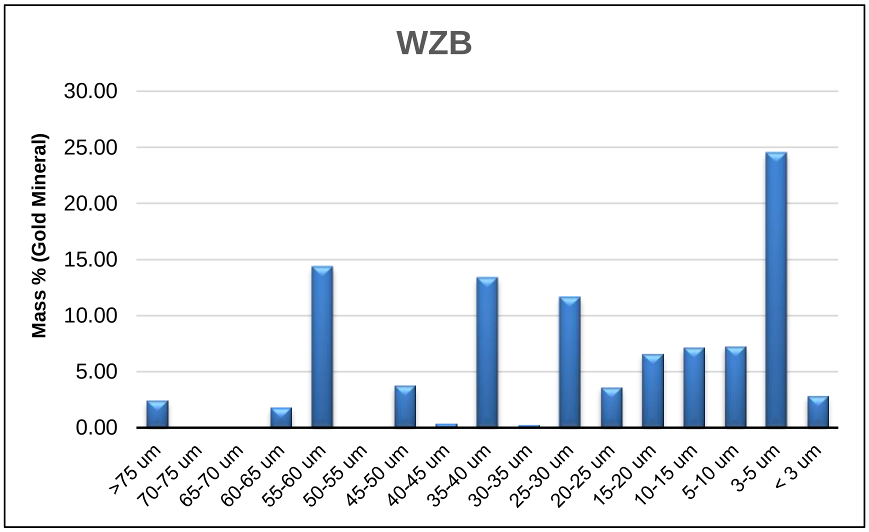


Figure 29: Gold Mineral Size Distribution (Normalized Mass%) by the WZB Sample

4.6.2. Grains Size Distribution of Gold Minerals – NZB

Gold grain size distribution, expressed as the mass of gold mineral grains normalized by size classes of 3 µm, 5 µm, 10 µm, and larger intervals for the Sink and Float fractions, as well as the combined NZB sample, is shown in Table 19 and summarized for the overall sample in Figure 30.

Grain sizes range from 0.5 to 97.2 µm, averaging 5.8 µm with a median of 9.4 µm (Table 17).

For the size distribution, 9.3% are over 50 µm where 22.3% are between 20 to 50 µm. A major proportion of grains are between 3 to 20 µm at 62.3%, and a minor proportion (6.1%) are less than 3 µm.

Table 19: Gold Mineral Size Distribution (Normalized Mass%) by Product – WZB

Gold Size	Combined	NZB Sink	NZB Float
>75 um	0.44	0.46	0.00
70-75 um	0.00	0.00	0.00
65-70 um	3.99	4.18	0.00
60-65 um	0.46	0.48	0.00
55-60 um	0.26	0.28	0.00
50-55 um	4.09	4.29	0.00
45-50 um	0.26	0.27	0.00
40-45 um	2.74	2.87	0.00
35-40 um	1.86	1.94	0.00
30-35 um	4.42	4.63	0.00
25-30 um	7.28	7.62	0.00
20-25 um	5.78	6.05	0.00
15-20 um	7.73	8.09	0.00
10-15 um	17.9	17.3	31.8
5-10 um	28.4	28.3	30.8
3-5 um	8.18	7.30	26.8
< 3 um	6.14	5.93	10.6
Total	100	100	100

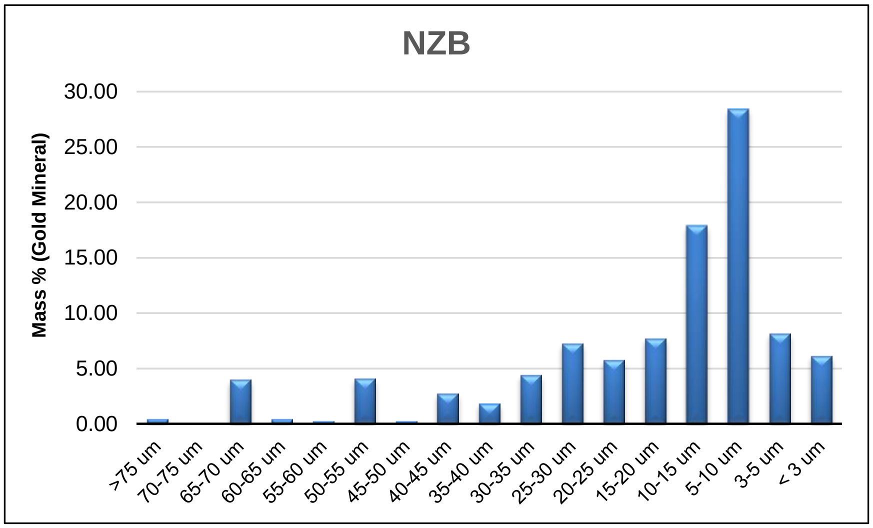


Figure 30: Gold Mineral Size Distribution (Normalized Mass%) by the WZB Sample

4.6.3. Grains Size Distribution of Gold Minerals – SZA

Gold grain size distribution, expressed as the mass of gold mineral grains normalized by size classes of 3 µm, 5 µm, 10 µm, and larger intervals for the Sink and Float fractions, as well as the combined SZA sample, is shown in Table 20 and summarized for the overall sample in Figure 31.

Grain sizes range from <0.5 to 65.8 µm, averaging 3.7 µm with a median of 8.5 µm (Table 17).

Size distribution is skewed toward fine particles. A very trace amount (0.4%) is over 50 µm, where 4.5% are between 20 to 50 µm. A major proportion of grains are between 3 to 20 µm at 84.8%, and a moderate proportion (10.3%) are less than 3 µm.

Table 20: Gold Mineral Size Distribution (Normalized Mass%) by Product – SZA

Gold Size	Combined	SZA Sink	SZA Float
>75 um	0.00	0.00	0.00
70-75 um	0.00	0.00	0.00
65-70 um	0.22	0.40	0.00
60-65 um	0.00	0.00	0.00
55-60 um	0.16	0.29	0.00
50-55 um	0.00	0.00	0.00
45-50 um	0.11	0.20	0.00
40-45 um	0.57	1.04	0.00
35-40 um	0.37	0.68	0.00
30-35 um	0.53	0.98	0.00
25-30 um	0.04	0.07	0.00
20-25 um	2.92	5.35	0.00
15-20 um	17.3	31.7	0.00
10-15 um	25.0	17.9	33.5
5-10 um	28.2	25.9	31.0
3-5 um	14.3	9.04	20.5
< 3 um	10.34	6.46	15.0
Total	100	100	100

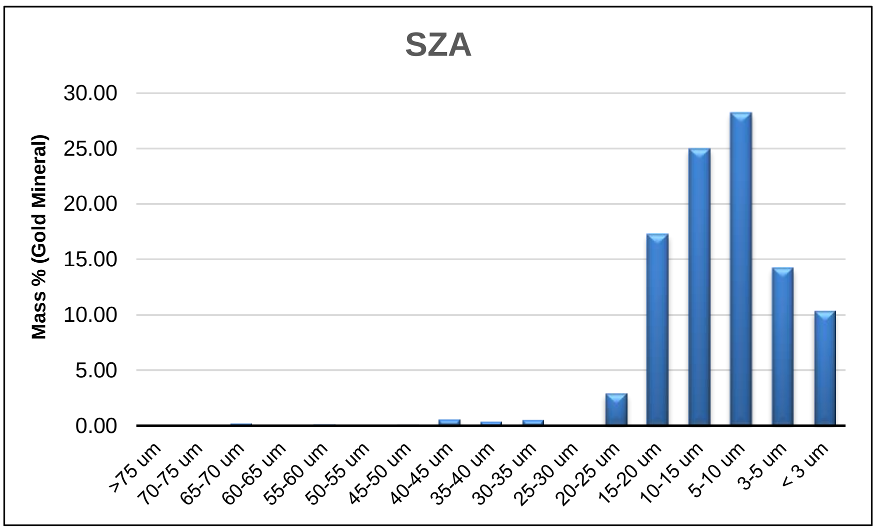


Figure 31: Gold Mineral Size Distribution (Normalized Mass%) by the SZA Sample

4.6.4. Grains Size Distribution of Gold Minerals – CZA

Gold grain size distribution, expressed as the mass of gold mineral grains normalized by size classes of 3 µm, 5 µm, 10 µm, and larger intervals for the Sink and Float fractions, as well as the combined CZA sample, is shown in Table 21 and summarized for the overall sample in Figure 32.

Grain sizes range from <0.5 to 18 µm, averaging 3.3 µm with a median of 5.5 µm (Table 17).

Size distribution trends toward very fine range. The major proportion of grains are between 3 to 20 µm at 84.4%, and a moderate proportion (15.6%) are less than 3 µm.

Table 21: Gold Mineral Size Distribution (Normalized Mass%) by Product – CZA

Gold Size	Combined	CZA Sink	CZA Float
>75 um	0.00	0.00	0.00
70-75 um	0.00	0.00	0.00
65-70 um	0.00	0.00	0.00
60-65 um	0.00	0.00	0.00
55-60 um	0.00	0.00	0.00
50-55 um	0.00	0.00	0.00
45-50 um	0.00	0.00	0.00
40-45 um	0.00	0.00	0.00
35-40 um	0.00	0.00	0.00
30-35 um	0.00	0.00	0.00
25-30 um	0.00	0.00	0.00
20-25 um	0.00	0.00	0.00
15-20 um	2.56	2.92	0.00
10-15 um	3.32	3.78	0.00
5-10 um	44.9	41.5	69.6
3-5 um	33.5	35.6	18.3
< 3 um	15.6	16.1	12.1
Total	100	100	100

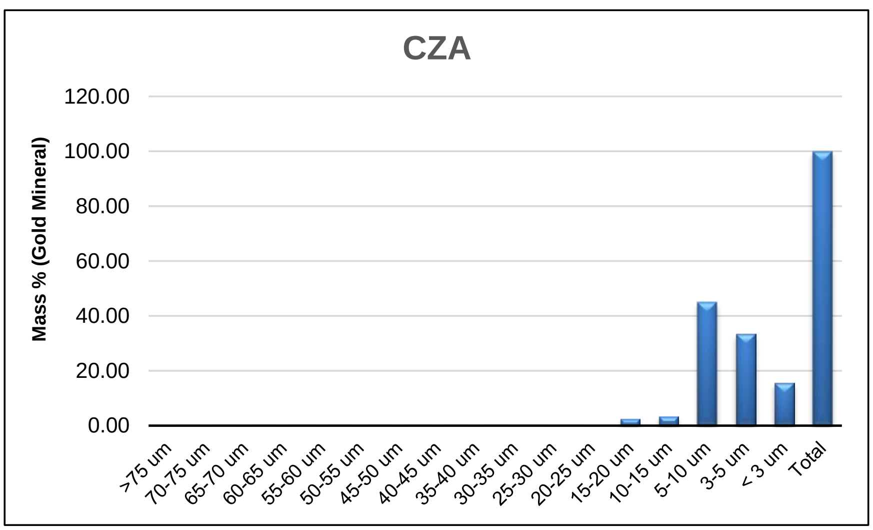


Figure 32: Gold Mineral Size Distribution (Normalized Mass%) by the CZA Sample

4.6.5. Summarized Gold Grain Size Distribution for all Four Composites

Gold grain size distribution, expressed as the mass of gold mineral grains normalized by size classes of 3 µm, 5 µm, 10 µm, and larger intervals for the four composite samples, is shown in Table 22 and Figure 33,

Table 22: Gold Mineral Size Distribution (Normalized Mass%) for the Four Composites

Gold Size	WZB	NZB	SZA	CZA
>75 um	2.43	0.44	0.00	0.00
70-75 um	0.00	0.00	0.00	0.00
65-70 um	0.00	3.99	0.22	0.00
60-65 um	1.80	0.46	0.00	0.00
55-60 um	14.4	0.26	0.16	0.00
50-55 um	0.00	4.09	0.00	0.00
45-50 um	3.75	0.26	0.11	0.00
40-45 um	0.37	2.74	0.57	0.00
35-40 um	13.4	1.86	0.37	0.00
30-35 um	0.24	4.42	0.53	0.00
25-30 um	11.7	7.28	0.04	0.00
20-25 um	3.60	5.78	2.92	0.00
15-20 um	6.59	7.73	17.3	2.56
10-15 um	7.15	17.9	25.0	3.32
5-10 um	7.27	28.4	28.2	44.9
3-5 um	24.5	8.18	14.3	33.5
< 3 um	2.83	6.14	10.34	15.63
Total	100	100	100	100

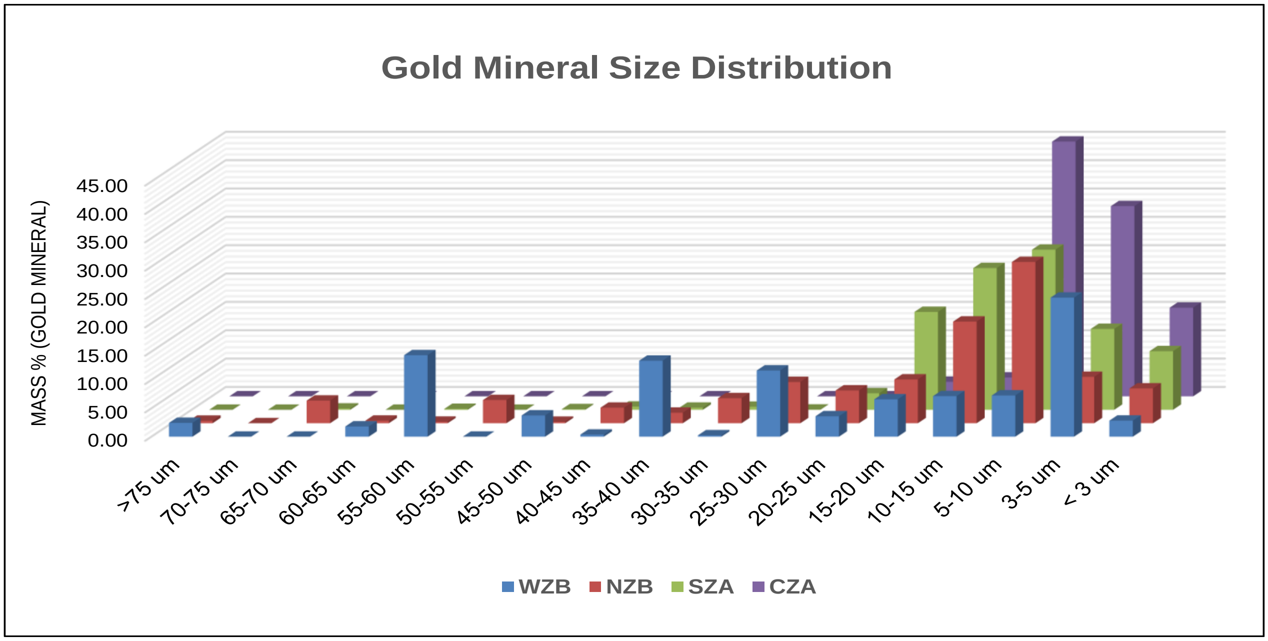


Figure 33: Gold Mineral Size Distribution (Normalized Mass%) for the Four Composites

Gold grain size distribution is summarized for 3 µm, 20 µm and 50 µm intervals in Table 23 for all four composite samples.

Table 23: Summarized Gold Mineral Size Distribution (Normalized Mass%)

Gold Size	WZB	NZB	SZA	CZA
>50 um	18.6	9.25	0.38	0.00
20-50 um	33.0	22.3	4.53	0.00
3 - 20 um	45.5	62.3	84.8	84.4
< 3 um	2.83	6.14	10.3	15.6
Total	100	100	100	100

From WZB to NZB, SZA, and CZA composites, the gold grain distribution shows a clear decrease in coarse gold grain sizes (>50 µm and 20–50 µm) and an increase in finer gold grain sizes (3–20 µm and <3 µm). WZB and NZB contain significant coarse gold, whereas SZA and CZA are dominated by very fine gold (<20 µm), with CZA being the finest overall.

The shift toward finer gold in SZA and CZA indicates increased recovery complexity, requiring fine grinding and specialized recovery techniques (e.g., enhanced flotation or leaching) to achieve high extraction efficiency.

5. Mineralogical Gold Recovery Estimation - Conclusions and Recommendations

The predicted gold recovery can be estimated both from the mineralogical data and through the gravity and leach testwork results.

5.1. Gold Recovery Based on Gold Mineral Exposure

Gold recovery based on gold mineral exposure assumes that all exposed particles (including fully exposed and those exposed with 0–80% surface area) at the current grinding size (150 µm, P_{80}) are leachable. The results are summarized in Table 24.

Table 24: Gold Recovery Estimated through Exposure

Sample ID	Gold Mineral Exposure	Mass (%)	Leachable Gold (%) (150µm P_{80})
WZB	Exposed	72.9	**91.0**
	Exposed (0-80%)	18.1	
	Locked	8.96	
NZB	Exposed	48.4	**79.8**
	Exposed (0-80%)	31.4	
	Locked	20.2	
SZA	Exposed	22.3	**85.6**
	Exposed (0-80%)	63.3	
	Locked	14.4	
CZA	Exposed	79.4	**94.6**
	Exposed (0-80%)	15.2	
	Locked	5.46	

Leachable gold estimated from mineral exposure at 150 µm (P_{80}) ranges from 79.8% to 94.6% across the four samples, with CZA showing the highest recovery and NZB the lowest. This recovery can be improved through finer grinding but may be influenced by gold mineral types, particularly high silver content in Au–Ag alloys.

5.2. 2 – Gold Recovery Based on Gravity and Leaching

The gravity and leaching gold recovery combination method involves first subjecting each composite sample to Heavy Liquid Separation (HLS at SG 2.85). A portion of the HLS Float subsamples is then submitted for leaching tests. The estimated gold recovery for each sample is calculated based on gold grade distribution in the HLS Sink (Table 25), and the leached gold from the HLS Float.

Table 25: Gravity Gold Recovery by HLS

Sample ID	Mass	Assays	Distribution
		Au	Au
	%	g/t	%
WZB	**100**	**12.7**	**100**
WZB HLS Sink	23.2	*<u>43.8</u>*	*80.0*
WZB HLS Float	76.8	3.31	20.0
NZB	**100**	**33.8**	**100**
NZB HLS Sink	28.8	*<u>97.9</u>*	*83.5*
NZB HLS Float	71.2	7.81	16.5
SZA	**100**	**9.11**	**100**
SZA HLS Sink	45.1	*<u>16.6</u>*	*82.3*
SZA HLS Float	54.9	2.94	17.7
CZA	**100**	**6.06**	**100**
CZA HLS Sink	31.8	*<u>13.6</u>*	*71.2*
CZA HLS Float	68.2	2.56	28.8

Italic - Calculated by difference; Italic underline - grades by back calculation

A cut (300 g) of each HLS Float sample was subjected to cyanide leach gold extraction without additional grinding or pre-treatment. A high cyanide concentration of 2 g/L NaCN was maintained throughout the 24-hour leaching period to ensure the dissolution of exposed gold. Upon test completion, the pulp was filtered, and the final pregnant leach solution (PLS) was collected and assayed for gold content. The filter cake was water-washed, dried, and analyzed by fire assay to extinction using two representative subsamples to determine residual gold content. Gold extraction and calculated head grade were determined by metallurgical balance, based on the mass and gold concentrations in the final leach products (PLS and residue); see data report in Table 26.

Table 26: Cyanide Leach (CN) for HLS Float

Sample	CN Test	Sample mass, g	Conditions	Reagents, kg/t of CN Feed				Au Recovery, %	Residue, g/t Au			Head, g/t Au	
			Grind Size	Added		Consumed		CN Unit				Calculated	Direct
			K_{80}, µm	NaCN	CaO	NaCN	CaO	24 h	Au 1	Au 2	Avrg.	CN	
WZB HLS Float	CN1	299.1	150	5.05	1.52	0.43	1.45	63.2	1.32	1.16	1.24	3.37	3.16
NZB HLS Float	CN2	299.8	150	5.03	0.85	0.50	0.80	79.6	1.95	1.85	1.90	9.31	8.30
SZA HLS Float	CN3	299.0	150	4.93	1.33	0.37	1.30	60.5	1.20	1.20	1.20	3.04	2.94
CZA HLS Float	CN4	300.0	150	5.33	1.08	0.80	1.05	74.4	0.72	0.68	0.70	2.74	2.56

Gold recovery estimated using the combined mineralogy and metallurgy method are summarized in Table 27 and Figure 34.

The overall gold recovery ranges from 92.6% to 96.6% across all samples, with most gold reporting to the HLS Sink fraction and additional recovery achieved by leaching the HLS Float at SG 2.85. This recovery can be further improved through finer grinding and more efficient gravity separation methods but may be influenced by gold mineral types, particularly high silver content in Au–Ag alloys.

Table 27: Gold Recovery to HLS Sink and Leached from HLS Float

Sample ID	Gold Recovery by Heavy Liquid Separation (@SG 2.85)		Au Recovery for HLS Float by CN Leach, %	Gold Recovery for HLS Float	Gold Recovery for Overvall Sample
	HLS Sink	HLS Float	24 h	(%)	(%)
WZB	80.00	20.0	63.2	12.64	**92.64**
NZB	83.50	16.5	79.6	13.13	**96.63**
SZA	82.30	17.7	60.5	10.71	**93.01**
CZA	71.20	28.8	74.4	21.43	**92.63**

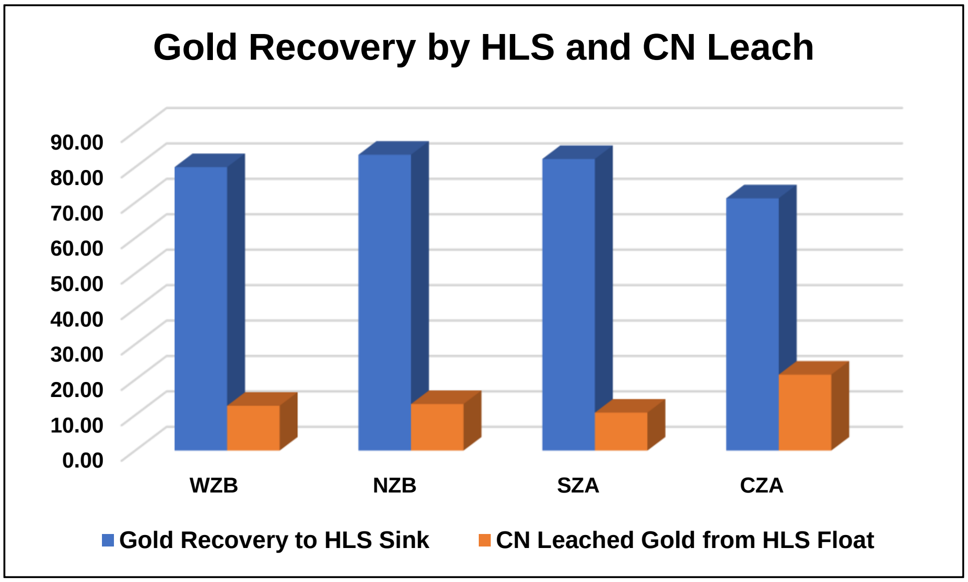


Figure 34: Gold Recovery by HLS and CN Leach

Appendix A – Glossary and Terminology for Gold Deportment Study

Mineralogical Instrumentation and Optical Terminology:

- XRD: *X-ray diffraction*
- SEM-EDS: *Scanning electron microscope with energy-dispersive spectrometer*
- Feature Analysis*: A function on the Oxford SEM system*
- BSE*: Backscattered electron images*
- QEMSCAN: *Quantitative Evaluation of Materials by Scanning Electron Microscopy*
- BMA: *Bulk Mineral Analysis (part of the QEMSCAN analysis modes) is performed using a linear intercept method, and is used to provide statistically abundant data for speciation and mineral distribution.*
- PMA: *Particle Mineral Analysis (part of the QEMSCAN analysis modes) is a two-dimensional mapping analysis aimed at providing mineral speciation, distribution and resolving liberation and locking characteristics of a generic set of particles (dependant on the grade).*
- SMS: *Specific Mineral Search (part of the QEMSCAN analysis modes), used if a phase reported as a low-grade constituent and can be located by thresholding of the back-scattered electron intensity, to provide liberation and locking characteristics.*
- TMS: *Trace Mineral Search (part of the QEMSCAN analysis modes), where a phase reported as a trace constituent and can be located by thresholding of the back-scattered electron intensity, to provide to provide liberation and locking characteristics; usually for Au/Ag and PGE ore types.*
- QEM-ARMS: *or Automated Rapid Mineral Scan by QEMSCAN, is a semi-quantitative method designed to provide simple bulk mineralogical deportment as well as basic liberation analysis of one or two minerals of interest which occur in significant quantities (>1% mineral mass).*
- TIMA-X: *an acronym for TESCAN Integrated Mineral Analyzer, which is one of the more* advanced *Automated Scanning Electron Microscopy (ASEM) instruments on the market. It is based on four Energy Dispersive X-Ray (EDX) silicon drift detectors (SDD) attached to a TESCAN MIRA (field-emission gun – FEG) platform which also include a backscattered electron (BSE) and secondary electron (SE) detectors.*
- TBPS – *Trace Bright Phase Search, the Tima-X mode of analysis used for the gold mineral scan.*
- EMPA: *Electron probe micro-analyzer.*
- PPRL: *Plane polarized reflected light*.
- D-SIMS: *Dynamic secondary ion mass spectrometry.*

Chemical Analysis:

- Routine Pulp: *Routine analytical techniques such as pyrosulfate XRF, routine Pb fire assay etc.*
- XRF*: X-Ray Fluorescence analysis method*
- *WRA by XRF: Borate fusion Whole Rock Analysis, pulp-major oxides and LOI*
- *WRA by ICP: Sodium peroxide fusion for highly base metal mineralized sample types and/or high grade sulphide ores.*
- *ICP-OES: Inductively coupled plasma-optical emission spectroscopy analysis, including different packages of multi-element analysis for mineralized sample, e.g. strong acid digest for low mineralized sample types.*
- *Au and Ag assay: Routine Pulp by fire assay.*
- *S=: Pulp-sulphur as sulphide.*
- As and Fe: *Routine pulp XRF.*

Sample Preparation and Preconcentration

Heavy Liquid Separation

- HLS: *Heavy liquid separation*
- *M.I.: Methylene iodide. A liquid compound (SG 3.32) that is used as a heavy liquid to separate minerals.*
- *Density: The mass of a substance per unit volume, usually expressed in grams per cubic centimeter (g/cc).*
- *SG: Specific gravity; the ratio between the weight of a substance and the weight of an equal volume of water at 4°C.*
- *HLS Float: The portion of the sample that is lighter than the SG of the heavy liquid.*
- HLS Sink: *The portion of the sample that is heavier than the SG of the heavy liquid.*

Wilfley Tabling Gravity Concentration

- W.T. or WT: *Wilfley Table method of gravity concentration.*
- WT Tip: *Wilfley tabling Tip or concentrate fraction.*
- WT Mid: Wilfley tabling middling fraction.
- WT *Tail: Wilfley tabling tails fraction.*

Superpanning

- Superpanner: *The mechanical device that concentrates the sample based on the minerals specific gravity.*
- Superpanning: *The gravity separation method with Superpanner.*
- SP: *Superpanning methods or products.*
- SP Tip: *Superpanning tip or concentrate fraction, the separated sample at the front end of the pan that contains minerals with the highest specific gravity. It is generally composed of sulphides & Au-GOLD-grains and varies based on ore type and mill product.*
- SP Sulphides (or SP Oxides) and SP Mids: *The separated sample that lies between the Tip and the Pan tail. It is generally composed of liberated sulphides, oxides and sulphide/silicate binary particles.*
- SP Tail: *The sample that is closest to the back of the pan. It is dominantly composed of silicates and/or carbonates of various grain sizes. The Pan Tails often makes up the greatest proportion by volume for the sample.*
- P.S. or PS: *Polished Section, a 25mm polished epoxy grain mount or a 30mm block with a 25mm centre for the sample - using the Bakelite rings.*

Mineralogy Related Terminology

- PGM: *Platinum Group Mineral, a mineral in which a Platinum Group element (mainly Pt or Pd) occur as major components, such as native platinum or palladium, and telluride, antimonide, bismuthide, and sulphide minerals including michenerite, PdBiTe, soblevskite, PdBi, sperrylite,* $PtAs_2$*, braggite, (Pd,Pt,Ni)S.*
- Gold Mineral*: A mineral in which gold occurs as a major component, such as native gold, electrum, and gold tellurides, antimonides, and bismuthides.*
- Native Gold: *Gold-Silver alloy with a minimum gold content of 75%.*
- Electrum: *Gold-Silver alloy with 50 – 75 wt% Au.*
- *Kustelite: Silver-Gold alloy with 50 – 75 wt% Ag.*
- *Native Silver: Silver-Gold alloy with a minimum silver content of 75%.*
- Sulphides: *Sulphide Minerals.*
- FeOx: *Iron oxide minerals.*
- Nop: *Non-opaque minerals.*
- *Silc: Silicate minerals.*
- Grain: *A mineral grain that consists of a single mineral type. Several grains can make up a particle. In the case of a liberated grain, the terms grain and particle are equivalent.*
- Measurement Parameters of Gold Grain from SEM Feature Analysis:

  (1) Length – Max feature dimension in microns.

  (2) Breath – Min feature dimension in microns.

  (3) Area – Area of whole feature in square microns.

  (4) ECD – Equivalent circle diameter in microns, equals the grain size (Square root of (4 x Area)/Pi)

- Measurement Parameters of Gold Grain from Optical Microscopy Measurement (two-dimensional cross-sections):

  (1) Length – Max grain boundary in microns.

  (2) Breath – Min grain boundary in microns.

  (3) Area – Area of whole grain in square microns, equals Length x Breath.

  (4) Size – Equals Square root of (4 x Area)/Pi.

