CIL Extractive Testwork

conducted upon

Heap Leach (x2) and Drillhole (x2) Composites from the Mt Todd Gold Project

for

Vista Gold Australia Pty Ltd

Report No. A13575 Part 5

April 2013

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SUMMARY

A defined program of extractive testwork was conducted on two (2) Heap Leach Variability Composites (#2 and #5) and two (2) Drill Hole composites (DLC-018 and DLC-023) from the Mt Todd Gold Project operated by Vista Gold Australia Pty Ltd.

Salient test data are presented below:

• CIL Cyanidation Time Leach Testwork

CIL cyanidation leach testwork was undertaken on the four (4) composites.

CIL CYANIDATION RESULTS					
Composite ID	Test No.	Metal	Extraction @ hours	Consumption (kg/t)	
			24	Lime	NaCN
Variability #2	WH5340	Gold	64.14	1.54	0.64
		Copper	21.56		
Variability #5	WH5341	Gold	80.37	1.47	0.81
		Copper	26.97		
DLC-018	WH5342	Gold	73.21	2.27	0.86
		Copper	21.17		
DLC-023	WH5343	Gold	70.26	1.71	0.80
		Copper	23.58		

The CIL cyanidation time leach testwork at a grind size of P_{80}: 90 µm for the Heap Leach Variability #2 Composite produced a final gold extraction of 64.14%. This is significantly higher than the 24.67% gold recovery achieved with the earlier column leach testwork on the "as received" tailing sample.

The Heap Leach Variability #5 Composite produced a final gold extraction of 80.37%. This is significantly higher than the 46.99% gold recovery achieved with the earlier column leach testwork on the "as received" tailing sample.

The Drill Hole DLC-018 Composite produced a final gold extraction of 73.21%. This is also significantly higher than the average 41.88% gold recovery achieved with the earlier duplicate column leach testwork on the "as received" tailing sample.

The Drill Hole DLC-023 Composite produced a final gold extraction of 70.26%. This is also significantly higher than the average 34.52% gold recovery achieved with the earlier duplicate column leach testwork on the "as received" tailing sample.

Copper extraction was also elevated for all four (4) composite samples at this P_{80}: 90 µm grind size.

1. INTRODUCTION

Mr John Rozelle, representing Vista Gold Australia Pty Ltd, requested that ALS Metallurgy conduct a defined program of extractive testwork on two (2) Heap Leach Variability Composites (#2 and #5) and two (2) Drill Hole Composites (DLC-018 and DLC-023) from the Mt Todd Gold Project, Northern Territory.

This work included the following:

- Sample retrieval and preparation
- Grind establishment
- CIL cyanidation time leach testwork.

The test program is presented as a flow diagram in Figure 1.

The testwork was controlled by Mr John Rozelle on behalf of Vista Gold Australia Pty Ltd, with Mr Wayne Harding supervising the program on behalf of ALS Metallurgy. 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 samples and testwork procedures used in the program, together with presenting results with some commentary and observations.

RON GROGAN
Chief Executive – Metallurgy

WAYNE HARDING
Manager – Gold and Comminution

2. THE SAMPLES

On receipt of approval to commence testwork, reserve samples of Heap Leach Variability Composites (#2 and #5) and Drill Hole Composites (DLC-018 and DLC-023) that had been generated during a previous phase of Mt Todd feasibility study testwork were retrieved from the ALS warehouse in late January 2013.

3. SAMPLE PREPARATION/GRIND ESTABLISHMENT TESTWORK

The samples were in the form of fine tailings and were treated on an 'as received' basis. Suitable size charges were prepared for grind establishment and extractive testwork as follows:

- Each sample was thoroughly homogenized and split into 1 kg charges.
- The following P_{80}:90 µm grind times were established.

Composite Identity	Mill	Target Grind Size P_{80} (µm)	Requisite Grind Time* (min' sec")
Variability #2	07	90	27' 02"
Variability #5			20' 18"
DLC-018			11' 01"
DLC-023			10' 36"

* 1.0 kg sample

4. TESTWORK WATER

Perth tap water was used for the CIL cyanidation time leach testwork program.

5. ANALYTICAL PROCEDURES

All assay samples generated during the course of the test program, were submitted to the ALS Metallurgy assay laboratory in Perth.

