

8 May 2017

METALLURGICAL PROGRAM DELIVERS SIGNIFICANT GOLD RECOVERY TARGET OF 92% – 95% AT TAMPPIA GOLD PROJECT

Highlights

- **Comprehensive metallurgy program completed.**
- **Metallurgical program has increased the Company’s overall gold recovery target for the Tampia deposit to 92% - 95%, significantly up from the target estimate of 85% - 90% previously reported.**
- **Program confirmed that mineralisation is predominantly free milling (non-refractory).**
- **The positive Scoping Study completed in September 2016 used a target overall gold recovery of 85%.**
- **Definitive test work to be undertaken as part of the feasibility study to finalise the optimum process that delivers maximum gold recovery at the most effective capital and operating costs.**
- **Project continues to deliver substantial improvements to project scale and operating cost assumptions used in Scoping Study.**
- **Drilling continues at Tampia and is expected to be completed in June 2017.**

Comments from John Lawton, Managing Director

“This is a major step forward in the development of the Tampia gold project and a significant improvement from the previous target estimate of 85%-90%, and the 85% average recovery used in our Scoping Study completed in September 2016. This together with the better than expected drilling results and the discovery of a new high grade zone from surface continues to improve the potential in both scale and operational costs for the project.

It is very gratifying to deliver such positive results to shareholders and we look forward to continuing our work on increasing the potential at Tampia.”

Explaurum Limited (“**Explaurum**” or “**the Company**”) (ASX:EXU) is pleased to announce high gold recovery results from the comprehensive metallurgical test work undertaken so far on the gold mineralisation at the Tampia Gold Project, located 300km east of Perth near the wheat belt township of Narembeen.

The program commenced in late 2015 when the Company was assessing the viability of toll treatment of near surface mineralisation, and has progressed since that time in preparation for the project feasibility study based on a standalone mining operation, which will commence in mid-2017. The test work was designed to determine the optimum plant process design to maximise gold recovery and minimise capital and operating costs.

Very limited metallurgical test work (three composite bottle rolls) by a previous explorer indicated poor gold recovery, and the project had been subsequently incorrectly interpreted to be refractory.

Explaurum's comprehensive test work program has clearly established the mineralisation is predominantly free milling, and identified that three styles of gold 'ore' exist: free gold, sulphide hosted gold and löllingite hosted gold. Relative proportions of each 'ore' type are variable throughout the resource area. The program has shown that the gold bearing mineral causing low recoveries in some samples is löllingite (FeAs_2), which the test work has shown can be recovered to a concentrate and treated to recover the gold. This has been a significant and positive step in the understanding of the metallurgy of Tampia gold mineralisation.

Estimated recoveries for each 'ore' type are:

- a. Oxide gold mineralisation – 95%
- b. Fresh sulphide gold mineralisation – 92% to 94%
- c. Fresh non-sulphide and non-arsenic associated gold mineralisation – unknown (test work in progress) but suggests free milling with recoveries similar to oxide gold mineralisation.
- d. Fresh non-sulphide arsenic associated (löllingite) gold mineralisation – 81% (initial estimate) to be confirmed with test work.

Oxide gold, fresh sulphide gold and fresh non-sulphide and non-arsenic associated gold mineralisation (a, b, c above) are estimated to account for up to 90% of the Tampia resource.

Previous metallurgical test work undertaken by the Company provided a target estimate for the metallurgical recovery of gold from Tampia as 85% to 90%. An average gold recovery of 85% was used in the Scoping Study (ASX announcement 08/09/2016). Following the current program the target estimate for metallurgical recovery of gold from Tampia is 92% - 95%.

Gold mineralisation at Tampia is now understood to occur as free gold, sulphide (predominantly arsenopyrite FeAsS) gold, and löllingite (FeAs_2) gold, an association while not common, is not unusual in high grade metamorphic terranes like Tampia. While a full understanding of the geometallurgy of the Tampia gold deposit will not be available until after the resource drilling program is completed in June 2017, it is already apparent that there is considerable variability in the proportion of each 'ore' type throughout. Early drilling was focussed on the northern mineralised zone (now termed Wanjalonar gold zone) where gold mineralisation occurs at surface. Metallurgical test work to date has focussed on this mineralisation, which is predominantly fresh and sulphide rich, whereas some recently discovered mineralisation in the southern portion of the resource area (Leicester gold zone) is low in both sulphides and arsenic, and can be reasonably expected to have higher gold recoveries based on relevant cyanidation test work (this test work has commenced).

