



FEBRUARY 18, 2009

**AN INVESTIGATION
INTO THE RECOVERY OF
MOLYBDENUM, COPPER
AND SILVER FROM
CUMO SAMPLES.**

SGS CANADA INC., INDEPENDENT REPORT

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An Investigation into

**THE RECOVERY OF MOLYBDENUM, COPPER AND
SILVER FROM CUMO SAMPLES**

prepared for

Mosquito Consolidated Gold Mines Ltd

Project 50004-001
February 18, 2009

NOTE:

This report refers to the samples as received.

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Executive Summary

This test program was performed on samples from the CUMO property in Idaho, USA. The scoping program was intended to provide preliminary information on the behaviour of the ores in terms of grindability and flotation separation.

Three composites representing three ore zones, Cu/Ag, Cu/Mo and Mo, were prepared from 115 core lengths received from three drill holes.

Cu/Ag ore:

The average head grade of the composite was 0.15% Cu and 0.017% Mo. The ore was amenable to SAG grinding with an SPI of 84.5 minutes, and had a Bond Ball Mill Work Index of 15.8 kWh/tonne. The QEMSCAN analysis found fine-grained chalcopyrite to be the principal Cu carrier. With little or no pyrite or talc, mineralogy predicted an easy separation process. However, a cautionary note was issued due the significant presence of micaceous material, as this will dilute concentrates without froth washing in the cleaners.

During rougher testing at a grind of K_{80} of 63 μm , 73% of the Cu, 86% of the Mo and 76% of the Ag were recovered. Finer grind improved Cu metallurgy more than Mo or Ag. Reagents appeared to be the only option to improve Mo and Ag.

During cleaner testing, under optimized conditions in 3 stages of open circuit cleaning, 64% of the Cu was recovered to a grade of 15% Cu. The concentrate also carried 84% of Mo and 65% of the Ag. The poor Cu recovery was likely due to low feed grade (and accordingly small concentrate weights in the tests) and poor liberation. However, the upgrading ratios indicate that a saleable grade of Cu concentrate can be made from this composite. To improve cleaner metallurgy, the composite required a re-grind finer than K_{90} of 20 μm . A conventional reagent suite was sufficient to process the composite. The behaviour of tungsten was not assessed as it could not be accurately measured due to its low assay. It was estimated that the composite carried ~ 30 to 40 g/t of Tungsten and about 90% of it reported to the rougher tail.

The projected metallurgy of the locked cycle test consisting of three stages of cleaning, was a recovery of 63% of the Cu to a grade of 13% Cu. The concentrate also carried 82% of the Mo

and 72% of the Ag. The circuit was stable and again the major loss occurred at the rougher stage. Incomplete liberation at the primary grind stage was suspected to be the cause.

Cu/Mo ore:

The average head grade of this composite which constitutes a major part of the resource, was 0.13% Cu and 0.04% Mo. The ore was amenable to SAG grinding with a SPI index of 73 minutes, and had a Bond Ball Mill Work Index of 15.7 kWh/tonne. Again, QEMSCAN showed fine-grained chalcopyrite to be the principal Cu carrier and fine grained molybdenum the principal Mo carrier. Little or no pyrite or talc was found and mineralogy predicted an easy separation process. However, a cautionary note was issued due to the presence of abundant mica.

The rougher recovery of the Cu, Mo and Ag of this composite were independent of the grinds tested (range of K_{80} of 61 to 106 μm). The rougher recovered 89% of the Cu, 93% of the Mo and 75% of the Ag. A coarser grind produced better Cu rougher concentrate grade and recovery. Mo and Ag did not follow suite.

During cleaner testing, under optimized conditions, 87% of Cu was recovered to a concentrate grade of 17% Cu. The concentrate also carried 90% of Mo and 70% of the Ag. The incomplete Cu recovery was likely due to low feed grade and poor liberation. The upgrading ratios assured that saleable Cu and Mo concentrates can be made by added cleaning stages. For better cleaner metallurgy, the composite required a re-grind finer than K_{96} of 20 μm . A generic reagent suite was sufficient to process the composite. The behaviour of Tungsten was not assessed as it could not be accurately measured due to low availability. It was estimated that the composite carried ~ 30 to 40 g/t of Tungsten and about 90% of it reported to the rougher tail.

The projected metallurgy of the locked cycle test consisting of three stages of cleaning, was a collection of 88% of the Cu to a grade of 16% Cu. The concentrate also carried 94% of the Mo and 80% of the Ag. The circuit was stable and again the major loss occurred at the rougher stage. Incomplete liberation at the primary grind stage was suspected to be the cause.

Mo ore:

Primary Mo ores constitute much of the deposit. The average head grade of the composite was 0.035% Cu and 0.12% Mo. This composite was softer than the others, amenable to SAG grinding with a SPI index of 70.8 minutes and had a Bond Ball Mill Work Index of 12.6 kWh/tonne. Fine-grained chalcopyrite was the principal Cu carrier and fine grained molybdenite was that of Mo. Little or no pyrite or talc was found and mineralogy predicted an easy separation process. However, significant mica was again in evidence.

The rougher recovery of the Cu, Mo and Ag of this composite were dependent of the grind and at the finer grind of K₈₀ of 62 µm, recovered 83% of the Cu, 96% of the Mo and 72% of the Ag.

During cleaner testing, under optimized conditions, 94% of the Mo was recovered to a grade of 24% Mo. The concentrate also carried 77% of Cu and 52% of the Ag. The poor Cu recovery was likely due to low feed grade and poor liberation while the lower concentrate grades were due to low feed grade, insufficient liberation and fewer cleaning stages. The upgrading ratios indicate that Cu and Mo concentrates of saleable grades can be made by added cleaning stages. The re-grind size required was finer than K₉₆ of 20 µm. A conventional reagent suite and flowsheet was sufficient to process the composite. The behaviour of Tungsten was not assessed as it could not be accurately measured at the levels present in the sample and using the analytical methods applied. It was estimated that the composite carried ~ 50 to 80 g/t of Tungsten and about 90% of it reported to the rougher tail.

The projected metallurgy of the locked cycle test consisting of three stages of cleaning, included the recovery of 96% of the Mo to a grade of 22% Mo. The concentrate also carried 82% of the Cu and 59% of the Ag. The circuit was stable and again the major loss occurred at the rougher. The re-grind size was suspected to be the reason for low concentrate grade.

Environmental Testing:

Environmental data are included in this report.

Product Characterization:

The Ga of all final concentrates and the rougher tailings were less than 0.004 %, except the final concentrate of the Mo zone which carried 0.005% Ga. The Os of all the final concentrates were less than 0.03 g/t and Re were 0.9, 2.9 and 15 g/t respectively.

Tungsten Recovery:

In a gravity separation test, 26.3% of WO₃ were recovered from flotation tailings to a grade of 4.6% WO₃.

Recommendations:

The responses to flotation of the composites were similar and we recommend that a single composite will be sufficient for future flowsheet development test work. Also, that test work should be on 10 kg feed stages with more than 3 stages of cleaning. A variability test program to study the mineralogy and the behaviour of Cu-Ag composite is also recommended.

Introduction

This report describes scoping level testwork completed for Mosquito Consolidated Gold Mines Ltd. Idaho, USA. The testwork investigated the flotation options for the recovery of copper, molybdenum and silver minerals from the CUMO property in Idaho. The scope of the program involved sample preparation, grindability testing, mineralogical characterization via QEMSCAN analysis, rougher kinetics testing, batch cleaner testing, locked cycle testing and environmental testing on three samples from the property. The project also included an examination of the concentrate for rare minerals and an evaluation of a gravity separation process for the recovery of tungsten. All work referenced in this report was completed under the internal SGS project number of 50004-001.

The primary goal of the testwork was to investigate the metallurgy of the ores and to perform scoping level testwork. All test results and conditions are presented in the accompanying Appendices. The results refer to samples as received. The testing program was completed over the months of June 2008 to January 2009. Mr. Shaun Dykes of Mosquito Consolidated Gold Mines, was regularly updated with new results as the testing progressed.

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Testwork Summary

1 Sample Receipt and Preparation

A shipment of 115 core lengths from three drill holes sent by Mosquito Consolidated Gold, was received at SGS Vancouver Metallurgy for the test work. They weighed a total of 746 kg and arrived with instructions to make three composites representing the three distinct ore types.

The ore types were identified as Cu-Ag zone (Composite 1), Cu-Mo zone (Composite 2) and Mo zone (Composite 3). The formation of the ore zones bears a linear relationship to the horizon and confirmed the flexibility to mine and process the three zones separately. The formation is presented in Figure 1.

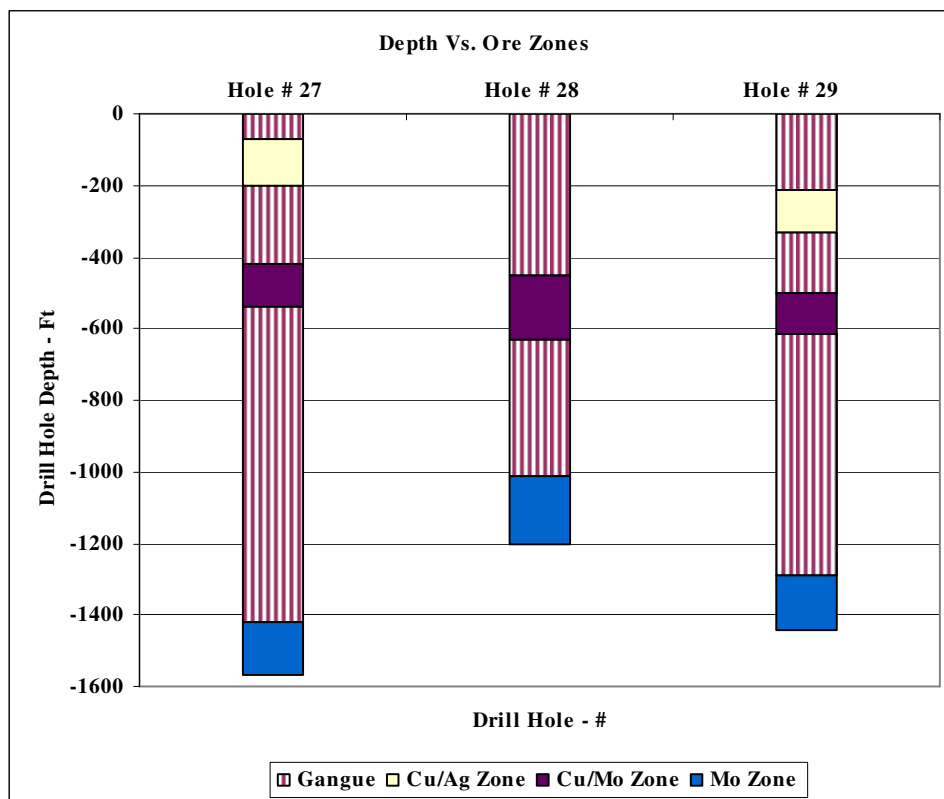


Figure 1: Ore Zones and Depth of Drill Hole

The zones of similar ore types were combined to make the three composites. A detailed description of the samples indicating the drill hole number, core length, sample number and

weights are presented in the Appendix A. Table 1 shows the anticipated assays arrived after calculating the weighted average of the composites.

Table 1: Calculated Assays of the Composites

	Cu - %	Mo - %	Ag - g/t
Composite 1	0.17	0.0314	4.15
Composite 2	0.012	0.0674	2.82
Composite 3	0.03	0.1736	1.06

In preparation, the composites were crushed to 38 mm, homogenized and a 10 kg sample was split out from each sample for SAG Power Index (SPI) test. Crushing was continued to 6 mm, homogenized and approximately 40 kg was split out for the working composites and the remainder stored. The selected sample was staged crushed down to minus 6 mesh and homogenized before splitting out 10 kg for the Bond work index test work. The rest were crushed to minus 10 mesh, homogenized and 2 kg charges for metallurgical test work were prepared. The sample preparation flow-sheet is presented in the Appendix A.

1.1 Head Assay

The three composites were assayed for Cu, Mo, Fe and S in triplicate and the results are presented below in Table 2.

Table 2: Head Assays

Sample Description	Sample ID	Cu - %	Mo - %	Fe - %	S - %
Cu – Ag Zone	Comp.1 – A	0.15	0.016	1.71	0.20
	Comp.1 – B	0.16	0.018	1.46	0.21
	Comp.1- C	0.15	0.018	1.41	0.21
Average		0.15	0.017	1.53	0.21
Cu – Mo Zone	Comp. 2 – A	0.12	0.04	1.18	0.22
	Comp. 2 – B	0.13	0.04	1.10	0.21
	Comp. 2 – C	0.13	0.04	1.14	0.21
Average		0.13	0.04	1.14	0.21
Mo Zone	Comp. 3 – A	0.039	0.12	0.89	0.15

	Comp. 3 – B	0.036	0.12	0.88	0.14
	Comp. 3 – C	0.029	0.11	0.90	0.14
Average		0.035	0.12	0.89	0.14

The chemical analyses of Cu were in fair agreement with those of the calculated Cu assays of the composites. However, the chemical analyses of the Mo were markedly lower than the expected Mo assays.

2 Grindability Testing

The grindability test work conducted on the CUMO composites include the SPI testing and the Bond ball mill work indices.

2.1 SPI Testing

This test measured the SAG Power Index (SPI®), and Crusher Index. The SPI® is a measure of the hardness of the ore from the perspective of semi-autogenous milling. The CEET Crusher Index (CEET Ci) is used to predict the SAG feed size distribution of the ore, and is measured during the SPI® feed preparation procedure. It required 10 kg of minus 50 mm material that was prepared at the testing facility.

The results of the SPI and the Crusher index of each of the composites are shown below in Table 3.

Table 3: SPI and Crusher Index Test Results

Composite Description	SAG Power Index	Crusher Index
	Minutes	kWh/t
Composite 1; Cu – Ag Zone	84.5	11
Composite 2; Cu – Mo Zone	73.0	15
Composite 3: Mo Zone	70.8	16

In the global SPI database of five categories (very soft, soft, medium, hard and very hard), the CUMO composites can be classified as “medium”. Elaborating further, Figure 2 shows the positions of the CUMO SPI results in the global database. The composites 1, 2 and 3 were in the 59th, 51st and 49th percentiles respectively. The results of the Crusher Index showed a similar relationship. Details of the SPI and Crusher Index tests can be found in Appendix B.

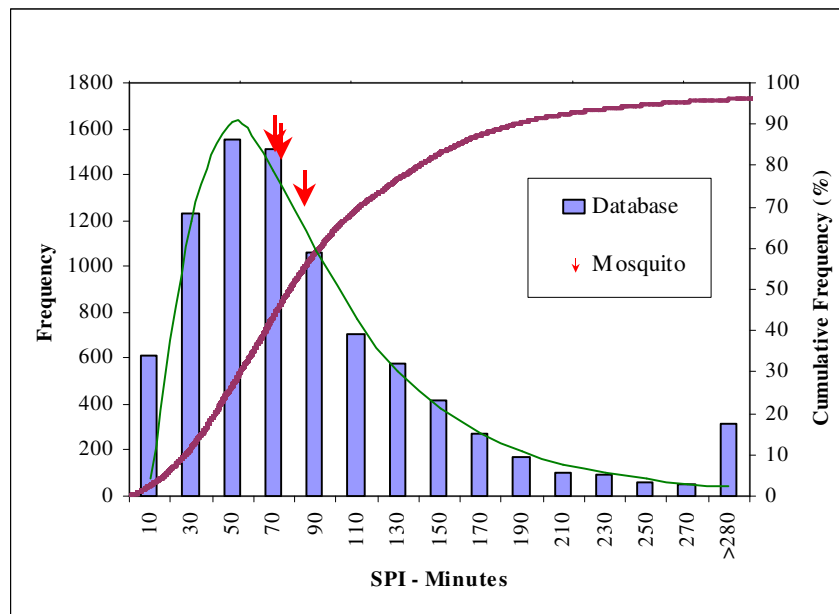


Figure 2: CUMO SAG Grindability vs. SGS Global Database

2.2 Bond Ball Mill Work Index Testing

As part of the grindability test program, the Bond ball mill grindability test was performed according to the standard Bond procedure. It required 10 kg of minus 6-mesh material. The Bond ball mill work index has been widely used for mill sizing, and is also utilized in computer simulation, and variability testing.

The Bond ball mill work indices from the three tests, run with a closing screen size of 150 microns are displayed below in Table 4

Table 4: Bond Ball Mill Work Index Results

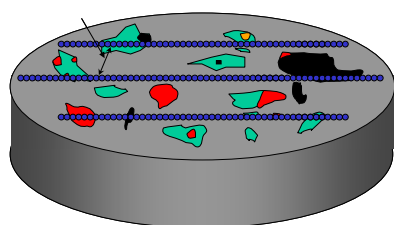
Composite Description	Bond Ball Mill Work Index	
	Metric – kWh/tonne	Imperial – kWh/ton
Composite 1; Cu – Ag Zone	15.8	14.3
Composite 2; Cu – Mo Zone	15.7	14.3
Composite 3; Mo Zone	12.6	11.4

The results indicated that composites 1 and 2 were medium-hard while the composite 3 was softer than the others. Details of the Bond ball mill work index testing can be found in Appendix B.

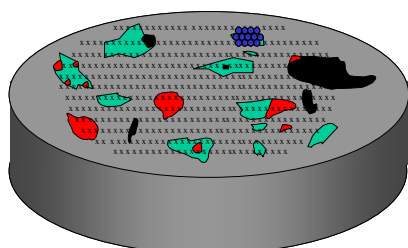
3 QEMSCAN Mineralogy

3.1 Methodology

A total of 8 polished sections were prepared for analysis by QEMSCAN. The analytical methods used were Bulk Modal Analysis and Sparse Mineral Search:



Bulk Modal Analysis: This is a “line scan” analysis of the polished section – where analyses are conducted every 2-6 microns (depending on the size fraction) along lines spaced apart the same distance as the top-sized particles.



Sparse Mineral Search: This form of analysis uses the rapid back scattered electron detection method to pre-select candidate particles likely containing the target minerals, then the high definition X-Ray detection methodology to fully define the associated particle.

× BSE analysis
● X-ray analysis

The operating statistics pertaining to the present analyses are shown in Table 5. A total of 552 thousand points were analysed by bulk modal analysis, while 3,174 copper and molybdenum-

bearing particles were found and analysed in detail by QEMSCAN using the Sparse Mineral Search routine on the three samples. A total of 12 polished sections were studied at a resolution ranging from 2 to 4 microns.

3.2 Quality Control

The QEMSCAN operates by translating X-ray spectra into mineral identification using a reference mineral library system – known as the Specimen Identification Protocol (SIP). While basic SIPs are available within the SGS network for all ore types, they need to be tailored for each ore, through a set-up methodology. The accuracy of this resulting SIP, together with the statistical sufficiency of the data is tested by reconstituting the chemical analysis from the mineralogy, and comparing with the assayed head. This is shown in Figure 3 below: A slope close to 1 and a correlation R^2 of in excess of 0.99 is good. Specifically, reconciliation of the copper (always somewhat weaker with low grade samples) was excellent for all but four of the size fractions analysed (Figure 4).

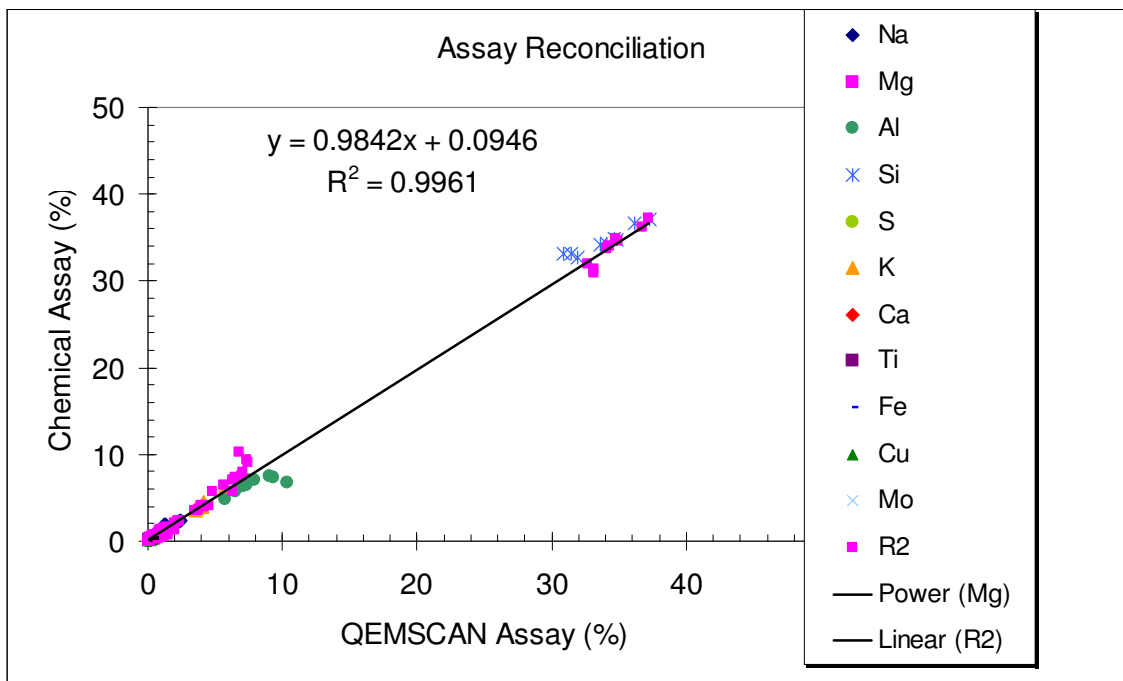


Figure 3: QEMSCAN vs. Chemical Assay Reconciliation

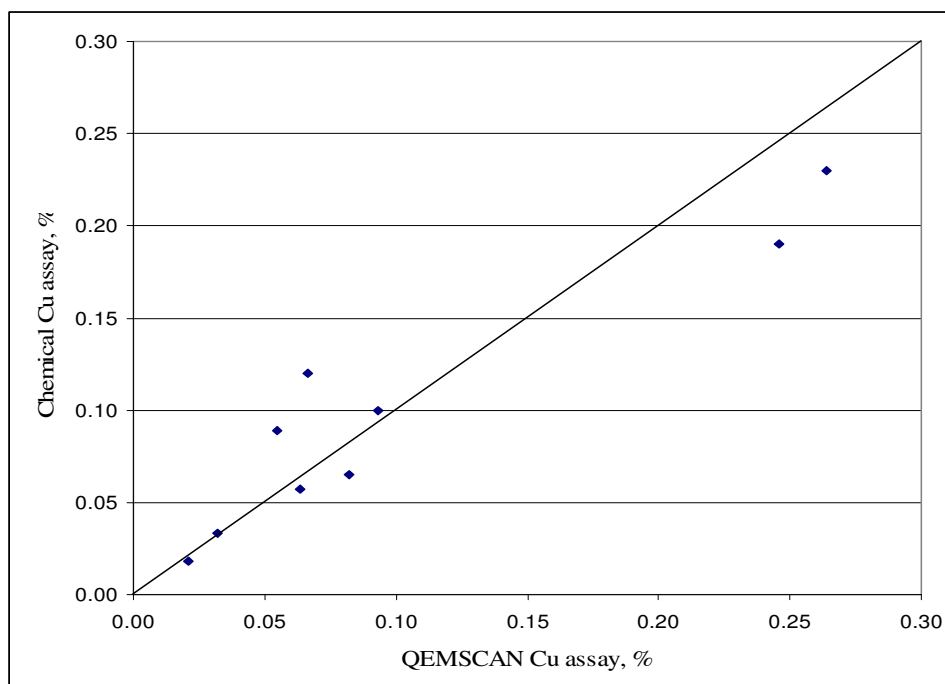


Figure 4: QEMSCAN vs. Chemical Cu Assay Reconciliation

3.3 Bulk Modal Mineral Abundance

The QEMSCAN-derived host rock mineralogy is shown in Table 5.

Table 5: QEMSCAN-derived Modal Mineralogy

% Abundance	Comp. 1	Comp. 2	Comp. 3
Chalcopyrite	0.5	0.4	0.1
Pyrite	0.3	0.1	0.1
Molybdenite	0.04	0.05	0.1
Other Sulphides	0.03	0.02	0.01
Quartz	37.4	36.1	41.3
K-Feldspar	35.5	39.3	34.6
Micas	20.2	18.4	19.4
Garnet	0.1	0.1	0.1
Amphiboles	0.4	0.4	0.9
Clays	1.9	1.9	1.0
Chlorites	2.0	1.3	0.7
Fe Oxides/Oxyhydroxides	0.3	0.1	0.2
Ti Oxides	0.3	0.2	0.2
Calcite	0.8	1.2	1.0
Apatite	0.2	0.1	0.1
Other	0.1	0.1	0.05

The following data analysis describes the CUMO data, and compares it with equivalent Modal Analytical data from our master database of 35 disseminated copper ores and 10 primary Mo ores. These ores range from large high-profile existing operations, mainly in Americas, such as Las Pelambres, Andina, Collahuasi, Kemess and Robinson to developing projects such as Pebble, Prosperity, Afton, La Arena, Mirador, Mount Hope and Storie. Respecting the need for project confidentiality, individual projects are not cited, instead, the specific mineralogical parameters pertaining to the CUMO data are rated against the overall dataset and probable implications are described.

The CUMO ores are quartz-feldspar assemblages with a significant micaceous component. They contain no measurable secondary copper mineralisation – essentially all the copper mineralisation is in the form of chalcopyrite (Figure 5). Secondary copper mineralisation, especially in conjunction with pyrite, normally requires high pH flotation. This is not the case with CUMO, where a pH of 9-10 (within the optimal range for chalcopyrite flotation) is recommended.

The pyrite content as shown in Figure 6, is also low when compared with our database of either Mo ores or disseminated Cu ores. Pyrite can float freely into rougher and indeed in some cases cleaner concentrates, and this needs to be controlled through a high pH environment. The lack of pyrite again points to a mildly alkaline pH environment (pH 8-10) being optimal:

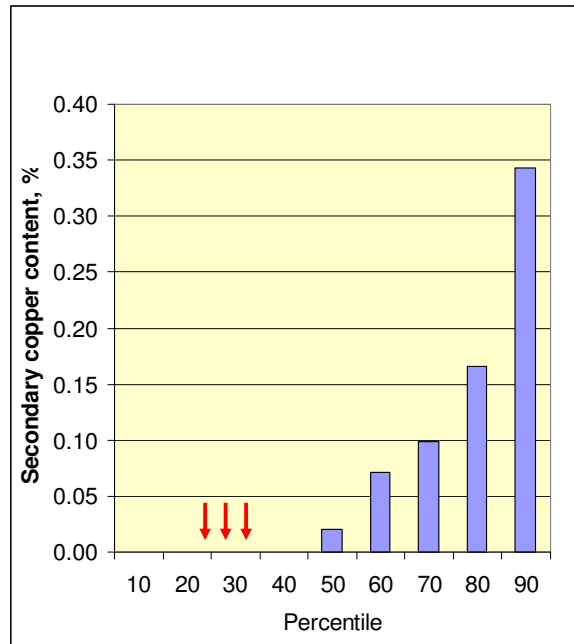
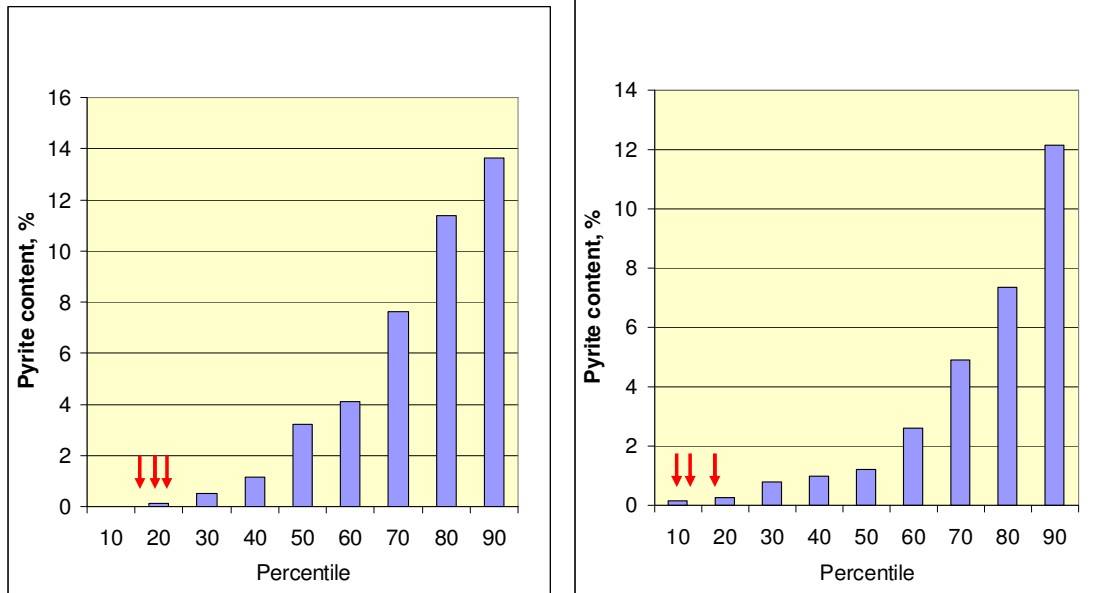


Figure 5: Secondary Copper Content in CUMO, vs. SGS Global Cu ore Database

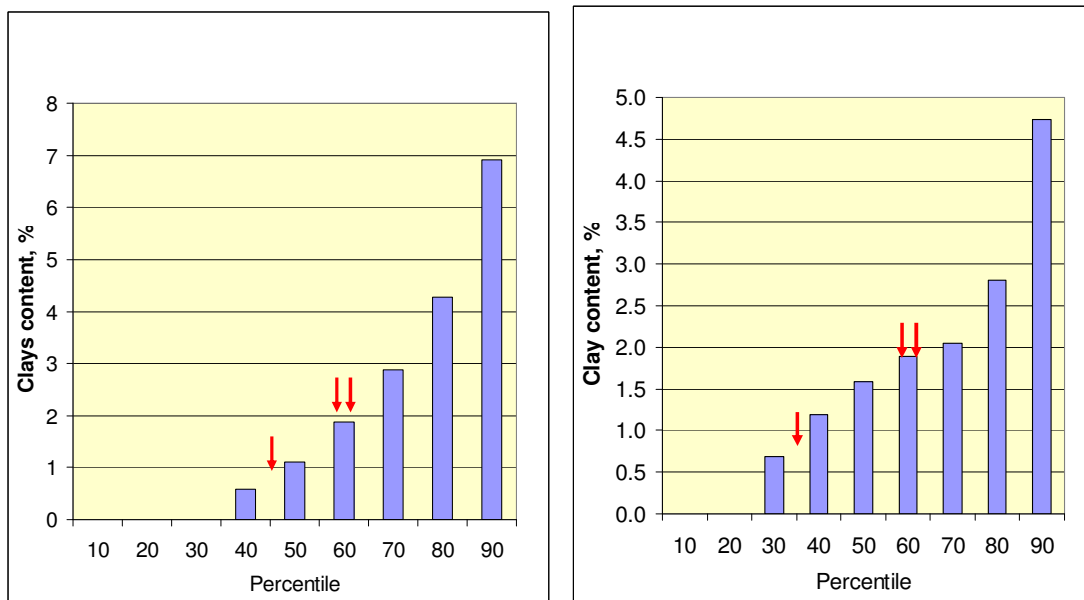


(a) Cu ore Database

(b) Mo ore Database

Figure 6: Pyrite Content in CUMO, vs. SGS Global Cu and Mo Ore Databases

The Clay/kaolinite content is benchmarked in Figure 7. Certain clays act as ion exchange agents, consuming reagents. They are often charged, causing them to repel each other, resisting flocculation and coagulation, causing settling problems in return water systems and hence poor water quality. Finally, those same surface charges can attract them to the anionic sulphide surfaces, which can adversely affect sulphide flotation. High levels of clay, especially if seen in conjunction with poor flotation performance, can lead to the need to speciate the clays using XRD, so the water chemistry can be modified to handle them. This appears not to be necessary in this case, with the CUMO ores being largely free from clays.