The following analytical methods were employed:

Gold in solids:	Fire assay
Gold in solution:	ICP-MS
Gold on carbon:	Ash/Acid digest/ICPMS finish
Copper in solids:	Mixed acid digestion/ICPOES
Copper in solution:	ICPMS finish

6. CIL CYANIDATION TIME LEACH TESTWORK

CIL cyanidation leach testwork was undertaken on 3 x 1 kg sub-samples of:

- Heap Leach Variability Composite #2
- Heap Leach Variability Composite #5
- Drill Hole Composite DLC-018
- Drill Hole Composite DLC-023

6.1 Test Procedure

The test procedure was as follows:

(1) The sample was transferred into a 7-litre vat. The slurry was mechanically agitated throughout the leach.

(2) Perth tap water was added to establish a slurry density of 60% solids (w/w).

(3) Sufficient hydrated lime (60% CaO) was added to the slurry to establish a pH of 11.0.

(4) A quantity of lead nitrate at a dosage of 100 g/t was added to the pulp at this stage.

(5) A quantity of pre-attritioned, *Haycarb* Yao activated carbon at a concentration of 20 g/l was added.

(6) Solid sodium cyanide was added to the slurry to establish initial nominal cyanide solution strength of 0.05% (w/v).

(7) Throughout the test, the leach pulp was sparged with air to provide elevated dissolved oxygen (DO) content.

(8) At intervals (1, 2, 4, 6, 8 and 12 hours) during the leach, 100 ml of leach slurry was dip sampled and filtered. A 10 ml aliquot was titrated for cyanide with silver nitrate and if required, further lime and cyanide were added to maintain desired pH (>9.8) and cyanide solution strength (0.025%). Sub-samples of solution and carbon were taken for gold and copper analysis. Excess filtered solution and residue were returned to the slurry.

(9) At the termination of the test (24 hours), the terminal pH, oxygen and cyanide levels were determined. A sub-sample of carbon was taken for gold and copper analysis.

(10) Sub-samples of the leach liquor and residue were submitted for gold and copper analysis.

6.2 Results

Detailed test report sheets are included in the Appendix, whilst summary results are presented in the following table.

CIL CYANIDATION RESULTS*									
Composite ID	Test No.	Metal	Extraction @ hours					Consumption (kg/t)	
			2	4	8	12	24	Lime	NaCN
Variability #2	WH5340	Gold	60.17	64.39	68.10	65.13	64.14	1.54	0.64
		Copper	18.21	19.75	21.91	21.48	21.56		
Variability #5	WH5341	Gold	76.81	81.81	82.58	82.16	80.37	1.47	0.81
		Copper	22.21	24.39	26.33	27.62	26.97		
DLC-018	WH5342	Gold	74.12	73.14	74.60	74.06	73.21	2.27	0.86
		Copper	18.11	19.02	20.42	21.06	21.17		
DLC-023	WH5343	Gold	58.52	69.00	70.60	71.06	70.26	1.71	0.80
		Copper	19.70	22.20	23.44	24.03	23.58		

* P_{80}: 90 µm

Comments on the above data are as follows:

- The CIL cyanidation time leach testwork at a grind size of P_{80}: 90 µm for the Heap Leach Variability #2 Composite produced a final gold extraction of 64.14%. This is significantly higher than the 24.67% gold recovery achieved with the earlier column leach testwork on the "as received" tailing sample.

- The Heap Leach Variability #5 Composite produced a final gold extraction of 80.37%. This is significantly higher than the 46.99% gold recovery achieved with the earlier column leach testwork on the "as received" tailing sample.

- The Drill Hole DLC-018 Composite produced a final gold extraction of 73.21%. This is also significantly higher than the average 41.88% gold recovery achieved with the earlier duplicate column leach testwork on the "as received" tailing sample.

- The Drill Hole DLC-023 Composite produced a final gold extraction of 70.26%. This is also significantly higher than the average 34.52% gold recovery achieved with the earlier duplicate column leach testwork on the "as received" tailing sample.

- Copper extraction was also elevated for all four (4) composite samples at this P_{80}: 90 µm grind size.

