METALLURGICAL ASSESSMENT OF THE JUMPING JOSEPHINE DEPOSIT

ASTRAL MINING CORPORATION

KM2397

July 23, 2009

G&T METALLURGICAL SERVICES LTD.

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G&T METALLURGICAL SERVICES LTD.

July 23, 2009

Dale Brittliffe
Project Geologist
Astral Mining Corporation
Suite 404 – 999 Canada Place
Vancouver, BC, V6C 3T2

Dear Mr. Brittliffe,

Re: Metallurgical Assessment of the Jumping Josephine Deposit – KM2397

We have completed the scope of work outlined in our proposal submitted to you on May 6, 2009. This program involved conducting preliminary metallurgical studies on the Jumping Josephine gold exploration project.

Three composites were tested in this program, ranging in gold content between 0.6 to 12.0 g/tonne. The samples also contained a significant amount of arsenic, averaging approximately 0.35 percent. The sulphide mineral content of the samples was relatively low at 1.8 percent, with arsenopyrite accounting for approximately 60 percent of the total sulphide mineral content.

It was suspected that coarse gold was present in the samples, so a program of assaying screened samples was used to determine the gold content of each composite. Elevated gold values in the screen oversize indicated that coarse metallic gold was present in the Medium and High grade composites.

Flotation, gravity concentration, and cyanide leach processing methods were tested on each of the composites. Gold recoveries were very good in all circuit flowsheets, although the presence of arsenopyrite will likely influence the choice of the processing method.

Gravity concentration followed by cyanide leaching appears to be a suitable method for processing the Jumping Josephine ores. On average, 63 percent of the gold was recovered into the gravity concentrates, which may be saleable without additional processing. The gravity circuit tails leached well with sodium cyanide, resulting in average combined gravity and leach circuit gold recoveries of 94 percent.

A straight cyanide leach circuit may also be employed, which would simplify the processing plant. Whole ore leach tests on the Medium and High grade composites produced gold recoveries averaging 97 percent following a 48 hour leach period. The Low grade composite did not respond as well to the leaching process. With this composite only 63 percent of the gold was recovered.

More test work is recommended to expand on this very preliminary metallurgical assessment. Additional testing should include more selective froth flotation work, varying primary grinds to review the effect on leach kinetics, and investigating the variability of metallurgical properties within the deposit.

Thank you for choosing G&T Metallurgical Services Ltd. If you have any questions regarding our comments please do not hesitate to contact us at your convenience.

Sincerely,

Peter Mehrfert, P.Eng.
Senior Metallurgist

Tom Shouldice, P.Eng.
President

METALLURGICAL ASSESSMENT OF THE JUMPING JOSEPHINE DEPOSIT

WEST KOONENAY REGION, BC

KM2397

July 23, 2009

Work Performed on Behalf of Astral Mining Corporation.

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1.0 Introduction

The Jumping Josephine Gold Property is owned by Astral Mining Corporation (60%) and Kootenay Gold Inc (40%). The deposit is located in the West Kootenay region of southeastern British Columbia, approximately 40 km north of Trail, BC. Gold mineralization is described as occurring within a silicified and sericitized quartz stockwork zone. Drilling commenced in 2007 by the current owners and the samples received for this program of study were selected from the 2008 drill program.

The principal objectives of this exploratory program of laboratory scale studies were defined by Mr. Dale Brittliffe, Project Geologist for Astral Mining, to be as follows:

- Prepare low, medium and high grade composites for subsequent metallurgical testing. Conduct gold head assays on designated screen fractions.

- Determine the Bond ball mill work index for the medium grade composite sample.

- Assess the mineralogical composition of the medium grade composite using QEMSCAN techniques.

- Assess the metallurgical performance of each composite by flotation, gravity concentration and cyanide leaching techniques.

A shipment of 61 sample bags containing 100 kg of drill cuttings was received at G & T Metallurgical Services Ltd. on May 26, 2009. The lab test work commenced shortly after and was concluded in July 2009.

The main findings from the metallurgical testing on the composites from the Jumping Josephine project are summarized in the main body of this report. Detailed test data and other supporting information can be found in any one of the following five appendices.

Appendix I – Sample Origin and Procedures
Appendix II – Metallurgical Test Data
Appendix III – Particle Sizing Data
Appendix IV – Special Assay Data
Appendix V – QEMSCAN Data

2.0 Ore Characteristics

2.1 Chemical Composition

Duplicate head samples from each of the three composites were assayed for gold, and additional head cuts were assayed for the remaining elements. Gold determinations were completed by a screened metallic method using a 150 micron screen. As well, gold assays were performed on four size fractions of the screened drill cuttings for each composite*. Head assay data is shown in Table 1. Gold assay by size data is summarized in Figures 1A and 1B. The following points may be of interest:

- The screened metallic method gave considerably elevated gold values in the screen oversize, suggesting that gold was occurring in a free, flake-type form in the samples.

- Gold assays by size measured elevated gold contents in the <0.84mm >0.42mm size fraction for the Medium and High grade samples as shown in Figure 1A. In contrast, gold contents in the Low grade composite did not vary significantly across the size ranges.

- The gold distribution in the Low grade composite appeared to match the average mass distribution of the crushed samples, as shown in Figure 1B. The Medium and High grade composites contained a disproportionate amount of gold in the <0.84mm >0.42mm size fraction.

* Detailed assay data can be found in Appendix IV. Details on the screening procedures can be found in Appendix 1.

TABLE 1
CHEMICAL COMPOSITION

Composite	Assays - g/tonne or percent					
	Au	Ag	As	Fe	S	C
Low Grade	**0.60**	1.00	0.30	0.95	0.46	0.45
Medium Grade	**3.30**	1.75	0.38	1.28	0.50	0.43
High Grade	**12.0**	6.95	0.34	0.91	0.44	0.14

Notes: 1. Au and Ag assays in g/tonne; As, Fe, S and C in percent.
2. Gold head assays from the screen analyses are reported as they match best with the test program.

FIGURE 1A
GOLD ASSAYS BY SIZE RANGE

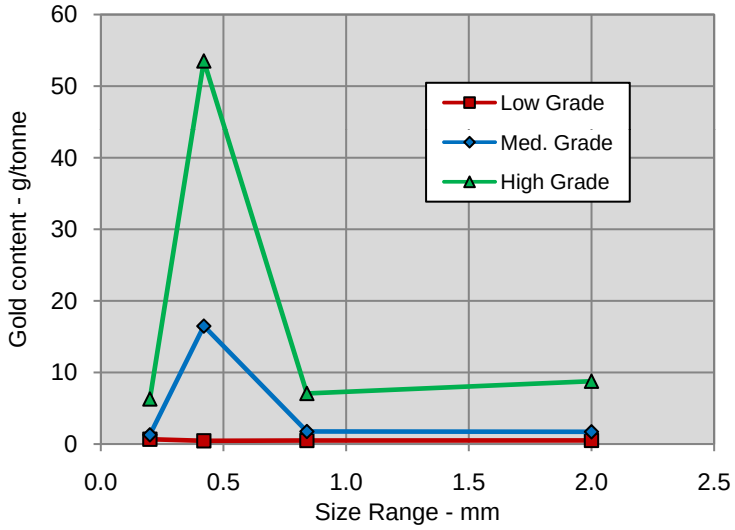
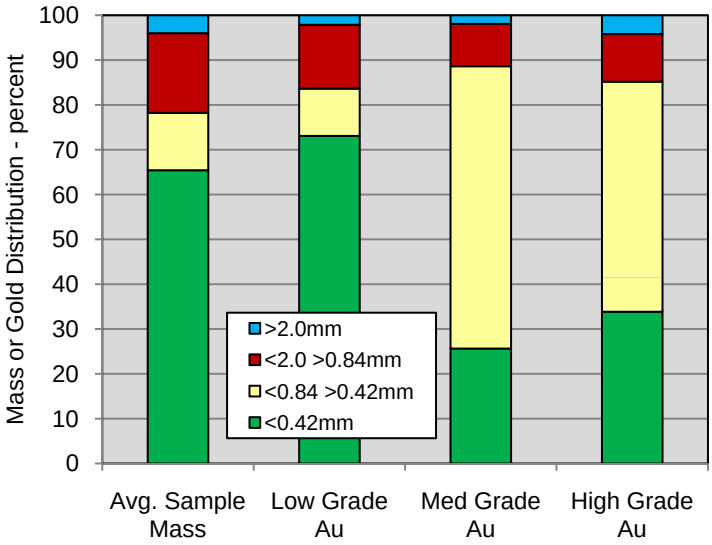


FIGURE 1B
SAMPLE MASS AND GOLD DISTRIBUTION BY SIZE RANGE



2.2 Mineral Composition

A sample of the Medium Grade composite was mounted on a sample block and analyzed using QEMSCAN technology. A Bulk Mineral Analysis (BMA) was conducted, which involves scanning the sample block on an appropriate grid spacing with a scanning electron microscope. Several thousand points are scanned and the x-ray spectra are interpreted to determine the mineral composition at each point. Results of the QEMSCAN analysis are summarized in Table 2.

The BMA indicated that the Medium Grade sample contained approximately 2 percent sulphide minerals, with arsenopyrite accounting for about 60 percent of the total sulphide mineral content. Pyrite was the next most abundant sulphide mineral, followed by minor amounts of sphalerite. The host rock was primarily quartz with lesser amounts of muscovite and feldspars*.

2.3 Ore Hardness

An industry standard Bond ball mill work index test to assess grinding energy requirements was conducted on the Medium Grade composite**. This test produced a Bond ball mill work index of 17.2 kWhr/tonne, which can be characterized as moderately hard.

All three composites showed similar ore hardness characteristics, based on their similar grind times in the laboratory mill. Comparative Bond ball work index values were calculated for the Low and High grade composites and are shown in Table 3.

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* Detailed QEMSCAN data can be found in Appendix V.

** Detailed Bond Work Index test data can be found in Appendix III.

TABLE 2
MINERAL COMPOSITION
Medium Grade Composite

Minerals	Percent
Pyrite	0.69
Arsenopyrite	1.14
Fe Oxides	0.51
Sphalerite	0.10
Quartz	57.0
Feldspars	15.1
Muscovite	22.2
Biotite/Phlogopite	0.31
Garnet	0.27
Amphibole (Hornblende)	0.05
Zircon	0.08
'Kaolinite' (clay)	0.80
Calcite	0.09
Apatite	0.18
Ti Minerals	0.42
Others	1.08
Total	100

Note: Detailed data can be found in Appendix V.

TABLE 3
BOND BALL WORK INDEX DATA

Composite	Work Index (kWh/tonne)
Low Grade	17.8
Medium Grade	17.2
High Grade	17.2

Note: Low and High Grade composite BWi values determined by comparative methods.

3.0 Metallurgical Test Results

The metallurgical test program consisted of a single rougher flotation test, gravity concentration followed by cyanidation test, and a whole ore cyanide leach test on each of the three composites. All tests were conducted at a target primary grind sizing of 150µm K_{80}.

3.1 Rougher Flotation Test Results

Bench scale rougher kinetic tests were conducted using 2 kg charges from each of the composites. A simple reagent scheme, which included a common gold specific dithiophosphate collector (Cytec 208) as well as potassium amyl xanthate, was used to ensure maximum gold recoveries were achieved. The results of the rougher flotation tests are summarized in Figure 2. The following points provide a summary of the key observations.

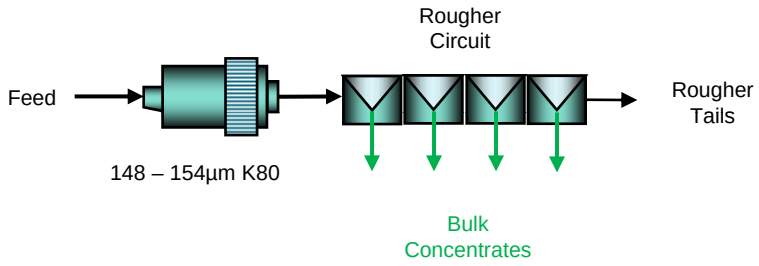
- Gold was well recovered by simple flotation, averaging 98 percent recovery into rougher concentrates containing 7 to 8 percent of the feed mass.

- The concentrates produced from the Low and Medium grade composites are not likely of high enough gold content to be saleable. Further cleaner circuit upgrading would be required to consider using flotation as an ore processing strategy.

- The combined concentrates and final tails were assayed for silver and arsenic. Both of these elements were also well recovered into the concentrates. The arsenic levels in the concentrates may be of concern for marketing.

