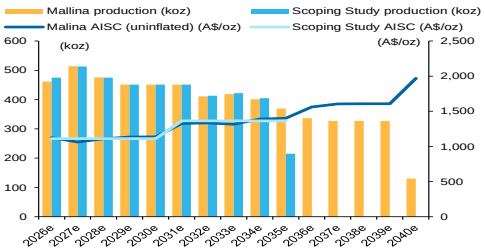
26 November 2021 Australia

EQUITIES

De Grey Mining (DEG AU)
Room to grow at Hemi

Our base case closely aligns with the ten-year Scoping Study evaluation period



Source: DEG, Macquarie Research, November 2021

DEG AU	Outperform
Price (at 05:10, 25 Nov 2021 GMT)	A$1.25

Valuation	A$	1.70
- DCF (WACC 5.0%, beta 0.5, ERP 5.0%, RFR 2.3%)		
12-month target	A$	1.70
12-month TSR	%	+36.0
Volatility Index		Very High
GICS sector		Materials
Market cap	A$m	1,758
30-day avg turnover	A$m	6.3
Number shares on issue	m	1,406

Investment fundamentals

Year end 30 Jun		2021A	2022E	2023E	2024E
Revenue	m	0.0	0.0	0.0	0.0
EBIT	m	-5.4	-17.0	-15.5	-8.0
Reported profit	m	-5.3	-16.1	-14.7	-4.9
Adjusted profit	m	-5.3	-16.1	-14.7	-4.9
Gross cashflow	m	-4.6	-7.1	-5.7	-2.9
CFPS	¢	-0.4	-0.5	-0.4	-0.2
CFPS growth	%	60.8	-37.2	19.9	61.0
EPS adj	¢	-0.4	-1.1	-1.0	-0.3
EPS adj growth	%	59.3	-174.0	8.8	74.4
Total DPS	¢	0.0	0.0	0.0	0.0
Total div yield	%	0.0	0.0	0.0	0.0
ROA	%	-3.9	-6.6	-5.1	-1.1
ROE	%	-4.2	-7.1	-5.4	-1.0
EV/EBITDA	x	-316.1	-212.5	-259.9	-370.6
Net debt/equity	%	-39.1	-38.2	-21.2	-26.7

Source: FactSet, Macquarie Research, November 2021
(all figures in AUD unless noted)

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Key points

- We initiate coverage of DEG with an Outperform recommendation and an A$1.70/share target price as it looks to advance its Mallina Gold Project.
- Mallina is a 9.0Moz project in WA's Pilbara. We see clear tier-1 potential, with the asset adding 6.8Moz of resource since Hemi's late-2019 discovery.
- Our outlook (15-year mine life, first five years at 471kozpa and A$1,122/oz AISC) is based on Mallina's Scoping Study, with further upside evident.

We initiate coverage of DEG with an Outperform recommendation and an A$1.70/sh target price.

Gold scale development in Western Australia…

DEG owns the Mallina Gold Project (Mallina) in the Pilbara of Western Australia, which hosts the Hemi discovery. Hemi's maiden resource estimate of 192Mt at 1.1g/t for 6.8Moz saw Mallina's total resources grow to 230Mt at 1.2g/t for 9.0Moz. A Scoping Study of Mallina envisages average open pit production of ~427kozpa at an AISC of A$1,224/oz over a ten-year evaluation period with 473kozpa at an AISC of A$1,111/oz the first five years. Our base case closely follows the Scoping outcomes for the ten-year period. However, we anticipate further discovery and resource conversion will extend the mine ~5 years beyond the ten-year evaluation period at a production rate of ~300kozpa beyond year 10. Pre-production capital estimated at A$893m (we assume A$900m).

…with clear tier-1 potential

In our view, Mallina's resource already indicates tier-1 potential without future growth. Hemi's maiden resource used a May 2021 data cut-off, with strong drilling since completed. Hemi's resource has grown at ~450koz per month in the 15 months following the commencement of detailed RC and Diamond drilling and ~400koz per month since the 2019 discovery. Given the rate of resource growth thus far, the clear direct extension potential of resources and significant regional exploration prospectivity, we see potential for continued inventory growth beyond our initial assumptions and for Mallina to grow into a true district-scale project.

Developer to producer re-rate anticipated

As DEG de-risks Mallina via further drilling, economic studies and the completion of funding, we expect DEG will undergo a developer-to-producer re-rate moving towards first gold. We anticipate first gold at Mallina in early-FY26, in line with DEG's conceptual project schedule, while noting that DEG plans four additional resource updates before first gold. We model Mallina's FCF to average ~A$400m per annum over the first five years of production, driving a rapid payback period.

Our outlook requires further inventory growth and funding

Our inventory base case assumes 23% more ounces compared to the Scoping Study's inventory. Inferred resource to reserve conversion is a key risk, given 30% of the 4.6Moz inventory in the Study's ten-year evaluation period is from inferred (low-confidence) resources. We also assume a $470m equity raise and a A$560m debt facility to fund Mallina. Other risks to our outlook include grade, gold price, AUD/USD exchange, mining costs and our LOM capital assumptions. We note that a 10% change in A$ gold price moves our NPV valuation by ~19%.

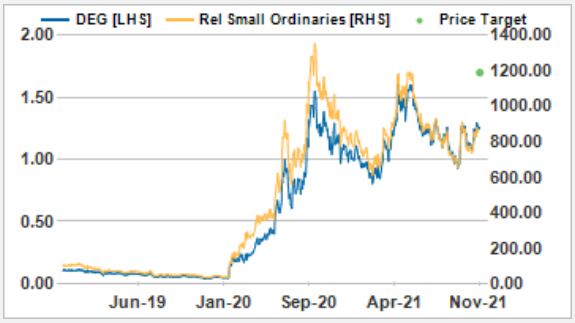
Inside

Clear tier-1 potential

Company profile

- DEG is an exploration company headquartered in Perth, Western Australia. The company has 100% ownership of the Mallina Gold Project located in the Pilbara region of Western Australia. While Mallina's jurisdiction is world-class, and only 60km south of Port Hedland, the project also has quality regional infrastructure running directly through, or nearby, the tenement package including sealed roads, gas and overhead power lines and good communications systems. In our view, DEG will advance Mallina into the development phase over the next ~2-years, having defined 6.8Moz of resources at Hemi since its late-2019 discovery, which boosted total resources to 230Mt at 1.2g/t for 9.0Moz. Given DEG's hold over the relatively immature exploration belt, and clear direct extensional opportunities, we expect resources will continue to grow. DEG's most recent conceptual timeline envisages first gold at Mallina in 2HCY25.
- A recent Scoping Study for Mallina outlined the projects clear tier-1 potential, with production expected to average 427kozpa at an AISC of A$1,224/oz over a ten-year evaluation period. It should be noted that this evaluation excludes ~0.8moz of mostly inferred resources that lie within the Scoping Study pit shells. Importantly, production over the first five years is anticipated to average 473kozpa at an AISC of A$1,111/oz, which we expect will drive an accelerated payback period.

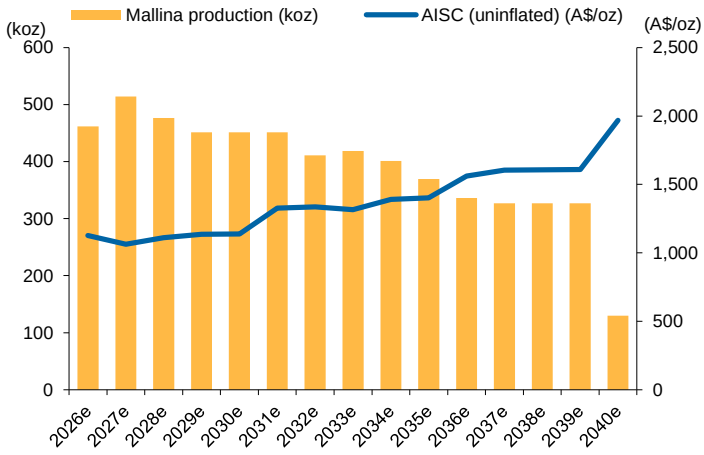
Fig 1 DEG AU rel Small Ordinaries performance, & rec history



Note: Recommendation timeline - if not a continuous line, then there was no Macquarie coverage at the time or there was an embargo period.

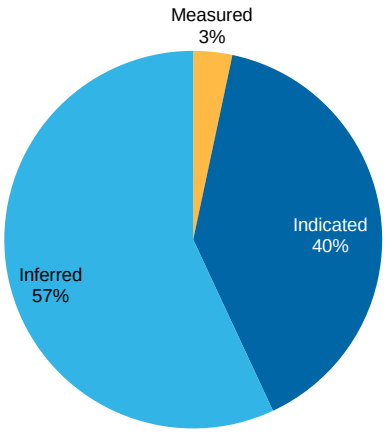
Source: FactSet, Macquarie Research, November 2021 (all figures in AUD unless noted)

Fig 2 Mallina production and cost forecasts



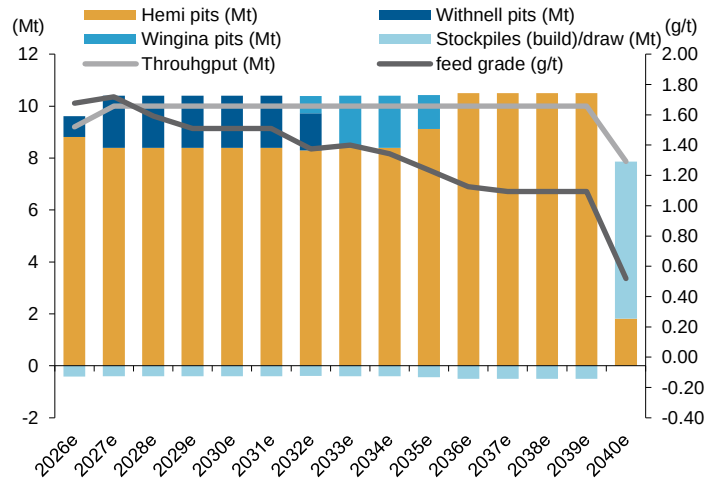
Source: DEG, Macquarie Research, November 2021

Fig 3 Mallina resource category by ounces.



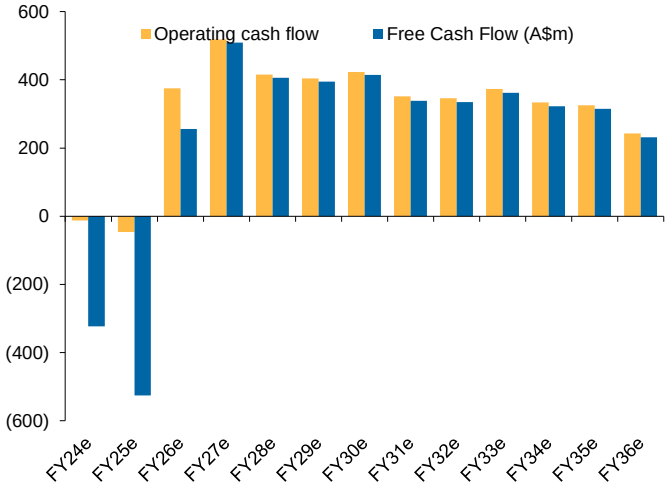
Source: DEG, Macquarie Research, November 2021

Fig 4 Mallina mill feed outlook



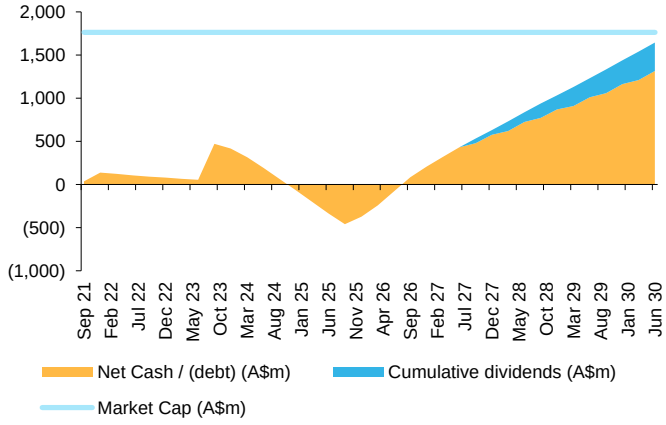
Source: DEG, Macquarie Research, November 2021

