

# ASX Announcement 03 August 2018

## POSITIVE METALLURGY FOR TRIDENT GOLD DEPOSIT

#### **HIGHLIGHTS**

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- Metallurgical leach recovery increased up to 90% gold extraction for Trident gold deposit
- Low Bond (Ball mill) Work Index indicates milling costs for Trident ore will be relatively low
- Processing plant Scoping Study nearing completion with preliminary plant site selected

Gold exploration and development company Vango Mining Limited (ASX:VAN) announces very positive metallurgical results for the high-grade Trident gold deposit at the Company's 100%-owned Plutonic Dome Gold Project ("Plutonic Dome" or "the Project") in the Mid-West region of Western Australia.

The successful metallurgical program demonstrates the potential for ore from the Trident deposit to deliver relatively low milling costs for the Company's proposed stand-alone processing plant at the Plutonic Dome Project.

The positive metallurgical results included gold extraction recovery of up to 90% for the Trident gold deposit, which is an increase of 5% relative to previous test-work on Trident that indicated 85% recovery. The new test-work also produced a relatively low Bond, Ball-mill, Work Index of 13, indicating potential for relatively low milling costs.

The metallurgical test-work was carried out to provide inputs to the processing plant Scoping Study being conducted by, WA based, Como Engineers.

#### **About the Metallurgical Test-work Program:**

The test work was focused on two objectives:

- i) To increase cyanide-leach recovery from the 85% indicated by previous test-work, and,
- ii) to provide a Bond, Ball-mill, Work Index (BBWi) to allow determination of milling costs.

A >50kg composite sample was generated from previous diamond drill-core at Trident, with a calculated head grade of 9.1 g/t gold (Au). The grade of the composite was re-calculated after the testwork to be 8.9 g/t Au, showing excellent agreement with diamond drill gold assays at Trident.

Cyanide leach tests were conducted at two grind sizes,  $106\mu m$ , which is "standard" for most gold deposits in the region, and a finer grind of  $75\mu m$ . The two tests at the different grind sizes both show high gold recovery of over 89% after 24 hours to 90% after 48 hours. The leach rate was rapid at the tested cyanide level of 1,000ppm, which is a higher level than previous testing (see Chart 1 below) - however cyanide consumption was only moderate at less than 1kg/t. There was no appreciable difference in the final gold recovery between the grind size of 75um and 106um.

Diagnostic leaching indicates that there is up to another 1.7% of gold available through more intensive leaching, with 5% of gold locked up in sulphides.

The BBWi for the Trident sample is a relatively low 13.3kWhr/t, due to the "soft" nature of the Trident ultramafic host rock. This result will have a positive impact on relative milling costs for the Trident ore.

Previous test-work on the K2 deposit indicates slightly higher leach recoveries of >91% gold, but a higher BBWi of >14.

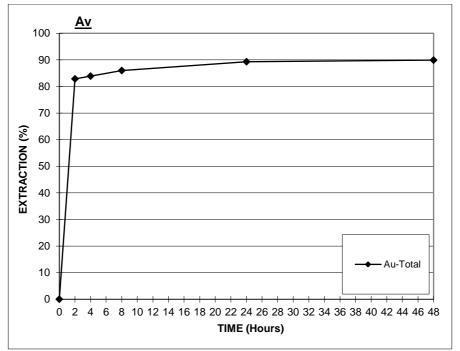


Chart 1: Plot of cyanide-leach gold extraction vs time, Trident gold sample (8.9 g/t Au)

### **Scoping Study Update**

The Scoping Study for the proposed processing plant at the Plutonic Dome Project is nearing completion with a possible processing plant site selected that is appropriately located relative to the priority drilling and development targets, including the Trident and Cinnamon gold deposits (see Figure 1 below).

