Metallurgical Testwork

conducted upon

Samples from the Peko Tailings Project

for

Peko Bull Pty Ltd

Report No. A17129

November 2016

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SUMMARY

In May 2016, a defined program of metallurgical testwork was carried out on testwork product samples originating from the Peko Tailings Project in the Northern Territory.

A flotation concentrate and tailings pair, generated from testing on Composite 123 were received at ALS in May 2016.

• Flotation Concentrate Testwork

The Composite 123 flotation concentrate was subjected to head assay analysis as well as an acidic resin-in-pulp test, and subsequent cyanidation leach testwork on the RIP tailings.

The results of resin loading test MP1008 show that copper loads fast onto the TP207 XL resin, however, the cobalt did not load onto the resin.

Acid leaching was unsuccessful in solubilising the copper and cobalt, with recoveries after 8 hours reaching 5.80% and 1.02%, respectively. Iron extraction reached only 0.74%, however, the resin contained 17,800 ppm Fe compared to 4,845 ppm Cu.

Cyanidation on the RIP tailings observed gold extraction at 63%, with leach kinetics showing most of the cyanidable gold was leached within 24 hours. Residue grades were high at 1.75 g/t. Copper extraction amounted to ~47%, with slower leach kinetic trends to gold. Iron and cobalt were essentially unaffected by cyanidation and did not leach from the solids.

• Flotation Tailings Testwork

The Composite 123 flotation tailings were subjected to magnetic separation at 1000 gauss, with the magnetic and non-magnetic products being subjected to head assay analysis as well as cyanidation leach testwork.

Cyanidation on the magnetic product resulted in gold extraction of 55%, and leach kinetics showed most of the cyanidable gold was leached within 4 hours.

For the non-magnetic product, gold extraction was 77% and leach kinetics showed gold continued to leach up to 48 hours. This indicated that gold extraction may have benefited from an extension to the leach duration.

In both cases, copper extraction had slower leach kinetic trends to gold. Iron and cobalt extractions were low.

1. INTRODUCTION

In April 2016, Mr Rodney Smith, representing Peko Bull Pty Ltd, approached ALS to conduct a defined program of metallurgical testwork on testwork samples generated from an external laboratory from the Peko Tailings Project located in the Northern Territory.

The project included the following:

- Head assay analysis
- Resin-in-pulp (RIP) testwork
- Direct cyanidation testwork.

The testwork program is presented as flow diagrams in Figures 1 to 4.

The testwork was controlled by Mr Rodney Smith, on behalf of Peko Bull Pty Ltd, with Mr Matthew Pupazzoni supervising the program on behalf of ALS. Testwork results were communicated to the client immediately when available, which enabled the program to progress on a fully informed basis.

The purpose of this report is to describe the program and present results, together with some brief commentary and recommendations.

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2. SAMPLES AND SAMPLE PREPARATION

Multiple samples generated from testwork performed on a sample designated as Composite 123 were delivered to ALS in May 2016.

The residue samples were designated by the client, as per the following sections.

2.1 Filtrate Sample ex Composite 123

A solution sample designated Filtrate Sample ex Composite 123, weighing 8.80 kg was received for head assay analysis and resin in solution testing.

2.2 Flotation Concentrate

A flotation concentrate sample was received as a wet filter cake. The sample was subsequently dried, weighed (3.07 kg) and homogenised for resin-in-pulp testing, followed by cyanidation testing.

2.3 Flotation Tailings

A flotation tailings sample was received in slurry form. The tailings were decanted with the decanted liquor weighing 17.2 kg.

The decanted slurry was subsequently subjected to magnetic separation at 1,000 gauss. The magnetic and non-magnetic products were then filtered, with the filtrate being collected. The filter cakes were then dried, weighed and homogenised for cyanidation testwork.

The table below summarised the weights of the final products.

Product	Filtrate Mass (kg)	Dried Solids Mass (kg)
Mags	10.0	9.72
Non-Mags	24.0	5.05

3. ANALYTICAL METHODS

All of the assay samples generated during the course of the test program were submitted for analysis to the ALS analytical laboratory at Balcatta. The following analytical techniques were employed:

Gold in solids:	Fire assay/ICP-MS
Gold in solution:	Direct ICP-MS
Copper, cobalt, and iron in solids:	Mixed acid digestion/ICP-OES finish
Copper, cobalt, iron in solution:	Direct ICP-OES
Sulphur in solids:	*Labfit* CS2000 analyser

4. SOLUTION HEAD ASSAYS

A sub-sample of the "Filtrate Sample ex Comp 123" was submitted for analysis of copper, cobalt and iron. A summary of the results is given in the following table.