- Gold Mineral Association: *refers to the nature of the gold and how it occurs in the sample with respect to adjacent minerals, e.g. liberated, exposed and locked.*

1 Liberated: A gold grain with no other mineral attached and/or a binary particle with ≥80% of gold surface area exposure to the epoxy medium.

2 Exposed: A gold grain containing <80% of surface area exposure to the epoxy medium and occurs adjacent to another mineral.

3 Locked: A gold grain totally enclosed in other mineral or minerals, with 0% exposure to the epoxy medium in a two-dimensional plane, including:

  - *Gold as inclusions that is completely encapsulated in a host mineral, e.g. fine gold in a course silicate;*
  - *Gold as inclusions in a porous or framboidal permeable host mineral, e.g. fine gold in a porous pyrite;*
  - *Gold in interstitial spaces between mineral grains and at borders of minerals grains (including same mineral or different minerals);*
  - *Fracture-controlled gold – gold enclosed in fractures and micro-fractures, as veinlets and micro-veinlets in the host minerals.*

It must be noted that Locked gold in this report includes gold which occurs along micro-fractures and cracks or pits along mineral grain cleavages and boundaries, as well as gold inclusions in sulphides or other minerals, and therefore may be leachable, especially at finer grind sizes. In another side, gold occurring as “locked” may in fact be exposed and leachable if viewing in three-dimensional profile. Therefore, the estimated amount of locked gold does not reflect the amount of non-leachable or non-recoverable gold. The recovery of locked gold will also be dependent on 1) the nature of the carrier mineral(s), which may be leachable; 2) micro-textures such as micro-fractures, cleavage and porosity of the host minerals; and 3) the grind size of the leach work, which may be significantly finer than the grind size of the mineralogy study and thus the locked grains may actually be exposed at finer grinds.

- Coated gold: Gold *with a coating (e.g. Fe-oxide, gypsum, jarosite) usually formed by precipitation during weathering, autoclaving or cyanidation.*

- *Microscopic Gold or Visible Gold: Gold mineral grain with a size greater than 0.5 µm, therefore visible under the optical and scanning electron microscope.*

Appendix B – Chemical Assays

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Internal Dept 14
Attn : Huyun Zhou

---, ---

Phone: ---
Fax:---

31-July-2025

Date Rec. : 15 July 2025
LR Report : **CA02368-JUL25**
Project : CA20I-00000-110-21021-01
Client Ref : MI5014-JUL25

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Au g/t	Ag g/t
1: WZB	12.3	23.8
2: WZB Rep	13.1	27.7
3: NZB	33.4	50.6
4: NZB Rep	34.1	49.9
5: SZA	8.91	< 10
6: SZA Rep	9.30	< 10
7: CZA	6.10	< 10
8: CZA Rep	6.02	< 10
9-DUP: WZB	10.7	21.4
10-DUP: WZB Rep	9.88	20.3

Method Descriptions

Parameter	Description	SGS Method Code	SCC
Ag	Ag - 30g Fire Assay, Gravimetric. Reporting limit 10ppm. Remove individual cupel	GC_FAG32V	Y
Au	Au - additional element. 30g Fire Assay, AAS. Reporting limit 0.01-1000ppm.	GC_FAG32V	Y

Accreditation Descriptions

SCC:
SGS Canada Minerals Lakefield conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://www.scc.ca/en/seach/laboratories/sgs. Analytes and SGS Method Codes marked with a “Y” in the “SCC” column in the table denote ISO/IEC17025 accreditation

Lindsay Pollard
Project Coordinator

OnLine LIMS

0004202989

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Internal Dept 14
Attn : Huyun Zhou

---, ---

Phone: ---
Fax:---

31-July-2025

Date Rec. : 15 July 2025
LR Report : **CA02370-JUL25**
Project : CA20I-00000-110-21021-01
Client Ref : MI5014-JUL25

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	SiO2 %	Al2O3 %	Fe2O3 %	MgO %	CaO %	K2O %	TiO2 %	MnO %	Cr2O3 %	V2O5 %
1: WZB	70.7	7.91	9.25	2.14	1.8	2.27	0.64	0.055	0.03	0.03
2: NZB	44.6	14.0	14.9	3.94	4.9	0.22	1.16	0.063	0.04	0.04
3: SZA	41.5	10.0	13.8	8.53	12.1	0.20	0.88	0.20	0.03	0.04
4: CZA	27.5	5.53	6.03	13.3	21.4	0.96	0.39	0.28	< 0.03	0.02

Method Descriptions

Parameter	Description	SGS Method Code	SCC
Al2O3	Aluminum by ICP-OES sodium peroxide fusion	GC_ICP93A50V	N
CaO	Calcium by ICP-OES sodium peroxide fusion	GC_ICP93A50V	N
Cr2O3	Chromium by ICP-OES sodium peroxide fusion	GC_ICP93A50V	N
Fe2O3	Iron by ICP-OES sodium peroxide fusion	GC_ICP93A50V	N
K2O	Potassium by ICP-OES sodium peroxide fusion	GC_ICP93A50V	N
MgO	Magnesium by ICP-OES sodium peroxide fusion	GC_ICP93A50V	N
MnO	Manganese by ICP-OES sodium peroxide fusion	GC_ICP93A50V	N
SiO2	Silica by ICP-OES sodium peroxide fusion	GC_ICP93A50V	N
TiO2	Titanium by ICP-OES sodium peroxide fusion	GC_ICP93A50V	N
V2O5	Vanadium by ICP-OES sodium peroxide fusion	GC_ICP93A50V	N

Accreditation Descriptions

SCC:
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Project Coordinator

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LR Internal Dept 14
Attn : Huyun Zhou

---, ---

Phone: ---
Fax:---

31-July-2025

Date Rec. : 15 July 2025
LR Report : **CA02372-JUL25**
Project : CA20I-00000-110-21021-01
Client Ref : MI5014-JUL25

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	S= %	As %
1: WZB	4.40	0.48
2: NZB	4.55	0.012
3: SZA	1.15	1.10
4: CZA	1.49	0.43
5-DUP: CZA	1.49	---

Method Descriptions

Parameter	Description	SGS Method Code	SCC
Arsenic	Arsenic by internal std XRF	GC_XRF75A	Y
S=	Sulphide by Leco	GC_CSA08V	N

Accreditation Descriptions

SCC:
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18-August-2025

Date Rec. : 31 July 2025
LR Report : **CA02725-JUL25**
Project : CA20I-00000-110-21021-01
Client Ref : MI5014-Jul25

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Au g/t
1: WZB SP Sul 1	23.8
2: WZB SP Sul 2	51.2
3: WZB SP Mid	72.8
4: WZB SP Tail 1	45.8
5: WZB SP Tail 2	6.14
6: WZB SP Float 2	3.38
7: NZB HLS Sink Mag	59.0
8: NZB SP Sul 1	91.1
9: NZB SP Sul 2	196
10: NZB SP Mid	150
11: NZB SP Tail 1	69.1
12: NZB SP Tail 2	13.2
13: NZB SP Float 2	8.46
14: SZA SP Mid	19.9
15: SZA SP Tail 1	16.9
16: SZA SP Tail 2	2.44
17: SZA SP Float 2	3.18
18: CZA SP Mid	8.80
19: CZA SP Tail 1	16.9
20: CZA SP Tail 2	7.01
21: CZA SP Float 2	2.80

Method Descriptions

OnLine LIMS

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Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA02725-JUL25**

Parameter	Description	SGS Method Code	SCC
Au	Gold by Fire Assay-AAS	GC_FAA35V10	Y

Accreditation Descriptions

SCC:
SGS Canada Minerals Lakefield conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://www.scc.ca/en/seach/laboratories/sgs. Analytes and SGS Method Codes marked with a “Y” in the “SCC” column in the table denote ISO/IEC17025 accreditation

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OnLine LIMS

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LR Internal Dept 14
Attn : Huyun Zhou

18-August-2025

Date Rec. : 31 July 2025
LR Report : **CA02726-JUL25**
Project : CA20I-00000-110-21021-01
Client Ref : MI5014-Jul25

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Fe %	As %	S= %
1: WZB HLS Float	2.33	0.14	0.51
2: NZB HLS Float	4.36	0.004	0.41
3: SZA HLS Float	7.60	0.45	0.34
4: CZA HLS Float	3.11	0.084	0.15

Method Descriptions

Parameter	Description	SGS Method Code	SCC
Arsenic	Arsenic by internal std XRF	GC_XRF75A	Y
Iron	Iron by pyrosulfate fusion XRF	GC_XRF70V	Y
S=	Sulphide by Leco	GC_CSA08V	N

Accreditation Descriptions

SCC:
SGS Canada Minerals Lakefield conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://www.scc.ca/en/seach/laboratories/sgs. Analytes and SGS Method Codes marked with a “Y” in the “SCC” column in the table denote ISO/IEC17025 accreditation

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LR Internal Dept 14
Attn : Huyun Zhou

18-August-2025

Date Rec. : 31 July 2025
LR Report : **CA02727-JUL25**
Project : CA20I-00000-110-21021-01
Client Ref : MI5014-Jul25

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Ag g/t	Au g/t	Ag g/t
1: WZB HLS Float	< 10	3.31	19.8
2: NZB HLS Float	14.6	7.81	---
3: SZA HLS Float	< 10	2.94	2.2
4: CZA HLS Float	< 10	2.56	3.2
5-DUP: WZB HLS Float	---	3.00	---
6-DUP: NZB HLS Float	---	8.79	---

Method Descriptions

Parameter	Description	SGS Method Code	SCC
Ag	Silver by FAAS aqua-regia, HF, KClO4 digestion	GC_AAS34E50	Y
Ag	Ag - 30g Fire Assay, Gravimetric. Reporting limit 10ppm. Remove individual cupel	GC_FAG32V	Y
Au	Au - additional element. 30g Fire Assay, AAS. Reporting limit 0.01-1000ppm.	GC_FAG32V	Y

Accreditation Descriptions

SCC:
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LR Internal Dept 14
Attn : Huyun Zhou

19-August-2025

Date Rec. : 31 July 2025
LR Report : **CA02741-JUL25**
Project : CA20I-00000-110-21021-01
Client Ref : MI5014-JUL25

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Ag g/t
1: SZA	6.0
2: SZA Rep	6.2
3: CZA	5.3
4: CZA Rep	5.6

Method Descriptions

Parameter	Description	SGS Method Code	SCC
Ag	Silver by FAAS aqua-regia, HF, KClO4 digestio	GC_AAS34E50	Y

Accreditation Descriptions

SCC:
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Phone: 705-652-2000 FAX: 705-652-6365

LR Internal Priority
Attn : G. Zamora / D. Sarmiento

19-August-2025

Date Rec. : 30 July 2025
LR Report : **CA07745-JUL25**
Project : CA20I-00000-110-21021-01
Client Ref : Signature Exploration Limited

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Au-DirAA mg/L
1: CN 1 24 h PLS	0.90
2: CN 2 24 h PLS	3.14
3: CN 3 24 h PLS	0.78
4: CN 4 24 h PLS	0.87

Method Descriptions

Parameter	Description	SGS Method Code	SCC
Au	Au by direct AA reading	GC_AAS82T	N

Accreditation Descriptions

SCC:
SGS Canada Minerals Lakefield conforms to the requirements of ISO/IEC 17025 for specific tests as listed on their scope of accreditation found at https://www.scc.ca/en/seach/laboratories/sgs. Analytes and SGS Method Codes marked with a “Y” in the “SCC” column in the table denote ISO/IEC17025 accreditation

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LR Internal Priority
Attn : G. Zamora/D. Sarmiento

19-August-2025

Date Rec. : 31 July 2025
LR Report : **CA07766-JUL25**
Project : CA20I-00000-110-21021-01
Client Ref : Signature Exploration Limited

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Au g/t	GrossDryWt g	Tare Wt g
1: CN 1 - Residue A	1.32	314.5	15.4
2: CN 1 - Residue B	1.16	---	---
3: CN 2 - Residue A	1.95	313.8	14.0
4: CN 2 - Residue B	1.85	---	---
5: CN 3 - Residue A	1.20	313.3	14.3
6: CN 3 - Residue B	1.20	---	---
7: CN 4 - Residue A	0.72	314.0	14.0
8: CN 4 - Residue B	0.68	---	---

Method Descriptions

Parameter	Description	SGS Method Code	SCC
Au	Gold by Fire Assay-AAS	GC_FAA35V10	Y
GrossDryWt	Gross Dry Weight from bucking room		N
Tare Wt	Tare weight from Bucking room		N

Accreditation Descriptions

SCC:
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LR Report : CA07766-JUL25

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Project Coordinator

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Appendix C – XRD-SQ Bulk Sample Analysis

Semi-Quantitative X-Ray Diffraction

Report Prepared for:	*Signature Exploration Limited* *66 Wellington Street, Suite 4100 Toronto, Ontario M5K 1B7, Canada*
Project Number/ LIMS No.	*21021-01/MI5014-JUL25*
Sample Receipt:	*July 9, 2025*
Sample Analysis:	*August 14, 2025*
Reporting Date:	*September 18, 2025*

Instrument:	BRUKER AXS D8 Advance Diffractometer
Test Conditions:	Co radiation, 35 kV, 40 mA; Detector: LYNXEYE_XE_T Regular Scanning: Step: 0.02°, Step time:0.2s, 2θ range: 6-70°
Interpretations :	PDF2/PDF4 powder diffraction databases issued by the International Center for Diffraction Data (ICDD). Diffrac Eva software.
Detection Limit :	0.5-2%. Strongly dependent on crystallinity.

Contents:

Zhihai (Adrian) Zhang, Ph.D
Mineralogist

Kim Gibbs, H.B.Sc., P.Geo.
Senior Mineralogist

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Member of the SGS Group (SGS SA)

Method Summary

The Semi-Quantitative Mineral Identification by XRD (ME-LR-MIN-MET-MN-D03) method used by SGS Natural Resources is accredited to the requirements of ISO/IEC 17025.

Mineral Identification and Interpretation:

Mineral identification and interpretation involve matching the diffraction pattern of a test sample material 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.).

Semi-Quantitative Analysis:

The Semi-Quantitative analysis (RIR method) is performed based on each mineral's relative peak heights and of their respective I/Icor values, which are available from the PDF database. Mineral abundances for the bulk sample (in weight %) are generated by Bruker-EVA Software. These data are reconciled with a bulk chemistry (e.g. whole rock analysis including SiO_2, Al_2O_3, Na_2O, K_2O, CaO, MgO, Fe_2O_3, Cr_2O_3, MnO, TiO_2, P_2O_5, V_2O_5 or other chemical data). A chemical balance table shows the difference between the assay results and elemental concentrations determined by XRD.

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Semi-Quantitative X-ray Diffraction Results

Mineral	WZB (wt %)	NZB (wt %)	SZA (wt %)	CZA (wt %)
Quartz	53.9	1.2	1.5	12.2
Plagioclase	7.2	57.9	25.4	3.3
Amphibole	3.9	-	24.7	2.2
Diopside	2.1	-	2.9	-
Biotite	5.0	1.3	-	6.0
Muscovite	9.6	-	-	-
Chlorite	4.4	13.7	25.7	10.7
Microcline	3.6	0.5	1.2	1.8
Talc	-	1.6	-	9.8
Pyrite	7.7	8.5	1.3	2.3
Arsenopyrite	1.0	-	2.2	0.9
Ilmenite	-	1.4	0.6	-
Rutile	0.4	0.3	0.6	0.4
Magnetite	-	1.2	-	-
Calcite	0.5	5.9	13.2	14.8
Dolomite	-	2.0	0.5	33.8
Ankerite	-	3.8	-	1.5
Rhodochrosite	-	-	0.3	0.5
Stilpnomelane	0.8	0.7	-	-
TOTAL	100	100	100	100

Mineral	Composition
Quartz	SiO_2
Plagioclase	$(NaSi,CaAl)AlSi_2O_8$
Amphibole	$(Na,K)Ca_2(Fe,Mg)_5(Al,Si)_8O_{22}(OH)_2$
Diopside	$CaMgSi_2O_6$
Biotite	$K(Mg,Fe)_3(AlSi_3O_{10})(OH)_2$
Muscovite	$KAl_2(AlSi_3O_{10})(OH)_2$
Chlorite	$(Fe,(Mg,Mn)_5,Al)(Si_3Al)O_{10}(OH)_8$
Microcline	$KAlSi_3O_8$
Talc	$Mg_3Si_4O_{10}(OH)_2$
Pyrite	FeS_2
Arsenopyrite	FeAsS
Ilmenite	$FeTiO_3$
Rutile	TiO_2
Magnetite	Fe_3O_4
Calcite	$CaCO_3$
Dolomite	$CaMg(CO_3)_2$
Ankerite	$CaFe(CO_3)_2$
Rhodochrosite	$MnCO_3$
Stilpnomelane	$K(Fe^{2+},Mg,Fe^{3+})_8(Si,Al)_{12}(O,OH)_{27}\cdot nH_2O$

Chemical Balance

WZB

Name	Assay[1]	SQD[2]	Delta	Status
Oxygen	-	45.8	-	SQD
Silicon	33.0	33.2	-0.13	Both
Iron	6.47	6.54	-0.07	Both
Sulfur	4.40	4.32	0.08	Both
Aluminum	4.19	4.20	-0.01	Both
Potassium	1.88	1.88	0.00	Both
Magnesium	1.29	1.31	-0.02	Both
Calcium	1.29	1.22	0.07	Both
Arsenic	0.48	0.45	0.03	Both
Titanium	0.38	0.38	0.00	Both
Manganese	0.05	-	-	Assay
Chromium	0.02	-	-	Assay
Vanadium	0.02	-	-	Assay
Hydrogen	-	0.14	-	SQD
Carbon	-	0.06	-	SQD
Fluorine	-	0.08	-	SQD
Sodium	-	0.47	-	SQD

1. Values measured by chemical assay. Reported in weight percent.

2. Values calculated based on mineral/compound formulas and quantites identified by semi-quantitative XRD.

NZB

Name	Assay[1]	SQD[2]	Delta	Status
Oxygen	-	43.5	-	SQD
Silicon	20.8	21.3	-0.47	Both
Iron	10.4	9.83	0.59	Both
Aluminum	7.41	7.25	0.16	Both
Sulfur	4.55	4.56	-0.01	Both
Calcium	3.50	3.57	-0.07	Both
Magnesium	2.38	2.45	-0.07	Both
Titanium	0.70	0.68	0.02	Both
Potassium	0.18	0.19	-0.01	Both
Manganese	0.05	-	-	Assay
Chromium	0.03	-	-	Assay
Vanadium	0.02	-	-	Assay
Arsenic	0.01	-	-	Assay
Hydrogen	-	0.19	-	SQD
Carbon	-	1.43	-	SQD
Sodium	-	5.08	-	SQD

1. Values measured by chemical assay. Reported in weight percent.

2. Values calculated based on mineral/compound formulas and quantites identified by semi-quantitative XRD.

Chemical Balance

SZA

Name	Assay[1]	SQD[2]	Delta	Status
Oxygen	-	44.7	-	SQD
Silicon	19.4	19.4	-0.01	Both
Iron	9.65	9.50	0.15	Both
Calcium	8.65	8.20	0.45	Both
Aluminum	5.29	5.75	-0.46	Both
Magnesium	5.14	5.15	-0.01	Both
Sulfur	1.15	1.13	0.02	Both
Arsenic	1.10	1.01	0.09	Both
Titanium	0.53	0.55	-0.02	Both
Potassium	0.17	0.16	0.00	Both
Manganese	0.15	0.16	0.00	Both
Vanadium	0.02	-	-	Assay
Chromium	0.02	-	-	Assay
Hydrogen	-	0.37	-	SQD
Carbon	-	1.68	-	SQD
Sodium	-	2.23	-	SQD

1. Values measured by chemical assay. Reported in weight percent.

2. Values calculated based on mineral/compound formulas and quantites identified by semi-quantitative XRD.

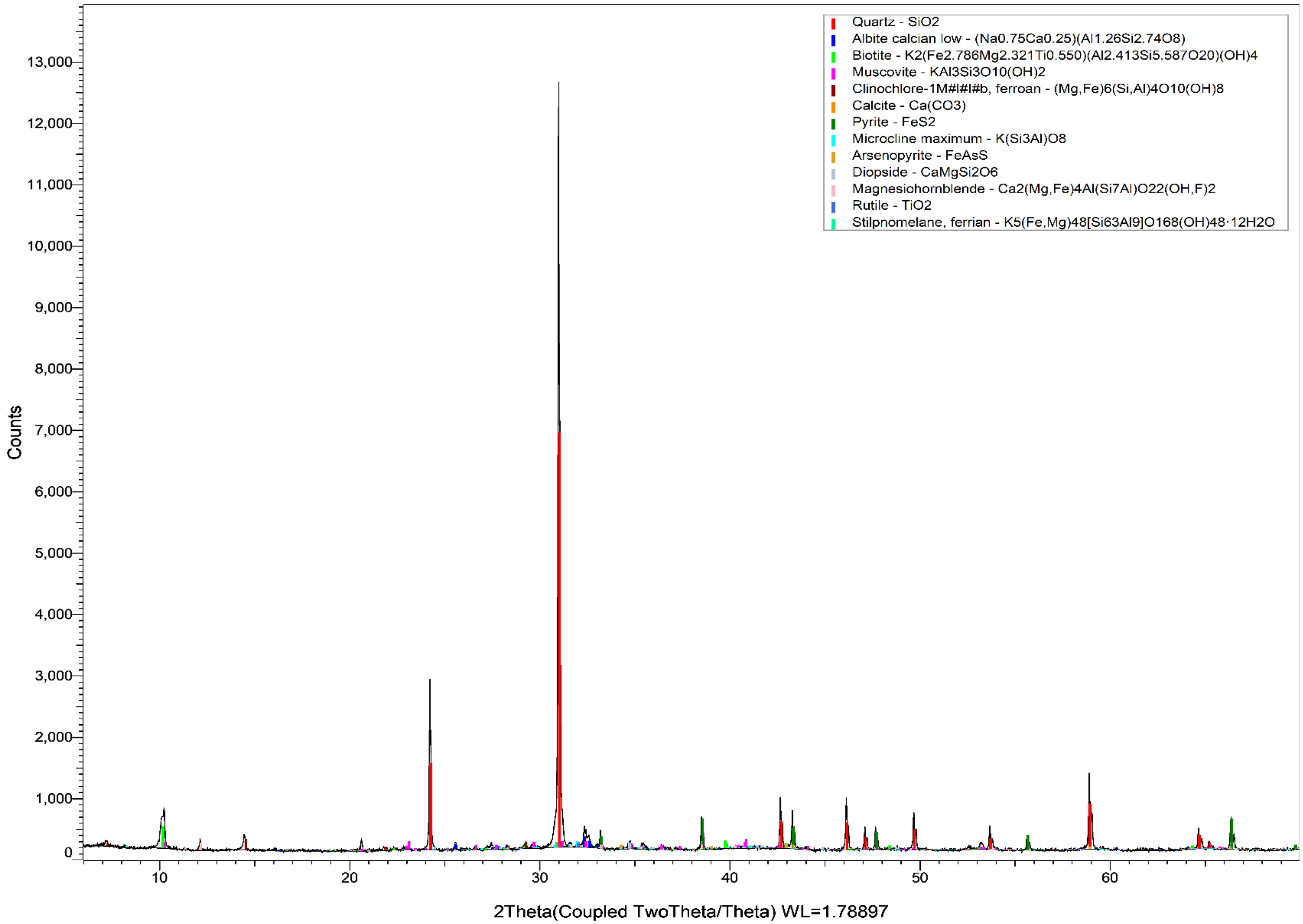
CZA

Name	Assay[1]	SQD[2]	Delta	Status
Oxygen	-	48.0	-	SQD
Calcium	15.3	13.8	1.46	Both
Silicon	12.9	12.7	0.14	Both
Magnesium	8.02	7.99	0.03	Both
Iron	4.22	4.61	-0.40	Both
Aluminum	2.93	2.92	0.01	Both
Sulfur	1.49	1.40	0.09	Both
Potassium	0.80	0.77	0.03	Both
Arsenic	0.43	0.43	0.00	Both
Titanium	0.23	0.22	0.02	Both
Manganese	0.22	0.22	0.00	Both
Vanadium	0.01	-	-	Assay
Hydrogen	-	0.22	-	SQD
Carbon	-	6.39	-	SQD
Fluorine	-	0.05	-	SQD
Sodium	-	0.24	-	SQD

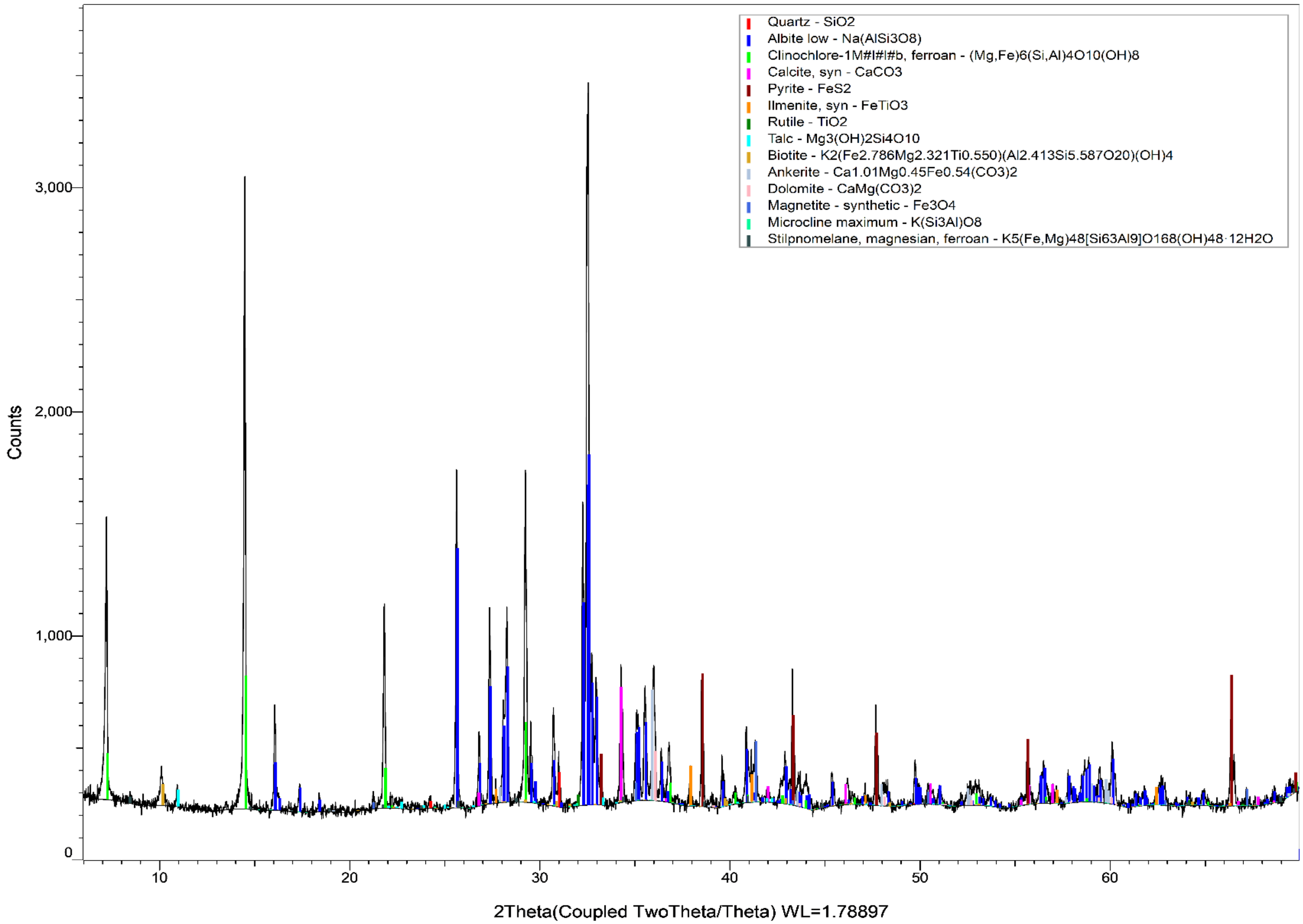
1. Values measured by chemical assay. Reported in weight percent.