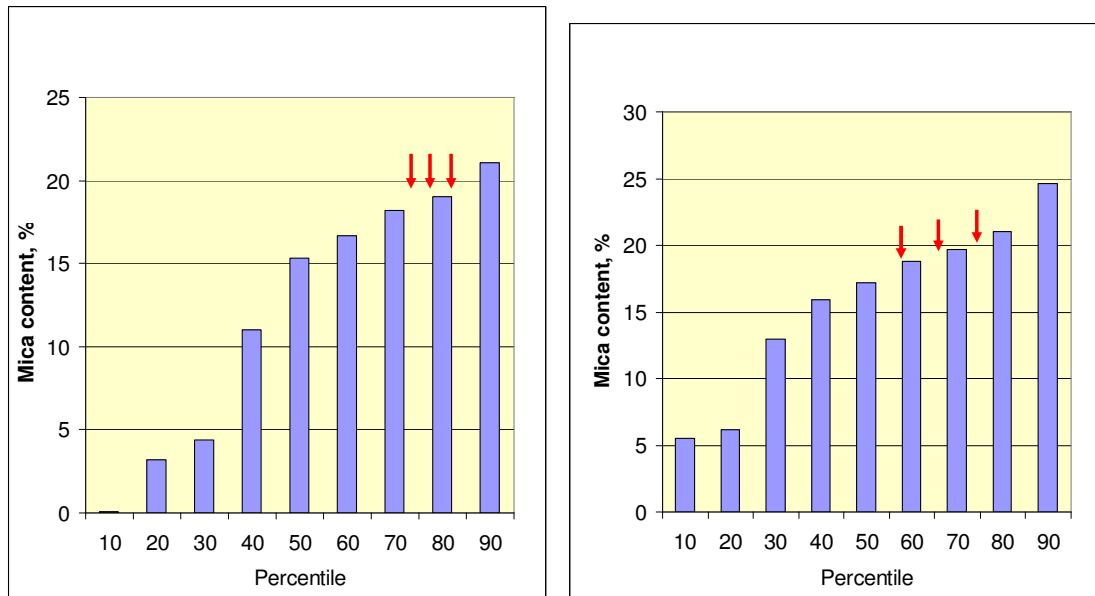
(a) Cu ore Database

(b) Mo ore Database

Figure 7: Clay Content in CUMO, vs. SGS Global Cu and Mo Ore Databases

The proportion of micas in the CUMO ore is benchmarked in Figure 8. Micaceous material does not affect flotation chemistry as clays do, but they do have a tendency to be entrapped in concentrates, and micaceous ores are accordingly quite difficult to clean. Froth washing is

needed to flush the micas out from the concentrate, so high levels of micas usually point to a need to include column flotation, at least, as a final stage of cleaning. Alternatively, extra stages of cleaning are recommended. The master composites contain a relatively (but not unusually) high proportion of micaceous material. We would recommend the inclusion of column flotation as a final stage of cleaning in this case.

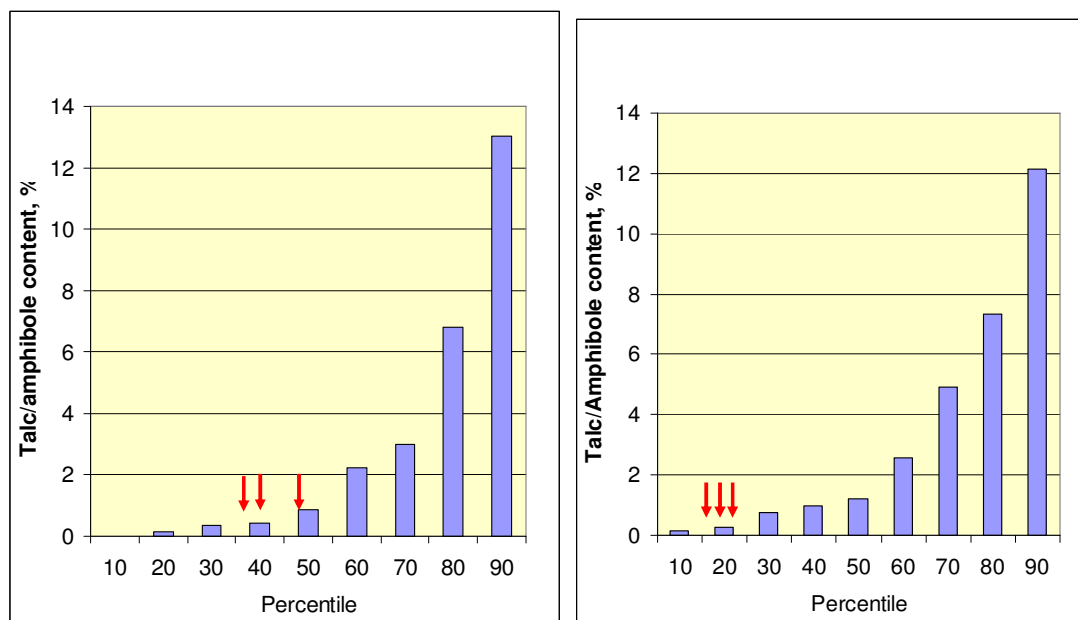


(a) Cu ore Database

(b) Mo ore Database

Figure 8: Mica Content in CUMO, vs. SGS Global Cu and Mo Ore Databases

The talc/amphibole content in the CUMO composites is benchmarked against the databases in Figure 9. There is relatively little talc/amphibole – high levels of, especially, talc usually lead to the use of high-priced polymeric depressants in the cleaner circuit (and occasionally the rougher). They will not be needed in this case.



(a) Cu ore Database

(b) Mo ore Database

Figure 9: Talc/Amphibole Content in CUMO, vs. SGS Global Cu and Mo Ore Databases

3.4 Copper Mineral Liberation

The release analysis (% copper mineral liberation as a function of host particle size) is a useful tool for defining the likely target range for the primary grind and the concentrate regrind to achieve adequate selective mineral recovery. Further, the nature of the curve at the fine end points either limits in concentrate grade or recovery.

The release analysis for CUMO chalcopyrite is shown against the database in Figure 10. CUMO chalcopyrite is relatively fine-grained compared to our database of disseminated Cu ores. Typically, most primary grind sizes K_{80} 's are optimal at a size equivalent to 30-40% mineral liberation. Using these criteria, an optimal primary grind of 50-60 microns is indicated. However, given the relatively low per-tonne contained value of the material, a coarser grind may

need to be targeted. This will adversely affect recovery, although the use of potent collectors designed to float Cu-middling may help negate this.

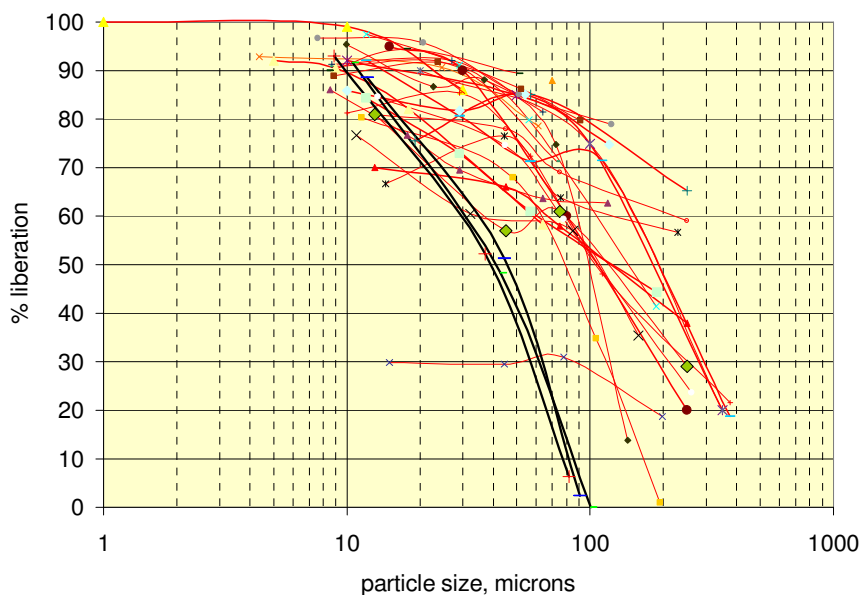
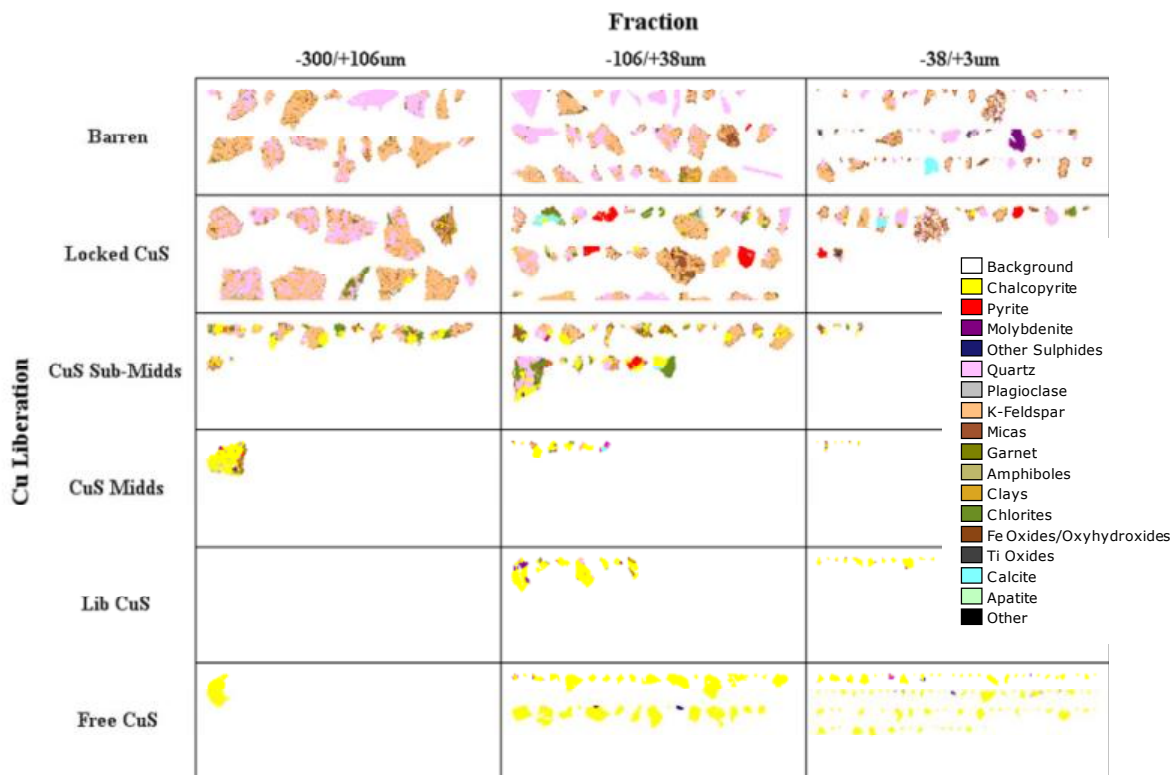


Figure 10: Release Analysis of CUMO Chalcopyrite (black) vs. Global Cu database (red)

Optimising the primary grind almost always involves a trade-off between the cost of finer grinding and the resulting improved recovery. This is usually sensitive to operating cost issues (especially power costs) and to a lesser extent capital cost, and will require some close assessment in the case of CUMO. Good liberation is, however, achieved at a regrind K_{80} of 15-20 microns, so achieving reasonable concentrate grades should be quite possible if reasonably fine concentrate regrinding is employed.

In cases where the copper mineralisation is fine grained, association with pyrite can be seen as an advantage, as floating the pyrite to the concentrate allows for finer grinding of the Cu locks and liberation of the Cu mineralisation (Northgate's Kemess operation being an example of this philosophy) Locked Cu minerals in the CUMO ores are most predominantly attached to complex particles, so no such opportunity appears to exist here. The example of Composite 1 is shown Figure 11, the other two composites are similar.



**Figure 11: Image Grid describing CUMO Cu Liberation
Cu/Ag Composite (Composite 1)**

3.5 Molybdenum Mineral Liberation

The release analysis for CUMO molybdenite is shown against the database in Figure 12. One of the three datasets (Composite 1) for release analysis are poor, the result of inadequate statistics from this very low grade Mo ore, however the other two tell a consistent story, one of relatively fine-grained Mo which will be liberated at a grind of roughly K_{80} of roughly 70-80 microns. CUMO molybdenite is slightly more coarsely disseminated than the chalcopyrite, so for the most part, Mo metallurgy, at any given grind should be slightly better than Cu metallurgy.

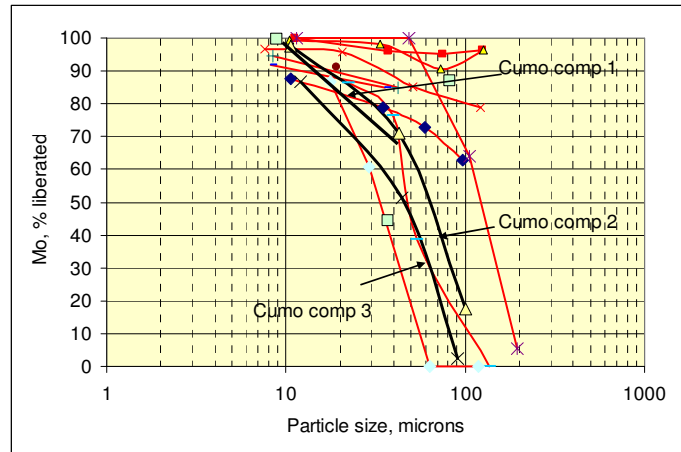


Figure 12: CUMO Molybdenite Release Analysis, vs. SGS Global Mo Ore Database

Regrinding to a target size of 15-20 microns should release the Mo sufficiently to make concentrate grades of 50% Mo. However, the propensity of the Mo to lock to harder silicates (Figure 13) will increase the challenge associated with liberating the Mo without sliming it in the process. Owing to the attrition nature of the grinding action, we suggest vertimills or SMD/Isamills may not be a good application in this case.

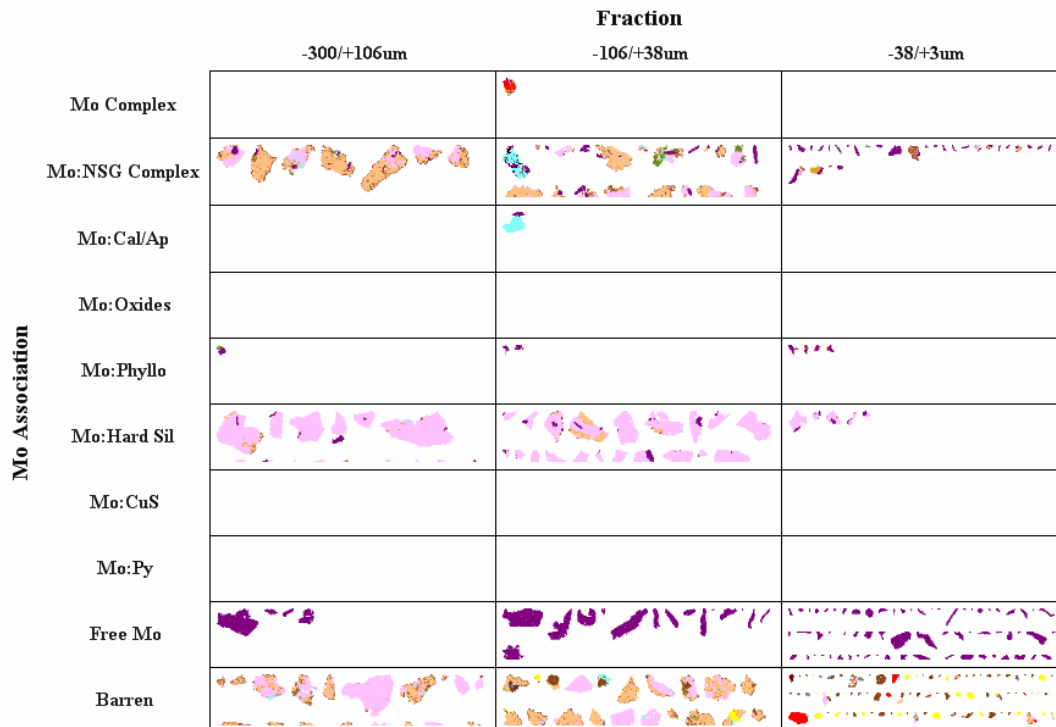


Figure 13: Image Grid describing Release Characteristics of CUMO Molybdenite: Mo Composite (Composite 3)

4 Flotation Testing

Flotation testing of the CUMO ore were conducted on three levels of investigations namely, rougher, cleaner and locked cycle testing. All three composites were subjected to these tests using common Cu and Mo reagents.

4.1 Composite 1: Cu – Ag Zone Testing

4.1.1 Rougher testing of composite 1

Two rougher kinetic flotation tests were conducted on the composite following the conditions described below. The details of the tests are placed in the Appendix C.

- Grind: One sample of the composite was ground to a K_{80} of 62 micrometers while the other to a K_{80} of 111 micrometers.
- Molybdenum activator/collectors: Fuel oil was tested as the Mo activator for this composite and Aero 3302 was used as the Moly collector.
- Cu/Ag collectors: Aero 3418 A, a dithiophosphine was used as the Cu and Ag collector in the Cu – Ag composite. This phosphine reagent is widely recognised as a strong and a selective Cu, Pb and Ag collector in the industry.

The rougher kinetics of the Cu – Ag composite at two different mesh of grinds, are graphically shown in Figures 14, 15 and 16. The results of the rougher testing proved the following.

- The rougher recovery of Cu, Mo and Ag at the finer grind (K_{80} of 63 μm) were 73%, 86% and 76% respectively (Figure 14) and were higher than at the coarser grind (K_{80} of 111 μm).
- For a resource with low head grades, the above recoveries are considered acceptable averages by industry standards.
- The mass recovery of the finer grind was 7.6% and of the coarser grind was 5.5%.
- The finer grind benefited Cu more than Mo or Ag (Figure 14).

- The recovery of valuable minerals reached the recovery plateau in about eight minutes (Figure 14). At this residence time, the recovery losses were a minimum (from the maximum 15 minutes), with considerable benefits gained from the mass recovery.

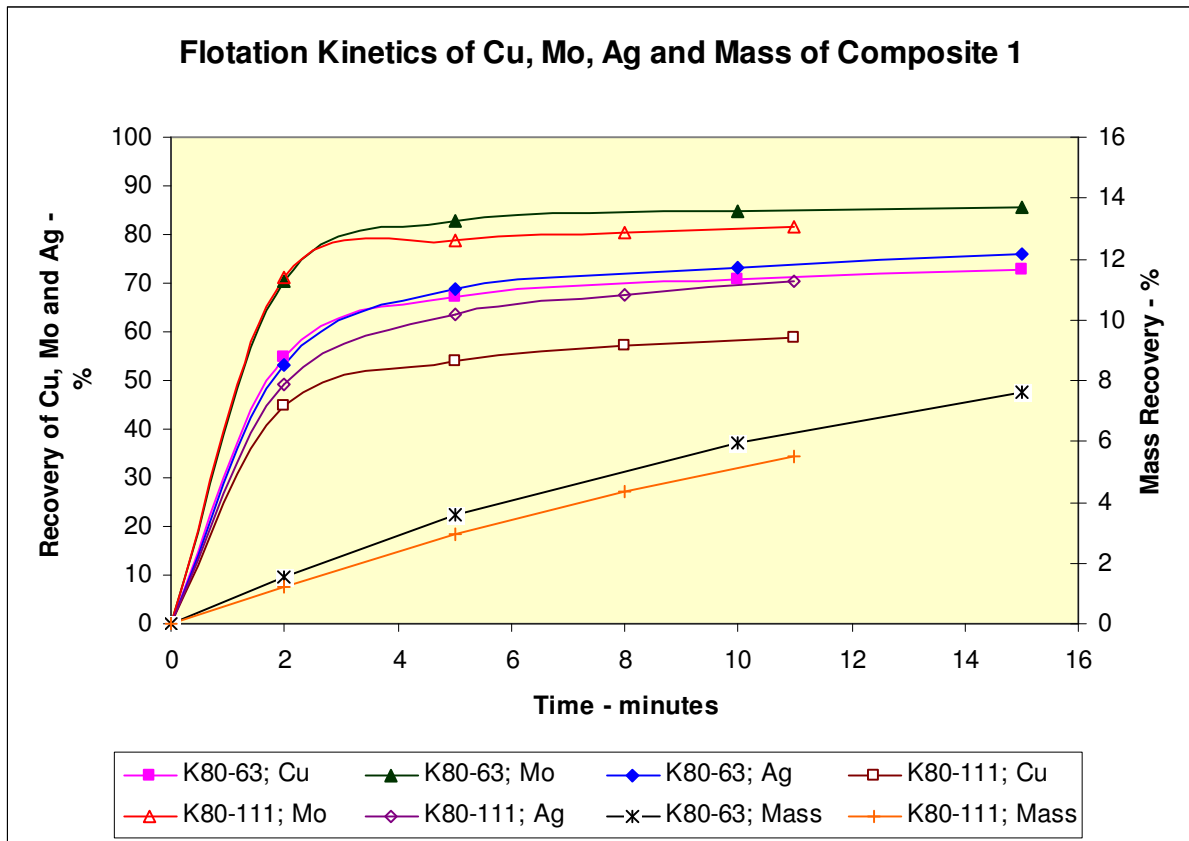


Figure 14: Rougher Kinetics of Composite 1

- The grade and recovery curves of Cu confirmed the benefits of the finer grind (Figure 15). In case of Mo and Ag, the benefits were marginal to mixed (Figure 16).
- Considering the price of 3418A, this phosphine Ag collector was not cost effective.
- The recovery of the Cu minerals can be improved by optimizing the mesh of grind and the reagents. Reagents appeared to be the only option available to improve the Mo and Ag mineral recoveries.

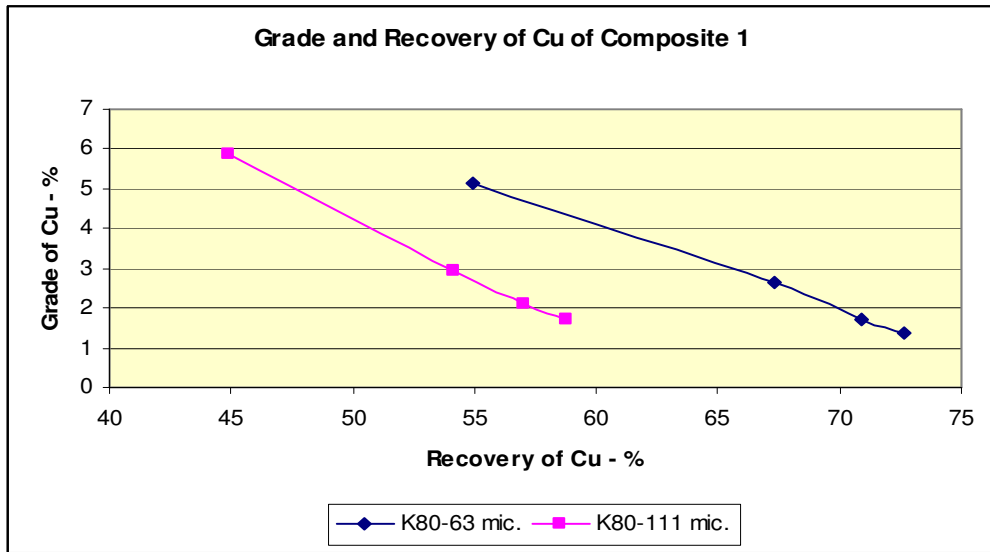


Figure 15: Grade and recovery of Cu of Composite 1

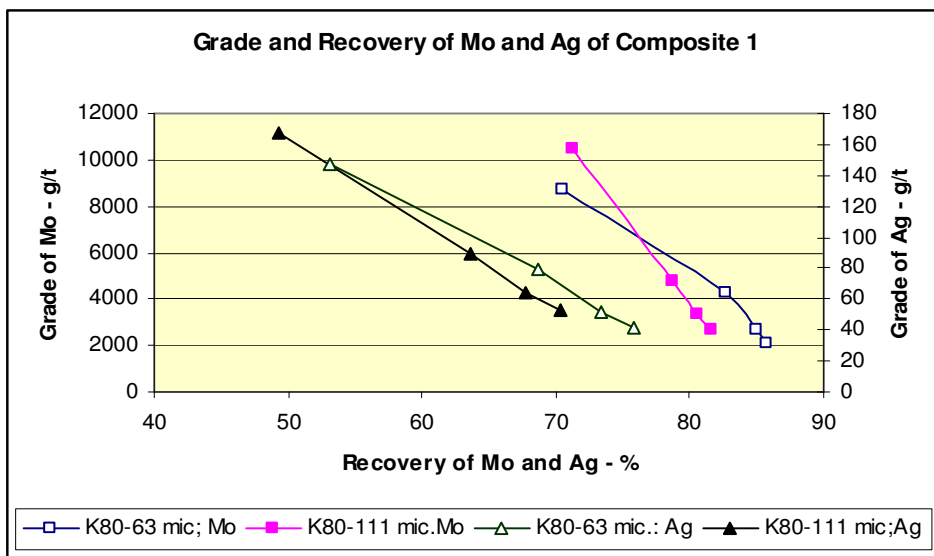


Figure 16: Grade and Recovery of Mo and Ag of Composite 1

4.1.2 Cleaner Testing of Composite 1

In this stage of testing the composite was floated at its best conditions determined during the rougher tests. The rougher concentrate was re-ground and cleaned in three stages of open circuit

cleaning as shown in Figure 17. In cleaner testing, tungsten was added to the list of minerals to be investigated.

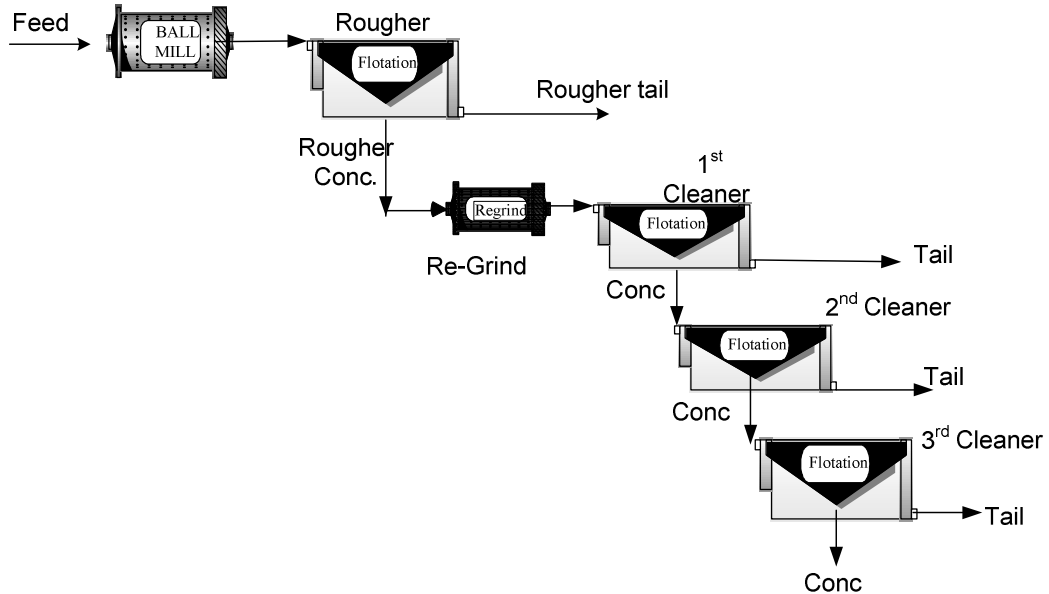


Figure 17: Cleaner testing flow-sheet

The objectives of the cleaner tests were to optimise the reagents and re-grind times to produce the best cleaner products and set up conditions to conduct locked cycle testing of the same composite. Three cleaner flotation tests were conducted on the composite following the conditions described by the test matrix in Table 6 below.

Table 6: Cleaner testing parameters of composite 1

PARAMETERS	Test # 3	Test # 4	Test # 5
Primary grind - K ₈₀ , µm	63	54	54
Re-grind time – min	15	15	22
Diesel – g/t	25	25	
Aero 3302 – g/t	31	26	
F 1234		5	
Aero 3477 – g/t			20
SIBX – g/t	36	36	37

The performance of the cleaning tests was evaluated through the flotation grade/recovery relationships for copper, molybdenum and silver. These are presented in Figures 18, 19 and 20.

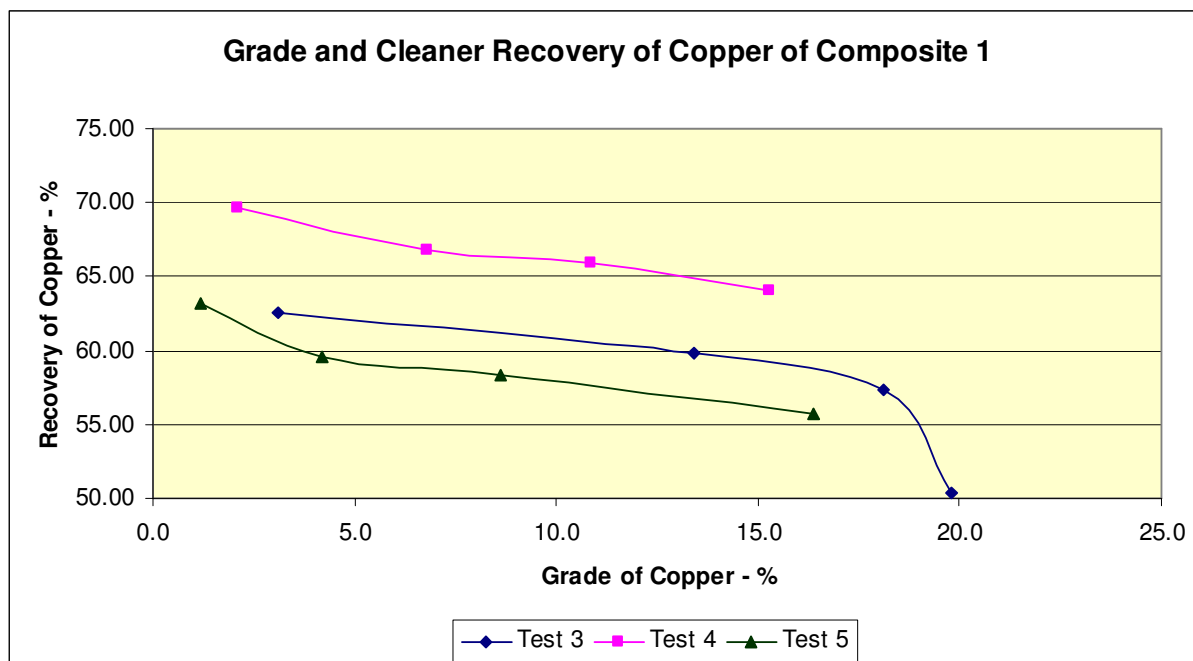


Figure 18: Grade and cleaner recovery of Copper of composite 1

The details of the cleaner tests were placed in the Appendix C. The following can be concluded:

- Test 4 produced the best metallurgy of Cu, Mo and Ag. Here, a concentrate assaying 15% Cu was made at a Cu recovery of 64%, while recovering 81% of the Mo for a grade of 2% and 65% of the Ag for a grade of 462 g/t to the same concentrate.
- The graphs of all the elements in all tests remained almost parallel to each other during the cleaning process, indicating either the lack of distinction or the ineffectiveness of external stimuli (reagents, re-grind etc., etc.) towards the final outcome.
- The average upgrade ratio of Cu during cleaning in test 4, assured that a saleable grade copper concentrate can be made with two additional stages of cleaning. The lower head grade, low weight of the feed charge and the type of cleaning (lack of columns to address mica), were some of the reasons why saleable grade of Cu was not made in these tests.

- The best rougher recovery achieved for Cu was 70% and this low recovery was likely due to low feed grade and poor liberation. Rougher tail also carried the majority of Mo and Ag losses.

