

AURALIA METALLURGY

**Metallurgical Testwork
on the
Peko Tailings Project
for
Raging Bull Mining**

AM0001

November 2016

This report is for metallurgical testwork conducted on a sample supplied from the Peko Tailings Project. The results contained within this report only relate to the sample supplied for testing. Auralia Metallurgy accepts no responsibility for the representativeness of the supplied sample. All comments and recommendations are only relevant to the sample tested.

A handwritten signature in blue ink, appearing to read 'Lachlan Steele', is positioned above a horizontal dashed line.

LACHLAN STEELE
Director/Principal Metallurgist

TABLE OF CONTENTS

PAGE NO.

EXECUTIVE SUMMARY

(i)

1. INTRODUCTION	1
2. SAMPLE DETAILS	2
3. SAMPLE PREPARATION.....	2
4. SIZE ANALYSIS.....	3
5. FLOTATION TESTWORK.....	4
5.1 Flotation Reagents	4
5.2 Bench Scale Flotation Testwork.....	4
5.3 Bulk Flotation Testwork.....	6

APPENDICES

Appendix I – Sample Inventory

Appendix II – Size Analysis Details and Results

Appendix III – Bench Flotation Details and Results

Appendix IV – Bulk Flotation Details and Results

EXECUTIVE SUMMARY

A small metallurgical testwork program was conducted on tailings samples from the Peko Tailings Project near Tennant Creek, Northern Territory, Australia. The aim of the testwork was to determine the level of copper removal prior to flotation, then recovery of gold and sulphur to concentrate and subsequent tail sulphur grade by flotation.

A total of 522 samples (1460kg) of tailings from five dams (D1 to D5) were received from the Peko Tailings deposit. Samples from Dam 1, 2, 3 and 4 were combined to form four Dam composites. Sub-samples were combined from Dam 1, 2 and 3 (11.7kg, 104.6kg and 83.7kg respectively) to form Composite 123 (200kg). Head assay of the four Dam composites and the combined Composite 123 are given in the table below.

Composite	Gold g/t	Copper %	Cobalt %	Iron %	Sulphur %
Composite 123	1.44	0.36	0.17	45.7	6.09
Dam 1 Composite	2.68	0.37	0.12	49.7	5.69
Dam 2 Composite	1.55	0.45	0.22	47.7	7.37
Dam 3 Composite	1.20	0.26	0.10	43.3	4.55
Dam 4 Composite	1.00/0.99	0.18	0.09	45.6	4.21

A sizing of the Composite 123 feed showed the sample to have a P80 = 105µm with 11% above 250µm and 60% less than 45µm. An assay of the sizing filtrate showed 14.7% of the copper in feed reporting to solution.

Bench Flotation Testwork

Two bench scale roughers were conducted on Composite 123. Both tests included a filter/wash step prior to flotation to remove copper present in solution. However, the first test (AM1-1) was screen at 425µm then conditioned for 2 hours and the second test (AM1-2) was ground to 100% passing 150µm prior to filter/wash. After the filter/wash step, the samples were floated with 140g/t of PAX for a total of 14 minutes. Summary results for the two rougher tests are given in the table below.

Test	Filter/ Wash Cu % Rec.	Overall Rougher Con									Tail % S
		Mass	Gold		Copper		Cobalt		Sulphur		
		%	%	% Rec.	ppm	% Rec.	%	% Rec.	%	% Rec.	
AM1-1	25.9	12.3	3.98	35.8	0.81	39.9	0.42	38.3	21.4	51.3	2.05
AM1-2	18.8	22.4	4.42	57.9	1.01	67.6	0.60	72.1	23.2	78.3	1.86

Screening sample at 425µm prior to flotation removed 13.9% of the mass and 15.8% of the gold. Conditioning the <425µm for 2 hours removed 25.9% and 11.3% of the copper and cobalt

respectively to the filtrate/wash solution. Grinding the sample gave a lower rejection of copper, though there was not the high gold loss associated with the screening step.

Grinding gave a 27% and 10% increase in sulphur and mass recovery respectively to the concentrate. Grinding also increase gold, copper and cobalt reporting to flotation concentrate. Grinding only reduced sulphur to tail by 0.2%. A finer grind may reduce the sulphur grade further, though, a large percentage of the sulphur may be present as non-sulphide sulphur and limit the possible sulphur recovery.

Bulk Flotation Testwork

A single 20kg bulk flotation test was conducted on Composite 123. Reagent conditions used were the same as the bench tests with float time doubled. The sample was ground to 100% passing 150µm, conditioned for 4 hours and filtered and washed(x2) prior to flotation.

Test	Filter/ Wash Cu % Rec.	Overall Rougher Con									Tail % S
		Mass	Gold		Copper		Cobalt		Sulphur		
		%	%	% Rec.	ppm	% Rec.	%	% Rec.	%	% Rec.	
AM1-3	25.0	16.5	4.04	46.0	0.91	54.6	0.51	56.8	23.0	68.2	2.13

Copper recovery to the filtrate/wash solution was similar to the conditioning only bench test. The additional grinding and conditioning did not increase copper recovery.

Sulphur and gold recovery was 10% lower than bench test AM1-2. Flotation kinetics were possibly lower than expected and could have been due to the 4 hours conditioning prior to flotation. Though kinetics were slower, the sulphur recovery versus mass recovery sat on the same curve as test AM1-2. As the kinetics were slower and recovery reduced, the tail sulphur grade was higher. Also, as for sulphur, gold recovery compared to both mass and sulphur recovery sat on the same curve as test AM1-2.

Concentrate, tailings and filtrate water from the bulk flotation test were dispatched to ALS Metallurgy for further testwork. This work was reported direct to the client.

1. INTRODUCTION

Mr Rod Smith, of Eureka Metallurgy, on behalf of Raging Bull Mining, requested a small metallurgical testwork program to be conducted on tailing samples from the Peko Tailings Project near Tennant Creek, Northern Territory, Australia.

Only a small testwork program was conducted, with the aim to determine the level of copper removal prior to flotation, then recovery of gold and sulphides concentrate and subsequent tail sulphur grade by flotation. Testwork conducted included:

- Sample Preparation of four composites and a combined composite.
- Head Analysis
- Size Analysis
- Bench and Bulk Flotation with wash/filter prior to float

2. SAMPLE DETAILS

A total of 522 samples (1460kg) of tailings from five dams (D1 to D5) were received from the Peko Tailings deposit in March 2016. With the received samples, 4 samples of magnetic concentrate were also received (tested in job AM0012). Details of the received samples is given in the table below. Full inventory is given in Appendix I.

Sample Identity	Sample Intervals		Sample Number		Mass (kg)
	From	To	From	To	
027-246	D1-01-01	D1-06-02	1	37	191.55
027-250	D1-07-01	D1-15-02	268	285	312.33
027-246	D1X-01-01	D1X-04-02	43	50	25.32
027-246	D2-01-01	D2-09-14	51	184	314.42
027-246	D3-01-01	D3-08-03	186	268	123.48
027-250	D3-08-04	D3-09-09	1	18	30.42
027-250	D4-01-01	D4-20-09	22	242	416.95
027-250	D5-01-01	D5-08-01	244	267	45.52
O/S Mag Dam					17.32

Note: Not all intervals received. See full inventory for details. Mass includes calico bags.

O/S Mag Dam samples used in job AM0012

3. SAMPLE PREPARATION

From the received samples, four Dam composites and a combined composite were formed. All samples were combined, as received, from the D1, D2, D3 and D4 samples to form the four Dam 1 to Dam 4 Composites (DX1 and D5 samples were reserved). Each composite was homogenised and samples split out for head assay. Further samples were split out from Dam 1, 2 and 3 composites to form Composite 123. Composite 123 details and head assays are given in the following tables.

Composite	Approximate Composite Mass* kg	Mass to Comp 123 kg
Dam 1 Composite	503	11.7
Dam 2 Composite	314	104.6
Dam 3 Composite	153	83.7
Dam 4 Composite	416	-
Composite 123 Total		200

* Mass includes bags and does not allow for losses in sample preparation.