FIGURE

FIGURE 1 : HEAP LEACH TEST PROGRAMME FLOWSHEET : MT. TODD PROJECT FEASIBILITY STUDY

VISTA GOLD CORPORATION

MT TODD HEAP LEACH SAMPLE TESTWORK PROGRAM

RECEIVE 5 HEAP LEACH GOLD ORE SAMPLES FROM PREVIOUS TESTWORK

RECEIVE THE FOLLOWING SAMPLES:

HEAP LEACH COMPOSITES:
1. VARIABILITY COMPOSITE # 2 - 13kg
2. VARIABILITY COMPOSITE # 5 - 4.5kg

DRILL HOLE COMPOSITES:
3. DLC - 018 COMPOSITE - 7.0kg
4. DLC - 023 COMPOSITE - 8.0kg

FOR EACH SEPARATE COMPOSITE - CONDUCT THE FOLLOWING:

CONTROL CRUSH TO < 3.35mm

HOMOGENISE / SPLIT INTO 1.0kg SUB-SAMPLES

2 x 1.0kg

GRIND
ESTABLISHMENT
TESTWORK :
*** P80 : 90µm**

1 x 3.0kg

GRIND TO
P80 : 90µm

HEAP LEACH COMPOSITE
CIL CYANIDATION
LEACH TESTWORK :

*** 60% SOLIDS (w/w)**
3000g OF SOLIDS
2000g OF WATER
USE PERTH TAP WATER

ADD 100g/t LEAD NITRATE
AT START OF LEACH

* pH : 11.0 [LIME]
MAINTAIN pH > 9.8
*** NaCN DOSAGE : 0.05% [w/v]**
MAINTAIN NaCN > 0.025%
* AIR SPARGE
*** ADD PRE-ATTRITIONED**
ACTIVATED CARBON : 20 g/l

*** DURATION : 24 HOURS**
* SOLUTION SAMPLES
@ 1, 2, 4, 6, 8, 12 & 24 HRS
* ANALYSE INTERMEDIATE
& FINAL SOLUTIONS & CARBONS
FOR: Au, Cu
* ANALYSE LEACH
RESIDUE : Au, Cu

RESERVE

HAZARD ID

SAMPLE CONTAINS NO KNOWN HAZARDOUS MATERIAL

CAUTION WITH FINE DUST

NOTE: USE PERTH TAP WATER FOR ALL TESTWORK

ALS Metallurgy

APPENDIX

CIL Cyanidation Time Leach Testwork

Details and Results

PROJECT	A13575
CLIENT	VISTA GOLD CORPORATION
TEST No	WH5340
SAMPLE	Variability Comp # 2
GRIND	P80 : 90 µm
WATER	Perth tap water
DATE	February 2013

CIL CYANIDATION TIME LEACH TESTWORK : AIR SPARGE, $PbNO_3$ addition

TIME (Hours)	ADDITIONS					SOLUTION DATA					PREG. CARBON			EXTRACTION			
	Solids (g)	Water (g)	Carbon Haycarb Yao (g)	NaCN (g)	Lime (g)	Oxygen (ppm)	pH	NaCN (%)	Au (ppm)	Cu (ppm)	Wt (g)	Au (g/t)	Cu (g/t)	Au Leach (%)	Au Total (%)	Cu Leach (%)	Cu Total (%)
	3000.0	2000.0					7.37										
0				1.00	4.63	3.8	11.01	0.050	0.000	0.00		0	0	0.00	0.00	0.00	0.00
1			63.1	0.64	0.00	4.4	10.17	0.018	0.010	61.90	7.17	9	522	57.76	57.76	12.74	16.52
2			55.9	0.00	0.00	5.4	9.98	0.040	0.003	70.90	5.41	11	572	60.17	60.17	14.60	18.21
4			50.5	0.00	0.00	6.1	9.97	0.028	0.003	73.2	4.72	12	768	64.39	64.39	19.75	19.75
6			45.8	0.54	0.00	6.7	10.06	0.023	0.003	71.7	5.24	12	934	64.94	64.94	20.36	20.36
8			40.5	0.00	0.00	6.8	10.11	0.040	0.003	78.0	8.21	12	928	68.10	68.10	21.91	21.91
12			32.3	0.00	0.00	7.0	10.09	0.028	0.003	73.9	5.42	12	1102	65.13	65.13	21.48	21.48
24			26.9	0.00	0.00	7.7	9.85	0.008	0.003	68.9		14	1726	64.14	64.14	21.56	21.56