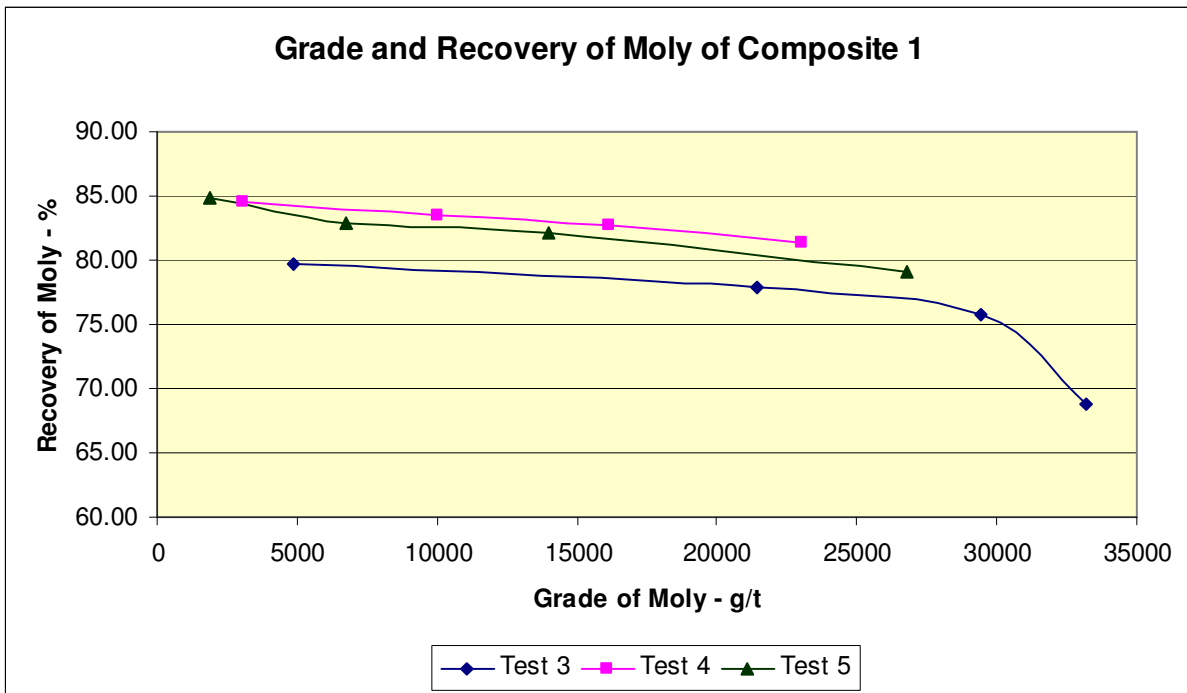


Figure 19: Grade and cleaner recovery of Molybdenum of composite 1

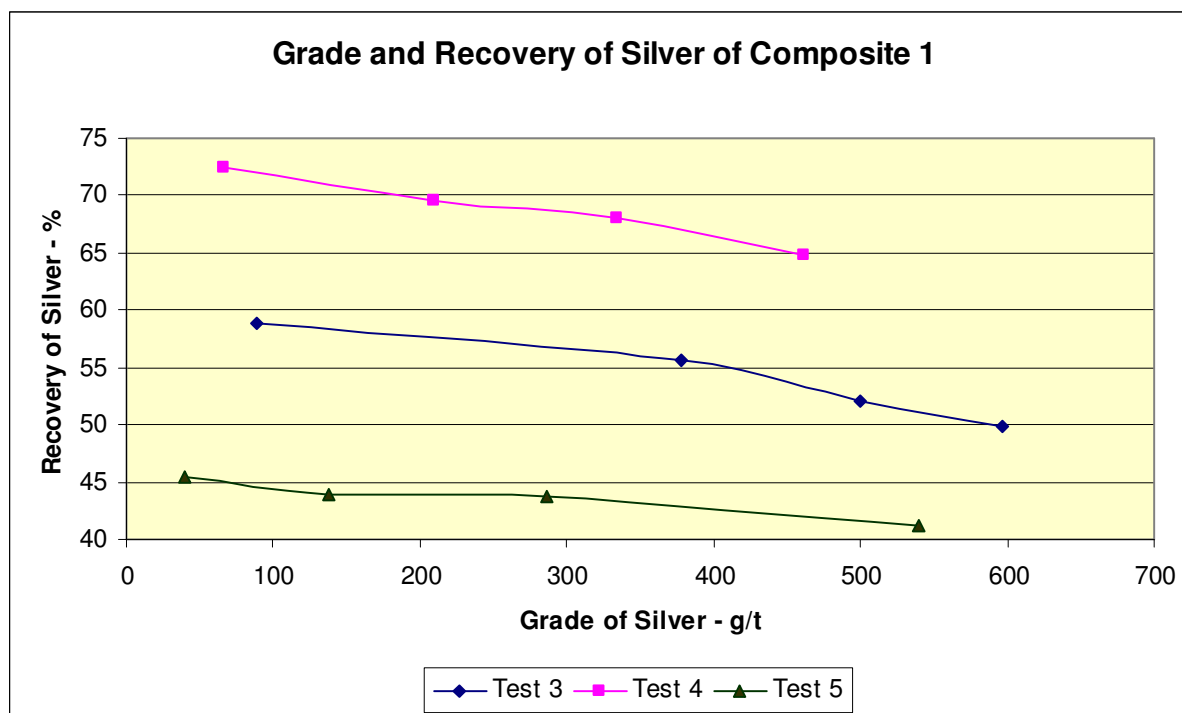


Figure 20: Grade and cleaner recovery of Silver of composite 1

- In general, the metallurgy (grade and recovery) of the rougher stage depended largely on the primary grind. In these tests it proved that a grind of a K_{80} of 54 μm was more beneficial for Cu and Mo than 64 μm .
- The finest regrind after 22 minutes (test # 5), was K_{90} of 20 μm and yet the results were not different from other tests concluding that either the regrind size should be much finer, or that the regrind size is unimportant – however the mineralogy data point to the need for a finer regrind. This needs more study.
- A generic reagent suite employing Sodium IsoButyl Xanthate and Cytec Aero 3302 collectors appeared to be sufficient to process this composite. The use of diesel to activate Mo, and supplementary collector F1234 (thionocarbamate), did not appear to help the general recoveries.
- The products carried so little W, they were below the analytical detection limit and hence the grade and the behaviour of W, were not accurately assessed.
- However, it was estimated that the W of the feed of the composite to be between 30 g/t and 40 g/t and about 90% of the W, reported to the rougher tail.

4.1.3 Locked cycle testing of composite 1

Extending the findings from the rougher and cleaner testing, one locked cycle test was conducted on composite 1 and the flow-sheet is shown in Figure 21. The object of the test was to prove the stability of a continuous process and confirm the economical metallurgy of the composite under investigation.

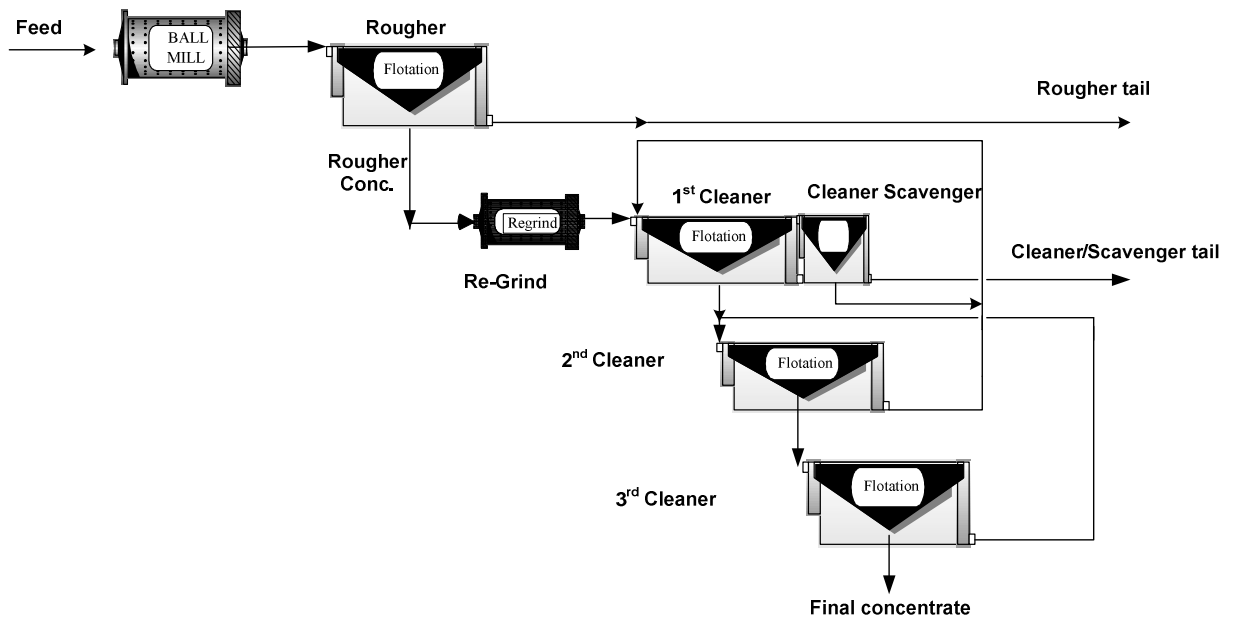


Figure 21: Locked cycle test flow-sheet

The locked cycle test was conducted using the parameters determined during the cleaner testing. The test details and the results of the locked cycle test were placed in Appendix C. The metallurgical prediction arrived from the results of the locked cycle test is shown in Table 7.

Table 7: Metallurgical prediction for composite 1

Stream	Wt - %	Assay - %, g/t			Distribution - %		
		Cu	Mo	Ag	Cu	Mo	Ag
Final concentrate	0.78	13.03	1.9994	357.2	63.3	82.2	71.7
Cleaner/Scav. tail	7.00	0.08	0.0052	2.5	3.7	1.9	4.6
Rougher tail	92.00	0.06	0.0033	1.0	33.0	15.9	23.8
Calculated Head	99.78	0.16	0.0189	3.9	100.0	100.0	100.0

The metallurgy of W was not assessed due to their low availability in the products. The stability of the process is depicted by Figure 22, below. The process tested resulted in a well balanced and a stable circuit.

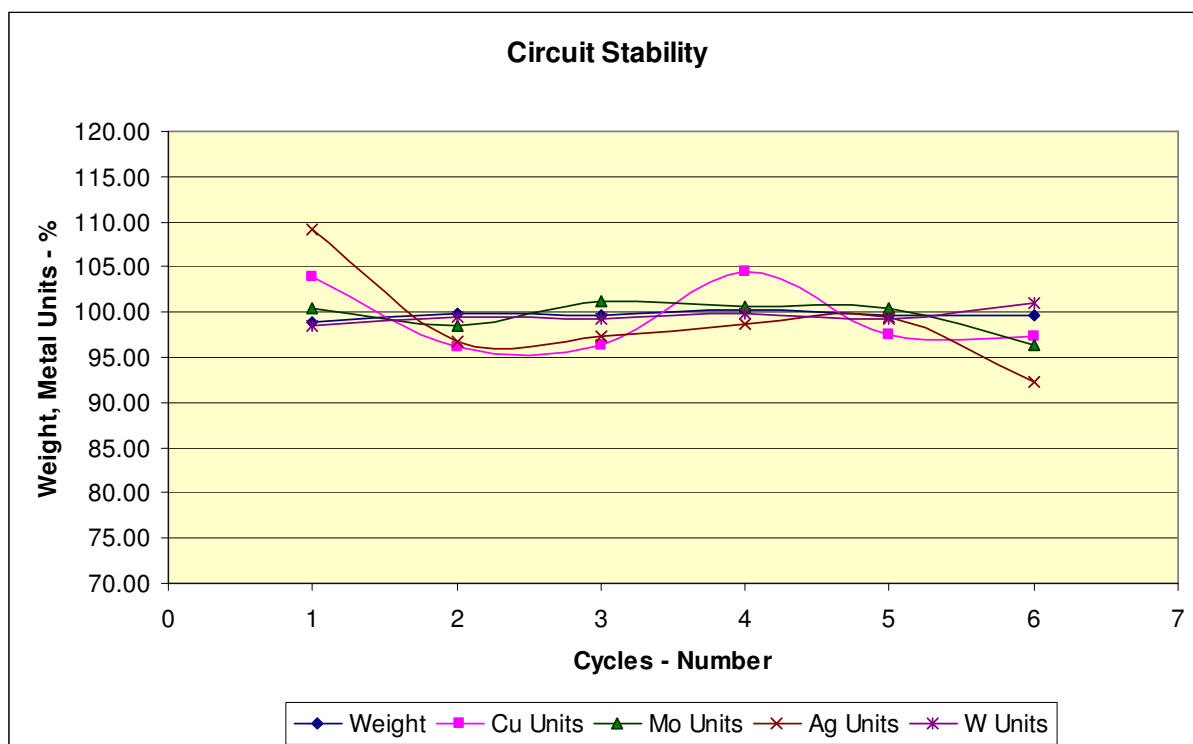


Figure 22: The stability of the locked cycle test of composite 1

The major loss of recovery of Cu, Mo and Ag was to the rougher tail. While the rougher recovery of Ag was better than in the rougher and cleaner tests, the Cu and Mo recoveries proved to be similar to the rougher and cleaners tests. This lack of improvement was despite the finer grind suggested by QEMSCAN studies and hence confirmed the need to further study the mineralogy and its effect on metallurgy.

4.2 Composite 2: Cu – Mo Zone Testing

4.2.1 Rougher testing of composite 2

Two rougher kinetic flotation tests were conducted on the composite following the conditions described below. Full details of the tests were placed in Appendix C.

- Grind: One sample of the composite was ground to a K_{80} of 61 micrometers while the other to a K_{80} of 106 micrometers.
- Moly activator/collectors: Diesel oil was the Moly activator for this composite and Aero 3302 was the Moly collector.
- Cu/Ag collectors: Sodium IsoButyl Xanthate was used as the Cu and Ag collector in the Cu – Mo composite.

The rougher kinetics test data on the Cu – Mo composite at two different mesh of grinds, are graphically shown in Figures 23, 24 and 25. The results of the rougher testing proved the following.

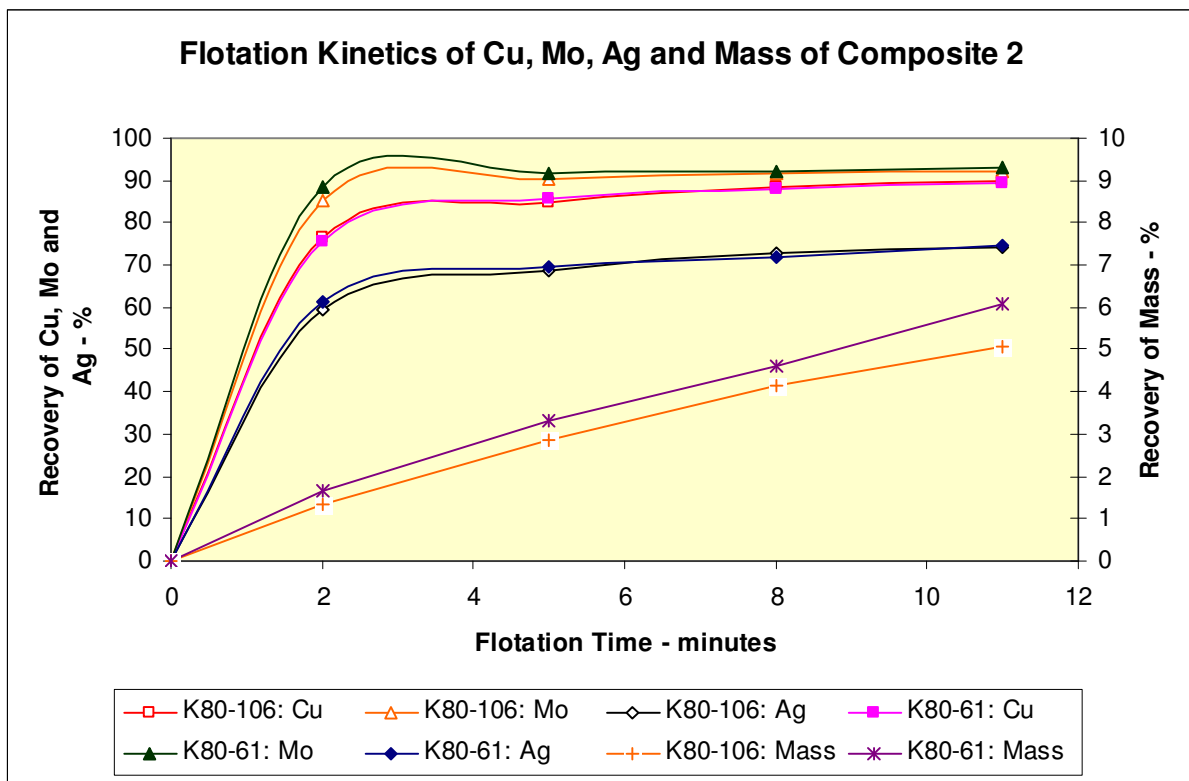


Figure 23: Flotation kinetics of composite 2

- The rougher recovery of Cu, Mo and Ag at the finer grind of K_{80} of 61 μm were 89%, 93% and 75% respectively while at the coarser grind K_{80} of 106 μm they were 90%, 92%

and 74% respectively, hardly any different from the finer grind. Recovery is not dependent on the mesh of grind in this range i.e. K_{80} of 61 to 106 μm .

- For a composite with (calculated) head grades of 0.11% Cu, 417 g/t of Mo and 2.9 g/t of Ag, the above recoveries would be considered above average by industry standards.

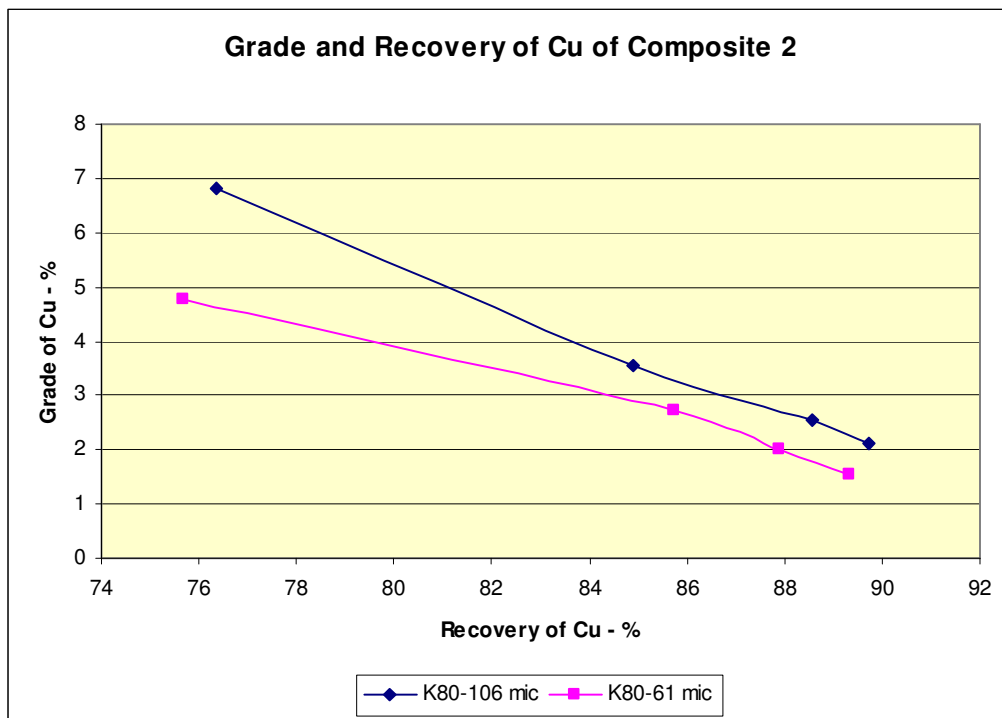


Figure 24: Grade and rougher recovery of Cu of Composite 2

- The flotation mass recovery following the finer grind was 6.1% and after the coarser grind, 5.1%.
- The recovery of valuable minerals reached the recovery plateau in about seven minutes (Figure 23).
- Figure 24 confirmed that the coarser grind provided better metallurgy for Cu than the finer grind. In the future, even coarser grinds should be tested on this material type.
- Figure 25 proved that the Mo and Ag metallurgy was independent of primary grind over the size ranges tested.

There may be significant project upside in the primary grind selection. The ore is moderately hard so any attempt to further coarsen the grind should significantly enhance capital and operating costs. This needs to be explored and an economic trade-off analysis conducted on k_{80} grind sizes in the 100-200 micron range.

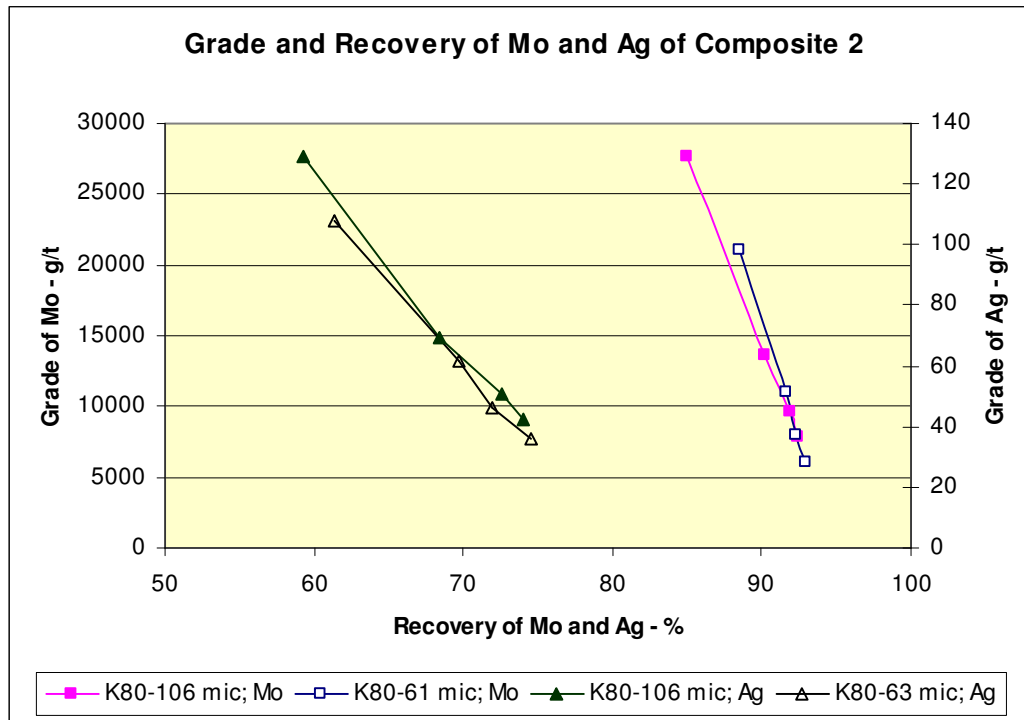


Figure 25: Grade and rougher recovery of Mo and Ag of Composite 2

4.2.2 Cleaner testing of composite 2

In this stage of testing the composite was floated at its best conditions determined during the rougher tests. The rougher concentrate was re-ground and cleaned in three stages of open circuit cleaning as shown in Figure 17. During cleaner testing, “Moly oil” was used to activate Mo and tungsten was added to the list of minerals to be investigated.

The objectives of the cleaner tests were to optimise the reagents and re-grind times to produce the best cleaner products and set up conditions to conduct locked cycle testing of the composite. Three cleaner flotation tests were conducted following the conditions described by the matrix in Table 8.

The results of the cleaning tests were measured by their grade and recovery achievements of copper, molybdenum and silver. These are presented in Figures 26, 27 and 28.

Table 8: Cleaner testing parameters of composite 2

PARAMETERS	Test # 3	Test # 4	Test # 5
Primary grind - K ₈₀ , μm	63	63	63
Re-grind time – min	15	20	10
Moly Oil – g/t	31	25	32
Aero 3302 – g/t	36	36	41
SIBX – g/t	41	41	46

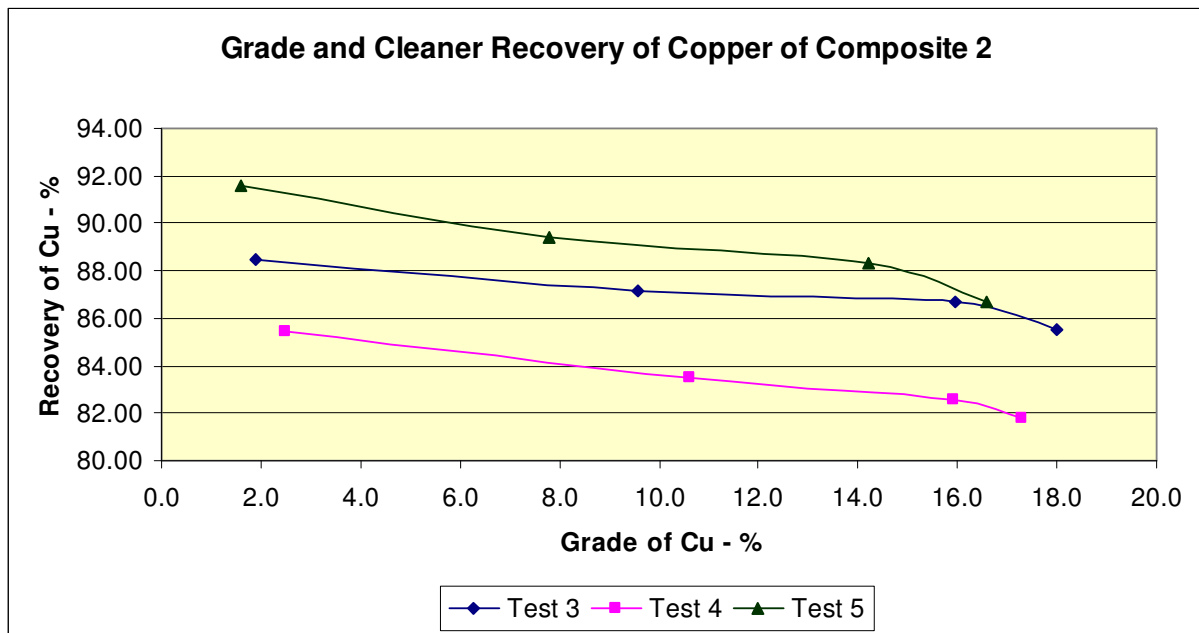


Figure 26: Grade and cleaner recovery of Copper of composite 2

Note that in these tests, the weights of some of the products were insufficient to determine all the elements completely. In such cases, values were assumed based on calculated head assays. The details of the cleaner tests were placed in the Appendix C. The following were discovered.

- Test 5 produced the best metallurgy for Cu while tests #3 were best for Mo and Ag. As in the case of composite 1, the behaviour of all elements of all tests except Mo in test # 5, showed parallel paths, indicating either the lack of distinction or the ineffectiveness of external stimuli (reagents, re-grind etc., etc.) towards the final outcome.
- In test 5, a concentrate assaying 17% grade Cu was made at a recovery of 87%, while 90% of the Mo was recovered to the concentrate, which assayed 5% Mo. Some 70% of the Ag was also recovered to the concentrate, which assayed 365 g/t.
- The average upgrade ratio of Cu during cleaning in test 5, indicated that a saleable grade copper concentrate can be made with two additional stages of cleaning. The lower head grade, low weight of the feed charge and the type of cleaning (lack of columns to address mica), were some of the reasons this was not demonstrated in these tests.
- No comment can be made on the ability to separate the Cu and Mo in the bulk Cu/Mo concentrate from this sample, or whether Mo can be upgraded to a saleable concentrate grade (50+% Mo)

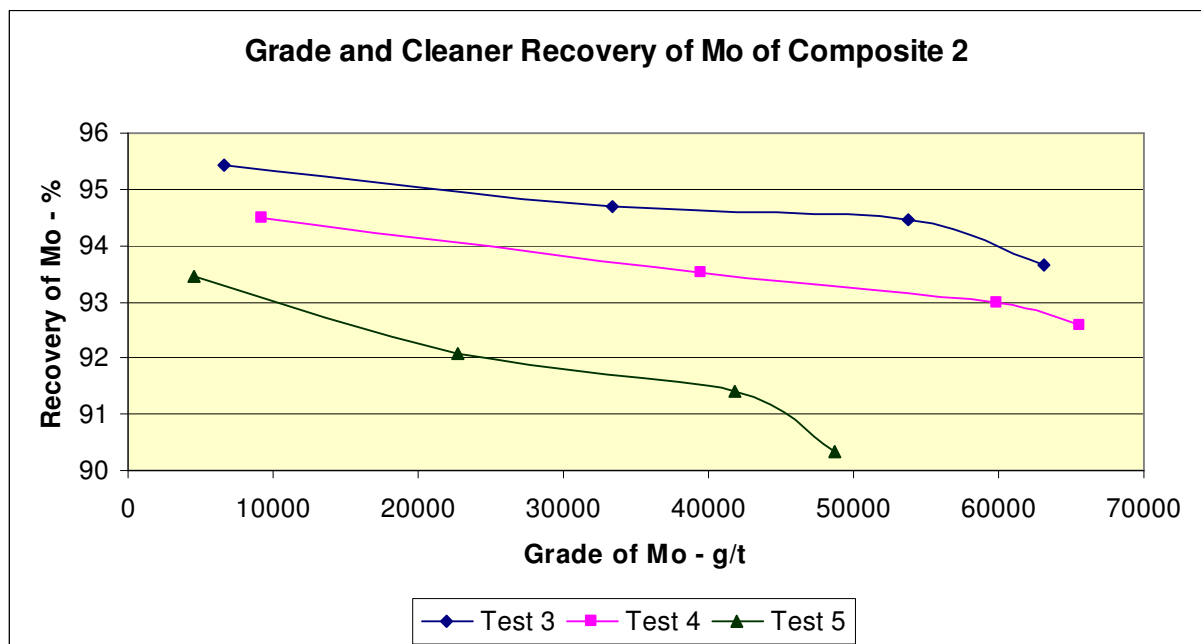
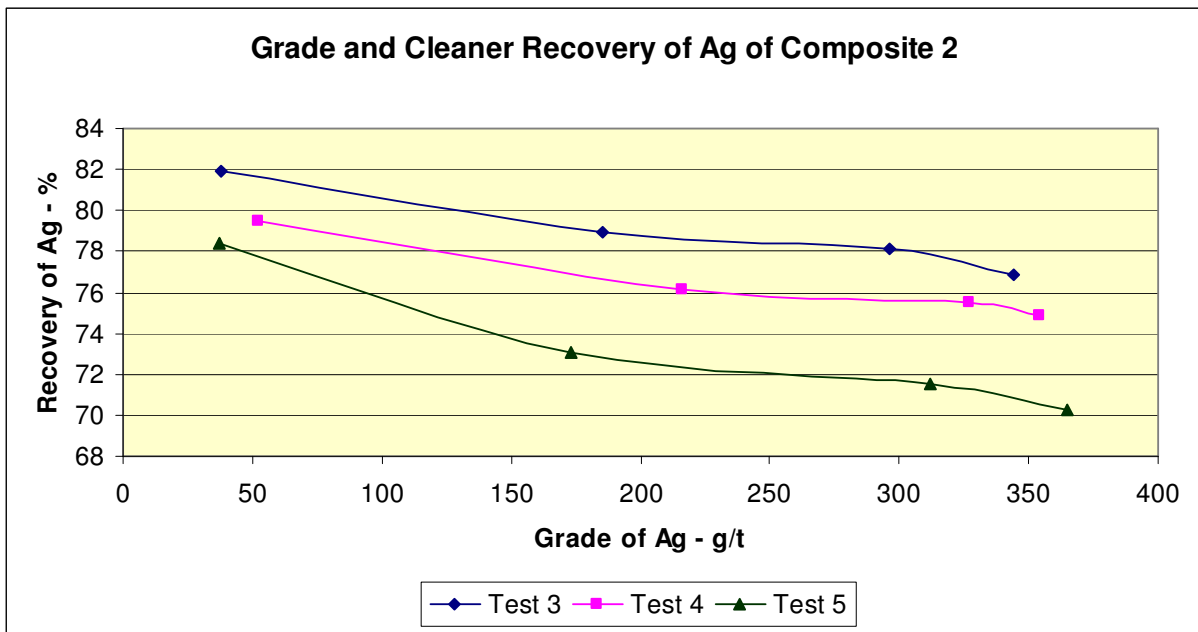


Figure 27: Grade and cleaner recovery of Molybdenum of composite 2

- Test # 4 with the longest re-grind time produced a K_{96} of 20 μ m and yet it did not appear to have been effective. As in composite 1, this concluded that the regrind should be finer than K_{96} of 20 μ m.
- A generic reagent suite appeared to be sufficient to process this composite.

**Figure 28: Grade and cleaner recovery of Silver of composite 2**

- The products carried W grades below the detection limit for the analytical methodologies employed in this study, hence the grade and the behaviour of W, were not accurately assessed.
- The W of the feed of the composite was estimated to be between 50 g/t and 70 g/t and we believe over 90% of the W, reported to the rougher tail. The rougher tail assayed at 70 g/t in test 3 and 50 g/t in each of tests 4 and 5.

4.2.3 Locked cycle testing of composite 2

Extending the findings from the rougher and cleaner testing, one locked cycle test was conducted on Composite 2 and the flow-sheet is shown in Figure 21. The object of the test was to prove the

stability of a continuous process and confirm the metallurgy of the ore under investigation using the as-developed procedure.

The locked cycle test was conducted using the parameters determined during the cleaner testing. The test parameters and the results of the locked cycle test were placed in Appendix C. The metallurgical prediction arrived from the results of the locked cycle test is shown in Table 9.

Table 9: Metallurgical prediction for composite 2

Stream	Wt - %	Assay - %, g/t			Distribution - %		
		Cu	Mo	Ag	Cu	Mo	Ag
Final concentrate	0.66	16.4	5.6567	324	88.6	93.7	80.0
Cleaner/Scav. tail	6.00	0.03	0.0058	1.20	1.2	0.9	2.7
Rougher tail	93.38	0.01	0.0023	0.50	10.2	5.4	17.3
Calculated Head	100.03	0.12	0.0401	0.27	100.0	100.0	100.0

The metallurgy of W was not assessed due to its low grade in the products. The stability of the process is depicted by Figure 29, below. The process tested resulted in a well balanced and a stable circuit.