2. Values calculated based on mineral/compound formulas and quantites identified by semi-quantitative XRD.

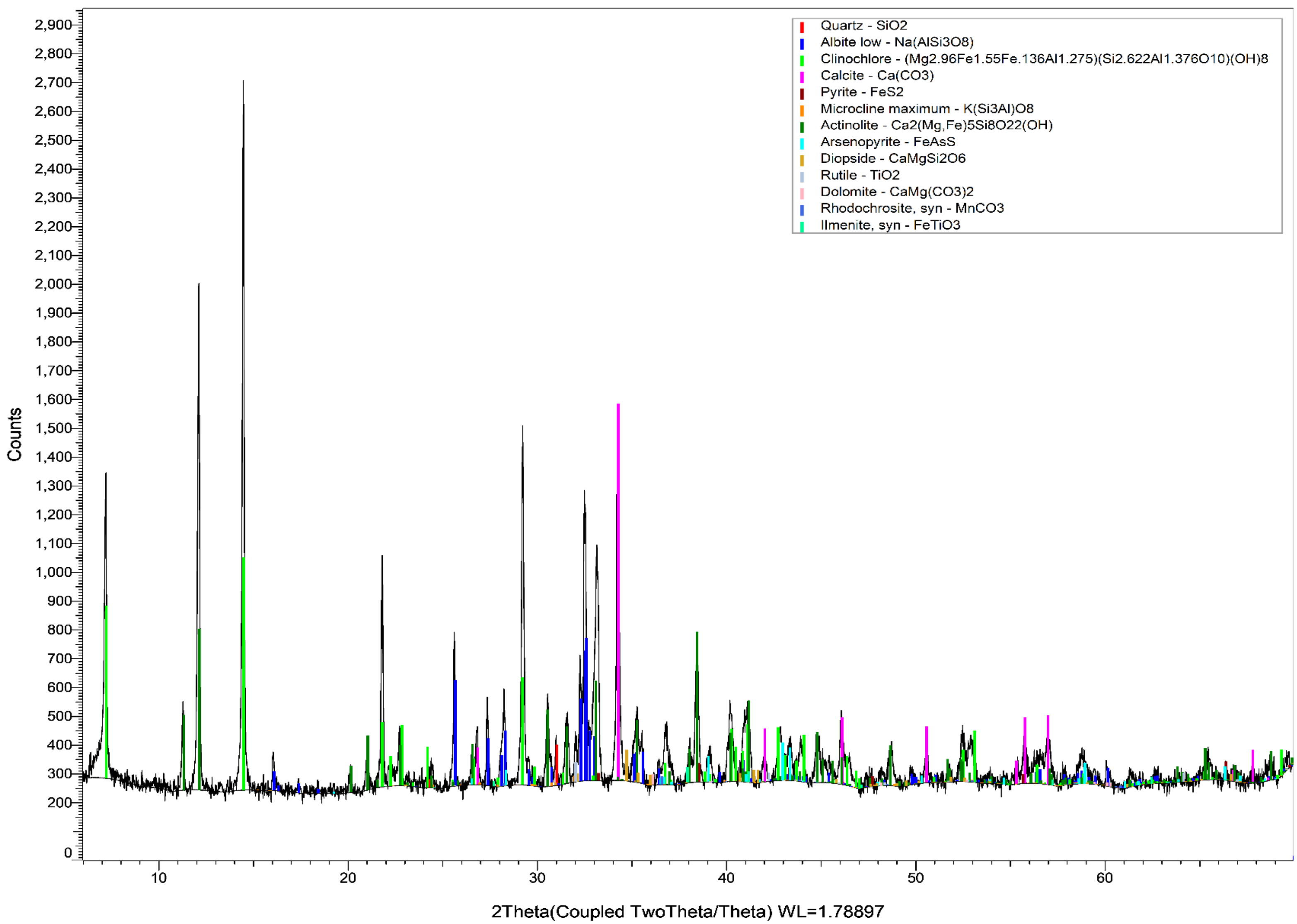
JUL5014-4.brml **WZB**



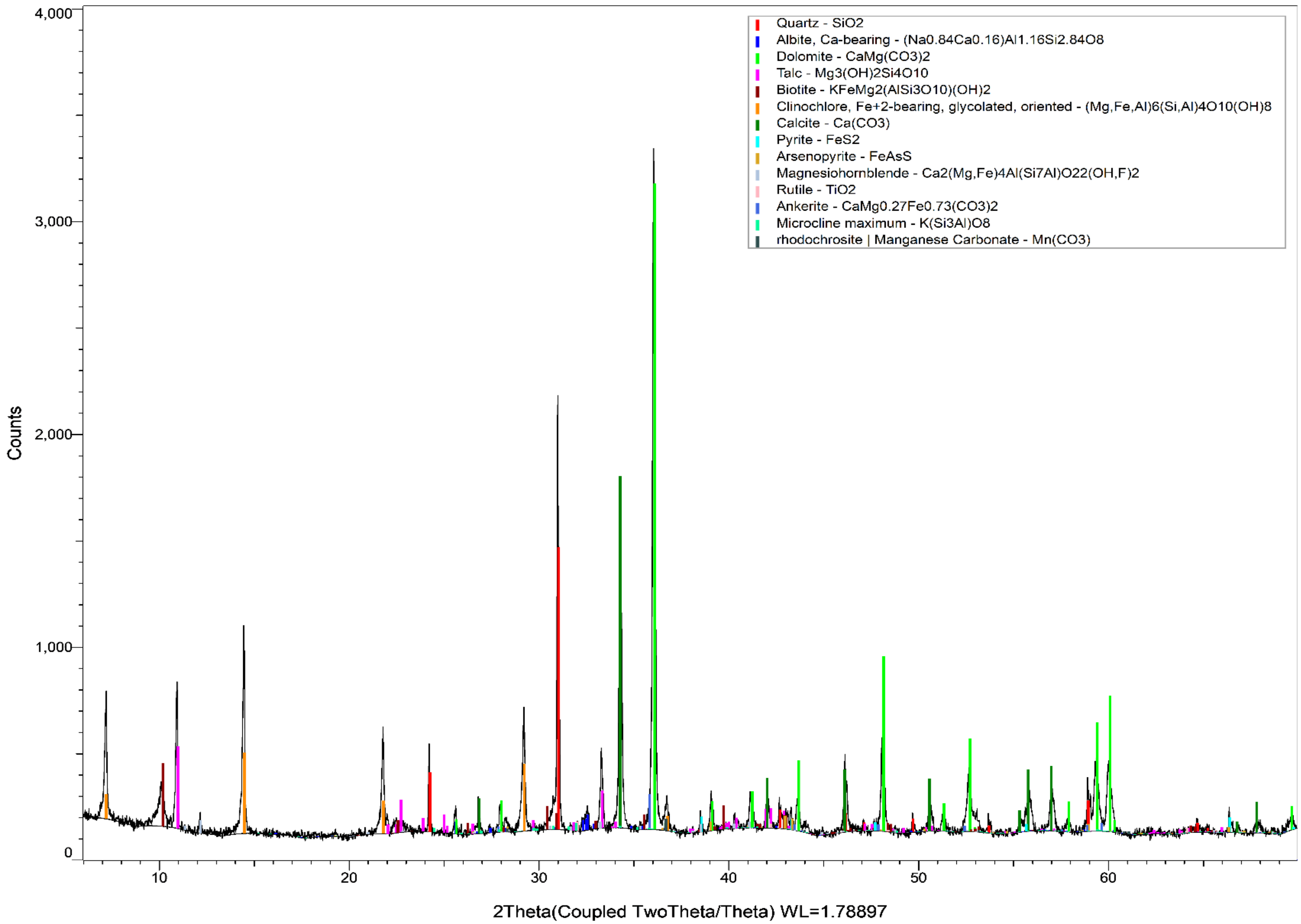
JUL5014-30.brml **NZB**



JUL5014-58.brml **SZA**



JUL5014-83.brml **CZA**



Appendix D – TIMA Bulk Mineralogy

TIMA DATA

prepared for:

Signature Exploration Ltd

21021-01
MI5014-JUL25
October 29, 2025

Prepared by:

Stephen Ginley
Junior Mineralogist

Reviewed by:

Huyun Zhou
Senior Mineralogist

Method Summary

Quantitative TIMA Analysis:

The mineralogical analysis was conducted with the TIMA-X technology. TIMA-X is an acronym for TESCAN Integrated Mineral Analyzer, which is one of the newest Automated Scanning Electron Microscopy (ASEM) instruments on the market. It is based on four Energy Dispersive X-Ray (EDX) silicon drift detectors (SDD) attached to a TESCAN MIRA (field-emission gun – FEG) platform, which also includes backscattered electron (BSE) and secondary electron (SE) detectors. The TIMA system utilizes both the EDX and BSE signals to identify minerals at each measurement point (or each homogenous segment of a grain, depending upon the analysis mode). It is optimized to deal with rapidly acquired low-count spectra. These EDX (and BSE) spectra (and BSE data) are compared to entries in a mineral library on a first match principle to identify the mineral phase, where this mineral library is based on theoretical mineral/phase composition or created by the user based on BSE, X-ray spectral windows counts, and/or ratios.

It must be noted, that due to the difference in grain size, all size fractions contain particles that are close to the measurement area (~3 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. As the particles become smaller, the edges constitute a more significant percentage of the total particle mass. Therefore, some bias might be introduced, especially in the fine fraction, and caution is advised in interpreting the results in this particular fraction.

The limit of detection for any element within a phase is >1-2 wt% or 10,000 - 20,000 ppm by automated SEM-based EDS methods. Any elements that are present below this level are likely not to be detected. Accurate element reconciliation between TIMA calculated values and geochemical assay values is not possible for elements that are distributed in phases where the level of the element does not exceed 10,000 - 20,000 PPM. Many minerals display compositional variation with solid solutions between end members. Therefore, in order to balance the TIMA calculated assay to direct chemical assay more accurately, EMPA is recommended to quantify the mineral chemistries in the sample.

If geochemical assays have not been conducted by SGS, we cannot guarantee that values provided by another lab are representative of the material that was analyzed by SGS.

It is not possible to distinguish chemically similar phases by any EDS-based SEM system (eg. magnetite and hematite). X-ray diffraction is required to speciate chemically similar minerals, or polymorphs properly.

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TIMA Analysis Definitions

Liberation and Associations

Pure – A particle that has 100% volume of mineral of interest.
Free- A particle that has ≥ 95% volume of mineral of interest.
Liberated - A particle that has ≤ 95%-≥80% volume of mineral of interest.
Binary Associations- A particle that has ≥ 95 area% of the two minerals of interest.
Binary/Ternary Associations- A particle that has ≥ 95% volume of three minerals of interest either individually or grouped.
Complex - Particles that do not fall into the above categories

Exposure

Exposure values are calculated as the free surface % (% of the grain surface that is exposed to atmosphere) of each grain of the mineral of interest.

The 30% exposure value is considered an empirical threshold above which minerals may float. Minerals with less than 30% exposure might not float, but if they are recovered, then they will dilute the grade of the sulphide concentrate.

Grain Size

The grain size report serves to study the distribution of the grain size of a specific phase; within the TIMA software, it is defined as equivalent circle diameter (d). It is the diameter of a circle that has the same area (A) as the particle (or grain). The diameter is defined in pixels and then multiplied by pixel spacing (Ps) to obtain size in micrometres. The precise definition is described in the following formula: $d=2\cdot\sqrt{(A/\pi)}\cdot Ps$.

Mean Line Intercept

The value is calculated as weighted average of mean linear intercept lengths across the particle in four directions (horizontal – IH, vertical IV, Primary diagonal IPD and Counter-diagonal ICD). The weight for both IPD and ICD is 1/3 and for IH and IV is 1/6.

The mean line intercept length is calculated as area (A) of the particle (in pixels) divided by multiplication of number of linear intercepts (I) and distance between intercepts, which is 1 pixel for horizontal and vertical intercepts and $1/(\sqrt{2})$ pixels for diagonal and counter-diagonal intercepts, respectively.

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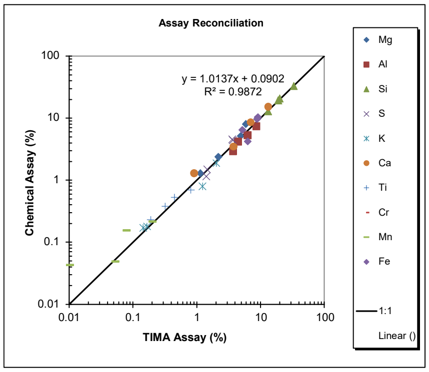
Assay Reconciliation



Sample	WZB	NZB	SZA	CZA
Element				
Mg TIMA Calculated	1.14	2.19	4.90	5.87
Mg Chemical Assay	1.29	2.38	5.14	8.02
Al TIMA Calculated	4.45	8.61	6.26	3.71
Al Chemical Assay	4.19	7.41	5.29	2.93
Si TIMA Calculated	33.4	20.0	19.0	13.2
Si Chemical Assay	33.0	20.8	19.4	12.9
S TIMA Calculated	3.69	3.59	1.42	1.45
S Chemical Assay	4.40	4.55	1.15	1.49
K TIMA Calculated	2.03	0.17	0.15	1.23
K Chemical Assay	1.88	0.18	0.17	0.80
Ca TIMA Calculated	0.91	3.76	7.01	13.3
Ca Chemical Assay	1.30	3.50	8.60	15.3
Ti TIMA Calculated	0.32	0.81	0.45	0.19
Ti Chemical Assay	0.38	0.70	0.53	0.23
Cr TIMA Calculated	0.00	0.00	0.00	0.00
Cr Chemical Assay	0.02	0.03	0.02	0.02
Mn TIMA Calculated	0.01	0.05	0.08	0.20
Mn Chemical Assay	0.04	0.05	0.16	0.22
Fe TIMA Calculated	5.20	9.11	8.85	6.31
Fe Chemical Assay	6.47	10.4	9.65	4.22

		Mg		Al		Si		S		K		Ca		Ti		Cr		Mn		Fe	
Sample	**Element**	**TIMA**	**Chemical**	**TIMA**	**Chemical**	**TIMA**	**Chemical**	**TIMA**	**Chemical**	**TIMA**	**Chemical**	**TIMA**	**Chemical**	**TIMA**	**Chemical**	**TIMA**	**Chemical**	**TIMA**	**Chemical**	**TIMA**	**Chemical**
WZB		1.14	1.29	4.45	4.19	33.4	33.0	3.69	4.40	2.03	1.88	0.91	1.30	0.32	0.38	0.00	0.02	0.01	0.04	5.20	6.47
NZB		2.19	2.38	8.61	7.41	20.0	20.8	3.59	4.55	0.17	0.18	3.76	3.50	0.81	0.70	0.00	0.03	0.05	0.05	9.11	10.4
SZA		4.90	5.14	6.26	5.29	19.0	19.4	1.42	1.15	0.15	0.17	7.01	8.60	0.45	0.53	0.00	0.02	0.08	0.16	8.85	9.65
CZA		5.87	8.02	3.71	2.93	13.2	12.9	1.45	1.49	1.23	0.80	13.3	15.3	0.19	0.23	0.00	0.02	0.20	0.22	6.31	4.22

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Modals

Survey		**21021-01 / MI5014-JUL25**			
Project		**Signature Exploration Ltd**			
Sample		**WZB**	**NZB**	**SZA**	**CZA**
Fraction		**0**	**0**	**0**	**0**
Mass % of Size Fraction [%]		100.0	100.0	100.0	100.0
Median Particle Size (µm)		0	0	0	0
		Sample	**Sample**	**Sample**	**Sample**
Mineral Mass (%)	Gold	0.00	0.00	0.00	0.00
	Pyrrhotite	0.08	0.02	0.01	0.65
	Pyrite	6.33	6.57	1.30	1.75
	Chalcopyrite	0.02	0.14	0.02	0.05
	Arsenopyrite	1.21	0.00	3.37	1.27
	Sulphides/Other Sulphides	0.06	0.04	0.04	0.03
	Fe-Oxides	0.31	3.68	6.41	0.25
	Ilmenite	0.12	2.02	0.02	0.00
	Rutile	0.35	0.22	0.08	0.19
	Quartz	54.6	1.07	1.95	15.4
	Plagioclase	5.71	57.3	24.4	3.32
	K-feldspars	5.98	0.06	0.28	3.72
	Muscovite	5.31	0.02	0.08	0.97
	Biotite	7.76	1.20	0.19	5.14
	Chlorite	6.69	16.2	21.8	14.2
	Pyroxenes	0.11	0.12	0.17	0.39
	Amphibole	2.28	0.31	24.0	2.53
	Epidote	0.39	0.18	2.07	0.16
	Titanite	0.23	0.00	1.09	0.30
	Other Silicates	0.59	0.05	0.85	0.22
	Calcite	0.61	3.17	8.58	12.9
	Dolomite	0.02	4.60	0.37	33.5
	Ankerite	0.02	1.07	0.64	0.42
	Apatite	0.23	0.82	0.18	0.17
	Other Minerals	0.93	1.13	2.17	2.44
	Total	100.0	100.0	100.0	100.0
Mean Line Intercept Length (µm)	Gold	4	5	5	7
	Pyrrhotite	10	7	11	15
	Pyrite	19	20	17	17
	Chalcopyrite	7	9	7	6
	Arsenopyrite	12	9	12	17
	Sulphides/Other Sulphides	8	6	6	6
	Fe-Oxides	6	13	9	6
	Ilmenite	9	11	10	6
	Rutile	8	6	7	7
	Quartz	20	10	9	18
	Plagioclase	12	16	13	10
	K-feldspars	10	7	10	14
	Muscovite	7	6	8	8
	Biotite	9	8	5	10
	Chlorite	8	9	8	10
	Pyroxenes	9	7	5	7
	Amphibole	12	5	9	8
	Epidote	8	6	6	6
	Titanite	8	4	10	9
	Other Silicates	6	5	8	7
	Calcite	9	10	9	10
	Dolomite	7	12	7	19
	Ankerite	6	7	5	7
	Apatite	8	10	7	8
	Other Minerals	5	5	5	6

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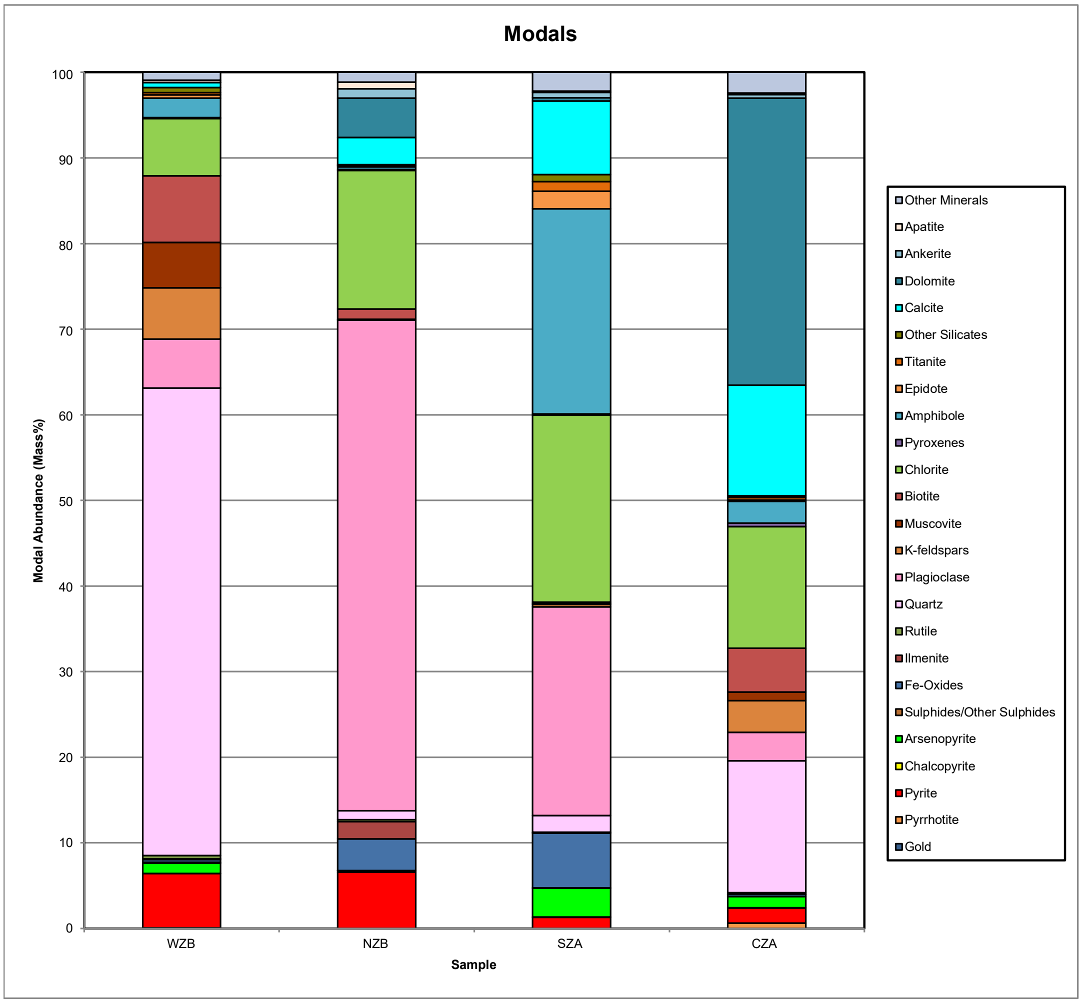

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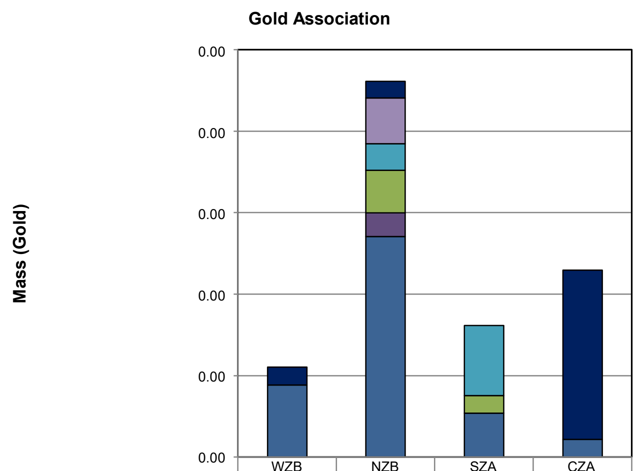
Gold Association



	WZB	NZB	SZA	CZA
Complex	0.00	0.00	0.00	0.00
Gold: Qtz/Feld:Carb	0.00	0.00	0.00	0.00
Gold: Qtz/Feld:Chl/Bt	0.00	0.00	0.00	0.00
Gold: Other Minerals	0.00	0.00	0.00	0.00
Gold: Carbonates	0.00	0.00	0.00	0.00
Gold: Other Silicates	0.00	0.00	0.00	0.00
Gold: Amph/Pyx/Ep	0.00	0.00	0.00	0.00
Gold: Chlorite/Biotite	0.00	0.00	0.00	0.00
Gold: Muscovite/Kaolinite	0.00	0.00	0.00	0.00
Gold: Quartz/Feldspars	0.00	0.00	0.00	0.00
Gold: Ilmenite/Rutile	0.00	0.00	0.00	0.00
Gold: Fe-Oxides	0.00	0.00	0.00	0.00
Gold: Sulphides/Other Sulphides	0.00	0.00	0.00	0.00
Gold: Arsenopyrite	0.00	0.00	0.00	0.00
Gold: FeS	0.00	0.00	0.00	0.00
Lib Gold	0.00	0.00	0.00	0.00
Free Gold	0.00	0.00	0.00	0.00
Pure Gold	0.00	0.00	0.00	0.00

Absolute Mass of Gold Across Samples

Mineral Name	WZB	NZB	SZA	CZA
Pure Gold	0.00	0.00	0.00	0.00
Free Gold	0.00	0.00	0.00	0.00
Lib Gold	0.00	0.00	0.00	0.00
Gold: FeS	0.00	0.00	0.00	0.00
Gold: Arsenopyrite	0.00	0.00	0.00	0.00
Gold: Sulphides/Other Sulphi	0.00	0.00	0.00	0.00
Gold: Fe-Oxides	0.00	0.00	0.00	0.00
Gold: Ilmenite/Rutile	0.00	0.00	0.00	0.00
Gold: Quartz/Feldspars	0.00	0.00	0.00	0.00
Gold: Muscovite/Kaolinite	0.00	0.00	0.00	0.00
Gold: Chlorite/Biotite	0.00	0.00	0.00	0.00
Gold: Amph/Pyx/Ep	0.00	0.00	0.00	0.00
Gold: Other Silicates	0.00	0.00	0.00	0.00
Gold: Carbonates	0.00	0.00	0.00	0.00
Gold: Other Minerals	0.00	0.00	0.00	0.00
Gold: Qtz/Feld:Chl/Bt	0.00	0.00	0.00	0.00
Gold: Qtz/Feld:Carb	0.00	0.00	0.00	0.00
Complex	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00

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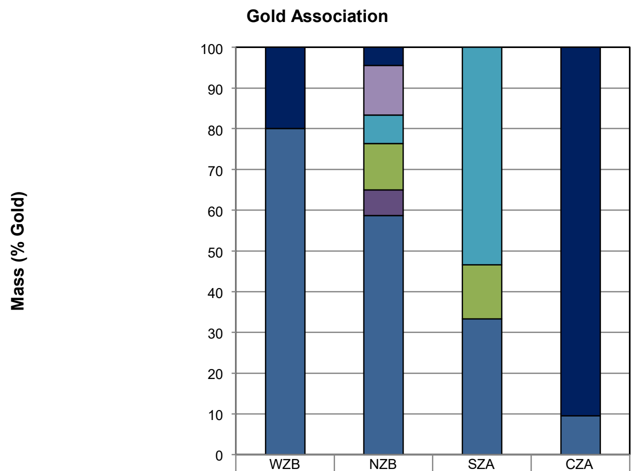
Gold Association



	WZB	NZB	SZA	CZA
Complex	19.9	4.47	0.00	90.5
Gold: Qtz/Feld:Carb	0.00	0.00	0.00	0.00
Gold: Qtz/Feld:Chl/Bt	0.00	12.1	0.00	0.00
Gold: Other Minerals	0.00	0.00	0.00	0.00
Gold: Carbonates	0.00	0.00	0.00	0.00
Gold: Other Silicates	0.00	0.00	0.00	0.00
Gold: Amph/Pyx/Ep	0.00	0.00	0.00	0.00
Gold: Chlorite/Biotite	0.00	7.03	53.4	0.00
Gold: Muscovite/Kaolinite	0.00	0.00	0.00	0.00
Gold: Quartz/Feldspars	0.00	11.4	13.2	0.00
Gold: Ilmenite/Rutile	0.00	0.00	0.00	0.00
Gold: Fe-Oxides	0.00	0.00	0.00	0.00
Gold: Sulphides/Other Sulphides	0.00	0.00	0.00	0.00
Gold: Arsenopyrite	0.00	0.00	0.00	0.00
Gold: FeS	0.00	6.29	0.00	0.00
Lib Gold	0.00	0.00	0.00	0.00
Free Gold	0.00	0.00	0.00	0.00
Pure Gold	80.1	58.7	33.4	9.50

Normalized Mass of Gold Across Samples

Mineral Name	WZB	NZB	SZA	CZA
Pure Gold	80.1	58.7	33.4	9.50
Free Gold	0.00	0.00	0.00	0.00
Lib Gold	0.00	0.00	0.00	0.00
Gold: FeS	0.00	6.29	0.00	0.00
Gold: Arsenopyrite	0.00	0.00	0.00	0.00
Gold: Sulphides/Other Sulphi	0.00	0.00	0.00	0.00
Gold: Fe-Oxides	0.00	0.00	0.00	0.00
Gold: Ilmenite/Rutile	0.00	0.00	0.00	0.00
Gold: Quartz/Feldspars	0.00	11.4	13.2	0.00
Gold: Muscovite/Kaolinite	0.00	0.00	0.00	0.00
Gold: Chlorite/Biotite	0.00	7.03	53.4	0.00
Gold: Amph/Pyx/Ep	0.00	0.00	0.00	0.00
Gold: Other Silicates	0.00	0.00	0.00	0.00
Gold: Carbonates	0.00	0.00	0.00	0.00
Gold: Other Minerals	0.00	0.00	0.00	0.00
Gold: Qtz/Feld:Chl/Bt	0.00	12.1	0.00	0.00
Gold: Qtz/Feld:Carb	0.00	0.00	0.00	0.00
Complex	19.9	4.47	0.00	90.5
Total	100.0	100.0	100.0	100.0

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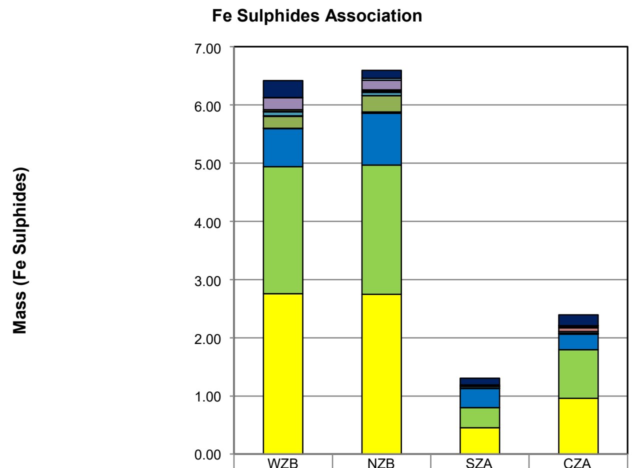
Fe Sulphides Association



	WZB	NZB	SZA	CZA
Complex	0.29	0.14	0.12	0.19
FeS: Qtz/Feld:Carb	0.00	0.03	0.00	0.00
FeS: Qtz/Feld:Chl/Bt	0.21	0.16	0.01	0.02
FeS: Other Minerals	0.03	0.02	0.01	0.02
FeS: Carbonates	0.00	0.02	0.00	0.06
FeS: Other Silicates	0.00	0.00	0.00	0.00
FeS: Amph/Pyx/Ep	0.01	0.00	0.01	0.00
FeS: Chlorite/Biotite	0.06	0.06	0.02	0.03
FeS: Muscovite/Kaolinite	0.01	0.00	0.00	0.00
FeS: Quartz/Feldspars	0.20	0.28	0.01	0.01
FeS: Ilmenite/Rutile	0.00	0.00	0.00	0.00
FeS: Fe-Oxides	0.00	0.01	0.00	0.00
FeS: Sulphides/Other Sulphides	0.00	0.00	0.00	0.00
FeS: Arsenopyrite	0.00	0.00	0.00	0.00
FeS: Gold	0.00	0.00	0.00	0.00
Lib Fe Sulphides	0.66	0.89	0.33	0.27
Free Fe Sulphides	2.18	2.22	0.34	0.83
Pure Fe Sulphides	2.76	2.75	0.45	0.96

Absolute Mass of Fe Sulphides Across Samples

Mineral Name	WZB	NZB	SZA	CZA
Pure Fe Sulphides	2.76	2.75	0.45	0.96
Free Fe Sulphides	2.18	2.22	0.34	0.83
Lib Fe Sulphides	0.66	0.89	0.33	0.27
FeS: Gold	0.00	0.00	0.00	0.00
FeS: Arsenopyrite	0.00	0.00	0.00	0.00
FeS: Sulphides/Other Sulphi	0.00	0.00	0.00	0.00
FeS: Fe-Oxides	0.00	0.01	0.00	0.00
FeS: Ilmenite/Rutile	0.00	0.00	0.00	0.00
FeS: Quartz/Feldspars	0.20	0.28	0.01	0.01
FeS: Muscovite/Kaolinite	0.01	0.00	0.00	0.00
FeS: Chlorite/Biotite	0.06	0.06	0.02	0.03
FeS: Amph/Pyx/Ep	0.01	0.00	0.01	0.00
FeS: Other Silicates	0.00	0.00	0.00	0.00
FeS: Carbonates	0.00	0.02	0.00	0.06
FeS: Other Minerals	0.03	0.02	0.01	0.02
FeS: Qtz/Feld:Chl/Bt	0.21	0.16	0.01	0.02
FeS: Qtz/Feld:Carb	0.00	0.03	0.00	0.00
Complex	0.29	0.14	0.12	0.19
Total	6.42	6.59	1.31	2.40