Fig 5 DEG operating and free cash flow outlook



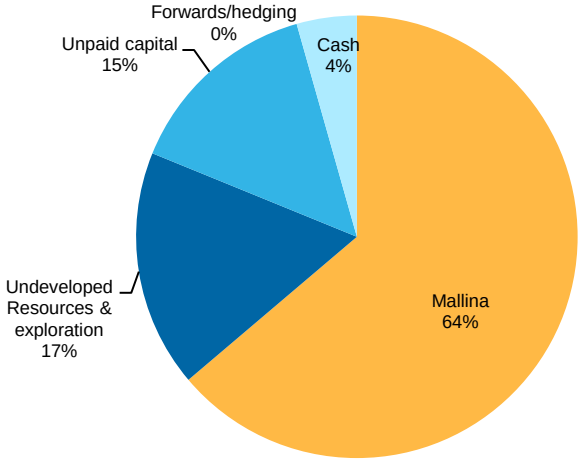
Source: DEG, Macquarie Research, November 2021

Fig 6 DEG net cash vs market capitalisation



Source: Macquarie Research, November 2021

Fig 7 DEG valuation breakdown



Source: Macquarie Research, November 2021

Fig 8 DEG summary model

De Grey Mining

ASX: DEG	**Price: (A$ps)**	1.25	**Year end:**	Jun	**Rating:**	**Outperform**	**Up/dn**	**TSR**
	Mkt cap: (A$m)	1,769	**Diluted shares (m)**	1415.2	**Target:**	**1.70**	**36%**	**36%**

ASSUMPTIONS		FY21	FY22e	FY23e	FY24e	FY25e	FY26e	FY27e
Exchange Rate	A$/US$	0.75	0.73	0.74	0.71	0.71	0.70	0.70
Spot Gold	(US$/oz)	1,850	1,726	1,538	1,550	1,625	1,675	1,665

RATIO ANALYSIS		FY21	FY22e	FY23e	FY24e	FY25e	FY26e	FY27e
Diluted share capital	m	1,266.2	1,415.2	1,415.2	1,842.5	1,842.5	1,842.5	1,842.5
EPS (diluted and pre sig. items)	A¢	-0.4	-1.1	-1.0	-0.3	-2.1	16.1	22.3
P/E	**x**	**-301.5x**	**-110.0x**	**-120.6x**	**-472.1x**	**-60.7x**	**7.8x**	**5.6x**
CFPS	A¢	(4.3)	(5.8)	(3.6)	(0.7)	(2.5)	20.3	28.2
P/CF	x	-28.8x	-21.6x	-34.9x	-178.8x	-50.2x	6.1x	4.4x
DPS	A¢	0.0	0.0	0.0	0.0	0.0	0.0	3.0
Dividend yield	**%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**2.4%**
Franking Level	%	0%	0%	0%	0%	0%	0%	0%
Book value per share	x	0.14	0.20	0.19	0.39	0.37	0.53	0.75
P/Book value	x	9.0x	6.3x	6.7x	3.2x	3.4x	2.4x	1.7x
R.O.E. (pre sig items)	%	-3%	-6%	-6%	-1%	-6%	30%	30%
R.O.A. (pre sig items)	%	-3%	-5%	-5%	-1%	-1%	28%	37%
Interest Cover	x	30.8x	19.0x	18.6x	2.6x	-0.3x	12.1x	54.9x
EBITDA per share	A$ps	0.00	-0.01	-0.01	0.00	0.00	0.26	0.36
EV/EBITDA	**x**	**-355.0x**	**-98.1x**	**-110.5x**	**-197.2x**	**-262.9x**	**3.9x**	**2.0x**
Free cash flow yield	%	(3%)	(5%)	(3%)	(18%)	(30%)	14%	29%

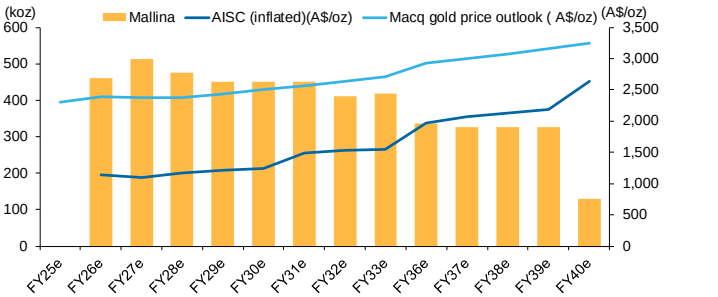
EARNINGS		FY21	FY22e	FY23e	FY24e	FY25e	FY26e	FY27e
Sales Revenue	A$m	0	0	0	0	0	884	1,223
Other Revenue	A$m	0	0	0	0	0	0	0
Total Revenue	**A$m**	**0**	**0**	**0**	**0**	**0**	**884**	**1223**
Operating Costs	A$m	0	0	0	0	0	(404)	(545)
Operational EBITDA	**A$m**	**0**	**0**	**0**	**0**	**0**	**480**	**677**
Exploration Expense/Write-offs	A$m	0	(9)	(9)	(2)	(2)	(4)	(4)
Corporate & Other Costs	A$m	(5)	(8)	(7)	(6)	(6)	(6)	(6)
EBITDA	**A$m**	**(5)**	**(17)**	**(16)**	**(8)**	**(8)**	**470**	**667**
D&A	A$m	(1)	0	0	0	0	(50)	(69)
EBIT	**A$m**	**(5)**	**(17)**	**(16)**	**(8)**	**(8)**	**420**	**598**
Net Interest	A$m	0	1	1	3	(30)	(35)	(11)
Profit Before Tax	**A$m**	**(5)**	**(16)**	**(15)**	**(5)**	**(38)**	**385**	**587**
Tax Expense	A$m	0	0	0	0	0	(88)	(176)
Minorities	A$m	0	0	0	0	0	0	0
Adjusted NPAT	**A$m**	**(5)**	**(16)**	**(15)**	**(5)**	**(38)**	**297**	**411**
Significant Items (post tax)	A$m	0	0	0	0	0	0	0
Reported NPAT	**A$m**	**(5)**	**(16)**	**(15)**	**(5)**	**(38)**	**297**	**411**

CASHFLOW		FY21	FY22e	FY23e	FY24e	FY25e	FY26e	FY27e
Net Profit	**A$m**	**(5)**	**(16)**	**(15)**	**(5)**	**(38)**	**297**	**411**
Interest/Tax/D&A	A$m	(50)	(66)	(36)	(8)	(8)	133	105
Working Capital/other	**A$m**	1	0	0	0	0	(55)	3
Net Operating Cashflow	**A$m**	**(55)**	**(82)**	**(51)**	**(13)**	**(46)**	**375**	**519**
Capex	A$m	(6)	(2)	0	(310)	(480)	(119)	(10)
Investments	A$m	(1)	0	0	0	0	0	0
Sale of PPE and Other	A$m	0	0	0	0	0	0	0
Free cash flow	**A$m**	**(61)**	**(84)**	**(51)**	**(323)**	**(526)**	**256**	**509**
Dividends Paid	A$m	0	0	0	0	0	0	0
Debt	A$m	(0)	0	0	400	160	(200)	(360)
Equity Issuance	A$m	104	120	0	458	0	0	0
Other	A$m	0	0	0	0	0	0	0
Net Financing Cashflow	**A$m**	**104**	**120**	**0**	**858**	**160**	**(200)**	**(360)**
Net change in cash	**A$m**	**43**	**36**	**(51)**	**535**	**(366)**	**56**	**149**

BALANCE SHEET		FY21	FY22e	FY23e	FY24e	FY25e	FY26e	FY27e
Cash	A$m	71	107	57	592	226	281	431
PP&E & Mine Development	A$m	7	8	8	318	798	867	807
Exploration	A$m	114	180	216	224	232	238	244
Total Assets	**A$m**	**197**	**313**	**299**	**1,152**	**1,274**	**1,504**	**1,597**
Debt	A$m	2	0	0	400	560	360	0
Total Liabilities	**A$m**	**21**	**34**	**34**	**434**	**593**	**527**	**208**
Total Net Assets / Equity	**A$m**	**176**	**280**	**265**	**718**	**680**	**977**	**1,388**
Net Debt / (Cash)	A$m	(69)	(107)	(56)	(192)	334	79	(431)
Gearing (net debt/(nd + equity))	%	(64%)	(62%)	(27%)	(36%)	33%	7%	(45%)
Gearing (net debt/equity)	%	(39%)	(38%)	(21%)	(27%)	49%	8%	(31%)

ATTRIBUTABLE MINE OUTPUT		FY21	FY22e	FY23e	FY24e	FY25e	FY26e	FY27e
Gold production (equ)								
Mallina	(koz)	-	-	-	-	-	462	514
Total	**(koz)**	**-**	**-**	**-**	**-**	**-**	**462**	**514**
Cash costs								
C1 Cash cost (inflated)	(A$/oz)	-	-	-	-	-	1,032	996
AISC (inflated)	**(A$/oz)**	**-**	**-**	**-**	**-**	**-**	**1,135**	**1,091**
EV/Production	(A$/oz)	-	-	-	-	-	5,159	3,643

OPERATIONAL OUTLOOK



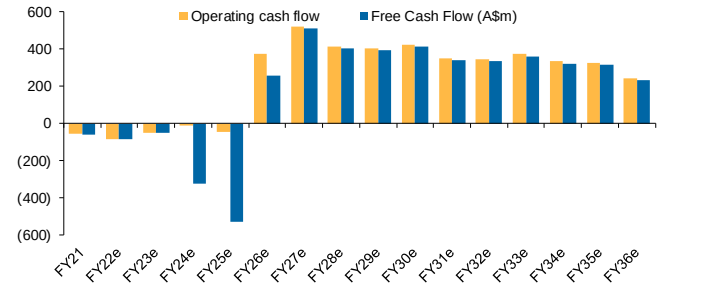
MINING INVENTORY

Mining Inventory			
Deposit	Mt	g/t	Moz
Hemi	128.9	1.26	5.24
Withnell	12.2	1.87	0.74
Wingina	6.0	0.17	0.03
Total Mining Inventory	**147.1**	**1.27**	**6.0**

RESERVES AND RESOURCES (ATTRIBUTABLE)

Reserves			
Project	Mt	g/t	Moz
Hemi	-	-	-
Withnell	-	-	-
Wingina	-	-	-
Total reserves	**-**	**-**	**-**
Resources			
Project	Mt	g/t	Moz
Hemi	192.2	1.10	6.81
Withnell	25.5	2.07	1.70
Wingina	11.9	1.31	0.50
Total Resources	**229.6**	**1.22**	**9.01**
EV/Reserve (A$/oz)	-	EV/Resource (A$/oz)	189

CASH FLOW OUTLOOK



EQUITY DCF VALUATION	Macquarie forecasts		Spot prices	
Projects	**A$m**	**A$ps**	**A$m**	**A$ps**
Mallina	2,025	1.10	3,258	1.77
Undeveloped Resources & exploration	550	0.30	469	0.25
Unpaid capital	458	0.25	458	0.25
Forwards/hedging	0	0.00	0	0.00
Corporate	(52)	(0.03)	(52)	(0.03)
Cash	140	0.08	140	0.08
Debt	(0)	(0.00)	(0)	(0.00)
Net Equity Value (@ 5% WACC)	**3,121**	**1.70**	**4,273**	**2.32**
Price Target (1.0 x NAV)		**1.70**		
P/NAV		**0.74x**		