Analyte	Units	Filtrate Sample ex Comp 123
Cu	mg/L	614
Co	mg/L	139
Fe	mg/L	105

Resin in solution tests had been scheduled for the filtrate sample, however, based on the solution assay results, the client opted to not move ahead with these tests.

5. RESIDUE HEAD ASSAYS

A sub-sample of each of the test products was submitted for head assay analysis. A summary of the results is given in the following table.

Analyte	Units	Composite 123		
		Flotation Concentrate	Flotation Tail (Mags)	Flotation Tail (Non-Mags)
Au	g/t	4.35	0.86	1.32
Cu	ppm	9480	1200	3200
Co	ppm	5100	600	1200
Fe	%	46.1	62.5	15.0
S	%	22.6	1.88	2.02
SiO_2	%	12.0	7.80	-

6. FLOTATION CONCENTRATE TESTWORK

A resin-in-pulp (RIP) and cyanidation leach test were conducted on the Composite 123 flotation concentrate at a grind size of P_{80}: 10 µm.

6.1 Test Procedures

General test procedures are described in the following sections.

6.1.1 Resin-in-Pulp (RIP) Testwork

A RIP test was performed on the Composite 123 flotation concentrate at a P_{80} of 10 µm using Lewatit® TP 207 XL to recover the copper from the ore prior to downstream testing.

Test conditions were as per the following table.

Test ID	MP1008
Grind Size P_{100} (µm)	10
Temperature	Ambient
% Solids	40
Water	Perth Tap Water
Acid	H_2SO_4
Initial pH	1.5
Resin	TP-207 XL
Resin Form	Hydrogen
Resin Addition (L)	0.23
Contact Stages	1
Contact Time Per Stage (hr)	2

6.1.1.1 Resin Conditioning

Lewatit® TP 207 is a weakly acidic, macroporous cation exchange resin, with chelating iminodiacetate groups for the selective extraction of heavy metal cations from weakly acidic to weakly basic solutions.

The conditioning procedure for TP207 XL was as follows:

(1) A volumetric sample of 4000 mL of wet settled resin (WSR) was measured and placed in a suitably sized ion exchange (IX) column.

(2) The resin was conditioned with 7.5% (w/w) HCl at a flow rate of 500 mL per hour.

(3) The conditioned resin was drained from the column and rinsed with DI water.

(4) The resin was recovered from the column and the conditioned WSR volume measured.

(5) The conditioned resin was stored in deionised water for testwork.

6.1.1.2 Acidic Resin-in-Pulp (RIP) Testwork

The acidic RIP test procedure is briefly described below.

(1) A 1.0 kg sub-sample of Composite 123 flotation concentrate was combined with a sufficient quantity of Perth tap water to generate a % solids of 40% (w/w) and ground in a laboratory vertically stirred bead mill targeting a grind size of P_{80}: 10 µm. Grind sizes were confirmed via a *Malvern* laser sizer.

(2) Testing was conducted in a 5-litre Quickfit *Pyrex* vessel. The slurry was allowed to settle sufficiently to collect a 30 mL 0-hour solution sample for assay.

(3) The pH and ORP of the slurry were measured and recorded.

(4) Sufficient sulphuric acid (98%) was added to target pH 2.5, which was maintained regularly throughout the test.

(5) At regular intervals (1, 2, 4 and 6 hours), slurry pH, ORP, and solution SG were monitored and recorded. A 30 mL solution sub-sample was collected for Cu, Co and Fe assay. Sulphuric acid was added to the slurry as required to maintain the target pH of 2.5.

(6) At six hours, the required wet settled volume of resin (0.23-litre) was then added to the slurry.

(7) At the completion of the contact stage (2 hours) the pH and ORP of the slurry were recorded.

(8) The slurry was then poured over a sieve to recover the resin and returned to the leaching vessel.

(9) A 100 mL sub-sample was taken from the slurry and filtered for percent solids determination. The liquor and solids from this sample were assayed for Cu, Co, and Fe.

(10) Any solids entrained on the resin surface or intermediate equipment such as screens or buckets was recovered, washed, dried, weighed, and assayed for Cu and Fe.

(11) The wet settled resin volume recovered was recorded, dried for bulk density determination and assayed for Cu, Co, and Fe.

(12) Upon the completion of the test, the slurry was retained for cyanidation testwork.

6.1.2 Cyanidation Testwork

The direct leach test procedure for the test performed on the RIP tailings was conducted as follows:

(1) The RIP tailings slurry was transferred into a 4-litre plastic leach bottle with a screw on lid, with slurry agitation supplied by mechanical rollers.

(2) Sufficient hydrated lime (60% CaO) was added to establish a slurry pH of approximately 9.0.