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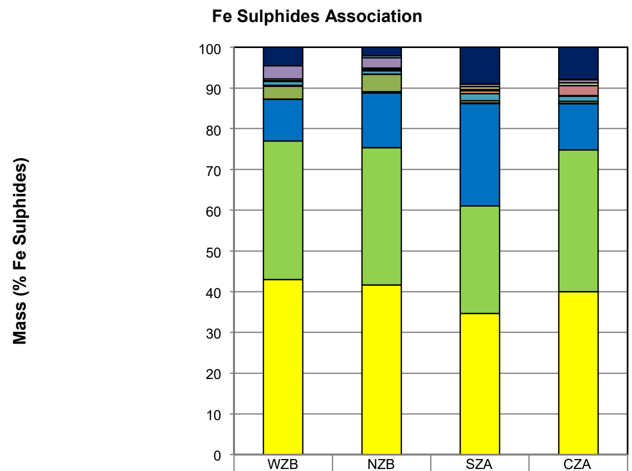
High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

Fe Sulphides Association

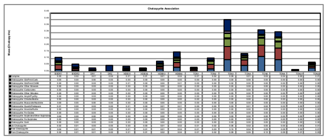


	WZB	NZB	SZA	CZA
Complex	4.54	2.09	8.99	7.90
FeS: Qtz/Feld:Carb	0.01	0.52	0.01	0.06
FeS: Qtz/Feld:Chl/Bt	3.25	2.48	0.62	0.81
FeS: Other Minerals	0.41	0.34	0.76	0.65
FeS: Carbonates	0.02	0.30	0.22	2.46
FeS: Other Silicates	0.06	0.00	0.08	0.00
FeS: Amph/Pyx/Ep	0.10	0.05	0.65	0.12
FeS: Chlorite/Biotite	0.96	0.85	1.79	1.29
FeS: Muscovite/Kaolinite	0.23	0.00	0.00	0.01
FeS: Quartz/Feldspars	3.11	4.27	0.53	0.48
FeS: Ilmenite/Rutile	0.01	0.05	0.00	0.00
FeS: Fe-Oxides	0.04	0.19	0.02	0.05
FeS: Sulphides/Other Sulphides	0.01	0.04	0.02	0.03
FeS: Arsenopyrite	0.04	0.00	0.11	0.02
FeS: Gold	0.00	0.00	0.00	0.00
Lib Fe Sulphides	10.3	13.5	25.2	11.3
Free Fe Sulphides	34.0	33.7	26.3	34.8
Pure Fe Sulphides	43.0	41.7	34.7	40.0

Normalized Mass of Fe Sulphides Across Samples

Mineral Name	WZB	NZB	SZA	CZA
Pure Fe Sulphides	43.0	41.7	34.7	40.0
Free Fe Sulphides	34.0	33.7	26.3	34.8
Lib Fe Sulphides	10.3	13.5	25.2	11.3
FeS: Gold	0.00	0.00	0.00	0.00
FeS: Arsenopyrite	0.04	0.00	0.11	0.02
FeS: Sulphides/Other Sulphi	0.01	0.04	0.02	0.03
FeS: Fe-Oxides	0.04	0.19	0.02	0.05
FeS: Ilmenite/Rutile	0.01	0.05	0.00	0.00
FeS: Quartz/Feldspars	3.11	4.27	0.53	0.48
FeS: Muscovite/Kaolinite	0.23	0.00	0.00	0.01
FeS: Chlorite/Biotite	0.96	0.85	1.79	1.29
FeS: Amph/Pyx/Ep	0.10	0.05	0.65	0.12
FeS: Other Silicates	0.06	0.00	0.08	0.00
FeS: Carbonates	0.02	0.30	0.22	2.46
FeS: Other Minerals	0.41	0.34	0.76	0.65
FeS: Qtz/Feld:Chl/Bt	3.25	2.48	0.62	0.81
FeS: Qtz/Feld:Carb	0.01	0.52	0.01	0.06
Complex	4.54	2.09	8.99	7.90
Total	100.0	100.0	100.0	100.0

High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)



Absolute Mass of Chalcopyrite Across Samples

Mineral Name	BXDR1	BXDR2	DR1	DR2	HDBX1	HDBX2	HDBX3	HDBX4	TON1	TON2	TON3	TON4	TON5	TON6	TON21	TON22
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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Chalcopyrite: Fe-Sulphides	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Chalcopyrite: Muscovite/Kaolinite	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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Chalcopyrite: Other Minerals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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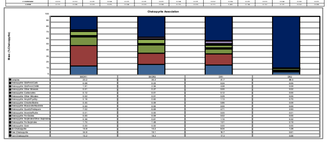

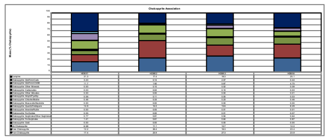

Normalized Mass of Chalcopyrite Across Samples

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Lib Chalcopyrite	14.8	14.2	8.34	1.28	6.58	11.1	12.7	12.0	17.1	23.2	14.9	11.9	18.7	15.1	11.5	11.9
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Chalcopyrite: Ilmenite/Rutile	0.01	0.00	0.00	0.01	0.00	0.05	0.01	0.01	0.00	0.00	0.01	0.06	0.01	0.02	0.00	0.00
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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Chalcopyrite: Other Silicates	0.02	0.01	0.29	0.05	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.02	0.02	0.03	0.07	0.02
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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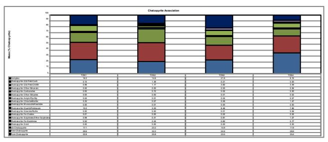
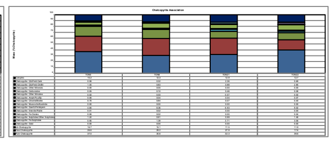
Complex	23.2	35.3	41.7	88.0	31.3	17.4	18.3	25.1	16.3	14.6	21.9	8.74	10.2	12.3	12.9	12.7
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]





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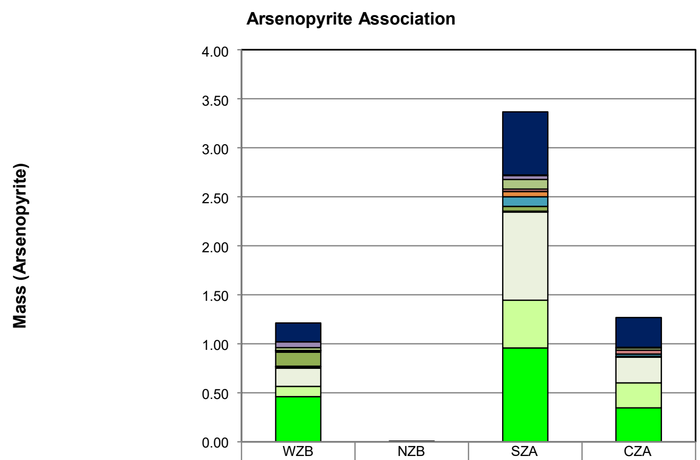
High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

Arsenopyrite Association



	WZB	NZB	SZA	CZA
Complex	0.19	0.00	0.64	0.30
Arsenopyrite: Qtz/Feld:Carb	0.00	0.00	0.01	0.00
Arsenopyrite: Qtz/Feld:Chl/Bt	0.06	0.00	0.04	0.01
Arsenopyrite: Other Minerals	0.03	0.00	0.10	0.02
Arsenopyrite: Carbonates	0.00	0.00	0.02	0.04
Arsenopyrite: Other Silicates	0.00	0.00	0.00	0.00
Arsenopyrite: Amph/Pyx/Ep	0.00	0.00	0.05	0.00
Arsenopyrite: Chlorite/Biotite	0.01	0.00	0.10	0.02
Arsenopyrite: Muscovite/Kaolinite	0.00	0.00	0.00	0.00
Arsenopyrite: Quartz/Feldspars	0.14	0.00	0.05	0.00
Arsenopyrite: Ilmenite/Rutile	0.00	0.00	0.00	0.00
Arsenopyrite: Fe-Oxides	0.00	0.00	0.01	0.00
Arsenopyrite: Sulphides/Other Sulphides	0.00	0.00	0.00	0.00
Arsenopyrite: Gold	0.00	0.00	0.00	0.00
Arsenopyrite: FeS	0.01	0.00	0.00	0.00
Lib Arsenopyrite	0.19	0.00	0.90	0.26
Free Arsenopyrite	0.10	0.00	0.49	0.25
Pure Arsenopyrite	0.46	0.00	0.96	0.35

Absolute Mass of Arsenopyrite Across Samples

Mineral Name	WZB	NZB	SZA	CZA
Pure Arsenopyrite	0.46	0.00	0.96	0.35
Free Arsenopyrite	0.10	0.00	0.49	0.25
Lib Arsenopyrite	0.19	0.00	0.90	0.26
Arsenopyrite: FeS	0.01	0.00	0.00	0.00
Arsenopyrite: Gold	0.00	0.00	0.00	0.00
Arsenopyrite: Sulphides/Other Sulphi	0.00	0.00	0.00	0.00
Arsenopyrite: Fe-Oxides	0.00	0.00	0.01	0.00
Arsenopyrite: Ilmenite/Rutile	0.00	0.00	0.00	0.00
Arsenopyrite: Quartz/Feldspars	0.14	0.00	0.05	0.00
Arsenopyrite: Muscovite/Kaolinite	0.00	0.00	0.00	0.00
Arsenopyrite: Chlorite/Biotite	0.01	0.00	0.10	0.02
Arsenopyrite: Amph/Pyx/Ep	0.00	0.00	0.05	0.00
Arsenopyrite: Other Silicates	0.00	0.00	0.00	0.00
Arsenopyrite: Carbonates	0.00	0.00	0.02	0.04
Arsenopyrite: Other Minerals	0.03	0.00	0.10	0.02
Arsenopyrite: Qtz/Feld:Chl/Bt	0.06	0.00	0.04	0.01
Arsenopyrite: Qtz/Feld:Carb	0.00	0.00	0.01	0.00
Complex	0.19	0.00	0.64	0.30
Total	1.21	0.00	3.37	1.27

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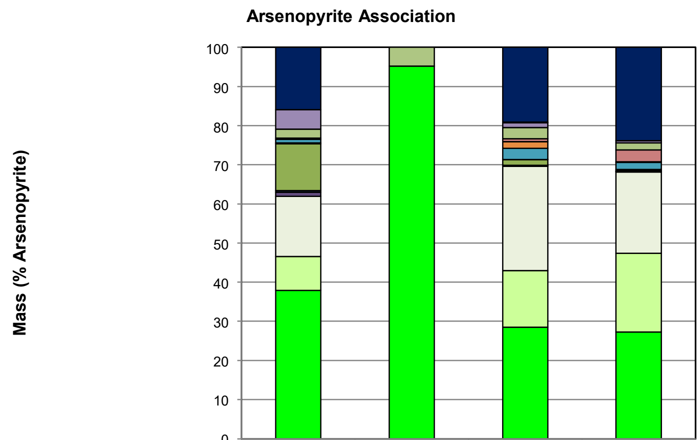
High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

Arsenopyrite Association



	WZB	NZB	SZA	CZA
Complex	16.0	0.00	19.1	23.9
Arsenopyrite: Qtz/Feld:Carb	0.00	0.00	0.19	0.01
Arsenopyrite: Qtz/Feld:Chl/Bt	4.92	0.00	1.17	0.52
Arsenopyrite: Other Minerals	2.33	4.80	2.93	1.81
Arsenopyrite: Carbonates	0.03	0.00	0.69	3.07
Arsenopyrite: Other Silicates	0.02	0.00	0.05	0.00
Arsenopyrite: Amph/Pyx/Ep	0.22	0.00	1.61	0.11
Arsenopyrite: Chlorite/Biotite	0.94	0.00	2.88	1.82
Arsenopyrite: Muscovite/Kaolinite	0.23	0.00	0.01	0.00
Arsenopyrite: Quartz/Feldspars	11.9	0.00	1.47	0.38
Arsenopyrite: Ilmenite/Rutile	0.02	0.00	0.00	0.00
Arsenopyrite: Fe-Oxides	0.38	0.00	0.16	0.15
Arsenopyrite: Sulphides/Other Sulphides	0.05	0.00	0.04	0.03
Arsenopyrite: Gold	0.00	0.00	0.00	0.00
Arsenopyrite: FeS	1.02	0.00	0.09	0.05
Lib Arsenopyrite	15.3	0.00	26.7	20.8
Free Arsenopyrite	8.65	0.00	14.4	20.1
Pure Arsenopyrite	38.0	95.2	28.5	27.3

Normalized Mass of Arsenopyrite Across Samples

Mineral Name	WZB	NZB	SZA	CZA
Pure Arsenopyrite	38.0	95.2	28.5	27.3
Free Arsenopyrite	8.65	0.00	14.4	20.1
Lib Arsenopyrite	15.3	0.00	26.7	20.8
Arsenopyrite: FeS	1.02	0.00	0.09	0.05
Arsenopyrite: Gold	0.00	0.00	0.00	0.00
Arsenopyrite: Sulphides/Other Sulphi	0.05	0.00	0.04	0.03
Arsenopyrite: Fe-Oxides	0.38	0.00	0.16	0.15
Arsenopyrite: Ilmenite/Rutile	0.02	0.00	0.00	0.00
Arsenopyrite: Quartz/Feldspars	11.9	0.00	1.47	0.38
Arsenopyrite: Muscovite/Kaolinite	0.23	0.00	0.01	0.00
Arsenopyrite: Chlorite/Biotite	0.94	0.00	2.88	1.82
Arsenopyrite: Amph/Pyx/Ep	0.22	0.00	1.61	0.11
Arsenopyrite: Other Silicates	0.02	0.00	0.05	0.00
Arsenopyrite: Carbonates	0.03	0.00	0.69	3.07
Arsenopyrite: Other Minerals	2.33	4.80	2.93	1.81
Arsenopyrite: Qtz/Feld:Chl/Bt	4.92	0.00	1.17	0.52
Arsenopyrite: Qtz/Feld:Carb	0.00	0.00	0.19	0.01
Complex	16.0	0.00	19.1	23.9
Total	100.0	100.0	100.0	100.0

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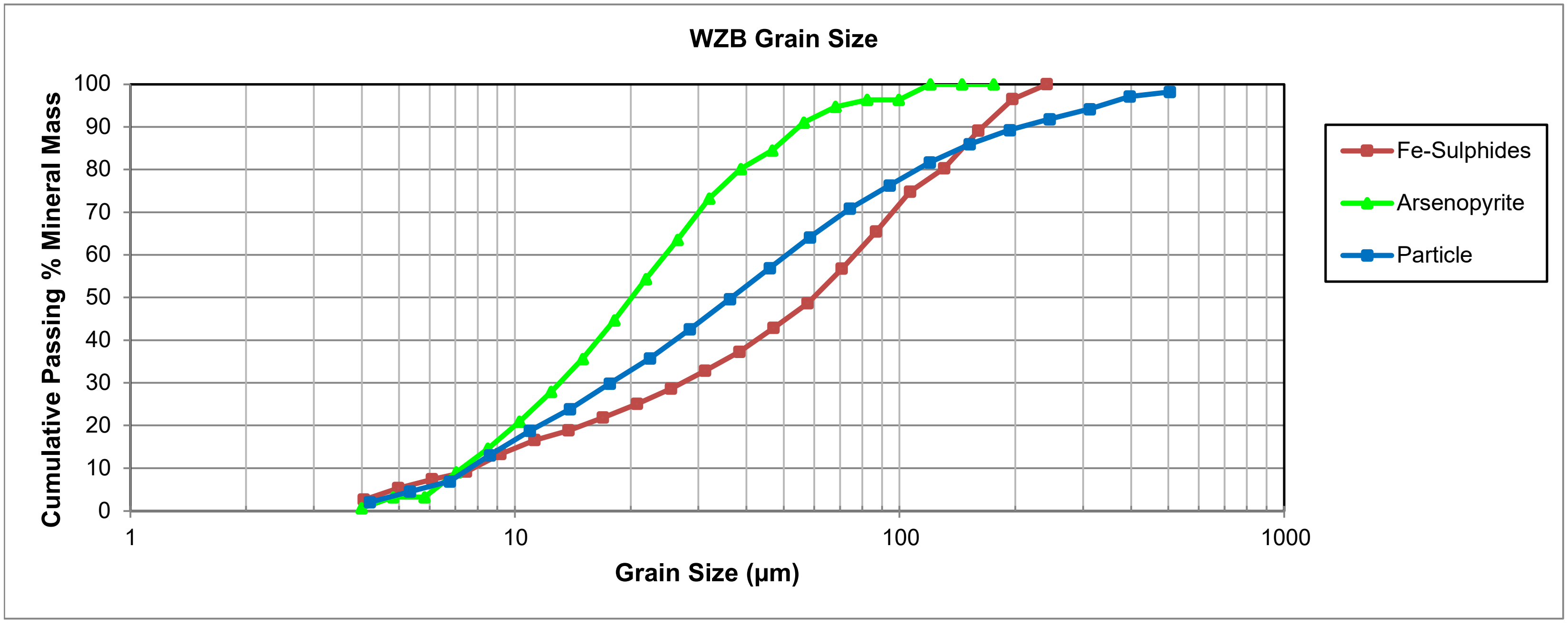
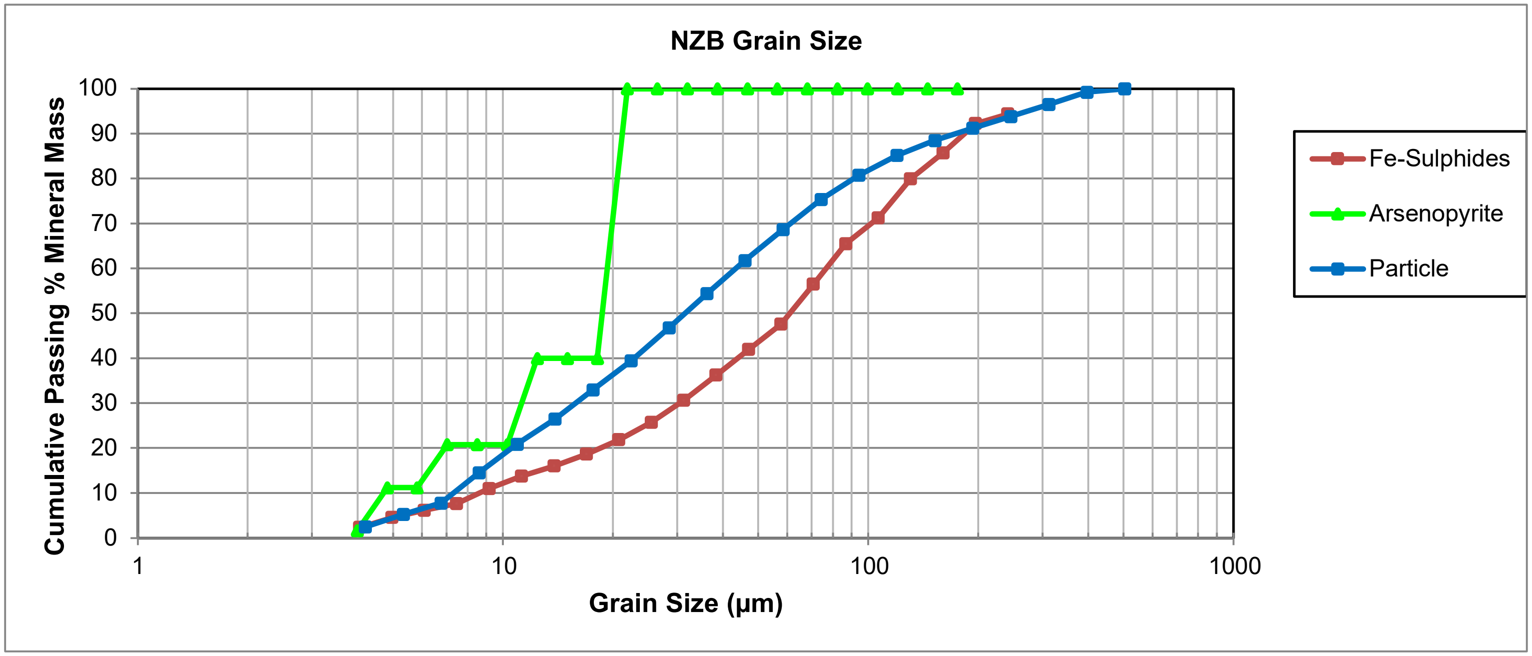
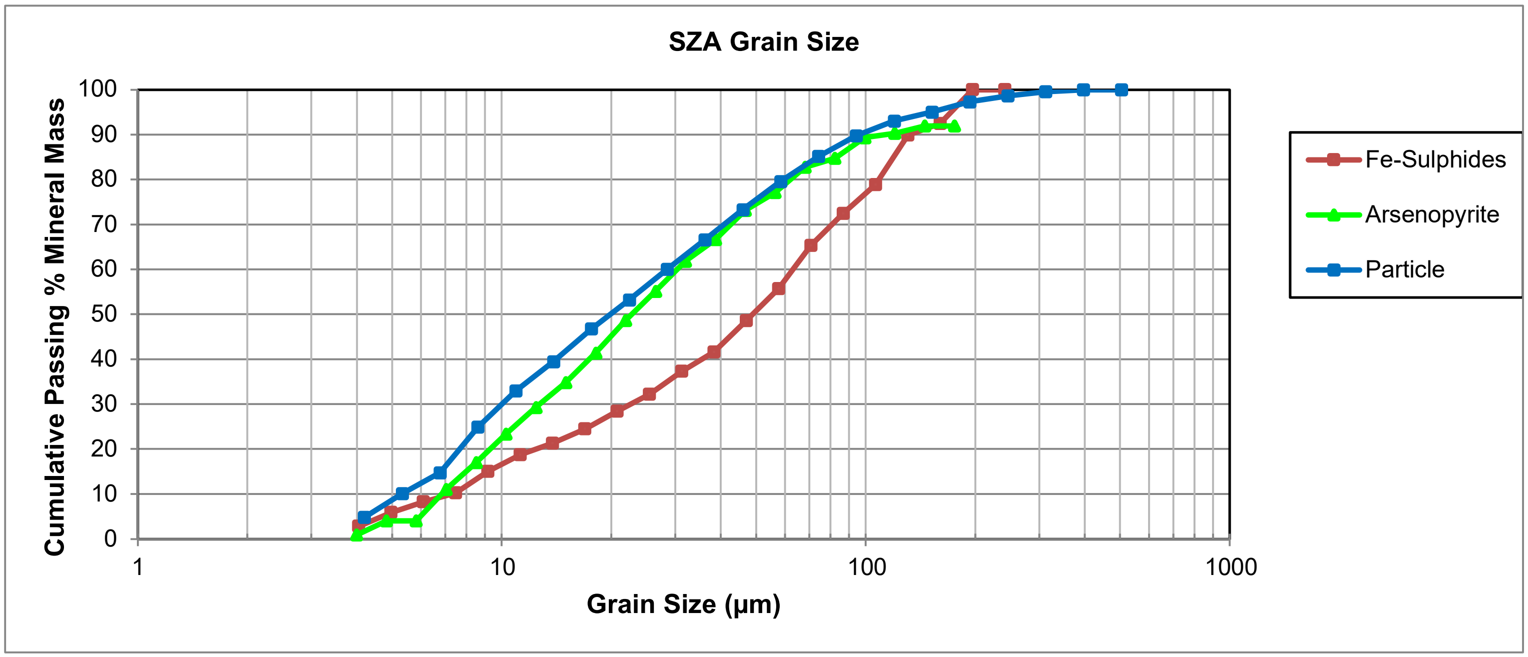
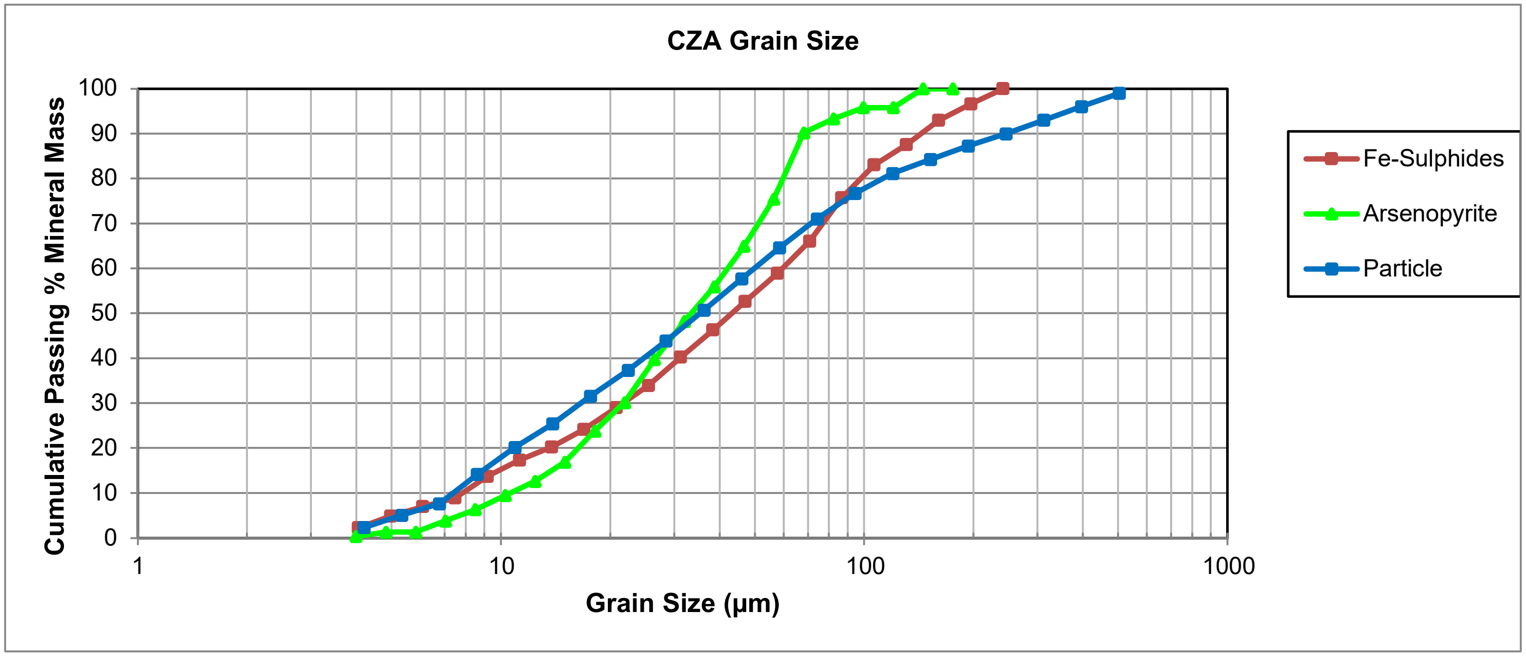
High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

Cumulative Passing Grain Size Distribution




NZB Grain Size
Cumulative Passing % Mineral Mass
100
90
80
70
60
50
40
30
20
10
0
1
10
100
1000
Grain Size (µm)
Fe-Sulphides
Arsenopyrite
Particle


SZA Grain Size
Cumulative Passing % Mineral Mass
0
10
20
30
40
50
60
70
80
90
100
1
10
100
1000
Grain Size (µm)
Fe-Sulphides
Arsenopyrite
Particle


CZA Grain Size
Cumulative Passing % Mineral Mass
100
90
80
70
60
50
40
30
20
10
0
1
10
100
1000
Grain Size (µm)
Fe-Sulphides
Arsenopyrite
Particle

Appendix E – TIMA Gold Deportment Study

TIMA DATA

prepared for:

Signature Exploration Ltd

CA20M-00000-110-21021-01
MI5014-JUL25
June 27, 2026

Prepared by:

Stephen Ginley
Junior Mineralogist

High Definition Mineralogical Analysis using QEMSCAN (Quantitative Evaluation of Materials by Scanning Electron Microscopy) (METH# 8.11.1) used by SGS Minerals Services

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Member of the SGS Group (SGS SA)

Method Summary

Quantitative TIMA Analysis:

The mineralogical analysis was conducted with the TIMA-X technology. TIMA-X is an acronym for TESCAN Integrated Mineral Analyzer, which is one of the newest Automated Scanning Electron Microscopy (ASEM) instruments on the market. It is based on four Energy Dispersive X-Ray (EDX) silicon drift detectors (SDD) attached to a TESCAN MIRA (field-emission gun – FEG) platform, which also includes backscattered electron (BSE) and secondary electron (SE) detectors. The TIMA system utilizes both the EDX and BSE signals to identify minerals at each measurement point (or each homogenous segment of a grain, depending upon the analysis mode). It is optimized to deal with rapidly acquired low-count spectra. These EDX (and BSE) spectra (and BSE data) are compared to entries in a mineral library on a first match principle to identify the mineral phase, where this mineral library is based on theoretical mineral/phase composition or created by the user based on BSE, X-ray spectral windows counts, and/or ratios.

It must be noted, that due to the difference in grain size, all size fractions contain particles that are close to the measurement area (~3 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. As the particles become smaller, the edges constitute a more significant percentage of the total particle mass. Therefore, some bias might be introduced, especially in the fine fraction, and caution is advised in interpreting the results in this particular fraction.