Source: DEG, Macquarie Research, November 2021

Valuation and recommendation

Initiating with an Outperform and a A$1.70/sh target price

Initiate with an Outperform and a A$1.70/sh target price

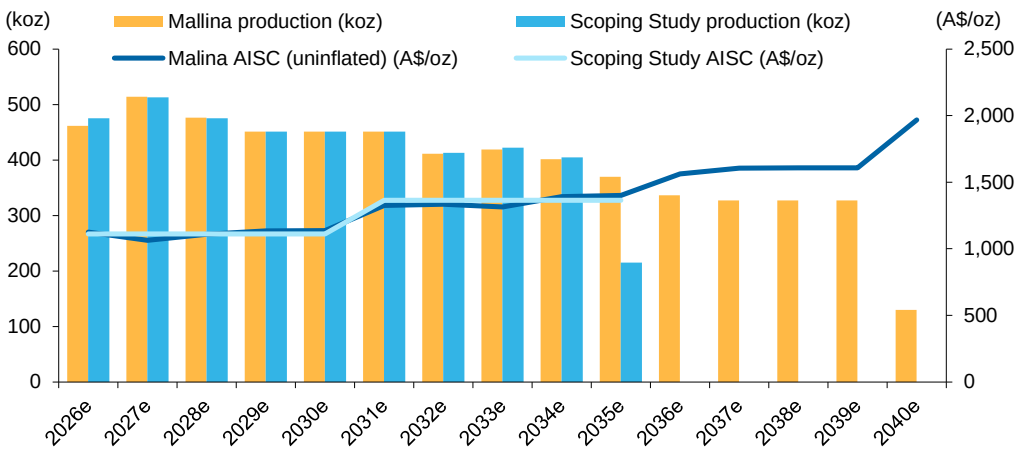
We initiate coverage of DEG with an Outperform recommendation and an A$1.70/sh target price. DEG owns the Mallina Gold Project (Mallina) in the Pilbara region of Western Australia, which hosts the Hemi discovery. Hemi's (discovered late-2019) recent maiden resource estimate of 192Mt at 1.1g/t for 6.8Moz saw Mallina's total resources grow to 230Mt at 1.2g/t for 9.0Moz.

Global scale development in Western Australia…

Mallina's scoping study outlined a ten-year mine life at ~427kozpa

A recent Scoping Study of Mallina envisaged average open pit production of ~427kozpa at an AISC of A$1,224/oz over a ten-year evaluation period with a pre-production capital cost of A$893m. This evaluation excludes ~0.8Moz of mostly inferred material that sits within the Scoping Study pit shells. Production over the first five years is estimated at 473kozpa at an AISC of A$1,111/oz. We note that infill, extension and exploration drilling continue at Mallina, with DEG currently undertaking a Pre-Feasibility Study (PFS) which is anticipated to be complete in late-CY22 with a Definitive Feasibility Study (DFS) expected in mid-to-late CY23. DEG's conceptual project schedule anticipated project construction to commence in mid-to-late CY23, with first gold expected in 2HCY25.

Fig 9 Our base case closely aligns with the ten-year Scoping Study evaluation period



Source: DEG, Macquarie Research, November 2021

Our base case follows the scoping study with an additional 5 years of lower-grade feed

Our base case closely follows the ten-year evaluation period that was outlined in the Scoping Study. However, we anticipate further discovery and resource conversion will extend the mine ~5 years beyond the ten-year evaluation period at production rates of ~300kozpa over the additional five years. Scoping Study Pre-production capital has been estimated at A$893m, which is slightly below our A$900m base case.

First gold is expected in early-FY26

We anticipate first gold at Mallina in early-FY26, in line with DEG's conceptual schedule, and we assume DEG will require a notional A$560m debt facility and require A$470m in equity to fund the project's development. We anticipate FCF to average ~A$400m per annum over the first five years of production, which is the key to our <2-year debt payback assumption.

Fig 10 Summary of our DCF valuation for DEG

Projects	A$m	A$ps
Mallina	2,025	1.10
Undeveloped Resources & exploration	550	0.30
Unpaid capital	458	0.25
Forwards/hedging	0	0.00
Corporate	(52)	(0.03)
Cash	140	0.08
Debt	(0)	(0.00)
Net Equity Value (@ 5% WACC)	**3,121**	**1.70**
Price Target (1.0x NAV)		**1.70**

Source: Macquarie Research, November 2021

We use a 1.0x NAV valuation methodology to derive our A$1.70/sh target price

Following the recent positive Scoping Study, we now consider DEG a late-stage explorer/early-stage developer. As such, we have selected a 1.0x sum-of-the-parts NAV valuation methodology for DEG, which is 10% below the 1.1x NAV multiple methodology we use for the other Australian-based gold developer under our coverage: Bellevue Gold (BGL AU, A$0.82, Outperform, TP: A$1.40). Our A$1.70/sh target price is based on this NAV divided by the ultimate shares we assume will be on issue, which fully accounts for our future dilution assumptions.

DEG is not without risk given the relatively low Scoping Study confidence and funding requirements

We have opted for a multiple below BGL's because we see DEG's Mallina Project as higher-risk due to two key factors: i) we consider Mallina's Scoping Study to be of a lower confidence compared to BGL's Stage-2 Feasibility Study, and ii) Mallina still requires a funding solution compared to BGL being fully funded for development. Our DCF valuation methodology uses a WACC of 5% which is in line with our assumption for other small-to-mid cap Australian based gold producers/developers under our coverage.

Fig 11 Valuation metrics of other gold producers/developers under our coverage

	WACC (%)	OCF multiple (x)	NAV multiple (x)
NCM, NST & EVN	2.4%	10.0	1.3
SLR, GOR & CMM	5.0%	9.0	1.3
RMS	5.0%	8.0	1.3
RRL	5.0%	7.0	1.2
WGX	5.0%	6.0	1.2
SBM	5.0%	6.0	1.0
AMI	5.0%	4.0	1.1
OGC	8.0%	6.0	1.1
PRU & WAF	10.0%	6.0	1.1
RSG	15.0%	3.0	1.0
BGL	5.0%	n/a	1.1
DCN & DEG	**5.0%**	**n/a**	**1.0**

Source: Macquarie Research, November 2021

Our development case for Mallina represents 65% of our valuation at A$2.02bn

Our valuation for DEG is underpinned by our base case development scenario for the Mallina Gold Project, which we value at A$2.02bn, or 64% of our NAV. We note that this compares to the A$2.0bn post-tax $NPV_{5\%}$ that was outlined in the Scoping Study. Following a recent A$125m institutional placement, we expect DEG to finish CY21 with a cash balance of A$140m, making 4% of our NAV.

We assume Mallina will need A$1.03bn in additional development funding

We assume DEG requires A$1.03bn in additional funding to develop the A$893m (pre-production capital) Mallina Project. While DEG currently has no debt, our base funding case to develop Mallina incorporates a notional A$560m debt facility. We also incorporate a A$458m (14% of NAV) unpaid capital valuation into our NAV for DEG as the net proceeds from the notional A$470m future equity raise which we assume will complete the funding for Mallina's development.

Our undeveloped resources/exploration valuation is 15% of our NAV

We assign an undeveloped resources and exploration value for DEG of A$550m, or 17% of NAV. We believe this undeveloped resources and exploration value for DEG is reasonable, given the size of resource excluded from our development scenario, immediate resource extensional/ upgrade opportunities and the camp-scale regional exploration prospectivity of the Mallina tenement package.

We assume a ~6-month tax shield after first production

In its June 30, 2021, accounts, DEG reported accumulated losses of A$62m and tax losses of A$30m. On our estimates, we expect this to shield DEG from cash tax liabilities until ~6 months after first production at Mallina. While DEG does not currently have gold hedge commitments, we suspect that hedging could be used as a risk mitigation tool for the company as it moves closer to first production, which, upon comparing to our gold and FX outlook on a DCF basis, would then be incorporated into our NAV valuation for DEG.

… with tier-1 potential

Mallina's tier-1 potential is clear even without additional growth

In our view, Mallina's resource, underpinned by Hemi, already indicates tier-1 (+300kozpa for +10-years) potential without additional growth. Hemi's maiden resource was estimated using a May 2021 cut-off, with strong infill and extensional drilling since completed. DEG comments that resource extension drilling since the May cut-off has been successful, with the Diucon and Eagle deposits at Hemi key targets.

Importantly, 0.8Moz of resource mineralisation (90% inferred and 10% indicated categories) was excluded from within DEG's scoping study pit shells. The company plans to further drill this

0.8Moz of resources sits within the Scoping pit shells but was excluded from economic

Hemi has grown at ~0.4Moz per month since the 2019 discovery

material to upgrade the resource classification for further inventory inclusion, which is an important near-term opportunity for inventory growth, in our view.

Hemi's resource has grown at ~450koz per month in the 15 months following the commencement of detailed RC and Diamond drilling and ~400koz per month since the late-2019 discovery. Given the rate of resource growth thus far, the clear direct extension potential of resources and significant regional exploration prospectively, we see potential for continued inventory growth beyond our initial assumptions and for Mallina to grow into a true district-scale project.

We anticipate first gold at Mallina in early-FY26, in line with DEG's most recent conceptual schedule, and we assume DEG will require a notional A$560m debt facility and require A$470m in equity to fund the project's development. We anticipate FCF to average ~A$400m per annum over the first five years of production.

Experienced exploration and development team

Experienced management team with development track record

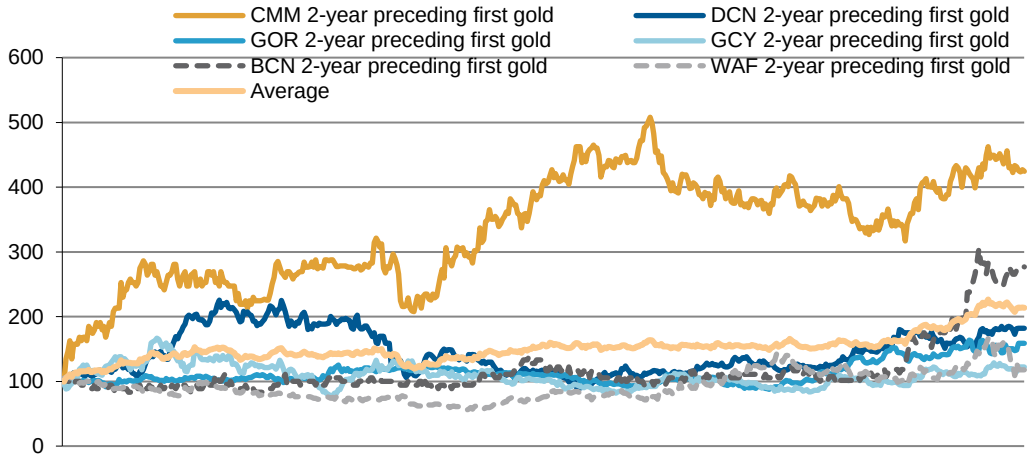
DEG has gathered an experienced management team with expertise across all stages of mining projects including exploration, assessment, planning, construction and operations. Mr Glenn Jardine joined DEG shortly after the Hemi discovery. Mr Jardine brings a wealth of experience in guiding companies through feasibility studies, funding, project development and operations, including ones that utilised similar process routes to those envisaged in Mallina's Scoping Study. Mr Andy Beckwith is DEG's Executive Technical Director and has over 30 years of geological and management experience and has successfully been part of teams taking projects from grassroots activities to mine development. Mr Phil Tornatora heads up exploration and was most recently General Manager Exploration at Northern Star Resources (NST AU, A$9.79, Outperform, TP: A$13.00).

Developer to producer re-rate anticipated

We envisage a positive re-rate as the project is de-risked

As DEG de-risks Mallina via further drilling, economic studies, completion of funding and as development is advanced, we expect the company will undergo a developer-to-producer re-rate as it moves towards first gold production in late-CY25. We take a look at the relative share price performance of recent ASX gold producers in the two years directly preceding first gold production at their respective assets. We consider the two years proceeding first production as a time that captures the majority of the project de-risking and development activities for most gold projects.

