

SPEC BUY

Current Price \$0.24
Market Cap \$257m

Ticker: **DEG**
Sector: **Metals & Mining**

Shares on Issue (m): **1,072.2**
Market Cap (\$m): **257.3**
Cash (\$m): **8.0**
Enterprise Value (\$m): **249.3**

52 wk High/Low: **\$0.24** **\$0.04**
12m Av Daily Vol (m): **5.4**

Projects **Stage**
Mallina Project Defined resource
Hemi Discovery Exploration

Resource Status
Mallina Gold Project 1.7Moz

Operating Jurisdiction
Pilbara

Directors:
Simon Lill Executive Chairman
Andy Beckwith Executive Technical Director
Peter Hood Non-Executive Director
Eduard Eshuys Director
Bruce Parncutt AO Director
Glenn Jardine Managing Director

Major Shareholders (%)
DGO Gold Limited 16.4%
Northwest Nonferrous 5.7%
Regal Funds Mgt 4.9%
Kirkland Lake Gold 3.2%
Directors & Mgt 3.3%

Share Price Graph (A\$/sh) and Trading Vol (Msh)



Please refer to important disclosures at end of the report (from page 6)

Thursday, 26 March 2020

De Grey Mining

Hemi: A new gold paradigm for the Pilbara

Analysts: Matthew Keane | James Wilson

Quick Read

The scale of De Grey Mining's (DEG) Hemi discovery looks to be something previously unseen in the Pilbara region. Argonaut has increased its estimate for this discovery from 1.9Moz to 2.8Moz gold. The deposit remains open in most directions, with indications that mineralisation is improving to the southwest and down-plunge. We see the potential for repeats of large scale mineralised systems like Hemi in the greater Mallina Project given its scale (~140km strike) and favourable structural setting with interpreted mantle tapping faults. Within an 8km radius of Hemi, there are several analogous targets, many of which have gold defined in shallow drilling. Speculative Buy recommendation maintained.

Event & Impact: Extension drilling success - Positive

Drilling continues to add scale: DEG has released further drill results from the Brolga Zone of the Hemi prospect, defining significant extensions to known mineralisation. Better results included: 78m at 1.8g/t Au from 40m, 72m at 1.6g/t Au from 105m and 21m at 3.6g/t Au from 45m. The Brolga Zone now has a surface footprint of >340m strike, >300m width and is mineralised to at least 200m below surface (as defined over four 80m spaced drill lines). Importantly, the system remains open in all directions, in particular to the southwest where the most recent RC drilling has intercepted some of the strongest sulphide mineralisation seen to date (assays pending).

Something completely different for the Pilbara: Unlike most Pilbara gold occurrences, which tend to be narrow and modest in scale, Mallina is a large, broad structural system with intrusive related gold mineralisation. We believe the regional structural/geological setting has the potential to host a camp of large-scale gold deposits, as seen in the West Australian Goldfields region (i.e. the Laverton Belt hosting +30Moz). Argonaut estimates the current inventory of Hemi to be ~2.8Moz at 1.7-2.0g/t. Incorporating the existing Mallina Resource of 1.7Moz would bring the project total to ~4.5Moz. This existing resource is also due to be updated this quarter and is expected to surpass 2Moz (excluding Hemi). We see upside from several analogous intrusive/structural targets within an 8km radius, including Scooby, Shaggy, Antwerp and Alectroenas. Most of these have shallow RC and air core (AC) drill intercepts, some grading up to +5g/t. Directly northwest of Hemi, AC drilling highlights a potential third stacked lode with intercepts up to 1.5g/t.

Next steps: DEG is currently drilling with 1 AC rig, 1 RC rig and two diamond rigs. The Company is still defining the extents of Hemi, stepping out on 80m spaced drill lines down to 400m below surface. Assuming no COVID-19 related interruptions, DEG should be in a position to release a maiden Inferred Resource for Hemi by mid-2020.