Composite Head Analysis

Composite	Gold g/t	Copper %	Cobalt %	Iron %	Sulphur %
Composite 123	1.44	0.36	0.17	45.7	6.09
Dam 1 Composite	2.68	0.37	0.12	49.7	5.69
Dam 2 Composite	1.55	0.45	0.22	47.7	7.37
Dam 3 Composite	1.20	0.26	0.10	43.3	4.55
Dam 4 Composite	1.00/0.99	0.18	0.09	45.6	4.21

4. SIZE ANALYSIS

A 1kg sample of Composite 123 was wet screened over 45µm then dry screened over sieves ranging from 45µm to 250µm. The solution from wet screening was recovered and assayed for Cu, Co and Fe. A summary of the sizing results are given in the below table. Full results are given in Appendix II.

Size mm	% dist	Gold		Copper		Sulphur	
		ppm	%dist	%	%dist	%	%dist
250	10.9	1.62	11.1	0.31	10.9	7.08	13.3
212	1.5	1.59	1.47	0.32	1.52	5.94	1.51
150	3.2	1.52	3.09	0.37	3.86	5.07	2.83
106	4.2	1.50	3.94	0.46	6.21	4.66	3.36
75	6.5	1.49	6.10	0.46	9.66	5.38	6.05
45	14.2	1.39	12.4	0.27	12.3	5.81	14.2
-45	59.5	1.66	61.9	0.29	55.5	5.73	58.7
Total	100.0	1.59	100.0	0.31	100.0	5.80	100.0

The calculated P80 for the blended composite was 105µm, with 60% of the mass at less than 45µm. The filtrate solution contained 1056mg of Cu. This represented 14.7% of the copper in feed.

5. FLOTATION TESTWORK

A small program, including two bench scale roughers and one 20kg bulk flotation test, were conducted on the prepared Composite 123. All tests included a wash step prior to flotation to reduce copper present in solution (and potential recovery by resin. Not conducted in this testwork). The aim of the flotation tests was to maximise sulphur recovery to concentrate and subsequently reduce tail sulphur grade to a low level to minimise future acid tailings generation.

5.1 Flotation Reagents

The reagents used within the flotation testing program are outlined in the Table below.

Reagent	Abbreviation	Use	Supplier
Potassium Amyl Xanthate	PAX	Collector	Tall Bennett
Polyfroth W55 (glycol ether)	W55	Frother	Huntsman

5.2 Bench Scale Flotation Testwork

Two rougher flotation tests were conducted on Composite 123. Both tests had the same flotation conditions and a wash and filter step prior to flotation. The first test (AM1-1) was screen at 425µm then conditioned for 2 hours prior to filter/wash/flotation (<425µm to float) and the second test (AM1-2) was ground to 100% passing 150µm prior to flotation (no conditioning step).

Reagent conditions for the two rougher tests are given in the table below

Operation	AM1-1			AM1-2		
	Conditioning time (min)	PAX g/t	Float Time (min)	Conditioning time (min)	PAX g/t	Float Time (min)
Mill/Screen	Screen @ 425µm			Grind P100=150µm		
Condition	120			0		
Filter/Wash(x1)						
Con 1	1	100	2	1	100	2
Con 2			2			2
Con 3	1	20	5	1	20	5
Con 4	1	20	5	1	20	5
TOTAL		140	14		140	14

Summary results for the two rougher tests are given in the table below. Full details and results are given in Appendix III.

Test	Filter/ Wash Cu % Rec.	Overall Rougher Con									Tail % S
		Mass	Gold		Copper		Cobalt		Sulphur		
		%	%	% Rec.	ppm	% Rec.	%	% Rec.	%	% Rec.	
AM1-1	25.9	12.3	3.98	35.8	0.81	39.9	0.42	38.3	21.4	51.3	2.05
AM1-2	18.8	22.4	4.42	57.9	1.01	67.6	0.60	72.1	23.2	78.3	1.86
AM1-1 +425µm	-	13.9	1.56	15.8	0.34	18.8	0.21	21.6	7.17	19.3	-

Comments on the above results:

- Screening sample at 425µm prior to flotation removed 13.9% of the mass. It also removed 15.8% of the gold. The +425µm also contained higher recovery of copper, cobalt and sulphur compared to mass.
- Screening and conditioning sample for 2 hours removed 25.9% of the copper to the filtrate/wash solution (plus 11.3% of cobalt). Grinding the sample gave a lower rejection of copper, though there was not the high gold loss associated with the screening step.
- Grinding gave a 27% increase in sulphur reporting to concentrate (with 10% mass increase) compared to screen/conditioning. Even if the +425µm is taken into account, 8% more sulphur reported to the concentrate for the ground sample (with 3.8% less mass).
- Grinding also increase gold, copper and cobalt reporting to concentrate.
- Sulphur grade in the tail was similar for both tests, with the grind only reducing sulphur by 0.2%. Grinding finer may reduce the sulphur grade further, though, a large percentage of the sulphur may be present as non-sulphide sulphur and limit the possible sulphur recovery.

5.3 Bulk Flotation Testwork

A single 20kg bulk flotation test was conducted on Composite 123. Reagent conditions used were the same as the bench tests with float time doubled. The sample was ground to 100% passing 150µm, conditioned for 4 hours and filtered and washed(x2) prior to flotation.

Summary results from the bulk test is given in the table below. Full details and results are given in Appendix IV.

Test	Filter/ Wash Cu % Rec.	Overall Rougher Con									Tail % S
		Mass	Gold		Copper		Cobalt		Sulphur		
		%	%	% Rec.	ppm	% Rec.	%	% Rec.	%	% Rec.	
AM1-3	25.0	16.5	4.04	46.0	0.91	54.6	0.51	56.8	23.0	68.2	2.13

Comments on the above results:

- Copper recovery to the filtrate/wash solution was similar to the conditioning only bench test (AM1-1). The additional grinding and conditioning did not increase copper recovery.
- Sulphur recovery was 10% lower than bench test AM1-2, though grade was similar. Flotation kinetics is reduced when comparing bulk flotation to bench flotation and even with double the flotation time to allow for this, the float may have required additional time (as only a single con recovered, kinetic of the bulk flotation test cannot be determined). Conditioning for 4 hours prior to flotation may have also reduced flotation kinetics.
- Though kinetics were slower, the sulphur recovery versus mass recovery sat on the same curve as test AM1-2.
- As for sulphur, gold recovery compared to both mass and sulphur recovery sat on the same curve as test AM1-2.
- As the kinetics were slower and recovery reduced, the tail sulphur grade was higher.

Concentrate, tailings and filtrate water from the bulk flotation test were put into buckets and dispatched to ALS Metallurgy for further resin and leach testwork. This work was reported direct to the client.

Testwork was not optimised on the received samples and further planned testwork on Composite 123 and Dam 4 composite were put on hold.

APPENDICES

APPENDIX I

SAMPLE INVENTORY

Inventory

Client:

Raging Bull

Mass includes Single plastic and indiv

Deposit:

Peko Tails

Grouped masses consist of individual

Date:

30-03-16

ID	Sample	Mass (kg)			
027-246	1	21.28	1	D1-01-01	
027-246	2	20.38	2	D1-01-02	
027-246	8	14.76	3	D1-02-01	
027-246	9	12.56	9	D1-02-02	
027-246	15	17.94	15	D1-03-01	
027-246	16	18.1	16	D1-03-02	
027-246	22	21.05	22	D1-04-01	
027-246	23	11.7	23	D1-04-02	
027-246	24	16.62	29	D1-05-01	
027-246	36	19.22	36	D1-06-01	
027-246	37	17.94	37	D1-06-02	
027-246	43	11.2	43	D1X-01-01	
027-246	44		44	D1X-01-02	
027-246	45		45	D1X-02-01	
027-246	46		46	D1X-02-02	
027-246	47	14.12	47	D1X-03-01	
027-246	48		48	D1X-03-02	
027-246	49		49	D1X-04-01	
027-246	50		50	D1X-04-02	
027-246	51	8.62	51	D2-01-01	
027-246	52		52	D2-01-02	
027-246	53		53	D2-01-03	
027-246	54		54	D2-01-04	
027-246	55	6.88	55	D2-01-05	
027-246	56		56	D2-01-06	
027-246	57		57	D2-01-07	
027-246	58		58	D2-01-08	
027-246	59		59	D2-01-09	
027-246	60		60	D2-01-10	
027-246	61	7.94	61	D2-01-11	
027-246	62		62	D2-01-12	
027-246	63		63	D2-01-13	
027-246	64		64	D2-01-14	
027-246	65	6.82	65	D2-01-15	
027-246	66		66	D2-02-01	
027-246	67		67	D2-02-02	
027-246	68		68	D2-02-03	
027-246	69	13.16	69	D2-02-04	
027-246	70		70	D2-02-05	
027-246	71		71	D2-02-06	
027-246	72		72	D2-02-07	