GOLD & COPPER EXTRACTION CALCULATIONS

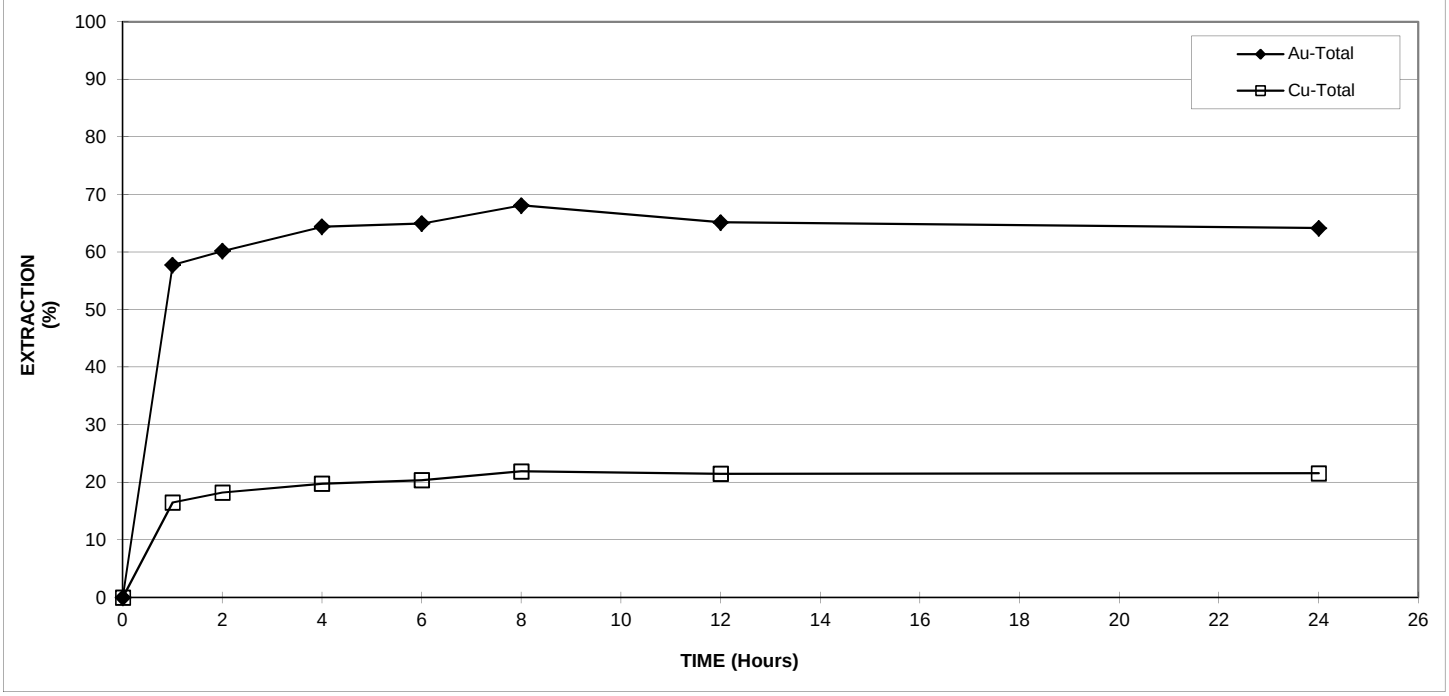
Product	Quantity	GOLD			COPPER		
		Assay (ppm)	Total (µg)	Dist'n (%)	Assay (ppm)	Total (µg)	Dist'n (%)
Solids (g)	3000.0	0.14	405	35.86	254	762000	78.44
Solution (mls)	2000.0	0.003	5	0.44	69	137800	14.18
Intermed.Carbon *			343	30.34		25205	2.59
Final Carbon (g)	26.9	14.0	377	33.36	1726	46447	4.78
Total Extraction				**64.14**			**21.56**
Total			1129	100.00		971452	100.00
Calculated Grade		0.38			324		
Assay Grade		0.33/0.31			310		

COMMENTS :

1. NaCN Addition : 0.73 (kg/t)
2. NaCN Consumption : 0.64 (kg/t)
3. Lime Consumption : 1.54 (kg/t)
4. Perth Tap Water Used, SG : 1.000 (g/mL)
5. Water weight to leach: 2000 (g)
6. Grind Size P 80 : 90 (µm)
7. 63.08 grams of Haycarb Yao activated carbon was added to the slurry.
8. Evaporation losses made up prior to sampling at each period.
9. Lead nitrate added to the slurry - 100 g/t.