The approximate proportions for the different gold associations within the Tampia resource area (subject to geometallurgical modelling on completion of the resource drilling program) are estimated as follows:

- Oxide – 5% to 15%
- Sulphide associated – 60% to 70%
- Fresh (no As or S) – 10% to 20%
- Löllingite associated – 5% to 15%

Preliminary bottle roll test work

Bottle roll test work (approximately 200 samples) has been undertaken by Explaurum on all mineralised drill intercepts since 2014 (ASX announcements 21/09/2015, 30/03/2016 and 31/08/2016). This work was undertaken on predominantly fresh samples from the northern part of the Tampia resource (Wanjalonar gold zone). Approximately 82% of all samples returned an 89% recovery, and 18% had a 50% recovery. A strong negative correlation between gold recovery and arsenic concentration was observed. This relationship was tested by the extensive follow up flotation test work.

Flotation and gravity test work

Bulk flotation test work was undertaken on the fresh gold mineralisation from the Wanjalonar Gold Zone. Two master composite samples were prepared using an algorithm which assumed two gold 'ore' types; a low arsenic/high gold ratio sample and a high arsenic/low gold ratio sample. Both bulk composites underwent flotation at a P_{80} 75 μ m, followed by ultrafine grinding and intensive cyanide leach. The test work was very successful (ASX announcement 30/03/2016) with near complete recovery of sulphides (97% to 99%) and gold recoveries of 79.3% and 62.5% from the low arsenic and high arsenic float concentrate respectively. Following ultrafine grinding and intensive leaching of the float concentrate, overall gold recoveries of 94.4% and 91.6% respectively were achieved. This work clearly established that gold associated with sulphides is free milling (not refractory) but sensitive to grind size.

Attention then turned to the flotation tails which exhibited 21.7% and 40.6% gold losses for the low arsenic and high arsenic composites respectively. Mineralogical analysis was able to identify the non-sulphide, high arsenic mineral hosting the gold in the flotation tailings as löllingite ($FeAs_2$).

Subsequent test work on the high arsenic composite using gravity separation followed by flotation test work was able to optimise the flotation performance through a change in the reagent regime. Normally löllingite is not amenable to standard flotation practice. However, by modifying the reagents used, the löllingite can readily behave as if it were a sulphide mineral. As a result, gold recovery from the high arsenic composite to the flotation concentrate increased from 62.5% to 91.6%.

The recovery of gold from the löllingite rich concentrate will be a matter for the feasibility study to explore and finalise.

		High Arsenic Composite		
		Phase 1	Updated	Improvement
Gravity Recovery	Staged Au %	12.6	39.6	27.0
Flotation (without gravity pre-concentration)				
Sulphide Flotation (Stage 1)	Staged Au %	62.5	83.8	21.3
Non-Sulphide Gold Bearing Flotation (Stage 2)	Staged Au %	n/a	7.8	7.8
Overall Flotation Recovery (Stage 1 & Stage 2)	Au %	62.5	91.6	29.1

Oxide composite

In parallel to the gravity and flotation test work, a composite representing the known oxide gold resource was subject to gravity and cyanidation test work at three grind sizes. Overall recoveries of up to 95.2% were observed via cyanidation alone at low cyanide and lime consumption rates.

Parameter	Unit	Grind Size (P ₈₀ µm)		
		170	125	75
Feed Grade (calc/assayed)	Au g/t	1.02/1.02	1.01/1.02	1.04/1.02
Gravity	%	8.96%		
Tails Grade	Au g/t	0.10	0.07	0.05
CIL (no gravity pre-concentration)	%	90.2	93.5	95.2

Next Steps

Additional definitive test work will be undertaken as part of the feasibility study to finalise the optimum process that delivers maximum gold recovery at the most effective capital and operating costs. This work is standard procedure for process plant design and will focus on optimising:

- intensive leaching of the gravity concentrate
- flotation and bulk testing of the gravity tailing
- intensive leaching of the bulk sulphide concentrate
- gold extraction from the löllingite rich flotation concentrate
- CIL test on the bulk float tail

The nature of the Tampia mineralisation is now well understood. When the resource drilling program is completed in June 2017, the variability of the mineralisation throughout the resource and the relative proportions of the three types of gold occurrence will be more fully understood. An average recovery for the overall deposit will be estimated at that time.

For further information, contact:

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