The limit of detection for any element within a phase is >1-2 wt% or 10,000 - 20,000 ppm by automated SEM-based EDS methods. Any elements that are present below this level are likely not to be detected. Accurate element reconciliation between TIMA calculated values and geochemical assay values is not possible for elements that are distributed in phases where the level of the element does not exceed 10,000 - 20,000 PPM. Many minerals display compositional variation with solid solutions between end members. Therefore, in order to balance the TIMA calculated assay to direct chemical assay more accurately, EMPA is recommended to quantify the mineral chemistries in the sample.

If geochemical assays have not been conducted by SGS, we cannot guarantee that values provided by another lab are representative of the material that was analyzed by SGS.

It is not possible to distinguish chemically similar phases by any EDS-based SEM system (eg. magnetite and hematite). X-ray diffraction is required to speciate chemically similar minerals, or polymorphs properly.

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TIMA Analysis Definitions

Liberation and Associations

Pure – A particle that has 100% volume of mineral of interest.
Free- A particle that has ≥ 95% volume of mineral of interest.
Liberated - A particle that has ≤ 95%-≥80% volume of mineral of interest.
Binary Associations- A particle that has ≥ 95 area% of the two minerals of interest.
Binary/Ternary Associations- A particle that has ≥ 95% volume of three minerals of interest either individually or grouped.
Complex - Particles that do not fall into the above categories

Exposure

Exposure values are calculated as the free surface % (% of the grain surface that is exposed to atmosphere) of each grain of the mineral of interest.

The 30% exposure value is considered an empirical threshold above which minerals may float. Minerals with less than 30% exposure might not float, but if they are recovered, then they will dilute the grade of the sulphide concentrate.

Grain Size

The grain size report serves to study the distribution of the grain size of a specific phase; within the TIMA software; it is defined as equivalent circle diameter (d). It is the diameter of a circle that has the same area (A) as the particle (or grain). The diameter is defined in pixels and then multiplied by pixel spacing (Ps) to obtain size in micrometers.

Mean Line Intercept

The value is calculated as weighted average of mean linear intercept lengths across the particle in four directions (horizontal – IH, vertical IV, Primary diagonal IPD and Counter-diagonal ICD). The weight for both IPD and ICD is 1/3 and for IH and IV is 1/6.

The mean line intercept length is calculated as area (A) of the particle (in pixels) divided by multiplication of number of linear intercepts (I) and distance between intercepts, which is 1 pixel for horizontal and vertical intercepts and 1/(√2) pixels for diagonal and counter-diagonal intercepts, respectively.

Gold Species
Native Gold Au:75-100% Ag:0-25%; electrum: Au:50-75% Ag:25-50%; and kustelite Au:25-50% Ag:50-75%.

Notes

Please note: The TIMA Sink and Float data has been weighted to match the gold distribution between the Sink and Float products.

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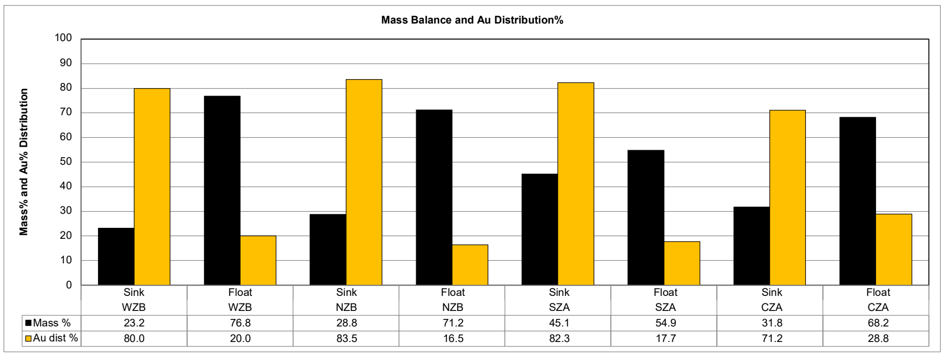
MI5017-MAY25

Sample ID	SP Product	Mass Distribution (HLS)		Grade (g/t)	Distribution (%)	Metal Units
WZB	Unit	(g)	(%)	Au	Au	Au
	Sink (Au grade is calculated)	231.6	23.2	43.8	80.0	1015.8
	Float	766.7	76.8	3.31	20.0	254.2
	Head	998.3	100.0	12.7	100.0	1270.0
NZB	Unit	(g)	(%)	Au	Au	Au
	Sink (Au grade is calculated)	287.8	28.8	97.9	83.5	2824.0
	Float	711.4	71.2	7.81	16.5	556.0
	Head	999.2	100.0	33.8	100.0	3380.0
SZA	Unit	(g)	(%)	Au	Au	Au
	Sink (Au grade is calculated)	450.6	45.1	16.6	82.3	749.7
	Float	547.5	54.9	2.94	17.7	161.3
	Head	998.1	100.0	9.11	100.0	911.0
CZA	Unit	(g)	(%)	Au	Au	Au
	Sink (Au grade is calculated)	316.8	31.8	13.6	71.2	431.3
	Float	680.3	68.2	2.56	28.8	174.7
	Head	997.1	100.0	6.06	100.0	606.0

	WZB Sink	WZB Float	NZB Sink	NZB Float	SZA Sink	SZA Float	CZA Sink	CZA Float
Mass %	23.2	76.8	28.8	71.2	45.1	54.9	31.8	68.2
Au dist %	80.0	20.0	83.5	16.5	82.3	17.7	71.2	28.8



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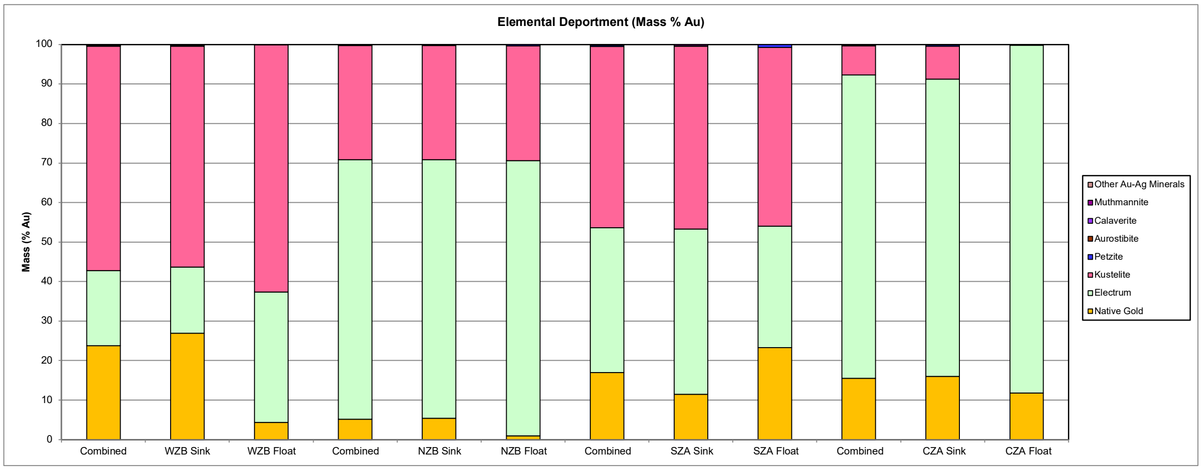
High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

Au Deportment - Normalized



Mineral Name	Combined	WZB Sink	WZB Float	Combined	NZB Sink	NZB Float	Combined	SZA Sink	SZA Float	Combined	CZA Sink	CZA Float
Native Gold	23.8	26.9	4.36	5.18	5.38	0.93	16.9	11.4	23.3	15.5	16.0	11.8
Electrum	19.0	16.7	33.0	65.7	65.5	69.6	36.7	41.9	30.7	76.9	75.3	88.0
Kustelite	56.8	55.9	62.5	28.9	28.8	29.1	45.8	46.3	45.3	7.34	8.36	0.19
Petzite	0.16	0.17	0.12	0.26	0.26	0.34	0.35	0.04	0.72	0.21	0.24	0.00
Aurostibite	0.03	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Calaverite	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.07	0.00
Muthmannite	0.21	0.24	0.00	0.02	0.02	0.00	0.20	0.37	0.00	0.03	0.04	0.00
Other Au-Ag Minerals	0.00	0.00	0.00	0.03	0.03	0.04	0.00	0.00	0.00	0.05	0.06	0.00
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

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High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

Kustelite

TIMA-X Semi-Quant Normalized weight concentration

	Ag	Au
Kustelite_1	51.2%	48.8%
Kustelite_2	60.0%	40.0%
Kustelite_3	52.1%	47.9%
Kustelite_4	52.8%	47.2%
Kustelite_5	61.5%	38.5%
Kustelite_6	66.0%	34.0%
Kustelite_7	59.3%	40.7%
Kustelite_8	54.8%	45.2%
Kustelite_9	61.4%	38.6%
Kustelite_10	74.1%	25.9%
Kustelite_11	61.7%	38.3%
Kustelite_12	64.1%	35.9%
Kustelite_13	59.4%	40.6%
Kustelite_14	54.1%	45.9%
Kustelite_15	61.6%	38.4%
Kustelite_16	61.2%	38.8%
Kustelite_17	57.9%	42.1%
Kustelite_18	61.3%	38.7%
Kustelite_19	56.7%	43.3%
Kustelite_20	58.3%	41.7%
Kustelite_21	61.8%	38.2%
Kustelite_22	53.3%	46.7%
Kustelite_23	55.8%	44.2%
Kustelite_24	67.9%	32.1%
Kustelite_25	69.1%	30.9%
Kustelite_26	59.3%	40.7%
Kustelite_27	56.8%	43.2%
Kustelite_28	60.8%	39.2%
Kustelite_29	62.3%	37.7%
Kustelite_30	55.2%	44.8%
Kustelite_31	52.4%	47.6%
Kustelite_32	63.0%	37.0%
Kustelite_33	61.8%	38.2%
Kustelite_34	57.3%	42.7%
Kustelite_35	58.5%	41.5%
Kustelite_36	51.9%	48.1%
Kustelite_37	73.2%	26.8%
Kustelite_38	51.7%	48.3%
Kustelite_39	64.4%	35.6%
Kustelite_40	62.6%	37.4%
Kustelite_41	56.9%	43.1%
Kustelite_42	51.1%	48.9%
Kustelite_43	65.2%	34.8%
Kustelite_44	65.7%	34.3%
Kustelite_45	66.8%	33.2%
Kustelite_46	56.8%	43.2%
Kustelite_47	52.1%	47.9%
Kustelite_48	70.2%	29.8%
Kustelite_49	58.6%	41.4%
Kustelite_50	64.1%	35.9%
Kustelite_51	54.7%	45.3%
Kustelite_52	52.3%	47.7%
Kustelite_53	53.8%	46.2%
Kustelite_54	51.2%	48.8%
Kustelite_55	62.5%	37.5%
Kustelite_56	56.6%	43.4%
Kustelite_57	56.3%	43.7%
Kustelite_58	65.3%	34.7%
Kustelite_59	62.3%	37.7%
Kustelite_60	63.9%	36.1%
Kustelite_61	60.4%	39.6%
Kustelite_62	59.2%	40.8%
Kustelite_63	55.0%	45.0%
Kustelite_64	53.0%	47.0%
Kustelite_65	63.3%	36.7%
Kustelite_66	59.7%	40.3%
Kustelite_67	59.5%	40.5%
Kustelite_68	52.4%	47.6%
Kustelite_69	53.7%	46.3%
Kustelite_70	56.9%	43.1%
Kustelite_71	49.4%	50.6%
Kustelite_72	51.1%	48.9%
Kustelite_73	51.5%	48.5%
Kustelite_74	50.7%	49.3%
Average concentration	58.8%	41.2%
Standard deviation	5.6%	5.6%
Min	49.4%	25.9%
Max	74.1%	50.6%

Electrum

TIMA-X Semi-Quant Normalized weight concentration

	Ag	Au
Electrum_1	32.9%	67.1%
Electrum_2	48.1%	51.9%
Electrum_3	40.7%	59.3%
Electrum_4	44.1%	55.9%
Electrum_5	39.3%	60.7%
Electrum_6	40.3%	59.7%
Electrum_7	40.8%	59.2%
Electrum_8	36.3%	63.7%
Electrum_9	38.4%	61.6%
Electrum_10	41.5%	58.5%
Electrum_11	42.8%	57.2%
Electrum_12	41.0%	59.0%
Electrum_13	41.7%	58.3%
Electrum_14	41.1%	58.9%
Electrum_15	37.3%	62.7%
Electrum_16	31.5%	68.5%
Electrum_17	41.4%	58.6%
Electrum_18	26.4%	73.6%
Electrum_19	40.5%	59.5%
Electrum_20	34.6%	65.4%
Electrum_21	42.8%	57.2%
Electrum_22	28.7%	71.3%
Electrum_23	42.2%	57.8%
Electrum_24	39.6%	60.4%
Electrum_25	34.6%	65.4%
Electrum_26	32.8%	67.2%
Electrum_27	33.5%	66.5%
Electrum_28	35.1%	64.9%
Electrum_29	33.1%	66.9%
Electrum_30	42.7%	57.3%
Electrum_31	32.8%	67.2%
Electrum_32	40.5%	59.5%
Electrum_33	36.1%	63.9%
Electrum_34	39.3%	60.7%
Electrum_35	40.3%	59.7%
Electrum_36	31.4%	68.6%
Electrum_37	45.3%	54.7%
Electrum_38	37.7%	62.3%
Electrum_39	37.8%	62.2%
Electrum_40	42.1%	57.9%
Electrum_41	40.9%	59.1%
Electrum_42	43.3%	56.7%
Electrum_43	47.5%	52.5%
Electrum_44	41.2%	58.8%
Electrum_45	28.2%	71.8%
Electrum_46	30.3%	69.7%
Electrum_47	31.2%	68.8%
Electrum_48	26.2%	73.8%
Electrum_49	41.0%	59.0%
Electrum_50	40.7%	59.3%
Electrum_51	40.0%	60.0%
Electrum_52	30.7%	69.3%
Electrum_53	41.1%	58.9%
Electrum_54	39.2%	60.8%
Electrum_55	41.8%	58.2%
Electrum_56	33.3%	66.7%
Electrum_57	33.1%	66.9%
Electrum_58	42.1%	57.9%
Electrum_59	41.4%	58.6%
Electrum_60	42.6%	57.4%
Electrum_61	39.9%	60.1%
Electrum_62	38.0%	62.0%
Electrum_63	36.4%	63.6%
Electrum_64	33.9%	66.1%
Electrum_65	42.9%	57.1%
Electrum_66	40.7%	59.3%
Electrum_67	41.2%	58.8%
Electrum_68	28.2%	71.8%
Electrum_69	42.8%	57.2%
Electrum_70	34.1%	65.9%
Electrum_71	38.2%	61.8%
Electrum_72	36.9%	63.1%
Electrum_73	40.3%	59.7%
Electrum_74	42.2%	57.8%
Electrum_75	27.2%	72.8%
Electrum_76	40.3%	59.7%
Electrum_77	40.9%	59.1%
Electrum_78	40.6%	59.4%
Electrum_79	47.5%	52.5%
Electrum_80	37.0%	63.0%
Electrum_81	44.5%	55.5%
Electrum_82	31.0%	69.0%
Electrum_83	34.0%	66.0%
Electrum_84	45.9%	54.1%
Electrum_85	38.5%	61.5%
Electrum_86	33.1%	66.9%
Electrum_87	41.4%	58.6%
Electrum_88	41.8%	58.2%
Electrum_89	27.1%	72.9%
Electrum_90	33.0%	67.0%
Electrum_91	37.2%	62.8%
Electrum_92	32.5%	67.5%
Electrum_93	32.6%	67.4%
Electrum_94	36.9%	63.1%
Electrum_95	48.2%	51.8%
Electrum_96	36.4%	63.6%
Electrum_97	30.3%	69.7%
Electrum_98	44.5%	55.5%
Average concentration	38.0%	62.0%
Standard deviation	5.2%	5.2%
Min	26.2%	51.8%
Max	48.2%	73.8%

Gold

TIMA-X Semi-Quant Normalized weight concentration

	Ag	Au
Gold_1	24.3%	75.7%
Gold_2	18.0%	82.0%
Gold_3	22.1%	77.9%
Gold_4	15.3%	84.7%
Gold_5	10.6%	89.4%
Gold_6	22.1%	77.9%
Average concentration	18.7%	81.2%
Standard deviation	5.1%	5.1%
Min	10.6%	75.7%
Max	24.3%	89.4%

SGS Canada Inc.
Signature Gold
CA20M-00000-110-21021-01
MI5014-JUL25

High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

Grain Counts

Survey		**Signature Gold**											
Project		**CA20M-00000-110-21021-01 / MI5014-JUL25**											
Sample		WZB			NZB			SZA			CZA		
Product		Combined	Sink	Float	Combined	Sink	Float	Combined	Sink	Float	Combined	Sink	Float
Mass % of Size Fraction [%]		100	80.0	20.0	100	83.5	16.5	100	82.3	17.7	100	71.2	28.8
Number of Grains of Mineral	Native Gold	113	105	8	221	219	2	513	504	9	250	243	7
	Electrum	269	230	39	1080	1028	52	783	759	24	332	318	14
	Kustelite	143	131	12	846	809	37	227	218	9	88	87	1
	Petzite	61	60	1	214	211	3	43	41	2	16	16	0
	Aurostibite	2	2	0	5	5	0	0	0	0	0	0	0
	Calaverite	1	1	0	1	1	0	0	0	0	5	5	0
	Muthmannite	3	3	0	11	11	0	9	9	0	9	9	0
	Other Au-Ag Minerals	0	0	0	37	35	2	0	0	0	8	8	0
	Total	592	532	60	2415	2319	96	1575	1531	44	708	686	22

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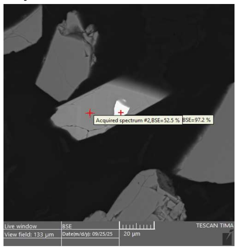
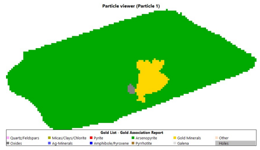
MI5017-MAY25

High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

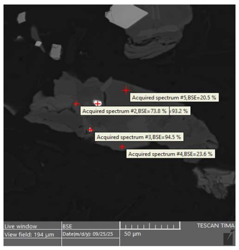
Locked Gold Images

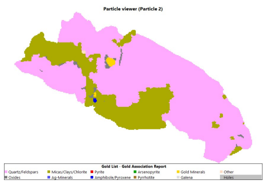




Normalized weight concentration

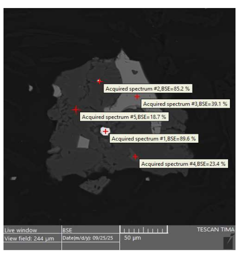
WZB Sul 1	S	Fe	As	Ag	Au	Mineral ID
Acquired spectrum #1 BSE=97.2 %	1.82%	3.23%	2.62%	13.90%	78.40%	Gold
Acquired spectrum #2 BSE=52.5 %	16.91%	35.97%	47.07%	0.01%	0.01%	Arsenopyrite

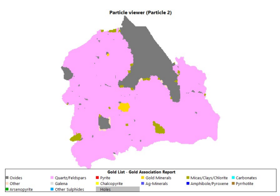




Normalized weight concentration

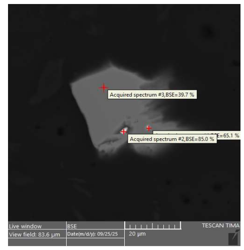
WZB Tail 1	O	Na	Mg	Al	Si	S	K	Ca	Fe	Ag	Au	Mineral ID
Acquired spectrum #1 BSE=93.2 %	0.87%	0.85%	0.66%	1.34%	0.95%	1.30%	0.41%	0.14%	3.32%	29.01%	61.96%	Electrum
Acquired spectrum #2 BSE=73.8 %	0.90%	1.07%	3.81%	5.65%	9.19%	0.58%	3.09%	0.05%	25.59%	15.12%	35.79%	Electrum
Acquired spectrum #3 BSE=94.5 %	1.01%	1.00%	2.14%	2.88%	2.95%	0.97%	0.88%	0.15%	11.72%	23.80%	53.48%	Electrum
Acquired spectrum #4.BSE=23.6 %	37.34%	0.72%	8.31%	7.76%	21.96%	0.04%	7.43%	0.14%	15.85%	0.43%	0.01%	Biotite
Acquired spectrum #5 BSE=20.5 %	47.34%	1.23%	1.00%	10.74%	32.34%	0.11%	5.49%	0.01%	2.01%	0.01%	0.01%	Orthoclase

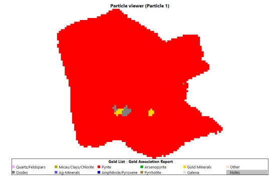




Normalized weight concentration

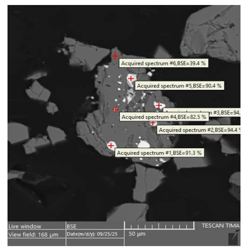
NZB Mag Rep	O	Na	Mg	Al	Si	K	Ca	Fe	Ag	Au	Mineral ID
Acquired spectrum #1 BSE=89.6 %	0.71%	0.93%	0.74%	1.97%	0.92%	0.55%	0.18%	1.29%	41.22%	51.44%	Electrum
Acquired spectrum #2 BSE=85.2 %	17.07%	2.75%	0.95%	3.90%	6.16%	0.44%	0.25%	2.25%	27.09%	39.08%	Electrum
Acquired spectrum #3 BSE=39.1 %	22.21%	0.50%	0.40%	1.07%	0.28%	0.06%	0.05%	75.17%	0.20%	0.01%	Magnetite
Acquired spectrum #4.BSE=23.4 %	37.34%	0.72%	8.31%	7.76%	21.96%	7.43%	0.14%	15.85%	0.43%	0.01%	Biotite
Acquired spectrum #5 BSE=18.7 %	47.34%	6.37%	1.00%	10.74%	32.34%	0.11%	0.01%	2.01%	0.01%	0.01%	Plagioclase

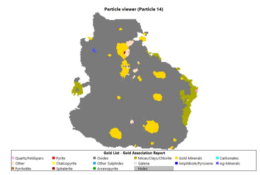




Normalized weight concentration

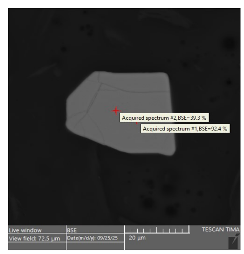
WZB Sul 1	S	Fe	Ag	Au	Mineral ID
Acquired spectrum #1 BSE=65.1 %	30.45%	33.61%	13.88%	22.04%	Electrum
Acquired spectrum #2 BSE=85.0 %	4.97%	12.34%	24.73%	57.94%	Electrum
Acquired spectrum #3.BSE=39.7 %	52.33%	47.63%	0.01%	0.01%	Pyrite

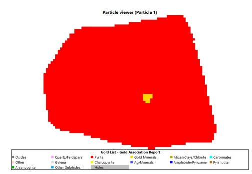




Normalized weight concentration

NZB Mag Rep	O	Ca	Fe	Ag	Au	Mineral ID
Acquired spectrum #1 BSE=91.3 %	0.82%	0.17%	2.87%	41.09%	55.01%	Electrum
Acquired spectrum #2 BSE=94.4 %	0.95%	0.19%	2.95%	26.87%	69.02%	Electrum
Acquired spectrum #3 BSE=94.3 %	0.94%	0.19%	3.48%	26.61%	68.76%	Electrum
Acquired spectrum #4.BSE=82.5 %	15.52%	0.17%	26.06%	14.50%	43.73%	Gold
Acquired spectrum #5 BSE=90.4 %	1.07%	0.17%	2.38%	44.18%	52.18%	Electrum
Acquired spectrum #6 BSE=39.4 %	22.78%	0.07%	76.61%	0.51%	0.01%	Magnetite





Normalized weight concentration

NZB Sul 2 Rep 2	S	Fe	Ag	Au	Mineral ID
Acquired spectrum #1.BSE=92.4 %	17.43%	22.47%	31.29%	28.79%	Kustelite
Acquired spectrum #2 BSE=39.3 %	52.39%	47.57%	0.01%	0.01%	Pyrite

SGS Canada Inc.
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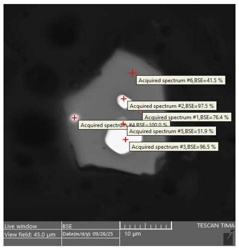
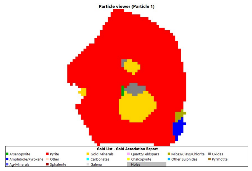
MI5017-MAY25

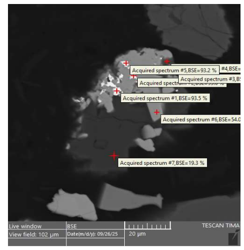
High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

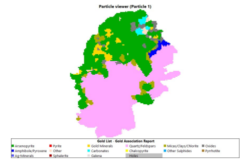




Normalized weight concentration

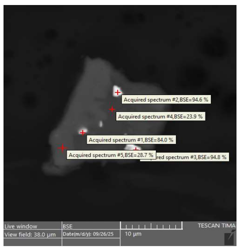
SZA Tip	S	Fe	As	Ag	Au	Mineral ID
Acquired spectrum #1,BSE=76.4 %	36.90%	37.01%	2.15%	7.11%	16.81%	Electrum
Acquired spectrum #2,BSE=97.5 %	4.36%	7.84%	3.34%	24.52%	59.91%	Electrum
Acquired spectrum #3,BSE=96.5 %	1.61%	5.32%	3.40%	25.93%	63.73%	Electrum
Acquired spectrum #4,BSE=100.0 %	13.51%	10.30%	1.92%	20.33%	53.90%	Electrum
Acquired spectrum #5,BSE=51.9 %	22.48%	37.06%	38.76%	0.55%	1.12%	Arsenopyrite
Acquired spectrum #6,BSE=41.5 %	52.25%	47.69%	0.01%	0.01%	0.01%	Pyrite

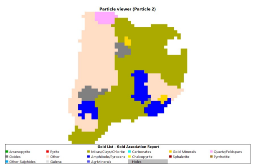




Normalized weight concentration

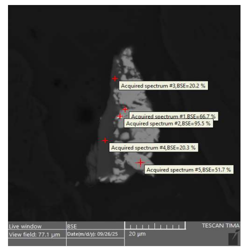
SZA Sul 1 Rep	O	Na	Mg	Al	Si	S	K	Ca	Fe	As	Ag	Au	Mineral ID
Acquired spectrum #1,BSE=93.5 %	0.69%	0.73%	0.01%	0.73%	1.06%	1.50%	0.46%	0.14%	2.01%	4.50%	34.38%	53.75%	Electrum
Acquired spectrum #2,BSE=93.6 %	0.69%	0.76%	0.01%	0.81%	1.13%	2.45%	0.43%	0.16%	4.62%	7.28%	32.35%	49.24%	Electrum
Acquired spectrum #3,BSE=83.7 %	11.07%	1.21%	2.31%	1.09%	6.77%	2.72%	0.35%	2.97%	8.26%	5.29%	21.52%	36.37%	Electrum
Acquired spectrum #4,BSE=23.1 %	23.93%	0.01%	0.01%	0.23%	1.37%	5.62%	0.15%	25.55%	19.89%	22.30%	0.27%	0.61%	Calcite
Acquired spectrum #5,BSE=93.2 %	0.67%	0.74%	0.01%	0.71%	1.02%	1.66%	0.47%	0.17%	2.45%	4.57%	34.42%	53.08%	Electrum
Acquired spectrum #6,BSE=54.0 %	1.62%	0.49%	1.43%	0.46%	0.57%	15.48%	0.01%	0.23%	32.07%	47.55%	0.02%	0.01%	Arsenopyrite
Acquired spectrum #7,BSE=19.3 %	48.33%	7.18%	0.11%	10.50%	33.64%	0.01%	0.12%	0.01%	0.01%	0.01%	0.01%	0.01%	Plagioclase

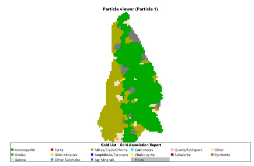




Normalized weight concentration

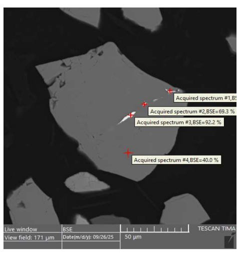
SZA Sul Rep 1	O	Mg	Al	Si	Ca	Ti	Fe	Ag	Au	Mineral ID
Acquired spectrum #1,BSE=84.0 %	26.83%	3.57%	3.81%	5.63%	1.99%	2.04%	5.85%	22.36%	27.86%	Electrum
Acquired spectrum #2,BSE=94.6 %	7.93%	1.63%	1.51%	2.37%	0.63%	1.12%	2.42%	37.91%	44.44%	Electrum
Acquired spectrum #3,BSE=94.8 %	7.01%	1.67%	1.66%	2.88%	1.85%	2.12%	2.54%	37.24%	42.99%	Electrum
Acquired spectrum #4,BSE=23.9 %	44.12%	8.10%	7.83%	13.81%	2.95%	2.56%	20.10%	0.47%	0.01%	Chlorite
Acquired spectrum #5,BSE=28.7 %	33.67%	1.14%	1.95%	16.22%	20.54%	22.82%	2.76%	0.85%	0.01%	Titanite