* Carbon samples removed at each sampling interval.

RATE OF GOLD & COPPER EXTRACTION



PROJECT	A13575
CLIENT	VISTA GOLD CORPORATION
TEST No	WH5341
SAMPLE	**Variability Comp # 5**
GRIND	**P80 : 90 µm**
WATER	Perth tap water
DATE	February 2013

CIL CYANIDATION TIME LEACH TESTWORK : AIR SPARGE, $PbNO_3$ addition

TIME (Hours)	ADDITIONS					SOLUTION DATA					PREG. CARBON			EXTRACTION			
	Solids (g)	Water (g)	Carbon Haycarb Yao (g)	NaCN (g)	Lime (g)	Oxygen (ppm)	pH	NaCN (%)	Au (ppm)	Cu (ppm)	Wt (g)	Au (g/t)	Cu (g/t)	Au Leach (%)	Au Total (%)	Cu Leach (%)	Cu Total (%)
	3000.0	2000.0					7.44										
0				1.00	4.40	2.8	11.06	0.050	0.000	0.00		0	0	0.00	0.00	0.00	0.00
1			63.1	0.74	0.00	5.3	10.19	0.013	0.020	80.30	5.18	21	620	64.27	64.27	15.27	19.30
2			57.9	0.00	0.00	5.4	10.01	0.033	0.010	94.10	6.58	27	704	76.81	76.81	17.90	22.21
4			51.3	0.50	0.00	6.2	10.00	0.025	0.003	101.0	5.11	30	884	81.81	81.81	24.39	24.39
6			46.2	0.00	0.00	6.5	10.15	0.035	0.003	105.0	5.03	30	914	81.70	81.70	25.29	25.29
8			41.2	0.00	0.00	6.8	10.21	0.028	0.003	106.0	5.70	30	1090	82.58	82.58	26.33	26.33
12			35.5	0.54	0.00	7.1	10.11	0.023	0.003	109.0	5.38	30	1284	82.16	82.16	27.62	27.62
24			30.1	0.00	0.00	7.2	10.17	0.015	0.003	108.0		34	1352	80.37	80.37	26.97	26.97