(3) Solid sodium cyanide was added to establish an initial nominal cyanide solution strength of 3000 ppm. Further hydrated lime was then added to raise the slurry pH to approximately 10.0.

(4) At regular intervals (2, 4, 8, 24 and 48 hours), slurry pH, DO, and solution cyanide concentration were monitored and recorded.

(5) Lime and cyanide were added as required, to maintain target pH (10.0) and the specified cyanide concentration (>2,000 ppm).

(6) All intermediate solution sub-samples were assayed for gold, copper, cobalt and iron.

(7) At the termination of the test (48 hours) the terminal pH, oxygen and solution cyanide levels were determined and a solution sub-sample was assayed for gold, copper, cobalt and iron.

(8) The residual slurry was sub-sampled, with the sub-sample filtered, washed and dried to provide leach residue solids. A residue sub-sample was assayed for gold, copper, cobalt, and iron.

6.2 Results

The results of this series of tests are shown in Appendix I, and commentary of the results is provided in the following sub-sections.

6.2.1 Resin-in-Pulp (RIP) Testwork

The results of resin loading test MP1008 show that copper loads fast onto the TP207 XL resin, however, the cobalt did not load onto the resin.

Acid leaching was unsuccessful in solubilising the copper and cobalt, with recoveries after 8 hours reaching 5.80% and 1.02%, respectively. Iron extraction reached only 0.74%, however, the resin contained 17,800 ppm Fe compared to 4,845 ppm Cu.

The full test results sheets for the RIP testwork can be found in Appendix I.

6.2.2 Cyanidation Testwork

The results of the cyanidation leach test performed on the acidic RIP Tailings are summarised in the table below, with detailed data attached as Appendix I.

Test	% Solids	Overall Gold Extraction (%)	Residue Au (g/t)	Overall Cu Extraction (%)	Terminal NaCN (%)	NaCN (kg/t)	Lime (kg/t)
MP1009	40	63.2	1.75	46.5	0.038	15.6	8.72

These data show the following:

- Gold extraction was 63% and leach kinetics showed most of the cyanidable gold was leach within 24 hours, with the following 24 hours providing limited extra recovery of slow leaching particles. Residue grades were high at 1.75 g/t.
- Copper extraction amounted to ~47%, with slower leach kinetic trends to gold.
- Iron and cobalt were essentially unaffected by cyanidation and did not leach from the solids.
- It is recommended that an oxidative pre-treatment such as LOPOX be evaluated on a sub-sample of the flotation concentrate in order to determine whether gold and base metal recovery can be improved.

7. FLOTATION TAILINGS TESTWORK

Cyanidation leach tests were conducted on the flotation tails magnetic and non-magnetic products at the as received grind size.

7.1 Cyanidation Test Procedure

The direct leach test procedure for the test performed on the flotation tails was conducted as follows.

(1) A 3 kg sub-sample of the flotation product sub-sample was split out and utilised for the test.

(2) The sub-sample was tested at the as-received grind size.

(3) The flotation tailings slurry sub-sample was transferred into a 7-litre baffled leach vat. Slurry agitation was supplied by overhead stirrer with a flat blade impellor.

(4) The resulting % solids were adjusted to target 40% using Perth tap water.

(5) Sufficient hydrated lime (60% CaO) was added to establish a slurry pH of approximately 9.0.

(6) Solid sodium cyanide was added to establish an initial nominal cyanide solution strength of 2000 ppm.

(7) Where required, oxygen was supplied by sparging directly into the base of the vat.

(8) At regular intervals (1, 2, 4 and 8 hours for the magnetic product test and 2, 4, 8, 24 and 48 hours for the non-magnetic product test), slurry pH, DO, and solution cyanide concentration were monitored and recorded.

(9) Lime and cyanide were added as required, to maintain target pH (>9.0) and the specified cyanide concentration (>1,000 ppm). Further hydrated lime was then added to raise the slurry pH to approximately 10.0.

(9) All intermediate solution sub-samples were assayed for gold, copper, cobalt and iron.

(10) At the termination of the test (8 hours for the magnetic product test and 48 hours for the non-magnetic product test), the terminal pH, oxygen, and solution cyanide levels were determined and a solution sub-sample was assayed for gold, copper, cobalt and iron.

(11) The residual slurry was sub-sampled, with the sub-sample filtered, washed and dried to provide leach residue solids. A residue sub-sample was assayed for gold, copper, cobalt and iron.

7.2 Results

The results of the cyanidation performed on the Composite 123 flotation tailings products are summarised in the table below, with detailed data attached as Appendix II.