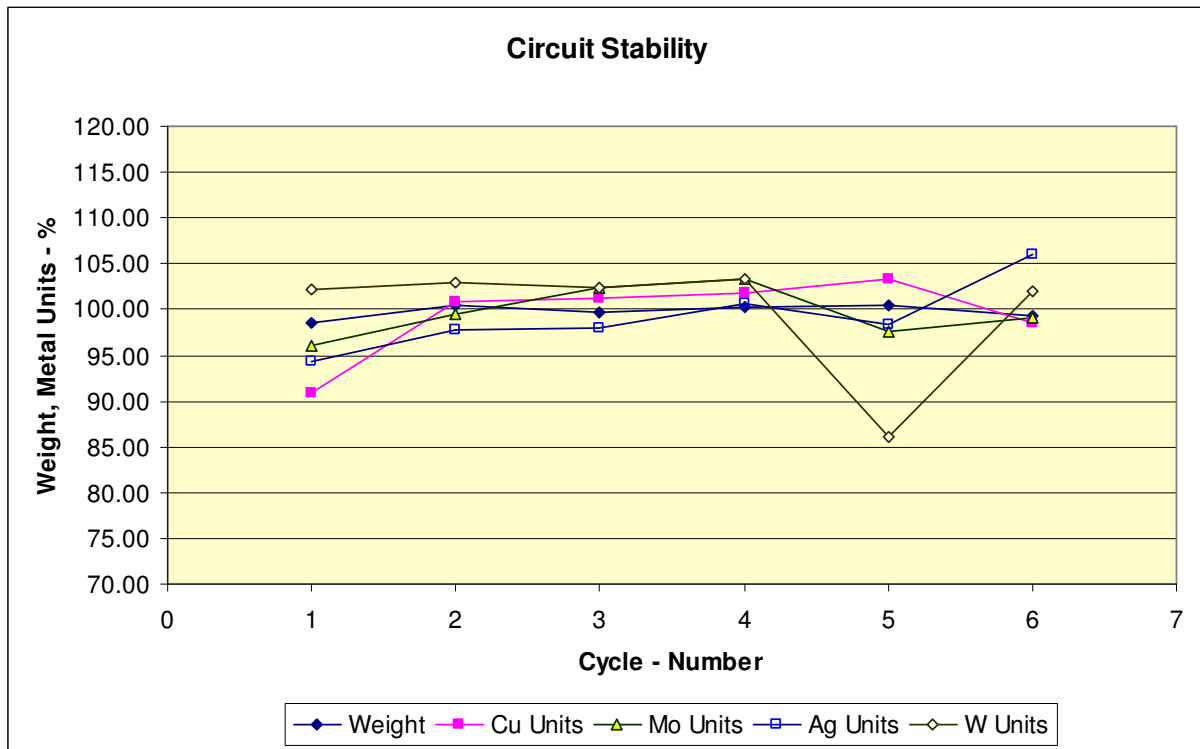


Figure 29: The stability of the locked cycle test of composite 2

Similar to Composite 1 and as expected, the major losses of Cu, Mo and Ag were to the rougher tail. However, the Composite 2 rougher losses were lower than Composite 1, despite the lower head assays, indicating that Composite 2 was an easier composite to process than Composite 1. The final recoveries of Cu, Mo and Ag attained would be considered above industry average considering the low head grades. The lower than saleable grade of the final concentrate, was a product of the low grades and the small masses used in the test, and may not reflect any inability of the material to yield saleable concentrate grades in reality.

4.3 Composite 3: Mo Zone Testing

4.3.1 Rougher testing of composite 3

Two rougher kinetic flotation tests were conducted on the composite following the conditions described below. Full details of the tests were placed in Appendix C.

- Grind: One sample of the composite was ground to a K_{80} of 62 micrometers while the other to a K_{80} of 115 micrometers.
- Moly activator/collectors: Moly Float® oil was the Moly activator for this composite and Aero 3302 was the collector.
- Cu/Ag collectors: Sodium IsoButyl Xanthate was used as the Cu and Ag collector in this composite.

The rougher kinetics of this Mo composite at two different mesh of grinds, are graphically shown in Figures 30, 31 and 32. The results of the rougher testing proved the following.

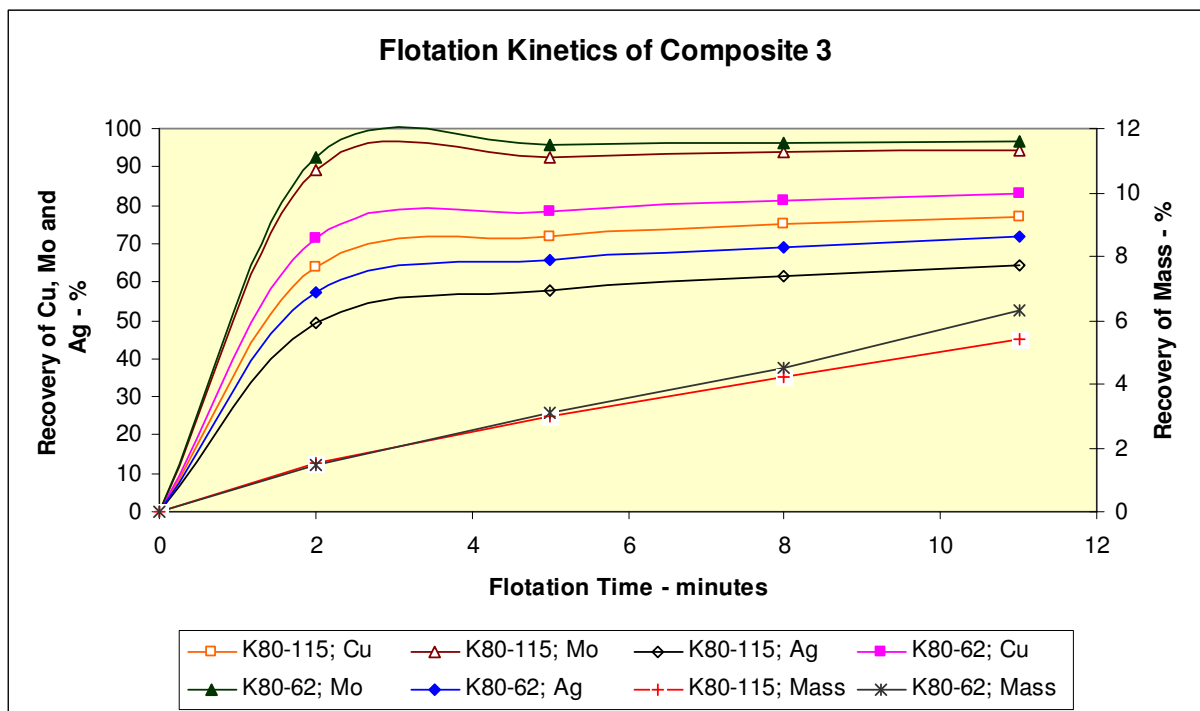


Figure 30: Flotation kinetics of composite 3

- The rougher recovery of Cu, Mo and Ag at the finer grind of K_{80} of 62 μm were 83%, 97% and 72% respectively while at the coarser grind of K_{80} of 106 μm they were 77%, 94% and 64% respectively. The finer grind significantly favoured Cu and Ag, but not so much Mo.
- For a composite with (calculated) head grades of 0.03% Cu, 1135 g/t of Mo and 1.1 g/t of Ag, the above recoveries would be considered above average by the industry standards.

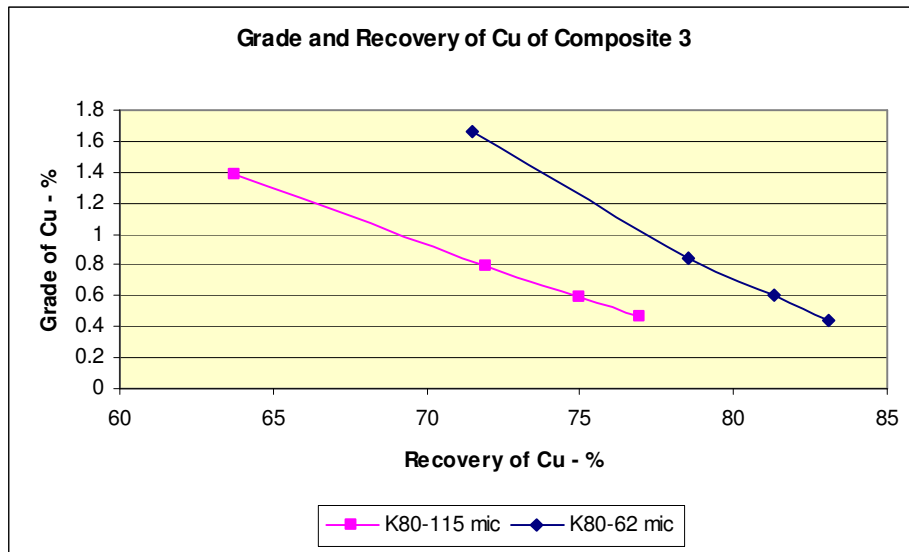


Figure 31: Grade and rougher recovery of Cu of composite 3

- The flotation mass recovery following the finer grind was 6.3% and following the coarser grind, 5.4%.
- The recovery of valuable minerals reached the recovery plateau in just over six minutes (Figure 30).

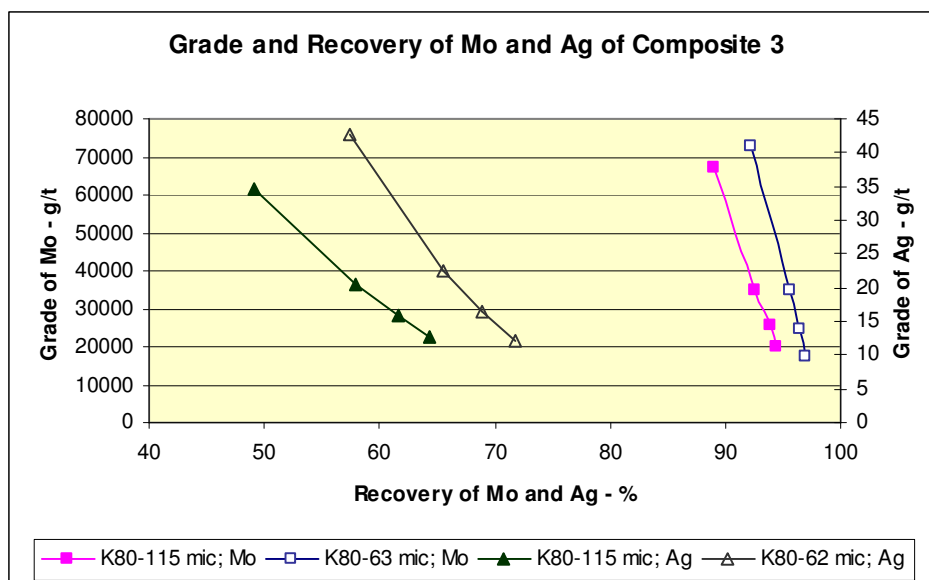


Figure 32: Grade and rougher recovery of Mo and Ag of composite 3

- Figures 31 and 32 confirmed that the finer grind provided better metallurgy for Cu, Mo and Ag.

4.3.2 Cleaner testing of composite 3

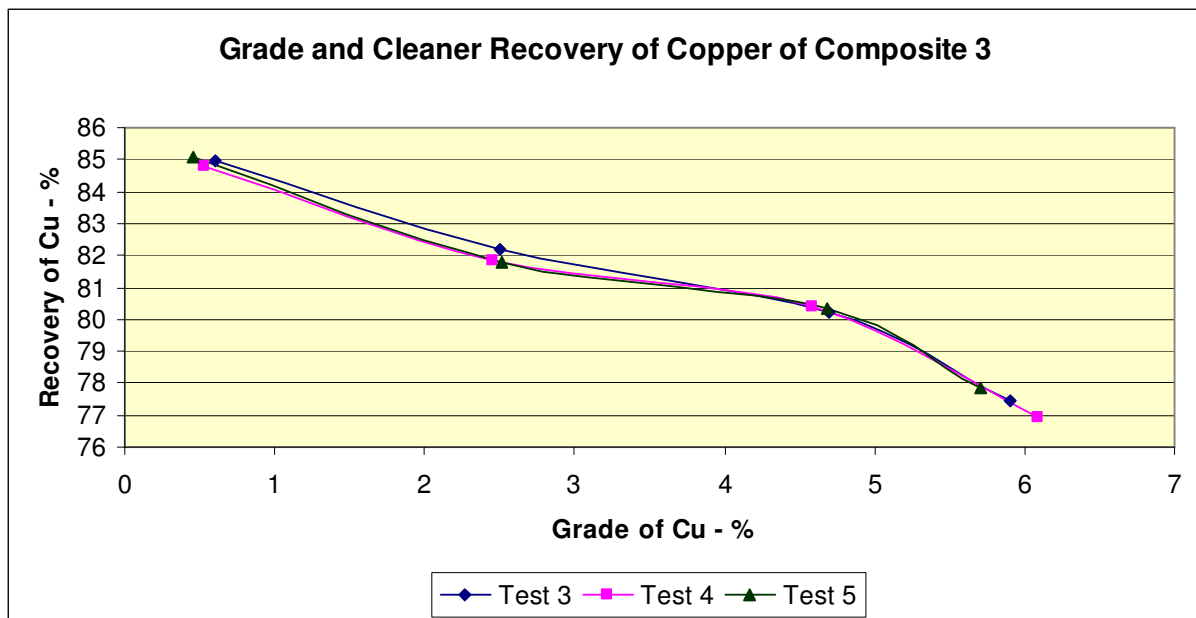
In this stage of testing the composite was floated using the best conditions determined during the rougher tests on Composite 3. The rougher concentrate was re-ground and cleaned in three stages of open circuit cleaning as shown in Figure 17. As before, during cleaner testing, “Moly oil” was used to activate Mo and W was added to the list of minerals to be investigated.

The object of the cleaner tests was to optimise the reagents and re-grind times to produce the best cleaner products and set up conditions to conduct locked cycle testing of the composite. Three cleaner flotation tests were conducted following the conditions described by the matrix in Table 10.

Table 10: Composite 3 Cleaner Testing Parameters

PARAMETERS	Test # 3	Test # 4	Test # 5
Primary grind - K ₈₀ , μm	63	63	63
Re-grind time - min	15	22	10
Moly Oil – g/t	25	38	38
Aero 3302 – g/t	34	36	36
SIBX – g/t	36	36	24

The results of the cleaning tests were measured by the copper, molybdenum and silver flotation grade/recovery relationships. These are presented in Figures 33, 34 and 35.

**Figure 33: Concentrate grade vs. recovery of Cu from composite 3**

Note that in these tests, the weights of some of the products were insufficient to determine all the elements completely. In such cases, values were assumed based on fitting the calculated and assayed head grades. The details of the cleaner tests were placed in the Appendix C. The following were discovered.

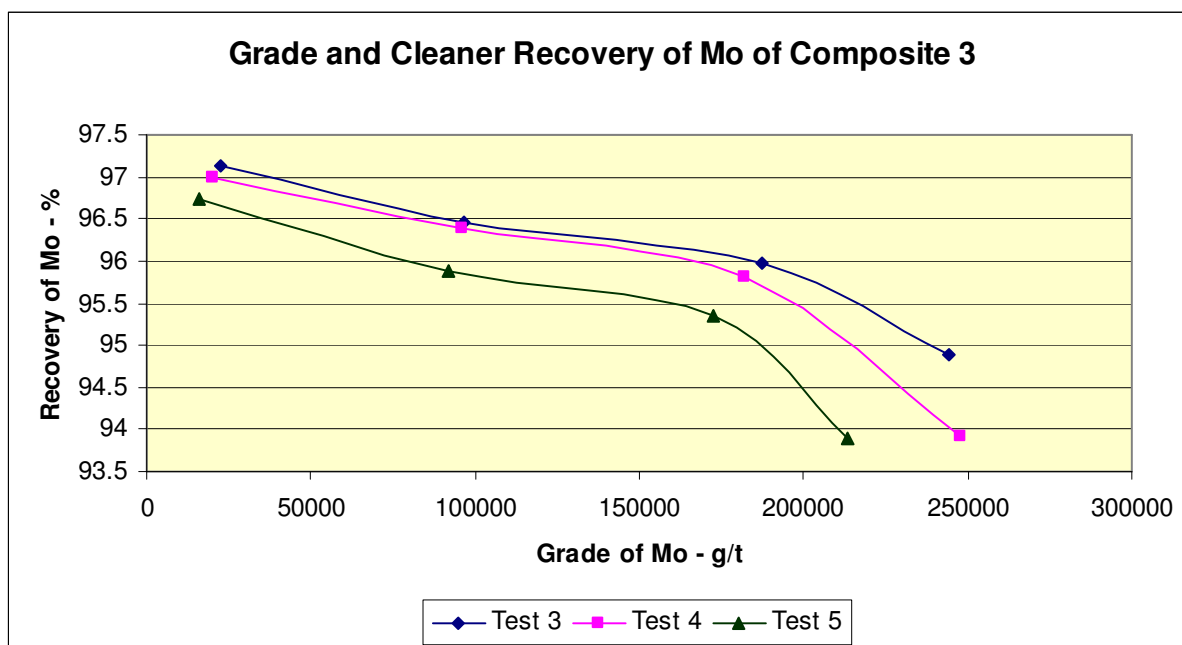


Figure 34: Concentrate grade vs. recovery of Molybdenum from composite 3

- In this series, there was no difference in the Cu metallurgy between tests 3, 4 and 5 (Figure 33). The shortest regrind time yielded the poorest Mo grade/recovery performance, showing that a finer grind is somewhat beneficial to grade/recovery performance. In case of Mo and Ag, the differences between tests were marginal and were within the limits of experimental error.
- Test # 3 with 15 minutes of regrinding produced a K_{88} of 20 μm and test # 4 yielded the finest re-grind (K_{96} of 20 μm). These tests yielded similar Cu, Mo flotation response
- Ag flotation response was best in Test 5, though the significance of this result is questionable given the low assays.
- In three stages of open circuit cleaning, 6% Cu were made at a recovery of 77%, while collecting 94% of the Mo for a grade of 24% and 52% of the Ag for a grade of 156 g/t. As shown at the rougher testing, for a resource with head grades of 0.03% Cu, 1135 g/t of Mo and 1.1 g/t of Ag, the metallurgy produced here was considered acceptable by the industry standards.

- The patterns of the grade/recovery curves of Cu and Mo assured that a saleable grade concentrates can be made in four additional stages of cleaning. The lower head grade and the low weight of the feed charge were some of the reasons this was not demonstrated in these tests.

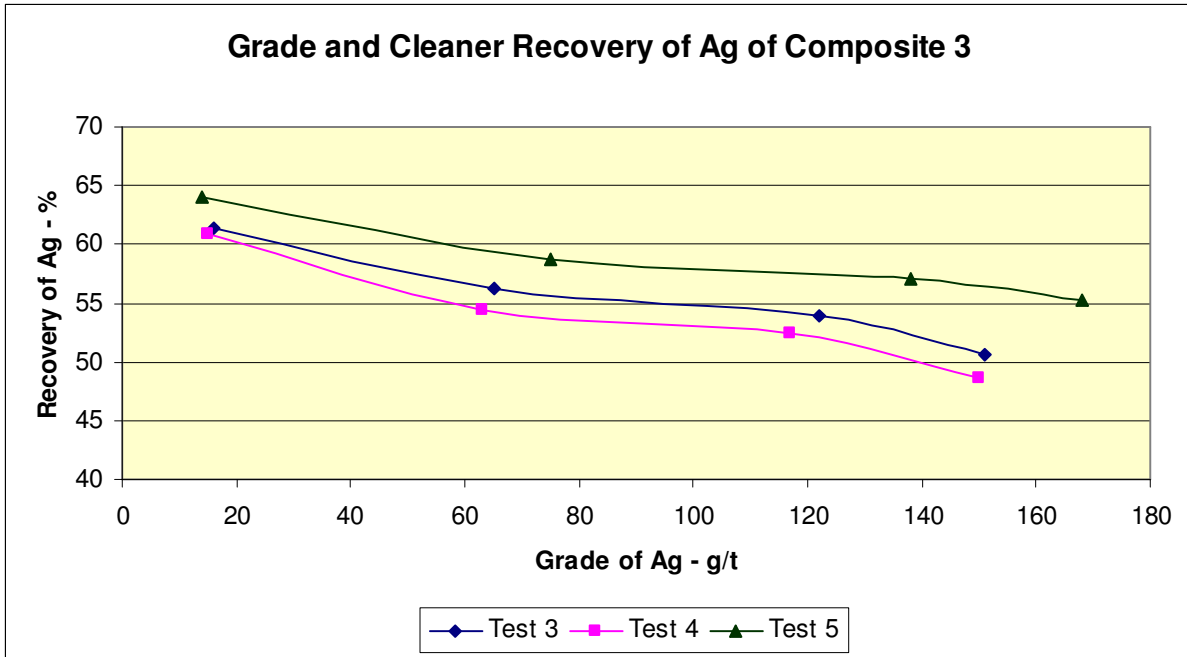


Figure 35: Concentrate grade vs. recovery of Ag from composite 3

- A generic reagent suite appeared to be sufficient to process this composite.
- The products carried so little W, they were below the detection level of the assaying instruments and hence the grade and the behaviour of W, were not accurately assessed.
- The W of the feed of the composite was estimated to be between 50 g/t and 80 g/t and over 90% of the W, reported to the rougher tail.

4.3.3 Locked cycle testing of composite 3

Extending the findings from the rougher and cleaner testing, one locked cycle test was conducted on Composite 3 and the flow-sheet is shown in Figure 21. The object of the test was to prove the stability of the flowsheet in closed circuit

The locked cycle test was conducted using the parameters determined during the cleaner testing. The test parameters and the results of the locked cycle test were placed in Appendix C. The metallurgical prediction arrived from the results of the locked cycle test is shown in Table 11.

Table 11: Metallurgical Prediction for Composite 3

Stream	Wt - %	Assay - %, g/t			Distribution - %		
		Cu	Mo	Ag	Cu	Mo	Ag
Final concentrate	0.49	5.59	21.63	122.1	81.8	96.2	59.3
Cleaner/Scav. tail	7.49	.01	0.007	0.57	2.6	0.5	4.5
Rougher tail	01.62	0.01	0.004	0.40	15.6	3.3	36.5
Calculated Head	99.59	0.03	0.11	1.01	100.0	100.0	100.0

As before the W grades were too low for reliable assaying. The stability of the process is depicted by Figure 36, below. The process tested resulted in a well balanced and a stable circuit.

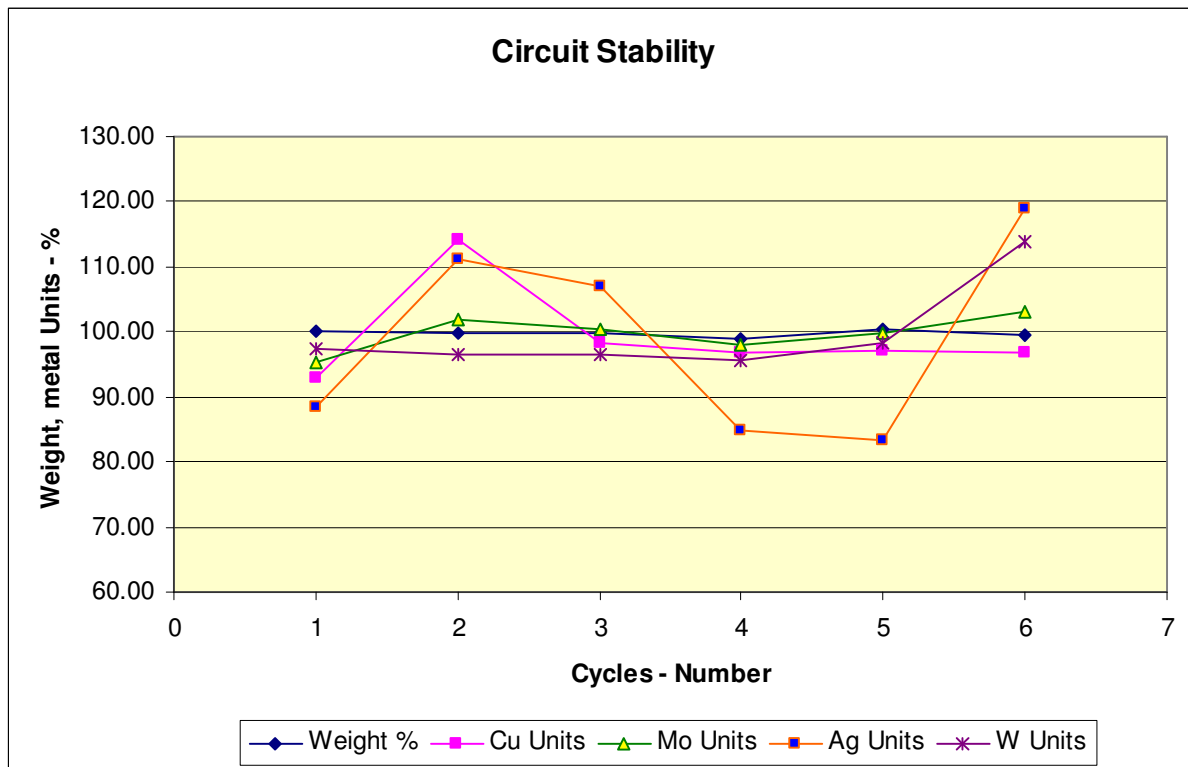


Figure 36: The stability of the locked cycle test of composite 3

The major loss of recovery of Cu and Ag was to the rougher tail and were relatively high, owing to the low head grades. Mo rougher performance was above average, a consequence of the high head grade. Accounting for the low head grades, the final recoveries of Cu, Mo and Ag attained would be considered above the industry average. The lower than saleable grade of the final concentrate was expected given the limitations of the test size, but also proved the need for additional stages of cleaning.

5 Environmental Testing

Acid Base Accounting tests were conducted on the rougher tailing of cycle E from each of the locked cycle tests. The results are shown in Table 12 below. These data should be interpreted by a qualified environmental consultant.

Table 12: ABA Test Results

Parameter	Units	VF1-LCT1-Ro Tail E	VF2-LCT1-Ro Tail E	VF3-LCT1-Ro Tail E
Paste pH	units	8.48	8.42	8.68
Fizz Rate	-	Slight	Slight	Slight
Sample Weight	g	2.00	2.00	2.00
HCl Added	mL	20	20	20
HCl conc.	Normality	0.10	0.10	0.10
NaOH	Normality	0.10	0.10	0.10
NaOH to pH 8.3	mL	15.90	14.10	14.95
Final pH	units	1.43	1.47	1.44
NP ¹	t CaCO ₃ /1000t	10.4	14.9	12.8
AP	t CaCO ₃ /1000t	0.3	0.3	0.3
Net NP	t CaCO ₃ /1000t	10.1	14.6	12.5
NP/AP	ratio	33.3	47.7	41.0
Total S	%	0.01	0.01	0.01
SO ₄	%	<0.01	<0.01	<0.01
Sulphide	%	0.01	0.01	0.01
Inorganic Carbon	%	0.09	0.13	0.12
CO ₃ NP ²	t CaCO ₃ /1000t	7.5	10.8	10.0
Classification	based on ABA NP ¹	PAN	PAN	PAN

¹ measured in ABA test.

² theoretical, based on CO₃ content alone.

Green highlighting indicates Net NP values less than 20.

Orange highlighting indicates NP/AP ratios less than 3.

PAG - Potentially Acid Generating based on interpretation of ABA test data alone.

PAN - Potentially Acid Neutralizing based on interpretation of ABA test data alone.

Uncertain - acid generation potential is uncertain based on interpretation of test data alone.

6 Ancillary Testing

In this section additional testing of concentrates, tailings and new processes to recover trace minerals were examined.

6.1 Product Characterization

The final concentrate from the locked cycle tests were analysed for Gallium, Osmium and Rhenium while the rougher tail of the same test was analysed for Gallium only. The results are tabulated and displayed in Table 13 below.

Table 13: Characterization assays of final concentrate and rougher tail

Assays

Sample	Stream	Ga - %	Os – g/t	Re – g/t
Composite 1	Concentrate	< 0.004	< 0.03	0.9
	Rougher tail	< 0.004		
Composite 2	Concentrate	< 0.004	< 0.02	2.9
	Rougher tail	< 0.004		
Composite 3	Concentrate	0.005	< 0.02	15.0
	Rougher tail	< 0.004		

Re was the only metal present in quantities above the detection limit.

A subsequent analysis of rougher tail from composite 3 locked cycle test and the composite 3 for Ga using ICP MS, indicated 17 and 16 g/t Ga respectively.

6.2 Tungsten Recovery

Despite the inability to assess the metallurgy in the cleaning and locked cycle tests, a gravity separation test was conducted on rougher tailing of the locked cycle test of composite 3. The test consisted of feeding the rougher tailings to a Falcon concentrator whose concentrate was upgraded on a Mozley table. Details of the tests are placed in Appendix D. The results are tabulated in Table 14 below.

Table 14: WO₃ response in a gravity circuit

Stream	Wt %	WO₃ - %	
		Assay	Distribution
Mozley Concentrate	0.04	4.61	26.34
Falcon Concentrate	2.85	0.093	40.55
Calculated Feed	100	0.003	100

The results indicated the amenability of a gravity circuit to recover WO₃ from flotation tail. However, in a real life production application the low grade of the feed stock is likely to render it uneconomic because of the number of processing stages required to produce a saleable

concentrate. The difficulties in monitoring and controlling a process in a production situation must also be considered.

7 Conclusions

7.1 Samples

- Composites 1, 2 and 3 assayed 0.15%, 0.13% and 0.035% Cu respectively. The composites also assayed 0.017%, 0.04% and 0.12% Mo respectively.

7.2 Cu – Ag Zone ore

- The ore was medium-hard with SPI index of 84.5 minutes and Bond ball mill work index of 15.8 kWh/tonne.
- Fine grained Chalcopyrite which requires a finer grind was the principal copper mineral and fine grained Molybdenite was the molybdenum mineral.
- Very little pyrite and little or no interfering clay or talc minerals were found.
- The presence of micaceous material in an abundance that would require special cleaning methods was confirmed.
- The best conditions for the rougher stage tested were a grind K_{80} of 63 μm , a pH of 8.5 maintained with 30 g /t of lime, 30 g /t of the Mo collector (Aero 3302), 25 g /t of Cu/Ag collector (3418A) and 30g /t of frother (MIBC).
- The residence time required for an economical separation was 8 minutes and the mass recovery over this time period was 5.2%.
- The best rougher conditions recovered 73% of the Cu, 86% of the Mo and 76% of the Ag to the rougher concentrate.
- In 3 stages of open circuit cleaning the pH was kept at its natural level while during the final stage when it was increased to 10.5 with 20 g/t of lime. A concentrate assaying 15% Cu was made.

- To collect the Mo during cleaning, 20 g/t and 6 g/t of Aero 3302 was added to the rougher and cleaners respectively. Further, 30 g/t and 6 g/t of SIBX were used as the Cu collector during roughing and cleaning respectively.
- The regrind size should be at least as fine as K_{90} of 20 μm .
- The W grades of the product were below the detection levels of the instruments.
- In a 6 cycle locked cycle test, only 63% of the Cu was recovered to a grade of 13%. The bulk concentrate also carried 82% of the Mo at 2% Mo and 72% of the Ag at a grade of 357 g/t.
- The most difficult metallurgy was exhibited by this composite.

7.3 *Cu – Mo Zone ore*

- The ore was medium hard with SPI index of 73 minutes and Bond ball mill work index of 15.7 kWh/tonne and however it was softer than Composite 1.
- Fine grained Chalcopyrite and Molybdenite were the principal copper and molybdenum minerals.
- Very little pyrite and little or no interfering clay or talc minerals were found.
- The presence of micaceous material which requires special cleaning methods, was confirmed.
- The rougher testing indicated the metal recoveries were independent of grind in the ranges tested and hence the coarser grind (K_{80} of 106) was selected. Coarser grinds should be tested in the future.
- The rougher conditions tested were a natural pH, 20 g/t of diesel to activate Mo, 20 g/t of 3302 to collect Mo, 25 g/t of SIBX to collect Cu and Ag and 27 g/t of X-133 as the frother.
- The residence time required for an economical separation was 7 minutes and the mass recovery over this time period was 5.1%.
- The best rougher conditions recovered 89% of the Cu, 92% of the Mo and 74% of the Ag to the rougher concentrate.

- In 3 stages of open circuit cleaning, where the pH was kept at its natural level except during the final stage when it was increased to 10.5 with 15 g/t of lime, a concentrate with 18% Cu and 6.3% Mo was made.
- During cleaning, Mo was activated by 20 g/t and 11 g/t of Moly oil added to the rougher and cleaners respectively. Further, 30 g/t and 6 g/t of 3302 was used as the Mo collector and 40 g/t and 6 g/t of SIBX was used as the Cu collector during roughing and cleaning respectively. The frother used was X-133 and 30 g/t and 12 g/t of frother was added to rougher and cleaners respectively.
- The regrind size should be finer than K₉₆ of 20 µm.
- The W grades of the product were below the detection levels of the instruments.
- In a 3 stage cleaning and 6 cycle locked cycle test, 89% of the Cu was recovered to a grade of 16%. The bulk concentrate also carried 94% of the Mo at 6% Mo and 80% of the Ag at a grade of 324 g/t.
- The metallurgy in general was simple, including a simple cleaning circuit with generic flotation collectors and depressants (for a Mo separation).
- The results of the flotation test work conducted on this composite revealed no fatal metallurgical flaws and so qualify moving to a pre-feasibility level of investigation.

7.4 Mo Zone ore

- The ore was medium hard with SPI index of 70.8 minutes and Bond ball mill work index of 12.6 kWh/tonne and however it was softer than composite 1 or 2.
- Fine grained Chalcopyrite and Molybdenite were the principal copper and the molybdenum minerals.
- Very little pyrite and little or no interfering clay or talc minerals were found.
- The presence of micaceous material which requires special cleaning methods, was confirmed.

- The rougher conditions tested were a grind of K₈₀ of 62µm, natural pH, 25.5 g/t of Moly Oil to activate Mo, 30 g/t of 3302 to collect Mo, 25 g/t of SIBX to collect Cu and 30 g/t of X-133 as the frother.
- The residence time required for an economical separation was 6 minutes and the mass recovery over this time period was 6%.
- The best rougher conditions recovered 93% of the Mo and 83% of the Cu to the rougher concentrate.
- In 3 stages of open circuit cleaning, where the pH was kept at its natural level except during the final stage when it was increased to 10.5 with 20 g/t of lime, a concentrate with 6% Cu and 24% Mo was made.
- During cleaning, Mo was activated by 20 g/t and 5 g/t of Moly oil added to the rougher and cleaners respectively. Further, 28 g/t and 6 g/t of 3302 was used as the Mo collector and 30 g/t and 6 g/t of SIBX was used as the Cu collector during roughing and cleaning respectively. The frother used was X-133 and 30 g/t and 10 g/t of frother was added to rougher and cleaners respectively.
- The regrind size should be finer than K₉₆ of 20 µm.
- The W grades of the product were below the detection levels of the instruments.
- In a 3 stage cleaning and 6 cycle locked cycle test, 96% of the Mo was recovered to a grade of 22%. The bulk concentrate also carried 82% of the Cu at 6% Cu and 59% of the Ag at a grade of 122 g/t.
- The metallurgy in general was simple, can be treated by a simple cleaning circuit with generic flotation collectors and depressants (for a Mo separation).
- The results of the flotation test work conducted on this composite also revealed no fatal flaws and qualify moving to a pre-feasibility level of investigation.