GOLD & COPPER EXTRACTION CALCULATIONS

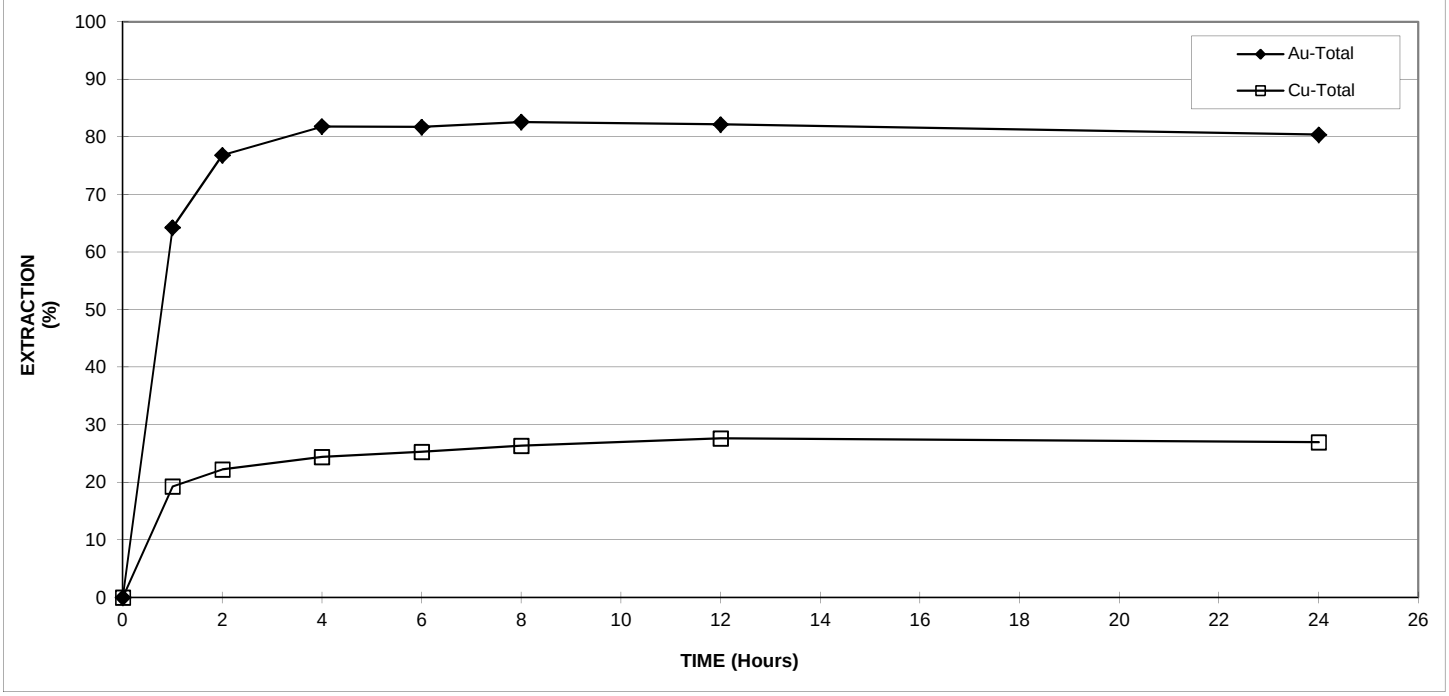
Product	Quantity	GOLD			COPPER		
		Assay (ppm)	Total (µg)	Dist'n (%)	Assay (ppm)	Total (µg)	Dist'n (%)
Solids (g)	3000.0	0.15	450	19.63	256	768000	73.03
Solution (mls)	2000.0	0.003	5	0.22	108	216000	20.54
Intermed.Carbon *			814	35.52		26868	2.56
Final Carbon (g)	30.1	34.0	1023	44.64	1352	40695	3.87
Total Extraction				**80.37**			**26.97**
Total			2293	100.00		1051563	100.00
Calculated Grade		0.76			351		
Assay Grade		0.53/0.54			310		

COMMENTS :

1. NaCN Addition : 0.93 (kg/t)
2. NaCN Consumption : 0.81 (kg/t)
3. Lime Consumption : 1.47 (kg/t)
4. Perth Tap Water Used, SG : 1.000 (g/mL)
5. Water weight to leach: 2000 (g)
6. Grind Size P 80 : 90 (µm)
7. 63.08 grams of Haycarb Yao activated carbon was added to the slurry.
8. Evaporation losses made up prior to sampling at each period.
9. Lead nitrate added to the slurry - 100 g/t.

* Carbon samples removed at each sampling interval.

RATE OF GOLD & COPPER EXTRACTION



PROJECT	A13575
CLIENT	VISTA GOLD CORPORATION
TEST No	WH5342
SAMPLE	DLC-018 COMP
GRIND	P80 : 90 µm
WATER	Perth tap water
DATE	February 2013

CIL CYANIDATION TIME LEACH TESTWORK : AIR SPARGE, $PbNO_3$ addition

TIME (Hours)	ADDITIONS					SOLUTION DATA					PREG. CARBON			EXTRACTION			
	Solids (g)	Water (g)	Carbon Haycarb Yao (g)	NaCN (g)	Lime (g)	Oxygen (ppm)	pH	NaCN (%)	Au (ppm)	Cu (ppm)	Wt (g)	Au (g/t)	Cu (g/t)	Au Leach (%)	Au Total (%)	Cu Leach (%)	Cu Total (%)
	3000.0	2000.0					7.16										
0				1.00	6.81	4.3	11.02	0.050	0.000	0.00		0	0	0.00	0.00	0.00	0.00
1			63.1	0.70	0.00	5.6	10.00	0.015	0.010	58.40	5.16	15	566	66.57	66.57	11.80	15.71
2			57.9	0.00	0.00	4.5	9.86	0.035	0.010	69.10	5.52	18	646	74.12	74.12	13.97	18.11
4			52.4	0.60	0.00	7.0	9.87	0.020	0.015	68.7	4.11	18	836	73.14	73.14	19.02	19.02
6			48.3	0.00	0.00	7.1	9.99	0.035	0.003	70.8	5.43	18	870	73.06	73.06	19.74	19.74
8			42.9	0.00	0.00	7.3	10.08	0.030	0.003	69.9	6.77	18	1018	74.60	74.60	20.42	20.42
12			36.1	0.60	0.00	7.4	10.00	0.020	0.003	69.4	4.07	19	1270	74.06	74.06	21.06	21.06
24			32.0	0.00	0.00	7.7	10.01	0.013	0.003	68.6		21	1514	73.21	73.21	21.17	21.17