Fig 12 ASX gold producers share price movements two years preceding first gold

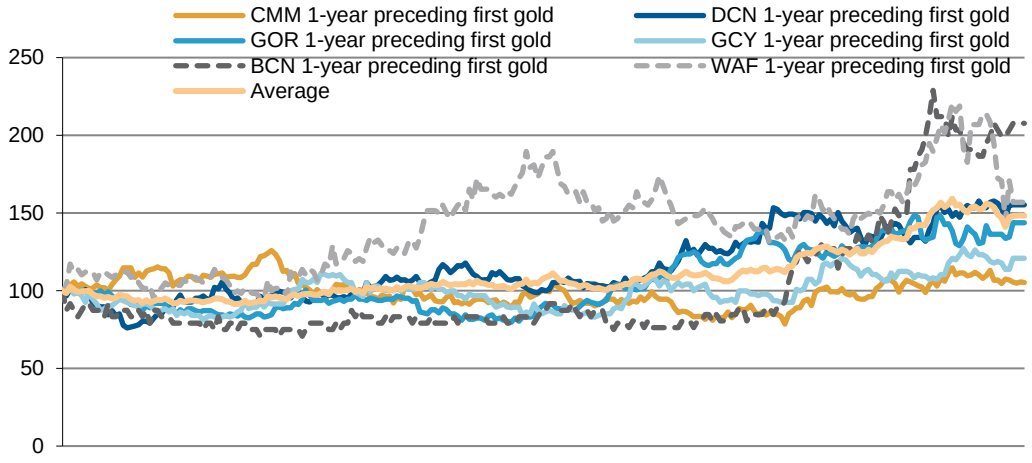


Source: Factset, Macquarie Research, November 2021

Other developers average a 114% uplift in share price in the two years preceding first gold

Recent developers Dacian Gold (DCN AU, A$0.21, Outperform, TP: A$0.25),Gold Road Resources (GOR AU, A$1.51, Outperform, TP: A$1.60), West African Resources (WAF AU, A$1.30, Outperform, TP: A$1.60), Capricorn Metals (CMM AU, A$2.93, Neutral, TP: A$2.40, Andrew Bowler), Gascoyne Resources Ltd (GCY AU, Not Rated) and Beacon Minerals' (BCN AU, Not Rated) saw their share prices, on average, more than double (up 114%) in the two years preceding the announcement of first gold production and up 48% in the final year preceding first gold.

Fig 13 ASX gold producers share price movements one year preceding first gold.



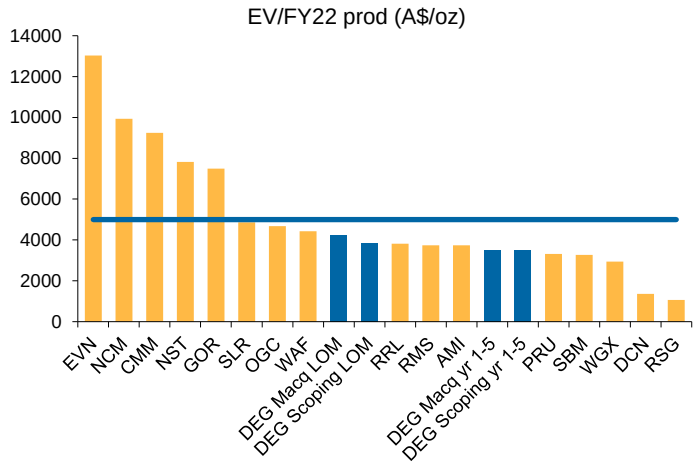
Source: Factset, Macquarie Research, November 2021

Attractive on a range of key metrics

DEG trades at attractive levels on a EV production and a P/NAV basis

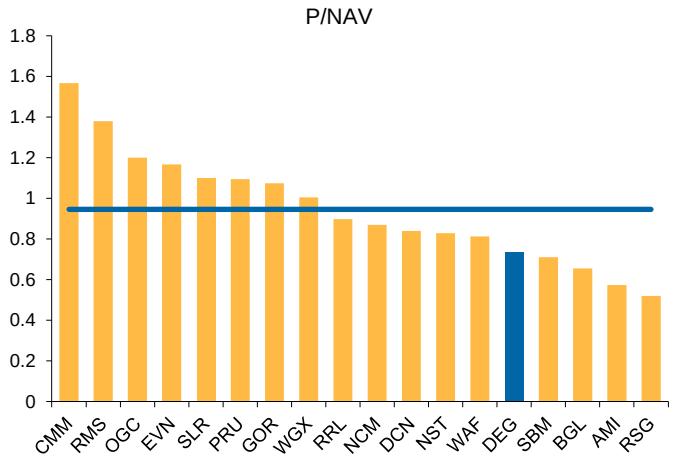
We compare DEG to other ASX-listed gold stocks under our coverage on several key metrics. One of our preferred metrics is on an EV/Production basis. We have opted to compare our FY22/CY22 production expectations of peers against DEG's Scoping Study ten-year evaluation period, Scoping study years 1-5, our LOM (15-years) outlook and our year 1-5 production estimates. On all four comparative metrics, DEG trades below the peer group average.

Fig 14 DEG is trading below the average of peers on a EV/Production basis using scoping study and Macq production scenarios



Source: Company data, FactSet, Macquarie Research, November 2021.

Fig 15 On A P/NAV basis DEG trades with developers and stocks that generally have a less certain outlook



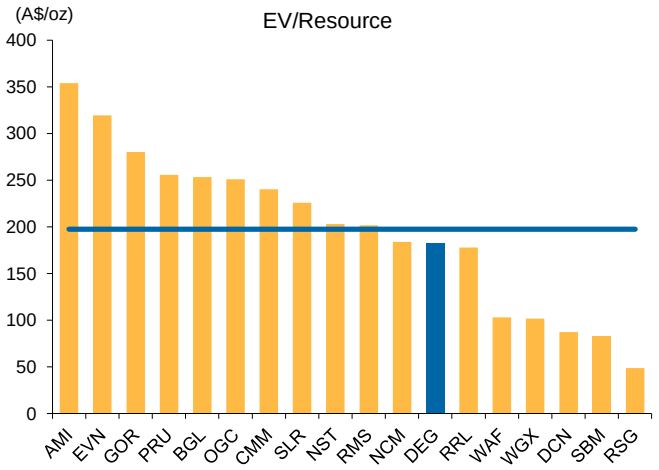
Source: Company data, FactSet, Macquarie Research, November 2021.

On a P/NAV (using our development base case) basis, DEG also trades favourably compared to peers. In our view, the favourable EV production and P/NAV support our thesis of a late-stage explorer/developer-to-producer re-rate as Mallina is progressively de-risked.

DEG trades attractively on an EV/Resource basis and is expected to produce at a lower AISC than most peers

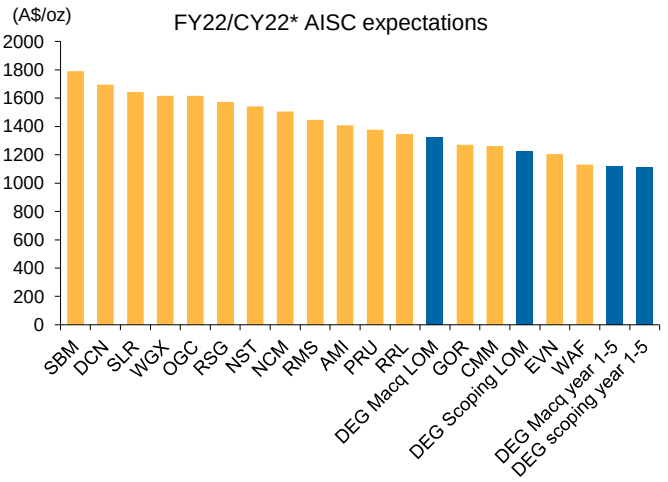
On an EV/Resource basis, DEG also trades below the peer average despite the clear resource growth potential that remains at Mallina. We also point out that Mallina's (uninflated) AISC expectations are also strong compared to our FY22/CY22 expectations for the other ASX-listed gold stocks under our coverage. This notionally supports the potential for DEG to re-rate closer to the EV/production peer average once in production.

Fig 16 DEG trades below the peer average on an EV/Resource basis



Source: Company data, FactSet, Macquarie Research, November 2021

Fig 17 We anticipate DEG to produce at the lower end of the its peer's near-term cost curve (uninflated)



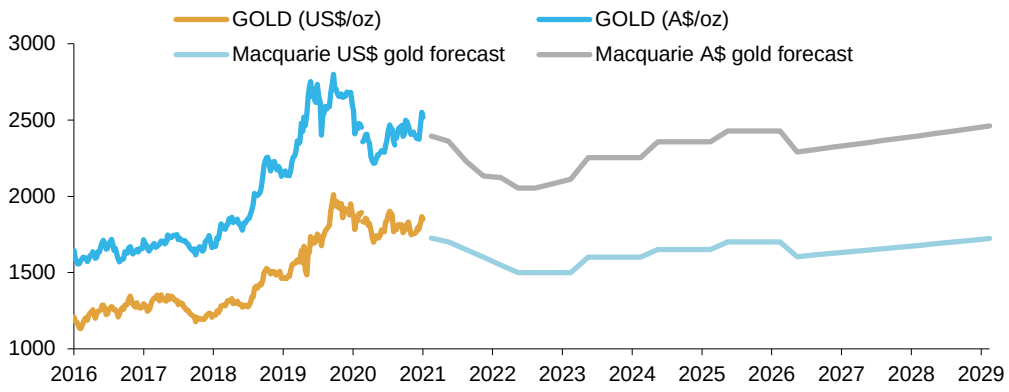
Source: Company data, FactSet, Macquarie Research, November 2021

Longer-term gold outlook more pertinent

Our gold outlook envisages near-term weakness followed by growth from CY23

Given our assumption of first gold production at Mallina in early-FY26 we see the longer-term gold price outlook as more relevant for DEG. The Macquarie Desk Strategy Commodity team's most recent gold price outlook can be found here. The forecast anticipates a reduction in gold prices from the current price of ~US$1,800/oz to US$1,500/oz by CY23. The outlook then forecasts gold prices to recover from the 2023 lows to US$1,700/oz in CY26 before a reversion to our long-term assumption of US$1,400/oz (real), which equates +US$1,600/oz in CY27 using our inflation outlook.

Fig 18 Macquarie's US$ and A$ gold price forecasts



Source: Factset, Macquarie Desk Strategy, November 2021.

Recent events, and the global recovery from Covid-19 has led to choppy gold trading

It should be noted that our near-term bearish outlook on gold has been driven by the assumption that US 10y yields will rise. driven by the global economic recovery following the Covid-19 pandemic. However, recent commentary from our commodity team suggests that consensus around near-term inflation (and wage growth) being broader and more sustained than first thought appears to be supporting gold in the near-term. Recent 'hawkish' comments from the US Federal Reserve, in order to contain inflation, has also seen a material fall in gold prices in recent days and creates a near-term environment for choppy gold pricing.

