

Aphrodite Gold Project

Positive Metallurgical Results

ASX: AQQ



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Aphrodite Gold Ltd (ASX: AQQ) is pleased to report positive results from the first phase of an ongoing metallurgical testwork program on its 100% owned Aphrodite Gold Project located near Kalgoorlie which hosts a JORC resource containing 1.03Moz of gold (refer to Note 1). The program is being conducted at ALS AMMTEC Laboratories and supervised by Mineral Engineering Technical Services (METS) located in Perth, Western Australia.

Encouraging results have been achieved from the program completed so far in particular the results of flotation tests on primary sulphide mineralisation which indicate that the company has a number of options available for the treatment / sale of high grade gold concentrate.

The metallurgical program represents a key component of the Scoping and Feasibility Studies planned to be completed on the Project in the latter part of 2011 and first half 2012 respectively. This, and other programs to follow, will determine the most effective method for treating and marketing Aphrodite ores.

The testwork program is being conducted on individual composites of oxide, transitional and primary (sulphide) material prepared from drill core extracted from the Aphrodite Deposit by the company.

The following testwork has been completed and results received.

- Detailed head assay of oxide, transitional and primary sulphide mineralised samples.
- Crushing Work index determination of oxide, transitional and primary samples.
- Unconfined Compressive Strength determination of oxide, transitional and primary samples.
- Bond Abrasion index of oxide, transitional and primary ore samples.
- Bond Ball Mill Work index of oxide transitional and primary ore samples.

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- Falcon gravity separation tests of oxide, transitional and primary ore samples.
- Gravity leach versus grind size for oxide ore sample.
- Bench scale rougher flotation versus grind size test of primary ore sample.
- Cleaner flotation of 75µm primary rougher flotation concentrate.
- Coarse bottle roll versus crush size for oxide ore sample.

This first phase of testwork is continuing with further results to be reported.

SUMMARY OF RESULTS

Head Assay

At the commencement of the testwork program all samples were assayed for gold and a suite of other elements. From the head assay results the following can be determined:

- A low organic carbon value of <0.03% indicates that **preg-robbing due to organic carbon should not be an issue.**
- Cyanide consuming minerals such as copper, nickel and zinc are reasonably low indicating that there should be **no issue with cyanide consumption during leaching of the gold.**

Comminution Testwork

Crushing Work Index, Unconfined Compressive Strength, Bond Ball Mill Work Index and Bond Abrasion Index measurements were taken on oxide, transitional and primary ore to determine the likely design of the crushing and comminution circuits in the processing plant.

Overall, the comminution results indicate no issues in processing the ore with;

- A range of values from very weak material in the oxide component of the deposit, to quite competent, hard material in the primary zone.
- Crushing Work Index measurements indicate costs at the lower end for a crushing circuit.
- Abrasion Index (used to determine operating costs to the mill liner and media replacement) display low indices on oxide, transitional and primary material indicating lower operating costs.

Falcon Gravity Separation Tests

The gravity testwork showed encouraging recovery of gold in all oxide, transitional and primary ore samples with up to 71% of the gold reporting in low mass concentrates.

The gravity testwork results are presented in the table below.

	Oxide		Transitional		Primary	
	Weight Distribution (%)	Gold Distribution (%)	Weight Distribution (%)	Gold Distribution (%)	Weight Distribution (%)	Gold Distribution (%)
Falcon Gravity Con	11.6	64	10.81	68	6.99	71.1
Falcon Gravity Tail	88.4	36	89.19	32	93.01	28.9

Gold recovered in the oxide concentrate represents free gold while that in the primary concentrate represents fine gold in sulphide minerals pyrite and arsenopyrite.

Gravity Leach versus Grind Size for Oxide Material

Leach tests on gravity concentrate produced from the oxide material showed good recovery at all size distributions with approximately 95% recovery at a P₈₀ size of 150µm and approximately 97% recovery at 106 and 75 µm. The fast leach kinetics and high gravity recoveries indicate a reduced residence time in the leach circuit would be required.