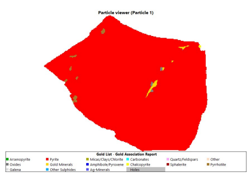




Normalized weight concentration

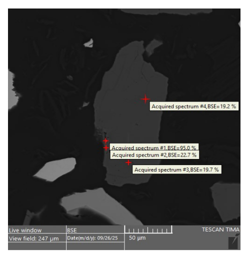
CZA Tail 1 Rep 3	O	Mg	Al	Si	Fe	As	Ag	Au	Mineral ID
Acquired spectrum #1,BSE=66.7 %	8.26%	4.18%	1.58%	1.97%	19.35%	23.56%	11.55%	29.52%	Electrum
Acquired spectrum #2,BSE=95.5 %	7.59%	2.86%	1.57%	1.89%	5.61%	6.28%	30.20%	43.96%	Electrum
Acquired spectrum #3,BSE=20.2 %	46.29%	15.06%	8.72%	13.28%	13.85%	2.69%	0.06%	0.01%	Chlorite
Acquired spectrum #4,BSE=20.3 %	48.83%	16.46%	8.24%	15.64%	10.48%	0.01%	0.29%	0.01%	Chlorite
Acquired spectrum #5,BSE=51.7 %	1.39%	2.91%	0.63%	0.33%	32.85%	39.63%	0.01%	22.22%	Arsenopyrite

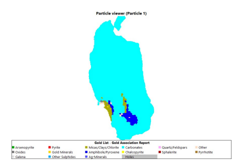




Normalized weight concentration

CZA Tip	S	Fe	Ag	Au	Mineral ID
Acquired spectrum #1,BSE=92.6 %	9.23%	12.66%	32.83%	45.26%	Electrum
Acquired spectrum #2,BSE=69.3 %	22.05%	23.22%	20.47%	34.25%	Electrum
Acquired spectrum #3,BSE=92.2 %	1.71%	6.15%	38.83%	53.29%	Electrum
Acquired spectrum #4,BSE=40.0 %	52.51%	47.45%	0.01%	0.01%	Pyrite





Normalized weight concentration

	O	Mg	Al	Si	S	K	Ca	Fe	Ag	Au	Mineral ID
Acquired spectrum #1,BSE=95.0 %	6.45%	2.09%	1.50%	2.16%	1.31%	0.83%	0.72%	1.64%	27.82%	55.43%	Electrum
Acquired spectrum #2,BSE=22.7 %	40.24%	13.93%	9.12%	20.36%	0.06%	9.23%	0.26%	6.17%	0.58%	0.01%	Orthoclase
Acquired spectrum #3,BSE=19.7 %	46.74%	17.74%	0.34%	31.32%	0.03%	0.01%	0.56%	2.38%	0.83%	0.01%	Chlorite
Acquired spectrum #4,BSE=19.2 %	41.86%	16.88%	0.42%	0.48%	0.28%	0.31%	35.10%	3.83%	0.79%	0.01%	Dolomite

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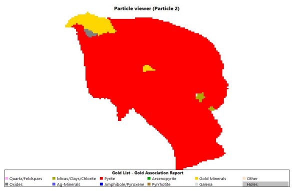
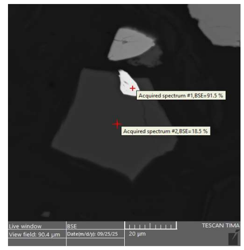
High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

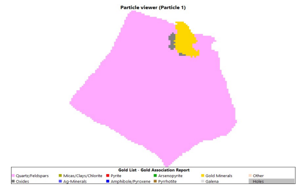
Exposed Gold Images



Normalized weight concentration

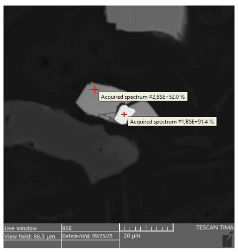
WZB Tail 1	S	Fe	Ag	Au	Mineral ID
Acquired spectrum #1.BSE=91.9 %	17.09%	18.75%	29.77%	34.37%	Electrum
Acquired spectrum #2.BSE=85.0 %	0.99%	5.65%	69.23%	24.11%	Kustelite
Acquired spectrum #3.BSE=39.9 %	52.33%	47.63%	0.01%	0.01%	Pyrite

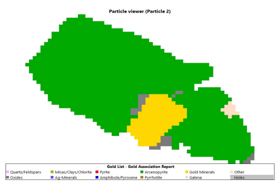




Normalized weight concentration

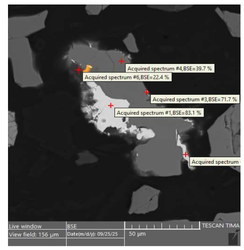
WZB Tail 1	O	Si	Ag	Au	Mineral ID
Acquired spectrum #1.BSE=91.5 %	2.57%	2.61%	40.09%	54.72%	Electrum
Acquired spectrum #2.BSE=18.5 %	49.60%	50.37%	0.01%	0.01%	Quartz

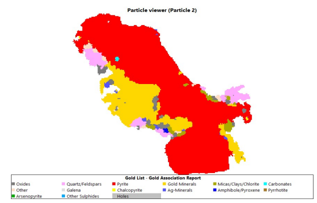




Normalized weight concentration

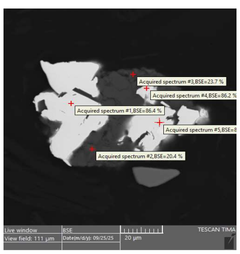
WZB Sul 1	S	Fe	As	Ag	Au	Mineral ID
Acquired spectrum #1.BSE=91.4 %	1.39%	3.72%	2.68%	41.16%	51.03%	Electrum
Acquired spectrum #2.BSE=52.0 %	18.42%	37.65%	43.88%	0.01%	0.01%	Arsenopyrite

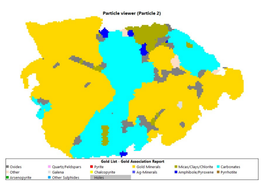




Normalized weight concentration

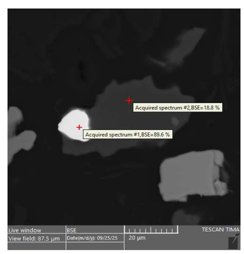
NZB Tip	O	Si	S	Fe	Ag	Au	Mineral ID
Acquired spectrum #1.BSE=83.1 %	0.59%	1.90%	1.01%	0.98%	73.81%	21.68%	Kustelite
Acquired spectrum #2.BSE=82.9 %	0.37%	1.90%	1.13%	2.37%	73.95%	20.25%	Kustelite
Acquired spectrum #3.BSE=71.7 %	11.39%	2.47%	13.80%	16.68%	39.03%	16.60%	Kustelite
Acquired spectrum #4.BSE=39.7 %	2.09%	2.02%	51.01%	44.83%	0.01%	0.01%	Pyrite
Acquired spectrum #6.BSE=22.4 %	39.79%	30.37%	13.89%	14.46%	1.45%	0.01%	Quartz

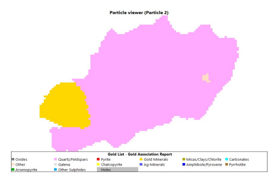




Normalized weight concentration

NZB Tip	O	Mg	Al	Si	Ca	Fe	Ag	Au	Mineral ID
Acquired spectrum #1.BSE=86.4 %	0.57%	0.58%	0.71%	0.77%	0.18%	0.50%	61.41%	34.31%	Kustelite
Acquired spectrum #2.BSE=20.4 %	32.63%	1.97%	1.54%	3.50%	53.35%	4.11%	2.52%	0.01%	Calcite
Acquired spectrum #3.BSE=23.7 %	43.24%	9.13%	7.88%	16.86%	0.65%	21.56%	0.48%	0.01%	Amphibole
Acquired spectrum #4.BSE=86.2 %	0.46%	0.61%	0.73%	0.79%	0.22%	0.87%	62.41%	32.90%	Kustelite
Acquired spectrum #5.BSE=85.9 %	0.82%	0.64%	0.74%	0.79%	0.20%	0.56%	62.31%	32.54%	Kustelite





Normalized weight concentration

NZB Sul 2 Rep 2	O	Na	Al	Si	Ag	Au	Mineral ID
Acquired spectrum #1.BSE=89.6 %	1.77%	2.84%	0.71%	0.89%	41.51%	52.24%	Electrum
Acquired spectrum #2.BSE=18.8 %	50.02%	7.34%	10.26%	32.10%	0.25%	0.01%	Plagioclase

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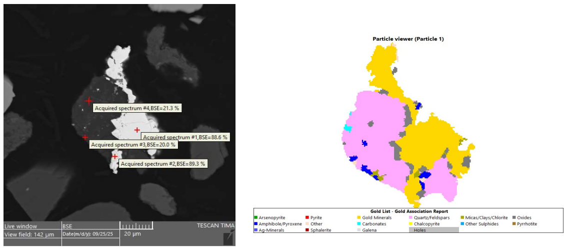
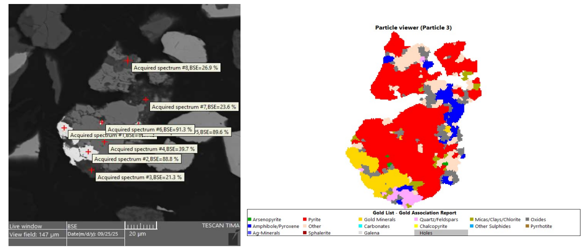
High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)



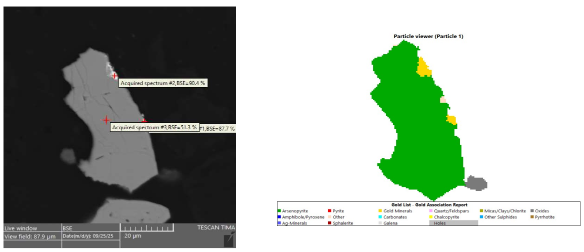
Normalized weight concentration

SZA Sul 1 Rep	O	Mg	Al	Si	Ca	Fe	Ag	Au	Mineral ID
Acquired spectrum #1.BSE=88.6 %	0.59%	0.62%	0.65%	0.83%	0.16%	0.37%	48.74%	47.99%	Kustelite
Acquired spectrum #2.BSE=89.3 %	0.61%	0.61%	0.66%	0.87%	0.19%	0.77%	51.00%	45.24%	Kustelite
Acquired spectrum #3.BSE=20.0 %	39.66%	4.20%	2.61%	24.27%	14.64%	6.99%	4.63%	2.94%	Amphibole
Acquired spectrum #4.BSE=21.3 %	45.92%	4.40%	2.58%	39.73%	2.44%	4.67%	0.21%	0.01%	Quartz



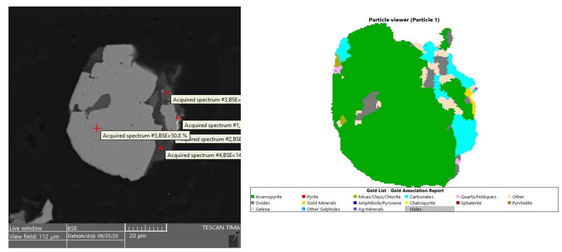
Normalized weight concentration

SZA Sul 1 Rep	O	Na	Mg	Al	Si	S	Ca	Ti	Fe	Ag	Au	Mineral ID
Acquired spectrum #1.BSE=89.4 %	0.66%	0.95%	0.66%	0.68%	0.88%	1.16%	0.18%	0.68%	1.29%	46.26%	46.53%	Electrum
Acquired spectrum #2.BSE=88.8 %	0.63%	0.94%	0.66%	0.66%	0.86%	1.09%	0.18%	0.67%	1.17%	46.79%	46.31%	Kustelite
Acquired spectrum #3.BSE=21.3 %	40.88%	2.10%	6.36%	5.88%	29.91%	0.20%	4.09%	0.01%	9.85%	0.66%	0.01%	Quartz
Acquired spectrum #4.BSE=39.7 %	2.28%	0.82%	0.76%	0.50%	0.86%	50.17%	0.01%	0.22%	44.31%	0.01%	0.01%	Pyrite
Acquired spectrum #5.BSE=89.6 %	6.98%	1.03%	1.44%	0.81%	1.86%	3.37%	0.39%	0.82%	3.72%	38.22%	41.30%	Electrum
Acquired spectrum #6.BSE=91.3 %	3.74%	1.28%	0.96%	1.06%	1.73%	9.74%	0.22%	0.69%	7.79%	35.39%	37.33%	Electrum
Acquired spectrum #7.BSE=23.6 %	40.09%	0.46%	9.72%	2.69%	25.32%	0.76%	6.04%	0.01%	14.44%	0.40%	0.01%	Amphibole
Acquired spectrum #8.BSE=26.9 %	30.31%	0.36%	0.30%	1.28%	16.79%	0.36%	22.70%	25.11%	1.75%	0.98%	0.01%	Titanite



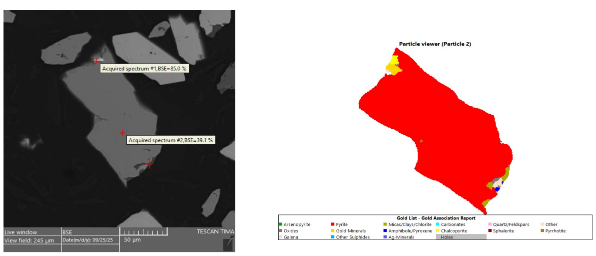
Normalized weight concentration

SZA Tip	S	Fe	As	Ag	Au	Mineral ID
Acquired spectrum #1.BSE=87.7 %	3.69%	18.50%	9.00%	32.00%	36.79%	Electrum
Acquired spectrum #2.BSE=90.4 %	1.55%	4.42%	3.70%	43.23%	47.07%	Electrum
Acquired spectrum #3.BSE=51.3 %	17.76%	37.93%	44.26%	0.01%	0.01%	Arsenopyrite



Normalized weight concentration

CZA Sul 1	O	S	Ca	Ti	Fe	As	Ag	Au	Mineral ID
Acquired spectrum #1.BSE=84.6 %	6.44%	2.49%	1.72%	0.10%	3.36%	6.26%	37.54%	42.05%	Electrum
Acquired spectrum #2.BSE=51.1 %	2.11%	18.37%	0.28%	0.01%	34.01%	45.16%	0.01%	0.01%	Arsenopyrite
Acquired spectrum #3.BSE=29.5 %	29.45%	0.34%	1.29%	65.84%	0.82%	1.67%	0.55%	0.01%	Titanite
Acquired spectrum #4.BSE=14.8 %	25.98%	0.92%	61.71%	0.83%	4.55%	2.66%	2.61%	0.68%	Calcite
Acquired spectrum #5.BSE=50.8 %	1.81%	18.34%	0.06%	0.01%	34.37%	45.36%	0.01%	0.01%	Arsenopyrite



Normalized weight concentration

CZA Tip	O	Mg	Al	Si	S	K	Fe	Ag	Au	Mineral ID
Acquired spectrum #1.BSE=85.0 %	7.25%	0.79%	0.71%	0.94%	2.73%	0.66%	3.06%	48.13%	35.68%	Kustelite
Acquired spectrum #2.BSE=39.1 %	1.92%	0.60%	0.46%	0.73%	51.17%	0.01%	45.05%	0.01%	0.01%	Pyrite
Acquired spectrum #3.BSE=21.3 %	43.15%	9.48%	8.07%	15.17%	5.17%	2.75%	16.14%	0.02%	0.01%	Amphibole

Normalized weight concentration

CZA Tip	O	Mg	Al	Si	S	Fe	As	Ag	Au	Mineral ID
Acquired spectrum #1.BSE=93.5 %	5.27%	1.33%	1.78%	1.41%	3.48%	3.90%	4.96%	33.55%	44.28%	Electrum
Acquired spectrum #2.BSE=90.7 %	0.68%	0.01%	1.24%	1.04%	1.85%	2.70%	4.84%	37.35%	50.26%	Electrum
Acquired spectrum #3.BSE=19.5 %	25.16%	1.52%	4.60%	6.64%	7.26%	26.79%	27.96%	0.01%	0.01%	Arsenopyrite
Acquired spectrum #4.BSE=50.9 %	1.53%	1.20%	0.91%	0.52%	18.00%	33.19%	44.59%	0.01%	0.01%	Arsenopyrite

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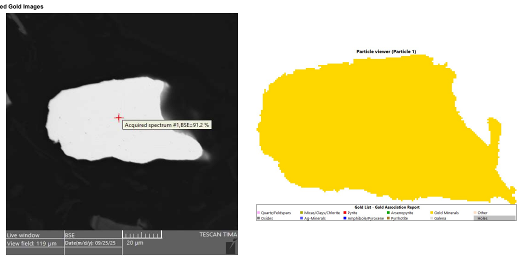
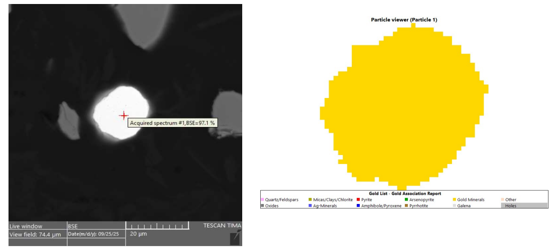
High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

Liberated Gold Images



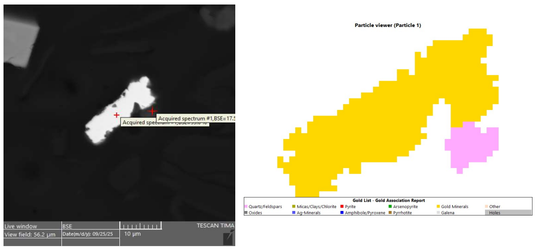
Normalized weight concentration

WZB Tip	Ag	Au	Mineral ID
Acquired spectrum #1 BSE=91.2 %	46.52%	53.47%	Electrum



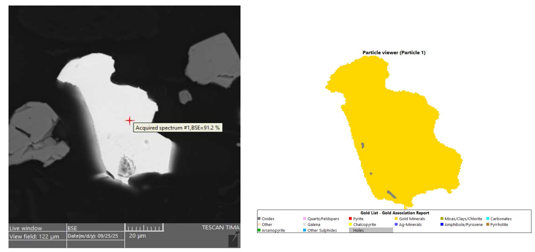
Normalized weight concentration

WZB Tip	Ag	Au	Mineral ID
Acquired spectrum #1 BSE=97.1 %	19.86%	80.13%	Gold



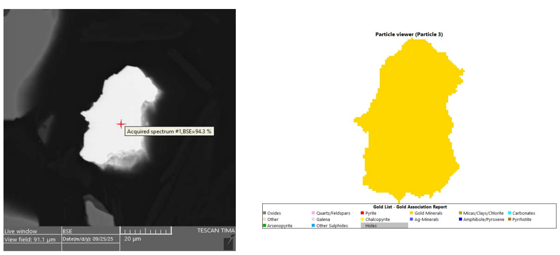
Normalized weight concentration

WZB Tail 1	O	Si	Ag	Au	Mineral ID
Acquired spectrum #1 BSE=93.6 %	2.63%	2.83%	34.70%	59.82%	Electrum
Acquired spectrum #1 BSE=17.5 %	41.98%	48.54%	2.49%	6.97%	Quartz



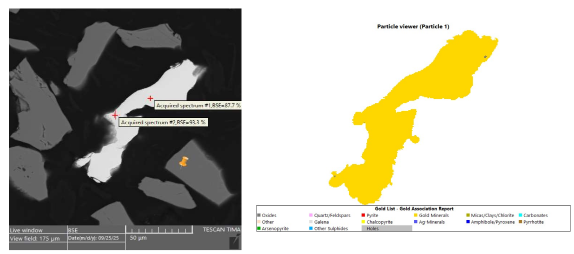
Normalized weight concentration

NZB Tip	Ag	Au
Acquired spectrum #1 BSE=91.2 %	44.16%	55.83%



Normalized weight concentration

NZB Sul 2 Rep 2	Ag	Au	Mineral ID
Acquired spectrum #1 BSE=94.3 %	25.64%	74.35%	Electrum



Normalized weight concentration

NZB Tip	Ag	Au	Mineral ID
Acquired spectrum #1 BSE=87.7 %	58.92%	41.07%	Kustelite
Acquired spectrum #2 BSE=93.3 %	47.09%	52.90%	Electrum

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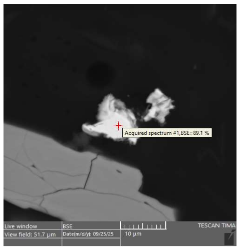
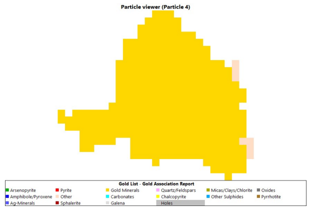
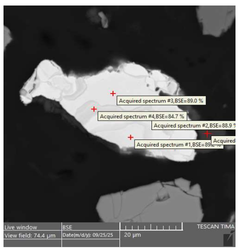
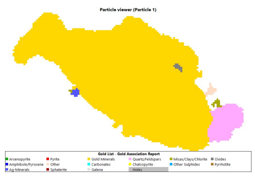




Normalized weight concentration

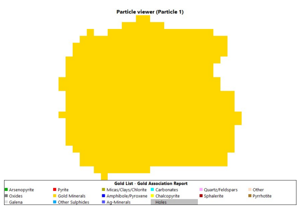
SZA Tip	Ag	Au	Mineral ID
Acquired spectrum #1,BSE=89.1 %	50.48%	49.51%	Kustelite





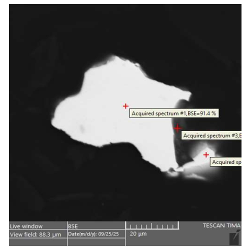
Normalized weight concentration

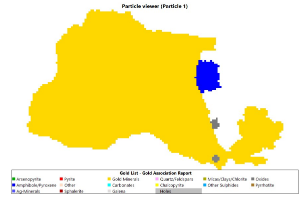
SZA Tip	O	Al	Si	K	Ag	Au	Mineral ID
Acquired spectrum #1,BSE=89.2 %	2.12%	0.64%	0.83%	0.60%	46.38%	49.41%	Electrum
Acquired spectrum #2,BSE=88.9 %	3.63%	0.73%	0.89%	0.52%	36.75%	57.44%	Electrum
Acquired spectrum #3,BSE=89.0 %	2.03%	0.64%	0.82%	0.62%	47.67%	48.18%	Electrum
Acquired spectrum #4,BSE=84.7 %	1.25%	0.56%	0.72%	0.77%	65.98%	30.70%	Kustelite
Acquired spectrum #5,BSE=22.0 %	42.40%	10.09%	32.39%	14.63%	0.45%	0.01%	Orthoclase



Normalized weight concentration

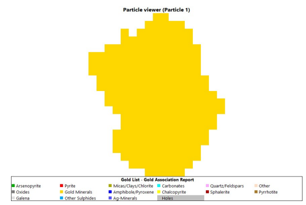
CZA Sul 1	Ag	Au	Mineral ID
Acquired spectrum #1,BSE=93.1 %	29.95%	70.04%	Electrum





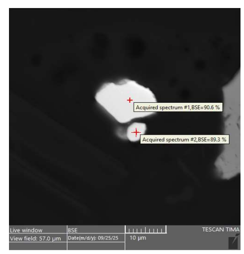
Normalized weight concentration

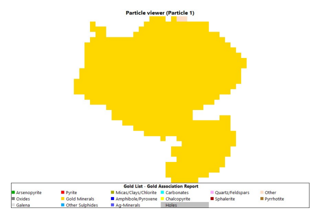
SZA Sul 1 Rep	O	Na	Mg	Al	Si	Ca	Fe	Ag	Au	Mineral ID
Acquired spectrum #1,BSE=91.4 %	0.81%	0.91%	0.67%	1.10%	0.91%	0.19%	0.29%	35.96%	59.11%	Electrum
Acquired spectrum #2,BSE=91.7 %	0.79%	0.89%	0.68%	1.11%	0.91%	0.20%	0.54%	36.67%	58.14%	Electrum
Acquired spectrum #3,BSE=18.2 %	38.03%	2.67%	3.57%	5.01%	16.79%	6.13%	6.86%	7.03%	13.86%	Amphibole



Normalized weight concentration

CZA Tail 1 Rep 3	Ag	Au	Mineral ID
Acquired spectrum #1,BSE=93.1 %	28.05%	71.94%	Electrum





Normalized weight concentration

	Ag	Au	Mineral ID
Acquired spectrum #1,BSE=90.6 %	44.88%	55.11%	Electrum
Acquired spectrum #2,BSE=89.3 %	45.00%	54.99%	Electrum

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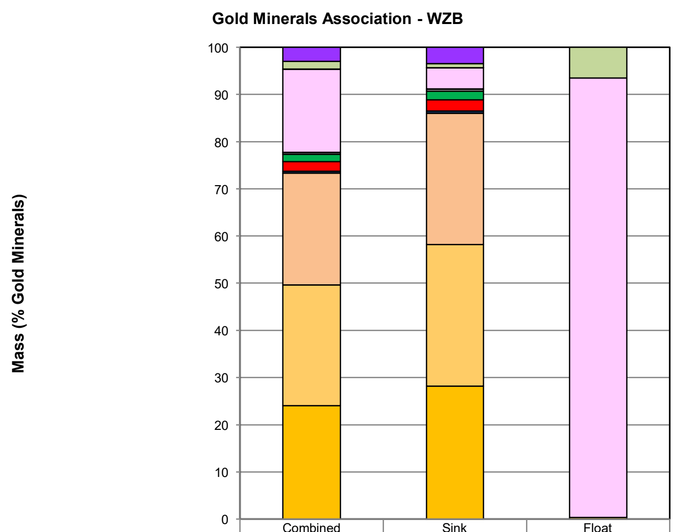
High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

Gold Minerals Association



	Combined	Sink	Float
Complex	2.98	3.50	0.00
Gold Minerals : Carbonates	0.00	0.00	0.00
Gold Minerals : Oxides	0.00	0.00	0.00
Gold Minerals :Amphibole/Pyroxene	0.00	0.00	0.00
Gold Minerals :Qtz/Felds/Chl/Mc/Clays	1.66	0.83	6.48
Gold Minerals : Micas/Clays/Chlorite	0.01	0.01	0.00
Gold Minerals :Quartz/Feldspars	17.6	4.48	93.2
Gold Minerals: Other Sulphides	0.00	0.00	0.00
Gold Minerals : Cu Sulphides	0.08	0.10	0.00
Gold Minerals : Sphalerite	0.00	0.00	0.00
Gold Minerals : Galena	0.33	0.39	0.00
Gold Minerals : Arsenopyrite	1.56	1.84	0.00
Gold Minerals : Pyrrhotite	0.00	0.00	0.00
Gold Minerals : Pyrite	2.03	2.39	0.00
Gold Minerals : Ag-Minerals	0.41	0.49	0.00
Lib Gold Minerals	23.7	27.8	0.00
Free Gold Minerals	25.5	30.0	0.00
Pure Gold Minerals	24.0	28.2	0.33

Normalized Mass of Gold Minerals Across Fraction WZB

Mineral Name	Combined	Sink	Float
Pure Gold Minerals	24.0	28.2	0.33
Free Gold Minerals	25.5	30.0	0.00
Lib Gold Minerals	23.7	27.8	0.00
Gold Minerals : Ag-Minerals	0.41	0.49	0.00
Gold Minerals : Pyrite	2.03	2.39	0.00
Gold Minerals : Pyrrhotite	0.00	0.00	0.00
Gold Minerals : Arsenopyrite	1.56	1.84	0.00
Gold Minerals : Galena	0.33	0.39	0.00
Gold Minerals : Sphalerite	0.00	0.00	0.00
Gold Minerals : Cu Sulphides	0.08	0.10	0.00
Gold Minerals: Other Sulphides	0.00	0.00	0.00
Gold Minerals :Quartz/Feldspars	17.6	4.48	93.2
Gold Minerals : Micas/Clays/Chlorite	0.01	0.01	0.00
Gold Minerals :Qtz/Felds/Chl/Mc/Clays	1.66	0.83	6.48
Gold Minerals :Amphibole/Pyroxene	0.00	0.00	0.00
Gold Minerals : Oxides	0.00	0.00	0.00
Gold Minerals : Carbonates	0.00	0.00	0.00
Complex	2.98	3.50	0.00
Total	100.0	100.0	100.0
Liberated	73.3	86.0	0.33

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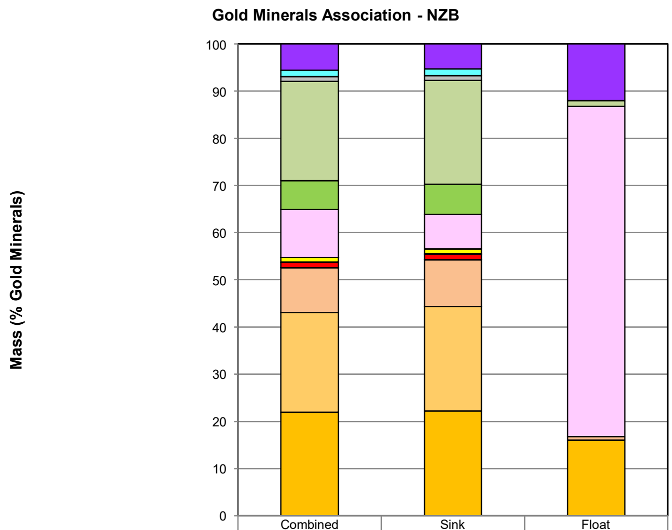
High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

Gold Minerals Association



	Combined	Sink	Float
Complex	5.57	5.26	12.0
Gold Minerals : Carbonates	1.36	1.42	0.00
Gold Minerals : Oxides	1.01	1.05	0.00
Gold Minerals :Amphibole/Pyroxene	0.00	0.00	0.00
Gold Minerals :Qtz/Felds/Chl/Mc/Clays	21.1	22.0	1.19
Gold Minerals : Micas/Clays/Chlorite	6.08	6.37	0.00
Gold Minerals :Quartz/Feldspars	10.2	7.37	70.0
Gold Minerals: Other Sulphides	0.00	0.00	0.00
Gold Minerals : Cu Sulphides	0.93	0.98	0.00
Gold Minerals : Sphalerite	0.00	0.00	0.00
Gold Minerals : Galena	0.12	0.12	0.00
Gold Minerals : Arsenopyrite	0.00	0.00	0.00
Gold Minerals : Pyrrhotite	0.00	0.00	0.00
Gold Minerals : Pyrite	1.10	1.15	0.00
Gold Minerals : Ag-Minerals	0.05	0.05	0.00
Lib Gold Minerals	9.51	9.92	0.77
Free Gold Minerals	21.1	22.1	0.00
Pure Gold Minerals	22.0	22.2	16.0