Our NAV has 40% upside on spot valuation metrics

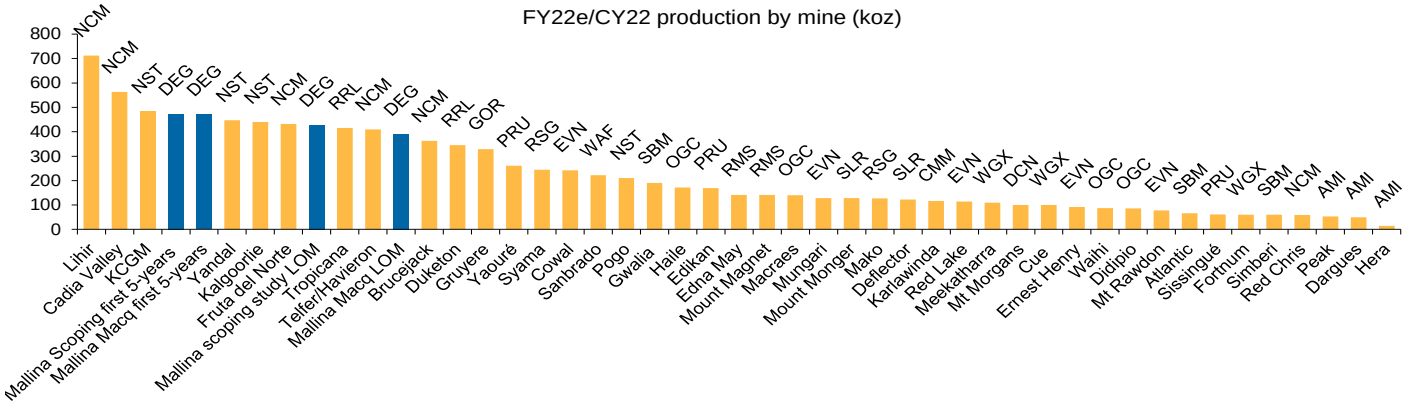
Given our relatively bearish near-term gold outlook, and a long-term gold price assumption that is materially lower than current gold prices, we note that our spot (gold and FX) NAV valuation for DEG is 40% higher than our base case estimate.

Fig 19 Key multiples of all gold stocks under our coverage. ^DEG average LOM production from Scoping Study

Company	Code	Market cap (A$m)	Share price (A$)	EV (A$m)	FY22 prodn (koz)	NAV (A$/sh)	PNAV (x)	EV/prod (A$/oz)	EV/Ebitda (x)	PE (x)	P/FY21 CF (x)	FY21 FCF yield (%)	EV/ Reserve
Newcrest Mining	NCM	19,688	24.07	22,020	2,218	27.67	0.9	9,928	9.4	22.6	11.5	-8.7%	361
Northern Star Resources	NST	12,294	9.79	12,351	1,579	11.81	0.8	7,824	9.1	71.8	10.7	2.3%	589
Evolution Mining	EVN	7,442	4.06	8,737	670	3.48	1.2	13,032	10.8	31.9	11.3	-14.9%	922
De Grey Mining	**DEG**	**1,758**	**1.25**	**1,651**	**427^**	**1.70**	**0.7**	**3498**	**nmf**	**nmf**	**nmf**	**nmf**	**-**
Regis Resources	RRL	1,455	1.93	1,790	469	2.15	0.9	3,813	4.1	10.0	5.6	-12.6%	379
St Barbara	SBM	983	1.39	1,033	316	1.95	0.7	3,266	4.9	31.5	6.4	-5.5%	165
Silverlake Resources	SLR	1,485	1.69	1,221	251	1.53	1.1	4,864	5.6	24.8	7.7	0.3%	898
Ramelius Resources	RMS	1,347	1.66	1,053	282	1.20	1.4	3,734	4.1	18.6	7.2	8.2%	965
OceanaGold*	OGC	1,901	2.70	2,263	484	2.25	1.2	4,677	5.1	16.6	5.1	1.0%	373
Gold Road Resources*	GOR	1,326	1.51	1,233	164	1.40	1.1	7,499	9.4	23.3	11.7	7.1%	542
Perseus Mining	PRU	1,968	1.69	1,633	492	1.54	1.1	3,320	3.5	10.8	5.6	15.9%	499
Resolute Mining*	RSG	401	0.38	395	372	0.72	0.5	1,061	1.8	3.7	3.7	52.7%	97
Westgold Resources	WGX	886	2.07	795	270	3.16	0.7	2,947	3.6	10.4	5.4	-0.2%	360
West African Resources*	WAF	1,149	1.30	984	222	1.60	0.8	4,428	4.0	11.6	9.8	-0.4%	681
Capricorn Metals	CMM	1,075	2.93	1,082	117	1.87	1.6	9,249	11.8	23.9	12.4	6.0%	901
Bellevue Gold	BGL	824	0.82	743	-	1.25	0.7	nmf	nmf	nmf	nmf	nmf	859
Aurelia Metals Limited	AMI	482	0.39	442	118	0.68	0.6	3,733	3.6	36.1	5.0	3.1%	2426
Dacian Gold	DCN	134	0.21	137	100	0.25	0.8	1,366	1.9	33.7	3.9	-11.1%	357

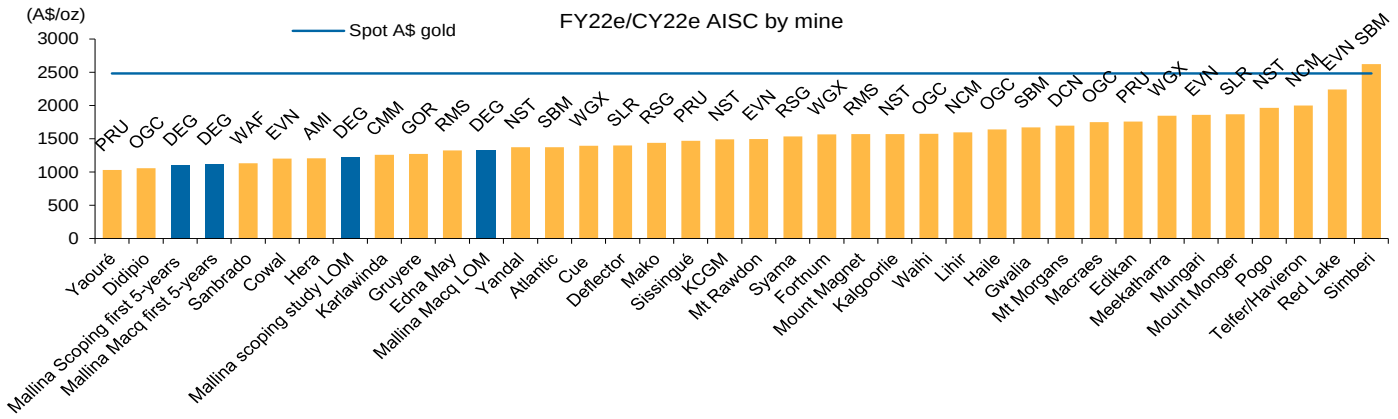
Source: FactSet, Macquarie Research, November 2021

Fig 20 Mallina production output compared to our FY22/CY22 outlook for other ASX-listed gold miners under our coverage



Source: Macquarie Research, November 2021

Fig 21 Mallina's AISC outlook compared to our FY22/CY22 estimates for other ASX-listed gold miners under our coverage



Source: Macquarie Research, November 2021

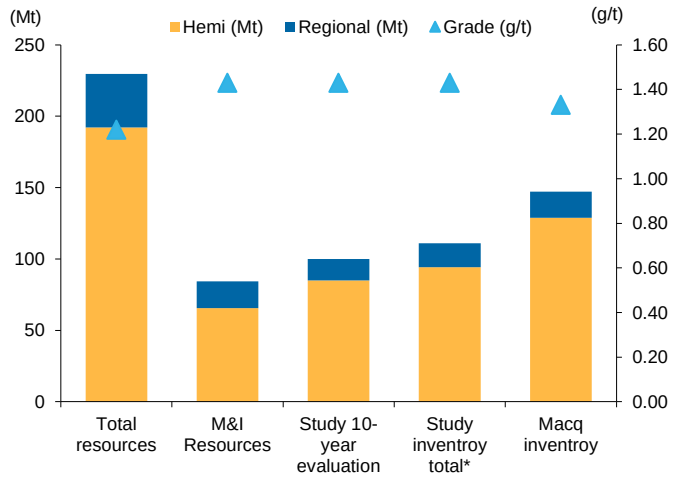
Risks and sensitivities

Our outlook requires further inventory growth…

Our additional mining inventory presents a key risk to our outlook

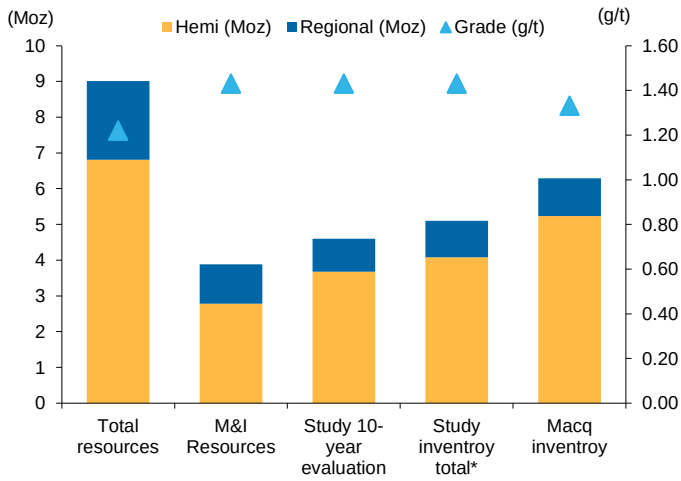
Our base case for Mallina assumes 23% more ounces will be mined compared to the Scoping Study's overall inventory (111mt at 1.43g/t for ~5.1Moz). Also, of the 4.6Moz the Scoping Study planned to be mined in the ten-year evaluation period, 30% is sourced from the inferred resource category, which is of a lower level of geological confidence. Other key risks to our assumptions include grade, gold price, AUD/USD exchange rate, mining costs and our LOM capital assumptions. We note that a 10% change in our A$ gold price assumptions moves our NAV valuation of DEG by ~19%.

Fig 22 Resources vs scoping inventory vs Macq base case on a tonnes basis



Source: DEG, Macquarie Research, November 2021

Fig 23 Resources vs scoping inventory vs Macq base case on an ounces basis



Source: DEG, Macquarie Research, November 2021

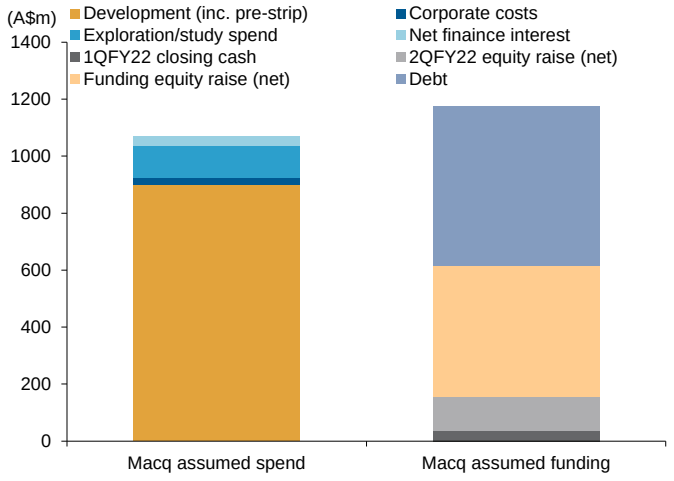
… and A$1.03bn in additional funding

Funding is a key risk to our outlook

DEG being able to source funding to develop Mallina presents a key risk to our outlook. The scoping study envisaged a total development cost of A$893m (we assume A$900m), including A$835m in development capital and a A$58m pre-strip. DEG notes that its Scoping Study development capital estimate of A$835m has been 'primarily derived using a desktop study approach to an accuracy of ± 35%' and includes a 25% contingency (A$167m). Our pre-production capital assumption is a key risk to our funding outlook for DEG, particularly given the relatively low level of accuracy, as is typical, in scoping study estimates.

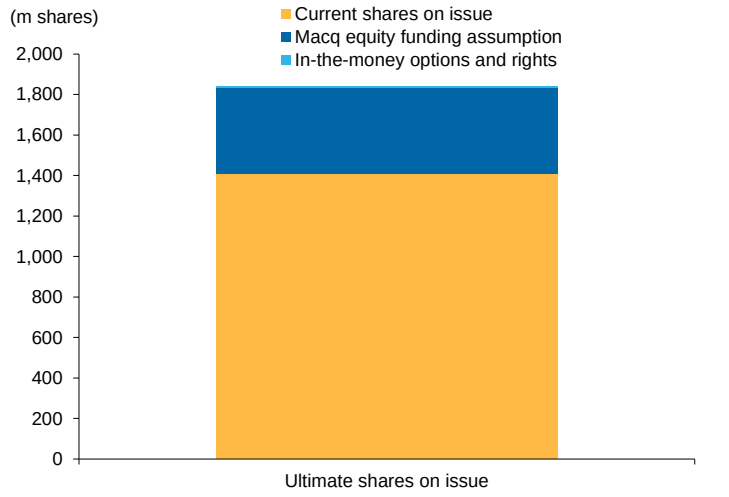
DEG finished 1QFY22 with A$36m in cash and no debt and subsequently raised a further A$125m (before costs) in 2QFY22 to fund both continued exploration and a Pre-Feasibility Study (PFS). DEG plans to complete the PFS in 1HFY23, leading into a Definitive Feasibility study to be completed by 1HFY24.