FIGURE 2

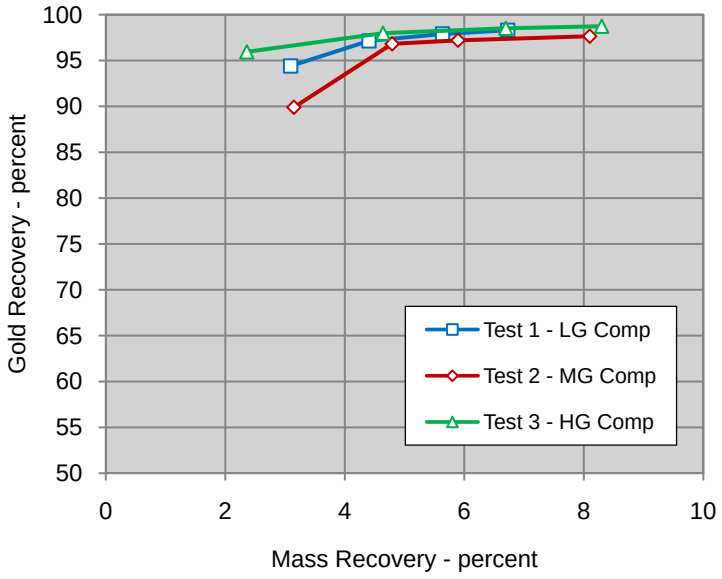
ROUGHER CIRCUIT FLOWSHEET AND PERFORMANCE DATA



METALLURGICAL PERFORMANCE

Stream	Wt %	Assay - g/t or %			Distribution - %		
		Au	Ag	As	Au	Ag	As
Low Grade							
Flotation Feed	100	0.79	1.28	0.31	100	100	100
Rougher Concentrate	6.7	**11.6**	16.3	4.5	**98.3**	85.5	97.6
Rougher Tails	93.3	0.01	0.20	0.01	1.7	14.5	2.4
Medium Grade							
Flotation Feed	100	2.36	1.71	0.41	100	100	100
Rougher Concentrate	8.1	**28.4**	18.9	4.9	**97.6**	89.3	96.1
Rougher Tails	91.9	0.06	0.20	0.02	2.4	10.7	3.9
High Grade							
Flotation Feed	100	11.9	4.06	0.38	100	100	100
Rougher Concentrate	8.3	**142**	45.6	4.1	**98.7**	93.2	90.9
Rougher Tails	91.7	0.16	0.30	0.04	1.3	6.8	9.1

GOLD RECOVERY VS. MASS RECOVERY



TEST CONDITIONS

Parameter	Composite		
	Low Grd	Med Grd	High Grd
Primary Grind K80 microns	154	148	148
Natural pH	7.7	7.6	6.8
Cytec 208 g/t	40	40	40
PAX g/t	40	40	40

3.2 Gravity Concentration and Cyanidation Test Results

A gravity concentration test using a laboratory scale Knelson concentrator was conducted on 4 kg charges of each composite. The Knelson concentrate was further upgraded by panning, and both tail streams were combined and leached using standard cyanide leach conditions. The flowsheet and summarized metallurgical results are shown in Figure 3. The following comments may be of interest.

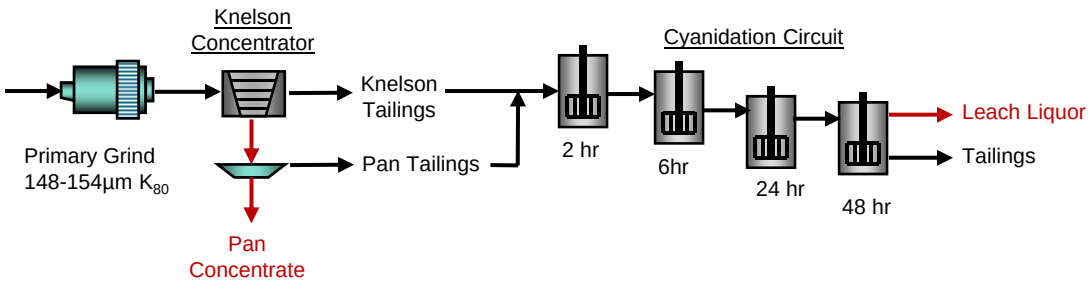
- The gold recoveries to the Knelson and pan concentrates were very good, particularly for the Medium and High grade composites.

- Pan concentrates were also assayed for arsenic, which averaged 22 percent for the three composites. Based on the head assays, it appears that approximately 36 percent of the arsenic in the feed is reporting to final gravity concentrates.

- The remaining gold in the gravity circuit tails appeared to leach quite well, averaging 88 percent extraction across the three composites. The gold content remaining in each of the leach residues was 0.10 g/tonne, suggesting that perhaps this low level of gold is finely disseminated within the host rock.

FIGURE 3

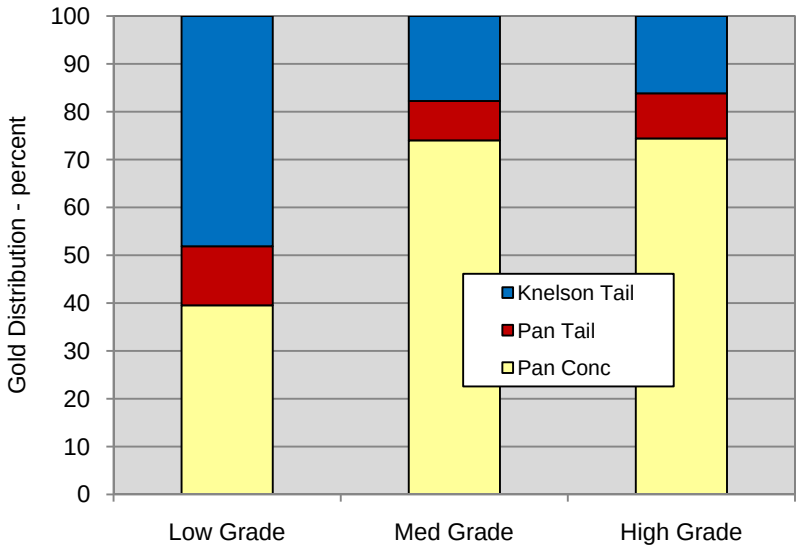
GRAVITY + LEACH TEST RESULTS



TOTAL CIRCUIT METALLURGICAL PERFORMANCE DATA

Composite	Feed	Pan Concentrate			Leach Au Recovery	Total Au Recovery
	Au g/t	Au Rec	Au g/t	As %		
Low	0.80	39.5	59.6	22.0	75.4	**85.1**
Medium	3.98	74.0	522	24.4	91.3	**97.7**
High	10.8	74.4	1427	21.8	96.2	**99.0**

GOLD DEPORTATION – GRAVITY TESTS



3.3 Whole Ore Leach Test Results

A standard bottle roll cyanide leach test was performed on each of the composites, ground to the target primary grind sizing of 150µm K_{80}. Results of the leach circuit performance are shown in Figure 4 and discussed in the comments below:

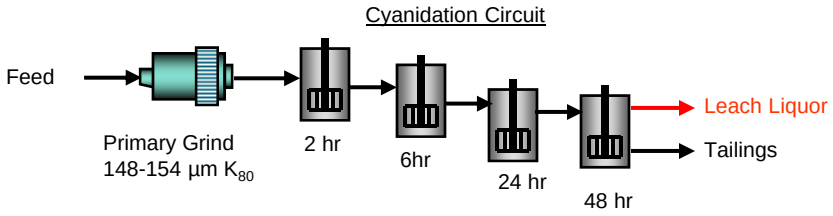
- The average gold recovery for all tests was 86 percent. The Medium and High grade composites leached significantly better than the Low grade composite.

- The gold content in these whole ore leach residues was somewhat higher than the leach residues following gravity concentration. This may be due to a portion of the gold being associated with arsenopyrite and pyrite. These mineral grains likely recovered well in the gravity concentrate, but the gold associated with them may have been more difficult to extract under these leach conditions.

- The samples appeared to be a relatively clean leaching ores, as cyanide and lime consumptions averaged only 0.23 and 0.32 kg/tonne, respectively.

FIGURE 4

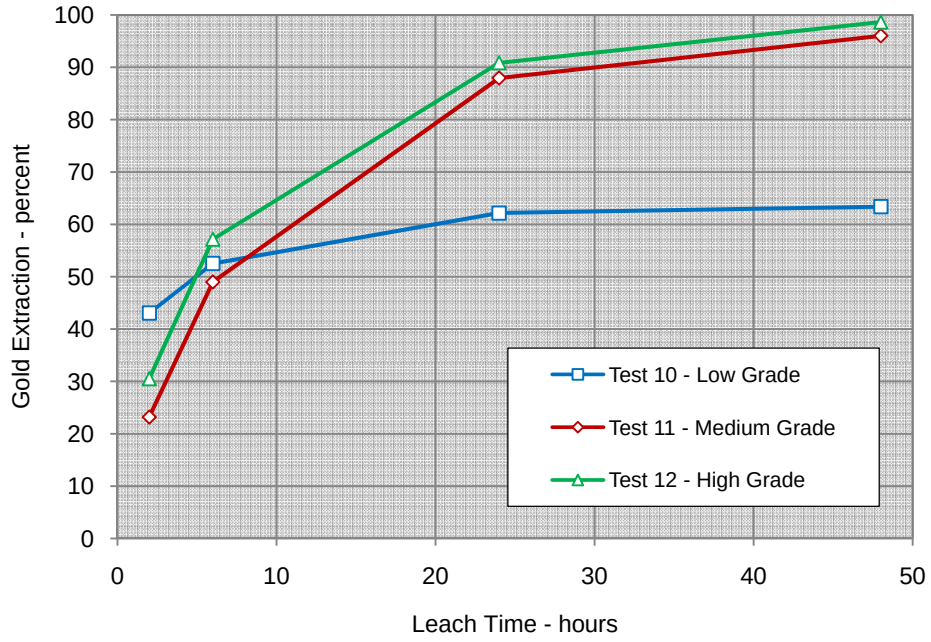
WHOLE ORE LEACH TEST RESULTS



LEACH CIRCUIT GOLD METALLURGICAL PERFORMANCE DATA

Composite	Consumption - kg/tonne		Calc. Feed	Leach
	Lime	NaCN	Au g/t	Recovery
Low Grade	0.16	0.24	0.46	**63.4**
Medium Grade	0.52	0.20	3.79	**96.0**
High Grade	0.28	0.26	11.7	**98.6**

GOLD EXTRACTION CURVES



4.0 Conclusions

A preliminary metallurgical assessment was completed on three composites from the Jumping Josephine property. The composites ranged in gold content from 0.60 to 12.0 g/tonne. The samples contained low levels of sulphide mineralization, which were dominated by arsenopyrite and pyrite. Arsenic levels in the feed may be of concern for producing marketable concentrates, as the composites averaged 0.35 percent arsenic in the feed.

Gold assays on the head samples were determined by metallic method, which suggested that there was liberated flake gold present in the samples. Gold assays were also performed on four screen fractions using this method, and indicated that there were elevated gold levels in the <0.82 mm >0.42mm size fraction.

A single Bond ball mill work index test on the Medium grade composite produced a work index value of 17.2 kWhr/tonne, which suggests that the ore is moderately hard. The Low and High grade composites appear to have similar work index values based on their similar laboratory grinding mill requirements.

A preliminary suite of metallurgical tests were conducted on the three composites, which indicated that the gold present in all three samples responded quite well to flotation and gravity concentration techniques. Whole ore leach tests on the Medium and High grade composites showed excellent gold leaching kinetics. The cyanide leach response of the Low grade composite was somewhat inferior to the other composites.

Overall, ore from the Jumping Josephine deposit appears to be well suited to a gold extraction process of gravity concentration followed by cyanide leaching. An intensive cyanidation process may be required to further extract gold from the gravity concentrate. Additional work is recommended to investigate metallurgical performance at different primary grind sizings and to review the variability of metallurgical characteristics within the deposit.

APPENDIX I – KM2397

SAMPLE ORIGIN AND PROCEDURES

1.0 Sample Origin

A shipment of approximately 100 kg of drill cutting samples sent from Astral Mining Corporation was received at G & T Metallurgical Services Ltd. on May 26, 2009. The list of samples received is shown in Table I-1.

2.0 Sample Preparation Procedures

Upon receipt, the samples were combined as labelled into Low, Medium and High grade composites. Each composite was screened over a 6 mesh vibrating screen and any oversize was crushed to -6 mesh. The composites were then homogenized and split into representative 2 kg charges with a rotary splitter. Each of the charges was sealed in appropriate sample bags purged with nitrogen and placed in freezer storage at -10°C for subsequent metallurgical testing. A listing of starting weights and remaining material for each composite is shown in Table I-2.