Sample ID	Test	Duration (hrs)	Overall Au Extraction (%)	Residue Au (g/t)	Overall Cu Extraction (%)	Terminal NaCN (%)	NaCN (kg/t)	Lime (kg/t)
Mags	**MP1010**	8	55.0	0.33	42.0	0.060	3.09	3.11
Non-Mags	**MP1011**	48	77.3	0.31	74.4	0.028	7.18	9.02

These data show the following:

- For the magnetic product, gold extraction was 55% and leach kinetics showed most of the cyanidable gold was leach within 4 hours.
- For the non-magnetic product, gold extraction was 77% and leach kinetics showed gold continued to leach up to 48 hours. This indicated that gold extraction may have benefited from an extension to the leach duration.
- In both cases, copper extraction had slower leach kinetic trends to gold.
- Iron and cobalt extractions were low in both cases.

FIGURES

FIGURE 1: METALLURGICAL TESTWORK PROGRAM FLOWSHEET

PEKO BULL MINING - PEKO TAILINGS

PEKO 123 COMPOSITE
RESIN TESTING

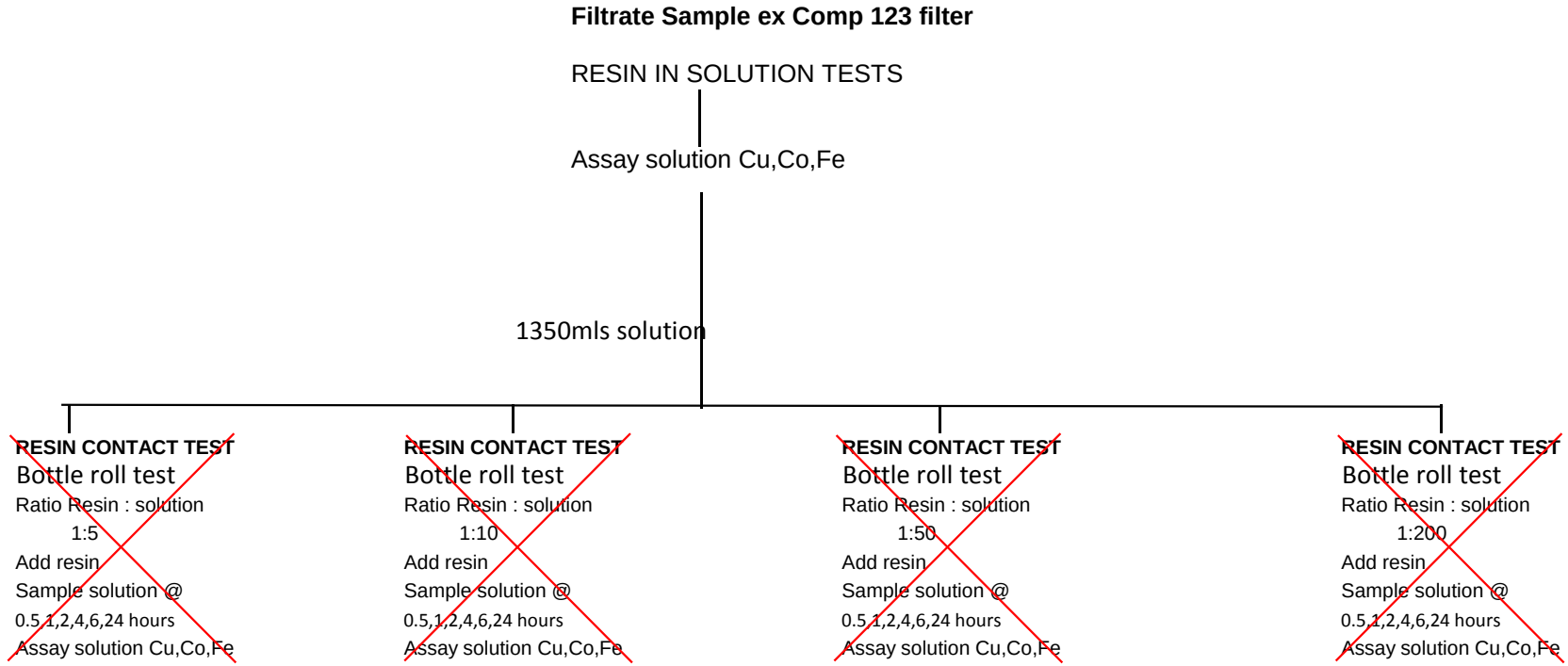


FIGURE 2: METALLURGICAL TESTWORK PROGRAM FLOWSHEET

PEKO BULL MINING - PEKO TAILINGS

COMPOSITE 123

FLOAT CON LEACHING

Con ex float test

Flotation Concentrate - should be ~2Kg solids as Damp Filter cake

Dry, Mix & Split best way possible

~100g

Head Assay

Au,Cu,Co,Fe,S

1Kg dry solids

Fine Grind / LEACH

Reserve

1. Grind to approx 10um keep water to a minimum target pulp density after grinding 40%solids

2. Acid Leach

Weigh slurry allow to settle remove 0 hr sample assay Cu,Co,Fe

Check pH add H2SO4 to pH 2.5 if required

Agitate for 6 hours remove solution samples after 1,2,4,6 hours

Add 250mls acid conditioned TP207XL agitate for 2 hours - sample solution / remove resin

