

# VANGO MINING LTD (VAN)

**INITIATION: A high-grade gold explorer in WA looking for potential repeats of Plutonic**

**Analyst** Stuart McIntyre  
**Email** steuartmcintyre@boeq.com.au  
**Phone** +61 2 8072 2909  
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We say

Price

Target

Strategic Target

# SPEC BUY

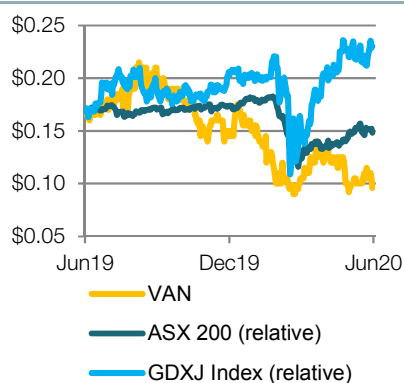
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Vango is an ASX-listed high-grade gold explorer in WA which owns 100% of the Marymia Gold Project. Marymia already has 1moz @ 3g/t and includes over 300km<sup>2</sup> of pre-Native Title Mining Leases along strike from the 5.5moz Plutonic gold mine, most of which has never been drill tested below ~100m. The company is hoping to double its high-grade gold endowment to >1moz @ ~8g/t, while also looking for repeats of Plutonic. We initiate coverage with a Spec Buy rating and 25c Target.

#### SHARE PRICE CHART



Source: IRESS, Blue Ocean Equities

#### RECENT HIGH-GRADE HITS

- 10m @ 22.6 g/t Au from 50m
- 9m @ 15.0 g/t from 28m
- 9m @ 12.7 g/t from 54m
- 13m @ 10.0 g/t from 60m
- 4m @ 50.6 g/t Au from 81m
- 7m @ 15.7 g/t from 144m
- 11m @ 20.0 g/t from 161m
- 11.5m @ 11.5 g/t from 159m
- 11m @ 36.2 g/t from 213m
- 7m @ 11.9 g/t Au from 54m
- 3m @ 19.7 g/t Au from 126m
- 15m @ 6.5 g/t Au from 118m
- 7m @ 103.6 g/t Au from 48m

Source: Company, Blue Ocean Equities

#### COMPANY DATA & RATIOS

Enterprise value	\$83m
Diluted market cap*	\$97m
Diluted shares*	994m
Free float	100%
12-month price range	\$0.08-0.23
GICS sector	Gold
Board/Management	~30%. *148m options on issue, but 132m w strike @ 25c+

#### IMPLIED RETURN

Implied potential return	155%
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## WELL CAPITALISED, DRILLING TO COMMENCE SHORTLY

Vango recently raised A\$17.4m at 8c comprising a A\$15m placement to institutions and HNWs and conversion of \$2.4m of convertible debt. Tranche 2 is expected to close in early August 2020 which should leave the company with ~A\$14m in cash and A\$0.5m in debt – well capitalised to complete its significant exploration program. Drilling is expected to commence in early July.

## A SIGNIFICANT 36,000m INITIATE WITH SPEC BUY, 25C TARGET

Over the next 9-12 months, Vango is hoping to double its high-grade gold endowment to 1moz @ ~8g/t by following up its recent high-grade drilling results, which include **10m @ 22.6g/t from 50m** and **7m @ 104g/t from 48m**. In parallel, the company also plans to test several large-scale targets, looking for potential repeats of the 5.5moz Plutonic deposit.

We initiate on Vango with a Spec Buy rating and 25c Price Target, an implied potential return of ~155%. Our Price Target is based on EV/oz of comparable peers in combination with a qualitative assessment of the markets reaction if the company can replicate its recent high-grade drilling results. Our 40c Strategic Target assumes Vango's larger-scale target exploration program successfully makes a discovery.

## **CONTENTS**

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<b>INVESTMENT SNAPSHOT</b>	<b>3</b>
Macro: A Perfect Storm for Gold	3
Stock Specific: Why Vango?	3
<b>COMPANY OVERVIEW</b>	<b>4</b>
<b>A BRIEF HISTORY OF VANGO</b>	<b>5</b>
<b>THE MARYMIA GOLD PROJECT</b>	<b>6</b>
A Brief History of Marymia	6
1Moz in resource, an excellent starting point	7
The Norseman-Marymia Gold Belt?	9
3 High-Grade Corridors: Looking for Repeats of Plutonic	10
The Marymia Predictive Exploration Model	11
3 High-Grade Corridors: Promising Drill Hits to Date	12
Exploration Programme	15
Excellent Infrastructure in place	15
Initial Metallurgy testwork looks good	16
<b>THE NED'S CREEK JV</b>	<b>16</b>
<b>INVESTMENT PROPOSITION</b>	<b>18</b>
Valuation	18
Price Target & Rating	19
Strategic Target	19
Key Risks	20
Model Summary: Financials & Valuation	21
<b>BOARD &amp; MANAGEMENT</b>	<b>22</b>

## INVESTMENT SNAPSHOT

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### MACRO: A PERFECT STORM FOR GOLD

In our view we are in a gold bull market which is likely to continue for several years, driven by:

- Low real interest rates which are likely to persist for the foreseeable future. History shows the gold price typically performs best during periods of low or negative real rates. The Fed recently signalled that it is unlikely to raise rates until 2023 at the earliest.
- The other key driver of gold is money printing which reduces the purchasing power of underlying currencies. The recent unprecedented levels of stimulus/QE (money printing) during the Coronavirus pandemic is very positive for the outlook for gold.
- With Coronavirus cases continuing to climb, in our view ongoing central bank support via more stimulus/QE appears highly likely which is likely to drive higher gold prices.
- In summary, the combination low real rates, unprecedented money printing and elevated global uncertainty caused by the Coronavirus represent a perfect storm for gold.

### STOCK SPECIFIC: WHY VANGO?

Vango Mining Ltd (ASX:VAN) is a ~A\$100m market cap gold explorer/developer focused on its flagship 1moz Marymia Gold Project in WA, which sits along strike from the 5.5moz Plutonic gold mine. Vango has ~A\$15m in cash and essentially no debt and is characterised by:

- **High-grade drilling results:** Over the last 18-months, Vango has reported a plethora of high-grade drilling results including **10m @ 22.6g/t from 50m**, **7m @ 104g/t from 48m** and **7m @ 11.9g/t from 54m**. Gold explorers reporting high-grade drilling results are performing strongly at present and if Vango can repeat its recent success we believe the stock should perform well.
- **Hoping to double the high-grade resource:** Vango recently upgraded its resource to 1moz @ 3g/t including a high-grade underground (UG) resource of 541koz @ 7.9g/t. VAN is hoping to double its high-grade UG endowment to 1moz @ ~8g/t over the next 9-12 months via an extensional drilling program following up its recent high-grade hits.
- **Looking for repeats of Plutonic:** Vango's tenement package sits along strike from the 5.5moz Plutonic gold mine, remembered by many as a particularly lucrative mine at its peak. Over the past few years, Vango has developed an understanding of the structural controls on high-grade gold, and now believe its ground could potentially host repeats of the Plutonic gold deposit setting. The current exploration program plans to test several of these targets where success could *materially* change the outlook for the company, as well as perceptions about the potential gold endowment of this belt.
- **Catalyst Rich:** Vango is on track to deliver a host of drilling results over the next ~9-12 months through its planned ~36,000m drilling programme.
- **Pre-Native Title Mining Leases:** Vango's 1moz resource base predominately sits on pre-Native Title Mining Leases, representing a material advantage over many peers.
- **A team with the right experience:** Vango's MD, Andrew Stocks is an ex Barrick mining engineer with >30 years experience and was the former Mine Manager of Plutonic and Lawlers. Vango's Chief Geologist, Jon Dugdale also has >30 years experience and is ex Western Mining where he was involved in the delineation of key deposits at the St Ives and Agnew gold projects, and MPI Mines where he was directly involved in the discovery of the >1Moz Golden Gift deposit at Stawell gold mine in Victoria.

## COMPANY OVERVIEW

Vango Mining Ltd (ASX:VAN) is a ~A\$100m mcap gold explorer/developer focused on its flagship 1moz Marymia Gold Project in WA, which sits along strike from the 5.5moz Plutonic gold mine.

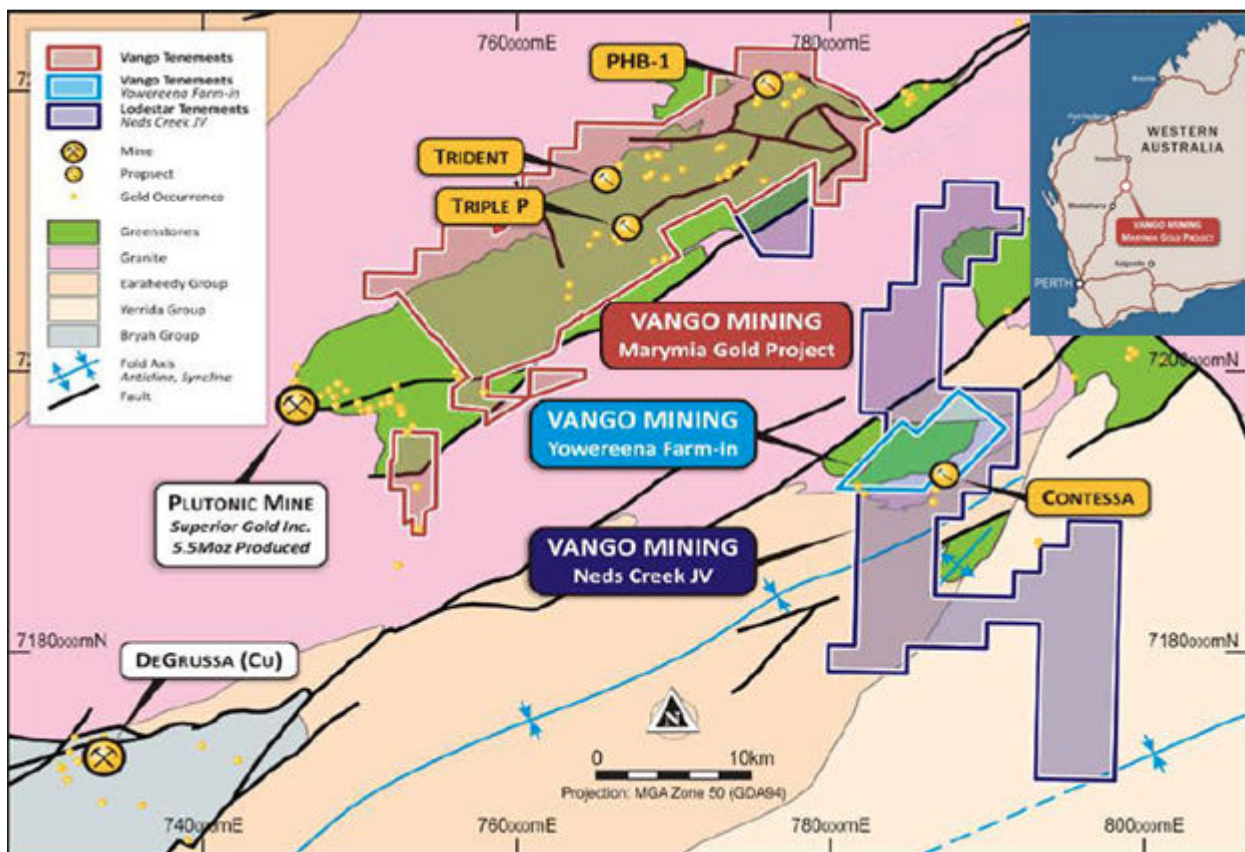
The company recently reported a host of high-grade drilling results, including **10m @ 22.6g/t from 50m, 7m @ 104g/t from 48m and 7m @ 11.9g/t from 54m** to name a few.