Three representative sub-samples were removed from each composite and used for head assay purposes, two for gold assays and the third for additional element determinations. An additional 1 kg sample was removed from each composite and screened over 9, 20 and 35 mesh screens for gold assay by size determinations. Details of these analyses can be found in Appendix IV.

Two procedures were used to determine gold content in the feed samples. These involved:

1. Screening the pulverized sample through a 150µm screen and assaying the coarse and fine fractions separately for gold. The entire coarse fraction was assayed to extinction, but a sub-sample was assayed from the fine fraction. This provides an indication of metallic gold content.

2. The crushed samples were screened through a nest of three sieves. The plus fractions were then pulverized and rescreened using a 150µm screen as above. The gold content was then determined in each size fraction.

TABLE I-1
IDENTIFICATION OF SAMPLES RECEIVED

Sample ID	Weight (kg)	Form
LG H156019	2.1	<6 mesh bulk
LG H156020	2.2	<6 mesh bulk
LG H156021	1.8	<6 mesh bulk
LG H156022	1.6	<6 mesh bulk
LG H156075	1.4	<6 mesh bulk
LG H156076	1.6	<6 mesh bulk
LG H156077	2.2	<6 mesh bulk
LG H156078	0.7	<6 mesh bulk
LG H156083	1.2	<6 mesh bulk
LG H156084	1.3	<6 mesh bulk
LG H156085	1.2	<6 mesh bulk
LG H156087	0.4	<6 mesh bulk
LG H156096	1.6	<6 mesh bulk
LG H156097	0.8	<6 mesh bulk
LG H156098	1.2	<6 mesh bulk
LG H156099	1.3	<6 mesh bulk
LG H156101	1.9	<6 mesh bulk
LG H156102	0.8	<6 mesh bulk
MG H156010	2.5	<6 mesh bulk
MG H156011	3.1	<6 mesh bulk
MG H156012	1.8	<6 mesh bulk
MG H156013	2.3	<6 mesh bulk
MG H156014	2.5	<6 mesh bulk
MG H156015	2.2	<6 mesh bulk
MG H156016	2.3	<6 mesh bulk
MG H156017	2.1	<6 mesh bulk
MG H156018	2.1	<6 mesh bulk
MG H156122	1.2	<6 mesh bulk
MG H156123	1.4	<6 mesh bulk
MG H156124	1.7	<6 mesh bulk
MG H156161	1.2	<6 mesh bulk
MG H156162	1.1	<6 mesh bulk
MG H156163	1.7	<6 mesh bulk
MG H156164	1.5	<6 mesh bulk
MG H156165	1.3	<6 mesh bulk
MG H156169	1.9	<6 mesh bulk
MG H156171	0.9	<6 mesh bulk
MG H156172	0.9	<6 mesh bulk
MG H156191	1.4	<6 mesh bulk
MG H156192	1.1	<6 mesh bulk
MG H156193	1.3	<6 mesh bulk
MG H156194	1.5	<6 mesh bulk
MG H156195	1.2	<6 mesh bulk
MG H156196	1.4	<6 mesh bulk
MG H156197	1.2	<6 mesh bulk
MG H156198	1.1	<6 mesh bulk
MG H156199	1.5	<6 mesh bulk
MG H156201	1.6	<6 mesh bulk
MG H156202	1.3	<6 mesh bulk
HG H156002	2.1	<6 mesh bulk
HG H156003	2.5	<6 mesh bulk
HG H156004	2.4	<6 mesh bulk
HG H156005	2.5	<6 mesh bulk
HG H156006	2.2	<6 mesh bulk
HG H156007	1.9	<6 mesh bulk
HG H156008	2.5	<6 mesh bulk
HG H156009	0.2	<6 mesh bulk
HG H156025	2.4	<6 mesh bulk
HG H156026	2.3	<6 mesh bulk
HG H156027	1.9	<6 mesh bulk
HG H156028	2.4	<6 mesh bulk
Total	100.9	

TABLE I-2
SAMPLE USAGE

Composite	Start	Tested	Remaining
High Grade	22.8	10	12.8
Medium Grade	48.4	17.4	31
Low Grade	22.85	10	12.8

APPENDIX II – KM2397

METALLURGICAL TEST DATA

INDEX

PROJECT NO: KM2397-01

PURPOSE: Preliminary Rougher Test.

PROCEDURE: Perform a one product rougher test.

FEED: 2 kg of Low Grade Composite ore ground to a nominal 154μm K_{80}.

FLOWSHEET: 1

Stage	Reagents Added g/tonne			Time (minutes)			pH
	208	PAX	MIBC	Grind	Cond.	Float	
Primary Grind				11			7.7
BULK CIRCUIT:							
Rougher 1	10	10	15		1	2	7.6
Rougher 2	10	10	0		1	2	7.7
Rougher 3	10	10	0		1	2	7.8
Rougher 4	10	10	8		1	2	7.8

Flotation Data	Rougher	
Flotation Machine	D2C	
Cell Size in liters	4.4	
Aspiration	Air	
Impeller Speed in rpm	1100	

Grinding Data	Primary Grind
Mill:	M6-Mild
Charge/Material:	20 kg-Mild
Water:	1500 ml

KM2397-01 Low Grade Composite
Overall Metallurgical Balance

Product	Weight		Assay - percent or g/t				Distribution - percent			
	grams	%	Fe	S	C	Au	Fe	S	C	Au
Rougher 1	61.8	3.1	15.5	12.7	0.17	24.2	50.2	90.1	8.4	94.4
Rougher 2	26.2	1.3	2.3	1.32	0.19	1.66	3.2	4.0	4.0	2.7
Rougher 3	24.6	1.2	1.5	0.48	0.15	0.49	1.9	1.4	3.0	0.8
Rougher 4	21.8	1.1	1.5	0.39	0.13	0.29	1.7	1.0	2.2	0.4
Rougher Tails	1863.8	93.3	0.4	0.02	0.06	0.01	43.0	3.6	82.5	1.7
Feed	1998.2	100	1.0	0.44	0.06	0.79	100	100	100	100

KM2397-01 Low Grade Composite
Cumulative Metallurgical Balance

Cumulative	Cum. Weight		Assay - percent or g/t				Distribution - percent			
Product	grams	%	Fe	S	C	Au	Fe	S	C	Au
Product 1	61.8	3.1	15.5	12.7	0.17	24.2	50.2	90.1	8.4	94.4
Product 1 to 2	88.0	4.4	11.6	9.31	0.18	17.5	53.4	94.0	12.4	97.1
Product 1 to 3	112.6	5.6	9.4	7.38	0.17	13.8	55.3	95.4	15.4	97.9
Product 1 to 4	134.4	6.7	8.1	6.25	0.17	11.6	57.0	96.4	17.5	98.3
Product 5	1863.8	93.3	0.4	0.02	0.06	0.01	43.0	3.6	82.5	1.7
Feed	1998.2	100	1.0	0.44	0.06	0.79	100	100	100	100

PROJECT NO: KM2397-02

PURPOSE: Preliminary Rougher Test.

PROCEDURE: Perform a one product rougher test.

FEED: 2 kg of Medium Grade Composite ore ground to a nominal 148μm K_{80}.

FLOWSHEET: 1

Stage	Reagents Added g/tonne			Time (minutes)			pH
	208	PAX	MIBC	Grind	Cond.	Float	
Primary Grind				11			7.4
BULK CIRCUIT:							
Rougher 1	10	10	15		1	2	7.3
Rougher 2	10	10	0		1	2	7.6
Rougher 3	10	10	0		1	2	7.6
Rougher 4	10	10	8		1	2	7.6

Flotation Data	Rougher	
Flotation Machine	D2C	
Cell Size in liters	4.4	
Aspiration	Air	
Impeller Speed in rpm	1100	

Grinding Data	Primary Grind
Mill:	M6-Mild
Charge/Material:	20 kg-Mild
Water:	1500 ml

KM2397-02 Medium Grade Composite

Overall Metallurgical Balance

Product	Weight		Assay - percent or g/t				Distribution - percent			
	grams	%	Fe	S	C	Au	Fe	S	C	Au
Rougher 1	62.8	3.1	14.9	13.9	0.18	67.3	43.2	89.6	10.8	89.9
Rougher 2	32.8	1.6	3.2	1.90	0.16	9.93	4.8	6.4	5.0	6.9
Rougher 3	22.0	1.1	1.8	0.60	0.13	0.81	1.8	1.3	2.7	0.4
Rougher 4	44.0	2.2	1.4	0.27	0.09	0.48	2.8	1.2	3.8	0.4
Rougher Tails	1833.4	91.9	0.6	0.01	0.04	0.06	47.4	1.4	77.7	2.4
Feed	1995.0	100	1.1	0.49	0.05	2.36	100	100	100	100

KM2397-02 Medium Grade Composite

Cumulative Metallurgical Balance

Cumulative Product	Cum. Weight		Assay - percent or g/t				Distribution - percent			
	grams	%	Fe	S	C	Au	Fe	S	C	Au
Product 1	62.8	3.1	14.9	13.9	0.18	67.3	43.2	89.6	10.8	89.9
Product 1 to 2	95.6	4.8	10.9	9.78	0.17	47.6	48.0	96.0	15.8	96.8
Product 1 to 3	117.6	5.9	9.2	8.06	0.17	38.9	49.9	97.4	18.5	97.2
Product 1 to 4	161.6	8.1	7.1	5.94	0.14	28.4	52.6	98.6	22.3	97.6
Product 5	1833.4	91.9	0.6	0.01	0.04	0.06	47.4	1.4	77.7	2.4
Feed	1995.0	100	1.1	0.49	0.05	2.36	100	100	100	100

PROJECT NO: KM2397-03

PURPOSE: Preliminary Rougher Test.

PROCEDURE: Perform a one product rougher test.

FEED: 2 kg of High Grade Composite ore ground to a nominal 148μm K_{80}.

FLOWSHEET: 1

Stage	Reagents Added g/tonne			Time (minutes)			pH
	208	PAX	MIBC	Grind	Cond.	Float	
Primary Grind				11			6.4
BULK CIRCUIT:							
Rougher 1	10	10	15		1	2	6.5
Rougher 2	10	10	8		1	2	6.8
Rougher 3	10	10	8		1	2	6.9
Rougher 4	10	10	0		1	2	7.0

Flotation Data	Rougher	
Flotation Machine	D2C	
Cell Size in liters	4.4	
Aspiration	Air	
Impeller Speed in rpm	1100	

Grinding Data	Primary Grind
Mill:	M6-Mild
Charge/Material:	20 kg-Mild
Water:	1500 ml

KM2397-03 High Grade Composite
Overall Metallurgical Balance

Product	Weight		Assay - percent or g/t				Distribution - percent			
	grams	%	Fe	S	C	Au	Fe	S	C	Au
Rougher 1	47.2	2.4	13.0	13.4	0.03	485	33.7	71.9	2.9	95.9
Rougher 2	45.6	2.3	5.14	3.78	0.03	10.6	12.9	19.6	2.3	2.0
Rougher 3	41.1	2.1	2.04	0.88	0.03	3.06	4.6	4.1	2.5	0.5
Rougher 4	32.1	1.6	1.34	0.40	0.03	1.7	2.4	1.5	2.0	0.2
Rougher Tails	1834.3	91.7	0.46	0.01	0.03	0.16	46.4	2.9	90.3	1.3
Feed	2000.3	100	0.91	0.44	0.03	11.9	100	100	100	100

KM2397-03 High Grade Composite
Cumulative Metallurgical Balance

Cumulative Product	Cum. Weight		Assay - percent or g/t				Distribution - percent			
	grams	%	Fe	S	C	Au	Fe	S	C	Au
Product 1	47.2	2.4	13.0	13.4	0.03	485	33.7	71.9	2.9	95.9
Product 1 to 2	92.8	4.6	9.14	8.67	0.03	252	46.6	91.5	5.2	98.0
Product 1 to 3	133.9	6.7	6.96	6.28	0.03	176	51.2	95.6	7.7	98.5
Product 1 to 4	166.0	8.3	5.87	5.14	0.03	142	53.6	97.1	9.7	98.7
Product 5	1834.3	91.7	0.46	0.01	0.03	0.16	46.4	2.9	90.3	1.3
Feed	2000.3	100	0.91	0.44	0.03	11.9	100	100	100	100

PROJECT NO: KM2397-04

PURPOSE: Produce a Knelson Concentrate.

PROCEDURE: Perform a standard Knelson / Panning technique.