7.5 Environmental Testing

- The flotation tailings tested were not acid generating

7.6 Ancillary Testing

- The Ga in the final concentrates of composites 1 and 2 were less than 0.004%, below the detection level of the measuring instrument.
- The Ga of the final concentrate of composite 3 was 0.005%.
- The Ga of the rougher tailing of composites 1 and 2, was less than 0.004%, below the detection level of the measuring instrument.
- The Ga in rougher tail of composite 3 was 17 g/t and that of feed of composite 3 was 16 g/t.
- The Os of the final concentrates of all composites were less than 0.003 g/t, below the detection level of the measuring instrument.
- The Re of the final concentrates of composites 1, 2 and 3 were 0.9, 2.9 and 15.0 g/t respectively.

8 Recommendations

The following are the recommendations.

- It is recommended that the next level of investigation should be of the pre-feasibility or feasibility level conducted on single composite made using the mine plan.
- It is recommended that composite # 1 should be further studied under a variability test program.
- It is recommended that the flow-sheet development test work must be carried using feed charges over 10 kg.
- The cleaning circuits must be capable of rejecting mica. The use of columns and specific (mineral rejecting) reagents are highly recommended.
- It is recommended that the number of cleaning stages must be increased to a number sufficient to produce a saleable concentrate (to be assessed through 10-20kg bulk flotation testing).

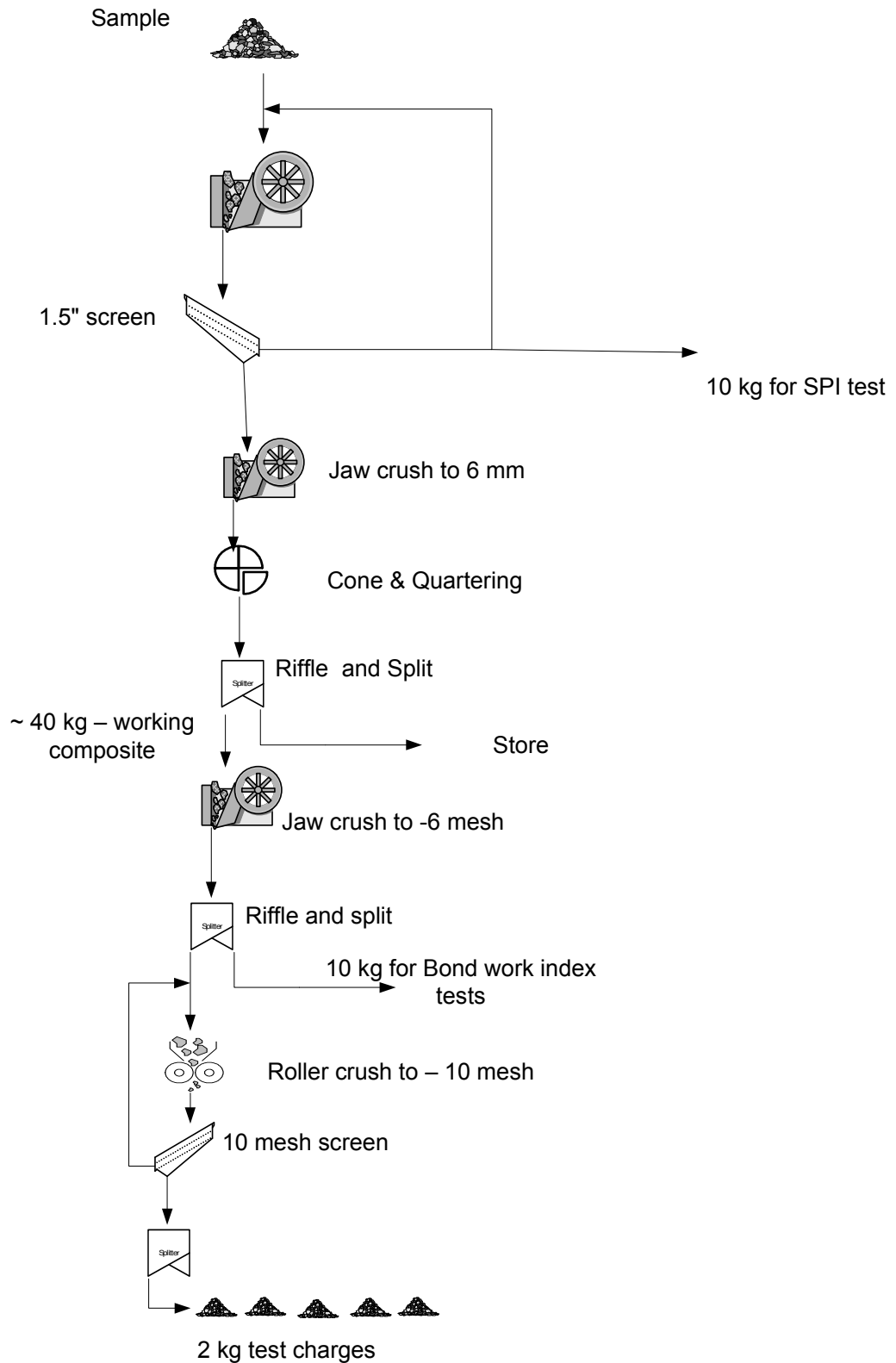
- It is recommended that the conclusions arrived with respect to residence time, mesh of grind and the reagent suites be carried forward to the next stage of testing, although economic upside may exist from employing a coarser grind in the case of the Cu/Mo ore.
- There was significant variability in the required primary grind from ore type to ore type, and some variability in hardness. Given a mill circuit with constant installed power, this would be reflected in throughput and/or primary grind variations – and given the different primary grind needs, this would be reflected in varying metallurgical performance.
- Accordingly, this project should include, as part of any feasibility study, a structured assessment of how the deposit will grind (in terms of throughput and grind size) and the resulting metallurgical performance, spatially around the resource. This could well affect mine planning and project economic analysis. Accordingly, some form of geometallurgy programme is recommended so the resource model includes projected throughput and recovery levels by mining block. This approach is becoming the norm in the evaluation of large tonnage, low grade deposits worldwide.

Appendices

APPENDIX A

Sample Receipt and Preparation

CUMO Sample Preparation flow-sheet per composite



Composite 1 - Cu-Ag Zone

Hole #	From	To	New Sample #	Weight (Kg)	Information	Mo-%	Cu-%	Ag-g/t
27	70	80	715371	5.9		0.008	0.71	2.3
27	80	90	715372	6.82		0.01234	0.06	6.2
27	90	100	715373	6.99		0.005	0.07	2.4
27	100	110	715374	7.91		0.0075	0.06	2.7
27	110	120	715375	7.57		0.006	0.05	1.6
27	120	130	715376	8.08		0.01868	0.07	1.8
27	130	140	715377	8.15		0.04954	0.11	3.4
27	140	150	715378	6.77		0.01718	0.09	5.4
27	150	160	715379	7.31		0.03019	0.15	3.7
27	160	170	715380	6.91		0.03703	0.12	3.2
27	170	180	715381	6.86		0.04187	0.09	1.8
27	180	190	715382	5.83		0.02352	0.12	2.6
27	190	200	715383	8.25		0.02185	0.14	3.8
29	210	220	4448	5.16		0.04702	0.14	3.66
29	220	230	4449	5.11		0.0824	0.26	6.25
29	230	240	4450	6.85		0.08207	0.3	6.5
29	240	250	4451	5.38		0.03787	0.2	4.77
29	250	260	4452	8.73		0.04537	0.23	4.43
29	260	270	4453	4.36		0.01151	0.12	2.49
29	270	280	4454	6.01		0.02202	0.16	3.61
29	280	290	4455	5.81		0.03278	0.15	3.45
29	290	300	4456	5.98		0.03178	0.19	4.89
29	300	310	4457	5.32		0.0352	0.23	6.04
29	310	320	4458	8.1		0.04504	0.22	5.89
29	320	330	4459	6.41		0.04053	0.23	12.05
					wt. ave	0.0313611	0.166	4.152
					Ar. Av.	0.03169	0.171	4.197

Composite 2 - Cu-Mo Zone

Hole #	From	To	New Sample #	Weight (Kg)	Information	Mo-%	Cu-%	Ag-g/t
27	420	430	715384	6.83		0.06105	0.16	3
27	430	440	715385	7.06		0.05421	0.1	2.5
27	440	450	715386	6.89		0.05505	0.13	2.4
27	450	460	715387	9.43		0.03069	0.13	2.7
27	460	470	715388	7.22		0.01768	0.11	2
27	470	480	715389	8.08		0.02956	0.08	1.9
27	480	490	715390	5.69		0.03186	0.14	2.9
27	490	500	715391	5.72		0.03169	0.09	1.7
27	500	510	715392	7.95		0.08001	0.1	2.2
27	510	520	715393	7.67		0.05538	0.11	2.1
27	520	530	715394	7.42		0.05705	0.1	1.9
27	530	540	715395	7.22		0.0347	0.07	2.1
28	450	460	4411	5.88		0.04737	0.09	2.61
28	460	470	4412	7.64		0.04437	0.08	1.84
28	470	480	4413	5.52		0.04204	0.09	2.75
28	480	490	4414	6.41		0.12694	0.13	3.73
28	490	500	4415	6.87		0.14996	0.14	3.83
28	500	510	4416	6.06		0.13311	0.16	4.09
28	510	520	4417	8.56		0.08057	0.07	1.76
28	520	530	4418	5.57		0.02677	0.06	1.62
28	530	540	4419	8.87		0.08874	0.08	1.7
28	540	550	4420	8.27		0.06122	0.1	2.17
28	550	560	4421	7.05		0.12377	0.14	3.1
28	560	570	4422	6.13		0.06172	0.17	4.28
28	570	580	4423	7.39		0.07923	0.15	4.5
28	580	590	4424	7.38		0.08274	0.12	2.47
28	590	600	4425	5.49		0.05955	0.15	2.82
28	600	610	4426	8.9		0.04320	0.11	2.88
28	610	620	4427	5.92		0.13395	0.17	3.5
28	620	630	4428	6.63		0.10025	0.14	2.97
29	500	510	4460	6.2		0.04621	0.1	2.21
29	510	520	4461	4.74		0.10792	0.13	3.01
29	520	530	4462	5.57		0.03386	0.09	1.9
29	530	540	4463	5.18		0.05154	0.06	1.42
29	540	550	4464	5.46		0.06506	0.1	2.05
29	550	560	4465	4.63		0.08757	0.12	2.77
29	560	570	4466	6.58		0.05288	0.09	1.77
29	570	580	4467	5.25		0.06406	0.05	0.93
29	580	590	4468	5.51		0.03953	0.1	2.38
29	590	602.5	4469	7.37		0.12144	0.07	2.41
29	602.5	613	4470	6.53	Hole	0.0809	0.66	15.3
					wt. ave	0.0674103	0.122	2.817
					Ar. Av.	0.06769	0.123	2.833

Composite 3 - Mo Zone

Hole #	From	To	New Sample #	Weight (Kg)	Information	Mo-%	Cu-%	Ag-g/t
27	1420	1430	715396	7.18		0.13578	0.05	1.18
27	1430	1440	715397	8.9		0.08974	0.04	1.82
27	1440	1450	715398	6.55		0.21683	0.03	1.88
27	1450	1460	715399	7		0.19934	0.03	1.31
27	1460	1470	715400	5.64		0.14946	0.03	0.67
27	1470	1480	4401	7.08		0.12594	0.04	1
27	1480	1490	4402	7.67		0.16064	0.02	0.73
27	1490	1500	4403	7.76		0.10442	0.03	0.69
27	1500	1510	4404	8.46		0.1111	0.02	0.97
27	1510	1520	4405	7.78		0.14312	0.02	0.32
27	1520	1530	4406	6.93		0.09942	0.02	0.44
27	1530	1540	4407	5.77		0.18433	0.02	0.57
27	1540	1550	4408	6.3		0.21435	0.02	5.61
27	1550	1560	4409	5.88		0.52545	0.03	0.92
27	1560	1570	4410	4.67		0.18015	0.04	0.99
28	1010	1020	4429	5.14		0.16247	0.02	0.38
28	1020	1030	4430	6.75	Hole	0.10743	0.02	0.44
28	1030	1040	4431	7.09	Hole	0.21352	0.01	0.49
28	1040	1050	4432	6.56		0.20851	0.02	0.48
28	1050	1060	4433	6.48		0.1603	0.03	0.97
28	1060	1070	4434	6.06		0.15063	0.03	0.55
28	1070	1080	4435	6.64		0.18516	0.03	0.57
28	1080	1090	4436	6.5	Hole	0.18516	0.03	0.67
28	1090	1100	4437	6.76		0.13161	0.02	0.59
28	1100	1110	4438	5.72		0.1126	0.03	0.45
28	1110	1120	4439	5.33		0.1166	0.02	0.49
28	1120	1130	4440	7.23		0.17181	0.04	0.74
28	1130	1140	4441	5.25		0.11543	0.03	0.47
28	1140	1150	4442	5.12		0.38032	0.01	0.58
28	1150	1160	4443	5.87		0.20518	0.01	2.64
28	1160	1170	4444	5.7		0.24688	0.01	0.48
28	1170	1180	4445	5.85		0.16848	0.02	0.37
28	1180	1190	4446	7.16		0.18516	0.02	0.37
28	1190	1200	4447	7.26		0.1518	0.01	0.2
29	1290	1300	4471	5.69		0.2352	0.09	2.77
29	1300	1310	4472	6.03		0.24188	0.07	1.88
29	1310	1320	4473	6.25		0.1498	0.03	0.84
29	1320	1330	4474	4.68		0.14496	0.04	2.17
29	1330	1340	4475	5.27		0.13111	0.07	1.59
29	1340	1350	4476	5.46		0.16514	0.04	1.14
29	1350	1360	4477	5.36		0.16314	0.04	1.02
29	1360	1370	4478	5.16		0.15096	0.06	1.94
29	1370	1380	4479	5.91		0.17181	0.06	1.31
29	1380	1390	4480	5.9		0.10876	0.06	1.32
29	1390	1400	4481	5.33		0.1885	0.06	1.46
29	1400	1410	4482	5.07		0.17515	0.03	1.13
29	1410	1420	4483	5.21		0.21685	0.03	0.75
29	1420	1430	4484	4.84		0.25856	0.03	0.71
29	1430	1440	4485	6.04		0.16147	0.08	1.71
					wt. ave	0.1736113	0.033	1.063
			304.2		Ar. Av.	0.17678	0.033	1.077

SGS Vancouver Metallurgy

CONFIDENTIAL

APPENDIX B
Grindability Test Data

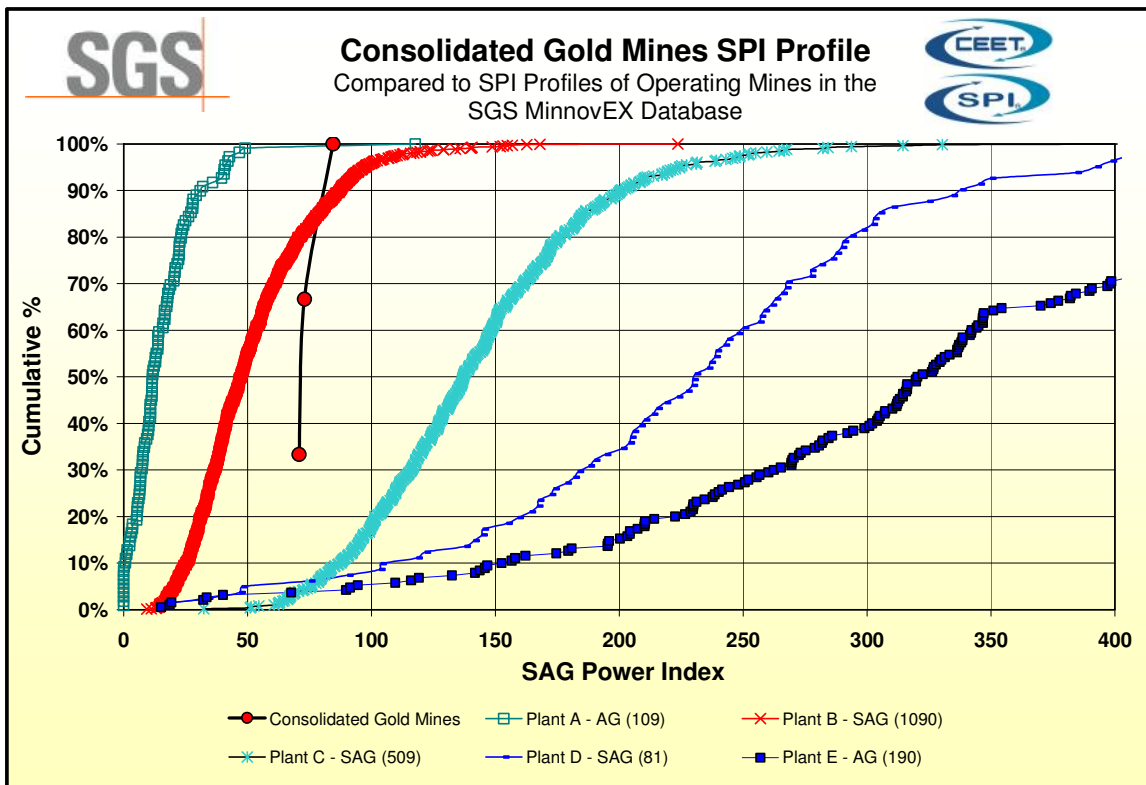


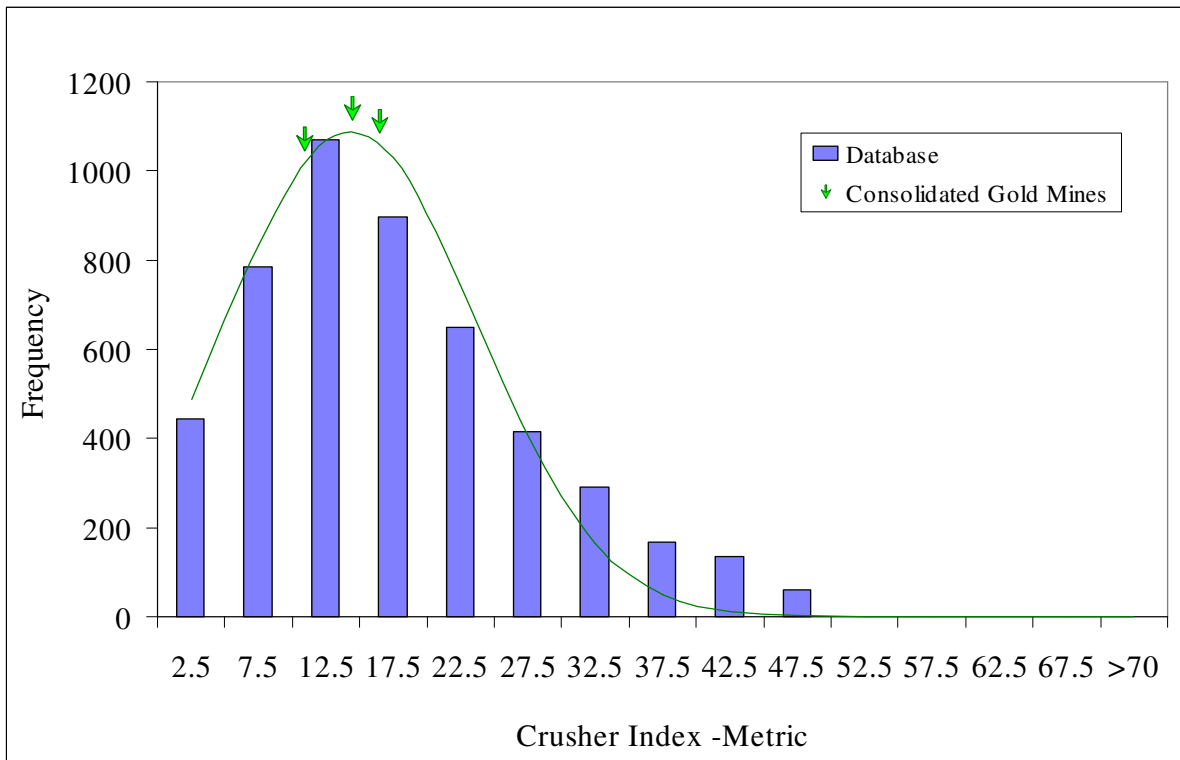
Client: **Consolidated Gold Mines**
 Mine: **Mosquito**



Project No.: **50004-001**
 Date: **April 30, 2008**

3 SPI Tests				Mod Bond Wi (Work Index) at Pinion Closing Screen of 0 microns GIVES kWh/tonne	Std. Bond Wi (Work Index) at Pinion Closing Screen of 0 microns GIVES kWh/tonne
3 Crusher Tests					
SGS Ref. No	Sample ID	Ci (Crusher Index)	SPI (minutes)		
1-2780	Cu-Mo Comp 1	10.9	84.5		
1-2781	Cu-Mo Comp 2	14.5	73.0		
1-2782	Cu-Mo Comp 3	16.5	70.8		





SGS Minerals Services

Standard Bond Ball Mill Grindability Test

Project No.: 50004-001 Product: Minus 6 Mesh Date: #####

Sample.: Comp1

Purpose: To determine the ball mill grindability of the sample in terms of a Bond work index number.

Procedure: The equipment and procedure duplicate the Bond method for determining ball mill work indices.

Test Conditions: Mesh of grind: 100 mesh
 Test feed weight (700 mL): 1259.01 grams
 Equivalent to : 1799 kg/m³ at Minus 6 mesh
 Weight % of the undersize material in the ball mill feed: 12.5 %
 Weight of undersize product for 250% circulating load: 360 grams

Results: Average for Last Three Stages = **1.47g.** **244%** Circulation load

CALCULATION OF A BOND WORK INDEX

$$BWI = \frac{44.5}{P1^{0.23} \times Grp^{0.82} \times \left\{ \frac{10}{\sqrt{P}} - \frac{10}{\sqrt{F}} \right\}}$$

P1 = 100% passing size of the product 150 microns
 Grp = Grams per revolution 1.47 grams
 P80 = 80% passing size of product 113 microns
 F80 = 80% passing size of the feed 2007 microns

BWI = **14.3** (imperial)

BWI = **15.8** (metric)

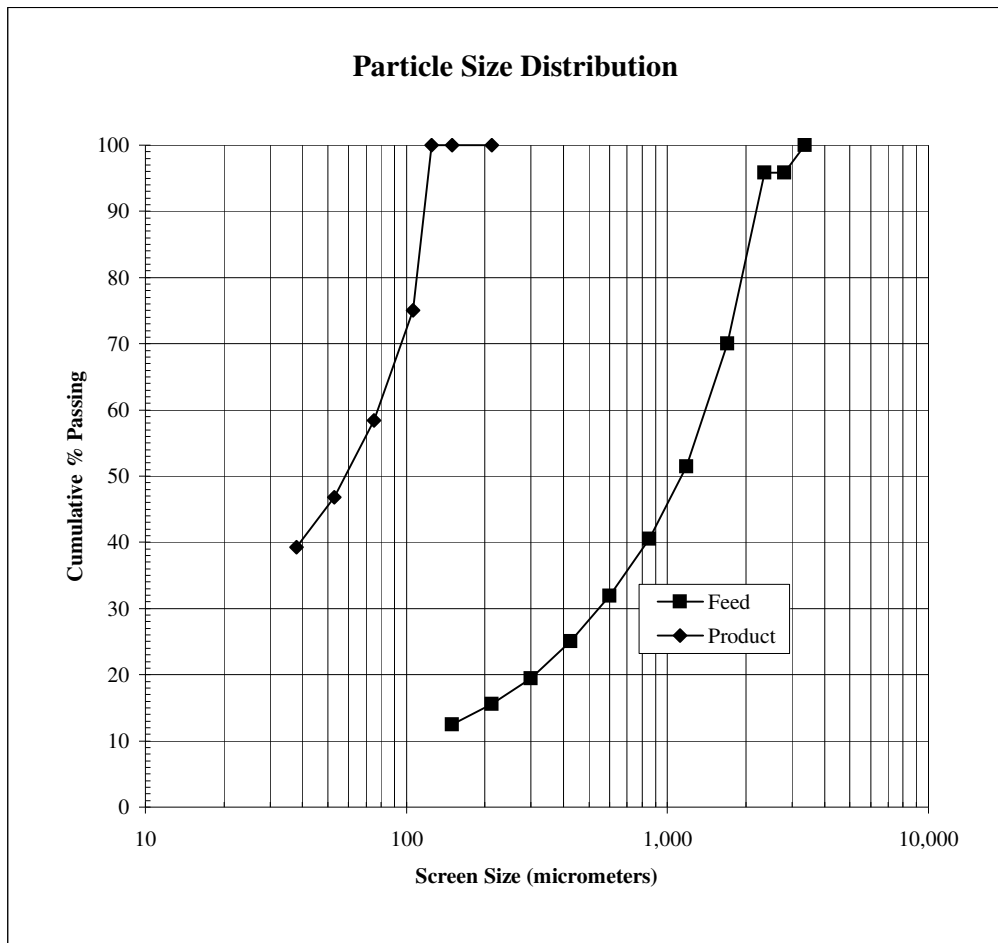
Stage No.	Revs	New Feed (grams)	Undersize		U'Size	Undersize Product	
			In Feed (grams)	To Be Ground (grams)	In Product (grams)	Total (grams)	Per Mill Rev (grams)
1	100	1,259	158	202	287	129	1.29
2	251	287	36	324	353	317	1.26
3	250	353	44	316	380	336	1.34
4	232	380	48	312	370	322	1.39
5	226	370	46	313	375	329	1.46
6	215	375	47	313	365	318	1.48
7	212	365	46	314	358	312	1.47

Average for Last Three Stages = 366g.

1.47g.

Feed K80						
Mesh	Size	Weight grams	% Retained		% Passing Cumulative	
	µm		Individual	Cumulative		
6	3,360	0.0	0.0	0.0	100.0	
7	2,800	52.3	4.2	4.2	95.8	
8	2,360	0.0	0.0	4.2	95.8	
10	1,700	325.4	25.8	30.0	70.0	
14	1,180	233.0	18.5	48.5	51.5	
20	850	137.9	10.9	59.5	40.5	
28	600	108.7	8.6	68.1	31.9	
35	425	86.8	6.9	75.0	25.0	
48	300	70.0	5.6	80.5	19.5	
65	212	48.5	3.8	84.4	15.6	
100	150	39.0	3.1	87.5	12.5	
Pan	-150	157.5	12.5	100.0	0.0	
Total	-	1259.0	100.0	-	-	
K80	2,007					

Product K80						
Mesh	Size	Weight grams	% Retained		% Passing Cumulative	
	µm		Individual	Cumulative		
65	212	0.0	0.0	0.0	100.0	
100	150	0.0	0.0	0.0	100.0	
115	125	0.0	0.0	0.0	100.0	
150	106	47.3	25.0	25.0	75.0	
200	75	31.5	16.6	41.6	58.4	
270	53	22.0	11.6	53.2	46.8	
400	38	14.2	7.5	60.7	39.3	
Pan	-38	74.3	39.3	100.0	0.0	
Total	-	189.3	100.0	-	-	
K80	113					



SGS Minerals Services

Standard Bond Ball Mill Grindability Test

Project No.: 50004-001 Product: Minus 6 Mesh Date: #####

Sample.: Comp2

Purpose: To determine the ball mill grindability of the sample in terms of a Bond work index number.

Procedure: The equipment and procedure duplicate the Bond method for determining ball mill work indices.

Test Conditions: Mesh of grind: 100 mesh
 Test feed weight (700 mL): 1268.59 grams
 Equivalent to : 1812 kg/m³ at Minus 6 mesh
 Weight % of the undersize material in the ball mill feed: 11.5 %
 Weight of undersize product for 250% circulating load: 362 grams

Results: Average for Last Three Stages = **1.45g.** **248%** Circulation load

CALCULATION OF A BOND WORK INDEX

$$BWI = \frac{44.5}{P1^{0.23} \times Grp^{0.82} \times \left\{ \frac{10}{\sqrt{P}} - \frac{10}{\sqrt{F}} \right\}}$$

P1 = 100% passing size of the product 150 microns
 Grp = Grams per revolution 1.45 grams
 P80 = 80% passing size of product 113 microns
 F80 = 80% passing size of the feed 2214 microns

BWI = **14.3** (imperial)

BWI = **15.7** (metric)

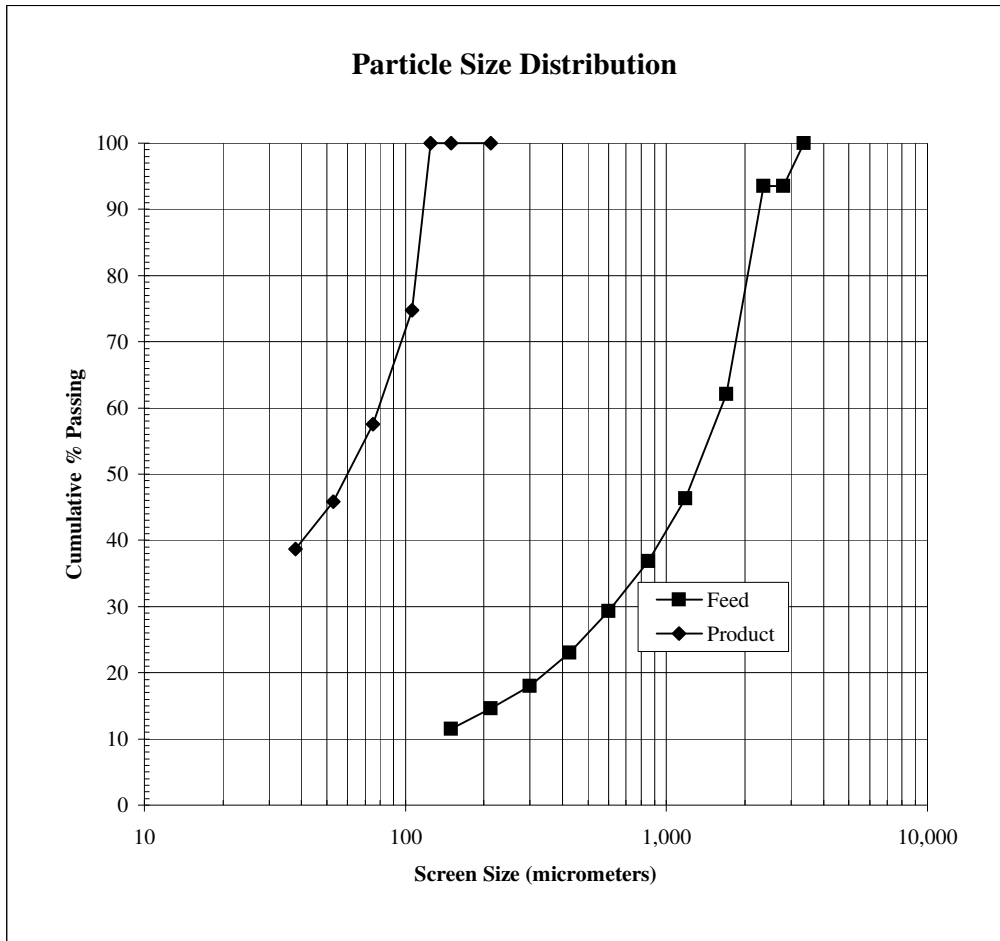
Stage No.	Revs	New Feed (grams)	Undersize		U'Size In Product (grams)	Undersize Product Per Mill Rev	
			In Feed (grams)	To Be Ground (grams)		Total (grams)	Rev (grams)
1	100	1,269	146	216	271	125	1.25
2	265	271	31	331	360	328	1.24
3	259	360	42	321	393	351	1.36
4	234	393	45	317	381	336	1.44
5	222	381	44	318	368	324	1.46
6	219	368	42	320	354	312	1.42
7	226	354	41	322	372	331	1.47

Average for Last Three Stages = 365g.

1.45g.