Recommendation

Argonaut maintains a SPEC BUY recommendation. Based on our estimate of 4.5Moz for the Mallina Project, the stock is trading on an undemanding ~A\$55/oz. Longer term, we see potential for this project to host a +5Mtpa open pit operation producing +250kozpa.

Brolga continues to grow

The Brolga Zone of Hemi continues to grow...

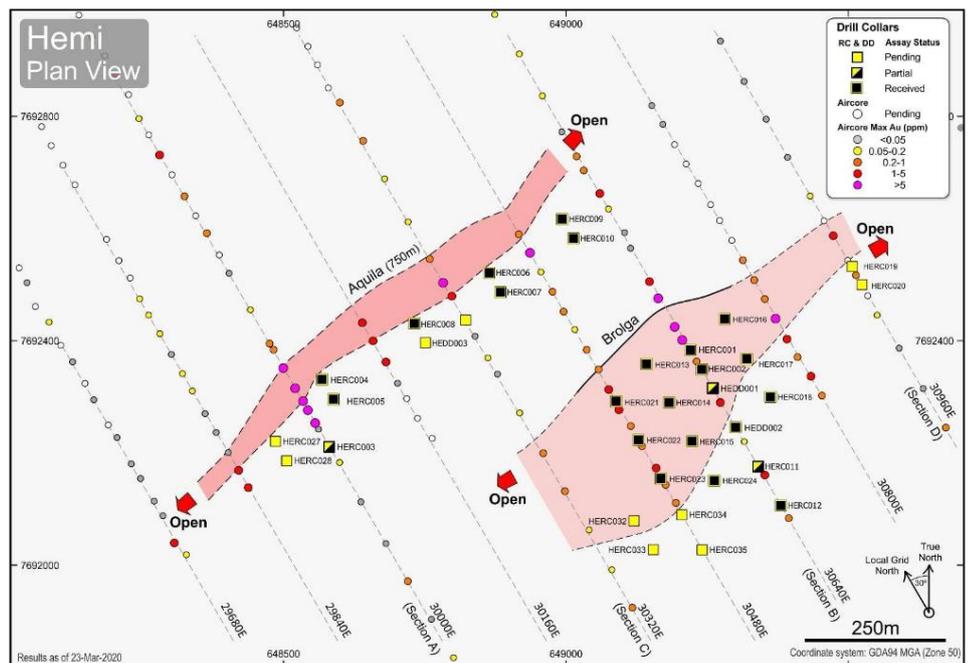
...with intercepts including 78m @ 1.8g/t gold

DEG has released further drill results from the Brolga Zone of the Hemi prospect defining significant extensions to known mineralisation. Better results from RC drilling included:

- 78m @ 1.8g/t Au from 40m
- 72m @ 1.6g/t Au from 105m
- 21m @ 3.6g/t Au from 45m
- 15m @ 5.5g/t Au from 75m
- 33m @ 1.6g/t Au from 41m
- 76m @ 1.5g/t Au from 42m
- 56m @ 1.1g/t Au from 93m

The Brolga Zone now has a surface footprint of >340m strike, >300m width and is mineralised to at least 200m below surface. This strike increases to >420m with inclusion of the most recent RC drilling in an 80m step-out line to the southwest, which has intercepted some of the strongest sulphide mineralisation seen to date (assays pending).