Inventory

Client:

Raging Bull

Mass includes Single plastic and indiv

Deposit:

Peko Tails

Grouped masses consist of individual

Date:

30-03-16

ID	Sample	Mass (kg)			
027-246	73	13.12	73	D2-02-08	
027-246	74		74	D2-02-09	
027-246	75		75	D2-02-10	
027-246	76		76	D2-02-11	
027-246	77	16.66	77	D2-02-12	
027-246	78		78	D2-02-13	
027-246	79		79	D2-02-14	
027-246	80				
027-246	81	9.38	81	D2-03-01	
027-246	82		82	D2-03-02	
027-246	83		83	D2-03-03	
027-246	84		84	D2-03-04	
027-246	85	12.66	85	D2-03-05	
027-246	86		86	D2-03-06	
027-246	87		87	D2-03-07	
027-246	88		88	D2-03-08	
027-246	89	18.26	89	D2-03-09	
027-246	90		90	D2-03-10	
027-246	91		91	D2-03-11	
027-246	92		92	D2-03-12	
027-246	93	7.24	93	D2-03-13	
027-246	94		94	D2-03-14	
027-246	95				
027-246	96		96	D2-04-01	
027-246	97	11.68	97	D2-04-02	
027-246	98		98	D2-04-03	
027-246	99		99	D2-04-04	
027-246	100		100	D2-04-05	
027-246	101	11.74	101	D2-04-06	
027-246	102		102	D2-04-07	
027-246	103		103	D2-04-08	
027-246	104		104	D2-04-09	
027-246	105	8.8	105	D2-04-10	
027-246	106		106	D2-04-11	
027-246	107		107	D2-04-12	
027-246	108		108	D2-04-13	
027-246	109	5.44	109	D2-04-14	
027-246	110		110	D2-04-15	
027-246	111		111	D2-05-01	
027-246	112		112	D2-05-02	
027-246	113		113	D2-05-03	

Inventory

Client:

Raging Bull

Mass includes Single plastic and indiv

Deposit:

Peko Tails

Grouped masses consist of individual

Date:

30-03-16

ID	Sample	Mass (kg)			
027-246	114	7.58	114	D2-05-04	
027-246	115		115	D2-05-05	
027-246	116		116	D2-05-06	
027-246	117		117	D2-05-07	
027-246	118	5.42	118	D2-05-08	
027-246	119		119	D2-05-09	
027-246	120		120	D2-05-10	
027-246	121	7.94	121	D2-05-11	
027-246	122		122	D2-05-12	
027-246	123		123	D2-05-13	
027-246	124		124	D2-05-14	
027-246	125	6.6	125	D2-05-15	
027-246	126		126	D2-06-01	
027-246	127		127	D2-06-02	
027-246	128		128	D2-06-03	
027-246	129	8.02	129	D2-06-04	
027-246	130		130	D2-06-05	
027-246	131		131	D2-06-06	
027-246	132		132	D2-06-07	
027-246	133	8.42	133	D2-06-08	
027-246	134		134	D2-06-09	
027-246	135		135	D2-06-10	
027-246	136		136	D2-06-11	
027-246	137	11.08	137	D2-06-12	
027-246	138		138	D2-06-13	
027-246	139		139	D2-06-14	
027-246	140				
027-246	141	6.18	141	D2-07-01	
027-246	142		142	D2-07-02	
027-246	143		143	D2-07-03	
027-246	144		144	D2-07-04	
027-246	145	7.82	145	D2-07-05	
027-246	146		146	D2-07-06	
027-246	147		147	D2-07-07	
027-246	148		148	D2-07-08	
027-246	149	9.84	149	D2-07-09	
027-246	150		150	D2-07-10	
027-246	151		151	D2-07-11	
027-246	152		152	D2-07-12	
027-246	153	10.72	153	D2-07-13	
027-246	154		154	D2-07-14	
027-246	155				
027-246	156		156	D2-08-01	

Inventory

Client:

Deposit:

Date:

Raging Bull

Peko Tails

30-03-16

Mass includes Single plastic and indiv

Grouped masses consist of individual

ID	Sample	Mass (kg)			
027-246	157	8.52	157	D2-08-02	
027-246	158		158	D2-08-03	
027-246	159		159	D2-08-04	
027-246	160		160	D2-08-05	
027-246	161	10.42	161	D2-08-06	
027-246	162		162	D2-08-07	
027-246	163		163	D2-08-08	
027-246	164		164	D2-08-09	
027-246	165	8.68	165	D2-08-10	
027-246	166		166	D2-08-11	
027-246	167		167	D2-08-12	
027-246	168		168	D2-08-13	
027-246	169	7.22	169	D2-08-14	
027-246	170				
027-246	171		171	D2-09-01	
027-246	172		172	D2-09-02	
027-246	173	9.84	173	D2-09-03	
027-246	174		174	D2-09-04	
027-246	175		175	D2-09-05	
027-246	176		176	D2-09-06	
027-246	177	8	177	D2-09-07	
027-246	178		178	D2-09-08	
027-246	179		179	D2-09-09	
027-246	180		180	D2-09-10	
027-246	181	13.72	181	D2-09-11	
027-246	182		182	D2-09-12	
027-246	183		183	D2-09-13	
027-246	184		184	D2-09-14	
027-246	185	5.84			
027-246	186		186	D3-01-01	
027-246	187		187	D3-01-02	
027-246	188		188	D3-01-03	
027-246	189		189	D3-01-04	
027-246	190		190	D3-01-05	
027-246	191		191	D3-01-06	
027-246	192		192	D3-01-07	
027-246	193	9.86	193	D3-01-08	
027-246	194		194	D3-01-09	
027-246	195		195	D3-01-10	
027-246	196		196	D3-02-01	
027-246	197		197	D3-02-02	
027-246	198		198	D3-02-03	

Inventory

Client:

Raging Bull

Mass includes Single plastic and indiv

Deposit:

Peko Tails

Grouped masses consist of individual

Date:

30-03-16

ID	Sample	Mass (kg)			
027-246	199	5.06	199	D3-02-04	
027-246	200		200	D3-02-05	
027-246	201		201	D3-02-06	
027-246	202		202	D3-02-07	
027-246	203		203	D3-02-08	
027-246	204	8.42	204	D3-02-09	
027-246	205				
027-246	206				
027-246	207				
027-246	208		208	D3-03-01	
027-246	209		209	D3-03-02	
027-246	210		210	D3-03-03	
027-246	211	6.42	211	D3-03-04	
027-246	212		212	D3-03-05	
027-246	213		213	D3-03-06	
027-246	214		214	D3-03-07	
027-246	215		215	D3-03-08	
027-246	216	8.76	216	D3-03-09	
027-246	217				
027-246	218				
027-246	219				
027-246	220		220	D3-04-01	
027-246	221	6.68	221	D3-04-02	
027-246	222		222	D3-04-03	
027-246	223		223	D3-04-04	
027-246	224		224	D3-04-05	
027-246	225		225	D3-04-06	
027-246	226	10.2	226	D3-04-07	
027-246	227		227	D3-04-08	
027-246	228		228	D3-04-09	
027-246	229				
027-246	230				
027-246	231	4.1	231	D3-05-01	
027-246	232		232	D3-05-02	
027-246	233		233	D3-05-03	
027-246	234		234	D3-05-04	
027-246	235		235	D3-05-05	
027-246	236	5.84	236	D3-05-06	
027-246	237		237	D3-05-07	
027-246	238		238	D3-05-08	
027-246	239		239	D3-05-09	
027-246	240				

Inventory

Client:

Raging Bull

Mass includes Single plastic and indiv

Deposit:

Peko Tails

Grouped masses consist of individual

Date:

30-03-16

ID	Sample	Mass (kg)			
027-246	241	6.76			
027-246	242				
027-246	243		243	D3-06-01	
027-246	244		244	D3-06-02	
027-246	245		245	D3-06-03	
027-246	246	7.32	246	D3-06-04	
027-246	247		247	D3-06-05	
027-246	248		248	D3-06-06	
027-246	249		249	D3-06-07	
027-246	250		250	D3-06-08	
027-246	251	10.3	251	D3-06-09	
027-246	252		252	D3-06-10	
027-246	253				
027-246	254				
027-246	255		255	D3-07-01	
027-246	256	10	256	D3-07-02	
027-246	257		257	D3-07-03	
027-246	258		258	D3-07-04	
027-246	259		259	D3-07-05	
027-246	260		260	D3-07-06	
027-246	261	9.36	261	D3-07-07	
027-246	262		262	D3-07-08	
027-246	263		263	D3-07-09	
027-246	264		264	D3-07-10	
027-246	265	8.56			
027-246	266		266	D3-08-01	
027-246	267		267	D3-08-02	
027-246	268		268	D3-08-03	
	TOTAL	654.77			

Inventory

Client:

Deposit:

Date:

Raging Bull

Peko Tails

30-03-16

Mass includes Single plastic and indivic

Grouped masses consist of individual S

ID	Sample	Mass (kg)			
027-250	1	9.00		1	D3-08-04
027-250	2			2	D3-08-05
027-250	3			3	D3-08-06
027-250	4			4	D3-08-07
027-250	5	6.08		5	D3-08-08
027-250	6				
027-250	7				
027-250	8				
027-250	9	4.82			
027-250	10		Missing		
027-250	11			11	D3-09-02
027-250	12			12	D3-09-03
027-250	13	4.46		13	D3-09-04
027-250	14			14	D3-09-05
027-250	15			15	D3-09-06
027-250	16			16	D3-09-07
027-250	17	6.06		17	D3-09-08
027-250	18			18	D3-09-09
027-250	19				
027-250	20				
027-250	21	8.50			
027-250	22			22	D4-01-01
027-250	23			23	D4-01-02
027-250	24			24	D4-01-03
027-250	25	10.34		25	D4-01-04
027-250	26			26	D4-01-05
027-250	27			27	D4-01-06
027-250	28			28	D4-01-07
027-250	29	13.44		29	D4-01-08
027-250	30			30	D4-01-09
027-250	31			31	D4-01-10
027-250	32				
027-250	33	6.18			
027-250	34			34	D4-02-01
027-250	35			35	D4-02-02
027-250	36			36	D4-02-03
027-250	37	7.94		37	D4-02-04
027-250	38			38	D4-02-05
027-250	39		Missing		
027-250	40			40	D4-02-07
027-250	41			41	D4-02-08
027-250	42			42	D4-02-09

Inventory

Client:

Deposit:

Date:

Raging Bull

Peko Tails

30-03-16

Mass includes Single plastic and indivic

Grouped masses consist of individual S

ID	Sample	Mass (kg)			
027-250	43	6.46			
027-250	44				
027-250	45				
027-250	46			46	D4-03-01
027-250	47	6.98		47	D4-03-02
027-250	48			48	D4-03-03
027-250	49			49	D4-03-04
027-250	50			50	D4-03-05
027-250	51	7.16		51	D4-03-06
027-250	52			52	D4-03-07
027-250	53			53	D4-03-08
027-250	54		Missing	54	D4-03-09
027-250	55	13.00		55	D4-03-10
027-250	56				
027-250	57				
027-250	58			58	D4-04-01
027-250	59	9.80		59	D4-04-02
027-250	60			60	D4-04-03
027-250	61			61	D4-04-04
027-250	62			62	D4-04-05
027-250	63	9.56		63	D4-04-06
027-250	64			64	D4-04-07
027-250	65			65	D4-04-08
027-250	66			66	D4-04-09
027-250	67	5.94		67	D4-04-10
027-250	68				
027-250	69				
027-250	70			70	D4-05-01
027-250	71	5.52		71	D4-05-02
027-250	72			72	D4-05-03
027-250	73			73	D4-05-04
027-250	74			74	D4-05-05
027-250	75	10.84		75	D4-05-06
027-250	76			76	D4-05-07
027-250	77			77	D4-05-08
027-250	78			78	D4-05-09
027-250	79	8.52		79	D4-05-10
027-250	80				
027-250	81				
027-250	82			82	D4-06-01
027-250	83	8.52		83	D4-06-02
027-250	84			84	D4-06-03

Inventory

Client:

Deposit:

Date:

Raging Bull

Peko Tails

30-03-16

Mass includes Single plastic and indivic

Grouped masses consist of individual S

ID	Sample	Mass (kg)			
027-250	85	12.78		85	D4-06-04
027-250	86			86	D4-06-05
027-250	87			87	D4-06-06
027-250	88			88	D4-06-07
027-250	89	10.32		89	D4-06-08
027-250	90			90	D4-06-09
027-250	91			91	D4-06-10
027-250	92				
027-250	93	6.46			
027-250	94			94	D4-07-01
027-250	95			95	D4-07-02
027-250	96			96	D4-07-03
027-250	97	9.42		97	D4-07-04
027-250	98			98	D4-07-05
027-250	99			99	D4-07-06
027-250	100			100	D4-07-07
027-250	101	6.22		101	D4-07-08
027-250	102			102	D4-07-09
027-250	103				
027-250	104				
027-250	105	6.88		105	D4-08-01
027-250	106			106	D4-08-02
027-250	107			107	D4-08-03
027-250	108			108	D4-08-04
027-250	109	5.96		109	D4-08-05
027-250	110			110	D4-08-06
027-250	111			111	D4-08-07
027-250	112			112	D4-08-08
027-250	113	5.58			
027-250	114		Missing		
027-250	115				
027-250	116			116	D4-09-01
027-250	117	8.44		117	D4-09-02
027-250	118			118	D4-09-03
027-250	119			119	D4-09-04
027-250	120			120	D4-09-05
027-250	121	6.10		121	D4-09-06
027-250	122			122	D4-09-07
027-250	123			123	D4-09-08
027-250	124			124	D4-09-09
027-250	125				

Inventory

Client:

Deposit:

Date:

Raging Bull

Peko Tails

30-03-16

Mass includes Single plastic and indivic

Grouped masses consist of individual S

ID	Sample	Mass (kg)			
027-250	126	7.56			
027-250	127			127	D4-10-01
027-250	128			128	D4-10-02
027-250	129			129	D4-10-03
027-250	130			130	D4-10-04
027-250	131	15.14		131	D4-10-05
027-250	132			132	D4-10-06
027-250	133			133	D4-10-07
027-250	134			134	D4-10-08
027-250	135			135	D4-10-09
027-250	136	8.64		136	D4-10-10
027-250	137				
027-250	138				
027-250	139			139	D4-11-01
027-250	140			140	D4-11-02
027-250	141	13.48		141	D4-11-03
027-250	142			142	D4-11-04
027-250	143			143	D4-11-05
027-250	144			144	D4-11-06
027-250	145			145	D4-11-07
027-250	146	13.32		146	D4-11-08
027-250	147			147	D4-11-09
027-250	148			148	D4-11-10
027-250	149				
027-250	150			150	D4-12-01
027-250	151	4.18		151	D4-12-02
027-250	152			152	D4-12-03
027-250	153			153	D4-12-04
027-250	154			154	D4-12-05
027-250	155			155	D4-12-06
027-250	156	6.82		156	D4-12-07
027-250	157				
027-250	158				
027-250	159			159	D4-13-01
027-250	160			160	D4-13-02
027-250	161	6.06		161	D4-13-03
027-250	162			162	D4-13-04
027-250	163			163	D4-13-05
027-250	164			164	D4-13-06
027-250	165			165	D4-13-07

Inventory

Client:

Deposit:

Date:

Raging Bull

Peko Tails

30-03-16

Mass includes Single plastic and indivic

Grouped masses consist of individual S

ID	Sample	Mass (kg)			
027-250	166	5.00		166	D4-13-08
027-250	167				
027-250	168				
027-250	169			169	D4-14-01
027-250	170			170	D4-14-02
027-250	171	11.28		171	D4-14-03
027-250	172			172	D4-14-04
027-250	173			173	D4-14-05
027-250	174			174	D4-14-06
027-250	175			175	D4-14-07
027-250	176	6.46			
027-250	177				
027-250	178				
027-250	179				
027-250	180			180	D4-15-01
027-250	181	6.70		181	D4-15-02
027-250	182			182	D4-15-03
027-250	183			183	D4-15-04
027-250	184			184	D4-15-05
027-250	185			185	D4-15-06
027-250	186	10.82		186	D4-15-07
027-250	187			187	D4-15-08
027-250	188				
027-250	189				
027-250	190				
027-250	191	10.66		191	D4-16-01
027-250	192			192	D4-16-02
027-250	193			193	D4-16-03
027-250	194			194	D4-16-04
027-250	195			195	D4-16-05
027-250	196	11.20		196	D4-16-06
027-250	197			197	D4-16-07
027-250	198			198	D4-16-08
027-250	199			199	D4-16-09
027-250	200			200	D4-16-10
027-250	201	8.08		201	D4-16-11
027-250	202			202	D4-16-12
027-250	203			203	D4-17-01
027-250	204			204	D4-17-02
027-250	205			205	D4-17-03
027-250	206	12.42		206	D4-17-04
027-250	207			207	D4-17-05
027-250	208			208	D4-17-06
027-250	209			209	D4-17-07
027-250	210			210	D4-17-08

Inventory

Client:

Deposit:

Date:

Raging Bull

Peko Tails

30-03-16

Mass includes Single plastic and indivic

Grouped masses consist of individual S

ID	Sample	Mass (kg)			
027-250	211	7.80		211	D4-17-09
027-250	212				
027-250	213				
027-250	214			214	D4-18-01
027-250	215			215	D4-18-02
027-250	216	5.18		216	D4-18-03
027-250	217			217	D4-18-04
027-250	218			218	D4-18-05
027-250	219			219	D4-18-06
027-250	220			220	D4-18-07
027-250	221	6.20			
027-250	222				
027-250	223				
027-250	224			224	D4-19-01
027-250	225			225	D4-19-02
027-250	226	8.40		226	D4-19-03
027-250	227			227	D4-19-04
027-250	228			228	D4-19-05
027-250	229			229	D4-19-06
027-250	230			230	D4-19-07
027-250	231	10.82		231	D4-19-08
027-250	232				
027-250	233				
027-250	234			234	D4-20-01
027-250	235			235	D4-20-02
027-250	236	6.24		236	D4-20-03
027-250	237			237	D4-20-04
027-250	238			238	D4-20-05
027-250	239			239	D4-20-06
027-250	240			240	D4-20-07
027-250	241	9.22		241	D4-20-08
027-250	242			242	D4-20-09
027-250	243				
027-250	244			244	D5-01-01
027-250	245	10.64		245	D5-01-02
027-250	246			246	D5-01-03
027-250	247			247	D5-01-04
027-250	248			248	D5-02-01
027-250	249			249	D5-02-02
027-250	250	5.54		250	D5-02-03
027-250	251				
027-250	252			252	D5-03-01
027-250	253			253	D5-03-02

Inventory

Client:

Deposit:

Date:

Raging Bull

Peko Tails

30-03-16

Mass includes Single plastic and indivic

Grouped masses consist of individual S

ID	Sample	Mass (kg)			
027-250	254	4.12		254	D5-03-03
027-250	255				
027-250	256			256	D5-04-01
027-250	257			257	D5-04-02
027-250	258	5.14		258	D5-04-03
027-250	259				
027-250	260			260	D5-05-01
027-250	261			261	D5-05-02
027-250	262	5.38			
027-250	263			263	D5-06-01
027-250	264			264	D5-06-02
027-250	265			265	D5-06-03
027-250	266	23.26		266	D5-07-01
027-250	267			267	D5-08-01
027-250	268			268	D1-07-01
027-250	269	16.48		269	D1-08-01
027-250	270	15.06		270	D1-09-01
027-250	271	17.86		271	D1-10-01
027-250	272	18.86		272	D1-11-01
027-250	273	18.78		273	D1-12-01
027-250	274	18.42		274	D1-13-01
027-250	275	21.34		275	D1-14-01
027-250	276	15.06		276	D1-15-01
027-250	277	21.9		277	D1-07-02
027-250	278	13.86		278	D1-08-02
027-250	279	14.94		279	D1-09-02
027-250	280	17.94		280	D1-10-02
027-250	281	16.22		281	D1-11-02
027-250	282	15.52		282	D1-12-02
027-250	283	15.72		283	D1-13-02
027-250	284	23.44		284	D1-14-02
027-250	285	19.3		285	D1-15-02
TOTAL		805.22			

Inventory

Client: Raging Bull
Deposit: Peko Tails
Date: 30-03-16

ID	Sample	Mass (kg)
O/S Mag Dam	Front Left	4.58
O/S Mag Dam	Front Right	4.44
O/S Mag Dam	Middle Left	3.92
O/S Mag Dam	Middle Right	4.38

APPENDIX II

SIZE ANALYSIS DETAILS AND RESULTS

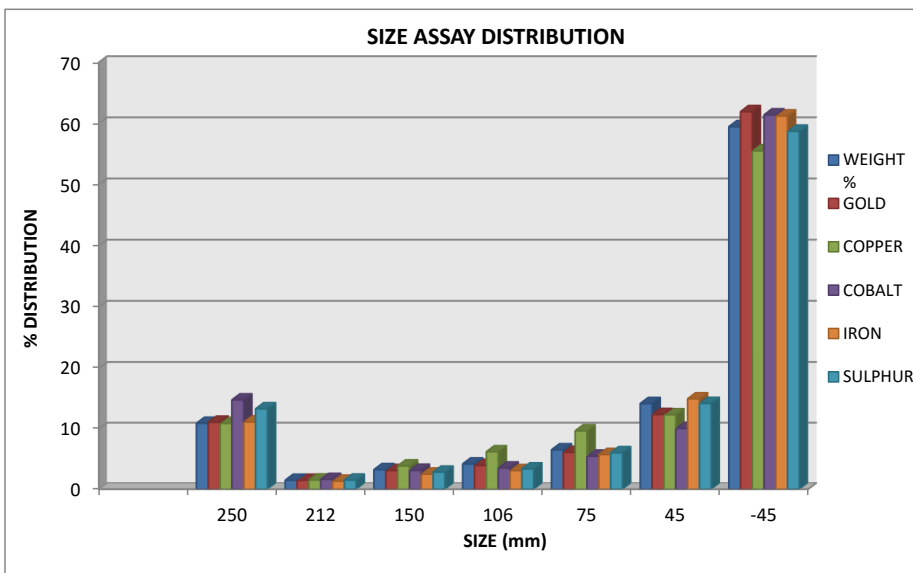
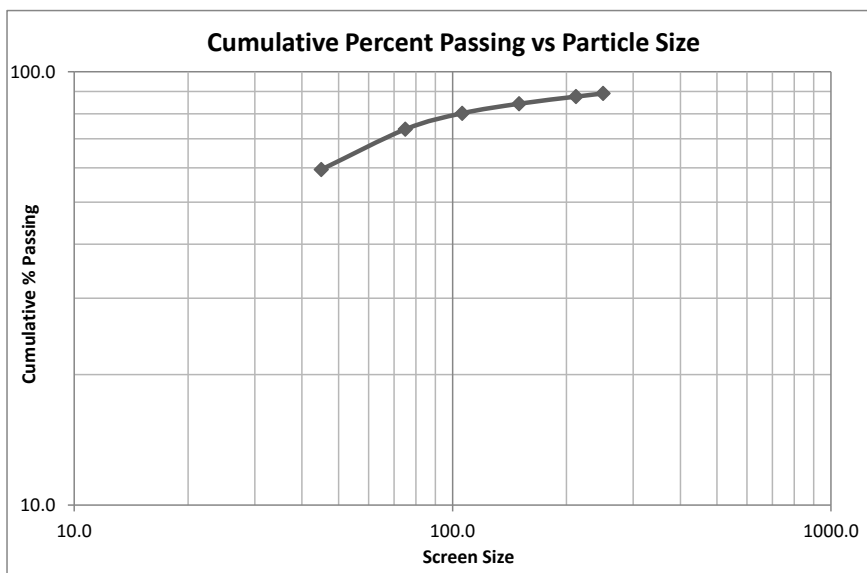
AM0001 - RAGING BULL - PEKO TAILINGS