Feed K80						
Mesh	Size	Weight grams	% Retained		% Passing Cumulative	
	µm		Individual	Cumulative		
6	3,360	0.0	0.0	0.0	100.0	
7	2,800	82.0	6.5	6.5	93.5	
8	2,360	0.0	0.0	6.5	93.5	
10	1,700	399.2	31.5	37.9	62.1	
14	1,180	199.4	15.7	53.6	46.4	
20	850	120.4	9.5	63.1	36.9	
28	600	96.1	7.6	70.7	29.3	
35	425	79.3	6.3	77.0	23.0	
48	300	63.5	5.0	82.0	18.0	
65	212	43.6	3.4	85.4	14.6	
100	150	38.8	3.1	88.5	11.5	
Pan	-150	146.4	11.5	100.0	0.0	
Total	-	1268.6	100.0	-	-	
K80	2,214					

Product K80						
Mesh	Size	Weight grams	% Retained		% Passing Cumulative	
	µm		Individual	Cumulative		
65	212	0.0	0.0	0.0	100.0	
100	150	0.0	0.0	0.0	100.0	
115	125	0.0	0.0	0.0	100.0	
150	106	49.7	25.2	25.2	74.8	
200	75	33.9	17.2	42.4	57.6	
270	53	23.1	11.7	54.1	45.9	
400	38	14.2	7.2	61.3	38.7	
Pan	-38	76.2	38.7	100.0	0.0	
Total	-	197.0	100.0	-	-	
K80	113					



SGS Minerals Services

Standard Bond Ball Mill Grindability Test

Project No.: 50004-001 Product: Minus 6 Mesh Date: #####

Sample.: Comp3

Purpose: To determine the ball mill grindability of the sample in terms of a Bond work index number.

Procedure: The equipment and procedure duplicate the Bond method for determining ball mill work indices.

Test Conditions: Mesh of grind: 100 mesh
 Test feed weight (700 mL): 1276.6 grams
 Equivalent to : 1824 kg/m³ at Minus 6 mesh
 Weight % of the undersize material in the ball mill feed: 12.3 %
 Weight of undersize product for 250% circulating load: 365 grams

Results: Average for Last Three Stages = **1.87g.** **251 %** Circulation load

CALCULATION OF A BOND WORK INDEX

$$BWI = \frac{44.5}{P1^{0.23} \times Grp^{0.82} \times \left\{ \frac{10}{\sqrt{P}} - \frac{10}{\sqrt{F}} \right\}}$$

P1 = 100% passing size of the product 150 microns
 Grp = Grams per revolution 1.87 grams
 P80 = 80% passing size of product 112 microns
 F80 = 80% passing size of the feed 2255 microns

BWI = **11.4** (imperial)

BWI = **12.6** (metric)

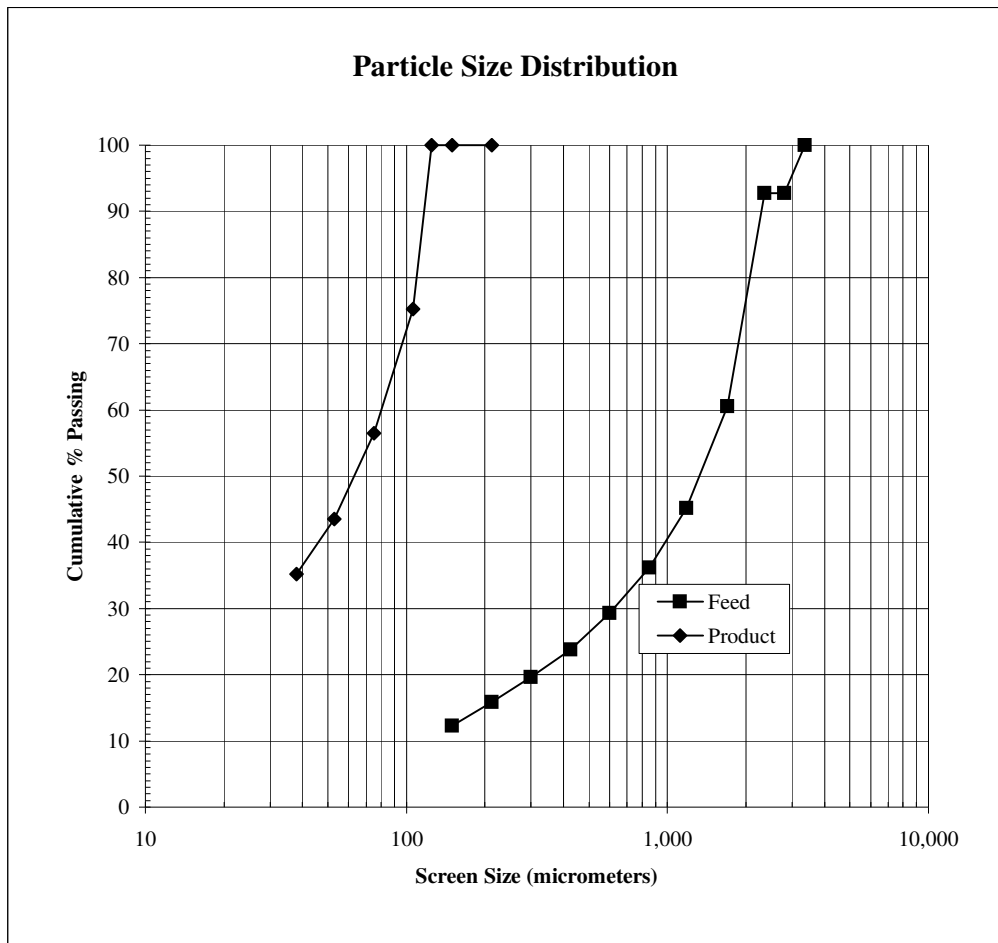
Stage No.	Revs	New Feed (grams)	Undersize		U'Size	Undersize Product	
			In Feed (grams)	To Be Ground (grams)	In Product (grams)	Total (grams)	Per Mill Rev (grams)
1	100	1,277	157	208	293	136	1.36
2	241	293	36	329	390	354	1.47
3	215	390	48	317	403	355	1.65
4	191	403	50	315	386	336	1.76
5	180	386	47	317	366	318	1.77
6	181	366	45	320	369	324	1.79
7	178	369	45	319	374	329	1.85
8	173	374	46	319	369	323	1.87
9	171	369	45	319	368	323	1.89
10	169	368	45	319	365	319	1.89
11	169	365	45	320	357	312	1.85

Average for Last Three Stages = 363g.

1.87g.

Feed K80						
Mesh	Size	Weight grams	% Retained		% Passing Cumulative	
	µm		Individual	Cumulative		
6	3,360	0.0	0.0	0.0	100.0	
7	2,800	93.1	7.3	7.3	92.7	
8	2,360	0.0	0.0	7.3	92.7	
10	1,700	410.3	32.1	39.4	60.6	
14	1,180	197.0	15.4	54.9	45.1	
20	850	114.3	8.9	63.8	36.2	
28	600	88.3	6.9	70.7	29.3	
35	425	70.5	5.5	76.3	23.7	
48	300	52.8	4.1	80.4	19.6	
65	212	48.0	3.8	84.1	15.9	
100	150	45.3	3.6	87.7	12.3	
Pan	-150	157.1	12.3	100.0	0.0	
Total	-	1276.6	100.0	-	-	
K80	2,255					

Product K80						
Mesh	Size	Weight grams	% Retained		% Passing Cumulative	
	µm		Individual	Cumulative		
65	212	0.0	0.0	0.0	100.0	
100	150	0.0	0.0	0.0	100.0	
115	125	0.0	0.0	0.0	100.0	
150	106	48.3	24.8	24.8	75.2	
200	75	36.5	18.7	43.5	56.5	
270	53	25.4	13.0	56.5	43.5	
400	38	16.2	8.3	64.8	35.2	
Pan	-38	68.7	35.2	100.0	0.0	
Total	-	194.9	100.0	-	-	
K80	112					



APPENDIX C

Flotation Test Data

Test No.: VF1-1 Project No.: 50004-001 Operator: Wei Date: 15-Apr-08

Purpose: Determine the flotation kinetics

Procedure: As outlined below.

Feed: 2 kg of minus 10 mesh of Composite # 1 (Cu - Ag Composite)

Grind: 49.1 minutes / 2 kg @ 65% solids in laboratory Ball Mill

target K_{80} 63

Regrind:

Tested K_{80} 62

Conditions:

Stage	Reagents added, grams per tonne							Time, minutes			pH	Eh
	F.O	Lime	3302	3418 A		MIBC		Grind	Cond.	Froth		
Grind	20							49.1			8.2	
Condition		30	20	10					5		8.5	
Rough. 1						25				2		
Condition				5					1		8.7	
Rough 2						5				3		
Condition				5					1		8.7	
Rough. 3										5		
Condition				5					1		8.7	
Rough. 4										5		
Total	20	30	20	25	0	30	0					

Stage	Rougher	1st Cleaners	2nd Cleaners
Flotation Cell	1000-D12	500 -D12	250 -D12
Speed: rpm	1800	1600	1100

Qualitative Observations:

Less bubble formed at the stage of Ro.1
Good froth at stages of Ro. 2, 3, and 4 -- yellow/sand color

Metallurgical Balance

Product	Weight		Assays, g/t, %				Distribution - %			
	g	%	Cu	Mo	Ag	S	Cu	Mo	Ag	S
Ro. 1 Con	30.1	1.52	5.14	8764	147	8.98	54.90	70.56	53.03	55.95
Ro. 2 Con	41.6	2.10	0.84	1092	31.3	2.72	12.40	12.15	15.61	23.42
Ro. 3 Con	46.1	2.32	0.22	180	8.58	0.44	3.60	2.22	4.74	4.20
Ro. 4 Con	33.3	1.68	0.15	95	6.1	0.18	1.77	0.85	2.43	1.24
Ro. Tails	1834.3	92.39	0.042	29	1.1	0.04	27.34	14.23	24.18	15.19
Head (calc.)	1985.4	100.0	0.14	188	4.2	0.24	100	100	100	100
(direct)										

Combined Products

Ro 1 con	30.1	1.52	5.14	8764	147	8.98	54.90	70.56	53.03	55.95
Ro 1 to 2 con	71.7	3.6	2.65	4313	80	5.3	67.29	82.71	68.64	79.37
Ro 1 to 3 con	117.8	5.9	1.70	2695	52	3.43	70.89	84.93	73.38	83.57
Ro 1 to 4 con	151.1	7.6	1.36	2122	42	2.71	72.66	85.77	75.82	84.81
Total Rec.										

Test No.: VF1-2

Project No.: 50004-001

Operator: Wei

Date: 16-Apr-08

Purpose: Determine the flotation kinetics**Procedure:** As outlined below.**Feed:** 2 kg of minus 10 mesh of Composite # 1 (Cu - Ag Composite)**Grind:** 32.9 minutes / 2 kg @ 65% solids in laboratory Ball Milltarget K₈₀ 125**Regrind:**

teasted K80 111

Conditions:

Stage	Reagents added, grams per tonne						Time, minutes			pH	Eh
	F.O	Lime	3302	3418 A		MIBC	Grind	Cond.	Froth		
Grind	20						32.9			8.1	
Condition		20	20	10				5		8.8	
Rough. 1						25			2		
Condition				5				1			
Rough. 2									3	8.8	
Condition				5				1			
Rough. 3									3	8.8	
Condition				5				1			
Rough. 4									3	8.8	
Total	20	20	20	25	0	25	0				

Stage	Rougher	1st Cleaners	2nd Cleaners
Flotation Cell	1000-D12	500 -D12	250 -D12
Speed: rpm	1800	1600	1100

Qualitative Observations:

Metallurgical Balance

Product	Weight		Assays, g/t, %				Distribution - %			
	g	%	Cu	Mo	Ag	S	Cu	Mo	Ag	S
Ro. 1 Con	24.3	1.22	5.88	10451	167	10.7	44.85	71.22	49.35	53.78
Ro. 2 Con	34.5	1.74	0.86	781	34.1	2.56	9.31	7.56	14.31	18.27
Ro. 3 Con	27.5	1.38	0.33	227	12.1	0.54	2.85	1.75	4.05	3.07
Ro. 4 Con	22.8	1.15	0.24	161	9.36	0.33	1.72	1.03	2.60	1.56
Ro. Tails	1878.7	94.51	0.07	35	1.3	0.06	41.28	18.44	29.70	23.32
Head (calc.)	1987.8	100.0	0.16	179	4.1	0.24	100	100	100	100
(direct)										

Combined Products

Ro 1 con	24.3	1.22	5.88	10451	167	10.70	44.85	71.22	49.35	53.78
Ro 1 to 2 con	58.8	3.0	2.93	4777	89	5.92	54.16	78.78	63.66	72.05
Ro 1 to 3 con	86.3	4.3	2.10	3327	65	4.21	57.01	80.53	67.70	75.13
Ro 1 to 4 con	109.1	5.5	1.71	2666	53	3.40	58.72	81.56	70.30	76.68
Total Rec.										

Test No.: VF1-3

Project No.: 50004-001

Operator: Wei

Date: 1-May-08

Purpose: Determine the flotation character during cleaning**Procedure:** As outlined below.**Feed:** 2 kg of minus 10 mesh of Composite # 1 (Cu - Ag Composite)**Grind:** 49.1 minutes / 2 kg @ 65% solids in laboratory Ball Milltarget K_{80} 63**Regrind:**

Tested K80

Conditions:

Stage	Reagents added, grams per tonne						Time, minutes			pH	Eh
	Diesel Oil	Lime	3302	SIBX		Pine Oil	Grind	Cond.	Froth		
Grind	20						49.1			8.3	
Condition			25	30				5		8.6	
Rougher						20			12	8.6	
Regrind	5						15				
Condition			5	5				3		8.5	
Bulk Cleaner 1						7			6		
Condition			1	1				1		8.5	
Bulk Cleaner 2						2			2		
Condition		10								10.2	
Bulk Cleaner 3						0.5			1		
Total	25	10	31	36	0	29.5	0				

Stage	Rougher	1st Cleaners	2nd Cleaners
Flotation Cell	1000-D12	500 -D12	250 -D12
Speed: rpm	1800	1600	1100

Qualitative Observations:

Metallurgical Balance

Product	Weight		Assays, g/t, %				Distribution - %			
	g	%	Cu	Mo	Ag	W	Cu	Mo	Ag	W
Cln 3 Conc.	7.4	0.38	19.8	33200	596	800	50.40	68.75	49.89	0.38
Cln 3 Tails	1.8	0.09	11.2	14020	105	800	6.93	7.06	2.14	0.09
Cln 2 Tails	3.8	0.19	1.94	1960	83.2	800	2.54	2.08	3.58	0.19
Cln 1 Tails	45.3	2.30	0.17	140	6.48	800	2.65	1.77	3.32	2.30
Ro. Tails	1911.5	97.04	0.057	38	1.9	800	37.48	20.33	41.08	97.04
Head (calc.)	1969.8	100.0	0.15	181	4.5	800	100	100	100	100
(direct)										

Combined Products

Cln 3 Conc.	7.4	0.38	19.80	33200	596	800	50.40	68.75	49.89	0.38
Cln 2 Conc.	9.2	0.5	18.12	29447	500	800	57.34	75.81	52.02	0.47
Cln 1 Conc.	13.0	0.7	13.39	21413	378	800	59.87	77.90	55.60	0.66
Roug. Conc.	58.3	3.0	3.12	4883	89	800	62.52	79.67	58.92	2.96

Ag assay of Cln 3 tail was not assayed due to insufficient sample; An educated guess was placed.

W assays not entered as all assays reported as < 800 ppm

Test No.: VF1-4 Project No.: 50004-001 Operator: Wei Date: 15-May-08

Purpose: Determine the flotation character during cleaning**Procedure:** As outlined below.**Feed:** 2 kg of minus 10 mesh of Composite # 1 (Cu - Ag Composite)**Grind:** 56 minutes / 2 kg @ 65% solids in laboratory Ball Milltarget K_{80} **Regrind:** Tested K80 54**Conditions:**

Stage	Reagents added, grams per tonne							Time, minutes			pH	Eh
	Diesel Oil	Lime	3302	SIBX	F1234	X-133	Grind	Cond.	Froth			
Grind	20						56				8.2	
Condition			20	25				5			8.6	
Rougher 1						20				5		
Condition				5				1				
Rougher 2						5				5		
Condition					5			1				
Rougher 3										5		
Regrind	5						15					
Condition			5	5				3				
Bulk Cleaner 1						2				6		
Condition								1				
Bulk Cleaner 2			1	1						2		
Condition		20									10.5	
Bulk Cleaner 3										1		
Total	25	20	26	36	5	27	0					

Stage	Rougher	1st Cleaners	2nd Cleaners
Flotation Cell	1000-D12	500 -D12	250 -D12
Speed: rpm	1800	1600	1100

Qualitative Observations:

Metallurgical Balance

Product	Weight		Assays, g/t, %				Distribution - %			
	g	%	Cu	Mo	Ag	W	Cu	Mo	Ag	W
Cln 3 Conc.	12.9	0.65	15.3	23000	462	20	64.03	81.35	64.88	0.43
Cln 3 Tails	5.8	0.29	0.97	900	48.9	20	1.83	1.43	3.09	0.19
Cln 2 Tails	11.7	0.59	0.26	200	12.4	30	0.99	0.64	1.58	0.59
Cln 1 Tails	70.9	3.59	0.12	60	3.78	40	2.76	1.17	2.92	4.74
Ro. Tails	1874.0	94.87	0.05	30	1.35	30	30.40	15.41	27.54	94.04
Head (calc.)	1975.3	100.0	0.16	185	4.7	30	100	100	100	100
(direct)										

Combined Products

Cln 3 Conc.	12.9	0.65	15.30	23000	462	20	64.03	81.35	64.88	0.43
Cln 2 Conc.	18.7	0.9	10.86	16145	334	20	65.86	82.78	67.96	0.63
Cln 1 Conc.	30.4	1.5	6.78	10009	210	24	66.84	83.42	69.54	1.21
Roug. Conc.	101.3	5.1	2.12	3046	66	35	69.60	84.59	72.46	5.96

Notes: The assay of W of cleaner 3 conc and cleaner 3 tail were below the detection limits and hence the detection limits were assumed

Test No.: VF1-5

Project No.: 50004-001

Operator: Wei

Date: 26-May-08

Purpose: Determine the flotation character during cleaning**Procedure:** As outlined below.**Feed:** 2 kg of minus 10 mesh of Composite # 1 (Cu - Ag Composite)**Grind:** 56 minutes / 2 kg @ 65% solids in laboratory Ball Milltarget K_{80} 54**Regrind:** 22 minutes in a ceramic mill

Tested K80

Conditions:

Stage	Reagents added, grams per tonne						Time, minutes			pH	Eh
	Lime	3477	SIBX		X-133		Grind	Cond.	Froth		
Grind							56				
Condition		10	25					5		8.6	
Rougher 1					20				5		
Condition		5	5					1			
Rougher 2					10				5		
Condition		2	2					1			
Rougher 3					5				5		
Regrind							22				
Condition		2	4					3			
Bulk Cleaner 1									5		
Condition								1			
Bulk Cleaner 2		1	1						2		
Condition										10.5	
Bulk Cleaner 3									0.5		
Total	0	0	20	37	0	35	0				

Stage	Rougher	1st Cleaners	2nd Cleaners
Flotation Cell	1000-D12	500 -D12	250 -D12
Speed: rpm	1800	1600	1100

Qualitative Observations:

Metallurgical Balance

Product	Weight		Assays, g/t, %				Distribution - %			
	g	%	Cu	Mo	Ag	W	Cu	Mo	Ag	W
Cln 3 Conc.	10.3	0.52	16.4	26819	539	20	55.68	79.06	41.24	0.26
Cln 3 Tails	10.2	0.51	0.8	1068	32.4	70	2.69	3.12	2.45	0.90
Cln 2 Tails	22.5	1.13	0.17	116	1.7	40	1.26	0.74	0.28	1.13
Cln 1 Tails	112.2	5.63	0.095	58	1.9	40	3.51	1.86	1.54	5.62
Ro. Tails	1837.4	92.21	0.061	29	4	40	36.87	15.22	54.49	92.10
Head (calc.) (direct)	1992.6	100.0	0.15	176	6.8	40	100	100	100	100

Combined Products

Cln 3 Conc.	10.3	0.52	16.40	26819	539	20	55.68	79.06	41.24	0.26
Cln 2 Conc.	20.5	1.0	8.64	14006	287	45	58.37	82.18	43.69	1.16
Cln 1 Conc.	43.0	2.2	4.22	6753	138	42	59.62	82.92	43.98	2.28
Roug. Conc.	155.2	7.8	1.24	1913	40	41	63.13	84.78	45.51	7.90
Total Rec.										

The W assay for cleaner 3 conc was reported as <.002 %

Test No.: VF1-LCT1 Project No.: 50004-001

Operator: Wei / Bruce

Date: 11-Jul-08

Purpose: Locked Cycle Test

Procedure: As outlined below.

Feed: 2 kg of minus 10 mesh of Composite # 1 (Cu - Ag Composite)

Grind: 49 minutes / 2 kg @ 65% solids in laboratory Ball Mill

Regrind: As outlined below.

target K₈₀

54

Tested K80

Conditions:

Stage	Reagents added, grams per tonne						Time, minutes			pH	Eh
	Moly Oil	Lime	3302	SIBX	X -133		Grind	Cond.	Froth		
Primary Grind	20						56				
Condition			15	25				5			
Rougher 1					30				5		
Condition			5	5				1			
Rougher 2					5				5		
Condition			5	5				1			
Rougher 3					2				5		
Regrind	5						10				
Condition			5	5	3			3			
Cleaner 1									4		
Cleaner Scav			1	1	1				1		
Condition			1	1							
Cleaner 2									3		
Condition		20	1	1						9.5	
Cleaner 3									1		
Total	25	20	33	43	0	41	0				

Stage	Rougher	1st Cleaners	2nd Cleaners
Flotation Cell	1000-D12	500 -D12	250 -D12
Speed: rpm	1800	1600	1100

Qualitative Observations:

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Note: The W assay of the final concentrate of all the cycles, were below the detection level of 0.002 % and hence they were assumed to be 0.002%

Metallurgical Balance The Ga assay of final conc and final tail were below the detection level of 0.004%. The Re assay of the final concentrate was 0.9 g/t

Product	Weight		Assays - %, ppm				Distribution - %			
	g.	%	Cu	Mo	Ag	W	Cu	Mo	Ag	W
1 3 rd Cleaner conc A	14.20	0.12	14.2	2.17	445.0	0.002	10.63	13.65	13.34	0.06
2 3 rd Cleaner conc B	15.50	0.13	13.1	1.95	357.0	0.002	10.70	13.39	11.68	0.07
3 3 rd Cleaner conc C	15.30	0.13	13.4	2.05	362.0	0.002	10.81	13.89	11.69	0.06
4 3 rd Cleaner conc D	15.40	0.13	13.1	2.02	365.0	0.002	10.63	13.78	11.87	0.06
5 3 rd Cleaner conc E	15.10	0.13	13.4	2.06	376.0	0.002	10.67	13.78	11.99	0.06
6 3 rd Cleaner conc F	15.50	0.13	12.6	1.92	331.0	0.002	10.29	13.18	10.83	0.07
7 3 rd Cleaner tail F	11.49	0.10	0.58	0.0420	24.1	0.004	0.35	0.21	0.58	0.10
8 2 nd Cleaner tail F	26.39	0.22	0.17	0.0100	6.1	0.005	0.24	0.12	0.34	0.28
9 1 st Clean/Scav conc F	5.68	0.05	0.28	0.0180	11.0	0.005	0.08	0.05	0.13	0.06
10 1 st Clean/Scav tail A	130.52	1.10	0.088	0.0052	2.3	0.004	0.61	0.30	0.63	1.10
11 1 st Clean/Scav tail B	122.34	1.03	0.075	0.0050	2.2	0.004	0.48	0.27	0.57	1.03
12 1 st Clean/Scav tail C	147.15	1.24	0.077	0.0049	2.3	0.004	0.60	0.32	0.71	1.24
13 1 st Clean/Scav tail D	131.77	1.11	0.088	0.0055	2.6	0.004	0.61	0.32	0.72	1.11
14 1 st Clean/Scav tail E	136.71	1.15	0.085	0.0051	2.6	0.004	0.61	0.31	0.75	1.15
15 1 st Clean/Scav tail F	146.41	1.24	0.079	0.0051	2.4	0.005	0.61	0.33	0.74	1.54
16 Rougher tail A	1807.76	15.26	0.064	0.0035	1.1	0.004	6.10	2.80	4.20	15.26
17 Rougher tail B	1834.51	15.48	0.050	0.0034	1.0	0.004	4.83	2.76	3.87	15.48
18 Rougher tail C	1807.21	15.25	0.049	0.0033	1.0	0.004	4.67	2.64	3.82	15.25
19 Rougher tail D	1830.72	15.45	0.064	0.0033	1.0	0.004	6.18	2.68	3.87	15.45
20 Rougher tail E	1815.89	15.32	0.052	0.0033	1.0	0.004	4.98	2.65	3.83	15.33
21 Rougher tail F	1804.40	15.23	0.056	0.0032	1.0	0.004	5.33	2.56	3.81	15.23
Head - (Calculated)	11850.0	100.00	0.160	0.0191	4.0	0.004	100.00	100.00	100.00	100.00
Head - (Direct)	12000	98.75	0.15	0.017						

Metallurgical Prediction (Using Cycles D,E,F)

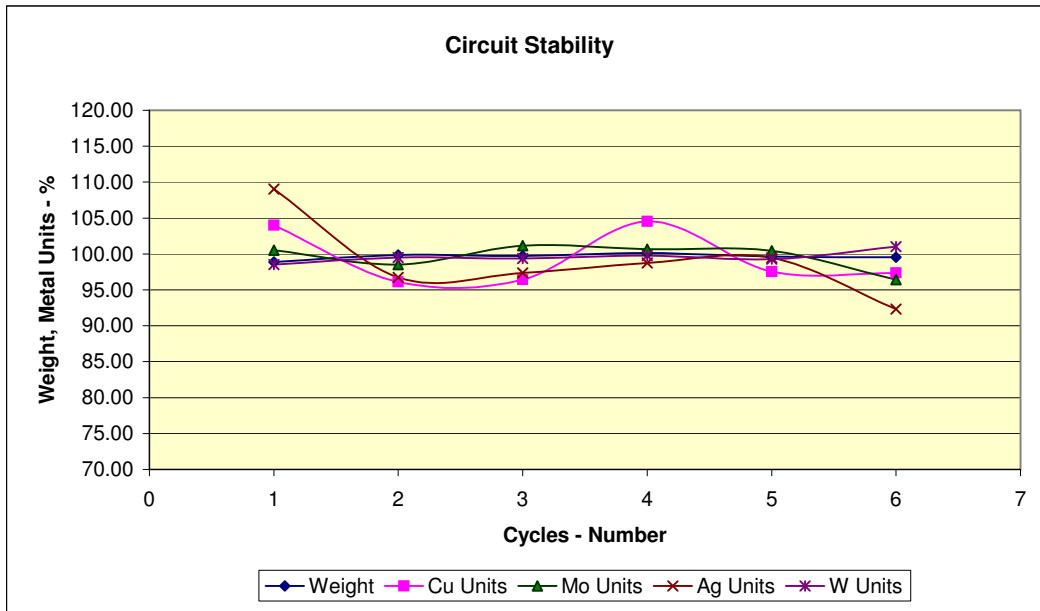
Final Conc.	92	0.78	13.03	1.9994	357.2	0.002	63.31	82.16	71.65	0.39
Cleaner/Scav Tail	829.78	7.00	0.08	0.0052	2.5	0.004	3.67	1.94	4.58	7.62
Rougher Tail	10902.02	92.00	0.06	0.0033	1.0	0.004	33.02	15.91	23.77	91.99
Head - (Calculated)	11823.8	99.78	0.16	0.0189	3.9	0.004	100.00	100.00	100.00	100.00
Head - (Direct)	12000	98.53	0.15	0.017						

Cleaner Circuit Unit Performance	Mass Rec	Upgrade				Unit Recovery - %			
	9.71	9.47	9.79	9.42	0.49	94.52	97.70	94.00	4.85

Overall Stability

Total Product Out per cycle	Cyc. #	Weight %	Units Out as a% of Units In/cycle			
			Cu	Mo	Ag	W
Cycle A	1	98.86	103.99	100.52	109.05	98.51
Cycle B	2	99.87	96.13	98.54	96.76	99.48
Cycle C	3	99.73	96.43	101.13	97.35	99.35
Cycle D	4	100.15	104.52	100.67	98.75	99.76
Cycle E	5	99.63	97.53	100.46	99.44	99.26
Cycle F	6	99.56	97.38	96.43	92.31	101.03

Average of E to F	99.60	97.45	98.44	95.88	100.14
Average of D to F	99.78	99.81	99.18	96.83	100.02
Average of C to F	99.77	98.96	99.67	96.96	99.85



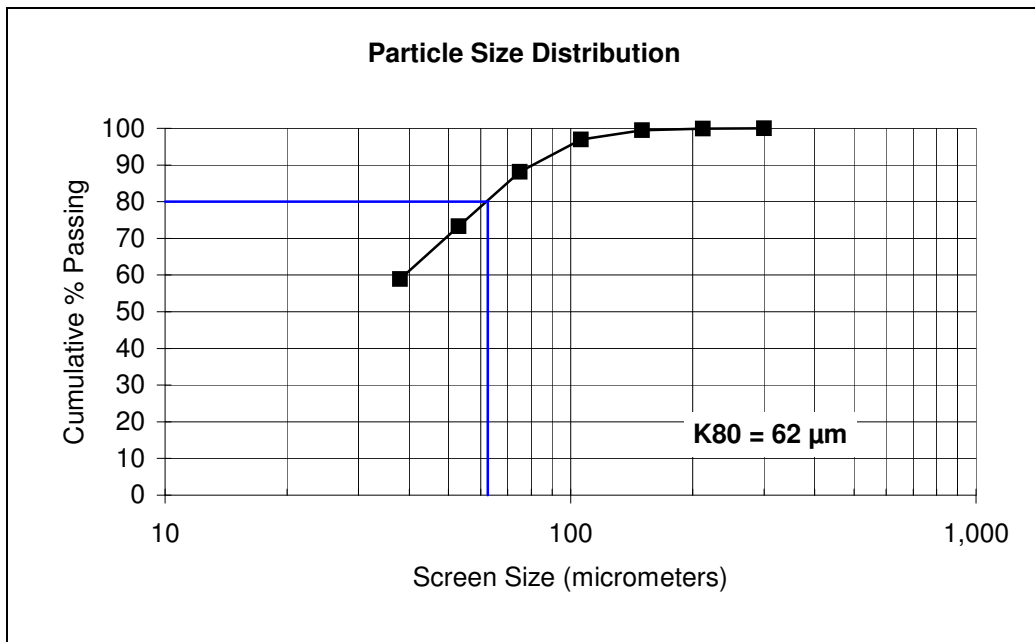
SGS Minerals Services
Size Distribution Analysis

Project No.
50004-001

Sample: Comp 1 - Ro Tails

Test No.: **VF1-1**

Mesh	Size	Weight grams	% Retained		% Passing Cumulative
	µm		Individual	Cumulative	
48	300	0.0	0.0	0.0	100.0
65	212	0.1	0.1	0.1	99.9
100	150	0.4	0.4	0.5	99.5
150	106	2.6	2.6	3.1	96.9
200	75	8.8	8.8	11.9	88.1
270	53	14.8	14.8	26.7	73.3
400	38	14.4	14.4	41.1	58.9
Pan	-38	59.0	58.9	100.0	0.0
Total	-	100.1	100.0	-	-
K80	62				



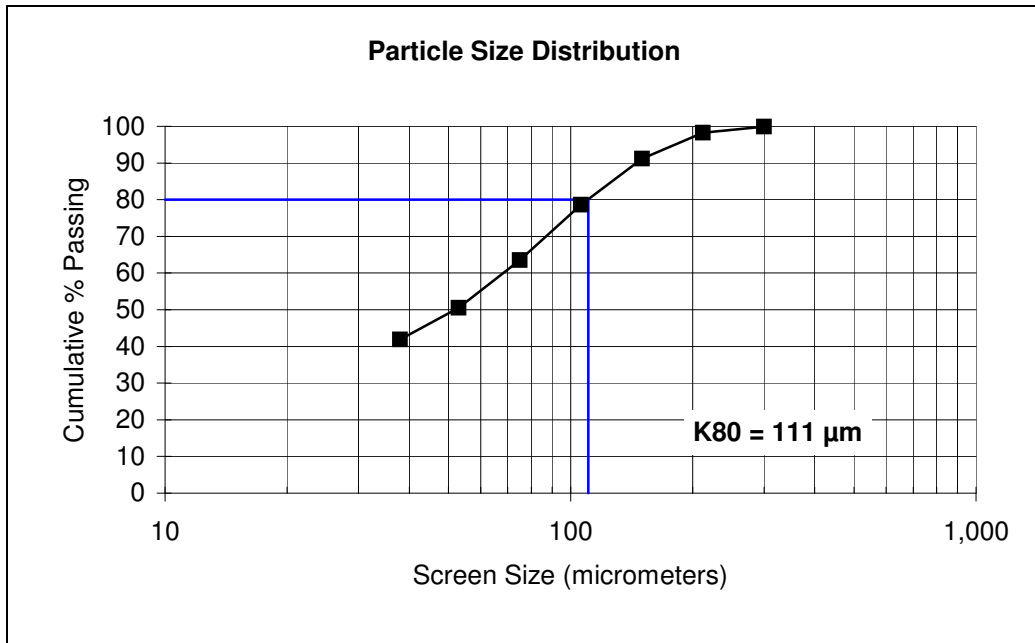
SGS Minerals Services
Size Distribution Analysis

Project No.
50004-001

Sample: Comp 1 - Ro Tails

Test No.: **VF1-2**

Mesh	Size	Weight grams	% Retained		% Passing Cumulative
	µm		Individual	Cumulative	
48	300	0.1	0.1	0.1	99.9
65	212	1.6	1.6	1.7	98.3
100	150	7.1	7.1	8.8	91.2
150	106	12.6	12.6	21.4	78.6
200	75	15.0	15.0	36.4	63.6
270	53	13.0	13.0	49.4	50.6
400	38	8.7	8.7	58.2	41.8
Pan	-38	41.8	41.8	100.0	0.0
Total	-	99.9	100.0	-	-
K80	111				



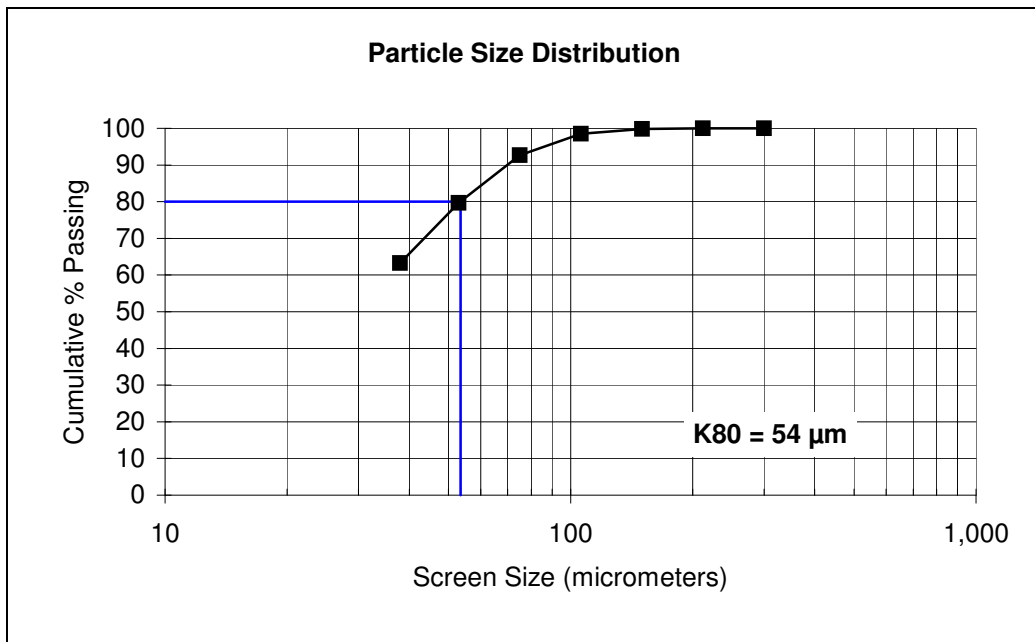
SGS Minerals Services
Size Distribution Analysis

Project No.
50004-001

Sample: Comp 1 - Ro Tails

Test No.: **VF1-4**

Mesh	Size	Weight grams	% Retained		% Passing Cumulative
	µm		Individual	Cumulative	
48	300	0.0	0.0	0.0	100.0
65	212	0.0	0.0	0.0	100.0
100	150	0.2	0.2	0.2	99.8
150	106	1.4	1.3	1.4	98.6
200	75	6.5	5.9	7.3	92.7
270	53	14.4	13.0	20.4	79.6
400	38	18.1	16.4	36.7	63.3
Pan	-38	69.9	63.3	100.0	0.0
Total	-	110.5	100.0	-	-
K80	54				



**SGS Minerals Services
Size Distribution Analysis**

Project No.
50004-001

Sample: **Comp 1 Clen 1 Tail** Test No.: **VF1-5**

Mesh	Size	Weight grams	% Retained		% Passing Cumulative
	µm		Individual	Cumulative	
65	212	0.0	0.0	0.0	100.0
100	150	0.0	0.0	0.0	100.0
150	106	0.0	0.0	0.0	100.0
200	75	0.0	0.0	0.0	100.0
270	53	0.0	0.0	0.0	100.0
400	38	2.5	5.5	5.5	94.5
635	20	2.0	4.4	9.9	90.1
-635	-20	41.8	90.1	100.0	0.0
Total	-	46.4	100.0	-	-
K80	#N/A				

Test No.: VF2-1 Project No.: 50004-001 Operator: Wei Date: 16-Apr-08

Purpose: Determine the flotation kinetics

Procedure: As outlined below.