GOLD & COPPER EXTRACTION CALCULATIONS

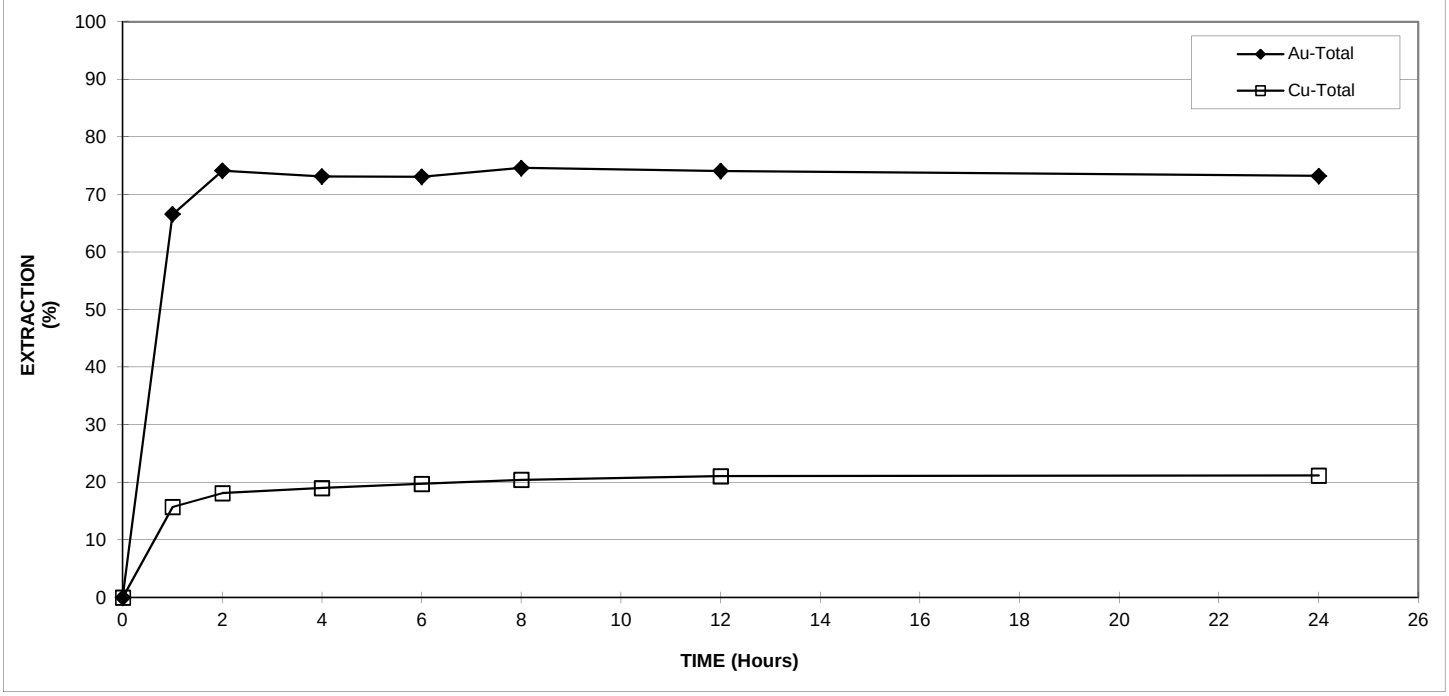
Product	Quantity	GOLD			COPPER		
		Assay (ppm)	Total (µg)	Dist'n (%)	Assay (ppm)	Total (µg)	Dist'n (%)
Solids (g)	3000.0	0.14	420	26.79	260	780000	78.83
Solution (mls)	2000.0	0.003	5	0.32	69	137200	13.87
Intermed.Carbon *			470	30.00		23787	2.40
Final Carbon (g)	32.0	21.0	672	42.89	1514	48478	4.90
Total Extraction				**73.21**			**21.17**
Total			1568	100.00		989465	100.00
Calculated Grade		0.52			330		
Assay Grade		0.48/0.45			320		