Figure 1. Footprint of the Brolga Zone of the Hemi discovery



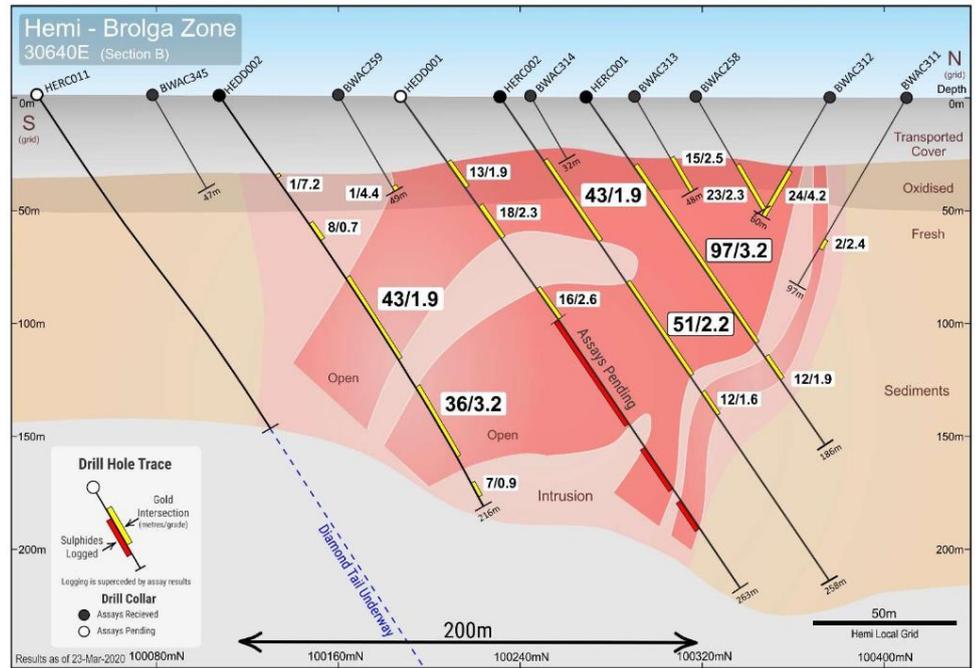
Brolga's footprint is now >340m strike, >300m width down to >200m

Source: DEG

The best drill section to date is along the local grid line 30,640E (see Figure 2 below). Argonaut estimates an 80m wide section through this line could host +350koz alone. Both the Brolga and Aquila zones remain open in most directions.

Drill section 30,640 alone could contain +350koz by Argonaut's estimate

Figure 2. Cross section through drill section line 30,640E



Source: DEG

Hemi looks to be a new style of deposit for the Pilbara Craton...

...related to granitoid intrusives in a deep structural setting

This discovery is based on a solid geological theory

Something different for the Pilbara

Gold in the Pilbara is typified by relatively narrow, shear hosted systems containing modest scale deposits over extensive strike lengths (i.e. Lynas Find, Nullagine or Warrawoona). Mallina looks to be something new with the potential to host a camp of large-scale gold deposits as seen in the West Australian Goldfields region.

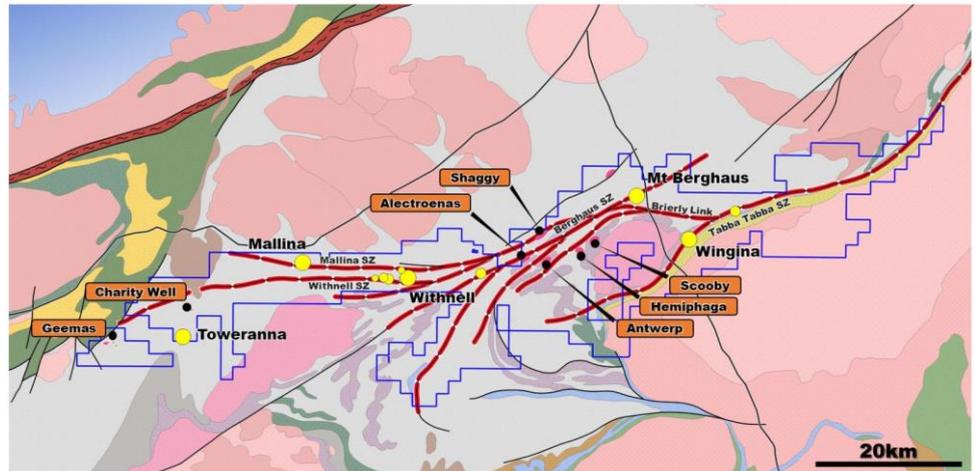
The geological / structural setting of the Mallina Basin is a highly prospective with mantle tapping faults, late-stage intrusives (Mg-diorite sanukitoids) and pervasive pathfinder tellurides and arsenic geochemistry. Hemi is hosted in a sanukitoid which most likely provides the favourable brittle host rock and geochemical trap for gold emplacement. Several deposits in the Laverton Belt in the northern Goldfields have a similar mineralisation setting along the deep seated Laverton Tectonic Zone with intruding granitoids (in this case syenites). This region hosts +30Moz, including Sunrise Dam (+10Moz) Granny Smith (+2Moz) and Wallaby (+8oz).