In mid-June, Vango raised A\$15m in new equity at 8c/share for a drilling programme designed to follow up its recent high-grade results and grow its high-grade gold resource.

In parallel, the company also plans to drill-test several targets for potential repeats of Plutonic, which, if successful, could *materially* change the outlook for the company as well as perceptions about the potential gold endowment of this belt.

The company also has a JV with Lodestar Minerals (ASX:LSR) on Ned's Creek (another gold prospect), where Vango can potentially earn up to 80%.

### Vango's tenement package in Western Australia



Source: Company

Vango's 100%-owned 1moz Marymia Gold Project (outlined in red above) covers ~80% of the highly prospective greenstone belt in central Western Australia. It predominately comprises pre Native Title granted Mining Leases and covering more than 400km<sup>2</sup>.

The Marymia Gold Project comprises 56 leases in total, 49 of which are approved Mining Leases with the balance being granted Exploration Licences, other prospecting licences and applications.

## A BRIEF HISTORY OF VANGO

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Vango Mining Ltd (VAN) was previously known as Ord River Resources (ORD) and was listed on the ASX in March 2005 as an early stage gold, copper and nickel explorer in Australia.

In Sept 2006, Ord River took a 49% stake in the SARCO JV to develop a bauxite project in southern Laos with 51% held by a subsidiary of China Nonferrous Metal (NFC). The company pursued this development project for several years however all expenditure has now ceased.

In Nov 2013, Ord River signed a farm-in agreement with Dampier Gold (DAU) to acquire a 75% stake in the Plutonic Dome Gold Project (now called the Marymia Gold Project) via a \$6m spend over 2 years. In Apr 2014, Ord River bid for Dampier in a scrip/cash takeover, but Ord River withdrew the bid after Dampier announced an acquisition during the takeover offer.

In Nov 2014, Ord River Resources (ORD) changed its name to Vango Mining Ltd (VAN).

In Jan 2016, Vango moved to 100% ownership of the Plutonic Dome Gold Project (now Marymia) by acquiring the remaining 40% for A\$2.2m in cash to Dampier with contingent payments to DAU totalling A\$4m once the tenements produce 300koz plus a 4% royalty capped at A\$2m.

In Sept 2018, Vango made a second takeover bid for Dampier in a scrip deal representing an 87% premium to last close, with 12.63% of Dampier in pre-bid acceptances. The offer closed on 4 Jan 2019 with Vango holding 38.8m shares in Dampier (22% at the time, since diluted to 14.5%).

### An RC rig drilling at Marymia

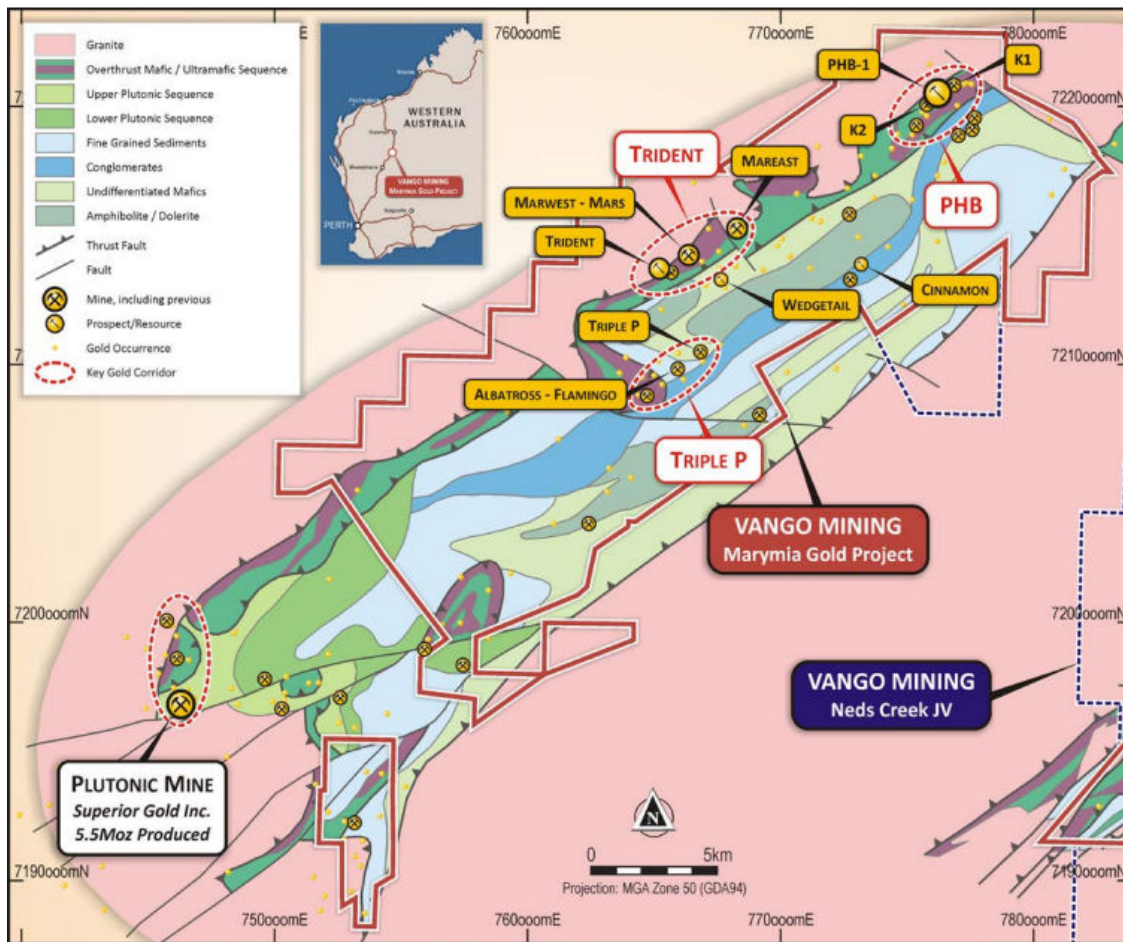


Source: Company, March 2020

## THE MARYMIA GOLD PROJECT

The 100%-owned Marymia Gold Project (previously known as Plutonic Dome) is located ~220km northeast of Meekatharra in WA. The project is located along strike from the Plutonic Gold Mine which has produced >5.5moz of gold and is now owned by Superior Gold (TSXV:SGI).

### The Marymia Gold Project



Source: Company

### A BRIEF HISTORY OF MARYMIA

The Marymia Gold Project (previously known as Plutonic Dome) was previously owned by Resolute Mining (RSG) which mined ~580koz from 1992-2001 almost entirely from open pits.

In 1998, Homestake Mining acquired the project from Resolute and in 2001 Barrick Gold merged with Homestake Mining. In August 2010, the project was spun out of Barrick into an ASX-listed exploration company called Dampier Gold (DAU).

In Nov 2013, Vango (then called Ord River Resources) signed a farm-in agreement with Dampier for Marymia and in Jan 2016, VAN moved to 100% by acquiring the remaining 40% for A\$2.2m in cash and contingent payments totalling \$6m via production milestones and a capped royalty.

Prior to Vango's recent drilling, very little drilling had been undertaken below 100m depth and as a result most of Vango's package remains almost entirely unexplored below 100m, except at Trident and K2 which has only been drilled to a depth of ~200m.

## 1MOZ IN RESOURCE, AN EXCELLENT STARTING POINT

On 20 May 2020, Vango released a detailed updated resource report (141 pages) for the Marymia Gold Project. A summary of the upgraded resource is included below. Importantly around two-thirds of the resource sits in the Indicated category.

MARYMIA GOLD PROJECT JORC 2012 MINERAL RESOURCE ESTIMATE MAY 2020										
Deposit	Cut-off	Indicated			Inferred			Total		
Mineral Resource	Au g/t	K t	g/t	K oz	K t	g/t	Oz	K t	g/t	K oz
Open Pits	0.5	5,300	1.8	311	2,950	1.6	150	8,250	1.7	461
Underground	3.0	1,142	9.6	352	992	5.9	189	2,134	7.9	541
<b>Total</b>		<b>6,442</b>	<b>3.2</b>	<b>663</b>	<b>3,942</b>	<b>2.7</b>	<b>339</b>	<b>10,384</b>	<b>3.0</b>	<b>1,002</b>

Source: Vango Resource Update May 2020

The underground (UG), high-grade, component of the resource is predominantly at 2 key deposits – the Trident underground (410koz @ 8g/t) and the K2 underground (107koz @ 8.9g/t). We have included a cross section of Trident on the next page.

The open pit (OP) component of the resource comprises a series of modest sized pits, many of which are extensions or cut-backs of historical pits. [Importantly, most deposits have not been significantly drill tested below ~100m. The gold mineralisation is structurally controlled and detailed work by Vango over the last few years has ‘unlocked’ the key controls on high-grade mineralisation. In addition, Vango has recently reported relatively shallow, high-grade, good width intercepts under/near several of these open pit resources \(see pages 12-14\).](#)

Based on its structural geological model for high-grade gold, Vango has identified 3 key, Plutonic scale corridors where it plans to chase the high-grade gold mineralisation below 100m.