3. Cyanide leach

Weigh the slurry

Add Lime to pH 9 - be careful

Add NaCN to create an intial concentration of 0.300%NaCN

Add further lime to achieve pH 10 - maintain at pH10 after the addition of cyanide

Maintain cyanide at 0.20%NaCN

Remove solution samples at 2,4,8,24,48Hours

Terminate at 48hours - filter and dry residue

FIGURE 3: METALLURGICAL TESTWORK PROGRAM FLOWSHEET

PEKO BULL MINING - PEKO TAILINGS

COMPOSITE 123

FLOAT TAIL LEACHING

Float Tail ex float test

Flotation Tailing - should be ~15Kg solids as a slurry

MAGNETIC SEPARATION @ 1000 Gauss

NON MAGS / FILTER / STORE DAMP CAKE (HOLD FILTRATE)

Reserve

MAGS

MAGS / FILTER / STORE DAMP CAKE (HOLD FILTRATE)

Reserve

~100g

Head Assay

Au,Cu,Co,Fe,S,SiO2

1kg

to go to lachlan

3Kg

CYANIDATION TIME LEACH

Adjust pulp density to 40%solids (use filtrate)

Add Lime to pH 9 - be careful

Add NaCN to create an intial concentration of 0.200%NaCN

Add further lime to achieve pH 10 - maintain at pH10 after the addition of cyanide

Maintain cyanide at 0.10%NaCN

Remove solution samples at 1,2,4,8Hours Assay Au,Cu,Co,Fe

Terminate at 8hours - filter and dry residue

FIGURE 3: METALLURGICAL TESTWORK PROGRAM FLOWSHEET

PEKO BULL MINING - PEKO TAILINGS

COMPOSITE 123

FLOAT TAIL LEACHING

Float Tail ex float test

Flotation Tailing - should be ~15Kg solids as Damp Filter cake

RESLURRY USING FLOAT TAIL FILTRATE

MAGNETIC SEPARATION @ 1000 Gauss

NON MAGS / FILTER / STORE DAMP CAKE

MAGS

See Mag Con Sheet

~200g

Head Assay

Au,Cu,Co,Fe,S

3Kg

CYANIDATION TIME LEACH

Adjust pulp density to 40%solids (use filtrate)

Add Lime to pH 9 - be careful

Add NaCN to create an intial concentration of 0.200%NaCN

Add further lime to achieve pH 10 - maintain at pH10 after the addition of cyanide

Maintain cyanide at 0.10%NaCN

Remove solution samples at 2,4,8,24,48Hours Assay Au,Cu,Co,Fe

Terminate at 48hours - filter and dry residue

Reserve

APPENDICES

APPENDIX I

Flotation Concentrate Testwork

Details and Results

PROJECT	A17129 - PEKO BULL MINING
CLIENT	PEKO BULL
TEST No	MP1008
SAMPLE	COMPOSITE 123 FLOAT CONCENTRATE
GRIND SIZE	P100 : 10µm
WATER	PERTH TAP WATER
PRE-TREATMENT	NIL
DATE	May 2016

ATMOSPHERIC ACID LEACH - RESIN IN PULP TESTWORK

TIME	ADDITIONS					SLURRY DATA		INTERMEDIATE SAMPLES				SOLUTION DATA				EXTRACTION - to liquor and resin		
(Hrs)	Ore (g)	Water (g)	Water (mL)	TP-207 XL (mL)	H2SO4 (g)	pH	ORP (mV)	Volume (mL)	Mass (g)	Dry Solids (g)	Liquor Volume (mL)	SG (g/mL)	Cu (mg/L)	Fe (mg/L)	Co (mg/L)	Cu %	Fe %	Co %
	937	1406											0	0	0			
0			1407		1.5	4.43/2.49	128	30			30	1.0000	2.2	1678	5.0	0.00	0.00	0.00
1					1.0	3.47/2.25	217	30			30	1.0000	<0.2	102	6.0			
2					0.8	2.96/2.52	265				30	1.0000	<0.2	625	14.0			
4					1.0	2.85/2.28	292	30			30	1.0000	24	957	15.5			
6				230		2.64	313				30	1.0000	17	1052	16.5			
8	937	1236	1227			2.10	334	30			30	1.0073	67.6	1320	17.5	5.80	0.74	1.02