FEED: 4 kg Low Grade Composite ground to a nominal 154μm K_{80}.

FLOWSHEET NO: 1

Stage	Inlet Pressure	Outlet Pressures		Time Minutes
		Start	Finish	
Grind				11
KN Separation 1	58	2.0	2.2	10

KM2397-04 Low Grade Composite
Overall Metallurgical Balance

Product	Weight		Assay - percent or g/t		Distribution - percent	
	grams	%	Au	Ag	Au	Ag
Pan Con	20.8	0.5	59.6	38.8	39.5	17.8
Pan Tail	41.8	1.1	9.27	15.0	12.4	13.8
Knelson Tail	3873.4	98.4	0.39	0.8	48.1	68.4
Feed	3936.0	100	0.80	1.2	100	100

KM2397-04 Low Grade Composite
Cumulative Metallurgical Balance

Cumulative Product	Cum. Weight		Assay - percent or g/t		Distribution - percent	
	grams	%	Au	Ag	Au	Ag
Product 1	20.8	0.5	59.6	38.8	39.5	17.8
Product 1 to 2	62.6	1.6	26.0	22.9	51.9	31.6
Product 3	3873.4	98.4	0.39	0.8	48.1	68.4
Feed	3936.0	100	0.80	1.2	100	100

PROJECT NO: KM2397-05

PURPOSE: Produce a Knelson Concentrate.

PROCEDURE: Perform a standard Knelson / Panning technique.

FEED: 4 kg Medium Grade Composite ground to a nominal 148μm K_{80}.

FLOWSHEET NO: 1

Stage	Inlet Pressure	Outlet Pressures		Time Minutes
		Start	Finish	
Grind				11
KN Separation 1	58	1.8	2.0	10

KM2397-05 Medium Grade Composite

Overall Metallurgical Balance

Product	Weight		Assay - percent or g/t		Distribution - percent	
	grams	%	Au	Ag	Au	Ag
Pan Con	22.1	0.6	522	64.1	74.0	18.4
Pan Tail	48.4	1.2	26.5	26.4	8.2	16.6
Knelson Tail	3849.3	98.2	0.72	1.3	17.8	65.0
Feed	3919.8	100	3.98	2.0	100	100

KM2397-05 Medium Grade Composite

Cumulative Metallurgical Balance

Cumulative Product	Cum. Weight		Assay - percent or g/t		Distribution - percent	
	grams	%	Au	Ag	Au	Ag
Product 1	22.1	0.6	522	64.1	74.0	18.4
Product 1 to 2	70.5	1.8	182	38.2	82.2	35.0
Product 3	3849.3	98.2	0.72	1.3	17.8	65.0
Feed	3919.8	100	3.98	2.0	100	100

PROJECT NO: KM2397-06

PURPOSE: Produce a Knelson Concentrate.

PROCEDURE: Perform a standard Knelson / Panning technique.

FEED: 4 kg High Grade Composite ground to a nominal 148μm K_{80}.

FLOWSHEET NO: 1

Stage	Inlet Pressure	Outlet Pressures		Time Minutes
		Start	Finish	
Grind				11
KN Separation 1	54	2.0	2.0	10

KM2397-06 High Grade Composite
Overall Metallurgical Balance

Product	Weight		Assay - percent or g/t		Distribution - percent	
	grams	%	Au	Ag	Au	Ag
Pan Con	22.2	0.6	1427	298	74.4	43.2
Pan Tail	46.7	1.2	85.9	53.3	9.4	16.2
Knelson Tail	3888.5	98.3	1.77	1.6	16.2	40.6
Feed	3957.4	100	10.8	3.9	100	100

KM2397-06 High Grade Composite
Cumulative Metallurgical Balance

Cumulative Product	Cum. Weight		Assay - percent or g/t		Distribution - percent	
	grams	%	Au	Ag	Au	Ag
Product 1	22.2	0.6	1427	298	74.4	43.2
Product 1 to 2	68.9	1.7	518	132	83.8	59.4
Product 3	3888.5	98.3	1.77	1.6	16.2	40.6
Feed	3957.4	100	10.8	3.9	100	100

PROJECT NO: KM2397-07

PURPOSE: Preliminary Cyanide Leach Test

PROCEDURE: Standard bottle roll procedure. Agitate on rolls using cyanide and lime.
1000 ppm cyanide
pH11.0

SAMPLE: Test - 04 Pan Tl + Knelson Tl

Parameter	Time	Added (g)		Residual (g)		Consumed (g)		pH
	Cum	NaCN	CaO	NaCN	CaO	NaCN	CaO	
Natural		-	-	-	-	-	-	8.3
Leach 1	2	1.01	0.20	0.95	0.04	0.06	0.16	11.0
Leach 2	6	0.00	0.06	0.94	0.08	0.01	0.02	11.0
Leach 3	24	0.00	0.02	0.90	0.04	0.04	0.06	11.0
Leach 4	48	0.10	0.05	0.95	0.03	0.05	0.06	11.0
Total	48	1.11	0.33	0.95	0.03	0.16	0.30	-

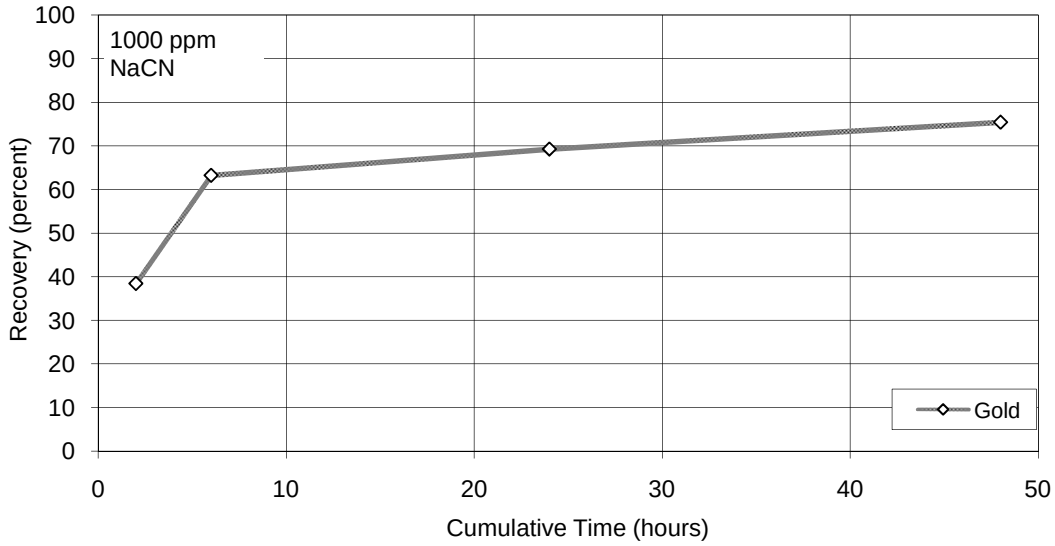
Mass of Sample	500
Volume of Water	1000
Pulp Density	33

NaCN Consumption	0.3 kg/tonne
Lime Consumption	0.6 kg/tonne

KM2397-07 Test - 04 Pan Tl + Knelson Tl
Cumulative Metallurgical Balance

Product	Cumulative Time - Hrs	Volume or Mass	Units	Assay - g/t Gold	Distribution -percent Gold
Cyanide Liquor (2 hr)	2	1000	ml	0.080	38.4
Cyanide Liquor (6 hr)	6	1000	ml	0.130	63.2
Cyanide Liquor (24 hr)	24	1000	ml	0.140	69.3
Cyanide Liquor (48 hr)	48	1000	ml	0.150	75.4
Cyanidation Tails	-	503	g	0.102	24.6
Calculated Feed		500	g	0.42	100.0

Cyanide Leach Kinetic Curves



PROJECT NO: KM2397-08

PURPOSE: Preliminary Cyanide Leach Test

PROCEDURE: Standard bottle roll procedure. Agitate on rolls using cyanide and lime.
1000 ppm cyanide
pH11.0

SAMPLE: Test - 05 Pan Tl + Knelson Tl

Parameter	Time	Added (g)		Residual (g)		Consumed (g)		pH
	Cum	NaCN	CaO	NaCN	CaO	NaCN	CaO	
Natural		-	-	-	-	-	-	8.3
Leach 1	2	1.01	0.20	0.96	0.03	0.05	0.17	11.0
Leach 2	6	0.00	0.04	0.95	0.07	0.01	0.00	11.0
Leach 3	24	0.00	0.04	0.93	0.04	0.02	0.07	11.0
Leach 4	48	0.07	0.03	0.95	0.03	0.05	0.04	11.0
Total	48	1.08	0.31	0.95	0.03	0.13	0.28	-

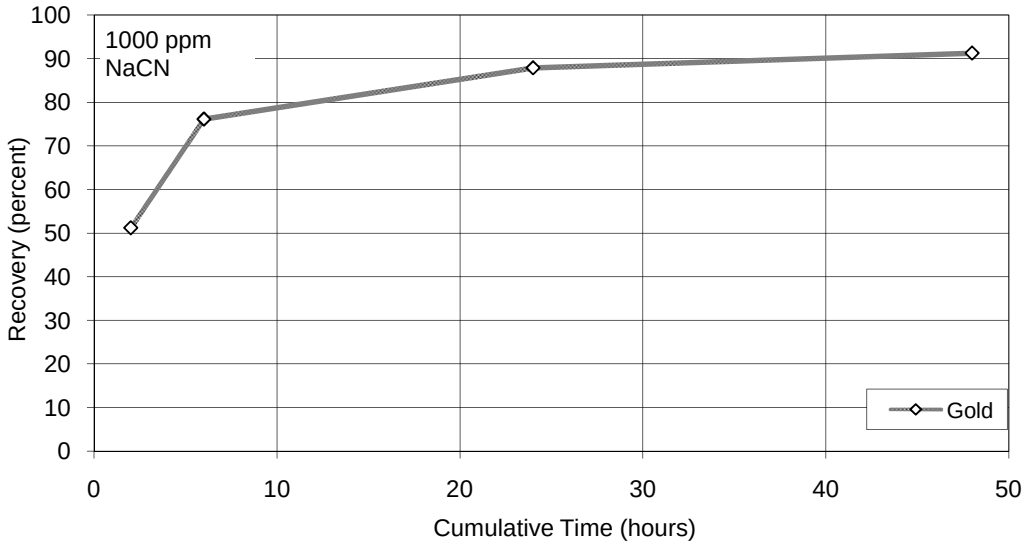
Mass of Sample	500
Volume of Water	1000
Pulp Density	33

NaCN Consumption	0.3 kg/tonne
Lime Consumption	0.6 kg/tonne

KM2397-08 Test - 05 Pan Tl + Knelson Tl
Cumulative Metallurgical Balance

Product	Cumulative Time - Hrs	Volume or Mass	Units	Assay - g/t Gold	Distribution -percent Gold
Cyanide Liquor (2 hr)	2	1000	ml	0.30	51.2
Cyanide Liquor (6 hr)	6	1000	ml	0.44	76.1
Cyanide Liquor (24 hr)	24	1000	ml	0.50	87.9
Cyanide Liquor (48 hr)	48	1000	ml	0.51	91.3
Cyanidation Tails	-	495	g	0.10	8.7
Calculated Feed		500	g	1.17	100.0

Cyanide Leach Kinetic Curves



PROJECT NO: KM2397-09

PURPOSE: Preliminary Cyanide Leach Test

PROCEDURE: Standard bottle roll procedure. Agitate on rolls using cyanide and lime.
1000 ppm cyanide
pH11.0

SAMPLE: Test - 06 Pan Tl + Knelson Tl

Parameter	Time	Added (g)		Residual (g)		Consumed (g)		pH
	Cum	NaCN	CaO	NaCN	CaO	NaCN	CaO	
Natural		-	-	-	-	-	-	7.4
Leach 1	2	1.01	0.32	0.94	0.05	0.07	0.27	11.1
Leach 2	6	0.00	0.06	0.94	0.05	0.00	0.06	11.0
Leach 3	24	0.00	0.04	0.92	0.06	0.02	0.03	11.0
Leach 4	48	0.12	0.03	0.95	0.04	0.09	0.05	11.0
Total	48	1.13	0.45	0.95	0.04	0.18	0.41	-