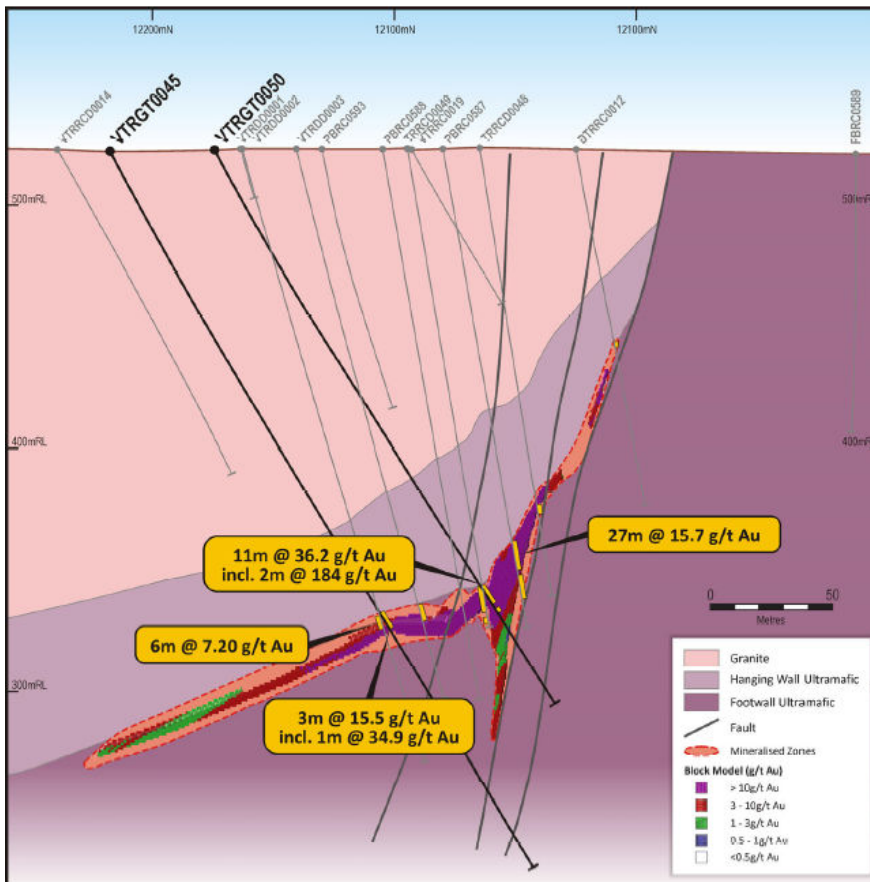
### Mineral Resources for the Marymia Gold Project

Deposit	Cut-off	Indicated			Inferred			Total		
Mineral Resource - Open Pit (OP):	Au g/t	K Tonnes	g/t Au	K Oz	K Tonnes	g/t Au	K Oz	K Tonnes	g/t Au	K Oz
Trident West OP	0.5	253	1.1	9				253	1.1	9
Marwest & Mars OP	0.5	688	2.0	45				688	2.0	45
Mareast OP	0.5	486	1.9	30				486	1.9	30
EastMareast OP	0.5	237	1.1	8				237	1.1	8
Wedgetail OP	0.5	185	1.7	10				185	1.7	10
PHB-1 (K3) OP	0.5	604	2.0	39	238	1.4	11	841	1.9	50
K1 OP	0.5	743	1.8	42	837	1.7	47	1,580	1.8	89
Triple-P & Triple-P 5th OP	0.5	633	2.1	42	486	1.4	21	1,120	1.8	63
Albatross & Flamingo OP	0.5				853	1.4	38	853	1.4	38
Cinnamon OP	0.5	1,472	1.8	86	536	1.9	32	2,008	1.8	119
<b>Total Open Pits</b>		<b>5,300</b>	<b>1.8</b>	<b>311</b>	<b>2,950</b>	<b>1.6</b>	<b>150</b>	<b>8,250</b>	<b>1.7</b>	<b>461</b>
Mineral Resource - Underground (UG):	Au g/t	K Tonnes	g/t Au	K Oz	K Tonnes	g/t Au	K Oz	K Tonnes	g/t Au	K Oz
Trident UG	3.0	945	9.4	285	645	6.0	125	1,590	8.0	410
K2 UG	3.0	197	10.6	67	177	7.0	40	374	8.9	107
Triple-P & Zone-B UG	3.0				170	4.3	24	170	4.3	24
<b>Total Underground</b>		<b>1,142</b>	<b>9.6</b>	<b>352</b>	<b>992</b>	<b>5.9</b>	<b>189</b>	<b>2,134</b>	<b>7.9</b>	<b>541</b>
<b>Total JORC 2012 Mineral Resource</b>		<b>6,442</b>	<b>3.2</b>	<b>663</b>	<b>3,942</b>	<b>2.7</b>	<b>339</b>	<b>10,384</b>	<b>3.0</b>	<b>1,002</b>

Source: Vango Resource Update May 2020

The largest single resource at Marymia is the Trident underground which comprises 410koz @ 8g/t, a cross section for this deposit is provided below.

**Cross Section of Trident Underground**



Source: Vango Resource Update for Trident April 2019

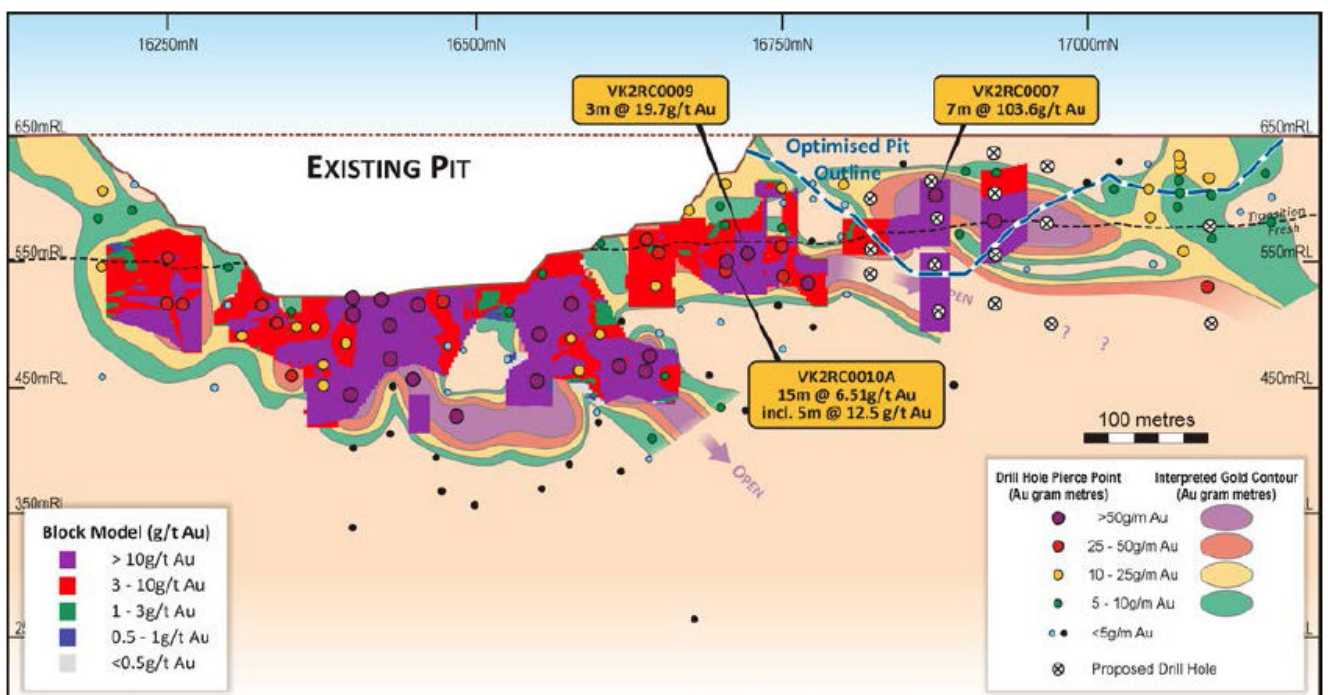
**Trident (Left)**

The Trident underground comprises 410koz @ 8g/t at a relatively shallow depth of ~200m.

**PHB-1 (Below)**

The picture below shows one of Vango's recent hits at PHB-1 of **7m @ 104g/t from 28m** announced on 23 March 2020. This hit is both significant in grade and width but also because it suggests a potentially different orientation of the high grade mineralisation which will be followed up in the current programme.

**Longitudinal Projection of K2 Main Lode**



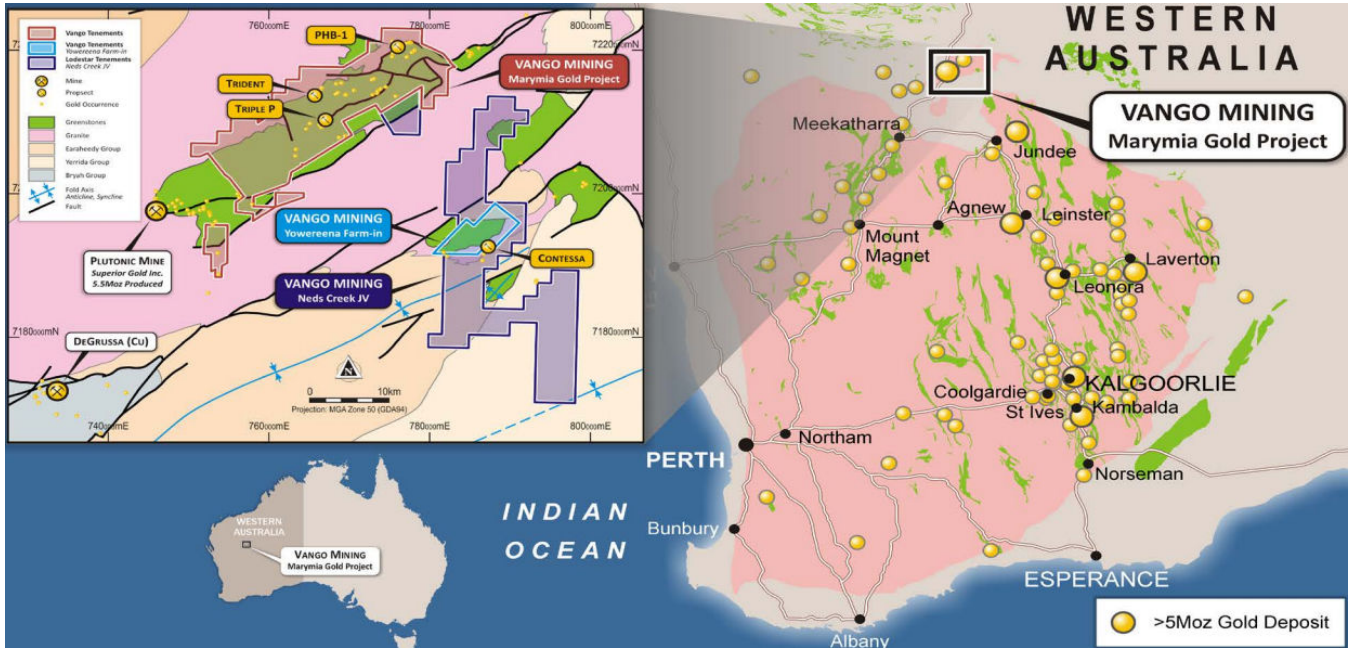
Source: Vango Resource Update May 2020



**THE NORSEMAN-MARYMIA GOLD BELT?**

Western Australia hosts one of the most prolific gold belts in the world and Vango’s Chief Geologist Jon Dugdale (see bio on p22) believes Vango’s 100%-owned Marymia Gold Project is the northern extension of a gold belt running all the way from Norseman (via Kalgoorlie) to Marymia.

Previous geological thinking suggested Marymia might be part of the Meekatharra gold belt, but according to Mr Dugdale, the geology at Marymia is much more analogous to the >5moz Agnew Gold Project (now owned by Gold Fields), where he worked during his time with Western Mining Corp.



Source: Company

Vango’s 100%-owned 1moz Marymia Gold Project (outlined in red below) covers ~80% of the highly prospective Marymia greenstone belt in central Western Australia. It predominately comprises pre-Native Title Mining Leases and covering more than 400km<sup>2</sup>.

The picture below provides a good overview of the topography at Marymia, which is typical of this region of Western Australia – very flat with light vegetation.