Fig 24 Our funding vs spending outlook until first gold



Source: DEG, Macquarie Research, November 2021

Fig 25 We assume DEG to raise A$470m in equity at A$1.10/sh

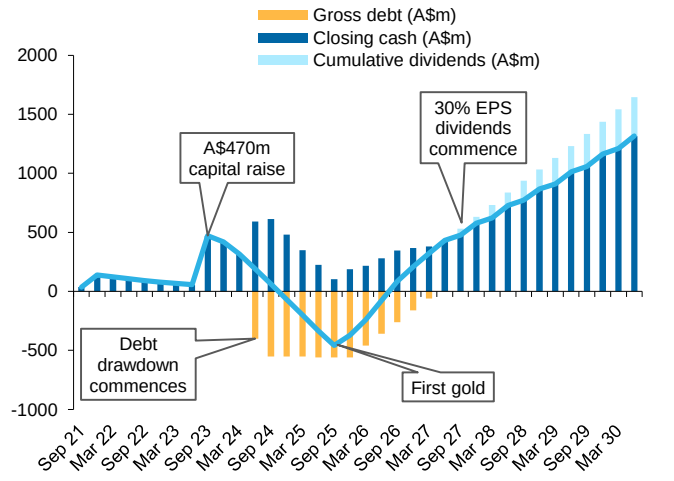


Source: Macquarie Research, November 2021

We anticipate an additional A$1.03Bn in development funding is required

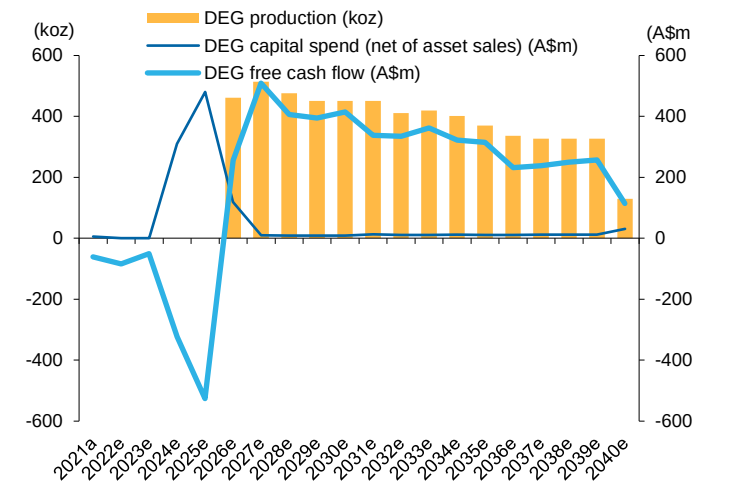
We anticipate DEG to spend ~A$13m per quarter on exploration and study work until construction commences in in 1HFY24, when we expect exploration spending will reduce. We also assume a A$6m per annum corporate and other costs during the exploration/study and development phase. Using these assumptions, and a A$900m pre-production capital cost, we estimate DEG will require A$1.03Bn in additional funding to get to first gold production in early-FY26. Our funding assumption estimates the company maintains a minimum of A$100m in cash during Mallina's Development.

Fig 26 Our quarterly debt, cash and net cash outlook - we expect rapid deleveraging following first production



Source: DEG, Macquarie Research, November 2021

Fig 27 We estimate Mallina will generate ~A$400mpa in free cash flow over the first five years of operation



Source: Macquarie Research, November 2021

Of the A$1.03bn in funding we notionally model 46% will come from equity and 54% will be debt.

Of the A$1.0bn in additional funding, we assume 46% will be sourced from a notional $470m equity raise and 54% will be sourced from a notional A$560m debt facility. We model DEG to undertake the development funding equity raise in 1HFY24, following the delivery of Mallina's DFS. We assume the raise will be at an issue price of A$1.10/sh. Our equity raise assumption implies that an additional 427m DEG shares will be issued, or 30% more than the 1,406m shares currently on issue. Our funding assumptions present a key risk to our outlook for DEG. However, given the strong metrics displayed in DEG's scoping study, our anticipation of the project to continue to grow until first gold and DEG's current market capitalisation (~A$1.7bn), we expect both the debt and equity markets to be available to DEG.

We model a <2-year debt payback period

We anticipate that our notional A$560m debt facility will begin being drawn in late-FY24 as the construction spend begins to ramp up. We assume debt repayments commence six months following first gold with a <2-year payback period. As for any new project, ramp-up is not without

risk; however, in our view, the relatively standard gold process plant that is proposed at Mallina (crush, grid, flotation, oxidation and leaching) is, in general, well understood and typically reaches nameplate capacity relatively quickly after achieving first gold. We incorporate notional dividend payments commence six months after debt repayment at a rate of 30% of earnings.

Gold price presents the most pronounced sensitivity

Fig 28 Sensitivity analysis on a per share basis – Gold price and grade are key sensitivities

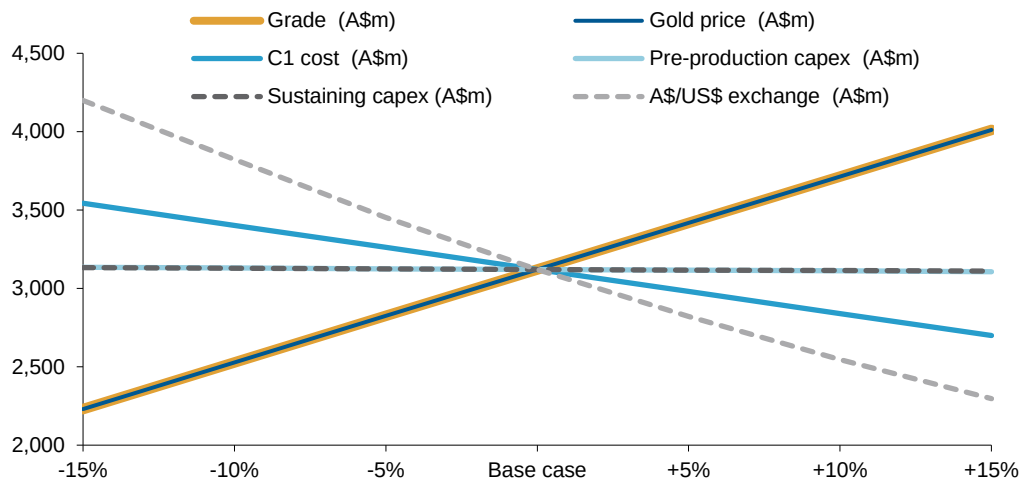
Sensitivity comparative	-15%	-10%	-5%	Base case	+5%	+10%	+15%
Grade (A$m)	1.22	1.38	1.54	1.70	1.86	2.02	2.18
Gold price (A$m)	1.22	1.38	1.54	1.70	1.86	2.02	2.18
C1 cost (A$m)	1.93	1.85	1.78	1.70	1.62	1.55	1.47
Pre-production capex (A$m)	1.71	1.70	1.70	1.70	1.70	1.70	1.69
Sustaining capex (A$m)	1.71	1.70	1.70	1.70	1.70	1.70	1.69
A$/US$ exchange (A$m)	2.29	2.08	1.88	1.70	1.54	1.39	1.25

Source: Macquarie Research, November 2021

Gold price and grade the key sensitivities

Movements in commodity prices present a significant risk to our earnings forecasts and valuation. We also make assumptions within our forecasts for production, capital expenditure, and operating costs, in addition to exchange rates. Variances in these assumptions versus our base case present material risks, both to the upside and downside, to our earnings forecasts and valuation. The two most pronounced sensitivities to our outlook are A$ gold prices and inventory grade. While pre-production capital is a relatively modest sensitivity on a project NAV basis, we note that our sensitivity analysis does not account for the funding risk associated with a material increase or decrease in pre-production capital costs

Fig 29 Sensitivity analysis on a NAV basis – Gold price and grade are key sensitivities



Source: Macquarie Research, November 2021

Mallina – Clear tier-1 potential

Large operation with economies of scale

Our development scenario closely matches Mallina's Scoping Study

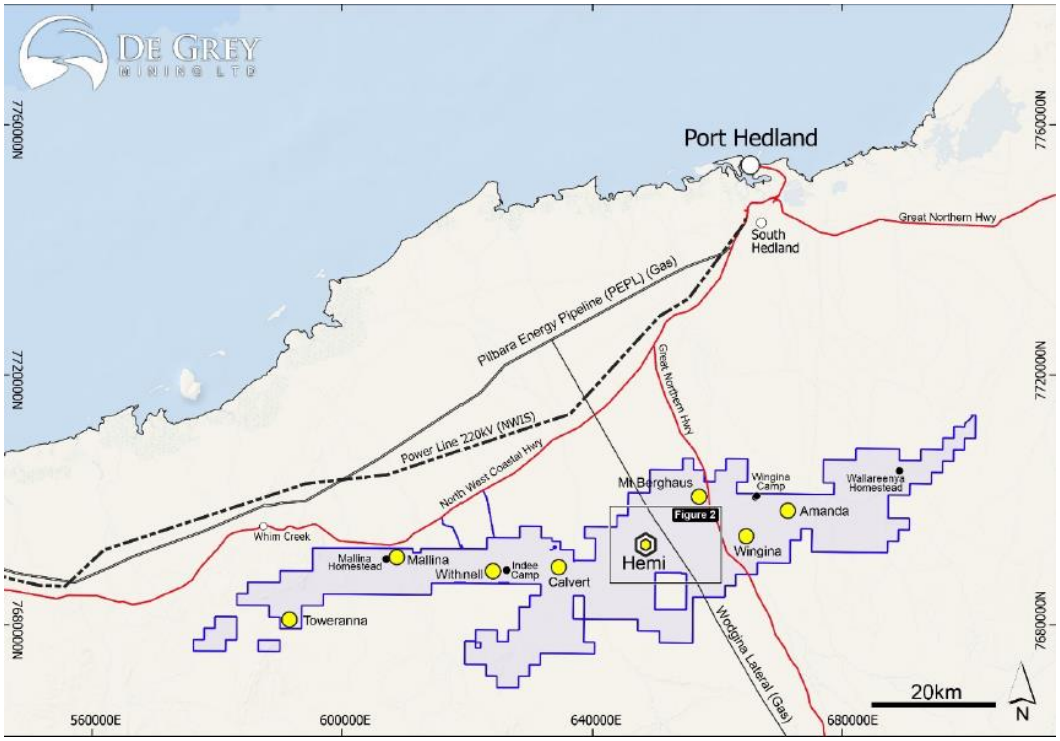
Our base case for Mallina's development is largely based on DEG's recent Scoping Study that was released in October 2021. While our initial ten-year outlook closely matches the ten-year evaluation period from the study, we also assume continued exploration and resource drilling activities will progressively add mineable inventory before first gold in 1HFY26. Given the large scale (10Mtpa processing rate) and significant regional infrastructure (haul roads etc) anticipated in Mallina's scoping study development we suspect any additional ore inventory will be added at a relatively low rate of capital intensity.