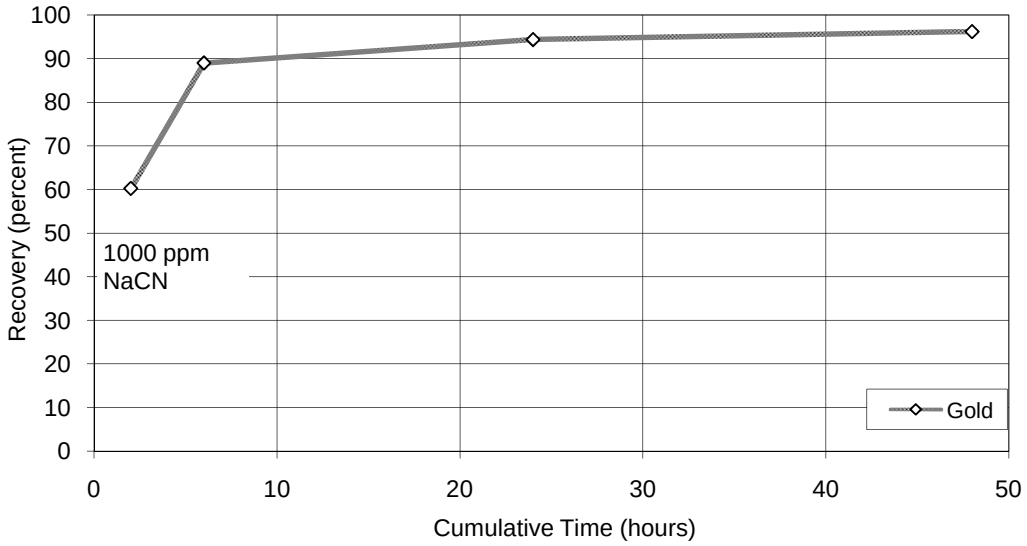
Mass of Sample	500
Volume of Water	1000
Pulp Density	33

NaCN Consumption	0.4 kg/tonne
Lime Consumption	0.8 kg/tonne

KM2397-09 Test - 06 Pan Tl + Knelson Tl
Cumulative Metallurgical Balance

Product	Cumulative Time - Hrs	Volume or Mass	Units	Assay - g/t Gold	Distribution -percent Gold
Cyanide Liquor (2 hr)	2	1000	ml	0.83	60.2
Cyanide Liquor (6 hr)	6	1000	ml	1.21	89.0
Cyanide Liquor (24 hr)	24	1000	ml	1.26	94.4
Cyanide Liquor (48 hr)	48	1000	ml	1.26	96.2
Cyanidation Tails	-	503	g	0.10	3.8
Calculated Feed		500	g	2.76	100.0

Cyanide Leach Kinetic Curves



PROJECT NO: KM2397-10

PURPOSE: Whole Ore Cyanide Leach Test

PROCEDURE: Standard bottle roll procedure. Agitate on rolls using cyanide and lime.
1000 ppm cyanide
pH11.0, 11 minute Primary Grind

SAMPLE: Low Grade Composite

Parameter	Time	Added (g)		Residual (g)		Consumed (g)		pH
	Cum	NaCN	CaO	NaCN	CaO	NaCN	CaO	
Natural		-	-	-	-	-	-	10.2
Leach 1	2	1.02	0.15	0.97	0.11	0.05	0.04	11.0
Leach 2	6	0.00	0.00	0.97	0.09	0.00	0.02	11.3
Leach 3	24	0.00	0.00	0.96	0.07	0.01	0.02	11.0
Leach 4	48	0.09	0.00	0.99	0.07	0.06	0.00	11.0
Total	48	1.11	0.15	0.99	0.07	0.12	0.08	-

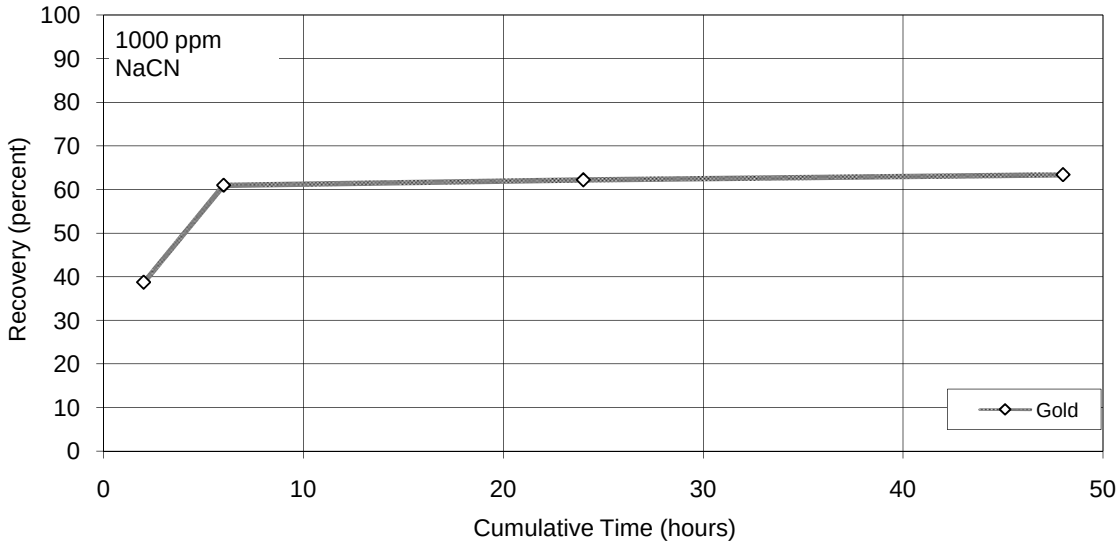
Mass of Sample	500
Volume of Water	1000
Pulp Density	33

NaCN Consumption	0.2 kg/tonne
Lime Consumption	0.2 kg/tonne

KM2397-10 Low Grade Composite
Cumulative Metallurgical Balance

Product	Cumulative Time - Hrs	Volume or Mass	Units	Assay - g/t	Distribution -percent
				Gold	Gold
Cyanide Liquor (2 hr)	2	1000	ml	0.09	38.7
Cyanide Liquor (6 hr)	6	1000	ml	0.14	61.0
Cyanide Liquor (24 hr)	24	1000	ml	0.14	62.2
Cyanide Liquor (48 hr)	48	1000	ml	0.14	63.4
Cyanidation Tails	-	500	g	0.17	36.6
Calculated Feed		500	g	0.46	100.0

Cyanide Leach Kinetic Curves



PROJECT NO: KM2397-11

PURPOSE: Whole Ore Cyanide Leach Test

PROCEDURE: Standard bottle roll procedure. Agitate on rolls using cyanide and lime.
1000 ppm cyanide
pH11.0, 11 minute Primary Grind

SAMPLE: Medium Grade Composite

Parameter	Time	Added (g)		Residual (g)		Consumed (g)		pH
	Cum	NaCN	CaO	NaCN	CaO	NaCN	CaO	
Natural		-	-	-	-	-	-	9.4
Leach 1	2	1.04	0.26	1.03	0.09	0.01	0.17	11.1
Leach 2	6	0.00	0.00	1.02	0.09	0.01	0.00	11.3
Leach 3	24	0.00	0.07	0.98	0.09	0.04	0.07	11.0
Leach 4	48	0.06	0.00	1.00	0.07	0.04	0.02	11.1
Total	48	1.10	0.33	1.00	0.07	0.10	0.26	-

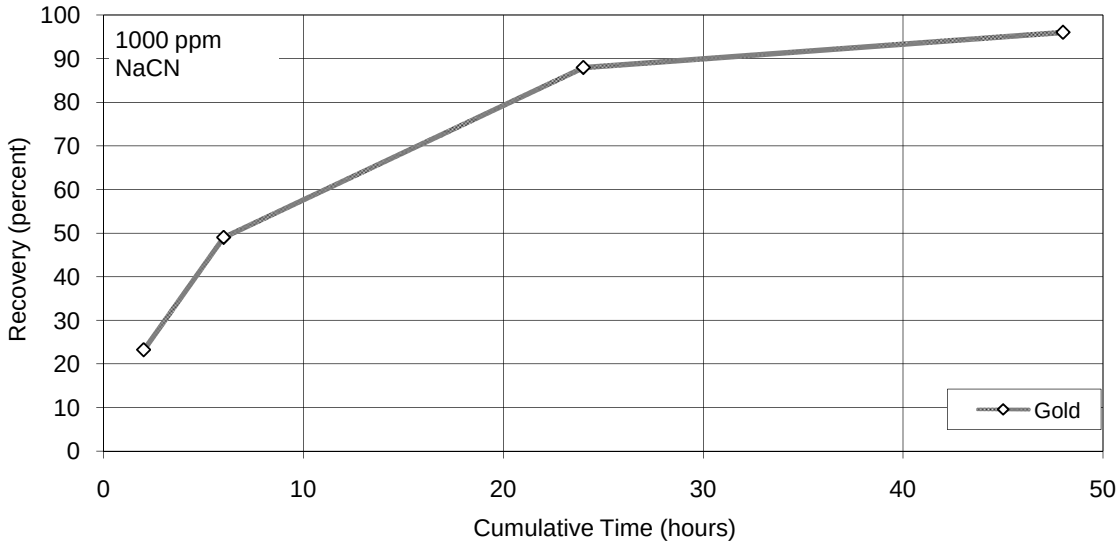
Mass of Sample	500
Volume of Water	1000
Pulp Density	33

NaCN Consumption	0.2 kg/tonne
Lime Consumption	0.5 kg/tonne

KM2397-11 Medium Grade Composite
Cumulative Metallurgical Balance

Product	Cumulative Time - Hrs	Volume or Mass	Units	Assay - g/t	Distribution -percent
				Gold	Gold
Cyanide Liquor (2 hr)	2	1000	ml	0.44	23.2
Cyanide Liquor (6 hr)	6	1000	ml	0.92	49.0
Cyanide Liquor (24 hr)	24	1000	ml	1.64	88.0
Cyanide Liquor (48 hr)	48	1000	ml	1.76	96.0
Cyanidation Tails	-	503	g	0.15	4.0
Calculated Feed		500	g	3.79	100.0

Cyanide Leach Kinetic Curves



PROJECT NO: KM2397-12

PURPOSE: Whole Ore Cyanide Leach Test

PROCEDURE: Standard bottle roll procedure. Agitate on rolls using cyanide and lime.
1000 ppm cyanide
pH11.0, 11 minute Primary Grind

SAMPLE: High Grade Composite

Parameter	Time	Added (g)		Residual (g)		Consumed (g)		pH
	Cum	NaCN	CaO	NaCN	CaO	NaCN	CaO	
Natural		-	-	-	-	-	-	10.1
Leach 1	2	1.02	0.19	0.99	0.08	0.03	0.11	11.2
Leach 2	6	0.00	0.00	0.97	0.08	0.02	0.00	11.4
Leach 3	24	0.00	0.02	0.94	0.09	0.03	0.01	11.0
Leach 4	48	0.07	0.00	0.96	0.07	0.05	0.02	11.2
Total	48	1.09	0.21	0.96	0.07	0.13	0.14	-

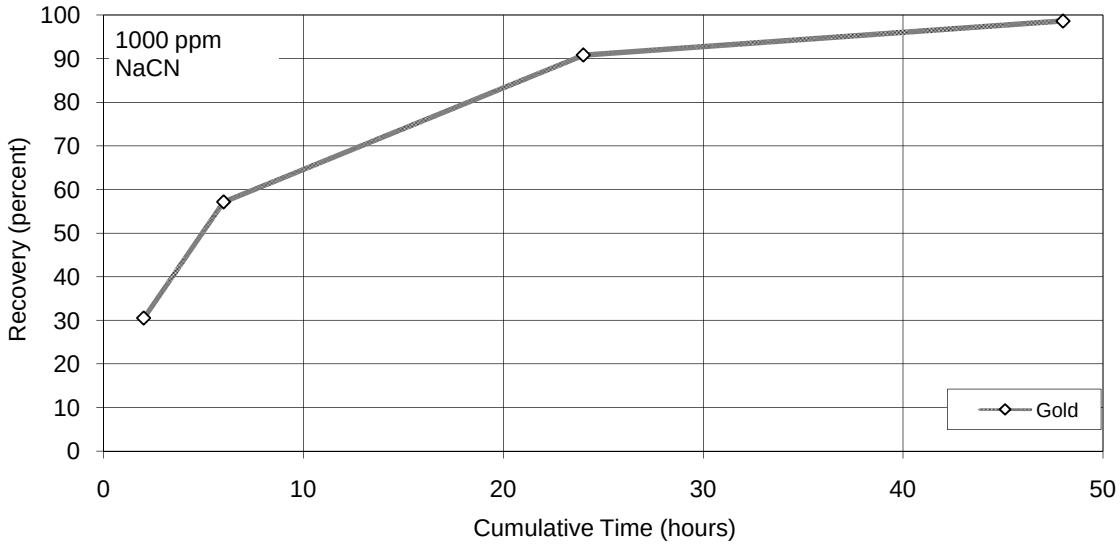
Mass of Sample	500
Volume of Water	1000
Pulp Density	33