Feed: 2 kg of minus 10 mesh of Composite # 2 (Cu - Mo Composite)

Grind: 32.9 minutes / 2 kg @ 65% solids in laboratory Ball Mill

target K₈₀ 125

Regrind:

tested K₈₀ 106

Conditions:

Stage	Reagents added, grams per tonne							Time, minutes			pH	Eh
	Diesel O.	Lime	3302	SIBX		X-133		Grind	Cond.	Froth		
Grind	20							32.9			8.5	-97
Condition			20	10					5		8.5	
Rough. 1						10				2	8.7	-117
Condition				5					1			
Rough 2						10				3	8.7	-111
Condition				5					1			
Rough. 3						5				3	8.7	
Condition				5					1			
Rough. 4						2				3	8.7	
Total	20	0	20	25	0	27	0					

Stage	Rougher	1st Cleaners	2nd Cleaners
Flotation Cell	1000-D12	500 -D12	250 -D12
Speed: rpm	1800	1600	1100

Qualitative Observations:

Metallurgical Balance

Product	Weight		Assays, g/t, %				Distribution - %			
	g	%	Cu	Mo	Ag	S	Cu	Mo	Ag	S
Ro. 1 Con	26.7	1.34	6.83	27597	129	12.9	76.37	85.05	59.29	64.61
Ro. 2 Con	30.4	1.53	0.67	1452	17.5	1.24	8.53	5.10	9.16	7.07
Ro. 3 Con	25.7	1.29	0.34	588	9.37	0.55	3.66	1.74	4.15	2.65
Ro. 4 Con	18.5	0.93	0.15	224	4.4	0.25	1.16	0.48	1.40	0.87
Ro. Tails	1888.7	94.91	0.013	35	0.8	0.07	10.28	7.63	26.01	24.80
Head (calc.)	1990.0	100.0	0.120	435	2.9	0.268	100	100	100	100
(direct)										

Combined Products

Ro 1 con	26.7	1.34	6.83	27597	129	12.90	76.37	85.05	59.29	64.61
Ro 1 to 2 con	57.1	2.9	3.55	13677	70	6.7	84.90	90.15	68.45	71.68
Ro 1 to 3 con	82.8	4.2	2.55	9615	51	4.79	88.56	91.89	72.59	74.33
Ro 1 to 4 con	101.3	5.1	2.11	7900	42	3.96	89.72	92.37	73.99	75.20
Total Rec.										

Test No.: VF2-2 Project No.: 50004-001 Operator: Wei Date: 16-Apr-08

Purpose: Determine the flotation kinetics

Procedure: As outlined below.

Feed: 2 kg of minus 10 mesh of Composite # 2 (Cu - Mo Composite)

Grind: 52.6 minutes / 2 kg @ 65% solids in laboratory Ball Mill

target K_{80} 63

Regrind:

tested K80 61

Conditions:

Stage	Reagents added, grams per tonne							Time, minutes			pH	Eh
	Diesel O.	Lime	3302	SIBX		X-133		Grind	Cond.	Froth		
Grind	20							52.6			8.5	-99
Condition			20	10					5		8.5	
Rough. 1						10				2	8.7	-111
Condition				5					1			
Rough 2						10				3	8.8	-112
Condition				5					1			
Rough. 3						5				3	8.8	
Condition				5					1			
Rough. 4						5				3	8.8	
Total	20	0	20	25	0	30	0					

Stage	Rougher	1st Cleaners	2nd Cleaners
Flotation Cell	1000-D12	500 -D12	250 -D12
Speed: rpm	1800	1600	1100

Qualitative Observations:

Metallurgical Balance

Product	Weight		Assays, g/t, %				Distribution - %			
	g	%	Cu	Mo	Ag	S	Cu	Mo	Ag	S
Ro. 1 Con	33.4	1.68	4.76	21000	108	10.3	75.66	88.46	61.41	65.80
Ro. 2 Con	33.0	1.66	0.64	760	14.7	1.48	10.05	3.16	8.26	9.34
Ro. 3 Con	25.6	1.28	0.18	230	5.26	0.39	2.19	0.74	2.29	1.91
Ro. 4 Con	29.5	1.48	0.1	150	5.07	0.26	1.40	0.56	2.55	1.47
Ro. Tails	1871.3	93.90	0.012	30	0.8	0.06	10.69	7.08	25.49	21.48
Head (calc.)	1992.8	100.0	0.11	398	2.9	0.262	100	100	100	100
(direct)										

Combined Products

Ro 1 con	33.4	1.68	4.76	21000	108	10.30	75.66	88.46	61.41	65.80
Ro 1 to 2 con	66.4	3.3	2.71	10941	62	5.92	85.72	91.62	69.67	75.15
Ro 1 to 3 con	92.0	4.6	2.01	7961	46	4.38	87.91	92.36	71.97	77.06
Ro 1 to 4 con	121.5	6.1	1.54	6064	36	3.38	89.31	92.92	74.51	78.52
Total Rec.										

Test No.: VF2-3 Project No.: 50004-001 Operator: Wei Date: 9-May-08

Purpose: Determine the flotation character during cleaning**Procedure:** As outlined below.**Feed:** 2 kg of minus 10 mesh of Composite # 2 (Cu - Mo Composite)**Grind:** 52.6 minutes / 2 kg @ 65% solids in laboratory Ball Milltarget K₈₀ 63**Regrind:** tested K80**Conditions:**

Stage	Reagents added, grams per tonne						Time, minutes			pH	Eh
	Moly. Oil	Lime	3302	SIBX		X-133	Grind	Cond.	Froth		
Grind	20						52.6			8.6	
Condition			30	35				5		8.8	
Rougher						30			10		
Rougher-Conti.	5.5					5		2	1		
Regrind	5.5						15				
Condition			5	5				2		8.9	
Cleaner 1						5			5		
Condition			1	1				1		9.2	
Cleaner 2						2			4		
Condition		15								10.5	
Cleaner 3									2		
Total	31	15	36	41	0	42	0				

Stage	Rougher	1st Cleaners	2nd Cleaners
Flotation Cell	1000-D12	500 -D12	250 -D12
Speed: rpm	1800	1600	1100

Qualitative Observations:

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Metallurgical Balance

Product	Weight		Assays, g/t, %					Distribution - %			
	g	%	Cu	Mo	Ag	W	Cu	Mo	Ag	W	
Cln 3 Con	11.5	0.58	18	63060	344	20	85.50	93.67	76.83	0.17	
Cln 3 Tails	2.1	0.11	1.35	2950	30.8	40	1.17	0.80	1.26	0.06	
Cln 2 Tails	8.4	0.43	0.13	210	5.2	50	0.45	0.23	0.85	0.30	
Cln 1 Tails	90.3	4.57	0.036	63	1.7	80	1.34	0.73	2.98	5.22	
Ro. Tails	1862.2	94.31	0.015	19	0.5	70	11.54	4.57	18.08	94.25	
Head (calc.)	1974.5	100.0	0.12	392	2.6	70	100	100	100	100	
(direct)											

Combined Products

Cln 3 Conc.	11.5	0.58	18.00	63060	344	20	85.50	93.67	76.83	0.17
Cln 2 Conc.	13.6	0.7	15.43	53778	296	23	86.67	94.47	78.09	0.23
Cln 1 Conc.	22.0	1.1	9.59	33325	185	33	87.12	94.70	78.94	0.53
Roug. Conc.	112.3	5.7	1.91	6579	38	71	88.46	95.43	81.92	5.75
Total Rec.										

The Ag assays of the rougher tail was below the detection limits and was recorded as < 0.5 g/t

The W assays of the cleaner 3 conc was below the detection limits and was recorded as < 0.002 %

The W assays of the cleaner 3 and 2 tail were not completed due to insufficient sample and the values are educated guesses

Test No.: VF2-4

Project No.: 50004-001

Operator: Wei

Date: 28-May-08

Purpose: Determine the flotation character during cleaning**Procedure:** As outlined below.**Feed:** 2 kg of minus 10 mesh of Composite # 2 (Cu - Mo Composite)**Grind:** 52.6 minutes / 2 kg @ 65% solids in laboratory Ball Milltarget K₈₀ 63**Regrind:** tested K80**Conditions:**

Stage	Reagents added, grams per tonne						Time, minutes			pH	Eh
	Moly. Oil	Lime	3302	SIBX		X-133	Grind	Cond.	Froth		
Grind	20						52.6				
Condition			20	25				5		8.5	
Rougher 1						15			3		
Condition			5	5				1			
Rougher 2						10			4		
Condition			5	5				1			
Rougher 3						7			4		
Regrind	5						20				
Condition			5	5				2			
Bulk Cleaner 1						2			4		
Condition			1	1				1			
Bulk Cleaner 2									2		
Condition										10.5	
Bulk Cleaner 3									1		
Total	25	0	36	41	0	34	0				

Stage	Rougher	1st Cleaners	2nd Cleaners
Flotation Cell	1000-D12	500 -D12	250 -D12
Speed: rpm	1800	1600	1100

Qualitative Observations:

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Metallurgical Balance

Product	Weight		Assays, g/t, %					Distribution - %			
	g	%	Cu	Mo	Ag	W	Cu	Mo	Ag	W	
Cln 3 Con	11.6	0.59	17.3	65260	354	20	81.82	92.57	74.83	0.24	
Cln 3 Tails	1.1	0.06	1.7	3000	35	20	0.75	0.40	0.69	0.02	
Cln 2 Tails	6.7	0.34	0.33	680	5	20	0.90	0.56	0.61	0.14	
Cln 1 Tails	64.9	3.30	0.074	120	2.8	50	1.95	0.95	3.31	3.32	
Ro. Tails	1882.5	95.72	0.019	24	0.6	50	14.57	5.52	20.56	96.29	
Head (calc.)	1966.7	100.0	0.12	416	2.8	50	100	100	100	100	
(direct)											

Combined Products

Cln 3 Conc.	11.6	0.59	17.30	65260	354	20	81.82	92.57	74.83	0.24
Cln 2 Conc.	12.7	0.6	15.96	59916	327	20	82.58	92.97	75.52	0.26
Cln 1 Conc.	19.4	1.0	10.57	39499	216	20	83.47	93.53	76.13	0.40
Roug. Conc.	84.2	4.3	2.49	9180	52	43	85.43	94.48	79.44	3.71
Total Rec.										

The cleaner 3 tail was NOT assayed due to insufficient sample. The data shown are educated guesses.

The Ag and W assays of cleaners 2 tail were not completed due to insufficient samples and hence the data shown are educated guesses.

Test No.: VF2-5 Project No.: 50004-001 Operator: Bruce Date: 26-Jun-08

Purpose: Determine the flotation character during cleaning**Procedure:** As outlined below.**Feed:** 2 kg of minus 10 mesh of Composite # 2 (Cu - Mo Composite)**Grind:** 52.6 minutes / 2 kg @ 65% solids in laboratory Ball Milltarget K₈₀ 63**Regrind:**

tested K80 64

Conditions:

Stage	Reagents added, grams per tonne						Time, minutes			pH	Eh
	Moly. Oil	Lime	3302	SIBX		Pine Oil	Grind	Cond.	Froth		
Grind	25						52.6				
Condition			35	40				5		8.6	
Rougher						40			12		
Regrind	7						10				
Condition			5	5				2			
Cleaner 1						20			5		
Condition			1	1				1			
Cleaner 2						20			3		
Condition		40								10	
Cleaner 3						4			1		
Total	32	40	41	46	0	84	0				

Stage	Rougher	1st Cleaners	2nd Cleaners
Flotation Cell	1000-D12	500 -D12	250 -D12
Speed: rpm	1800	1600	1100

Qualitative Observations:

Metallurgical Balance

Product	Weight		Assays, g/t, %					Distribution - %			
	g	%	Cu	Mo	Ag	W	Cu	Mo	Ag	W	
Cln 3 Con	11.6	0.58	16.6	48750	365	20	86.66	90.35	70.26	0.23	
Cln 3 Tails	2.2	0.11	1.7	3000	34.1	30	1.67	1.05	1.24	0.07	
Cln 2 Tails	11.6	0.58	0.2	368	8.0	70	1.05	0.68	1.54	0.81	
Cln 1 Tails	103.1	5.19	0.048	83	3.1	60	2.23	1.37	5.32	6.18	
Ro. Tails	1856.0	93.53	0.01	22	0.7	50	8.38	6.55	21.64	92.72	
Head (calc.)	1984.4	100.0	0.11	314	3.0	50	100	100	100	100	
(direct)											

Combined Products

Cln 3 Conc.	11.6	0.58	16.60	48750	365	20	86.66	90.35	70.26	0.23
Cln 2 Conc.	13.7	0.7	14.24	41491	312	22	88.34	91.40	71.50	0.30
Cln 1 Conc.	25.3	1.3	7.82	22684	173	44	89.38	92.08	73.04	1.11
Roug. Conc.	128.4	6.5	1.58	4540	37	57	91.62	93.45	78.36	7.28
Total Rec.										

Notes: The Cu, Mo and W assay of cleaner 3 tail were not completed due to lack of samples. The data shown are best guesses to fit the head assay

The W assay of cleaner 3 conc was below the detection limit and hence the detection limit was applied

Test No.: VF2-LCT1 **Project No.:** 50004-001 **Operator:** Wei / Bruce **Date:** 9-Jul-08
Purpose: Locked Cycle Test
Procedure: As outlined below.
Feed: 2 kg of minus 10 mesh of Composite # 2 (Cu-Mo Composite)
Grind: 49 minutes / 2 kg @ 65% solids in laboratory Ball Mill target K₈₀ 63
Regrind: As outlined below. Tested K80
Conditions:

Stage	Reagents added, grams per tonne						Time, minutes			pH	Eh
	Moly Oil	Lime	3302	SIBX	X-133		Grind	Cond.	Froth		
Primary Grind	20						52.6			8.6	
Condition			20	20				5		8.8	
Rougher 1					25				5		
Condition			5	5				1			
Rougher 2					5				5		
Condition			3	8				1			
Rougher 3					5				5		
Regrind	5						10				
Condition			5	5				3		8.9	
Cleaner 1					5				5		
Cleaner Scav			1	1	2				1		
Condition			1	1							
Cleaner 2									3		
Condition		20	1	1						9.5	
Cleaner 3									1		
Total	25	20	36	41	0	42	0				

Stage	Rougher	1st Cleaners	2nd Cleaners
Flotation Cell	1000-D12	500 -D12	250 -D12
Speed: rpm	1800	1600	1100

Qualitative Observations:

Notes: The Ag assays of Rougher tails of cycles A, B and E and W assays of 3rd Cleaner conc of cycles B, C, E, F and 1st Cleaner Scav/Conc of cycle F, were below their detection limits and hence either the limit or values just below the limit were assumed
The Ga assay of the final concentrate and rougher tail were below their detection limit of 0.004% and Re assay of the final concentrate was 2.9 g/t

Metallurgical Balance

Product	Weight		Assays - %, ppm				Distribution - %			
	g.	%	Cu	Mo	Ag	W	Cu	Mo	Ag	W
1 3 rd Cleaner conc A	14.10	0.12	14.1	5.080	289.0	0.004	13.84	15.09	13.02	0.08
2 3 rd Cleaner conc B	13.10	0.11	16.4	5.600	322.0	0.002	14.95	15.46	13.48	0.04
3 3 rd Cleaner conc C	13.20	0.11	15.8	5.720	309.0	0.002	14.51	15.91	13.04	0.04
4 3 rd Cleaner conc D	13.10	0.11	17.0	5.830	320.0	0.004	15.50	16.09	13.40	0.08
5 3 rd Cleaner conc E	13.10	0.11	16.1	5.530	324.0	0.002	14.68	15.26	13.57	0.04
6 3 rd Cleaner conc F	13.10	0.11	16.1	5.610	328.0	0.002	14.68	15.48	13.73	0.04
7 3 rd Cleaner tail F	3.41	0.03	1.32	0.310	41.2	0.007	0.31	0.22	0.45	0.03
8 2 nd Cleaner tail F	13.35	0.11	0.14	0.027	4.8	0.006	0.13	0.08	0.20	0.12
9 1 st Clean/Scav conc F	4.77	0.04	0.24	0.040	8.0	0.002	0.08	0.04	0.12	0.01
10 1 st Clean/Scav tail A	96.41	0.81	0.026	0.0055	1.1	0.008	0.17	0.11	0.34	1.11
11 1 st Clean/Scav tail B	98.09	0.83	0.026	0.0067	1.4	0.007	0.18	0.14	0.44	0.99
12 1 st Clean/Scav tail C	109.16	0.92	0.025	0.0068	1.0	0.007	0.19	0.16	0.35	1.10
13 1 st Clean/Scav tail D	129.48	1.09	0.022	0.0055	1.1	0.007	0.20	0.15	0.46	1.30
14 1 st Clean/Scav tail E	112.78	0.95	0.027	0.0061	1.3	0.006	0.21	0.14	0.47	0.97
15 1 st Clean/Scav tail F	112.72	0.95	0.028	0.0060	1.2	0.007	0.22	0.14	0.43	1.14
16 Rougher tail A	1834.30	15.50	0.009	0.0021	0.4	0.006	1.15	0.81	2.35	15.84
17 Rougher tail B	1869.62	15.80	0.013	0.0025	0.4	0.006	1.69	0.98	2.39	16.14
18 Rougher tail C	1844.20	15.59	0.017	0.0026	0.5	0.006	2.18	1.01	2.95	15.92
19 Rougher tail D	1835.57	15.52	0.010	0.0025	0.5	0.006	1.28	0.97	2.93	15.85
20 Rougher tail E	1853.95	15.67	0.018	0.0022	0.4	0.005	2.32	0.86	2.37	13.34
21 Rougher tail F	1832.99	15.49	0.012	0.0023	0.6	0.006	1.53	0.89	3.52	15.83
Head - (Calculated)	11830.5	100.00	0.12	0.0401	2.6	0.006	100.00	100.00	100.00	100.00
Head - (Direct)	12000	98.59	0.12	0.0400						

Metallurgical Prediction (Using Cycles D,E,F)

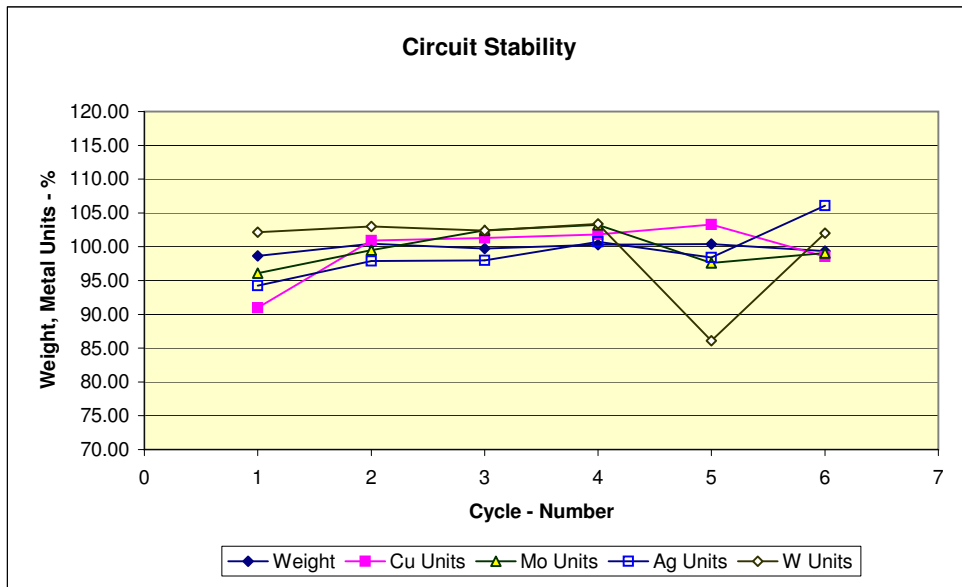
Final Conc.	78.6	0.66	16.40	5.6567	324.0	0.003	88.62	93.69	80.00	0.31
Cleaner/Scav Tail	710.0	6.00	0.03	0.0058	1.2	0.007	1.24	0.88	2.67	7.03
Rougher Tail	11045.0	93.36	0.01	0.0023	0.5	0.006	10.14	5.43	17.34	92.66
Head - (Calculated)	11833.58	100.03	0.12	0.0401	2.7	0.006	100.00	100.00	100.00	100.00
Head - (Direct)	12000	98.61	0.12	0.04						

Cleaner Circuit Unit Performance	Mass Rec	Upgrade				Unit Recovery - %			
		Cu	Mo	Ag	W	Cu	Mo	Ag	W
	10.01	9.89	9.94	9.71	0.424	98.62	99.07	96.78	4.23

Overall Stability

Total Product Out per cycle	Cyc. #	Weight %	Units Out as a% of Units In/cycle			
			Cu	Mo	Ag	W
Cycle A	1	98.63	90.95	96.09	94.25	102.17
Cycle B	2	100.46	100.92	99.48	97.87	103.01
Cycle C	3	99.74	101.31	102.45	98.00	102.36
Cycle D	4	100.32	101.84	103.25	100.72	103.37
Cycle E	5	100.41	103.27	97.61	98.43	86.11
Cycle F	6	99.34	98.57	99.09	106.08	102.00

Average of E to F	99.88	100.92	98.35	102.26	94.05
Average of D to F	100.03	101.23	99.98	101.74	97.16
Average of C to F	99.95	101.25	100.60	100.81	98.46



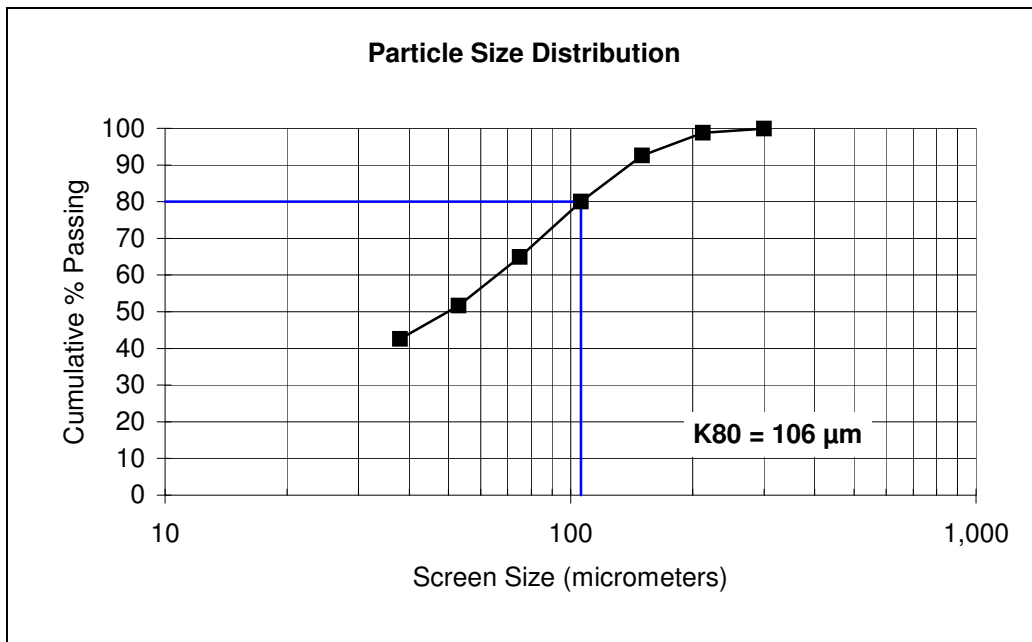
SGS Minerals Services
Size Distribution Analysis

Project No.
50004-001

Sample: Comp 2 - Ro Tails

Test No.: **VF2-1**

Mesh	Size	Weight grams	% Retained		% Passing Cumulative
	µm		Individual	Cumulative	
48	300	0.1	0.1	0.1	99.9
65	212	1.1	1.1	1.2	98.8
100	150	6.2	6.2	7.4	92.6
150	106	12.6	12.6	20.0	80.0
200	75	15.0	15.0	35.0	65.0
270	53	13.3	13.3	48.3	51.7
400	38	9.1	9.1	57.5	42.5
Pan	-38	42.5	42.5	100.0	0.0
Total	-	99.9	100.0	-	-
K80	106				



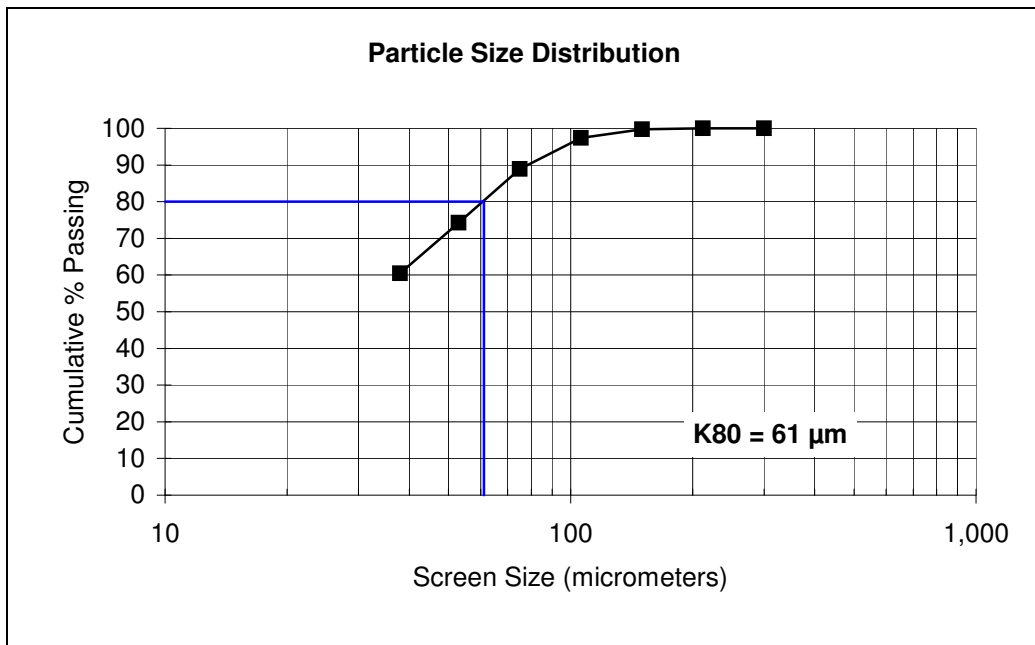
SGS Minerals Services
Size Distribution Analysis

Project No.
50004-001

Sample: Comp 2 - Ro Tails

Test No.: **VF2-2**

Mesh	Size	Weight grams	% Retained		% Passing Cumulative
	µm		Individual	Cumulative	
48	300	0.0	0.0	0.0	100.0
65	212	0.0	0.0	0.0	100.0
100	150	0.3	0.3	0.3	99.7
150	106	2.3	2.3	2.6	97.4
200	75	8.5	8.5	11.1	88.9
270	53	14.6	14.6	25.7	74.3
400	38	13.8	13.8	39.5	60.5
Pan	-38	60.5	60.5	100.0	0.0
Total	-	100.0	100.0	-	-
K80	61				



**SGS Minerals Services
Size Distribution Analysis**

Project No.
50004-001

Sample: **Comp 2 Clen 1 Tail** Test No.: **VF2-4**

Mesh	Size	Weight grams	% Retained		% Passing Cumulative
	µm		Individual	Cumulative	
65	212	0.0	0.0	0.0	100.0
100	150	0.0	0.0	0.0	100.0
150	106	0.0	0.0	0.0	100.0
200	75	0.0	0.0	0.0	100.0
270	53	0.0	0.0	0.0	100.0
400	38	0.3	0.9	0.9	99.1
635	20	1.1	3.2	4.1	95.9
-635	-20	33.6	95.9	100.0	0.0
Total	-	35.0	100.0	-	-
K80	#N/A				

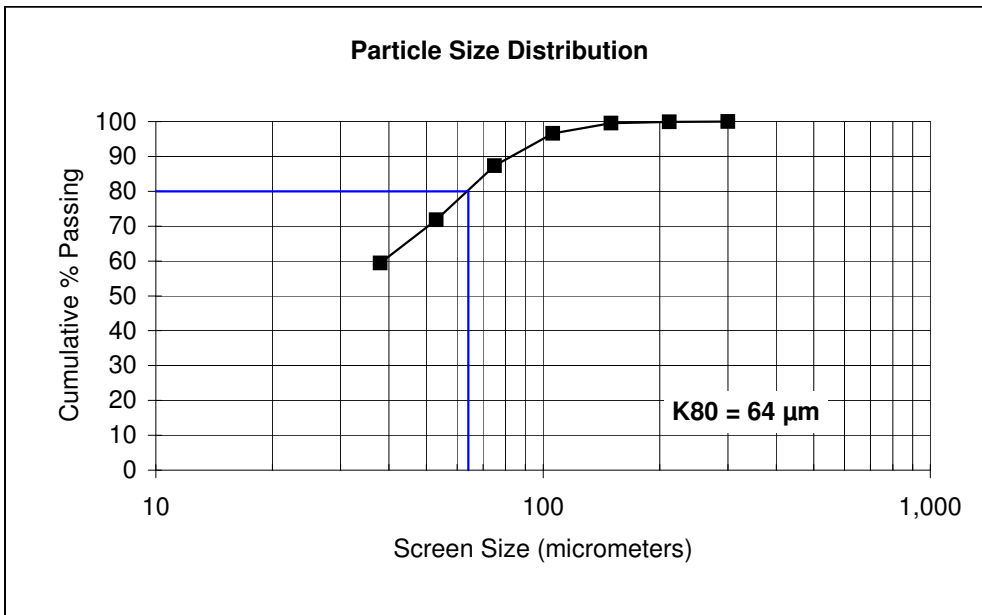
**SGS Minerals Services
Size Distribution Analysis**

Project No.
50004-001

Sample: Comp 2 - Ro Tail

Test No.: **VF2-5**

Mesh	Size	Weight grams	% Retained		% Passing Cumulative
	µm		Individual	Cumulative	
48	300	0.0	0.0	0.0	100.0
65	212	0.1	0.1	0.1	99.9
100	150	0.3	0.4	0.4	99.6
150	106	2.7	3.0	3.4	96.6
200	75	8.4	9.2	12.6	87.4
270	53	14.2	15.5	28.2	71.8
400	38	11.3	12.4	40.6	59.4
Pan	-38	54.1	59.4	100.0	0.0
Total	-	91.1	100.0	-	-
K80	64				



Test No.: VF3-1 Project No.: 50004-001 Operator: Wei Date: 25-Apr-08

Purpose: Determine the flotation kinetics**Procedure:** As outlined below.**Feed:** 2 kg of minus 10 mesh of Composite # 3 (Mo Composite)**Grind:** 26.9 minutes / 2 kg @ 65% solids in laboratory Ball Milltarget K_{80} 125**Regrind:**

tested K80 115

Conditions:

Stage	Reagents added, grams per tonne							Time, minutes			pH	Eh
	Moly. Oil	Lime	3302	SIBX		X-133		Grind	Cond.	Froth		
Grind	20							26.9			8.6	
Condition			20	10					5		8.7	
Rough. 1						15				2		
Condition			5	5					1			
Rough 2						5				3		
Condition				5					1			
Rough. 3						5				3		
Condition	5.5		5	5					3			
Rough. 4						5				3	8.8	
Total	25.5	0	30	25	0	30	0					

Stage	Rougher	1st Cleaners	2nd Cleaners
Flotation Cell	1000-D12	500 -D12	250 -D12
Speed: rpm	1800	1600	1100

Qualitative Observations:

Metallurgical Balance

Product	Weight		Assays, g/t, %				Distribution - %			
	g	%	Cu	Mo	Ag		Cu	Mo	Ag	
Ro. 1 Con	30.0	1.51	1.39	67050	34.6		63.75	88.97	49.11	
Ro. 2 Con	29.8	1.50	0.18	2780	6.2		8.20	3.66	8.74	
Ro. 3 Con	22.9	1.15	0.087	1200	3.5		3.05	1.22	3.79	
Ro. 4 Con	24.8	1.25	0.052	520	2.3		1.97	0.57	2.70	
Ro. Tails	1883.8	94.60	0.008	67	0.4		23.04	5.58	35.65	
Head (calc.)	1991.3	100.0	0.033	1135	1.061		100	100	100	
(direct)										

Combined Products

Ro 1 con	30.0	1.51	1.39	67050	34.6		63.75	88.97	49.11	
Ro 1 to 2 con	59.8	3.00	0.79	35022	20.4		71.95	92.63	57.86	
Ro 1 to 3 con	82.7	4.15	0.59	25657	15.8		74.99	93.85	61.65	
Ro 1 to 4 con	107.5	5.40	0.47	19858	12.7		76.96	94.42	64.35	
Total Rec.										