Discovery based on strong geological groundwork

The Toweranna deposit to the far west of DEG's tenure is credited as the first intrusive hosted gold deposit in the Pilbara Craton. It was this discovery which led to the generation of seven other intrusive related gold targets, including Hemi and Scooby in mid-2019 (see DEG ASX release dated 2 July 2019). At this time, DEG's geological team recognised the potential for Archaean lode and granitoid/diorite hosted gold mineralisation on its tenure.

In 2019, DEG identified up to 7 structurally related gold targets at Mallina

Figure 3. Seven intrusive related gold targets defined in 2019



Source: DEG

DEG has a strong geological and technical team at both a Board and senior management level

A strong team

DEG has an exceptionally strong geological team, including Andy Beckwith (Executive Technical Director), Phil Tornatora (Exploration Manager) and Allan Kneeshaw (Exploration Consultant), all of who hail from Anglo Gold Ashanti.

- Andy Beckwith – Geologist and previous MD of Westgold
- Phil Tornatora – 25 year's geological experience, including GM of exploration at Northern Star and GM at Galaxy Resources
- Allan Kneeshaw – A highly regarded structural geologist who theorised the intrusive related geological model for the Mallina Project and helped define targets.

The DEG Board also has strong financial market experience

From a Board perspective, Eduard Eshuys (Non-Executive Director) offers significant geological experience having been part of the team which discovered the Plutonic, Bronzewing and Jundee gold deposits. Peter Hood (Non-Executive Director) has extensive experience in geochemical engineering, including CEO of Coogee Chemicals and Coogee Resources and senior roles with BHP's Nickel West operations. The Company also has extensive capital market experience with Bruce Parncutt (Director) who was CEO of McIntosh Securities and is currently Chairman of investment banking group Lion Capital. In addition, Simon Lill (Executive Chairman) has been with the Company since 2013 when it had a sub \$1M market capitalisation. More recently, DEG appointed Glenn Jardine who is a Mining Engineer by background and has 35 years' experience as a Mining Executive. He will step into that role on 4 May.

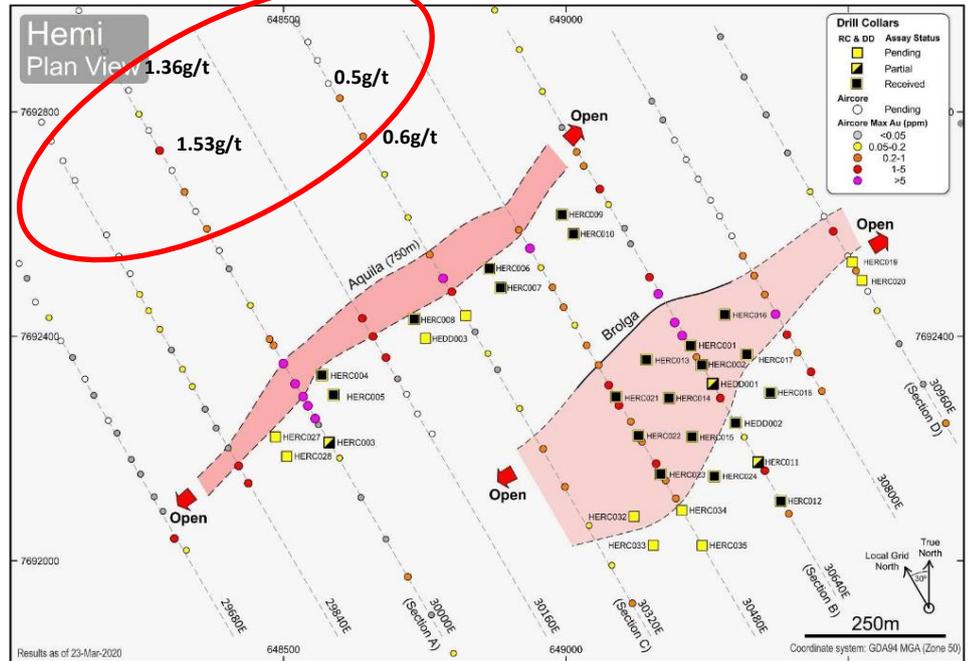
Argonaut estimates that Hemi could contain 2.8Moz gold based on current drilling