NaCN Consumption	0.3 kg/tonne
Lime Consumption	0.3 kg/tonne

KM2397-12 High Grade Composite
Cumulative Metallurgical Balance

Product	Cumulative Time - Hrs	Volume or Mass	Units	Assay - g/t Gold	Distribution -percent Gold
Cyanide Liquor (2 hr)	2	1000	ml	1.78	30.5
Cyanide Liquor (6 hr)	6	1000	ml	3.30	57.2
Cyanide Liquor (24 hr)	24	1000	ml	5.20	90.9
Cyanide Liquor (48 hr)	48	1000	ml	5.55	98.6
Cyanidation Tails	-	495	g	0.16	1.4
Calculated Feed		500	g	11.7	100.0

Cyanide Leach Kinetic Curves



APPENDIX III – KM2397

PARTICLE SIZING DATA

INDEX

TABLE III-1A

BOND GRINDABILITY TEST

KM2397 Medium Grade

Weight of 700 ml Sample :	1307.6 g.	Aperture Test Sieve :	106µm
1/3.5 of Sample Weight :	373.6 g.	Percent Undersize :	36.1%

Cycle	Weight of New Feed	Number of Revolutions	Weight of Undersize			
			Product	Feed	Net Product	Net / Rev
1	1307.6	100	543.2	472.0	71.2	0.71
2	543.2	249	469.4	196.1	273.3	1.10
3	469.4	186	397.2	169.5	227.7	1.22
4	397.2	188	383.9	143.4	240.5	1.28
5	383.9	184	380.8	138.6	242.2	1.32
6	380.8	179	370.9	137.5	233.4	1.30

BOND'S WORK INDEX FORMULA

$$Wi = 44.5 / (Pi^{.23} \times Gpb^{.82} \times (10/\sqrt{P} - 10/\sqrt{F}))$$

Pi = Sieve Size Tested	106 µm
Gbp = Net undersize produced per revolution of mill.	1.30 g.
P = 80% Passing size of test product.	81 µm
F = 80% Passing size of test feed.	952 µm

WORK INDEX (Wi)

15.6 kw-hr/ton

17.2 kw-hr/tonne

NB: Gbp = Average of last 3 Net/Rev Cycles

TABLE III-1B
BOND SCREEN ANALYSIS
KM2397 Medium Grade - Cycle 6 Undersize

Product	Particle Size µm	Weight % Retained	Cumulative % Passing
150 Mesh	106	0.00	100.0
170 Mesh	90	14.18	85.8
200 Mesh	75	9.83	76.0
270 Mesh	53	14.60	61.4
325 Mesh	45	6.63	54.8
400 Mesh	38	3.00	51.8
TOTAL		100.00	**

K80 =81µm

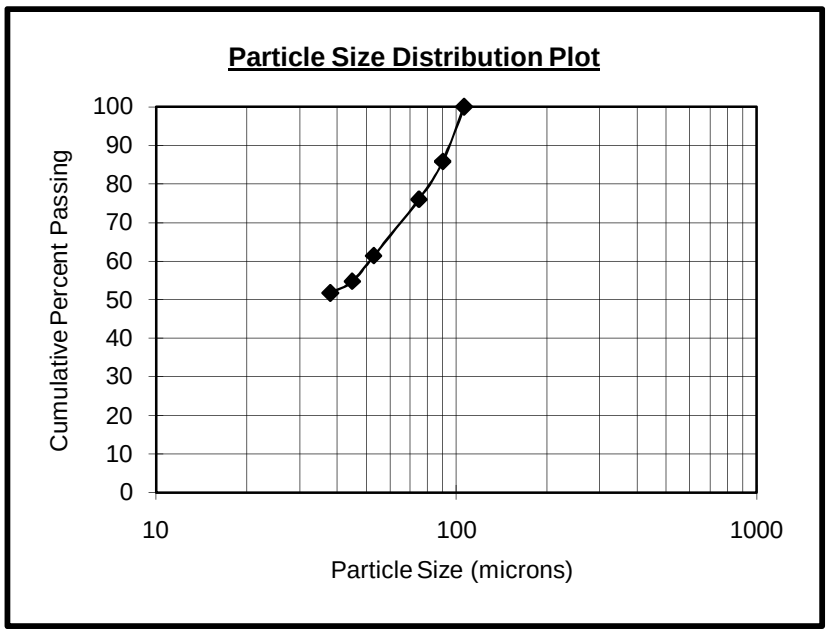


TABLE III-1C
BOND SCREEN ANALYSIS
KM2397 Medium Grade - Average Feed

Product	Particle Size µm	Weight % Retained	Cumulative % Passing
6 Mesh	3360	0.00	100.0
7 Mesh	2800	1.70	98.3
8 Mesh	2360	1.06	97.2
9 Mesh	2000	1.47	95.8
10 Mesh	1700	2.40	93.4
12 Mesh	1400	3.49	89.9
14 Mesh	1180	4.10	85.8
20 Mesh	850	8.67	77.1
28 Mesh	600	8.67	68.4
35 Mesh	425	7.81	60.6
48 Mesh	300	7.23	53.4
65 Mesh	212	6.62	46.8
100 Mesh	150	5.95	40.8
150 Mesh	106	4.77	36.1
TOTAL		100.00	**

K80 =952µm

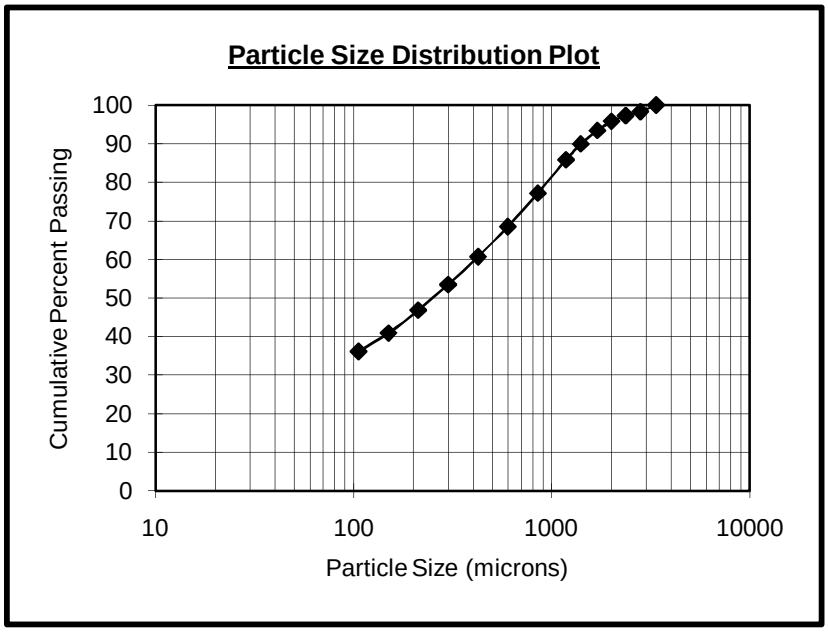


TABLE III-1D
BOND SCREEN ANALYSIS
KM2397 Medium Grade - Feed 1

Product	Particle Size µm	Weight % Retained	Cumulative % Passing
6 Mesh	3360	0.00	100.0
7 Mesh	2800	1.49	98.5
8 Mesh	2360	0.97	97.5
9 Mesh	2000	1.49	96.1
10 Mesh	1700	2.46	93.6
12 Mesh	1400	3.56	90.0
14 Mesh	1180	4.08	86.0
20 Mesh	850	8.67	77.3
28 Mesh	600	8.67	68.6
35 Mesh	425	7.83	60.8
48 Mesh	300	7.31	53.5
65 Mesh	212	6.73	46.7
100 Mesh	150	6.08	40.6
150 Mesh	106	4.85	35.8
TOTAL		100.00	**

K80 =946µm

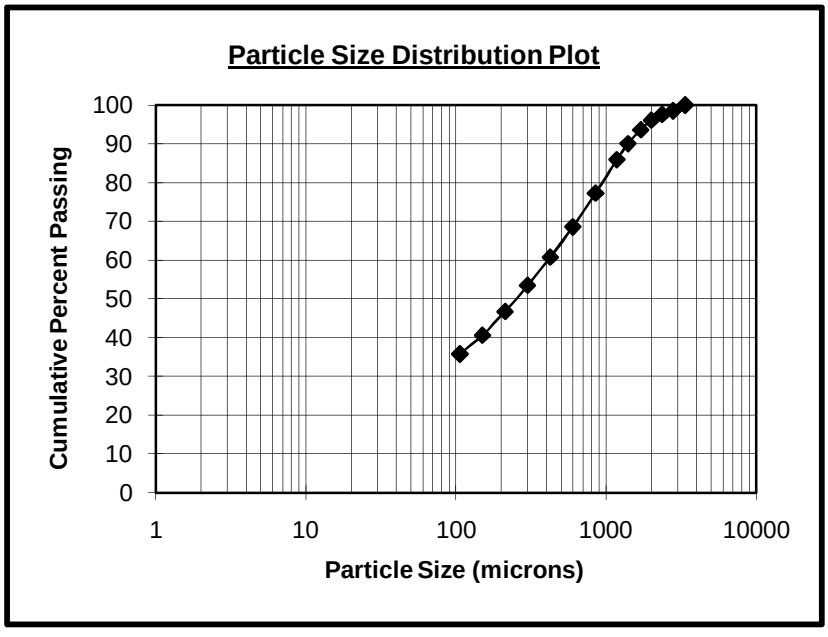


TABLE III-1E
BOND SCREEN ANALYSIS
KM2397 Medium Grade - Feed 2

Product	Particle Size µm	Weight % Retained	Cumulative % Passing
6 Mesh	3360	0.00	100.0
7 Mesh	2800	1.90	98.1
8 Mesh	2360	1.14	97.0
9 Mesh	2000	1.46	95.5
10 Mesh	1700	2.34	93.2
12 Mesh	1400	3.42	89.7
14 Mesh	1180	4.11	85.6
20 Mesh	850	8.67	77.0
28 Mesh	600	8.67	68.3
35 Mesh	425	7.78	60.5
48 Mesh	300	7.15	53.4
65 Mesh	212	6.52	46.8
100 Mesh	150	5.82	41.0
150 Mesh	106	4.68	36.3
TOTAL		100.00	**

K80 =957µm

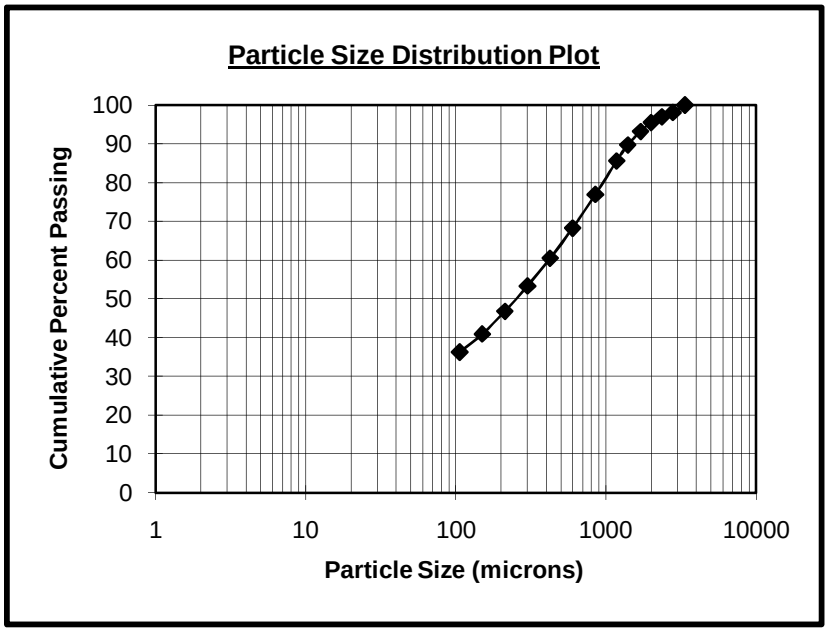


TABLE III-2
SCREEN ANALYSIS
KM2397 Low Grade - 7 Minute Grind Calibration

Product	Particle Size µm	Weight % Retained	Cumulative % Passing
35 Mesh	425	0.00	100.0
48 Mesh	300	1.80	98.2
65 Mesh	212	16.80	81.4
100 Mesh	150	15.90	65.5
150 Mesh	106	11.70	53.8
200 Mesh	75	8.90	44.9
270 Mesh	53	7.10	37.8
400 Mesh	38	4.90	32.9
TOTAL		100.00	**