FEED SIZE ASSAY

COMPOSITE 123

Size mm	Weight grams	% Retained		% Passing Cumulative	GOLD		COPPER		COBALT		IRON		SULPHUR		Solution	Volume ml	Cu mg/l	Co mg/l	Fe mg/l
		Individual	Cumulative		ppm	%dist	%	%dist	%	%dist	%	%dist	%	%dist					
250	104.2	10.9	10.9	89.1	1.62	11.1	0.31	10.9	0.21	14.8	47.3	11.1	7.08	13.3	Filtrate	3000	352	67.8	78.6
212	14.1	1.5	12.4	87.6	1.59	1.47	0.32	1.52	0.17	1.62	41.5	1.32	5.94	1.51			mg	mg	mg
150	30.9	3.2	15.6	84.4	1.52	3.09	0.37	3.86	0.15	3.13	35.9	2.51	5.07	2.83	Filtrate		1056.0	203.4	235.8
106	40.0	4.2	19.8	80.2	1.50	3.94	0.46	6.21	0.13	3.51	34.0	3.07	4.66	3.36			% Rec	% Rec	% Rec
75	62.3	6.5	26.3	73.7	1.49	6.10	0.46	9.66	0.13	5.47	40.8	5.75	5.38	6.05	Filtrate		14.7	6.0	0.03
45	135.4	14.2	40.5	59.5	1.39	12.4	0.27	12.3	0.11	10.1	48.9	15.0	5.81	14.2					
-45	567.8	59.5	100.0	0.0	1.66	61.9	0.29	55.5	0.16	61.4	47.7	61.2	5.73	58.7					
Total	954.7	100.0	-	-	1.59	100.0	0.31	100.0	0.15	100.0	46.3	100.0	5.80	100.0			Calculated P80		
Head					1.44		0.36		0.17		45.7		6.09				105 µm		

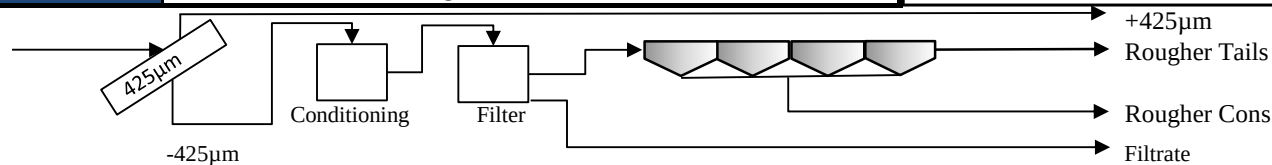
Calculated P80

105 μm 

APPENDIX III

BENCH FLOTATION DETAILS AND RESULTS

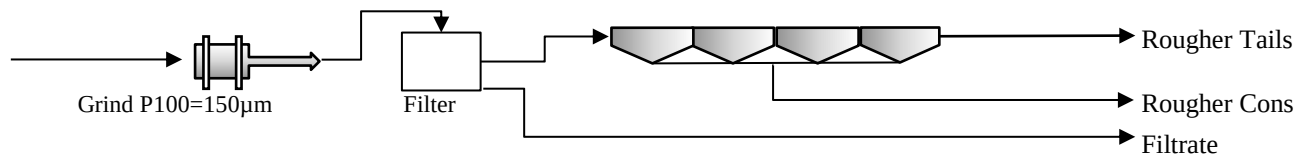
PROJECT	AM0001 - Peko Tails				
COMPOSITE	COMP 123	WATER TYPE	Tap Water		
TEST No	AM1-1	GRIND TIME	N/A		
GRIND SIZE	N/A	PULP DENSITY	~34% solids		
BOWL SIZE	4.4L Cell	2.0 kg	GRINDING MEDIA	Stainless Mill & Rods	
TEST DETAILS	TEST 1 - No Grind - 2hr Agitate				



Operation	Condit Time (mins)	pH	mV Plat	PAX (g/t)	W55 (drops)	Float Time (mins)	Cumul. Time (mins)	Solution	Volume ml	Cu mg/l	Co mg/l	Fe mg/l
Screen - 425µm								Filtrate	5290	335	69.3	125
Conditioning 600rpm	120	3.40	205					Wash	500	184	38.6	71.9
Con 1 900rpm	1	4.10	160	100	2	2	2			mg	mg	mg
Con 2		4.2	168		2	2	4	Filtrate		1772.2	366.6	661.3
Con 3	1	4.1	160	20	1@3'	5	9	Wash		92.0	19.3	36.0
Con 4	1	4.1	160	20	1	5	14			% Rec	% Rec	% Rec
Total								Filtrate		24.6	10.8	0.1
								Wash		1.3	0.6	0.0
								Total to Solt'n		25.9	11.3	0.1

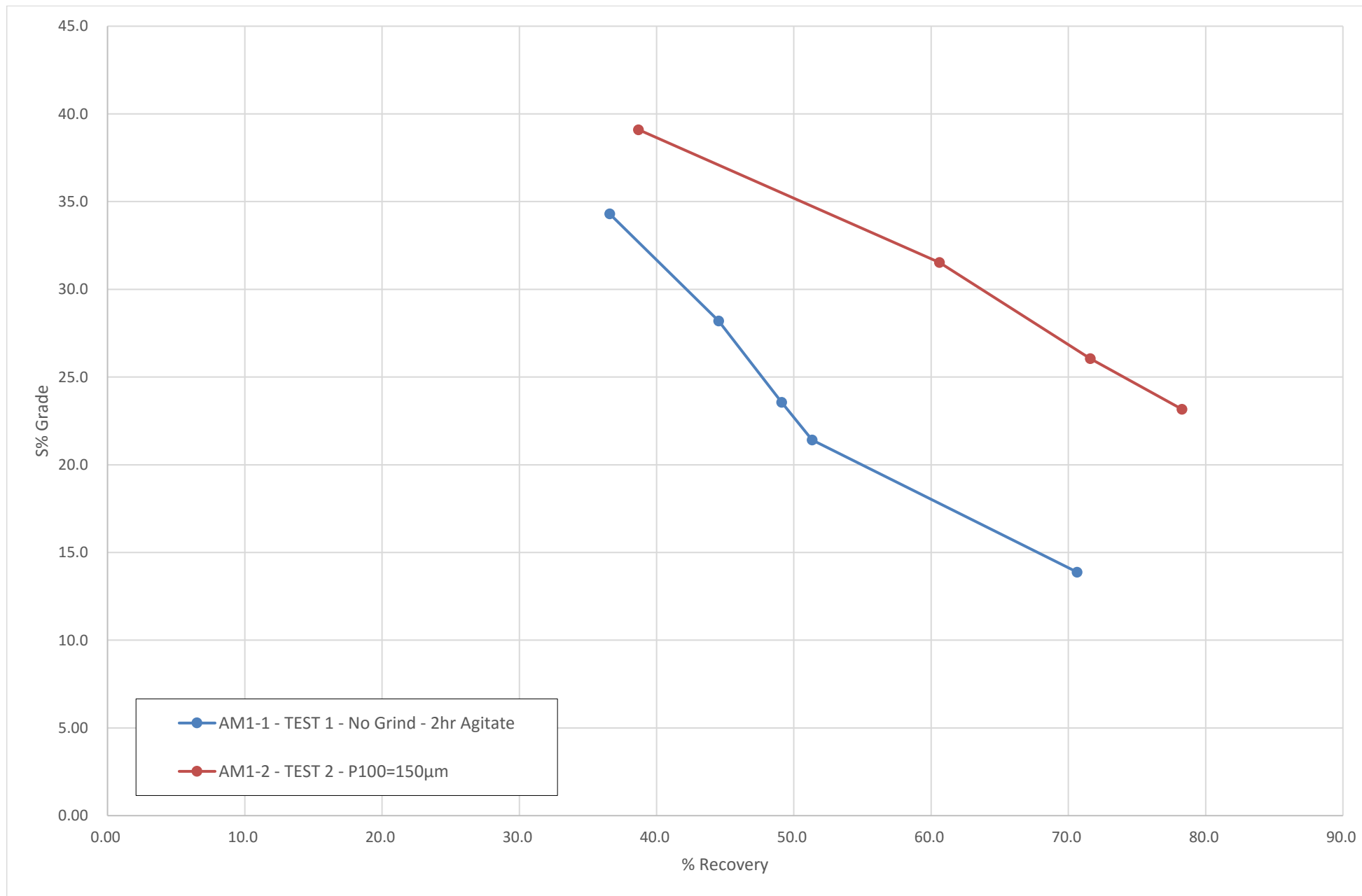
PRODUCT	WEIGHT		GOLD		COPPER		COBALT		IRON		SULFUR	
	Gram	%	g/t	% dist	%	% dist	%	% dist	%	% dist	%	% dist
Con 1	107.7	5.49	5.50	22.0	1.01	22.2	0.44	18.0	44.2	5.15	34.3	36.6
Con 2	51.7	2.64	3.38	6.50	0.82	8.64	0.42	8.24	46.0	2.57	15.5	7.94
Con 3	51.1	2.61	2.39	4.54	0.56	5.84	0.39	7.56	45.4	2.51	9.07	4.59
Con 4	31.5	1.61	2.34	2.74	0.50	3.21	0.38	4.54	45.5	1.55	7.13	2.22
Tails	1446.2	73.8	0.90	48.4	0.14	41.3	0.07	40.0	47.4	74.2	2.05	29.4
+425µm	271.8	13.9	1.56	15.8	0.34	18.8	0.21	21.6	47.7	14.0	7.17	19.3
Calc'd Head	1960.0	100.0	1.37	100.0	0.25	100.0	0.13	100.0	47.1	100.0	5.15	100.0
Assay Head			1.44		0.36		0.17		45.7		6.09	
Con 1		5.49	5.50	22.0	1.01	22.2	0.44	18.0	44.2	5.15	34.3	36.6
Con 1-Con 2		8.13	4.81	28.5	0.95	30.8	0.43	26.2	44.8	7.73	28.2	44.5
Con 1-Con 3		10.7	4.22	33.1	0.85	36.7	0.42	33.8	44.9	10.2	23.6	49.1
Con 1-Con 4		12.3	3.98	35.8	0.81	39.9	0.42	38.3	45.0	11.8	21.4	51.3
Con 1-Con 4 + +425µm		26.2	2.70	51.6	0.56	58.7	0.31	60.0	46.4	25.8	13.9	70.6