The PFS (underway) will look to leverage immediate upside

DEG is investigating immediate upside opportunities compared to the Scoping Study as part of the Pre-Feasibility Study (PFS), which is expected to be complete in 2HCY22. Immediate upside opportunities identified by DEG include:

- ⇒ Infill drilling to upgrade the categorisation of ~0.8Moz of mostly (90%) inferred resources that lie within the scoping study pit shell but is ascribed no value in the economic evaluation.
- ⇒ A detailed consideration of the 10Mtpa throughput rate presented as the PFS base case. DEG notes that throughout rates of 7.5Mtpa, 10.0Mtpa and 12.5Mtpa were considered in the Scoping Study, with the former two rates studied in detail and the latter assessed conceptually.
- ⇒ Scoping Study mine designs exclude extensions along strike, width and depth at Diucon and Eagle, in particular, with strong drilling returned post the resource estimate.
- ⇒ Continuing to grow resources at Diucon and Eagle as well as other Hemi and regional deposits.
- ⇒ Results of continued exploration activities.

Fig 30 Location map of Hemi and regional pits – Hemi is located next to key infrastructure.



Source: DEG, November 2021

Hemi the regional processing hub

The Hemi group of deposits will form the hub to process ore from local and regional sources. Hemi is located centrally in the Mallina tenement package and close to key regional infrastructure in the world-class mining region of the Pilbara, 60km from the town of Port Headland. Key infrastructure in close proximity to Hemi include a bitumen highway, two gas pipelines, a 22kV power transmission line (adequate capacity for Hemi – powered by gas plants) and good communications services.

Our base case is aligned to the Scoping Study

We model an additional 5-years of mine life at lower-grades

Our base case for Mallina's development is largely based on DEG's recent Scoping Study for the project. We also incorporate an additional portion of lower-grade inventory which extends our base case mine life to 15 years, up from the ten-year 'evaluation period' that was outlined in the Scoping Study. A summary of key Scoping Study outcomes vs our outlook are summarised in the following table.

Fig 31 Scoping Study vs Macq base case - Our Mallina outlook is based on the Scoping Study

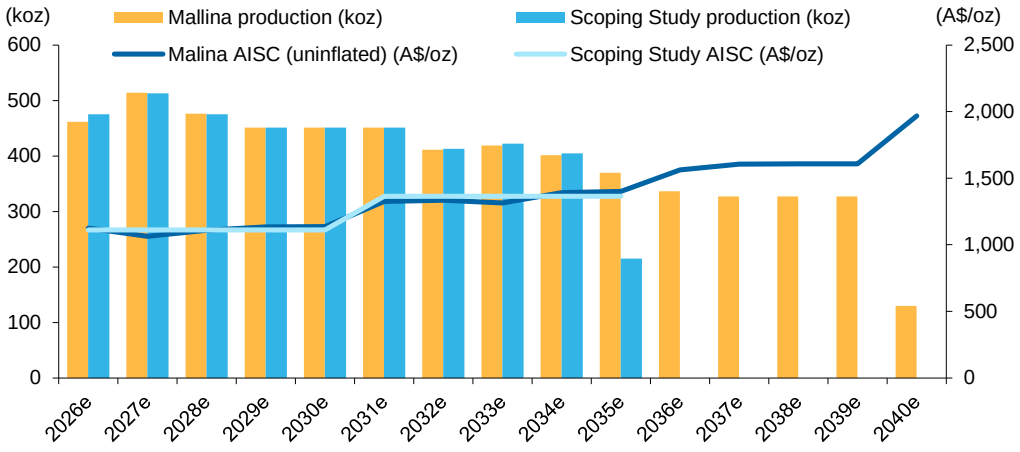
	DEG Scoping Study	Macq base case	difference
Mining inventory - Tonnes (Mt)	111	147	32%
Mining inventory - Grade (g/t)	1.43	1.33	-7%
Mining inventory - Ounces (Moz)	5.1	6.3	23%
Mine life (years)	10.0	15.0	50%
Pre-production capital (A$m)	893	900	1%
Plant throughput (Mtpa)	10.0	10.0	0%
Processing recoveries (%)	93.0	93.0	0%
Production - LOM (Moz)	4.3	5.9	37%
Production rate - year 1-5 (kozpa)	473	471	0%
Production rate - year 1-10 (kozpa)	427	441	3%
Production rate - LOM (kozpa)	427	390	-9%
Uninflated AISC - year 1-5 (A$/oz)	1,111	1,122	1%
Uninflated AISC - year 1-10 (A$/oz)	1,224	1,232	1%
Uninflated AISC - LOM (A$/oz)	1,224	1,325	8%
Post tax $NPV_{5\%}$ (A$m)*	1,976*	2,025*	2%

Source: DEG, Macquarie Research, November 2021. DEG used A$2,400 gold price. We use our own gold deck and assume costs inflate at 2.6%pa.

PFS due in 2HCY22 followed by a DFS in 2HCY23

DEG's Scoping Study is based on a 'ten-year evaluation period'. The most recent conceptual project schedule released by DEG envisages a Pre-Feasibility Study (PFS) (underway) to be complete in 2HCY22 and move straight into a DFS, which is expected to compete in 2HCY23. At the conclusion of the DFS DEG expects to commence construction with first gold expected in 2HCY25. Our project timeline is in line with DEG's conceptual schedule.

Fig 32 Our production and AISC outlook closely follows DEG's ten-year evaluation period



Source: DEG, Macquarie Research, November 2021

Our 10Mtpa at 93% recovery process assumption aligns with the Scoping Study

Our processing assumption of 10Mtpa at a 93% recovery rate is aligned with the Scoping Study. Gold production is expected to average ~473kozpa in the first five years of Mallina's life with ~427kozpa over the whole ten-year evaluation period. Our initial five- and ten-year production expectations closely match the Scoping Study's respective estimates.

473kozpa at an AISC of A$1,111/oz expected over first five years

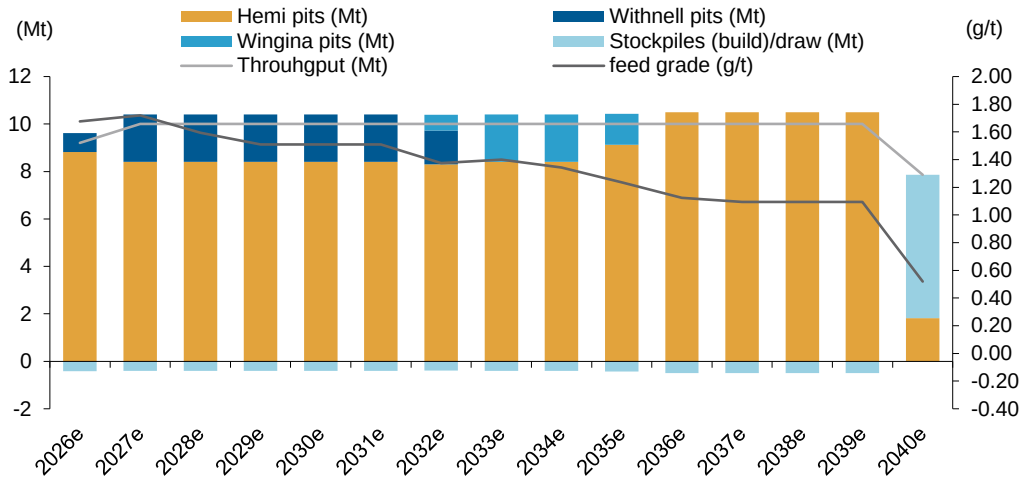
The scoping study estimated AISC over the first five years at ~A$1,111/oz and A$1,224/oz over the ten-year evaluation period. Our AISC profile (uninflated) closely correlates to the Study's evaluation period. However, our assumption of the lower-grade life extension lifts our AISC estimate for years 10-15 to average A$1,629/oz and our overall 15-year Life-of-Mine (LOM) AISC to A$1,325/oz. We note that a key opportunity for DEG will be to add mining inventory of similar grade to the Scoping Study, which could reduce AISC in the later stages of Mallina's life.

We assume modest grade streaming and a steady regional feed

We model modest grade streaming over Mallina's life

Our mining and processing outlook for Mallina assumes modest grade streaming over the LOM where 10.5Mtpa of ore is mined and 10Mtpa of the highest-grade ore is processed. This leads to a modest stockpile at the end of the project life, which we assume will be processed over a ~6-month period. DEG noted an average strip ratio of 4.8:1 (waste:ore) in the Scoping Study for the Hemi deposits. This compares to our LOM strip ratio of 5.0:1, with our assumption that some inventory growth is likely to come from the deepening of some pits which could see strip ratios increase as late-life cutbacks are undertaken.

Fig 33 Mallina's mill feed – We assume modest grade streaming



Source: Macquarie Research, November 2021

We model a notional 2.0Mtpa ore contribution from regional pits

We model the regional pits to be mined at a notional 2Mtpa until our 18.2Mt at 1.8g/t for 1.1Moz regional mining inventory is exhausted. We concede this assumption could be an oversimplification of Mallina's outlook, with DEG more likely to bring regional pits online in a more dynamic way as it weighs up mining costs, trucking distance. and grade. etc.

Our capital and operating costs align with the Scoping Study

Scoping Study capital estimated to an accuracy of ± 35%

DEG notes that its Scoping Study capital estimates have been 'primarily derived using a desktop study approach to an accuracy of ± 35%'. The Scoping Study outlined a development capital cost of A$835m, which includes a 25% contingency of A$167m. A pre-strip is also anticipated to cost an additional A$58m, bringing the total pre-production capital estimate to A$893m. This compares to our pre-production capital assumption of A$900m.

Total pre-production capital is expected to be A$893m, we assume A$900m

Key items of the pre-production capital costs include A$370m for the process plant, A$125m on construction, A$41m on general infrastructure and A$34m in power and distribution. The Scoping Study estimated sustaining capital costs at a rate of 2.5% of the process plant development cost per annum, which equates to ~A$9.3mpa. We have aligned our average sustaining capital outlook with the Scoping Study commentary.

Fig 34 Mallina's Scoping Study operating cost estimate vs Macq outlook

Mallina operating cost estimate	DEG Scoping Study	Macq assumption	Variance
Mining (A$/t of ore)	21	21	0%
Processing (A$/t of ore)	26	26	0%
General and administration (A$/t of ore)	1.4	1.4	0%
Total	**48**	**48**	**0%**

Source: DEG, Macquarie Research, November 2021.

Operating costs estimated to an accuracy of ± 35%

Operating costs were estimated in the Scoping Study to an accuracy of ± 35%. Mining costs were estimated at A$21/t of ore processed (~A$3.6/t of material moved at a 4.8 strip) while processing and administration operating costs were estimated at A$25.9/t and A1.40/t of ore, respectively. We have aligned our operating costs with the scoping study estimate but note, given the scale of the open pit, there could be scope to improve C1 costs in subsequent studies.