K80 =206µm

Note: 7 min. grind calibration using 2 kg. Ore, 1000 ml water and 20 kg. of Mild Steel rods in Mill: M4

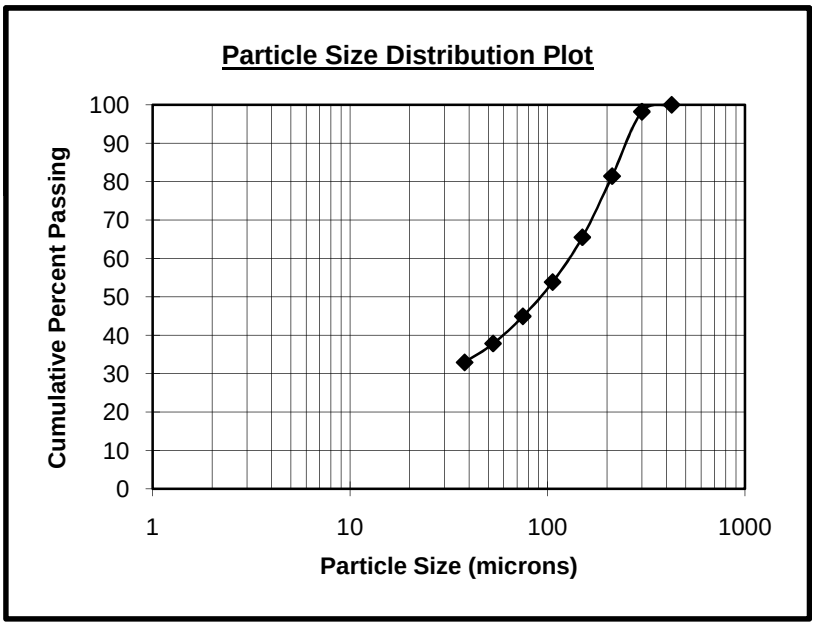


TABLE III-3
SCREEN ANALYSIS
KM2397 LG - 11 Minute Grind Calibration

Product	Particle Size µm	Weight % Retained	Cumulative % Passing
35 Mesh	425	0.00	100.0
48 Mesh	300	0.10	99.9
65 Mesh	212	4.90	95.0
100 Mesh	150	16.10	78.9
150 Mesh	106	16.70	62.2
200 Mesh	75	12.60	49.6
270 Mesh	53	8.90	40.7
400 Mesh	38	5.80	34.9
TOTAL		100.00	**

K80 =154µm

Note: 11 min. grind calibration using 2 kg. Ore, 1000 ml water and 20 kg. of Mild Steel rods in Mill: M4

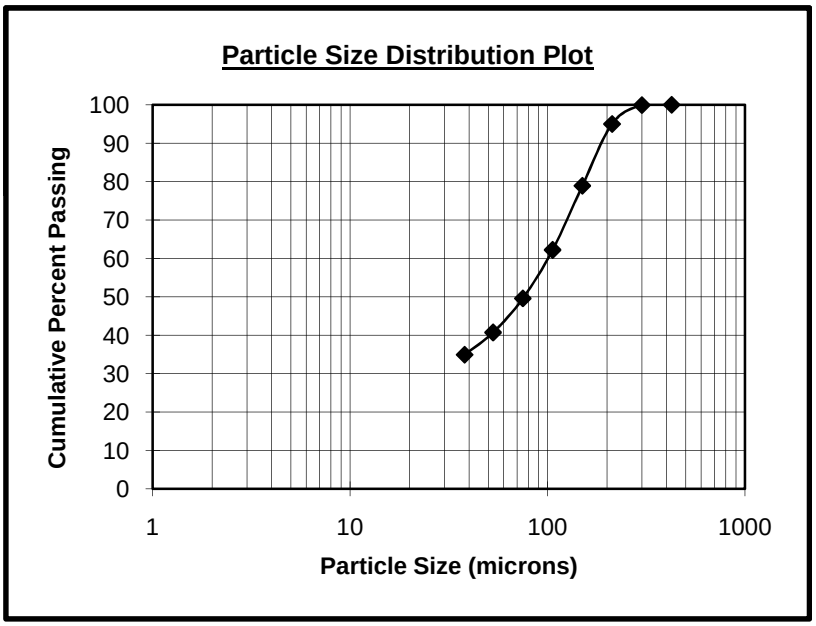


TABLE III-4
SCREEN ANALYSIS
KM2397 Medium Grade - 7 Minute Grind Calibration

Product	Particle Size µm	Weight % Retained	Cumulative % Passing
35 Mesh	425	0.00	100.0
48 Mesh	300	1.80	98.2
65 Mesh	212	17.50	80.7
100 Mesh	150	15.90	64.8
150 Mesh	106	12.00	52.8
200 Mesh	75	8.40	44.4
270 Mesh	53	7.40	37.0
400 Mesh	38	4.90	32.1
TOTAL		100.00	**

K80 =209µm

Note: 7 min. grind calibration using 2 kg. Ore, 1000 ml water and 20 kg. of Mild Steel rods in Mill: M4

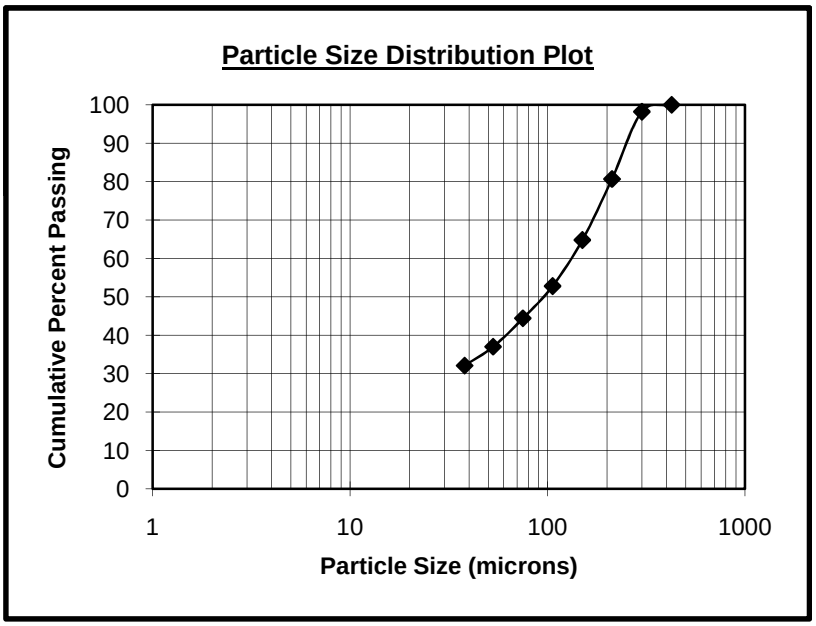


TABLE III-5
SCREEN ANALYSIS
KM2397 Medium Grade - 10 Minute Grind Calibration

Product	Particle Size µm	Weight % Retained	Cumulative % Passing
35 Mesh	425	0.00	100.0
48 Mesh	300	0.30	99.7
65 Mesh	212	5.20	94.5
100 Mesh	150	18.30	76.2
150 Mesh	106	16.80	59.4
200 Mesh	75	11.00	48.4
270 Mesh	53	9.10	39.3
400 Mesh	38	5.70	33.6
TOTAL		100.00	**

K80 =162µm

Note: 10 min. grind calibration using 2 kg. Ore, 1000 ml water and 20 kg. of Mild Steel rods in Mill: M4

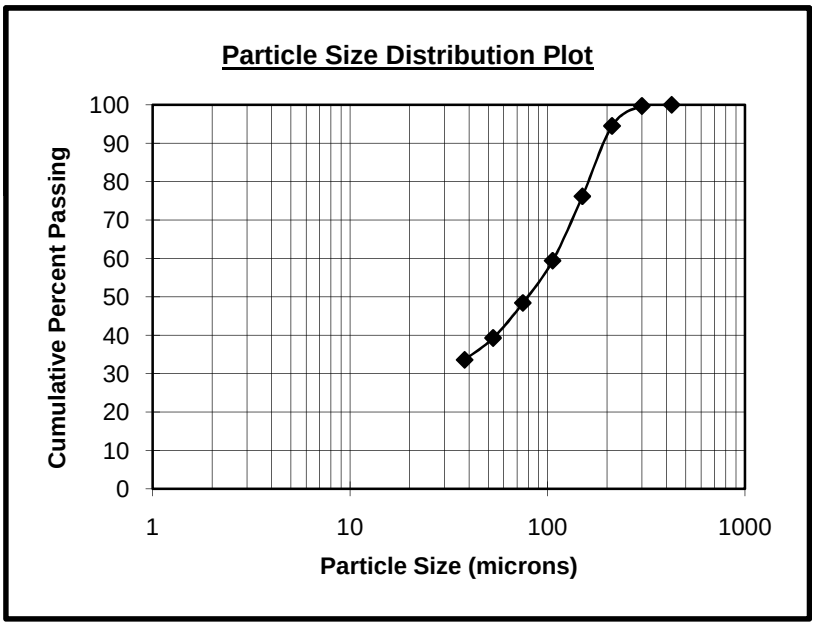


TABLE III-6
SCREEN ANALYSIS
KM2397 Medium Grade - 11 Minute Grind Calibration

Product	Particle Size µm	Weight % Retained	Cumulative % Passing
35 Mesh	425	0.00	100.0
48 Mesh	300	0.00	100.0
65 Mesh	212	2.60	97.4
100 Mesh	150	16.70	80.7
150 Mesh	106	17.30	63.4
200 Mesh	75	11.40	52.0
270 Mesh	53	10.10	41.9
400 Mesh	38	8.00	33.9
TOTAL		100.00	**

K80 =148µm

Note: 11 min. grind calibration using 2 kg. Ore, 1000 ml water and 20 kg. of Mild Steel rods in Mill: M4

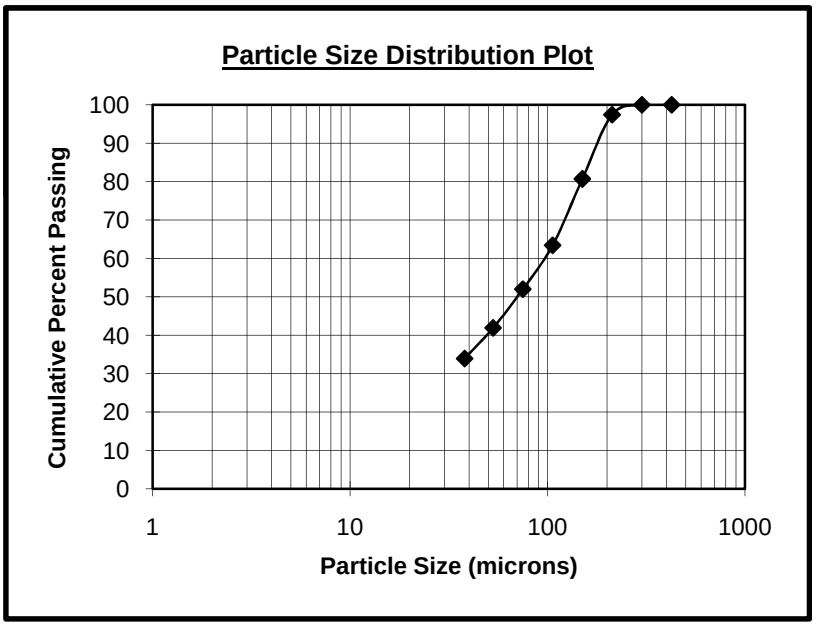


TABLE III-7
SCREEN ANALYSIS
KM2397 High Grade - 7 Minute Grind Calibration

Product	Particle Size µm	Weight % Retained	Cumulative % Passing
35 Mesh	425	0.00	100.0
48 Mesh	300	1.60	98.4
65 Mesh	212	15.40	83.0
100 Mesh	150	17.50	65.5
150 Mesh	106	11.50	54.0
200 Mesh	75	8.80	45.2
270 Mesh	53	7.50	37.7
400 Mesh	38	5.40	32.3
TOTAL		100.00	**

K80 =201µm

Note: 7 min. grind calibration using 2 kg. Ore, 1000 ml water and 20 kg. of Mild Steel rods in Mill: M4