View over Trident looking north



Source: Company

### 3 HIGH-GRADE CORRIDORS: LOOKING FOR REPEATS OF PLUTONIC

Over the past few years, Vango has undertaken considerable work developing a structural geological model which suggests its ground could potentially host repeats of the >5.5moz Plutonic gold deposit.

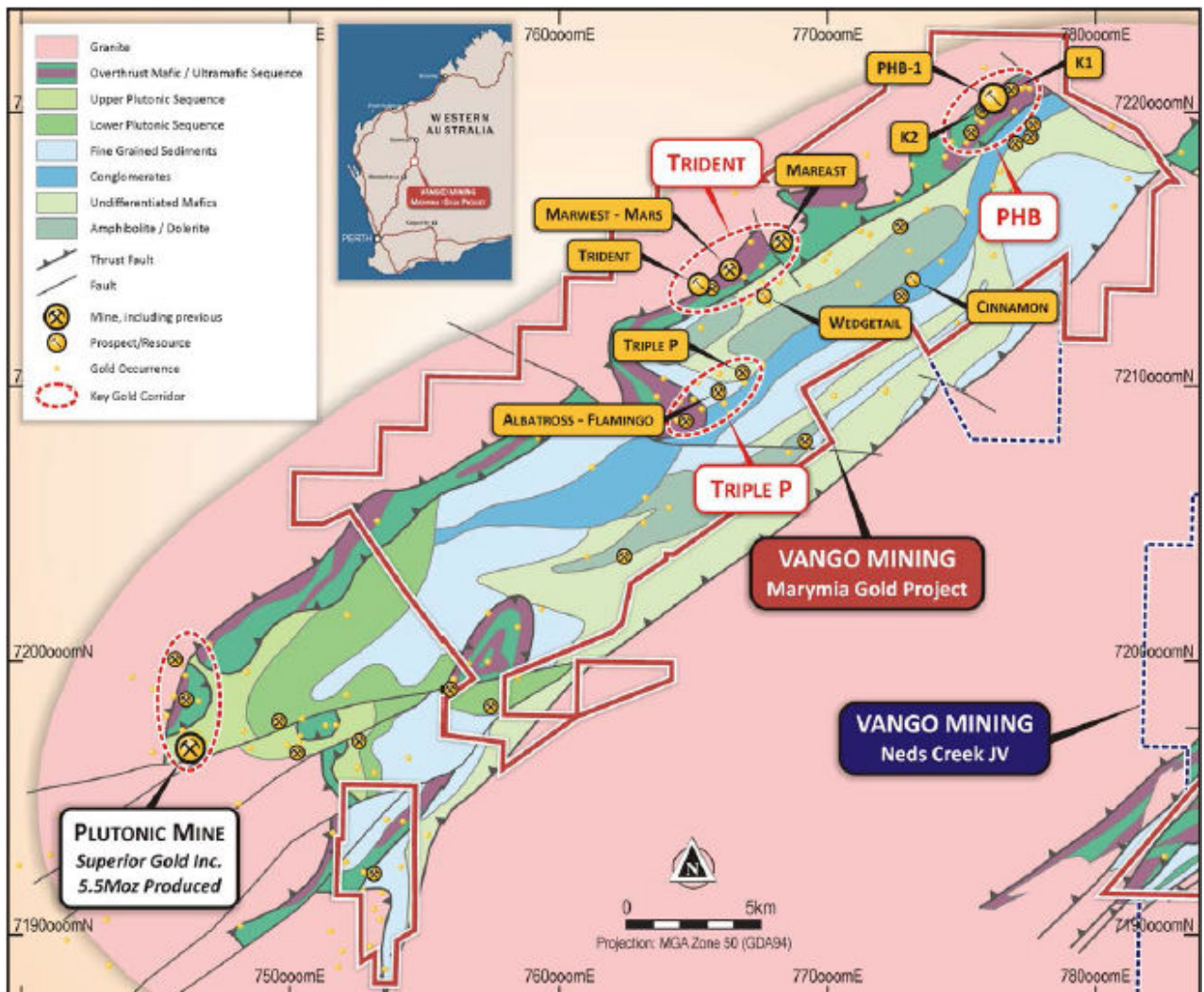
Vango's ground covers ~40km of northeast trending strike extensions of Plutonic geology. The picture below shows a plan view, where the green and purple sequence includes the Hangingwall Ultramafic and the Mine Mafic, which hosted the >5.5moz at Plutonic down to a depth of ~600m. **Importantly, Vango's ground is largely untested by drilling below 100m.**

Based on its drilling results and structural interpretation over the past ~2 years, Vango has identified 3 key high-grade gold corridors (circled in dotted red below) which it believes could potentially host repeats of the Plutonic structural/geological setting:

- 1) Trident Corridor
- 2) Triple-P Corridor
- 3) PHB Corridor

Some of the recent high-grade drilling intercepts from these 3 corridors are provided on the following pages.

#### Marymia Gold Project showing the 3 key high-grade gold corridors



Source: Company

**THE MARYMIA PREDICTIVE EXPLORATION MODEL**

Vango’s predictive structural/geological model for Marymia is based on detailed analysis and interpretation of structural geology and mineralisation controls on Vango’s ground, and comparing to published information on Plutonic. The picture below compares cross sections of the geology at Plutonic (owned by Superior Gold) and Trident (owned by Vango).

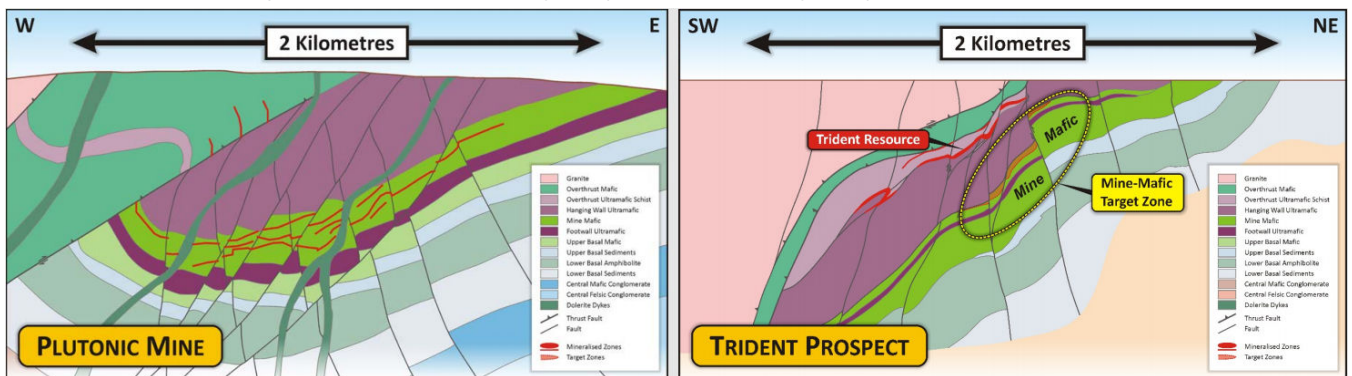
At Plutonic (LHS in picture below):

- The >5.5moz of gold (depicted by the red lines) sits entirely in the Mine Mafic (the bright green sequence) to a depth of ~600m.
- The gold mineralisation is controlled by a series of vertical “Feeder” structures/faults. Away from these vertical structures, the Mine Mafic is barren (i.e. in the cross section below the Mine Mafic at Plutonic is barren at surface).
- It is these vertical structures that have been used to define Vango’s 3 high-grade corridors.

At Trident (RHS in picture below):

- The Trident gold resource (410koz @ 8g/t), again depicted in red, sits above the hangingwall ultramafic unit (shown in purple) and has only been drilled to a depth of ~200m.
- Trident also has the same form of vertical “Feeder” structures present at Plutonic, and;
- The same Mine Mafic unit (bright green) that hosts Plutonic, sits below the Trident resource at a relatively shallow depth of ~250m and has never been drill tested. This same Mine Mafic stratigraphy remains largely untested along the 5km long Trident high-grade corridor.

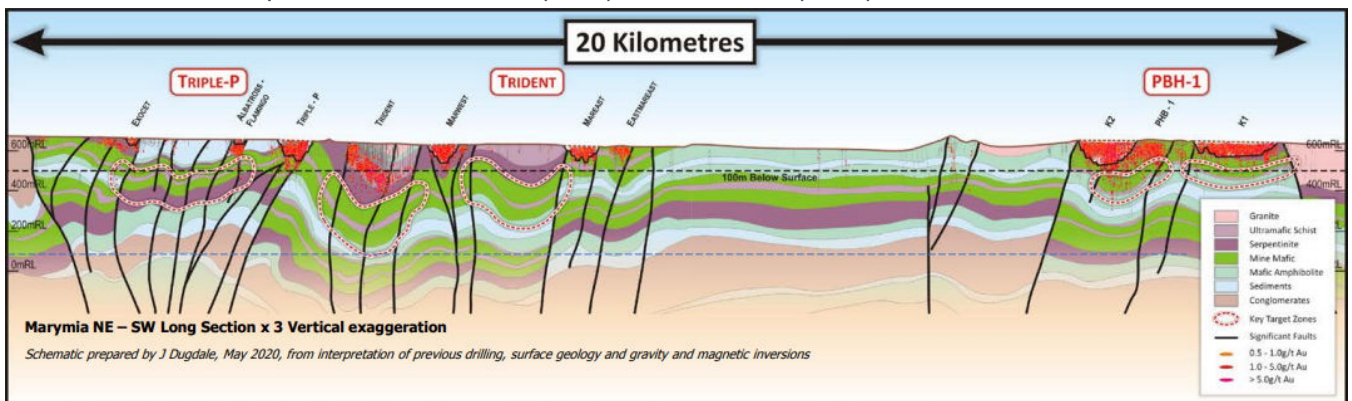
**Cross section comparison of Plutonic (LHS) and Trident (RHS)**



Source: Company

Zooming out, the picture below shows the same interpreted mine mafic sequence projected for Vango’s 20km of strike. Importantly, this picture highlights Vango’s ground is largely untested below ~100m, depicted by the first dotted line (except at Trident & K2, tested to ~200m).

**Cross section comparison of Plutonic (LHS) and Trident (RHS)**



Source: Company

### 3 HIGH-GRADE CORRIDORS: PROMISING DRILL HITS TO DATE

Vango’s most developed high-grade corridor is the Trident Corridor which extends over 5km and links the Trident, Marwest and Mareast deposits (as shown in the picture below).

Over the past ~2-3 years, Vango has improved its understanding of the structural geology and mineralisation controls on this gold belt and developed a predictive geological model, and so far the results are very encouraging as demonstrated by the quality of the drill results below.