Leach tests also showed that the majority of the gold is liberated at 106µm and leaches after 4 hours, whereas at 150µm it leaches after roughly 14 hours.

The oxide leach testwork has indicated that approximately 54% of the oxide gravity concentrate would be recovered during intensive leaching (75 and 106 µm).

Leach testwork on transitional and primary material is yet to be finalised. It is expected that although gold distribution is high within the gravity concentrate, cyanide leaching will be ineffective for the primary concentrate due to the significant amount of refractory gold expected within the concentrate.

Flotation Testwork on Primary Material

Rougher Flotation

The rougher flotation testwork showed very encouraging result with high recoveries of gold per mass recovered with fast flotation kinetics indicating that a smaller flotation plant would be applicable for processing the primary ore.

Flotation recoveries were compared against grind sizes, with the most favourable results from the 75µm grind size where **95.8% of the gold was recovered in 12.4% of the mass**. A grind size of 75 µm was chosen as the optimal grind size for the remainder of the testwork as it was assumed that flotation will be the basis of any processing facility installed.

Four concentrates per test were collected with the **majority of the gold being recovered in the first stage of flotation**. Fast flotation kinetics means that a smaller flotation plant could be installed at site. The tables of flotation recovery at the various grind sizes are presented below.

Primary Flotation at 150 µm

PRODUCT	Weight		Gold (Au)		Sulphur (total)		Arsenic (As)	
	Gram	%	(g/t)	% dist	%	% dist	%	% dist
Rougher Con 1	29.3	2.94	37.1	64.3	24.5	74.4	12870	55.7
Rougher Con 2	28.3	2.84	9.49	15.9	5.78	16.9	3890	16.2
Rougher Con 3	41.2	4.13	2.78	6.77	0.86	3.67	1510	9.18
Rougher Con 4	19.0	1.90	1.85	2.08	0.70	1.38	1190	3.34
Total Concentrate	117.8	11.8	12.8	89.1	7.9	96.35	4856	84.4
Tail	879.8	88.2	0.21	10.9	0.04	3.65	120	15.6

Primary Flotation at 106 µm

PRODUCT	Weight		Gold (Au)		Sulphur (total)		Arsenic (As)	
	Gram	%	(g/t)	% dist	%	% dist	%	% dist
Rougher Con 1	36.7	3.67	35.6	78.4	23.0	83.9	13910	70.6
Rougher Con 2	28.8	2.88	5.29	9.15	2.86	8.19	2840	11.3
Rougher Con 3	31.2	3.12	2.16	4.05	1.12	3.47	1410	6.09
Rougher Con 4	20.2	2.02	1.22	1.48	0.44	0.88	790	2.21
Total Concentrate	116.9	11.7	13.3	93.1	8.30	96.49	5579	90.22
Tail	883.5	88.3	0.13	6.90	0.04	3.51	80	9.78

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Primary Flotation at 75 µm

PRODUCT	Weight		Gold (Au)		Sulphur (total)		Arsenic (As)	
	Gram	%	(g/t)	% dist	%	% dist	(g/t)	% dist
Rougher Con 1	39.2	3.91	36.9	85.7	22.0	89.2	14070	78.7
Rougher Con 2	19.4	1.94	5.13	5.90	2.70	5.42	3060	8.47
Rougher Con 3	36.2	3.62	1.43	3.07	0.72	2.69	920	4.75
Rougher Con 4	29.3	2.93	0.65	1.13	0.30	0.91	430	1.80
Total Concentrate	124.1	12.4	13.0	95.84	7.7	98.19	5293	93.74
Tail	877.2	87.6	0.08	4.16	0.02	1.81	50	6.26

Cleaner Flotation

The cleaner float tests were conducted on the 75 µm rougher flotation concentrate.

The results of the cleaner flotation work showed that the mass of the concentrate was reduced to 5.85% from the initial (rougher) sample weight of 15.5% achieving an overall recovery of gold of 93.5%. High recoveries of gold with a small mass pull are preferable, especially if final off-site treatment or outright sale of the sulphide concentrate is planned. A smaller mass of gold concentrate will mean lower transport costs.