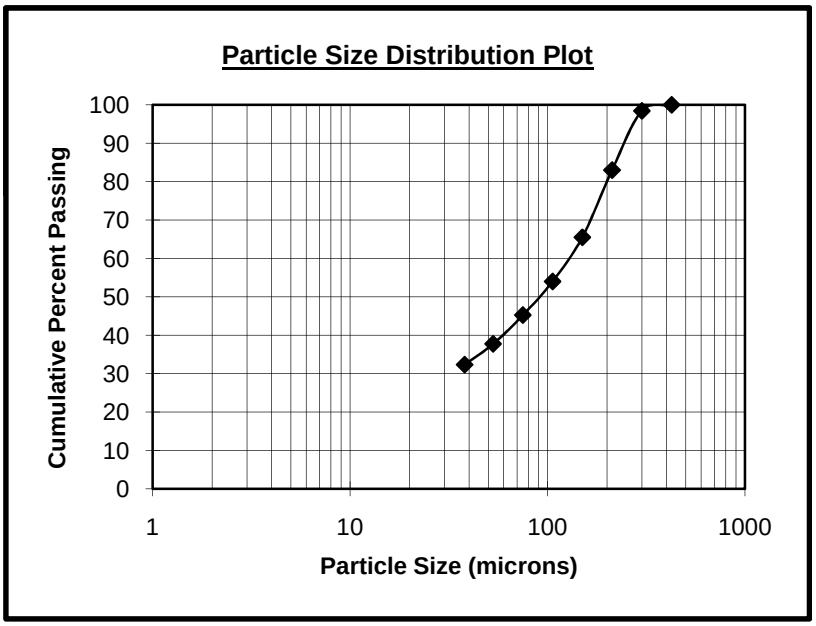
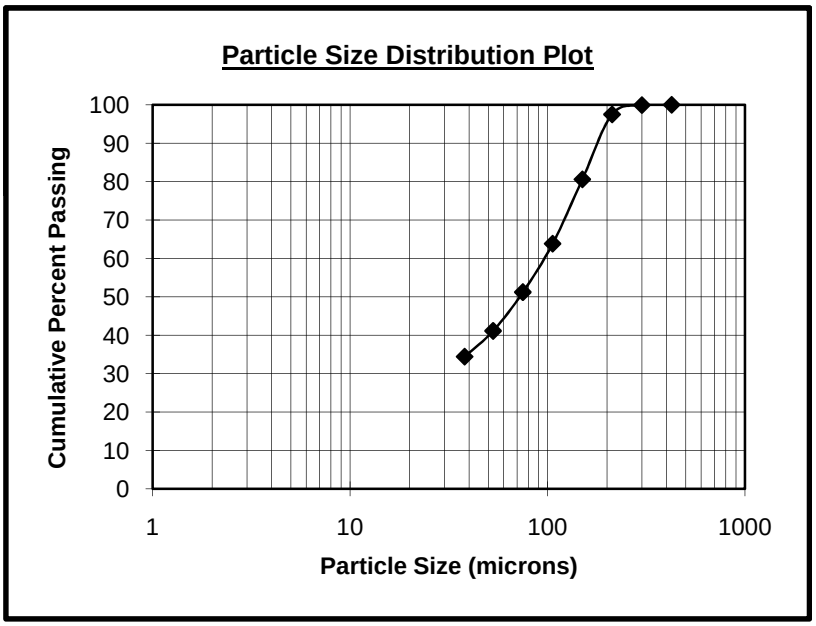


TABLE III-8
SCREEN ANALYSIS
KM2397 High Grade - 11 Minute Grind Calibration

Product	Particle Size µm	Weight % Retained	Cumulative % Passing
35 Mesh	425	0.00	100.0
48 Mesh	300	0.10	99.9
65 Mesh	212	2.40	97.5
100 Mesh	150	16.90	80.6
150 Mesh	106	16.80	63.8
200 Mesh	75	12.60	51.2
270 Mesh	53	10.10	41.1
400 Mesh	38	6.70	34.4
TOTAL		100.00	**

K80 =148µm

Note: 11 min. grind calibration using 2 kg. Ore, 1000 ml water and 20 kg. of Mild Steel rods in Mill: M4



APPENDIX IV – KM2397

SPECIAL ASSAYS AND STATISTICAL INFORMATION

INDEX

TABLE IV-1
HEAD ASSAY DATA

Sample	Assays - percent or g/tonne					
	Au	Ag	As	Fe	S	C
Low Grade	0.60	1.00	0.30	0.95	0.46	0.45
Medium Grade	3.30	1.75	0.38	1.28	0.5	0.43
High Grade	12.0	6.95	0.34	0.91	0.44	0.14

TABLE IV-2
FRACTIONAL GOLD ASSAY DATA

Sample	grams	Au g/t	grams	Au g/t
LG Head 1 +150	10.1	0.25	-	-
LG Head 1 -150	162.0	0.58	172.1	0.56
LG Head 2 +150	9.0	6.45	-	-
LG Head 2 -150	153.6	0.73	162.6	1.05
LG Screen Assay	-	-	-	0.60
Low Grade Average				**0.74**
MG Head 1 +150	13.7	48.6	-	-
MG Head 1 -150	158.1	3.60	171.8	7.19
MG Head 2 +150	4.6	241	-	-
MG Head 2 -150	157.4	4	162	11.1
MG Screen Assay	-	-	-	3.30
Medium Grade Average				**7.20**
Hg Head 1 +150	3.4	245	-	-
Hg Head 1 -150	162.7	5.21	166.1	10.1
Hg Head 2 +150	4.6	213	-	-
Hg Head 2 -150	169.2	5	173.8	10.6
HG Screen Assay	-	-	-	12.0
High Grade Average				**10.91**

TABLE IV-3
GOLD ASSAY BY SIZE DATA

Sample	grams	Au g/t	grams	Au g/t
LG +9 Mesh +150	0.2	7.5	-	-
LG +9 Mesh -150	26.1	0.45	26.3	0.50
LG +20 Mesh +150	27.6	0.23	-	-
LG +20 Mesh -150	152.9	0.54	180.5	0.49
LG +35 Mesh +150	5.8	0.31	-	-
LG +35 Mesh -150	142.1	0.45	147.9	0.44
LG -35 Mesh	680.8	0.67	680.8	0.67
MG Screen Assay			1035.5	**0.60**
MG +9 Mesh +150	0.1	432	-	-
MG +9 Mesh -150	35.9	0.51	36.0	1.71
MG +20 Mesh +150	22.5	7.32	-	-
MG +20 Mesh -150	149.2	0.91	171.7	1.75
MG +35 Mesh +150	1.1	1349	-	-
MG +35 Mesh -150	120.7	4.34	121.8	16.5
MG -35 Mesh	636.1	1.28	636.1	1.28
LG Screen Assay			965.6	**3.30**
Hg +9 Mesh +150	0.1	216	-	-
Hg +9 Mesh -150	59.9	8.43	60.0	8.77
Hg +20 Mesh +150	30.1	16.0	-	-
Hg +20 Mesh -150	158.8	5.36	188.9	7.06
Hg +35 Mesh +150	2.4	2085	-	-
Hg +35 Mesh -150	118.0	12.2	120.4	53.5
Hg -35 Mesh	675.6	6.29	675.6	6.29
HG Screen Assay			1044.9	**12.01**

TABLE IV-4A
STATISTICAL ANALYSIS OF HEAD ASSAYS
Low Grade Composite

Test	Assays - percent or g/tonne			
	Fe	S	C	Au
1	0.95	0.44	0.06	0.79
4	-	-	-	0.74
10	-	-	-	0.46
Average Head	0.95	0.44	0.06	0.67
Measured Head	0.95	0.46	0.45	0.80

TABLE IV-4B
STATISTICAL ANALYSIS OF HEAD ASSAYS
Medium Grade Composite

Test	Assays - percent or g/tonne			
	Fe	S	C	Au
2	1.09	0.49	0.05	2.41
5	-	-	-	3.98
11	-	-	-	3.79
Average Head	1.09	0.49	0.05	3.39
Measured Head	1.28	0.50	0.43	3.30

TABLE IV-4C
STATISTICAL ANALYSIS OF HEAD ASSAYS
High Grade Composite

Test	Assays - percent or g/tonne			
	Fe	S	C	Au
3	0.91	0.44	0.03	12.5
6	-	-	-	11.2
12	-	-	-	11.7
Average Head	0.91	0.44	0.03	11.8
Measured Head	0.91	0.44	0.14	12.0

TABLE IV-5
ADDITIONAL ASSAYS

Composite	Sample	Test	Ag	As
Low Grade	Bulk Ro Tl	1	0.20	0.01
	Bulk Ro Con	1	16.3	4.52
	Pan Concentrate	4	-	22.0
Medium Grade	Bulk Ro Tl	2	0.20	0.02
	Bulk Ro Con	2	18.9	4.91
	Pan Concentrate	5	-	24.4
High Grade	Bulk Ro Tl	3	0.30	0.04
	Bulk Ro Con	3	45.6	4.12
	Pan Concentrate	6	-	21.8

APPENDIX V – KM2397

QEMSCAN DATA ANALYSIS

INDEX

TABLE V-1
CHEMICAL COMPOSITION OF MEDIUM GRADE COMPOSITE
KM2397

Element	Assay Methods	Medium Grade Composite
As	QEMSCAN	0.52
	Chemical	0.40
Fe	QEMSCAN	1.29
	Chemical	1.28
S	QEMSCAN	0.64
	Chemical	0.50

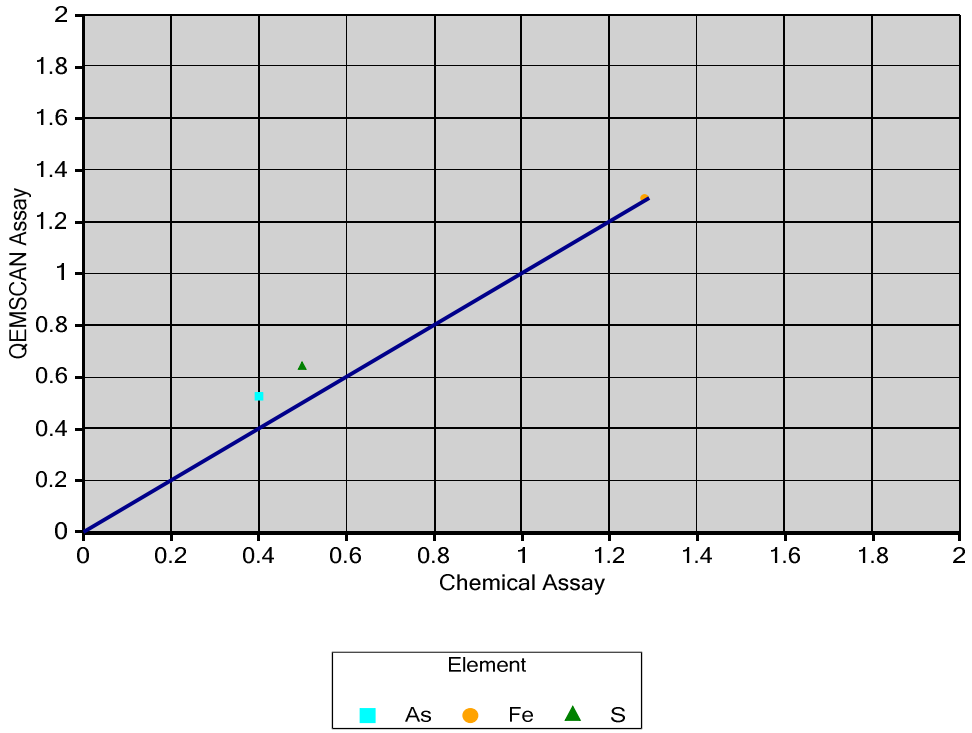


TABLE V-2
MINERAL COMPOSITION OF MEDIUM GRADE COMPOSITE
KM2397

Minerals	Medium Grade Composite
Pyrite	0.69
Arsenopyrite	1.14
Fe Oxides	0.51
Sphalerite	0.10
Quartz	57.0
Feldspars	15.1
Muscovite	22.2
Biotite/Phlogopite	0.31
Garnet	0.27
Amphibole (Hornblende)	0.05
Zircon	0.08
'Kaolinite' (clay)	0.80
Calcite	0.09
Apatite	0.18
Ti Minerals	0.42
Others	1.08
Total	100

Notes: 1) Fe Oxides includes Magnetite, Hematite, Limonite, and Goethite
2) Feldspars includes K-Feldspar, Alkali Feldspar, Plagioclase Feldspar, and Feldspar-Albite
3) Ti minerals includes Sphene, Rutile/Anatase, and Ilmenite
4) Others includes unsolved mineral species, Alunite, Chromite, and Steel