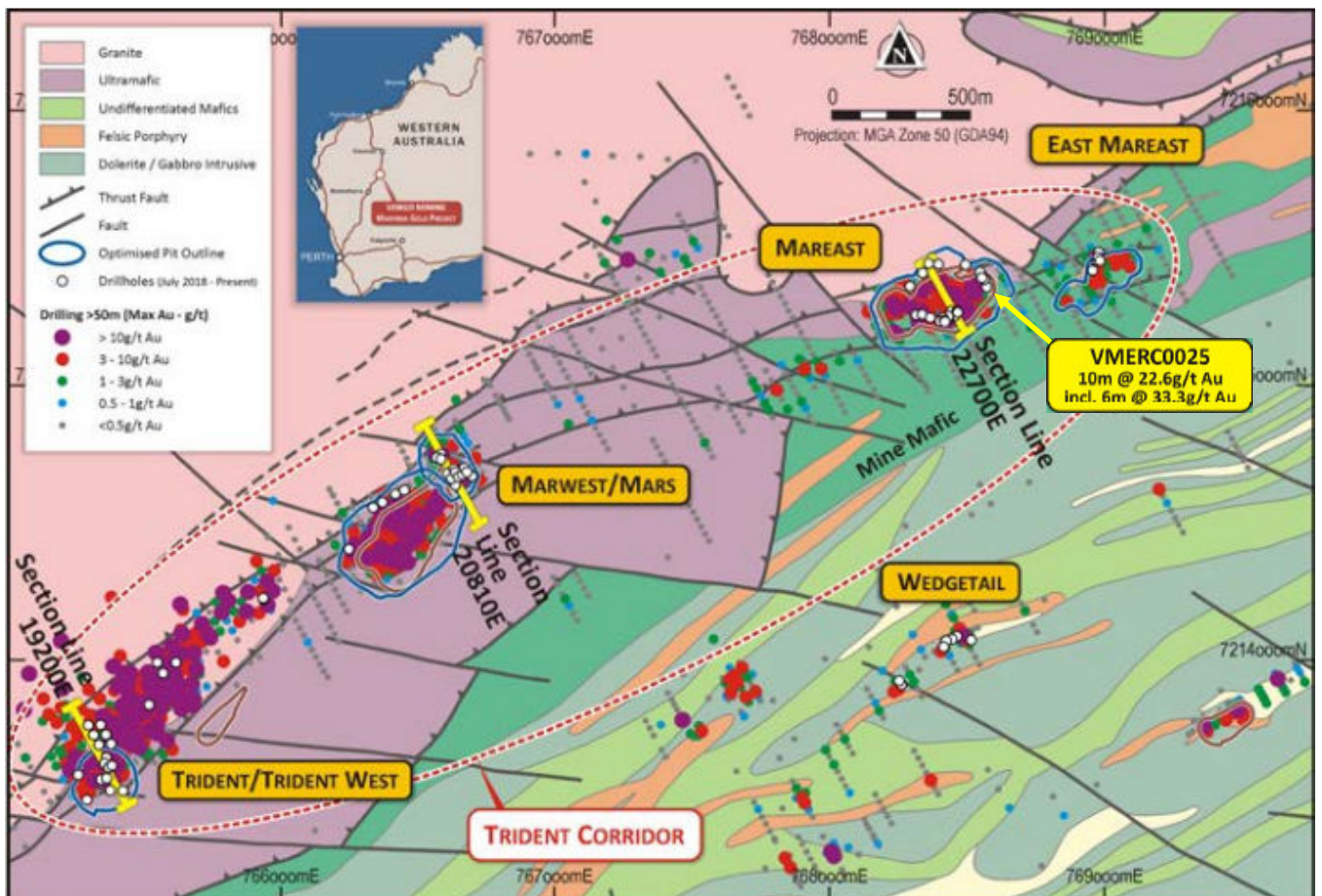
Again, it is important to highlight the high-grade tenor of the hits below, and the fact that most of this corridor has not been drill tested below 100m (except at Trident & K2, tested to ~200m).

On 30 Jan 2020, the company reported a hit of 10m @ 22.6g/t at Mareast from only 50m depth – a hit which will be followed up in the current drill programme.

#### 1. Trident Corridor

Trident	Marwest-Mars	Mareast
<ul style="list-style-type: none"> <li>7.2m @ 17.1 g/t from 194m</li> <li><b>11m @ 20.0 g/t from 161m</b></li> <li>6m @ 15.4 g/t from 198m</li> <li>7m @ 18.2 g/t from 218m</li> <li><b>11.5m @ 11.5 g/t from 159m</b></li> <li><b>11m @ 36.2 g/t from 213m</b></li> </ul>	<ul style="list-style-type: none"> <li>6m @ 24.2 g/t from 157m</li> <li>3m @ 22.0 g/t from 129m</li> <li>8m @ 18.0 g/t from 16m</li> <li><b>9m @ 12.7 g/t from 54m</b></li> <li><b>13m @ 10.0 g/t from 60m</b></li> <li>5m @ 18.8 g/t from 142m</li> </ul>	<ul style="list-style-type: none"> <li><b>9m @ 15.0 g/t from 28m</b></li> <li>2m @ 18.6 g/t from 77m</li> <li>2m @ 26.0 g/t from 28m</li> <li>4m @ 11.0 g/t Au from 81m</li> <li><b>10m @ 22.6 g/t Au from 50m</b></li> </ul>

Source: Company



Source: Company

The company's Triple-P high-grade Corridor extends for over 3km and is less developed than Trident, however the high-grade tenor of recent intercepts has been no less impressive.

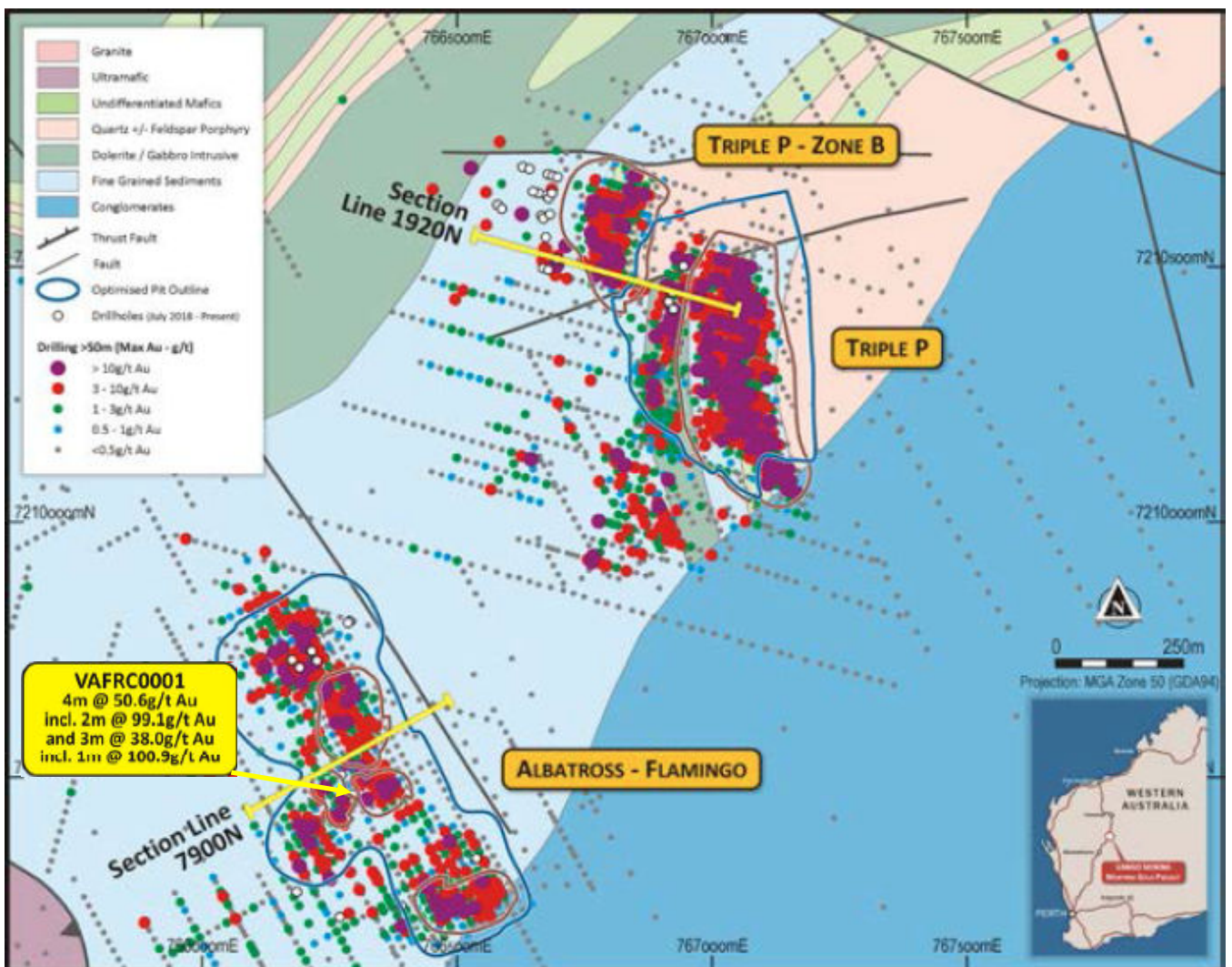
The shallow plunging high-grade shoots intersected at Triple-P, Zone-B and Flamingo are all open at depth with near term resource potential.

In January 2020, Vango reported a hit of 4m @ 50.6g/t from 81m – this hit which will be followed up with extensional drilling in the current drill programme.

## 2. Triple-P Corridor

Triple-P / Zone B	Albatross-Flamingo
<ul style="list-style-type: none"> <li>• 4m @ 23.0 g/t from 109m</li> <li>• 4m @ 9.5 g/t from 177m</li> <li>• <b>7m @ 15.7 g/t from 144m</b></li> </ul>	<ul style="list-style-type: none"> <li>• 6m @ 14.1 g/t from 80m</li> <li>• <b>4m @ 50.6 g/t Au from 81m</b></li> <li>• 7m @ 11.9 g/t Au from 54m</li> </ul>