COPPER & IRON EXTRACTION CALCULATIONS

Product	Quantity	Copper			Iron			Cobalt		
		Assay (ppm, mg/L)	Total (mg)	Dist'n (%)	Assay (ppm, mg/L)	Total (mg)	Dist'n (%)	Assay (ppm, mg/L)	Total (mg)	Dist'n (%)
Water	1406	0.0	0	0.00	0.0	0	0.00	0.0	0	0.00
Resin - 6h	89	4845	433	4.83	17800	1590	0.37	280	25	0.52
Bulk Residue	937	*9000*	8433	94.20	*458000*	429162	99.26	*5050*	4732	98.98
Liquor Samples	180	18.53	3	0.04	18.53	3	0.00	12.42	2	0.05
Bulk Liquor	1227	67.60	83	0.93	1320	1620	0.37	18	21	0.45
Extraction to resin + liquor			519	5.80		3213	0.74		49	1.02
Total			8952	100.00		432376	100.00		4781	100.00
Calculated Head		9554			461429			5102		
Assay Head (Whole Ore)		9480			461000			5100		

Note: No residue assay was taken as slurry was sent to MP1009 (Cyanide leach), Residue values are assumed.
Can only assume that no mass is lost during the test

COMMENTS :

1. Total H2SO4 addition : 1.58 (kg/t)
2. Start solution assays:
   Cu: 2.2 (mg/L)
   Fe: 1678 (mg/L)
3. Resin Volumes Recovered

	Volume (mL)	Bulk Density
8h	230	0.39

4. Calculated resin loading

	Cu (g/L)	Fe (g/L)
8h	1.88	0.01

5. Resin loading based on assays and conditioned resin volume
6. Final Slurry mass 2396 g
7. TP-207 used in acid conditioned form

PROJECT	A17129 - PEKO BULL TAILINGS
CLIENT	PEKO BULL MINING
TEST No	MP1009
SAMPLE	COMP 123 Float Con (After acid leach)
GRIND	*P100 :* 10µm
WATER	Perth water
DATE	May 2016

DIRECT CYANIDATION TIME LEACH TESTWORK

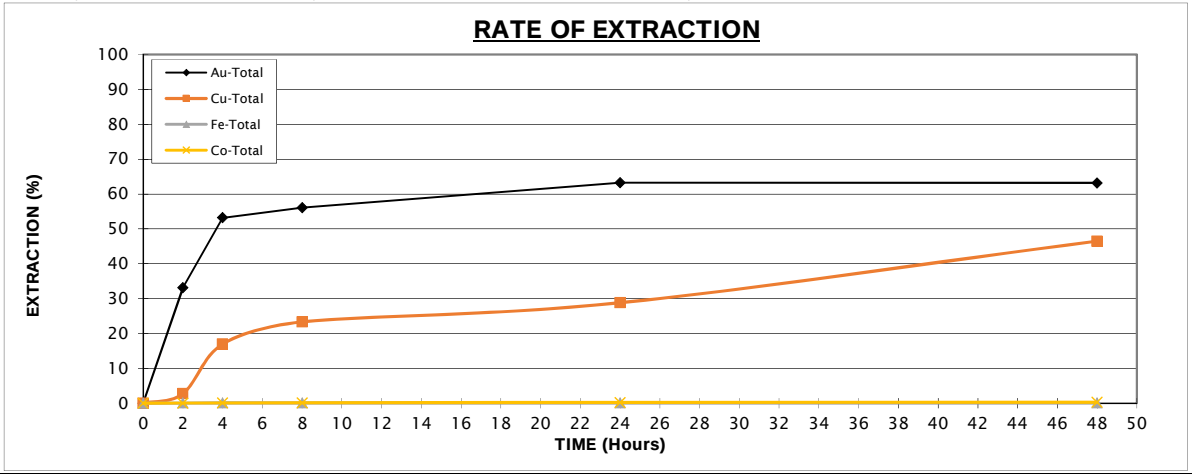
Time (Hours)	Additions				Solution Data							Extraction (%)			
	Ore (g)	Water (mls)	NaCN (g)	Lime (g)	Oxygen (ppm)	pH	NaCN (%)	Au (ppm)	Cu (ppm)	Fe (ppm)	Co (ppm)	Au	Cu	Fe	Co
	859.2	973.2			4.6	2.81									
0		973.2	3.30	6.58	4.6	10.26	0.339	0.00	0	0	0	0.0	0.0	0.0	0.0
2		943.2	3.30	0.35	10.1	9.30	0.000	1.39	223	217	2	33.1	2.7	0.1	0.0
4		913.2	1.76	0.00	8.9	10.00	0.040	2.26	1426	335	5	53.2	17.0	0.1	0.1
8		883.2	1.37	0.29	10.9	9.67	0.075	2.39	1979	379	6	56.1	23.3	0.1	0.1
24		823.2	3.98	0.27	18.5	9.51	0.000	2.72	2473	302	11	63.2	28.8	0.1	0.2
48		763.2	0.00	0.00	17.8	9.63	0.038	2.82	4341	359	15	63.2	46.5	0.1	0.3
TOTAL			13.71	7.49											