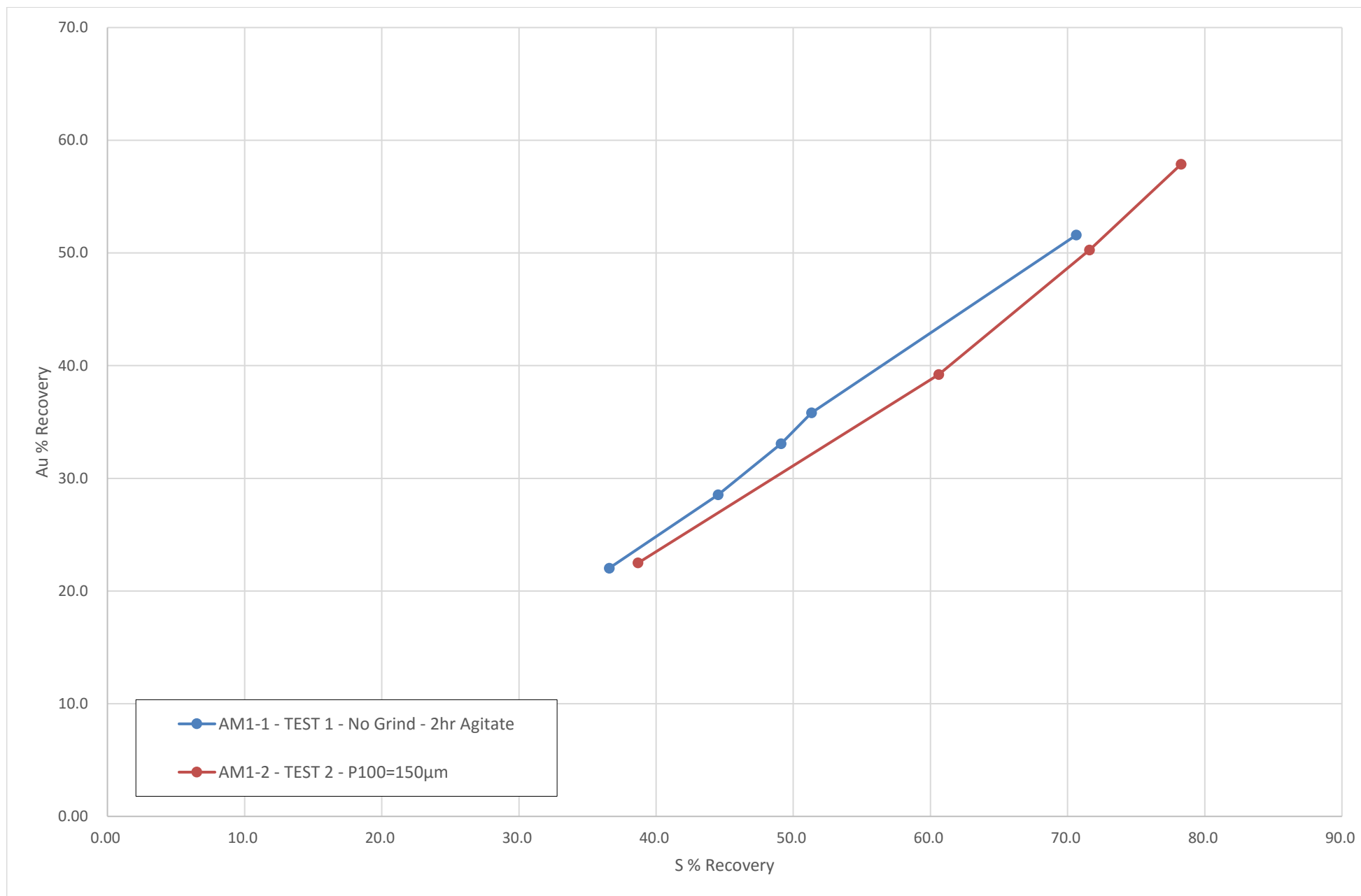
PROJECT	AM0001 - Peko Tails				
COMPOSITE	COMP 123	WATER TYPE	Tap Water		
TEST No	AM1-2	GRIND TIME	2'00"		
GRIND SIZE	P100 = 150µm	PULP DENSITY	~34% solids		
BOWL SIZE	4.4L Cell	2.0 kg	GRINDING MEDIA		Stainless Mill & Rods
TEST DETAILS	TEST 2 - P100=150µm				