Scale potential

Argonaut estimates the current inventory at Hemi to be ~2.8Moz @ 1.7-2.0g/t (1.6Moz at Brolga and 1.2Moz at Aquila). Incorporating the existing 1.7Moz Mallina resource would bring the project total to ~4.5Moz. We see upside from several analogous intrusive/structural targets within an 8km radius including Scooby, Shaggy, Antwerp and Alectroenas. Most of these have shallow RC and air core (AC) drill intercepts, some up to +5g/t. Scooby looks particularly attractive with an intercept of 14m at 3.5g/t just 1.5km from Hemi. This has yet to be followed up with further drilling. Directly northwest of the Aquila Zone, AC drilling highlights a potential third mineralised lode with intercepts up to 1.5g/t (see Figure 4 below). Given the interpreted thrust fault regime, it is highly probably that Aquila and Brolga are part of a stacked thrust set, with potential for parallel repeats.

Figure 4. Potential for a third stacked lode to the northwest highlighted in the red ellipsoid (AC drill results added).

We see potential for a third stacked lode to the northwest of Aquila



Source: DEG (edited by Argonaut)

A resource upgrade is due imminently, which will see existing resource increase to >2Moz

Under a mining scenario, we believe Mallina could produce +250kozpa...

...with Hemi being the cornerstone deposit

Regionally, the intrusive related Toweranna deposit (357koz) remains open. The Company theorises that it could balloon into a much larger system where feeder structure meets the host intrusive geology at depth. DEG is due to release a resource update by the end of the current quarter on existing deposits (excluding Hemi), which is expected to increase from 1.7Moz to >2.0Moz.

Assumptions for a mining scenario

Given the large tonnage, wide mineralisation and low strip ratios (est. >1:1 waste to ore), Argonaut believes Hemi could form the base lode for a +5Mtpa mining operation producing >250koz gold pa. We would envisage an initial mining inventory of >40Mt at ~2.0g/t supporting a 9-10-year mine life from Hemi alone. Satellite deposits, including currently defined resources, add further upside.

Refractory ore a consideration, but scale mitigates risk

Deposits in the current resource have a mix of free milling gold (i.e. Toweranna) and partially refractory gold (i.e. Withnell). We note the presence of arsenopyrite at Hemi, a mineral commonly associated with refractory ores. Previous metallurgical test work on the Withnell deposit responded well to coarse grind flotation work, producing 5-9% (average 7%) mass pull to a sulphide concentrate. This concentrate could be treated a number of ways to extract gold, including pressure oxidation (POX). We see partially refractory ore as a risk to smaller resources, however given Hemi's scale, it would likely have the free cash generation and mine life to payback any incremental capital for additional processing circuits. In addition, there would likely be sufficient near-surface oxide feed to sustain free milling ores for the initial years of the project's life.

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