1. NaCN addition : 15.96 (Kg/t)
2. NaCN consum'n (kg/t) : 15.57 (Kg/t)
3. Lime consum'n (kg/t) : 8.72 (Kg/t)
4. Tap water used : 1.000 (SG)
5. Water weight to leach : 973.2 (g)
6. Grind size P 100 : 10µm (µm)

Product	Quantity	Gold			Copper			Iron			Cobalt		
		Assay (ppm)	Mass (µg)	Dist'n (%)	Assay (ppm)	Mass (µg)	Dist'n (%)	Assay (ppm)	Mass (µg)	Dist'n (%)	Assay (ppm)	Mass (µg)	Dist'n (%)
Solids (g)	859.2	1.75	1504	36.81	4960	4261731	53.52	448000	384930560	99.91	5000	4296100	99.73
Solution (mls)	763.2	2.82	2152	52.69	4341	3312964	41.61	359.0	273982	0.07	15.0	11448	0.27
Solution Samples *			429	10.50		387450	4.87		56820	0.01		0	0.00
Total Extraction				63.19			46.48			0.09			0.27
Total			4085	100.00		7962146	100.00		385261362	100.00		4307548	100.00
Calculated Head		4.75			9267			448385			5013		
Assay Head		4.35			9480			461000			5100		

* : Intermediate solution samples removed during the test.

Note: Assay Head is from the values obtained prior to acid leach test MP1008. As no acid residue assays were taken.



APPENDIX II

Flotation Tailings Testwork

Details and Results

PROJECT	A17129 - PEKO BULL TAILINGS
CLIENT	PEKO BULL MINING
TEST No	MP1010
SAMPLE	COMP 123 Float Tail Mags
GRIND	*P100 :* As received
WATER	Filtrate water
DATE	May 2016

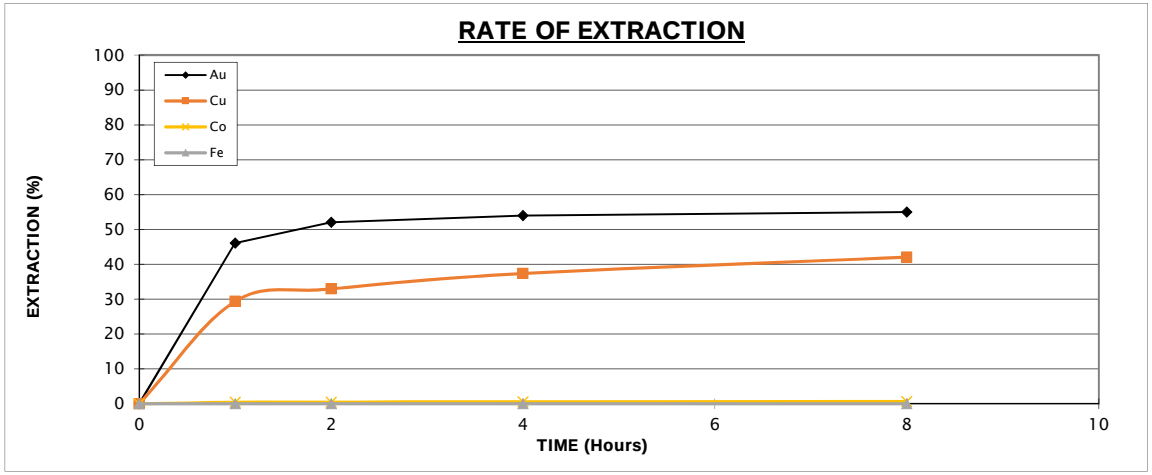
DIRECT CYANIDATION TIME LEACH TESTWORK

Time	Additions				Solution Data							Extraction (%)			
(Hours)	Ore (g)	Water (mls)	NaCN (g)	Lime (g)	Oxygen (ppm)	pH	NaCN (%)	Au (ppm)	Cu (ppm)	Co (ppm)	Fe (ppm)	Au	Cu	Co	Fe
	3000.0	4500.0			8.6	4.34									
0		4500.0	9.00	5.00	28.0	9.08	0.200	0.00	0	0.00	0	0.0	0.0	0.0	0.0
1		4400.0	0.68	2.63	28.8	9.21	0.085	0.23	216	1.40	11	46.1	29.3	0.4	0.0
2		4300.0	1.13	0.92	28.0	9.70	0.075	0.26	243	1.65	15	52.1	32.9	0.5	0.0
4		4200.0	1.22	0.78	28.4	9.67	0.073	0.27	277	1.90	25	54.0	37.3	0.6	0.0
8		4100.0	0.00	0.00	28.7	9.61	0.060	0.27	314	2.30	36	55.0	42.0	0.7	0.0
TOTAL			12.03	9.33											