Normalized Mass of Gold Minerals Across Fraction NZB

Mineral Name	Combined	Sink	Float
Pure Gold Minerals	22.0	22.2	16.0
Free Gold Minerals	21.1	22.1	0.00
Lib Gold Minerals	9.51	9.92	0.77
Gold Minerals : Ag-Minerals	0.05	0.05	0.00
Gold Minerals : Pyrite	1.10	1.15	0.00
Gold Minerals : Pyrrhotite	0.00	0.00	0.00
Gold Minerals : Arsenopyrite	0.00	0.00	0.00
Gold Minerals : Galena	0.12	0.12	0.00
Gold Minerals : Sphalerite	0.00	0.00	0.00
Gold Minerals : Cu Sulphides	0.93	0.98	0.00
Gold Minerals: Other Sulphides	0.00	0.00	0.00
Gold Minerals :Quartz/Feldspars	10.2	7.37	70.0
Gold Minerals : Micas/Clays/Chlorite	6.08	6.37	0.00
Gold Minerals :Qtz/Felds/Chl/Mc/Clays	21.1	22.0	1.19
Gold Minerals :Amphibole/Pyroxene	0.00	0.00	0.00
Gold Minerals : Oxides	1.01	1.05	0.00
Gold Minerals : Carbonates	1.36	1.42	0.00
Complex	5.57	5.26	12.0
Total	100.0	100.0	100.0
Liberated	52.5	54.2	16.8

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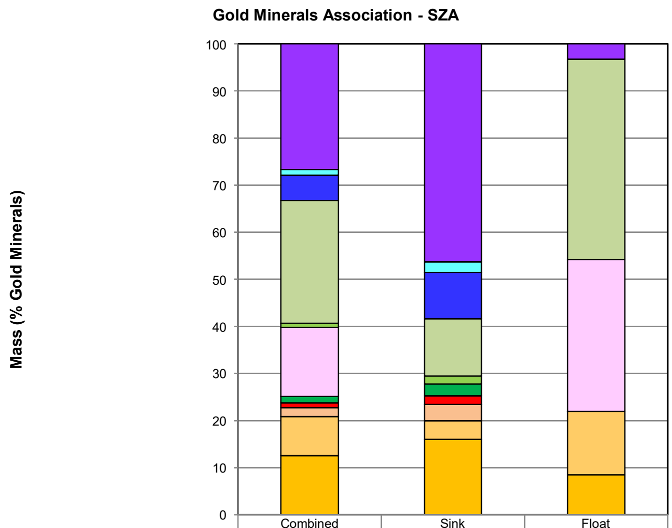
High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

Gold Minerals Association



	Combined	Sink	Float
Complex	26.7	46.3	3.26
Gold Minerals : Carbonates	1.22	2.25	0.00
Gold Minerals : Oxides	0.00	0.00	0.00
Gold Minerals :Amphibole/Pyroxene	5.36	9.85	0.00
Gold Minerals :Qtz/Felds/Chl/Mc/Clays	26.0	12.2	42.6
Gold Minerals : Micas/Clays/Chlorite	0.91	1.68	0.00
Gold Minerals :Quartz/Feldspars	14.7	0.00	32.2
Gold Minerals: Other Sulphides	0.00	0.00	0.00
Gold Minerals : Cu Sulphides	0.00	0.00	0.00
Gold Minerals : Sphalerite	0.00	0.00	0.00
Gold Minerals : Galena	0.00	0.00	0.00
Gold Minerals : Arsenopyrite	1.39	2.54	0.01
Gold Minerals : Pyrrhotite	0.00	0.00	0.00
Gold Minerals : Pyrite	0.97	1.77	0.00
Gold Minerals : Ag-Minerals	0.00	0.00	0.00
Lib Gold Minerals	1.91	3.51	0.00
Free Gold Minerals	8.26	3.91	13.5
Pure Gold Minerals	12.6	16.0	8.46

Normalized Mass of Gold Minerals Across Fraction SZA

Mineral Name	Combined	Sink	Float
Pure Gold Minerals	12.6	16.0	8.46
Free Gold Minerals	8.26	3.91	13.5
Lib Gold Minerals	1.91	3.51	0.00
Gold Minerals : Ag-Minerals	0.00	0.00	0.00
Gold Minerals : Pyrite	0.97	1.77	0.00
Gold Minerals : Pyrrhotite	0.00	0.00	0.00
Gold Minerals : Arsenopyrite	1.39	2.54	0.01
Gold Minerals : Galena	0.00	0.00	0.00
Gold Minerals : Sphalerite	0.00	0.00	0.00
Gold Minerals : Cu Sulphides	0.00	0.00	0.00
Gold Minerals: Other Sulphides	0.00	0.00	0.00
Gold Minerals :Quartz/Feldspars	14.7	0.00	32.2
Gold Minerals : Micas/Clays/Chlorite	0.91	1.68	0.00
Gold Minerals :Qtz/Felds/Chl/Mc/Clays	26.0	12.2	42.6
Gold Minerals :Amphibole/Pyroxene	5.36	9.85	0.00
Gold Minerals : Oxides	0.00	0.00	0.00
Gold Minerals : Carbonates	1.22	2.25	0.00
Complex	26.7	46.3	3.26
Total	100.0	100.0	100.0
Liberated	22.8	23.5	21.9

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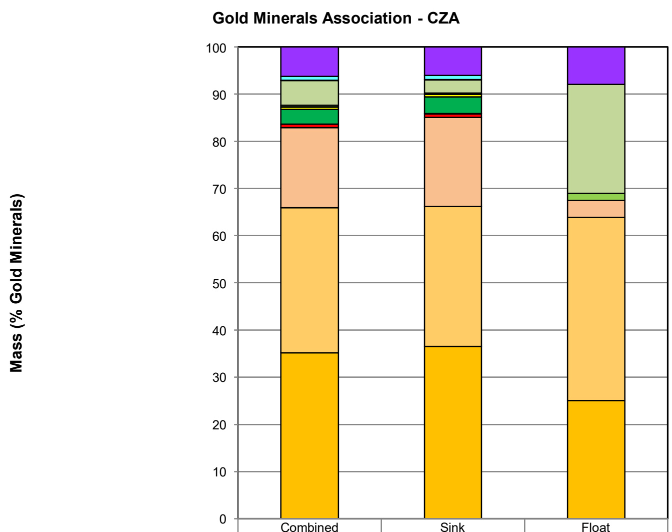
High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

Gold Minerals Association



	Combined	Sink	Float
Complex	6.26	6.03	7.90
Gold Minerals : Carbonates	0.79	0.89	0.00
Gold Minerals : Oxides	0.00	0.00	0.00
Gold Minerals :Amphibole/Pyroxene	0.08	0.09	0.00
Gold Minerals :Qtz/Felds/Chl/Mc/Clays	5.22	2.76	23.1
Gold Minerals : Micas/Clays/Chlorite	0.35	0.19	1.49
Gold Minerals :Quartz/Feldspars	0.06	0.06	0.00
Gold Minerals: Other Sulphides	0.00	0.00	0.00
Gold Minerals : Cu Sulphides	0.50	0.57	0.00
Gold Minerals : Sphalerite	0.00	0.00	0.00
Gold Minerals : Galena	0.00	0.00	0.00
Gold Minerals : Arsenopyrite	3.13	3.56	0.00
Gold Minerals : Pyrrhotite	0.02	0.02	0.00
Gold Minerals : Pyrite	0.68	0.77	0.00
Gold Minerals : Ag-Minerals	0.00	0.00	0.00
Lib Gold Minerals	17.0	18.9	3.58
Free Gold Minerals	30.8	29.7	38.9
Pure Gold Minerals	35.1	36.5	25.1

Normalized Mass of Gold Minerals Across Fraction CZA

Mineral Name	Combined	Sink	Float
Pure Gold Minerals	35.1	36.5	25.1
Free Gold Minerals	30.8	29.7	38.9
Lib Gold Minerals	17.0	18.9	3.58
Gold Minerals : Ag-Minerals	0.00	0.00	0.00
Gold Minerals : Pyrite	0.68	0.77	0.00
Gold Minerals : Pyrrhotite	0.02	0.02	0.00
Gold Minerals : Arsenopyrite	3.13	3.56	0.00
Gold Minerals : Galena	0.00	0.00	0.00
Gold Minerals : Sphalerite	0.00	0.00	0.00
Gold Minerals : Cu Sulphides	0.50	0.57	0.00
Gold Minerals: Other Sulphides	0.00	0.00	0.00
Gold Minerals :Quartz/Feldspars	0.06	0.06	0.00
Gold Minerals : Micas/Clays/Chlorite	0.35	0.19	1.49
Gold Minerals :Qtz/Felds/Chl/Mc/Clays	5.22	2.76	23.1
Gold Minerals :Amphibole/Pyroxene	0.08	0.09	0.00
Gold Minerals : Oxides	0.00	0.00	0.00
Gold Minerals : Carbonates	0.79	0.89	0.00
Complex	6.26	6.03	7.90
Total	100.0	100.0	100.0
Liberated	82.9	85.0	67.5

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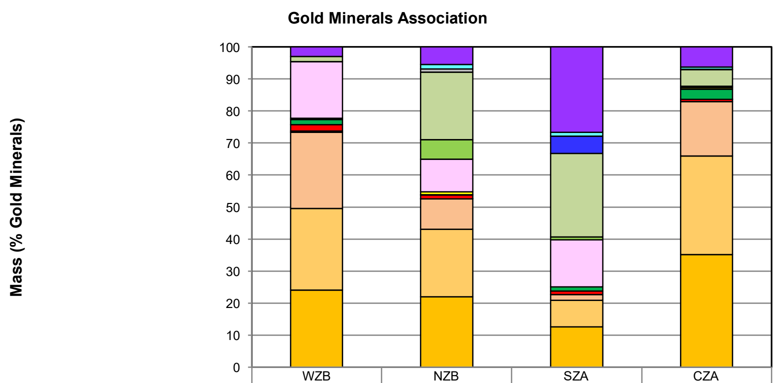
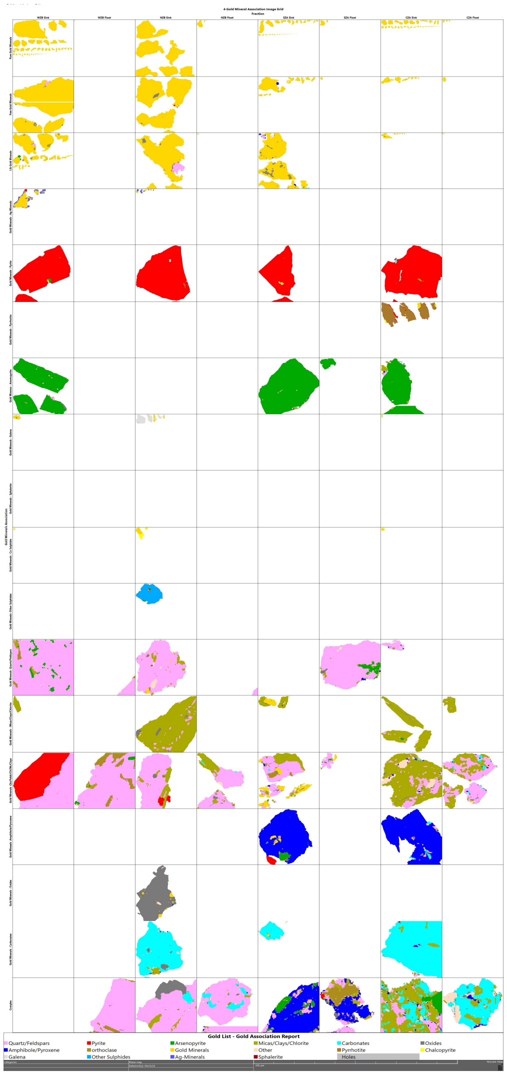
Gold Minerals Association



	WZB	NZB	SZA	CZA
Complex	2.98	5.57	26.7	6.26
Gold Minerals : Carbonates	0.00	1.36	1.22	0.79
Gold Minerals : Oxides	0.00	1.01	0.00	0.00
Gold Minerals :Amphibole/Pyroxene	0.00	0.00	5.36	0.08
Gold Minerals :Qtz/Felds/Chl/Mc/Clays	1.66	21.1	26.0	5.22
Gold Minerals : Micas/Clays/Chlorite	0.01	6.08	0.91	0.35
Gold Minerals :Quartz/Feldspars	17.6	10.2	14.7	0.06
Gold Minerals: Other Sulphides	0.00	0.00	0.00	0.00
Gold Minerals : Cu Sulphides	0.08	0.93	0.00	0.50
Gold Minerals : Sphalerite	0.00	0.00	0.00	0.00
Gold Minerals : Galena	0.33	0.12	0.00	0.00
Gold Minerals : Arsenopyrite	1.56	0.00	1.39	3.13
Gold Minerals : Pyrrhotite	0.00	0.00	0.00	0.02
Gold Minerals : Pyrite	2.03	1.10	0.97	0.68
Gold Minerals : Ag-Minerals	0.41	0.05	0.00	0.00
Lib Gold Minerals	23.7	9.51	1.91	17.0
Free Gold Minerals	25.5	21.1	8.26	30.8
Pure Gold Minerals	24.0	22.0	12.6	35.1

Mineral Name	WZB	NZB	SZA	CZA
Pure Gold Minerals	24.0	22.0	12.6	35.1
Free Gold Minerals	25.5	21.1	8.26	30.8
Lib Gold Minerals	23.7	9.51	1.91	17.0
Gold Minerals : Ag-Minerals	0.41	0.05	0.00	0.00
Gold Minerals : Pyrite	2.03	1.10	0.97	0.68
Gold Minerals : Pyrrhotite	0.00	0.00	0.00	0.02
Gold Minerals : Arsenopyrite	1.56	0.00	1.39	3.13
Gold Minerals : Galena	0.33	0.12	0.00	0.00
Gold Minerals : Sphalerite	0.00	0.00	0.00	0.00
Gold Minerals : Cu Sulphides	0.08	0.93	0.00	0.50
Gold Minerals: Other Sulphides	0.00	0.00	0.00	0.00
Gold Minerals :Quartz/Feldspars	17.6	10.2	14.7	0.06
Gold Minerals : Micas/Clays/Chlorite	0.01	6.08	0.91	0.35
Gold Minerals :Qtz/Felds/Chl/Mc/Clays	1.66	21.1	26.0	5.22
Gold Minerals :Amphibole/Pyroxene	0.00	0.00	5.36	0.08
Gold Minerals : Oxides	0.00	1.01	0.00	0.00
Gold Minerals : Carbonates	0.00	1.36	1.22	0.79
Complex	2.98	5.57	26.7	6.26
Total	100.0	100.0	100.0	100.0

High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)



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Signature Gold
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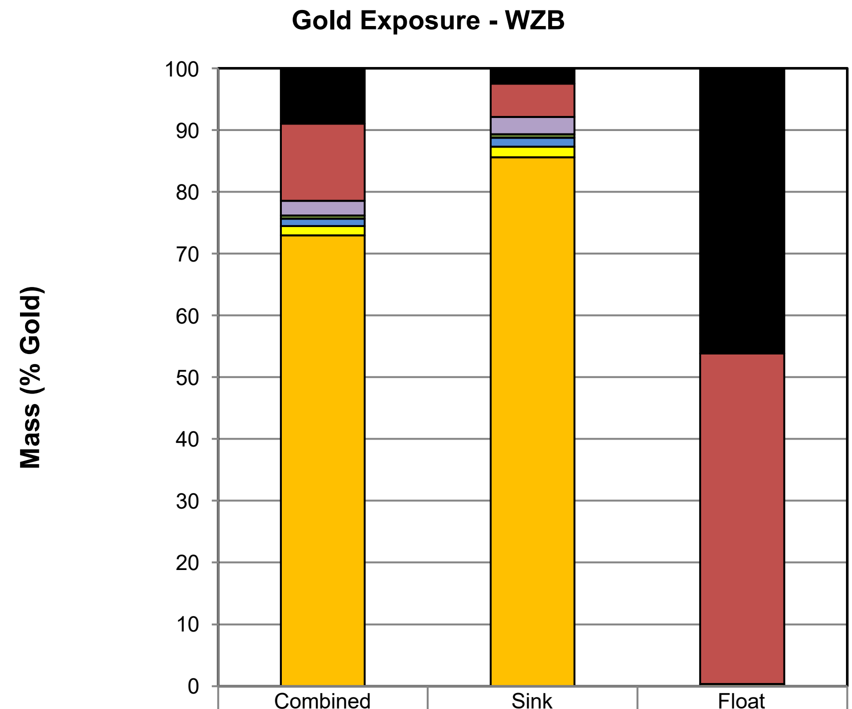
MI5014-JUL25

High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

Gold Exposure



	Combined	Sink	Float
Locked	8.96	2.49	46.2
Exposed 0-10%	12.5	5.40	53.5
Exposed 10-20%	2.38	2.80	0.00
Exposed 20-30%	0.50	0.59	0.00
Exposed 30-50%	1.22	1.43	0.00
Exposed 50-80%	1.48	1.74	0.00
Exposed	72.9	85.6	0.33

Normalized Mass of Gold Across Fraction WZB

Mineral Name	Combined	Sink	Float
Exposed	72.9	85.6	0.33
Exposed 50-80%	1.48	1.74	0.00
Exposed 30-50%	1.22	1.43	0.00
Exposed 20-30%	0.50	0.59	0.00
Exposed 10-20%	2.38	2.80	0.00
Exposed 0-10%	12.5	5.40	53.5
Locked	8.96	2.49	46.2
Total	100.0	100.0	100.0

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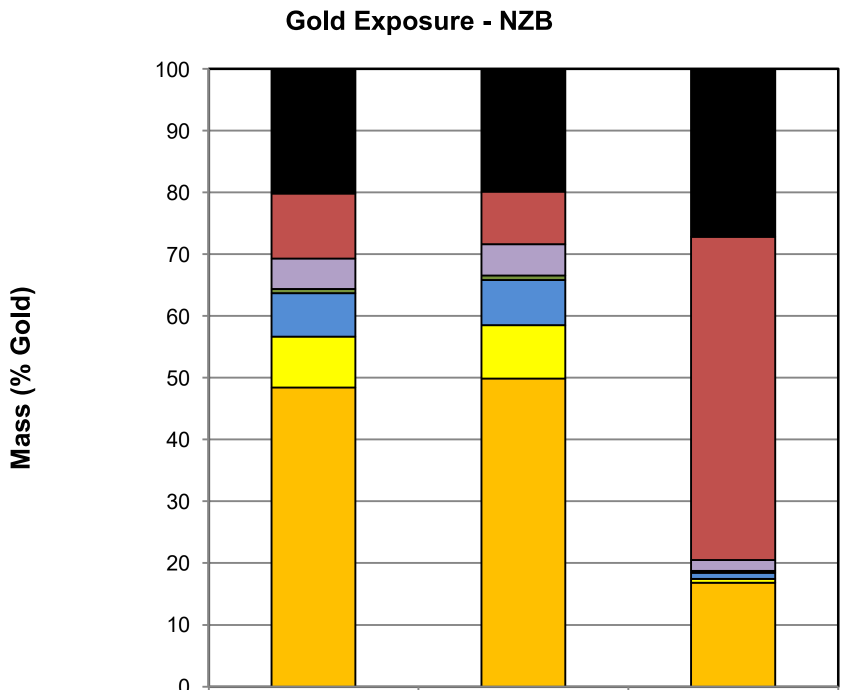
MI5014-JUL25

High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

Gold Exposure



	Combined	Sink	Float
Locked	20.2	19.9	27.2
Exposed 0-10%	10.5	8.53	52.3
Exposed 10-20%	4.93	5.08	1.80
Exposed 20-30%	0.69	0.71	0.30
Exposed 30-50%	7.02	7.30	0.97
Exposed 50-80%	8.27	8.63	0.65
Exposed	48.4	49.9	16.8

Normalized Mass of Gold Across Fraction NZB

Mineral Name	Combined	Sink	Float
Exposed	48.4	49.9	16.8
Exposed 50-80%	8.27	8.63	0.65
Exposed 30-50%	7.02	7.30	0.97
Exposed 20-30%	0.69	0.71	0.30
Exposed 10-20%	4.93	5.08	1.80
Exposed 0-10%	10.5	8.53	52.3
Locked	20.2	19.9	27.2
Total	100.0	100.0	100.0

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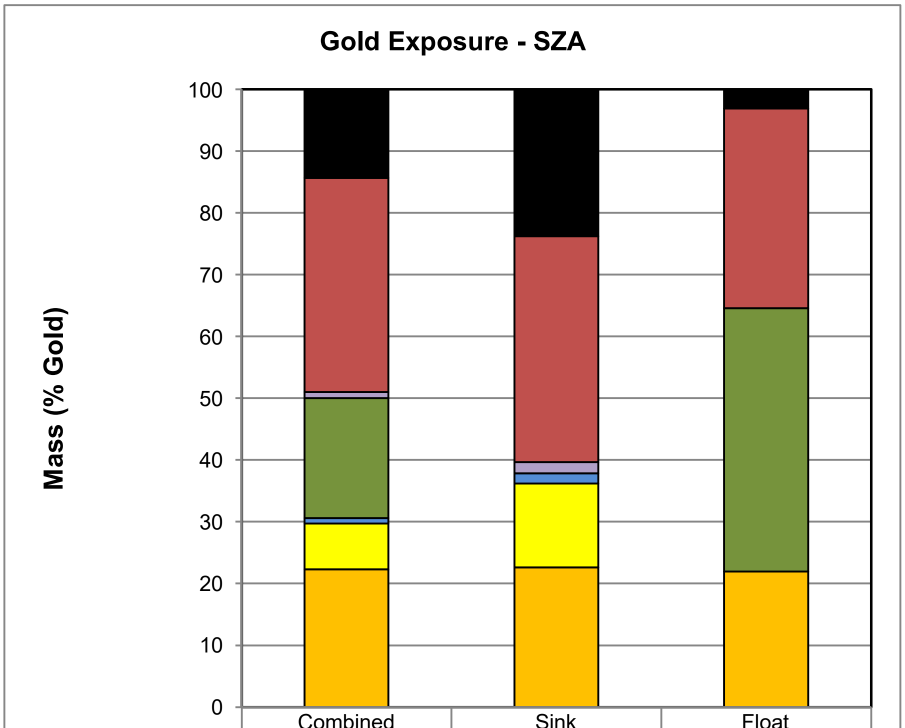
High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

Gold Exposure



	Combined	Sink	Float
Locked	14.4	23.8	3.14
Exposed 0-10%	34.6	36.6	32.3
Exposed 10-20%	0.97	1.79	0.00
Exposed 20-30%	19.4	0.00	42.6
Exposed 30-50%	0.91	1.67	0.00
Exposed 50-80%	7.39	13.6	0.00
Exposed	22.3	22.6	21.9

Normalized Mass of Gold Across Fraction SZA

Mineral Name	Combined	Sink	Float
Exposed	22.3	22.6	21.9
Exposed 50-80%	7.39	13.6	0.00
Exposed 30-50%	0.91	1.67	0.00
Exposed 20-30%	19.4	0.00	42.6
Exposed 10-20%	0.97	1.79	0.00
Exposed 0-10%	34.6	36.6	32.3
Locked	14.4	23.8	3.14
Total	100.0	100.0	100.0

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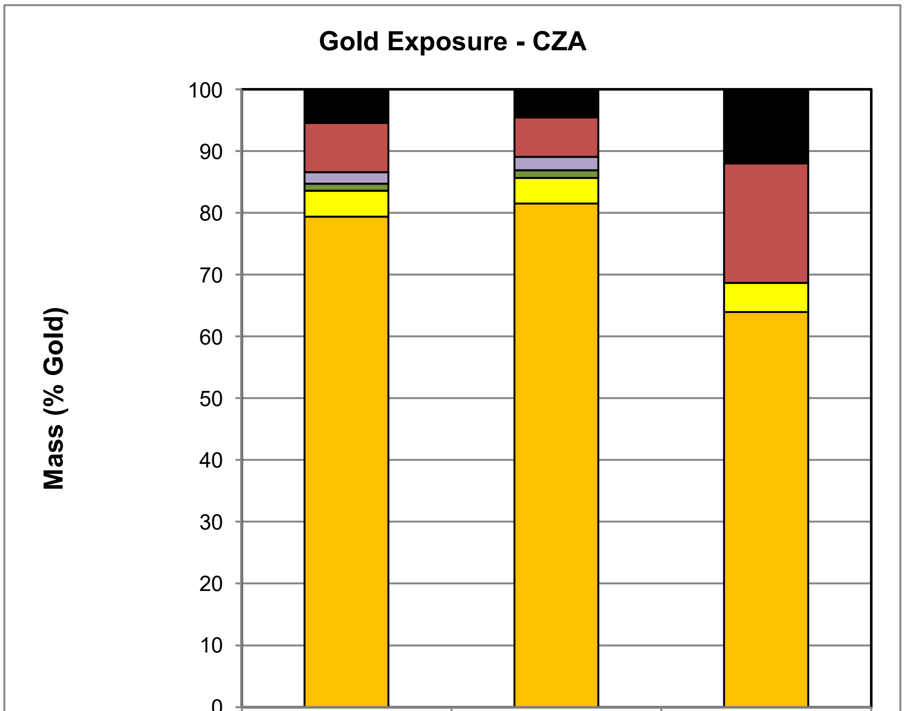
High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

Gold Exposure



	Combined	Sink	Float
Locked	5.46	4.56	12.0
Exposed 0-10%	7.97	6.41	19.3
Exposed 10-20%	1.89	2.15	0.00
Exposed 20-30%	1.11	1.27	0.00
Exposed 30-50%	0.00	0.00	0.00
Exposed 50-80%	4.21	4.14	4.74
Exposed	79.4	81.5	63.9

Normalized Mass of Gold Across Fraction CZA

Mineral Name	Combined	Sink	Float
Exposed	79.4	81.5	63.9
Exposed 50-80%	4.21	4.14	4.74
Exposed 30-50%	0.00	0.00	0.00
Exposed 20-30%	1.11	1.27	0.00
Exposed 10-20%	1.89	2.15	0.00
Exposed 0-10%	7.97	6.41	19.3
Locked	5.46	4.56	12.0
Total	100.0	100.0	100.0

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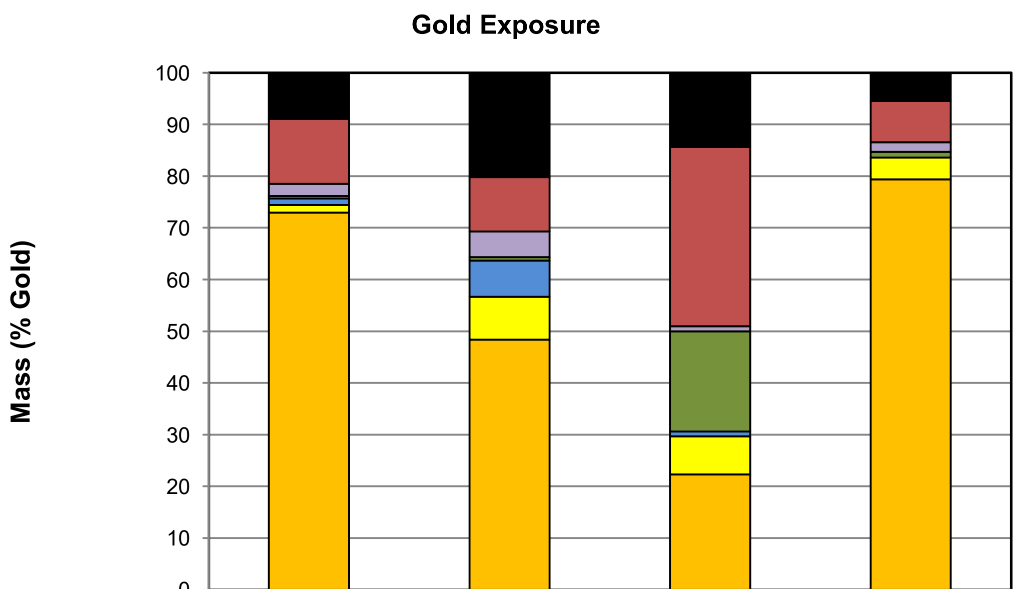
MI5014-JUL25

High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

Gold Exposure



	WZB	NZB	SZA	CZA
Locked	8.96	20.2	14.4	5.46
Exposed 0-10%	12.5	10.5	34.6	7.97
Exposed 10-20%	2.38	4.93	0.97	1.89
Exposed 20-30%	0.50	0.69	19.4	1.11
Exposed 30-50%	1.22	7.02	0.91	0.00
Exposed 50-80%	1.48	8.27	7.39	4.21
Exposed	72.9	48.4	22.3	79.4

Mineral Name	WZB	NZB	SZA	CZA
Exposed	72.9	48.4	22.3	79.4
Exposed 50-80%	1.48	8.27	7.39	4.21
Exposed 30-50%	1.22	7.02	0.91	0.00
Exposed 20-30%	0.50	0.69	19.4	1.11
Exposed 10-20%	2.38	4.93	0.97	1.89
Exposed 0-10%	12.5	10.5	34.6	7.97
Locked	8.96	20.2	14.4	5.46
Total	100.0	100.0	100.0	100.0