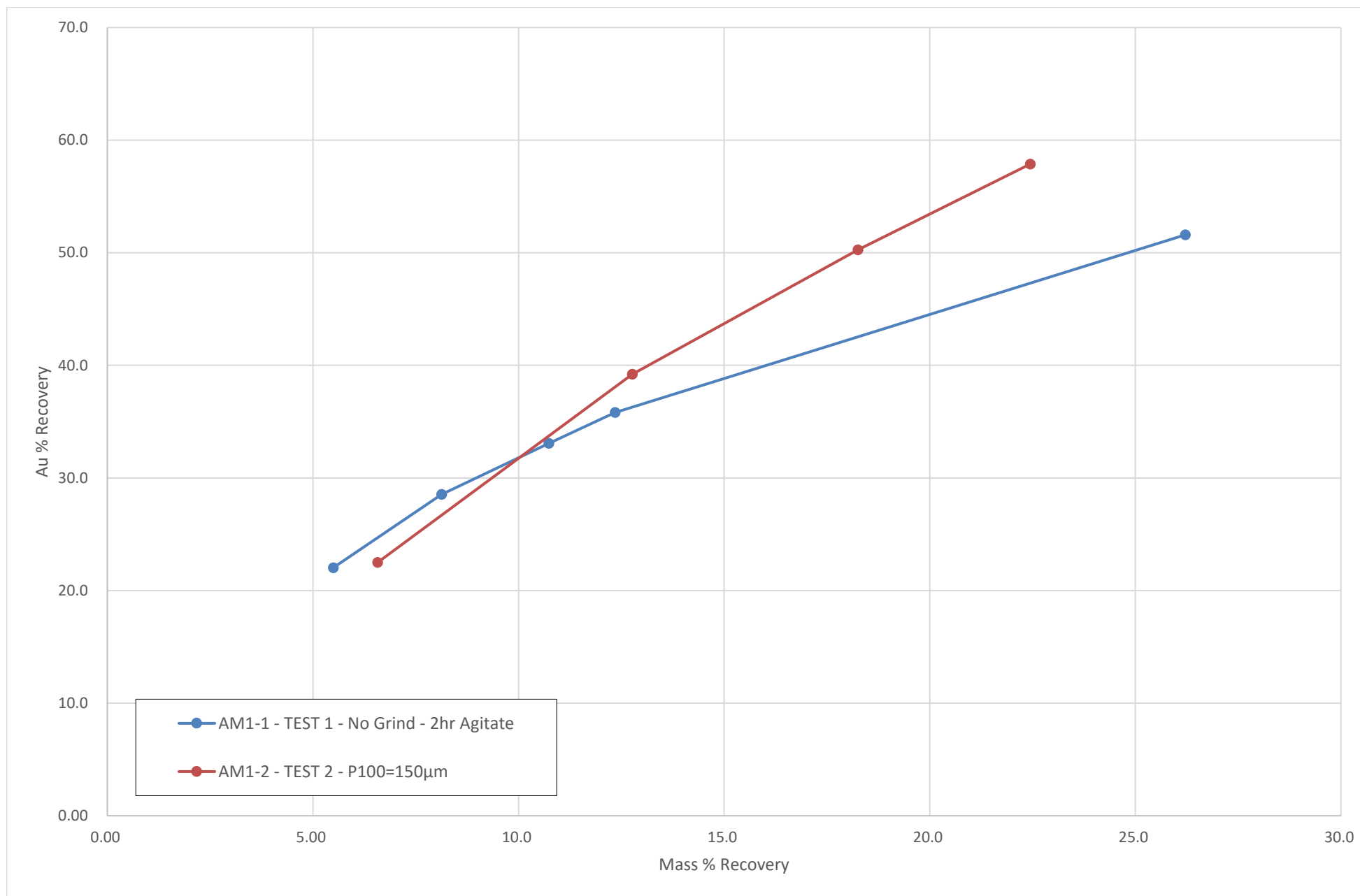


Operation	Condit Time (mins)	pH	mV Plat	PAX (g/t)	W55 (drops)	Float Time (mins)	Cumal. Time (mins)	Solution	Volume ml	Cu mg/l	Co mg/l	Fe mg/l
Mill		4.20	159					Filtrate	7010	186	39.8	73.4
								Wash	500	99.3	18.3	27.9
Con 1 900rpm	1	4.20	158	100	4	2	2			mg	mg	mg
Con 2		4.1	160			2	4	Filtrate		1303.9	279.0	514.5
Con 3	1	4.1	161	20		5	9	Wash		49.7	9.2	14.0
Con 4	1	4.2	156	20	2	5	14			% Rec	% Rec	% Rec
Total								Filtrate		18.1	8.2	0.1
								Wash		0.7	0.3	0.0
								Total to Solt'n		18.8	8.5	0.1

PRODUCT	WEIGHT		GOLD		COPPER		COBALT		IRON		SULFUR	
	Gram	%	g/t	%dist	%	%dist	%	%dist	%	%dist	%	%dist
Con 1	128.8	6.57	5.86	22.5	1.05	20.6	0.52	18.4	43.5	6.19	39.1	38.7
Con 2	121.4	6.19	4.62	16.7	1.24	22.9	0.66	22.0	43.1	5.78	23.5	21.9
Con 3	107.6	5.49	3.45	11.1	0.91	14.9	0.64	18.9	42.5	5.05	13.3	11.0
Con 4	82.1	4.19	3.11	7.61	0.74	9.24	0.57	12.8	41.1	3.73	10.6	6.69
Tails	1520.1	77.6	0.93	42.1	0.14	32.4	0.07	27.9	47.2	79.3	1.86	21.7
Calc'd Head	1960.0	100.0	1.71	100.0	0.34	100.0	0.19	100.0	46.2	100.0	6.64	100.0
Assay Head			1.44		0.36		0.17		45.7		6.09	
Con 1		6.57	5.86	22.5	1.05	20.6	0.52	18.4	43.5	6.19	39.1	38.7
Con 1-Con 2		12.8	5.26	39.2	1.14	43.5	0.59	40.3	43.3	12.0	31.5	60.6
Con 1-Con 3		18.3	4.71	50.3	1.07	58.4	0.60	59.2	43.1	17.0	26.0	71.6
Con 1-Con 4		22.4	4.42	57.9	1.01	67.6	0.60	72.1	42.7	20.7	23.2	78.3



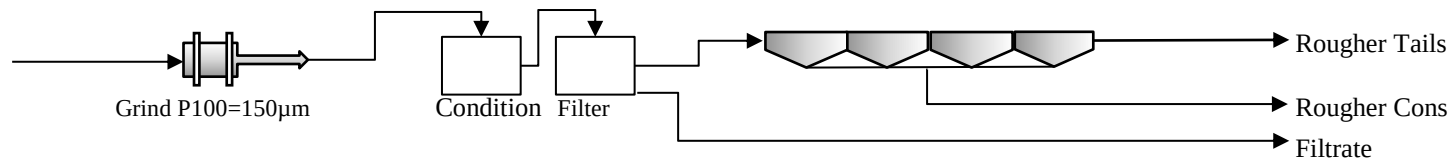




APPENDIX IV

BULK FLOTATION DETAILS AND RESULTS

PROJECT	AM0001 - Peko Tails			29-04-16	
COMPOSITE	COMP 123	WATER TYPE	Tap Water		
TEST No	AM1-3	GRIND TIME	2'00"/kg		
GRIND SIZE	P100 = 150µm		PULP DENSITY	~34% solids	
BOWL SIZE	40L Cell	20 kg	GRINDING MEDIA	Stainless Mill & Rods	
TEST DETAILS	TEST 3 - Bulk Float - Grind and condition				



Operation	Condit Time (mins)	pH	mV Plat	PAX (g/t)	W55 (drops)	Float Time (mins)	Cumal. Time (mins)	Solution	Volume ml	Cu mg/l	Co mg/l	Fe mg/l
Mill								Filtrate	25300	590	133	101
Condition	4Hrs	3.3	194			1	1	Wash 1	10000	154	31.8	34.4
Filter								Wash 2	10000	97.6	17.4	34.8
Wash 1										mg	mg	mg
Wash 2								Filtrate		14927.0	3364.9	2555.3
Con 1 36Hz	1	4.2	147	100	20	4	4	Wash 1		1540.0	318.0	344.0
Con 2		4.2	148			4	8	Wash 2		976.0	174.0	348.0
Con 3	1	4.2	147	50	5	10	18			% Rec	% Rec	% Rec
Con 4	1	4.2	147	50	5	10	28	Filtrate		21.4	10.2	0.03
Total								Wash 1		2.2	1.0	0.00
								Wash 2		1.4	0.5	0.00
Total to Solt'n										25.0	11.7	0.04

PRODUCT	WEIGHT		GOLD		COPPER		COBALT		IRON		SULFUR	
	Gram	%	g/t	%dist	%	%dist	%	%dist	%	%dist	%	%dist
Con 1	3210.0	16.5	4.04	46.0	0.91	54.6	0.51	56.8	45.5	16.0	23.0	68.2
Tails	16190.0	83.5	0.94	54.0	0.15	45.4	0.08	43.2	47.2	84.0	2.13	31.8
Calc'd Head	19400.0	100.0	1.45	100.0	0.28	100.0	0.15	100.0	46.9	100.0	5.58	100.0
Assay Head			1.44		0.36		0.17		45.7		6.09	