COMMENTS :

1. NaCN Addition : 0.97 (kg/t)
2. NaCN Consumption : 0.86 (kg/t)
3. Lime Consumption : 2.27 (kg/t)
4. Perth Tap Water Used, SG : 1.000 (g/mL)
5. Water weight to leach: 2000 (g)
6. Grind Size P 80 : 90 (µm)
7. 63.08 grams of Haycarb Yao activated carbon was added to the slurry.
8. Evaporation losses made up prior to sampling at each period.
9. Lead nitrate added to the slurry - 100 g/t.

* Carbon samples removed at each sampling interval.

RATE OF GOLD & COPPER EXTRACTION



PROJECT	A13575
CLIENT	VISTA GOLD CORPORATION
TEST No	WH5343
SAMPLE	**DLC-023 COMP**
GRIND	**P80 : 90 µm**
WATER	Perth tap water
DATE	February 2013

CIL CYANIDATION TIME LEACH TESTWORK : AIR SPARGE, $PbNO_3$ addition

TIME (Hours)	ADDITIONS					SOLUTION DATA					PREG. CARBON			EXTRACTION			
	Solids (g)	Water (g)	Carbon Haycarb Yao (g)	NaCN (g)	Lime (g)	Oxygen (ppm)	pH	NaCN (%)	Au (ppm)	Cu (ppm)	Wt (g)	Au (g/t)	Cu (g/t)	Au Leach (%)	Au Total (%)	Cu Leach (%)	Cu Total (%)
	3000.0	2000.0					7.72										
0				1.00	5.12	4.9	11.03	0.050	0.000	0.00		0	0	0.00	0.00	0.00	0.00
1			63.1	0.70	0.00	4.0	10.12	0.015	0.015	76.50	6.85	9	568	50.28	50.28	13.44	16.93
2			56.2	0.00	0.00	6.0	9.96	0.030	0.010	91.60	6.06	12	660	58.52	58.52	16.09	19.70
4			50.2	0.50	0.00	6.6	9.96	0.025	0.003	99.1	4.98	15	916	69.00	69.00	22.20	22.20
6			45.2	0.00	0.00	7.8	10.05	0.035	0.003	102.0	5.55	15	1000	69.66	69.66	23.13	23.13
8			39.6	0.00	0.00	7.1	10.12	0.028	0.003	101.0	6.38	15	1102	70.60	70.60	23.44	23.44
12			33.3	0.50	0.00	7.1	10.07	0.025	0.003	101.0	4.28	16	1342	71.06	71.06	24.03	24.03
24			29.0	0.00	0.00	7.3	10.07	0.013	0.003	99.9		18	1440	70.26	70.26	23.58	23.58

GOLD & COPPER EXTRACTION CALCULATIONS

Product	Quantity	GOLD			COPPER		
		Assay (ppm)	Total (µg)	Dist'n (%)	Assay (ppm)	Total (µg)	Dist'n (%)
Solids (g)	3000.0	0.13	390	29.74	290	870000	76.42
Solution (mls)	2000.0	0.003	5	0.38	100	199800	17.55
Intermed.Carbon *			395	30.11		26886	2.36
Final Carbon (g)	29.0	18.0	522	39.77	1440	41731	3.67
Total Extraction				**70.26**			**23.58**
Total			1311	100.00		1138417	100.00
Calculated Grade		0.44			379		
Assay Grade		0.40/0.44			365		

COMMENTS :

1. NaCN Addition : 0.90 (kg/t)
2. NaCN Consumption : 0.80 (kg/t)
3. Lime Consumption : 1.71 (kg/t)
4. Perth Tap Water Used, SG : 1.000 (g/mL)
5. Water weight to leach: 2000 (g)
6. Grind Size P 80 : 90 (µm)
7. 63.08 grams of Haycarb Yao activated carbon was added to the slurry.
8. Evaporation losses made up prior to sampling at each period.
9. Lead nitrate added to the slurry - 100 g/t.

* Carbon samples removed at each sampling interval.

RATE OF GOLD & COPPER EXTRACTION