Source: Company



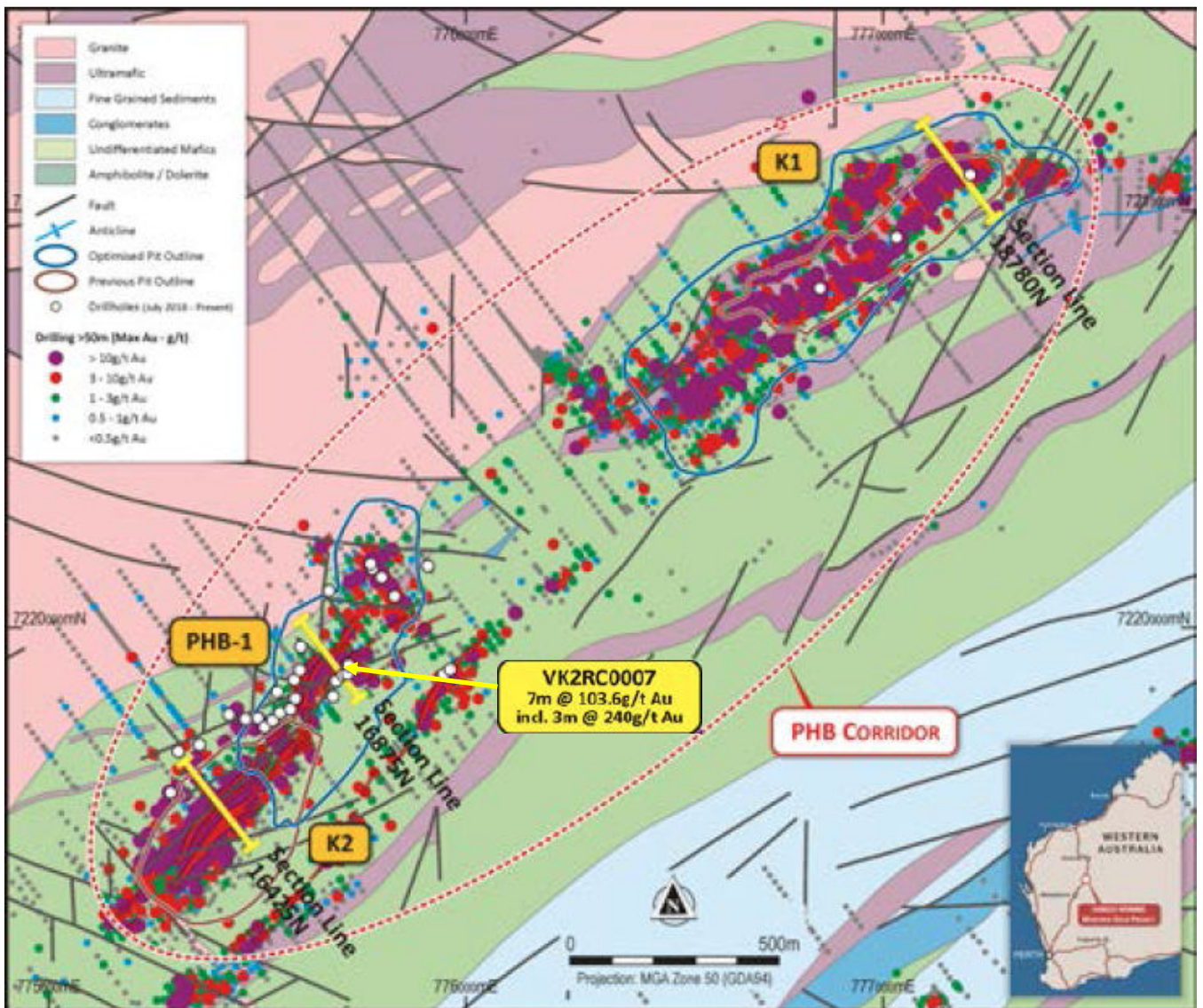
Source: Company

Vango's third high-grade Corridor is the PHB corridor which is also over 3km long and where the company recently hit 7m @ 103.6g/t from 48m. Again, this hit will be followed up in the current extensional drilling programme.

### 3. PHB Corridor

- **7m @ 103.6 g/t Au from 48m**
- 3m @ 15.3 g/t Au from 134m
- 3m @ 19.7 g/t Au from 126m
- **15m @ 6.51 g/t Au from 118m**

Source: Company



Source: Company

## EXPLORATION PROGRAMME

As set out the slide below, after raising A\$15m on 15 June 2020, Vango is planning a multi-stage exploration programme comprising:

- A ~36km drilling programme, including >20km in Stage 1
  - Stage 1 focused on two objectives:
    - a) **Extensional/step out drilling on recent high-grade hits** in 4 key areas
    - b) **Looking for potential larger scale targets / repeats of Plutonic**
      - In the Trident corridor the WA Govt is co-funding (50%) 4x RC collar DD holes, 2 x 500m deep holes and 2 shallower holes
      - Testing Triple-P Corridor
- Executed over the next ~9 months
- With 2-3 rigs
- At an estimated cost of ~A\$7m

### Vango's exploration programme at Marymia

**Marymia staged drilling plan – focused on high-grade extensions and deeper targets**

- **Stage 1 - Reverse circulation (RC) and diamond drilling (DDC) ~20km to test**
  - a) High-priority high-grade underground extension and shoot - repeat targets:
    - PHB Corridor: shallow plunging Main Lode extension immediately north of K2 e.g. 7m @ 103.6 g/t Au<sup>1</sup>
    - Trident Corridor: extensions and repeats of Trident and Marwest, extension of Mareast e.g. 10m @ 22.6 g/t Au<sup>2</sup>
    - Triple-P Corridor: extensions and repeats of Triple-P, Zone-B and Albatross-Flamingo shoots e.g. 4m @ 50.6 g/t Au<sup>3</sup>
    - Contessa Corridor (Ned's Creek JV): extensions down-plunge of high-grade Contessa shoot: e.g. 4m @ 78 g/t Au<sup>4</sup>
  - b) Initial testing of key, larger scale, targets:
    - Trident Corridor: initial drilling, WA Govt. co-funded, to test major Mine-Mafic 'Neptune' target between Marwest and Mareast
    - Triple-P Corridor: initial drilling to test projected extensions of the Triple-P Mine-Mafic across 3km 'Plutonic scale' corridor
- **Stage 2 - Infill/extension and geotechnical/metallurgical RC and DDC ~16km:**
  - a) 20m to 40m spaced RC and diamond drilling to define deeper, high-grade resources discovered / scoped during Stage 1
  - b) Specific and targeted diamond drilling:
    - Underground resources: oriented geotechnical and metallurgical drilling for structural understanding and mining controls
    - Open pit resources: geotechnical/metallurgical drilling for pit slope stability determinations and PFS level processing controls

Source: Vango Investor Presentation, 11 June 2020

## EXCELLENT INFRASTRUCTURE IN PLACE

As the Marymia Gold Project is located only ~20km from the Great Northern Highway and as a brownfields project there is significant existing infrastructure in place which should assist in streamlining the company's development plans as they come together.

Existing infrastructure includes haul roads, water bores, air strip, camp site, tailings dams, etc. Given several pits in the region have already been mined, the company also has considerable operating data, which is helpful in terms of likely recoveries etc.

The Plutonic operation is owned by Superior Gold (TSXV:SGI) and is located only 35-50km southwest of Vango's 1Moz resource base. The Plutonic operation includes 2 mills, a 1.8mtpa plant which is operating and a second 1.2mtpa plant which is on care and maintenance. Clearly this may present options for an operating tie up at some point, however for now Vango is very much focused on growing its high-grade gold endowment and pursuing a go-it-alone discovery and development strategy.

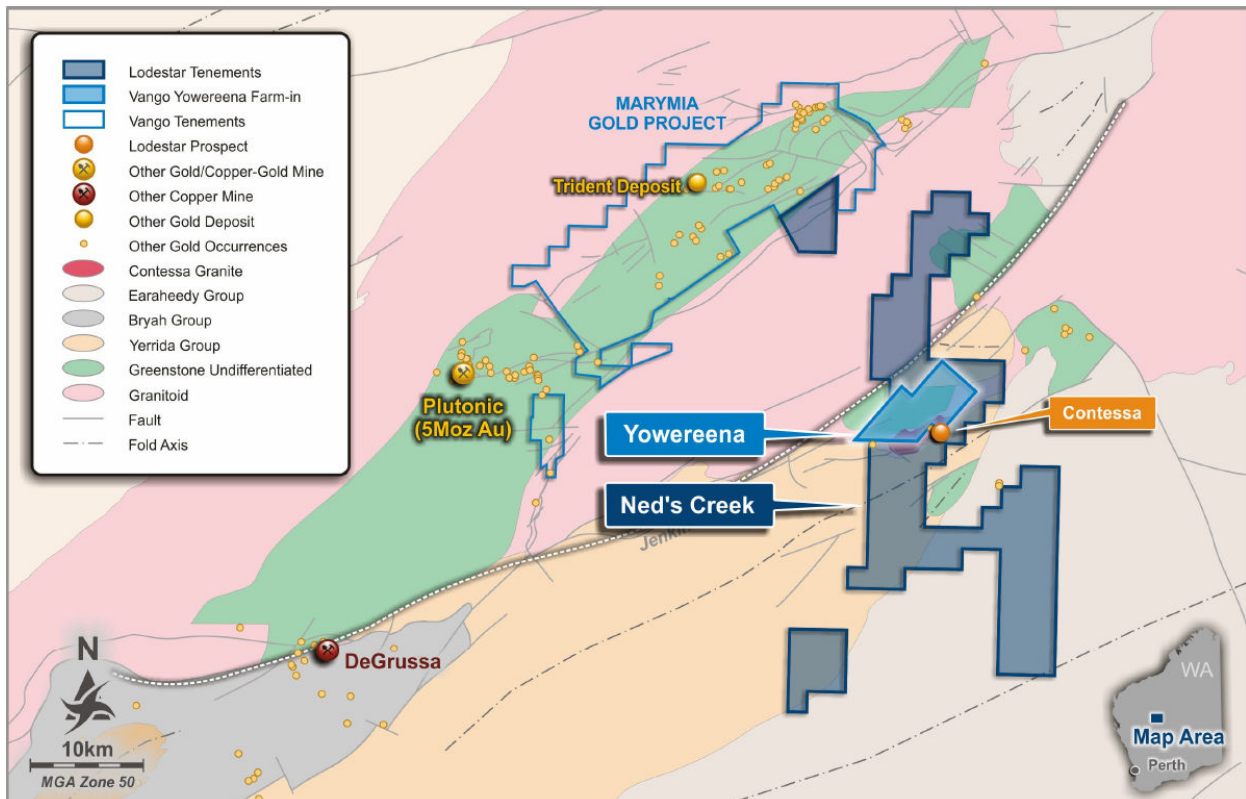
## INITIAL METALLURGY TESTWORK LOOKS GOOD

Historic mining and processing at Marymia was largely free milling and metallurgical testwork to date has confirmed good recoveries via conventional CIL processing at standard grind sizes. Result to date include:

- **Trident U/G:** 89% after 24 hours to 90% after 48 hours via cyanide leaching using a standard grind size 106-micron. Testwork also showed a relatively low bond work index of 13 which should mean relatively low milling costs (3 August 2018)
- **Trident West:** 97.9% recoveries over 24 hours using a conventional cyanide leach test at the standard 106-micron grind size (5 March 2019)
- **Triple-P & Zone B:** Up to 97% recovery for high-gold low-sulphide mineralisation at a 75-micron grind size. The results also included 64-68% gravity recovery indicating a high proportion of relatively coarse, free gold that may be recovered using low cost gravity concentration. At a 75-micron grind size, in a 24 hour leach test the high sulphide samples returned acceptable recoveries of 73-84% for gold grades of 1.4-9.7g/t (22 October 2019), however there is scope to improve on these recoveries.
- **K2:** K2 ore is amenable to conventional processing methods and can be expected to yield metal recoveries in excess of 90% (K2 DFS 1 July 2014) based on testwork and previous production.