1. NaCN addition : 4.01 (Kg/t)
2. NaCN consum'n (kg/t) : 3.09 (Kg/t)
3. Lime consum'n (kg/t) : 3.11 (Kg/t)
4. Site water used : 1.010 (SG)
5. Water weight to leach : 4545.0 (g)
6. Grind size P 100 : As received (µm)

Product	Quantity	Gold			Copper			Cobalt			Iron		
		Assay (ppm)	Mass (µg)	Dist'n (%)	Assay (ppm)	Mass (µg)	Dist'n (%)	Assay (ppm)	Mass (µg)	Dist'n (%)	Assay (ppm)	Mass (µg)	Dist'n (%)
Solids (g)	3000.0	0.33	990	45.03	640	1920000	57.96	500	1500000	99.33	649000	2.E+09	99.99
Solution (mls)	4100.0	0.27	1107	50.35	314	1287400	38.87	2.3	9430	0.62	36.0	147600	0.01
Solution Samples *			102	4.62		105000	3.17		725	0.05		8650	0.00
Total Extraction				54.97			42.04			0.67			0.01
Total			2199	100.00		3312400	100.00		1510155	100.00		1.95E+09	100.00
Calculated Head		0.73			1104			503			649052		
Assay Head		0.86			1200			600			625000		

* : Intermediate solution samples removed during the test.



PROJECT	A17129 - PEKO BULL TAILINGS
CLIENT	PEKO BULL MINING
TEST No	MP1011
SAMPLE	COMP 123 Float Tail Non Mags
GRIND	*P100 :* As received
WATER	Filtrate water
DATE	May 2016

DIRECT CYANIDATION TIME LEACH TESTWORK

Time (Hours)	Additions				Solution Data							Extraction (%)			
	Ore (g)	Water (mls)	NaCN (g)	Lime (g)	Oxygen (ppm)	pH	NaCN (%)	Au (ppm)	Cu (ppm)	Co (ppm)	Fe (ppm)	Au	Cu	Co	Fe
	3000.0	4500.0			8.1	4.75									
0		4500.0	9.00	18.34	8.1	10.00	0.200	0.00	0	0.00	0	0.0	0.0	0.0	0.0
2		4400.0	3.38	2.87	1.6	9.12	0.025	0.48	516	3.05	17	52.7	23.6	0.5	0.0
4		4300.0	3.24	2.46	38.8	9.34	0.028	0.59	703	3.05	22	64.5	31.9	0.5	0.0
8		4200.0	3.69	1.99	38.9	9.20	0.018	0.63	971	4.10	31	68.7	43.7	0.6	0.0
24		4100.0	3.47	1.41	23.8	9.34	0.023	0.66	1305	4.90	38	71.8	57.9	0.7	0.0
48		4000.0	0.00	0.00	35.1	9.51	0.028	0.72	1701	5.90	41	77.3	74.4	0.8	0.0
TOTAL			22.78	27.07											

1. NaCN addition : 7.59 (Kg/t)
2. NaCN consum'n (kg/t) : 7.18 (Kg/t)
3. Lime consum'n (kg/t) : 9.02 (Kg/t)
4. Site water used : 1.010 (SG)
5. Water weight to leach : 4545.0 (g)
6. Grind size P 100 : As received (µm)

Product	Quantity	Gold			Copper			Cobalt			Iron		
		Assay (ppm)	Mass (µg)	Dist'n (%)	Assay (ppm)	Mass (µg)	Dist'n (%)	Assay (ppm)	Mass (µg)	Dist'n (%)	Assay (ppm)	Mass (µg)	Dist'n (%)
Solids (g)	3000.0	0.31	930	22.70	840	2520000	25.60	1000	3000000	99.15	136000	4.E+08	99.96
Solution (mls)	4000.0	0.72	2860	69.80	1701	6804000	69.12	5.9	23600	0.78	40.6	162400	0.04
Solution Samples *			308	7.50		519600	5.28		2100	0.07		14810	0.00
Total Extraction				77.30			74.40			0.85			0.04
Total			4098	100.00		9843600	100.00		3025700	100.00		4.08E+08	100.00
Calculated Head		1.37			3281			1009			136059		
Assay Head		1.32			3200			1200			150000		

* : Intermediate solution samples removed during the test.