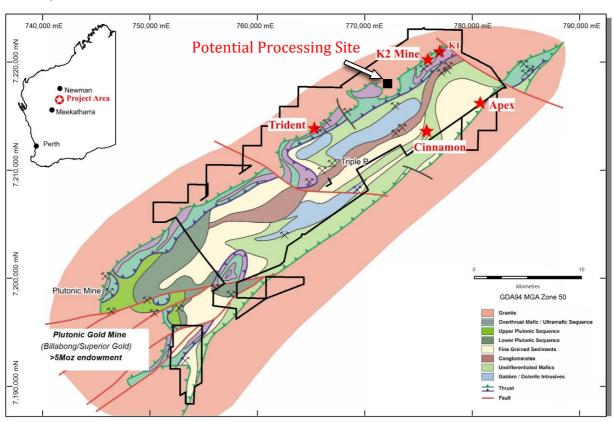


Figure 1: Plutonic Dome Gold Project location and geology map with Trident and K2 location



#### **ENDS**

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#### **Competent Persons Statement**

The information in this report that relates to exploration results has been compiled by Mr David Jenkins, a full time employee of Terra Search Pty Ltd, geological consultants employed by Vango Mining Ltd. Mr Jenkins is a Member of the Australian Institute of Geoscientists and has sufficient experience in the style of mineralisation and type of deposit under consideration and the activity which they are undertaking to qualify as Competent Persons as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results ("JORC Code"). Mr Jenkins consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

The information in this release that relates to metallurgical test work is based on information compiled and / or reviewed by Mr Robert Gobert, who is a Fellow of The Australasian Institute of Mining and Metallurgy. Mr Gobert is a full-time employee of Como Engineers. Mr Gobert consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

#### **Forward Looking Statements**

Certain statements contained in this announcement, including information as to the future financial or operating performance of the Company and its projects, may be forward-looking statements that:

- may include, among other things, statements regarding targets, estimates and assumptions in respect of mineral reserves and mineral resources and anticipated grades and recovery rates, production and prices, recovery costs and results, capital expenditures, and are or may be based on assumptions and estimates related to future technical, economic, market, political, social and other conditions;
- are necessarily based upon a number of estimates and assumptions that, while considered reasonable by the Company, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies; and,
- involve known and unknown risks and uncertainties that could cause actual events or results to differ materially from estimated or anticipated events or results reflected in such forward-looking statements.

# THE JORC CODE - TABLE 1 CHECK LIST OF ASSESSMENT AND REPORTING CRITERIA TRIDENT METALLURGY

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Criteria	Explanation
	Sampling Techniques and Data
(criteria in this group apply to all succeeding groups)	
Sampling techniques.	Nature and quality of sampling (e.g. cut channels, random chips etc.) and measures taken to ensure sample representivity.
	Samples were taken from Half HQ3 core from holes VTRRCD0001 and VTRDD0003
Drilling techniques.	• Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).
	Samples sourced from Diamond drilling used HQ3 diameter core.
Drill sample recovery.	<ul> <li>Whether core and chip sample recoveries have been properly recorded and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>
	100% recovery was recorded from the sampled intercepts
Logging.	<ul> <li>Whether core and chip samples have been logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel etc.) photography.</li> </ul>
	All holes were field logged by company geologists using standard legends. Lithology and weathering information was supplied.
Sub-sampling techniques and sample preparation.	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split etc. and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected.</li> <li>Whether sample sizes are appropriate to the grainsize of the material being sampled.</li> </ul>
	Diamond – Core sampled was halved using a diamond saw and sampled at 1m intervals, or to geological contacts.



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Quality of assay data and laboratory tests.	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> <li>Assays were taken on the composite sample and residue using standard analytical methods and are considered to be of suitable accuracy for these purposes.</li> </ul>
Verification of sampling and assaying.	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Not applicable</li> </ul>
Location of data points.	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Quality and adequacy of topographic control.</li> <li>Holes were surveyed using DGPS</li> </ul>
Data spacing and distribution.	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>
Orientation of data in relation to geological structure.	<ul> <li>This sample was taken from 2 holes within a high grade portion of the Trident deposit.</li> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>
	The orientation of the drilling is approximately perpendicular to the strike and dip of the mineralisation and is unlikely to have introduced any significant sampling bias.
Audits or reviews.	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> <li>Not applicable</li> </ul>