The table of results for the cleaner flotation test can be seen below.

Primary Cleaner Flotation at 75 µm

PRODUCT	Weight		Gold (Au)		Sulphur (total)		Arsenic (As)	
	Gram	%	(g/t)	%dist	%	%dist	(%)	%dist
Cleaner Con 1	18.9	1.89	50.6	58.5	35.1	67.4	2.00	52.2
Cleaner Con 2	13.5	1.35	28.5	23.5	14.4	19.7	1.34	25.0
Cleaner Con 3	12.2	1.22	11.7	8.73	6.10	7.56	0.64	10.8
Cleaner Con 4	13.9	1.39	3.22	2.74	1.78	2.51	0.198	3.80
Total Con	58.5	5.85	26.1	93.5	16.4	97.2	1.14	91.8
Cleaner Tail	96.4	9.65	0.31	1.83	0.20	1.96	0.018	2.40
Scavenger Tail	844.4	84.5	0.09	4.65	0.01	0.86	0.005	5.83

The staged results from the float tests showed that cleaner float tests of the primary material may be used to further reduce the mass from the rougher flotation circuit.

Optimising of reagents will be carried out in later studies to further improve gold recoveries and mass pull. The composition of this sulphide concentrate will be checked as to its acceptability for final processing at selected treatment plants located close to the Aphrodite Project or elsewhere.

Coarse Bottle Roll Leach versus Grind Size for Oxide Material

The coarse bottle roll work forms part of the heap leach amenability testwork and more comments on this will be made when the heap leach testwork has been completed.

Coarse bottle roll tests showed increasing extraction of gold as the top size was reduced. A trend of greater extraction at finer top sizes is to be expected as more fine gold becomes liberated at smaller particle sizes.

Testwork to be Completed

The initial metallurgical program is continuing with the following work still to be completed and reported on;

- Rheology of all samples.
- Oxygen uptake rate determination on all samples.
- Transition and primary material direct leach.
- Flotation testwork. on transitional material
- Assay of flotation concentrate.

- Percolation, agglomeration and column leach of oxide material.
- Diagnostic leach on gravity concentrate and oxide, transitional and primary leach residue.

Further results are expected to be announced to the ASX in August 2011.

Yours Sincerely,



Leon Reisgys
Exploration and Development Director

Note 1:

Existing JORC Resource for the Aphrodite Gold Project consists of 3.67Mt @ 3.83g/t Au for 451,000 ounces. (Indicated) and 6.39Mt @ 2.83g/t Au for 582,000 ounces (Inferred) totalling 10.06Mt @ 3.19g/t Au for 1,033,000 ounces. This resource has been broken down into two domains; potential open pit (0 to 150m depth) and underground (150 to 440m depth). Potential open pit resources consist of 1.92Mt @ 1.96g/t Au for 121,000 ounces (Indicated) and 5.14Mt @ 1.81g/t Au for 299,000 ounces (Inferred) totalling 7.06Mt @ 1.85 g/t Au for 420,000 ounces at a cut-off grade of 0.5g/t. Potential underground resources consist of 1.75Mt @ 5.87g/t Au for 330,000 ounces (Indicated) and 1.25Mt @ 7.02g/t Au for 283,000 ounces (Inferred) totalling 3.0Mt @ 6.35 g/t Au for 613,000 ounces at a cut off grade of 3.0g/t. Full details of the JORC resource are contained in the Company's ASX announcement of 24 March 2011.

Competent Persons Statement

Information in this report that relates to technical results and resources reflects information compiled by Leon Reisgys FAusIMM and Exploration and Development Director of Aphrodite Gold Ltd who has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is reporting on as a competent person as defined in the 2004 Edition of "The Australian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves." Mr. Reisgys consents to the inclusion in this report of the matters based on the information compiled by him, in the form and context in which it appears.

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