## THE NED'S CREEK JV

Vango also has a farm-in agreement with Lodestar Minerals (ASX:LSR) on Ned's Creek, located 20km southeast of Vango's Marymia project, as shown below:



Source: Company

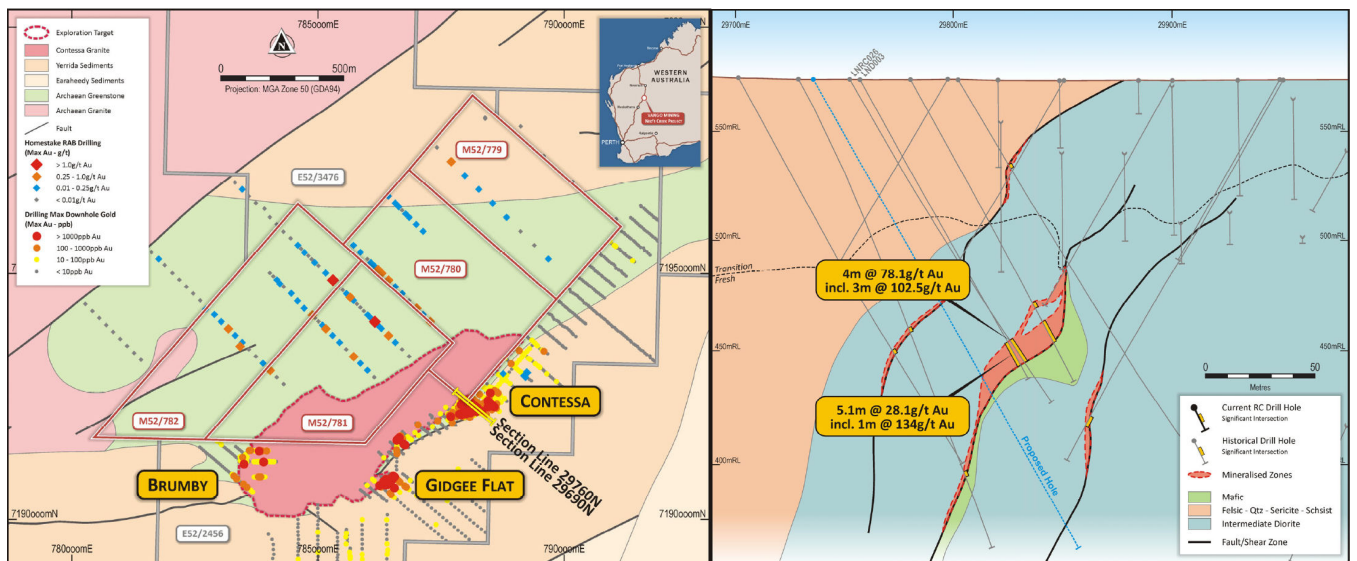


Vango is earning 51% of Ned's Creek but may earn up to 80% of the project:

- Vango may earn a 51% interest in the Ned's Creek Project by spending \$5m on exploration over a 3-year period (with a minimum spend of \$1m p.a.) from 17 July 2019.
- Vango may increase its interest to 80% should Lodestar not elect to contribute its pro - rata 49% share and revert to a 20% free carried interest

On 15 June 2020, Lodestar confirmed Vango's spend to date totalled ~\$1m including \$450k in upfront payments, leaving a required spend of A\$4m over the next ~2 years to meet its earn-in obligations.

### The Ned's Creek JV (LHS) showing intersections at Contessa (RHS)



Source: Company

The focus of the JV is Contessa which is a 3km zone on a syenite contact where previous Lodestar drilling hit several high-grade, primary intersections, open at depth, including:

- 4m @ 78 g/t Au from 140m
- 5.1m @ 28.1 g/t Au from 143m

The style of mineralisation at Contessa is high grade gold on the margins of a syenite intrusion, (type of granite) similar to other major gold deposits in WA e.g. Wallaby in the Laverton region.

Vango is planning follow up drilling at Contessa as part of its current drill programme.

## INVESTMENT PROPOSITION

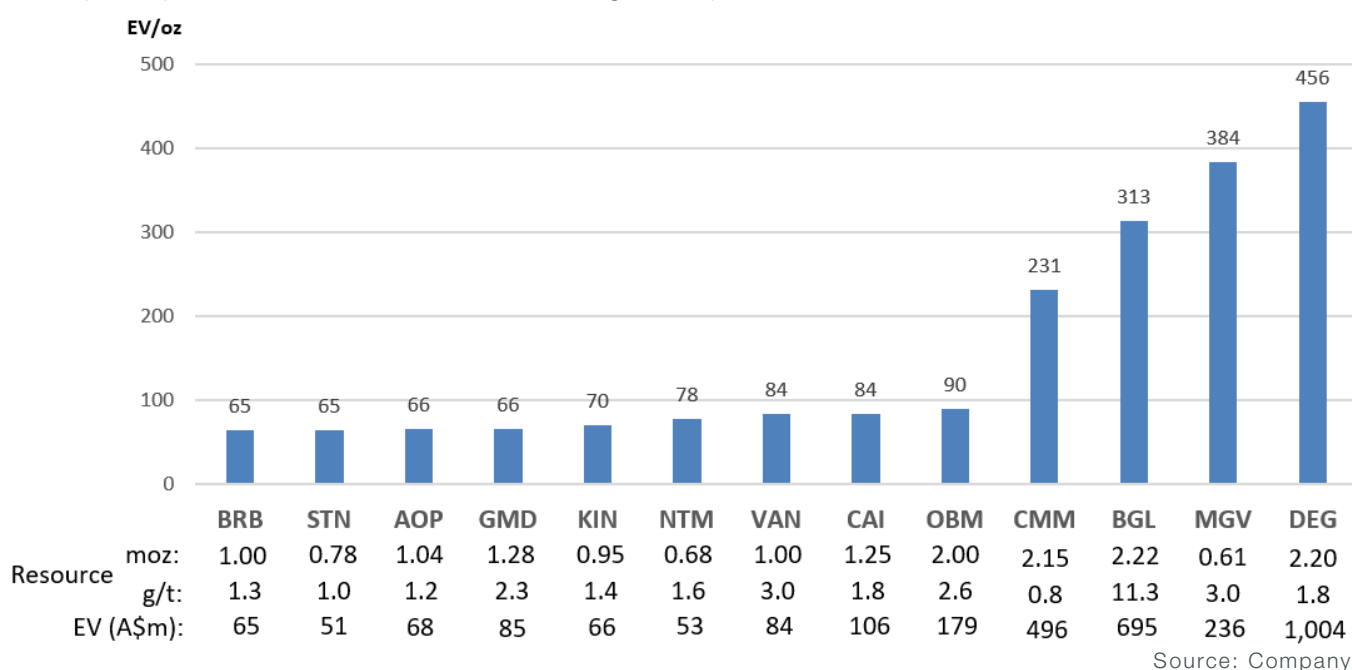
This section provides an overview of our valuation assumptions for Vango.

### VALUATION

When it comes to valuing a gold explorer, it can sometimes be more art than science, but most investors agree enterprise value per ounce is a good starting point.

The chart below shows the key comparable Australian-based gold explorers on the ASX.

#### Enterprise per ounce for Australian-based gold explorers



The average across these 13 players is 158/oz, albeit heavily skewed by the 4 key premium players. Ignoring the 4 key premium players the average EV/oz is ~74/oz.

However, we all know not all gold mines were created equal... and unfortunately EV/oz ignores grade and potential margins.

Vango is aiming to add 500koz @ 8g/t to its resource base over the next 9-12 months and if successful, Vango's EV/oz would fall to ~\$61/oz (deducting \$7m from cash) making it one of the best value stocks in this universe. However, this analysis probably doesn't adequately capture Vango's re-rating potential.

If we closely examine the 4 premium explorers on the ASX, one is in construction with a high-quality management team (CMM) and the other 3 are either high-grade (BGL) or have recently announced high-grade hits representing a new discovery (DEG & MGV).

#### **We believe Vango is well placed to repeat the recent success of DEG and MGV given:**

- The company is well capitalised with ~A\$14m in cash
- The planned drilling programme is targeting extensions of recent high-grade results
- The planned drilling programme is also targeting several large-scale targets which could potentially host repeats of the 5.5moz Plutonic deposit

## PRICE TARGET & RATING

We initiate coverage of Vango with a Spec Buy recommendation and 25c price target, an implied potential return of ~155%.

Our 25c Price Target is based on:

- An EV/oz analysis of comparable peers as outlined on the previous page combined with a qualitative assessment about how the market might respond if the company's high-grade drilling campaign is successful
- We have also combined our EV/oz assessment with a "what if" scenario using a conceptual DCF model\* for what a go-it-alone operation at Marymia might look like if Vango can successfully grow its high grade endowment from 541koz @ 7.9g/t to ~1moz @ 8g/t with the planned drill programme. i.e. Growing the total resource from 1moz to ~1.5moz. Our conceptual DCF\* assumes:
  - Initial capex of ~A\$100m (for plant & initial U/G)
  - A ~750ktpa plant
  - Producing ~100kozpa (~60% feed from high-grade U/G / 40% feed from O/P)
  - At AISC of A\$1,100-1,200/oz
  - For an initial mine life of at least 7-8 years
  - Under this "What if" scenario the project would have a potential:
    - NPV post-tax of ~A\$500m
    - IRR post-tax of >100%

\*It is very important to highlight that this analysis is conceptual in nature and should very much be considered a "what if" scenario. If Vango can successfully grow its high-grade gold endowment by ~500koz @ 8g/t, there are a host of additional considerations which could impact valuation, including depth, widths, orientation, metallurgy, etc.

It is also important to note, that if Vango's exploration programme is successful at its larger scale targets (looking for repeats of Plutonic), the scale of the Marymia project could immediately become materially larger. Our Strategic Target below addresses this possibility.

## STRATEGIC TARGET

Our 40c Strategic Target for Vango caters for the possibility that Vango's larger scale exploration programme *does* make a material high-grade discovery – i.e. the company identifies a repeat of the >5.5moz Plutonic deposit.

Trying to put a number on what Vango might be worth in this scenario is *very* difficult, however in light of the recent examples below, there is a very real possibility given the current buoyant conditions for gold explorers, our 40c Strategic Target might prove to be too low!

- **De Grey Mining (DEG): 19x since 5 Feb 2020** from 4.6c to 89c due to a new discovery in the Pilbara in WA. Over the same period the company's EV has grown from ~A\$40m to ~A\$1bn
- **Musgrave (MGV): 7x since the lows of 23 March 2020** from 7.5c to 52.5c several high-grade, good width intercepts which have likely changed the scale of MGV's Gold Project.

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## **KEY RISKS**

Vango Mining Ltd is exposed to all the normal risks associated with exploration and the development of a mining project, including, permitting, funding and construction risks, as well as normal project ramp up and commissioning risks.

As this stage, the key risk to our valuation is exploration success since both our 25c Price Target and 40c Strategic Target are based on exploration success at Marymia.

Vango has outstanding litigation with respect to its K2 deposit, which represents 107koz of the company's 1moz resource base. While the company believes the outstanding litigation is without merit an investment in Vango carries the risk associated with this litigation.

Assuming Vango can successfully grow its gold resource and make the transition into production, its revenues will be derived from the sale of gold. Fluctuations in the prices of gold as well as the Australian dollar could impact the company's reported cash flow (in A\$), profitability and share price.

As Vango's project is based in Western Australia, an investment in Vango also carries Australian sovereign risk, which we regard as a relatively stable and safe jurisdiction compared to many other gold mining jurisdictions around the world.