Ro tail Ag assay - Back calculated using the Head assay of 1.06 g/t and limited to a maximum of 0.5 g/t

Test No.: VF3-3 Project No.: 50004-001 Operator: Wei Date: 20-May-08

Purpose: Determine the flotation character during cleaning

Procedure: As outlined below.

Feed: 2 kg of minus 10 mesh of Composite # 3 (Mo Composite)

Grind: 49 minutes / 2 kg @ 65% solids in laboratory Ball Mill

target K_{80} 63

Regrind:

Tested K80

Conditions:

Stage	Reagents added, grams per tonne						Time, minutes			pH	Eh
	Moly Oil	Lime	3302	SIBX	X-133		Grind	Cond.	Froth		
Grind	20						49				
Condition			20	20				5		8.6	
Rougher 1					25				5	8.7	
Condition			5	5				1			
Rougher 2					5				5		
Condition			3	5				1			
Rougher 3					5				5	8.7	
Regrind	5						15				
Condition			5	5				3			
Bulk Cleaner 1					5				6	8.7	
Condition								1			
Bulk Cleaner 2			1	1					3		
Condition		20								10.5	
Bulk Cleaner 3									2		
Total	25	20	34	36	0	40	0				

Stage	Rougher	1st Cleaners	2nd Cleaners
Flotation Cell	1000-D12	500 -D12	250 -D12
Speed: rpm	1800	1600	1100

Qualitative Observations:

Metallurgical Balance

Product	Weight		Assays, g/t, %				Distribution - %			
	g	%	Cu	Mo	Ag	W	Cu	Mo	Ag	W
Cln 3 Conc.	8.2	0.41	5.94	244000	151	20	77.44	94.88	50.64	0.10
Cln 3 Tails	2.6	0.13	0.67	8900	30.6	60	2.78	1.10	3.26	0.10
Cln 2 Tails	10.3	0.52	0.12	1000	5.4	80	1.96	0.49	2.27	0.52
Cln 1 Tails	70.9	3.56	0.025	200	1.8	80	2.81	0.67	5.20	3.58
Ro. Tails	1898.1	95.37	0.005	32	0.5	80	15.02	2.87	38.63	95.70
Head (calc.) (direct)	1990.2	100.0	0.03	1065	1.2	80	100	100	100	100

Combined Products

Cln 3 Conc.	8.2	0.41	5.94	244000	151	20	77.44	94.88	50.64	0.10
Cln 2 Conc.	10.9	0.55	4.67	187282	122	30	80.22	95.98	53.91	0.20
Cln 1 Conc.	21.2	1.06	2.45	96515	65	54	82.18	96.46	56.17	0.72
Roug. Conc.	92.1	4.63	0.58	22347	16	74	84.98	97.13	61.37	4.30
Total Rec.										

The W assays of the cleaner 3 conc was below the detection limits and was recorded as < 0.002 %

The W assays of the cleaner 3 tail was not analyzed due to insufficient sample. An educated guess was entered.

Mosquito Consolidated Gold Mines - CUMO Project - CAVM-50004-001

Test No.: VF3-4 Project No.: 50004-001 Operator: Wei Date: 28-May-08

Purpose: Determine the flotation character during cleaning
Procedure: As outlined below.
Feed: 2 kg of minus 10 mesh of Composite # 3 (Mo Composite)
Grind: 49 minutes / 2 kg @ 65% solids in laboratory Ball Mill
Regrind:

target K_{80} 63
 Tested K80

Conditions:

Stage	Reagents added, grams per tonne							Time, minutes			pH	Eh
	Moly Oil	Lime	3302	SIBX		X-133		Grind	Cond.	Froth		
Grind	25							49				
Condition			20	20					5			8.5
Rougher 1						20				5		
Condition	5		5	5					1			
Rougher 2						10				5		
Condition	3		5	5					1			
Rougher 3						5				5		
Regrind	5							22				
Condition			5	5					3			
Bulk Cleaner 1										5		
Condition									1			
Bulk Cleaner 2			1	1						3		
Condition		20									10.5	
Bulk Cleaner 3										1		
Total	38	20	36	36	0	35	0					

Stage	Rougher	1st Cleaners	2nd Cleaners
Flotation Cell	1000-D12	500 -D12	250 -D12
Speed: rpm	1800	1600	1100

Qualitative Observations:

Metallurgical Balance

Product	Weight		Assays, g/t, %				Distribution - %			
	g	%	Cu	Mo	Ag	W	Cu	Mo	Ag	W
Cln 3 Conc.	7.8	0.39	6.09	247740	150	20	76.90	93.91	48.62	0.16
Cln 3 Tails	3.0	0.15	0.72	12930	30	20	3.52	1.90	3.76	0.06
Cln 2 Tails	9.8	0.50	0.091	1180	5	70	1.45	0.56	2.04	0.69
Cln 1 Tails	77.4	3.93	0.023	160	2	60	2.90	0.61	6.48	4.69
Ro. Tails	1870.0	95.02	0.005	33	0.5	50	15.23	3.02	39.10	94.40
Head (calc.) (direct)	1968.0	100.0	0.03	1039	1.2	50	100	100	100	100

Combined Products

Cln 3 Conc.	7.8	0.39	6.09	247740	150	20	76.90	93.91	48.62	0.16
Cln 2 Conc.	10.8	0.55	4.59	182212	117	20	80.42	95.81	52.38	0.22
Cln 1 Conc.	20.5	1.04	2.45	96065	63	44	81.86	96.38	54.42	0.91
Roug. Conc.	97.9	4.98	0.53	20244	15	57	84.77	96.98	60.90	5.60
Total Rec.										

The W assay of cleaner 3 conc. cleaner 3 tail and the Ag assay of rougher tail were below the detection level and hence the detection level was assumed.

The Ag assay of cleaner 3, 2 and 1 tails were not assayed due to insufficient sample. Educated guesses were placed.

Test No.: VF3-5 Project No.: 50004-001 Operator: Bruce.S Date: 27-Jun-08

Purpose: Determine the flotation character during cleaning

Procedure: As outlined below.

Feed: 2 kg of minus 10 mesh of Composite # 3 (Mo Composite)

Grind: 49 minutes / 2 kg @ 65% solids in laboratory Ball Mill

Regrind:

target K₈₀ 63

Tested K80 65

Conditions:

Stage	Reagents added, grams per tonne						Time, minutes			pH	Eh
	Moly Oil	Lime	3302	SIBX		Pine Oil	Grind	Cond.	Froth		
Grind	25						49				
Condition			20	15				5			8.6
Rougher 1						20			5		
Condition	5		5	3				1			
Rougher 2						20			5		
Condition	3		5	3				1			
Rougher 3						20			5		
Regrind	5						10				
Condition			5	2				3			
Bulk Cleaner 1						20			5		
Condition								1			7.9
Bulk Cleaner 2			1	1		12			3		
Condition											8.5
Bulk Cleaner 3						4			1		
Total	38	0	36	24	0	96	0				

Stage	Rougher	1st Cleaners	2nd Cleaners
Flotation Cell	1000-D12	500 -D12	250 -D12
Speed: rpm	1800	1600	1100

Qualitative Observations:

Metallurgical Balance

Product	Weight		Assays, g/t, %				Distribution - %			
	g	%	Cu	Mo	Ag	W	Cu	Mo	Ag	W
Cln 3 Conc.	8.5	0.43	5.7	213310	168	20	77.85	93.90	55.24	0.17
Cln 3 Tails	2.2	0.11	0.71	12930	22.3	60	2.49	1.46	1.88	0.13
Cln 2 Tails	9.6	0.48	0.093	1070	4.4	80	1.42	0.53	1.62	0.76
Cln 1 Tails	98.3	4.95	0.021	166	1.4	60	3.30	0.84	5.30	5.88
Ro. Tails	1867.9	94.03	0.005	34	0.5	50	14.94	3.27	35.96	93.06
Head (calc.)	1986.5	100.0	0.03	977	1.3	51	100	100	100	100
(direct)										

Combined Products

Cln 3 Conc.	8.5	0.43	5.70	213310	168	20	77.85	93.90	55.24	0.17
Cln 2 Conc.	10.7	0.54	4.68	172412	138	28	80.34	95.36	57.12	0.30
Cln 1 Conc.	20.3	1.02	2.52	91726	75	53	81.76	95.89	58.74	1.06
Roug. Conc.	118.6	5.97	0.45	15828	14	59	85.06	96.73	64.04	6.94
Total Rec.										

The Cu, Mo and W assays of Cleaner 3 tail were not assayed due to insufficient sample. The Data presented are educated guesses to suit calculated heads.

The W assay of Cleaner 3 conc and Ag of rougher tail are below the detection level and therefore detection level is presented.

Test No.: VF3-LCT1 Project No.: 50004-001 Operator: Wei / Bruce Date: July 04, 08

Purpose: Locked Cycle Test
Procedure: As outlined below.
Feed: 2 kg of minus 10 mesh of Composite # 3 (Mo Composite)
Grind: 49 minutes / 2 kg @ 65% solids in laboratory Ball Mill target K₈₀ 63
Regrind: As outlined below. Tested K80

Conditions:

Stage	Reagents added, grams per tonne							Time, minutes			pH	Eh
	Moly Oil	Lime	3302	SIBX		X -133		Grind	Cond.	Froth		
Primary Grind	20							49				
Condition			20	20					5		8.7	
Rougher 1						25				5		
Condition			5	5					1		8.7	
Rougher 2						5				5		
Condition			3	5					1			
Rougher 3						5				5		
Regrind	5							10				
Condition			5	5					3			
Cleaner 1						5				5	8.6	
Cleaner Scav			1	1		2				1		
Condition			1	1								
Cleaner 2										3		
Condition			1	1							9.5	
Cleaner 3										1		
Total	25	0	36	38	0	42	0					

Stage	Rougher	1st Cleaners	2nd Cleaners
Flotation Cell	1000-D12	500 -D12	250 -D12
Speed: rpm	1800	1600	1100

Qualitative Observations:

Note: W assay of 3rd Cleaner Tail of cycle F, was unavailable due to insufficient sample and hence it was assumed.
 The Ag assay of all rougher tails and the W assay of the all the final concentrates were below the detection level of 0.5 g/t of Ag and 0.002 % W, and hence 0.4 g/t Ag and 0.002 % W were assumed. The Ga assay of the final concentrate was 0.005% and that of the rougher tail was below the detection limit of 0.004%.
 The Re assay of the final concentrate was 15 g/t.

Metallurgical Balance

	Product	Weight		Assays - %, ppm				Distribution - %			
		g.	%	Cu	Mo	Ag	W	Cu	Mo	Ag	W
1	3 rd Cleaner conc A	8.7	0.07	5.6	22.6	114.0	0.002	12.00	15.23	8.01	0.03
2	3 rd Cleaner conc B	9.9	0.08	5.4	21.3	149.0	0.002	13.17	16.34	11.91	0.03
3	3 rd Cleaner conc C	9.9	0.08	5.46	21	140.0	0.002	13.31	16.11	11.19	0.03
4	3 rd Cleaner conc D	9.7	0.08	5.5	20.9	97.8	0.002	13.14	15.71	7.66	0.03
5	3 rd Cleaner conc E	9.5	0.08	5.53	21.7	95.6	0.002	12.94	15.97	7.33	0.03
6	3 rd Cleaner conc F	9.6	0.08	5.73	22.3	173.0	0.002	13.55	16.59	13.41	0.03
7	3 rd Cleaner tail F	4.6	0.04	0.3	0.35	12.9	0.003	0.34	0.12	0.48	0.02
8	2 nd Cleaner tail F	19.1	0.16	0.048	0.046	2.5	0.009	0.23	0.07	0.39	0.28
9	1 st Clean/Scav conc F	6.0	0.05	0.084	0.072	3.6	0.004	0.12	0.03	0.17	0.04
10	1 st Clean/Scav tail A	79.2	0.67	0.012	0.01	1.0	0.006	0.23	0.06	0.64	0.78
11	1 st Clean/Scav tail B	95.9	0.81	0.015	0.011	0.8	0.005	0.35	0.08	0.62	0.79
12	1 st Clean/Scav tail C	109.9	0.93	0.013	0.0082	0.8	0.005	0.35	0.07	0.71	0.90
13	1 st Clean/Scav tail D	140.1	1.19	0.01	0.0067	0.6	0.005	0.35	0.07	0.68	1.15
14	1 st Clean/Scav tail E	147.4	1.25	0.015	0.0068	0.6	0.006	0.54	0.08	0.71	1.45
15	1 st Clean/Scav tail F	153.9	1.30	0.01	0.0062	0.5	0.005	0.38	0.07	0.62	1.26
16	Rougher tail A	1876.9	15.92	0.007	0.0041	0.4	0.005	3.24	0.60	6.06	15.42
17	Rougher tail B	1857.1	15.75	0.012	0.0038	0.4	0.005	5.49	0.55	6.00	15.26
18	Rougher tail C	1842.1	15.62	0.006	0.004	0.4	0.005	2.72	0.57	5.95	15.13
19	Rougher tail D	1792.9	15.21	0.006	0.0039	0.4	0.005	2.65	0.54	5.79	14.73
20	Rougher tail E	1815.3	15.40	0.006	0.0042	0.4	0.005	2.68	0.59	5.86	14.91
21	Rougher tail F	1792.9	15.21	0.005	0.0039	0.4	0.006	2.21	0.54	5.79	17.68
	Head - (Calculated)	11790.4	100.00	0.034	0.1095	1.1	0.005	100.00	100.00	100.00	100.00
	Head - (Direct)	12000	98.25	0.035	0.12						

Metallurgical Prediction (Using Cycles D,E,F)

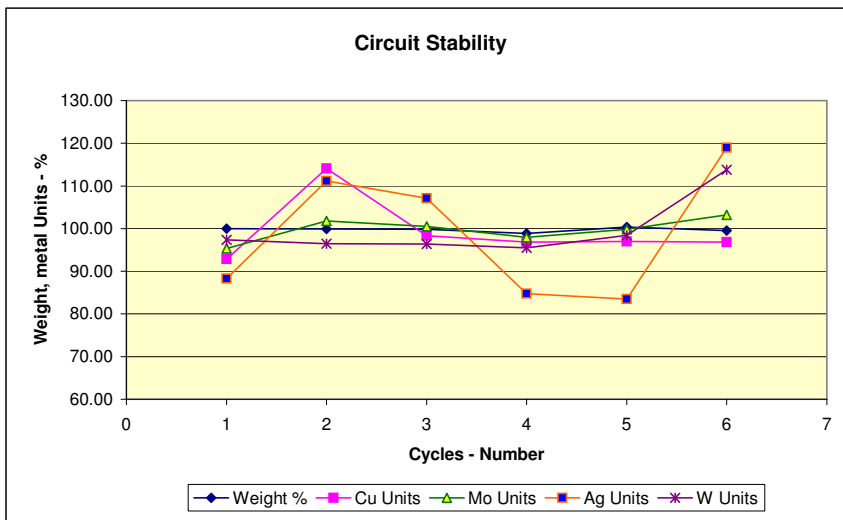
Final Conc.	57.6	0.49	5.59	21.631	122.1	0.002	81.81	96.22	59.34	0.18
Cleaner/Scav Tail	882.6	7.49	0.01	0.007	0.57	0.005	2.62	0.45	4.21	7.54
Rougher Tail	10802.1	91.62	0.01	0.004	0.40	0.005	15.57	3.34	36.45	92.27
Head - (Calculated)	11742.3	99.59	0.033	0.110	1.01	0.005	100.00	100.00	100.00	100.00
Head - (Direct)	12000	97.85	0.035	0.12						

Cleaner Circuit Unit Performance	Mass Rec	Upgrade				Unit Recovery - %			
		Cu	Mo	Ag	W	Cu	Mo	Ag	W
	5.83	15.82	16.25	15.24	0.39	96.90	99.54	93.38	2.39

Overall Stability

Total Product Out per cycle	Cyc. #	Weight %	Units Out as a% of Units In/cycle			
			Cu	Mo	Ag	W
Cycle A	1	99.99	92.83	95.35	88.27	97.38
Cycle B	2	99.89	114.07	101.80	111.18	96.46
Cycle C	3	99.84	98.33	100.49	107.12	96.41
Cycle D	4	98.86	96.81	97.93	84.78	95.47
Cycle E	5	100.36	97.01	99.85	83.47	98.38
Cycle F	6	99.56	96.82	103.22	118.95	113.82

Average of E to F	99.96	96.91	101.53	101.21	106.10
Average of D to F	99.59	96.88	100.33	95.73	102.56
Average of C to F	99.65	97.24	100.37	98.58	101.02



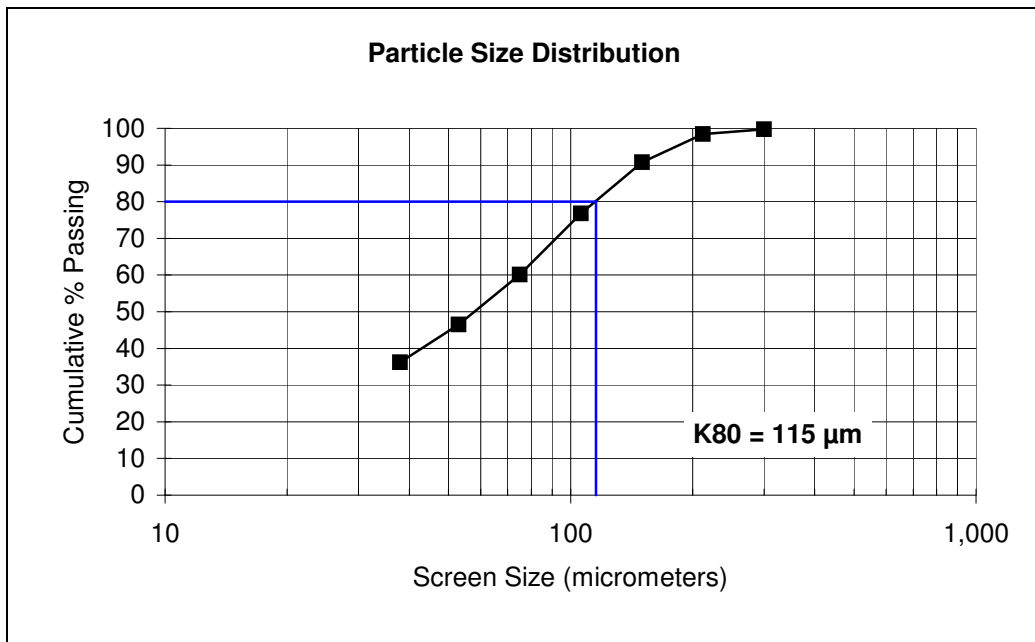
SGS Minerals Services
Size Distribution Analysis

Project No.
50004-001

Sample: Comp 3 - Ro Tails

Test No.: **VF3-1**

Mesh	Size	Weight grams	% Retained		% Passing Cumulative
	µm		Individual	Cumulative	
48	300	0.3	0.3	0.3	99.7
65	212	1.3	1.3	1.6	98.4
100	150	7.6	7.6	9.2	90.8
150	106	14.0	14.0	23.2	76.8
200	75	16.6	16.6	39.9	60.1
270	53	13.6	13.6	53.5	46.5
400	38	10.3	10.3	63.8	36.2
Pan	-38	36.1	36.2	100.0	0.0
Total	-	99.8	100.0	-	-
K80	115				



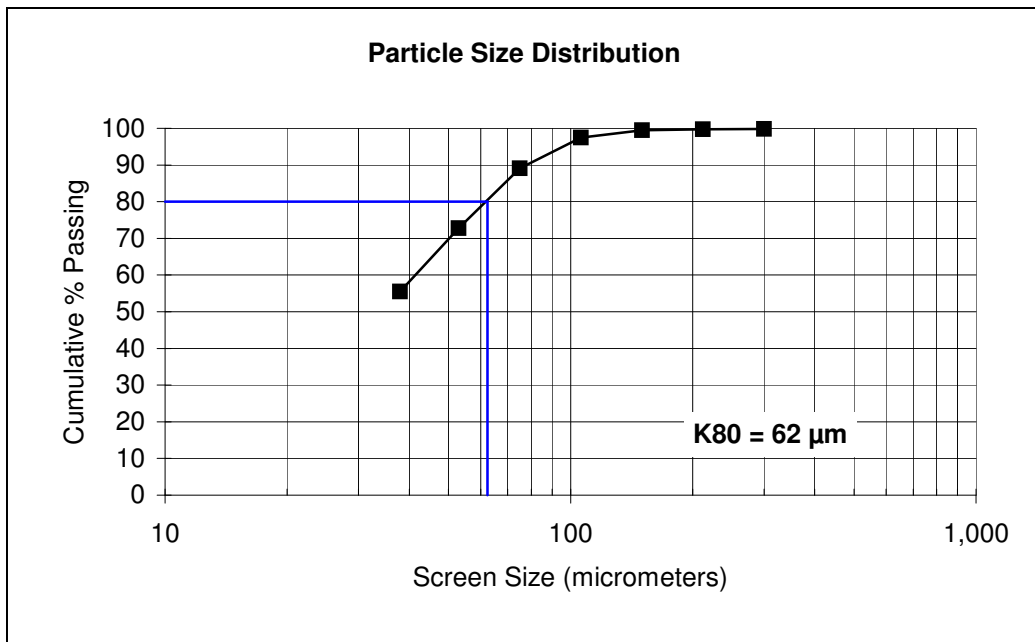
SGS Minerals Services
Size Distribution Analysis

Project No.
50004-001

Sample: Comp 3 - Ro Tails

Test No.: **VF3-2**

Mesh	Size	Weight grams	% Retained		% Passing Cumulative
	µm		Individual	Cumulative	
48	300	0.2	0.2	0.2	99.8
65	212	0.1	0.1	0.3	99.7
100	150	0.2	0.2	0.5	99.5
150	106	2.0	2.0	2.5	97.5
200	75	8.4	8.4	10.9	89.1
270	53	16.3	16.3	27.2	72.8
400	38	17.3	17.3	44.5	55.5
Pan	-38	55.4	55.5	100.0	0.0
Total	-	99.9	100.0	-	-
K80	62				



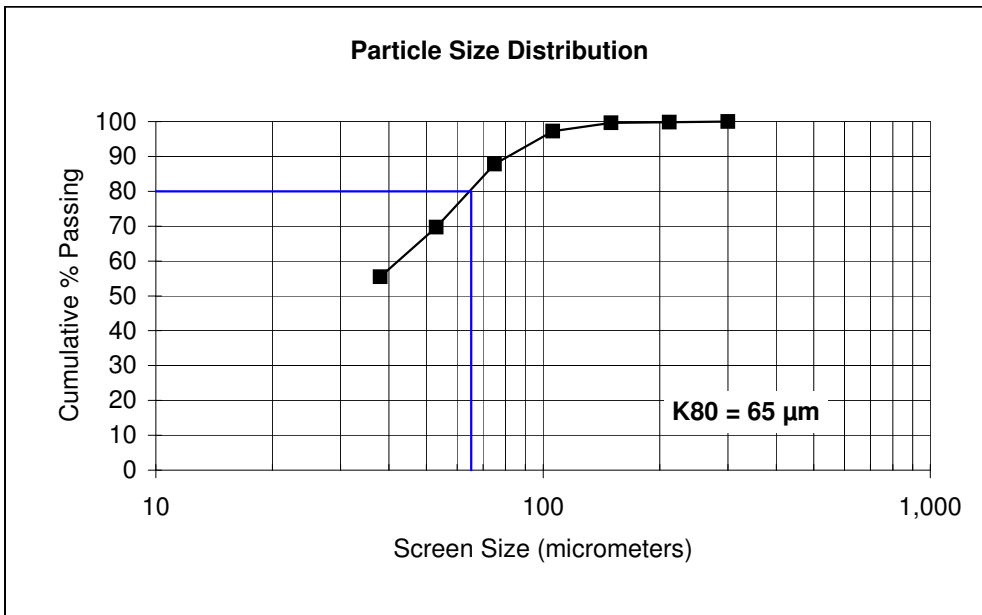
**SGS Minerals Services
Size Distribution Analysis**

Project No.
50004-001

Sample: Comp 3 - Ro Tail

Test No.: **VF3-5**

Mesh	Size	Weight grams	% Retained		% Passing Cumulative
	µm		Individual	Cumulative	
48	300	0.0	0.0	0.0	100.0
65	212	0.3	0.2	0.2	99.8
100	150	0.2	0.2	0.4	99.6
150	106	2.8	2.4	2.7	97.3
200	75	11.3	9.5	12.2	87.8
270	53	21.5	18.1	30.3	69.7
400	38	17.0	14.3	44.6	55.4
Pan	-38	65.9	55.4	100.0	0.0
Total	-	118.9	100.0	-	-
K80	65				



**SGS Minerals Services
Size Distribution Analysis**

Project No.
50004-001

Sample: Comp 3 Cln 1 Tail

Test No.: **VF3-3**

Mesh	Size	Weight grams	% Retained		% Passing Cumulative
	µm		Individual	Cumulative	
65	212		0.0	0.0	100.0
100	150		0.0	0.0	100.0
150	106		0.0	0.0	100.0
200	75		0.0	0.0	100.0
270	53		0.0	0.0	100.0
400	38		0.0	0.0	100.0
635	20	4.6	11.7	11.7	88.3
-635	-20	34.9	88.3	100.0	0.0
Total	-	39.5	100.0	-	-
K80	#N/A				

**SGS Minerals Services
Size Distribution Analysis**

Project No.
50004-001

Sample: **Comp 3 Clen 1 Tail** Test No.: **VF3-4**

Mesh	Size	Weight grams	% Retained		% Passing Cumulative
	µm		Individual	Cumulative	
65	212	0.0	0.0	0.0	100.0
100	150	0.0	0.0	0.0	100.0
150	106	0.0	0.0	0.0	100.0
200	75	0.0	0.0	0.0	100.0
270	53	0.0	0.0	0.0	100.0
400	38	0.3	0.9	0.9	99.1
635	20	1.4	3.5	4.4	95.6
-635	-20	37.9	95.6	100.0	0.0
Total	-	39.6	100.0	-	-
K80	#N/A				

APPENDIX D

Ancillary Test Data

Head Assay of Composites

Sample Description	Sample ID	Cu - %	Mo - g/t	Fe - %	S - %
Cu-Ag Zone	Comp 1- A	0.15	0.016	1.71	0.20
	Comp 1- B	0.16	0.018	1.46	0.21
	Comp 1- C	0.15	0.018	1.41	0.21
Cu-Mo Zone	Comp 2- A	0.12	0.04	1.18	0.22
	Comp 2- B	0.13	0.04	1.10	0.21
	Comp 2- C	0.13	0.041	1.14	0.21
Mo Zone	Comp 3- A	0.039	0.12	0.89	0.15
	Comp 3- B	0.036	0.12	0.88	0.14
	Comp 3- C	0.029	0.11	0.90	0.14

ICP Analysis

Sample:	Composite 3 LCT Rougher tail
Element	Assay - g/t
Silver	< 2
Aluminium	62000
Arsenic	< 30
Barium	1000
Beryllium	1.4
Bismuth	< 20
Calcium	8700
Cadmium	< 2
Cobalt	< 5
Chromium	< 20
Copper	59
Iron	9500
Potassium	23000
Lithium	< 5
Magnesium	2500
Manganese	210
Molybdenum	50
Sodium	13000
Nickel	< 20
Phosphorus	270
Lead	< 20
Antimony	< 10
Selenium	< 30
Tin	< 20
Strontium	390
Titanium	1300
Thallium	< 30
Uranium	< 20
Vanadium	13
Yttrium	4.5
Zinc	20

Tungsten and Rare Element Assays of Locked Cycle Test Products

Sample ID	W %	Ga %	Os g/t	Re g/t
LCT1 Cln 3 Con A	< 0.002	< 0.004	---	---
LCT1 Cln 3 Con B	< 0.002	---	< 0.03	---
LCT1 Cln 3 Con C	< 0.002	---	---	0.9
LCT1 Ro Tail A	0.004	< 0.004		

Tungsten and Rare Element Assays of Locked Cycle Test Products

Sample ID	W %	Ga %	Os g/t	Re g/t
VF2-LCT1-Cln 3 Con A	0.004	< 0.004	---	---
VF2-LCT1-Cln 3 Con B	< 0.002	---	<.02	---
VF2-LCT1-Cln 3 Con C	< 0.002	---	---	2.9
VF2-LCT1-Ro Tail A	0.006	< 0.004	---	---

Tungsten and Rare Element Assays of Locked Cycle Test Products

Sample ID	W %	Ga %	Os g/t	Re g/t
VF3-LCT1-Cln 3 Con A	< 0.002	0.005	---	---
VF3-LCT1-Cln 3 Con B	< 0.002	---	< 0.02	---
VF3-LCT1-Cln 3 Con C	< 0.002	---	---	15
VF3-LCT1-Ro Tail A	0.005	< 0.004	---	---

ICP-MS - Gallium of Feed and Rougher Tail

Sample ID	Ga - g/t
VF3-LCT1 Ro Tails	17
Feed Comp 3	16

Gravity Separation Study

Project # 50004-001
 Test # GR 1
 Sample # VF3-LCT1 Tails
 Sample Weight: 8 kg

Date: 17-Dec-08
 Operator: Burce.S

Procedure: The VF3-LCT1 Tails were blended and a 7.5 kg sample was riffled from the tails. The sample was treated by the Falcon Concentrator, collecting the conc and tails. The Falcon conc was allowed to settle and slimes removed before feeding to a Mozley table. The Mozley table concentrate and tails were collected. The Falcon tails and Mozley products were dried, weighed and portions used for assay.

Products	Weight gr	Weight %	Assay - %, g/t			Distribution - %		
			WO ₃	Mo	S	WO ₃	Mo	S
Mozley conc	2.82	0.04	4.610			26.34		
Mozley tail	197.58	2.62	0.034			13.61		
Mozley slime	14.75	0.20	0.020			0.60		
Falcon tail	7334.9	97.15	0.004			59.45		
Calc. Head	7550.05	100.00	0.003	0.000	0.00	100.00		
Assay Head								

Combined Products

Mozley conc	2.82	0.04	4.61			26.34		
Mozley Feed	200.4	2.65	0.098			39.95		
Falcon conc	215.2	2.85	0.093			40.55		