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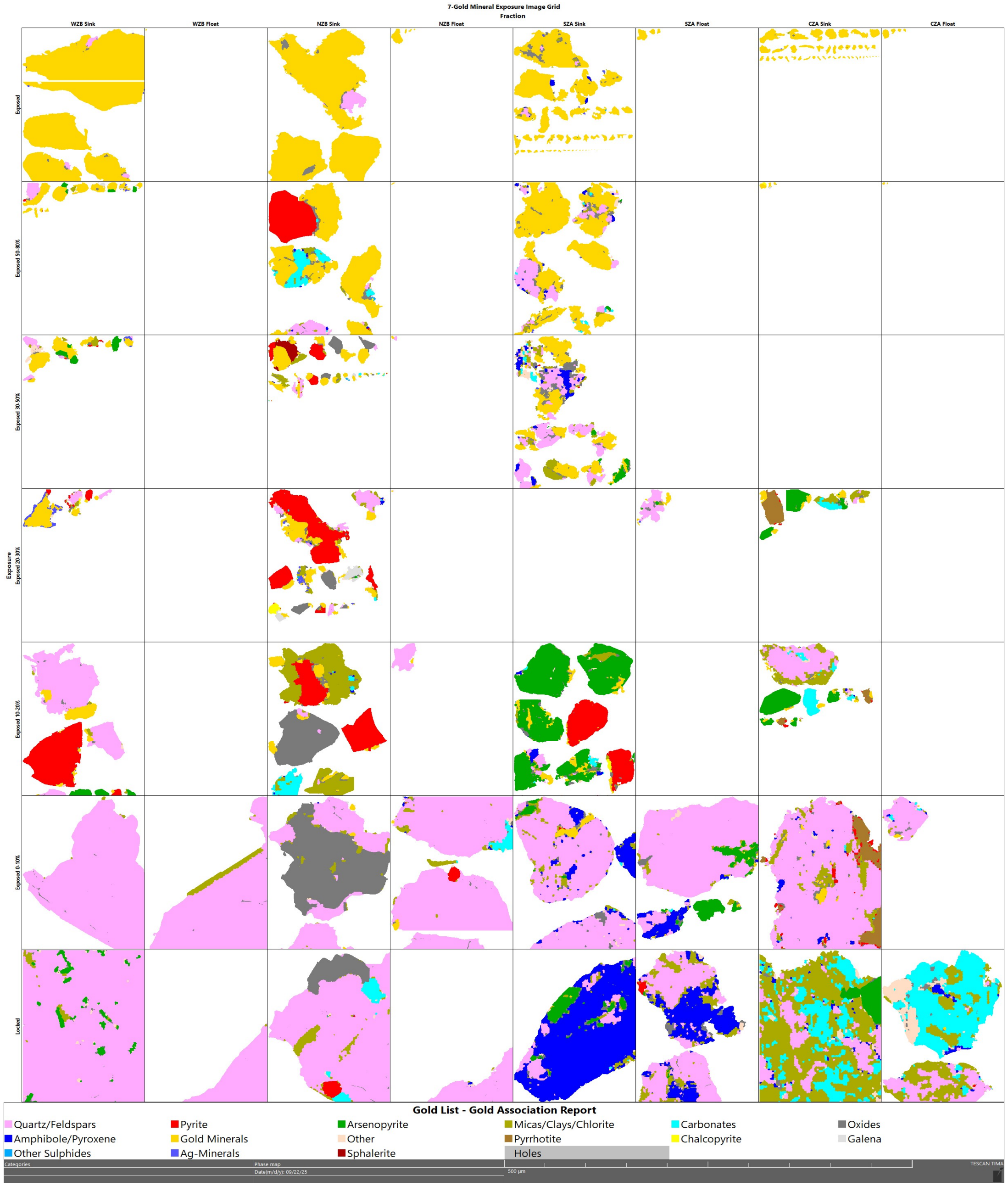
CA20M-00000-110-21021-01
M5014-JUL25
High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral

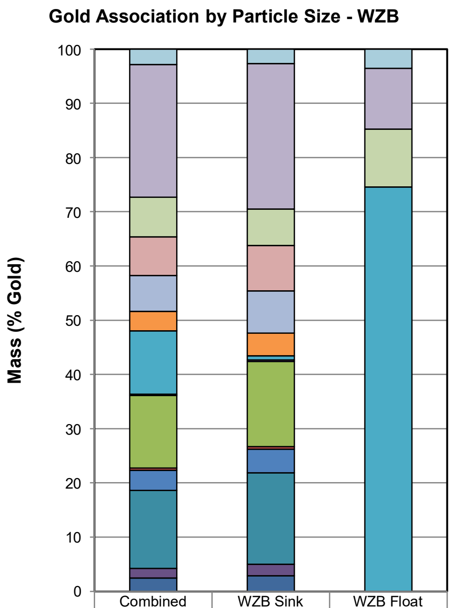
Gold Exposure Image Grid



SGS Canada Inc.
Signature Gold
CA20M-00000-110-21021-01
MI5014-JUL25

High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

Gold Association by Particle Size



	Combined	WZB Sink	WZB Float
< 3 um	2.83	2.70	3.59
3-5 um	24.5	26.8	11.2
5-10 um	7.27	6.67	10.7
10-15 um	7.15	8.39	0.00
15-20 um	6.59	7.73	0.00
20-25 um	3.60	4.23	0.00
25-30 um	11.7	0.75	74.5
30-35 um	0.24	0.28	0.00
35-40 um	13.4	15.7	0.00
40-45 um	0.37	0.43	0.00
45-50 um	3.75	4.40	0.00
50-55 um	0.00	0.00	0.00
55-60 um	14.4	16.9	0.00
60-65 um	1.80	2.11	0.00
65-70 um	0.00	0.00	0.00
70-75 um	0.00	0.00	0.00
>75 um	2.43	2.86	0.00

Normalized Mass of Gold Across Fraction WZB

Mineral Name	Combined	WZB Sink	WZB Float
>75 um	2.43	2.86	0.00
70-75 um	0.00	0.00	0.00
65-70 um	0.00	0.00	0.00
60-65 um	1.80	2.11	0.00
55-60 um	14.4	16.9	0.00
50-55 um	0.00	0.00	0.00
45-50 um	3.75	4.40	0.00
40-45 um	0.37	0.43	0.00
35-40 um	13.4	15.7	0.00
30-35 um	0.24	0.28	0.00
25-30 um	11.7	0.75	74.5
20-25 um	3.60	4.23	0.00
15-20 um	6.59	7.73	0.00
10-15 um	7.15	8.39	0.00
5-10 um	7.27	6.67	10.7
3-5 um	24.5	26.8	11.2
< 3 um	2.83	2.70	3.59
Total	100.00	100.00	100.00

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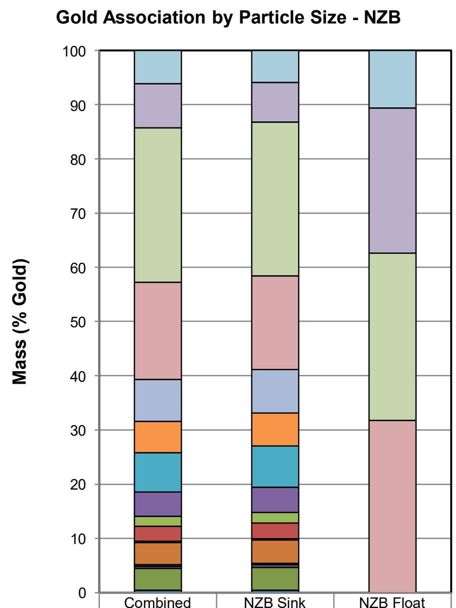
MI5014-JUL25

High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

Gold Association by Particle Size



	Combined	NZB Sink	NZB Float
< 3 um	6.14	5.93	10.61
3-5 um	8.18	7.30	26.8
5-10 um	28.4	28.3	30.8
10-15 um	17.9	17.3	31.8
15-20 um	7.73	8.09	0.00
20-25 um	5.78	6.05	0.00
25-30 um	7.28	7.62	0.00
30-35 um	4.42	4.63	0.00
35-40 um	1.86	1.94	0.00
40-45 um	2.74	2.87	0.00
45-50 um	0.26	0.27	0.00
50-55 um	4.09	4.29	0.00
55-60 um	0.26	0.28	0.00
60-65 um	0.46	0.48	0.00
65-70 um	3.99	4.18	0.00
70-75 um	0.00	0.00	0.00
>75 um	0.44	0.46	0.00

Normalized Mass of Gold Across Fraction NZB

Mineral Name	Combined	NZB Sink	NZB Float
>75 um	0.44	0.46	0.00
70-75 um	0.00	0.00	0.00
65-70 um	3.99	4.18	0.00
60-65 um	0.46	0.48	0.00
55-60 um	0.26	0.28	0.00
50-55 um	4.09	4.29	0.00
45-50 um	0.26	0.27	0.00
40-45 um	2.74	2.87	0.00
35-40 um	1.86	1.94	0.00
30-35 um	4.42	4.63	0.00
25-30 um	7.28	7.62	0.00
20-25 um	5.78	6.05	0.00
15-20 um	7.73	8.09	0.00
10-15 um	17.9	17.3	31.8
5-10 um	28.4	28.3	30.8
3-5 um	8.18	7.30	26.8
< 3 um	6.14	5.93	10.61
Total	100.00	100.00	100.00

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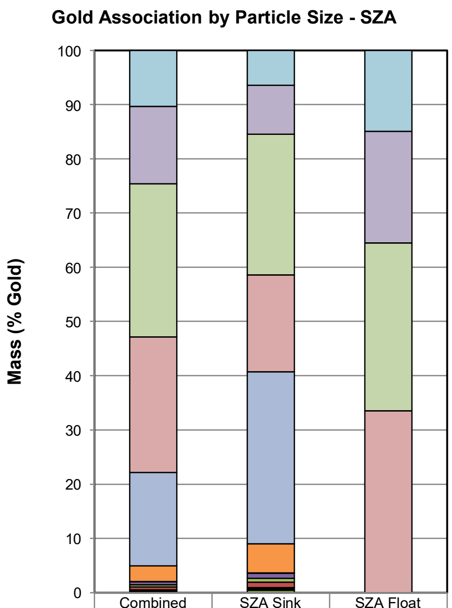
MI5014-JUL25

High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

Gold Association by Particle Size



	Combined	SZA Sink	SZA Float
< 3 um	10.34	6.46	14.97
3-5 um	14.3	9.04	20.5
5-10 um	28.2	25.9	31.0
10-15 um	25.0	17.9	33.5
15-20 um	17.3	31.7	0.00
20-25 um	2.92	5.35	0.00
25-30 um	0.04	0.07	0.00
30-35 um	0.53	0.98	0.00
35-40 um	0.37	0.68	0.00
40-45 um	0.57	1.04	0.00
45-50 um	0.11	0.20	0.00
50-55 um	0.00	0.00	0.00
55-60 um	0.16	0.29	0.00
60-65 um	0.00	0.00	0.00
65-70 um	0.22	0.40	0.00
70-75 um	0.00	0.00	0.00
>75 um	0.00	0.00	0.00

Normalized Mass of Gold Across Fraction SZA

Mineral Name	Combined	SZA Sink	SZA Float
>75 um	0.00	0.00	0.00
70-75 um	0.00	0.00	0.00
65-70 um	0.22	0.40	0.00
60-65 um	0.00	0.00	0.00
55-60 um	0.16	0.29	0.00
50-55 um	0.00	0.00	0.00
45-50 um	0.11	0.20	0.00
40-45 um	0.57	1.04	0.00
35-40 um	0.37	0.68	0.00
30-35 um	0.53	0.98	0.00
25-30 um	0.04	0.07	0.00
20-25 um	2.92	5.35	0.00
15-20 um	17.3	31.7	0.00
10-15 um	25.0	17.9	33.5
5-10 um	28.2	25.9	31.0
3-5 um	14.3	9.04	20.5
< 3 um	10.34	6.46	14.97
Total	100.00	100.00	100.00

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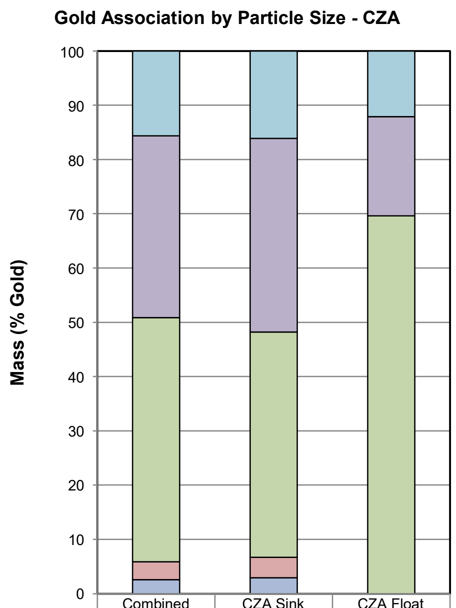
MI5014-JUL25

High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

Gold Association by Particle Size



	Combined	CZA Sink	CZA Float
< 3 um	15.63	16.12	12.11
3-5 um	33.5	35.6	18.3
5-10 um	44.9	41.5	69.6
10-15 um	3.32	3.78	0.00
15-20 um	2.56	2.92	0.00
20-25 um	0.00	0.00	0.00
25-30 um	0.00	0.00	0.00
30-35 um	0.00	0.00	0.00
35-40 um	0.00	0.00	0.00
40-45 um	0.00	0.00	0.00
45-50 um	0.00	0.00	0.00
50-55 um	0.00	0.00	0.00
55-60 um	0.00	0.00	0.00
60-65 um	0.00	0.00	0.00
65-70 um	0.00	0.00	0.00
70-75 um	0.00	0.00	0.00
>75 um	0.00	0.00	0.00

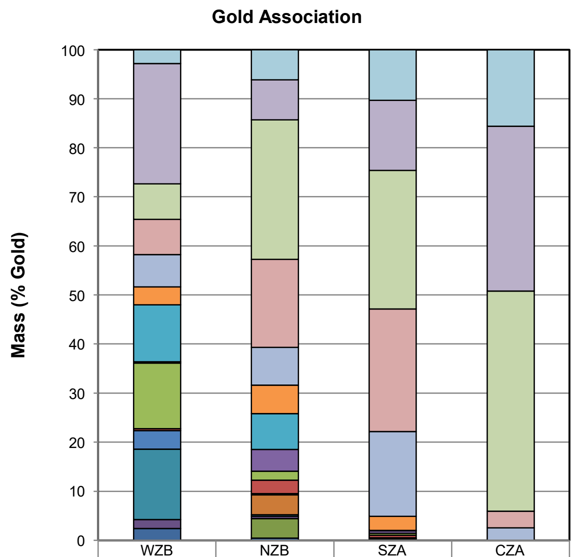
Normalized Mass of Gold Across Fraction CZA

Mineral Name	Combined	CZA Sink	CZA Float
>75 um	0.00	0.00	0.00
70-75 um	0.00	0.00	0.00
65-70 um	0.00	0.00	0.00
60-65 um	0.00	0.00	0.00
55-60 um	0.00	0.00	0.00
50-55 um	0.00	0.00	0.00
45-50 um	0.00	0.00	0.00
40-45 um	0.00	0.00	0.00
35-40 um	0.00	0.00	0.00
30-35 um	0.00	0.00	0.00
25-30 um	0.00	0.00	0.00
20-25 um	0.00	0.00	0.00
15-20 um	2.56	2.92	0.00
10-15 um	3.32	3.78	0.00
5-10 um	44.9	41.5	69.6
3-5 um	33.5	35.6	18.3
< 3 um	15.63	16.12	12.11
Total	100.00	100.00	100.00

SGS Canada Inc.
Signature Gold
CA20M-00000-110-21021-01
MI5014-JUL25

High Definition Mineralogical Analysis using TIMA (TESCAN Integrated Mineral Analyzer)

Gold Association by Particle Size



	WZB	NZB	SZA	CZA
< 3 um	2.83	6.14	10.34	15.63
3-5 um	24.5	8.18	14.3	33.5
5-10 um	7.27	28.4	28.2	44.9
10-15 um	7.15	17.9	25.0	3.32
15-20 um	6.59	7.73	17.3	2.56
20-25 um	3.60	5.78	2.92	0.00
25-30 um	11.7	7.28	0.04	0.00
30-35 um	0.24	4.42	0.53	0.00
35-40 um	13.4	1.86	0.37	0.00
40-45 um	0.37	2.74	0.57	0.00
45-50 um	3.75	0.26	0.11	0.00
50-55 um	0.00	4.09	0.00	0.00
55-60 um	14.4	0.26	0.16	0.00
60-65 um	1.80	0.46	0.00	0.00
65-70 um	0.00	3.99	0.22	0.00
70-75 um	0.00	0.00	0.00	0.00
>75 um	2.43	0.44	0.00	0.00

Mineral Name	WZB	NZB	SZA	CZA
>75 um	2.43	0.44	0.00	0.00
70-75 um	0.00	0.00	0.00	0.00
65-70 um	0.00	3.99	0.22	0.00
60-65 um	1.80	0.46	0.00	0.00
55-60 um	14.4	0.26	0.16	0.00
50-55 um	0.00	4.09	0.00	0.00
45-50 um	3.75	0.26	0.11	0.00
40-45 um	0.37	2.74	0.57	0.00
35-40 um	13.4	1.86	0.37	0.00
30-35 um	0.24	4.42	0.53	0.00
25-30 um	11.7	7.28	0.04	0.00
20-25 um	3.60	5.78	2.92	0.00
15-20 um	6.59	7.73	17.3	2.56
10-15 um	7.15	17.9	25.0	3.32
5-10 um	7.27	28.4	28.2	44.9
3-5 um	24.5	8.18	14.3	33.5
< 3 um	2.83	6.14	10.34	15.63
Total	100.00	100.00	100.00	100.00

Appendix F – Cyanide Leach Report for HLS Floats

21021-01 **Signature Exploration** **Thursday, August 7, 2025**

All samples were subjected to cyanide leach gold extraction without additional grinding or pre-treatment. A high cyanide concentration of 2 g/L NaCN was maintained throughout the 24-hour leaching period to ensure the dissolution of exposed gold. Upon test completion, the pulp was filtered, and the final pregnant leach solution (PLS) was collected and assayed for gold content. The filter cake was water-washed, dried, and analyzed by fire assay to extinction using two representative subsamples to determine residual gold content. Gold extraction and calculated head grade were determined by metallurgical balance, based on the mass and gold concentrations in the final leach products (PLS and residue).

Cyanide Leach (CN)

Sample	CN Test	Sample mass, g	Conditions	Reagents, kg/t of CN Feed				Au Recovery, %	Residue, g/t Au			Head, g/t Au	
			Grind Size	Added		Consumed		CN Unit				Calculated	Direct
			K_{80}, µm	NaCN	CaO	NaCN	CaO	24 h	Au 1	Au 2	Avrg.	CN	
WZB HLS Float	CN1	299.1	150	5.05	1.52	0.43	1.45	63.2	1.32	1.16	1.24	3.37	3.16
NZB HLS Float	CN2	299.8	150	5.03	0.85	0.50	0.80	79.6	1.95	1.85	1.90	9.31	8.30
SZA HLS Float	CN3	299.0	150	4.93	1.33	0.37	1.30	60.5	1.20	1.20	1.20	3.04	2.94
CZA HLS Float	CN4	300.0	150	5.33	1.08	0.80	1.05	74.4	0.72	0.68	0.70	2.74	2.56

All tests @ 2 g/L NaCN maintained.

Samples WZB and SZA showed a poor response to cyanide leach extraction, while samples NZB and CZA demonstrated a moderate response. As a reference, gold extractions in the 80–90% range are considered acceptable to good, and extractions above 90% are regarded as excellent. To improve gold recovery, a finer particle size or pre-treatment may be required to liberate and expose gold within the ore.

All samples were subjected to cyanide leach gold extraction without additional grinding or pre-treatment. A high cyanide concentration of 2 g/L NaCN was maintained throughout the 24-hour leaching period to ensure the dissolution of exposed gold. Upon test completion, the pulp was filtered, and the final pregnant leach solution (PLS) was collected and assayed for gold content. The filter cake was water-washed, dried, and analyzed by fire assay to extinction using two representative subsamples to determine residual gold content. Gold extraction and calculated head grade were determined by metallurgical balance, based on the mass and gold concentrations in the final leach products (PLS and residue).

Cyanide Leach (CN)

Sample	CN Test	Sample mass, g	Conditions	Reagents, kg/t of CN Feed				Au Recovery, %	Residue, g/t Au			Head, g/t Au	
			Grind Size K_{80}, µm	Added		Consumed		CN Unit	Au 1	Au 2	Avrg.	Calculated	Direct
				NaCN	CaO	NaCN	CaO	24 h				CN	
WZB HLS Float	CN1	299.1	150	5.05	1.52	0.43	1.45	63.2	1.32	1.16	1.24	3.37	3.16
NZB HLS Float	CN2	299.8	150	5.03	0.85	0.50	0.80	79.6	1.95	1.85	1.90	9.31	8.30
SZA HLS Float	CN3	299.0	150	4.93	1.33	0.37	1.30	60.5	1.20	1.20	1.20	3.04	2.94
CZA HLS Float	CN4	300.0	150	5.33	1.08	0.80	1.05	74.4	0.72	0.68	0.70	2.74	2.56

All tests @ 2 g/L NaCN maintained.

Test: **CN-1** **Project:** 21021-01 **Operator:** D.Sarmiento **Date:** **28 July, 2025**

Purpose: To determine the gold leach extration of the mineralogy test product.

Procedure: The sample was transferred to a bottle and pulped with water to the proper percent solids. The pH of the pulp was adjusted with lime. The pulp was conditioned as described below. Sodium cyanide was added and the bottle was placed on the rolls. The NaCN concentration, and the pH were maintained for the duration of the test. At the end of the leach, the pulp was filtered and the residue was washed with three displacements of water. The wash water was discarded. The final products were submitted for the required assays.

Feed: 302 g WZB HLS Float **Leach Duration:** **24** h

Solution Volume: 705 mL

Pulp Density: 30 % solids

NaCN Concentration: 2.0 g/L NaCN maintained **K80:** 150 µm

pH Range: 10.5-11 maintained with lime as required

Grind: N/A

Reagent Addition (kg/t of cyanide feed) NaCN: 5.05 CaO: 1.52

Reagent Consumption (kg/t of cyanide feed) **NaCN:** **0.43** **CaO:** **1.45**

Time	Added, Grams				Residual		Consumed		pH	DO
	Actual		Equivalent		Grams		Grams			mg/L
hours	NaCN	$Ca(OH)_2$	NaCN	CaO	NaCN	CaO	NaCN	CaO		
Cyanidation:									7.2	
0 - 2	1.44	0.43	1.41	0.32	1.54		-0.13		11.0-10.5	
2 - 6	0.00	0.13	0.00	0.10	1.42		0.12		11.0-10.8	
6 - 12	0.00	0.00	0.00	0.00	1.31		0.11		10.8-10.8	
12 - 24	0.10	0.05	0.10	0.04	1.38	0.02	0.03	0.43	11.0-10.8	
Total	1.54	0.60	1.51	0.46	1.38	0.02	0.13	0.43		

Cyanidation Results:

Product	**Amount**	**Assays, mg/L, g/t**	**% Distribution**
	g, mL	**Au**	**Au**
Final Preg Solution	708	0.90	63.2
Final Residue	299	1.24	36.8
Head (calc.)	299	3.37	100.0
Head (dir.)		3.16	

Duplicate residue assays, Au, g/t = 1.32 g/t
1.16 g/t
Average 1.24 g/t

Final Free CN = 1035 mg/L

Test: **CN-2** **Project:** 21021-01 **Operator:** D.Sarmiento **Date:** **28 July, 2025**

Purpose: To determine the gold leach extration of the mineralogy test product.

Procedure: The sample was transferred to a bottle and pulped with water to the proper percent solids. The pH of the pulp was adjusted with lime. The pulp was conditioned as described below. Sodium cyanide was added and the bottle was placed on the rolls. The NaCN concentration, and the pH were maintained for the duration of the test. At the end of the leach, the pulp was filtered and the residue was washed with three displacements of water. The wash water was discarded. The final products were submitted for the required assays.

Feed: 302 g NZB HLS Float **Leach Duration:** **24** h

Solution Volume: 705 mL

Pulp Density: 30 % solids

NaCN Concentration: 2.0 g/L NaCN maintained **K80:** 150 µm

pH Range: 10.5-11 maintained with lime as required

Grind: N/A

Reagent Addition (kg/t of cyanide feed) NaCN: 5.03 CaO: 0.85
Reagent Consumption (kg/t of cyanide feed) **NaCN:** **0.50** **CaO:** **0.80**

Time	Added, Grams				Residual		Consumed		pH	DO mg/L
	Actual		Equivalent		Grams		Grams			
hours	NaCN	$Ca(OH)_2$	NaCN	CaO	NaCN	CaO	NaCN	CaO		
Cyanidation:									8.2	
0 - 2	1.44	0.27	1.41	0.21	1.45		-0.03		11.0-10.8	
2 - 6	0.00	0.00	0.00	0.00	1.36		0.09		10.8-10.7	
6 - 12	0.05	0.00	0.05	0.00	1.36		0.05		10.7-10.6	
12 - 24	0.05	0.07	0.05	0.05	1.36	0.02	0.05	0.24	11.0-10.8	
Total	1.54	0.34	1.51	0.26	1.36	0.02	0.15	0.24		

Cyanidation Results:

Product	**Amount**	**Assays, mg/L, g/t**	**% Distribution**
	g, mL	**Au**	**Au**
Final Preg Solution	707	3.14	79.6
Final Residue	300	1.90	20.4
Head (calc.)	300	9.31	100.0
Head (dir.)		8.30	

Duplicate residue assays, Au, g/t = 1.95 g/t
1.85 g/t
Average 1.90 g/t

Final Free CN = 1020 mg/L

Test: **CN-3** **Project:** 21021-01 **Operator:** D.Sarmiento **Date:** **28 July, 2025**

Purpose: To determine the gold leach extration of the mineralogy test product.

Procedure: The sample was transferred to a bottle and pulped with water to the proper percent solids. The pH of the pulp was adjusted with lime. The pulp was conditioned as described below. Sodium cyanide was added and the bottle was placed on the rolls. The NaCN concentration, and the pH were maintained for the duration of the test. At the end of the leach, the pulp was filtered and the residue was washed with three displacements of water. The wash water was discarded. The final products were submitted for the required assays.

Feed: 301 g SZA HLS Float **Leach Duration:** **24** h

Solution Volume: 702 mL

Pulp Density: 30 % solids

NaCN Concentration: 2.0 g/L NaCN maintained **K80:** 150 µm

pH Range: 10.5-11 maintained with lime as required

Grind: N/A

Reagent Addition (kg/t of cyanide feed) NaCN: 4.93 CaO: 1.33

Reagent Consumption (kg/t of cyanide feed) **NaCN:** **0.37** **CaO:** **1.30**

Time	Added, Grams				Residual		Consumed		pH	DO
	Actual		Equivalent		Grams		Grams			mg/L
hours	NaCN	$Ca(OH)_2$	NaCN	CaO	NaCN	CaO	NaCN	CaO		
Cyanidation:									8.2	
0 - 2	1.43	0.38	1.40	0.29	1.50		-0.10		11.0-10.6	
2 - 6	0.00	0.10	0.00	0.07	1.33		0.17		11.0-10.8	
6 - 12	0.07	0.00	0.07	0.00	1.40		0.00		10.8-10.7	
12 - 24	0.00	0.05	0.00	0.03	1.37	0.01	0.04	0.39	11.0-10.7	
Total	1.51	0.52	1.47	0.40	1.37	0.01	0.11	0.39		

Cyanidation Results:

Product	**Amount**	**Assays, mg/L, g/t**	**% Distribution**
	g, mL	**Au**	**Au**
Final Preg Solution	704	0.78	60.5
Final Residue	299	1.20	39.5
Head (calc.)	299	3.04	100.0
Head (dir.)		2.94	

Duplicate residue assays, Au, g/t = 1.20 g/t
1.20 g/t
Average 1.20 g/t

Final Free CN = 1029 mg/L

Test: **CN-4** **Project:** 21021-01 **Operator:** D.Sarmiento **Date:** **28 July, 2025**

Purpose: To determine the gold leach extration of the mineralogy test product.

Procedure: The sample was transferred to a bottle and pulped with water to the proper percent solids. The pH of the pulp was adjusted with lime. The pulp was conditioned as described below. Sodium cyanide was added and the bottle was placed on the rolls. The NaCN concentration, and the pH were maintained for the duration of the test. At the end of the leach, the pulp was filtered and the residue was washed with three displacements of water. The wash water was discarded. The final products were submitted for the required assays.

Feed: 301 g CZA HLS Float **Leach Duration:** **24** h

Solution Volume: 702 mL

Pulp Density: 30 % solids

NaCN Concentration: 2.0 g/L NaCN maintained **K80:** 150 µm

pH Range: 10.5-11 maintained with lime as required

Grind: N/A

Reagent Addition (kg/t of cyanide feed) NaCN: 5.33 CaO: 1.08

Reagent Consumption (kg/t of cyanide feed) **NaCN:** **0.80** **CaO:** **1.05**

Time	Added, Grams				Residual		Consumed		pH	DO
	Actual		Equivalent		Grams		Grams			mg/L
hours	NaCN	$Ca(OH)_2$	NaCN	CaO	NaCN	CaO	NaCN	CaO		
Cyanidation:									8.7	
0 - 2	1.53	0.26	1.50	0.20	1.44		0.06		11.0-10.5	
2 - 6	0.00	0.09	0.00	0.07	1.34		0.10		11.0-10.7	
6 - 12	0.06	0.05	0.06	0.04	1.37		0.03		11.0-10.8	
12 - 24	0.04	0.02	0.04	0.02	1.36	0.01	0.04	0.31	11.0-10.7	
Total	1.63	0.43	1.60	0.32	1.36	0.01	0.24	0.31		

Cyanidation Results:

Product	**Amount**	**Assays, mg/L, g/t**	**% Distribution**
	g, mL	**Au**	**Au**
Final Preg Solution	702	0.87	74.4
Final Residue	300	0.70	25.6
Head (calc.)	300	2.74	100.0
Head (dir.)		2.56	

Duplicate residue assays, Au, g/t = 0.72 g/t
0.68 g/t
Average 0.70 g/t

Final Free CN = 1028 mg/L