**MODEL SUMMARY: FINANCIALS & VALUATION**

<b>Stock Details</b>				Enterprise Value	\$83m
Recommendation:	<b>BUY</b>			Diluted MCap	\$97m
Target	\$0.25	Share Price	\$0.098	Diluted Shares	994m
NAV	\$0.25	52 Week High	\$0.23	Free Float	100%
Implied Return	155%	52 Week Low	\$0.08	Avg Daily Value	\$0.04m

Macro Assumptions	FY19	FY20E	FY21E	FY22E	FY23E
Exchange Rate (A\$/US\$)	0.72	0.69	0.69	0.69	0.69
Gold Price (US\$/oz)	1,263	1,622	1,765	1,765	1,765
Gold Price Realised (A\$/oz)	1,766	2,365	2,565	2,565	2,565

Profit & Loss (A\$m)	FY19	FY20E	FY21E	FY22E	FY23E
Revenue	-	-	-	-	-
Operating Costs	-	-	-	-	-
<b>Operating Profit</b>	-	-	-	-	-
Corporate & Other	(6)	(4)	(3)	(3)	(3)
Exploration Expense	-	-	-	-	-
<b>EBITDA</b>	<b>(6)</b>	<b>(4)</b>	<b>(3)</b>	<b>(3)</b>	<b>(3)</b>
D&A	(0)	(0)	(0)	(0)	(0)
<b>EBIT</b>	<b>(6)</b>	<b>(4)</b>	<b>(3)</b>	<b>(3)</b>	<b>(3)</b>
Net Interest Expense	(1)	(1)	-	-	-
<b>Pre-Tax Profit</b>	<b>(7)</b>	<b>(5)</b>	<b>(3)</b>	<b>(3)</b>	<b>(3)</b>
Tax Expense	-	-	-	-	-
<b>Underlying Profit</b>	<b>(7)</b>	<b>(5)</b>	<b>(3)</b>	<b>(3)</b>	<b>(3)</b>
Significant Items (post tax)	(14)	-	-	-	-
<b>Reported Profit</b>	<b>(21)</b>	<b>(5)</b>	<b>(3)</b>	<b>(3)</b>	<b>(3)</b>

Cash Flow (A\$m)	FY19	FY20E	FY21E	FY22E	FY23E
Operating Cashflow	(7)	(3)	(3)	(3)	(3)
Tax	-	-	-	-	-
Net Interest	(0)	(1)	-	-	-
<b>Net Operating Cash Flow</b>	<b>(8)</b>	<b>(4)</b>	<b>(3)</b>	<b>(3)</b>	<b>(3)</b>
Exploration	(7)	(3)	(7)	(4)	(4)
Capex	(0)	(0)	-	-	(50)
Acquisitions / Disposals	(0)	-	-	-	-
Other	(0)	-	-	-	-
<b>Net Investing Cash Flow</b>	<b>(8)</b>	<b>(4)</b>	<b>(7)</b>	<b>(4)</b>	<b>(54)</b>
Equity Issue	6	5	11	10	50
Borrowing / Repayments	11	4	-	-	20
Dividends	-	-	-	-	-
Other	(0)	0	-	-	-
<b>Net Financing Cash Flow</b>	<b>17</b>	<b>10</b>	<b>11</b>	<b>10</b>	<b>70</b>
Change in Cash Position	1	2	1	3	13
FX Adjustments	-	-	-	-	-
<b>Cash Balance</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>7</b>	<b>20</b>

Balance Sheet (A\$m)	FY19	FY20E	FY21E	FY22E	FY23E
Cash	1	3	4	7	20
Other Current Assets	0	0	0	0	0
PP&E	1	1	1	1	51
Exploration & Development	30	35	42	46	50
Other Non Current Assets	1	2	2	2	2
<b>Total Assets</b>	<b>34</b>	<b>42</b>	<b>49</b>	<b>56</b>	<b>123</b>
<b>Debt</b>	<b>16</b>	<b>2</b>	<b>-</b>	<b>-</b>	<b>20</b>
Other Liabilities	10	12	12	12	12
<b>Net Assets</b>	<b>8</b>	<b>27</b>	<b>37</b>	<b>44</b>	<b>91</b>

Ratio Analysis		FY19	FY20E	FY21E	FY22E	FY23E
Diluted Shares	m	628	831	994	1,094	1,604
EPS - Diluted	Ac	(1.3)	(0.7)	(0.3)	(0.3)	(0.3)
<b>P/E</b>	<b>x</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>
CFPS - Diluted	Ac	(1.3)	(0.6)	(0.3)	(0.3)	(0.2)
<b>P/CF</b>	<b>x</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>
FCF - Diluted	Ac	(1.2)	(0.4)	(0.3)	(0.3)	(3.3)
<b>P/FCF</b>	<b>x</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>

Dividends	Ac	-	-	-	-	-
Dividend yield	%	-	-	-	-	-
Payout Ratio	%	-	-	-	-	-
Franking	%	-	-	-	-	-

Enterprise Value	A\$m	112	97	93	90	97
<b>EV/EBITDA</b>	<b>x</b>	<b>(17.6x)</b>	<b>(27.0x)</b>	<b>(31.1x)</b>	<b>(30.1x)</b>	<b>(32.4x)</b>
ROE	%	(90%)	(17%)	(8%)	(7%)	(3%)
ROA	%	(22%)	(11%)	(6%)	(5%)	(2%)
Net Debt / (Cash)		14	(1)	(4)	(7)	14
Gearing (ND/(ND+E))	%	n.m.	n.m.	n.m.	(19%)	63%
Gearing (ND/E)	%	n.m.	n.m.	n.m.	(16%)	171%

Resource	Indicated		Inferred		Total		
	mt	g/t	koz	koz	mt	g.t	koz
Open Pits	5.3	1.8	311	150	8.3	1.7	461
Trident UG	0.9	9.4	285	125	1.6	8.0	410
K2 UG	0.2	10.6	67	40	0.4	8.9	107
Other UG				24	0.2	4.3	24
<b>Sub Total</b>	<b>6.4</b>	<b>3.2</b>	<b>663</b>	<b>339</b>	<b>10.4</b>	<b>3.0</b>	<b>1,002</b>
			66%	34%			

Earnings Sensitivity		FY22E	FY23E	FY22E	FY23E
		A\$m	A\$m	%	%
Gold Price	US\$/oz +10%	-	-	-	-
Exchange Rate	A\$/US\$ -10%	-	-	-	-

Valuation	Discount	Stake	A\$m	A\$/sh
Marymia (unrisked)		100%	440	0.44
Marymia (risk-adjusted)	50%	100%	220	0.22
Exploration			30	0.03
Corporate & Other			(19)	(0.02)
Debt			0.5	0.00
Cash			14	0.01
Listed Investments			1.8	0.00
Option Strikes			-	-
<b>Risk adjusted NAV</b>			<b>247</b>	<b>0.25</b>
				0.39x

Source: Company data, Blue Ocean Equities

## BOARD & MANAGEMENT

**Bruce McInnes, Executive Chairman:** Mr McInnes is an accountant with over 30 years business and finance experience and founded his own accounting firm McInnes & Associates. Mr McInnes has business interests in mining, finance and the agricultural sector and has been a shareholder of the company since 2009 and joined the board in May 2013. Mr McInnes was instrumental in acquiring the Marymia Gold Project and building the Vango executive team.



**Shengqiang (Sean) Zhou, Non-Executive Deputy Chairman:** Mr Zhou has a Bachelor of Commerce (Accounting) and Masters in Project Management both from the University of Sydney. Mr Zhou has expertise in funds management, project management and investment banking with a focus on infrastructure investment in the Asia Pacific Region. Mr Zhou became a director of the company in Aug 2014 and was previously the MD of Vango Mining from Jan 2018 to Jan 2020.



**Andrew Stocks, Managing Director:** Mr Stocks is a mining engineer and senior mining executive with over 30 years' experience. Mr Stocks worked for Barrick for ~8.5 years where **he was the Mine Superintendent at the Plutonic gold mine for ~2.5 years where he was responsible for establishing the underground mine.** Subsequently, while still at Barrick, he was the Mine Manager at the Lawlers gold mine for ~6 years. More recently he was the MD of Iron Road for over 12 years. Mr Stocks became the MD of Vango Mining in Jan 2020.



**Dr Zhenzhu (Carol) Zhang, Executive Director:** Dr Zhang has a PhD in Management, Science and Engineering and prior to her appointment at Vango was an associate professor at Tianjin University, teaching logistics management. Dr Zhang was appointed as a director of Vango Mining in August 2015.



**Yan Chao (Hunter) Guo, Non-executive Director:** Mr Guo has more than 25 years' experience in global commodity research and trade, and gold futures analysis and investment. He is Sydney based and is a senior executive of a significant Chinese commodities trading house which generates annual profits in excess of U.S\$100 million. Mr Guo has been a strategic investor in Vango Mining since 2017 and was appointed to the board in January 2020. At the date of this report, Mr Guo is the major shareholder of Vango Mining, holding a ~13% stake.



**Jon Dugdale, Chief Geologist:** Mr Dugdale is a geologist and senior mining executive with over 30 years' experience. **Mr Dugdale worked for Western Mining Corp (WMC) for over 6 years and was involved in the drill out of key deposits at the St Ives and Agnew gold deposits. He was subsequently the Senior Geologist for MPI Mines for almost 12 years where he was instrumental in the >1moz Golden Gift discovery at the Stawell gold mine in Victoria,** for which he jointly received the Joe Harmes Medal for *"distinguished excellence in mineral exploration and contribution to the discovery of ore deposits"*.



Jon has been working with Vango for ~3.5 years (since January 2017) and has undertaken the detailed structural geology and mineralisation controls work to date to develop the Marymia geological predictive model.

## CONTACTS

### ANALYST

#### Steuart McIntyre

Senior Resource Analyst

P +61 2 8072 2909

E steartmcintyre@boeq.com.au

### AUTHORITY

#### David O'Halloran

Executive Director

P +61 2 8072 2904

E doh@boeq.com.au

#### Philip Pepe

Senior Industrials Analyst

P +61 2 8072 2921

E philpepe@boeq.com.au

#### Stuart Turner

Senior Industrials Analyst

P +61 2 8072 2923

E stuartturner@boeq.com.au

#### Michael Gerges

Investment Analyst

P +61 2 8072 2935

E michaelgerges@boeq.com.au

#### Mathan Somasundaram

Market Portfolio Strategy

P +61 2 8072 2916

E mathan@boeq.com.au

#### Doc Cromme

Institutional Dealing

P +61 2 8072 2925

E doccromme@boeq.com.au

#### Adam Stratton

Institutional Dealing

P +61 2 8072 2913

E adamstratton@boeq.com.au

#### Scott Calcraft

Institutional Dealing

P +61 2 8072 2920

E scottcalcraft@boeq.com.au

#### Josie Nicol

Dealing Associate

P +61 2 8072 2031

E josienicol@boeq.com.au

## HEAD OFFICE

#### Blue Ocean Equities Pty. Ltd.

AFSL No. 412765

ABN 53 151186935

P +61 2 8072 2988

E info@boeq.com.au

W blueoceanequities.com.au

Level 29, 88 Phillip Street

Sydney NSW 2000

Australia

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Steuart McIntyre does not own shares in Vango Mining Ltd.