Fig 35 We assume a pre-production capital cost slightly above the PFS

	Scoping study estimate (A$m)	Macq assumption (A$m)
Site development	9	-
Process plant	371	-
Infrastructure - Process	31	-
Construction	125	-
Owners costs	27	-
Power and distribution	34	-
Tailings storage facility	31	-
Infrastructure - General	41	-
Subtotal	**668**	-
25% contingency	167	-
Total development capital	**835**	-
Pre-strip	58	-
total pre-production capital	**893**	**900**

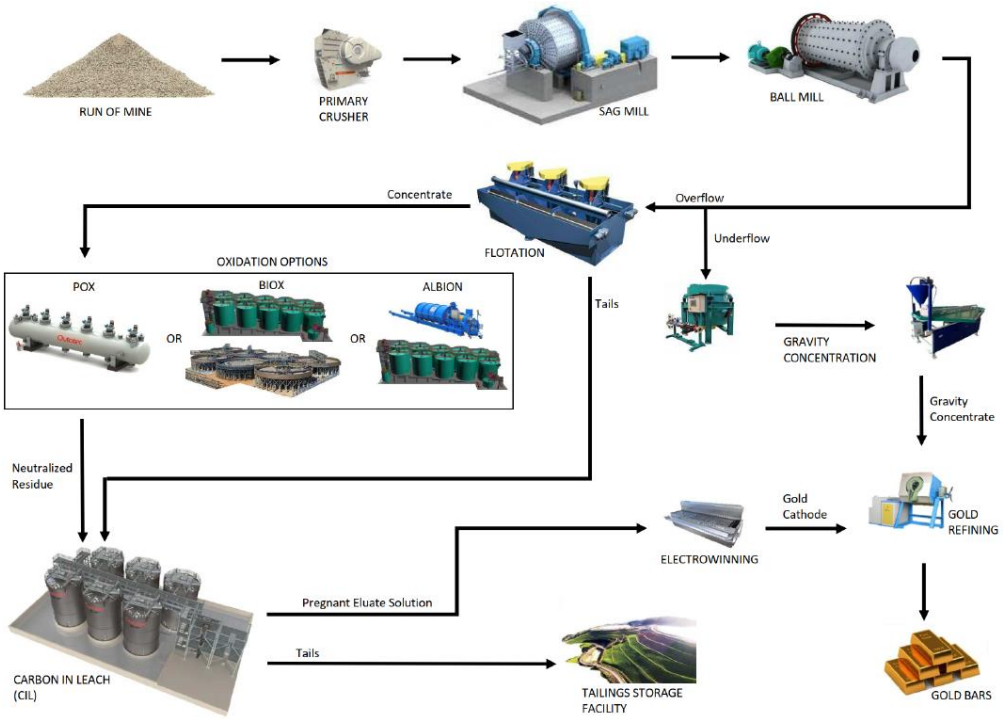
Source: DEG, Macquarie Research, November 2021

Decision to come on oxidation route

Simple processing with two additional steps to treat semi-refractory ore

The scoping study described Hemi's ore as semi-refractory with >60% of gold free milling and <40% considered refractory. The process flow sheet for Mallina is based on a conventional carbon-in-leach (CIL) process plant, with additional flotation and oxidation stages to boost recoveries of the refractory ore components. The crusher circuit is expected to be either a semi-autogenous ball mill crushing (SABC) circuit or a two-stage crushing with high pressure grinding rolls (HPGR) configuration. DEG seems to imply that a HPGR set-up might be preferable at the 10Mtpa run-rate. Material will then be milled in preparation for flotation. Float test work indicated that >95% of sulphide minerals reported to the float concentrate with evidence that varying grind sizes between 75µm and 150µm have little impact on float performance. The Scoping Study estimated that the float concentrate would represent ~8% of the mass of the whole ore feed.

Fig 36 Mallina's proposed process flow sheet.



Source: DEG, November 2021

DEG is investigating either POX, BIOX or Albion oxidation methods in the PFS. Each is within ±5% of the average on opex and capex

The float concentrate is then oxidised to increase recovery at the CIL stage. Oxidation options investigated as part of the Scoping Study include pressure oxidation (POX), bacterial or biological oxidation (Biox), and ultra-fine grinding (UFG) followed by atmospheric oxidation at a controlled pH level (Albion). DEG comments that the capital cost of the three different oxidation options are within ±5% of the average capital estimate presented in the Scoping Study base case. Operating costs of the three oxidation options are also within ±5% of the average that is presented as the Study base case. While all oxidation processes are being considered we suspect the summer heat of the Pilbara could be prohibitive for BIOX, while Albion processing of the scale required at Mallina is not without risk. Thus, we suspect POX will become the preferred oxidation route.

93% overall recoveries anticipated

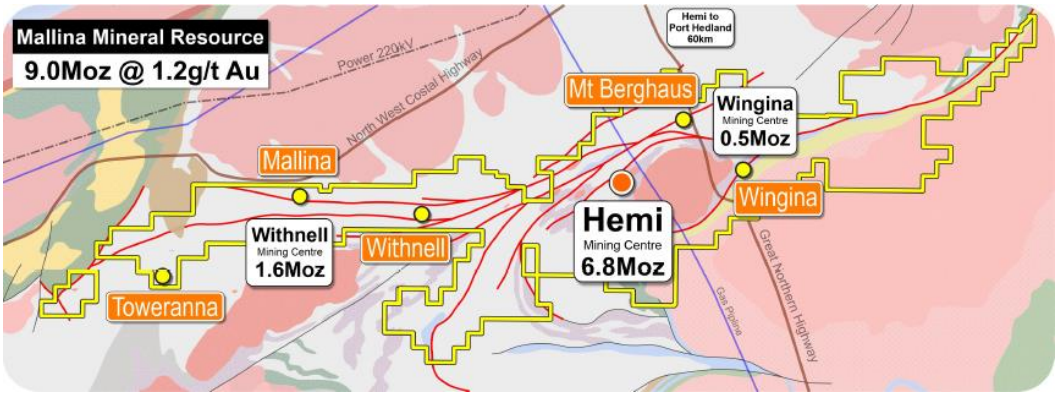
Following oxidation, the material moves into a standard CIL circuit where the gold is brought into solution before electrowinning makes to gold ready for smelting into gold Doré. Overall process plant recoveries (including a gravity recovered component) are estimated at 93%.

Large resource with scope for growth

Hemi is the largest component of Mallina's resources

DEG published a maiden resource estimate for Hemi in June 2021 with the most recent resource for Mallina's regional deposits published in April 2020. Mallina's total resources now total 230Mt at 1.2g/t for 9.0Moz. The Hemi Mining Centre's (Hemi) recent resource estimate of 192Mt at 1.1g/t for 6.8Moz now makes up the bulk (76% of the ounces and 84% of the tonnes) of the Mallina resource with the remaining 37.4Mt at 1.83g/t for 2.2Moz split across the Withnell and Wingina satellite mining centres.

Fig 37 The Mallina Gold Project map – Hemi and the satellite mining centres with key regional infrastructure.



Source: DEG, November 2021.

Two cut-off grades used in resource estimate

We note that the Hemi resource was estimated using two cut-off grades. For material shallower than 370m below surface a cut-off grade of 0.3g/t was used while material exceeding 370m below surface saw a 1.5g/t cut-off applied. Hemi's maiden resource was estimated using a 17 May 2021 data cut-off.

Fig 38 Hemi's Maiden resource estimate represents a 400koz per month resource growth rate since the late-2019 discovery

	Indicated			Inferred			Total*		
Deposit	Tonnes (Mt)	Grade (g/t)	Gold (Moz)	Tonnes (Mt)	Grade (g/t)	Gold (Moz)	Tonnes (Mt)	Grade (g/t)	Gold (Moz)
Brolga	28.1	1.3	1.21	34.7	0.9	1.05	62.8	1.1	2.26
Aquila	10.6	1.5	0.52	7.4	1.3	0.32	18.1	1.4	0.84
Crow	9.8	1.1	0.35	19.5	1.1	0.68	29.3	1.1	1.03
Falcon	17.0	1.3	0.70	16.6	1.0	0.53	33.7	1.1	1.23
Diucon/Eagle	-	-	-	48.5	0.9	1.45	48.5	0.9	1.45
Total*	65.5	1.3	2.78	126.9	1.0	4.02	192.4	1.1	6.80

Source: DEG, November 2021. *totals may not add due to rounding.

Recent Brolga infill drilling is consistent with the resource

A recent announcement by DEG supports the strength of the maiden resource estimate at Hemi. Resource infill drilling at Brolga (33% of Hemi's resource ounces) was undertaken as a risk mitigation exercise for early production and for use in the Pre-Feasibility Study. Results from the drill program were described by DEG as 'consistent', with the company noting that infill drilling will continue until the end of CY21 with extensional drilling to follow.

Fig 39 Resource summary for the Mallina Gold Project – Hemi is the biggest contributor to the project

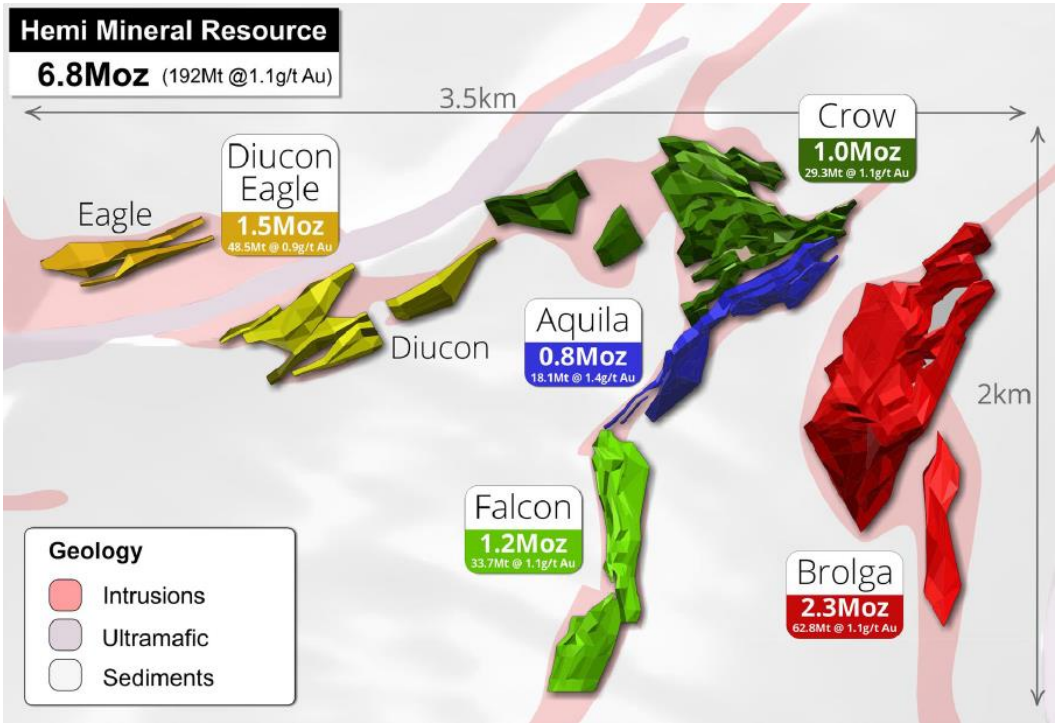
	Measured			Indicated			Inferred			Total*			Mallina proportion (%)	
Mining centre	Tonnes (Mt)	Grade (g/t)	Gold (Moz)	Tonnes (Mt)	Grade (g/t)	Gold (Moz)	Tonnes (Mt)	Grade (g/t)	Gold (Moz)	Tonnes (Mt)	Grade (g/t)	Gold (Moz)	Tonnes	Gold
Withnell	1.6	1.8	0.1	11.7	1.8	0.7	12.2	2.2	0.9	25.6	1.8	1.6	11%	18%
Wingina	3.1	1.7	0.2	2.5	1.5	0.1	6.3	1.2	0.2	11.9	1.4	0.5	5%	6%
Satellite total*	**4.7**	**1.7**	**0.3**	**14.2**	**1.8**	**0.8**	**18.5**	**1.8**	**1.1**	**37.5**	**1.7**	**2.1**	**16%**	**23%**
Hemi	-	-	-	65.5	1.3	2.8	126.9	1.0	4.0	192.4	1.1	6.8	84%	76%
Mallina total*	**4.7**	**1.7**	**0.3**	**79.8**	**1.4**	**3.6**	**145.3**	**1.1**	**5.1**	**229.8**	**1.2**	**9.0**	**100%**	**100%**

Source: DEG, November 2021. *totals may not add due to rounding.

Hemi's resource has grown at ~0.4Moz per month since discovery and ~0.45Moz per month since detailed drilling commenced

In our view, Mallina's resource already indicates tier-1 (+300kozpa for +10-years) potential despite the clear potential for further growth. Importantly, Hemi's resource grew at ~450koz per month in the 15 months following the commencement of detailed RC and Diamond drilling and ~400koz per month since the late-2019 discovery. Given the rate of resource growth thus far, the clear direct extension potential of resources and significant regional exploration prospectively, we see potential for continued inventory growth beyond our initial assumptions and for Mallina to grow into a true district scale project. Similarly, given that the Hemi discovery is an intrusion style of mineralisation that is new to the Pilbara, we suspect that exploration 'low-hanging fruit' will be in good supply for some time to come.

Fig 40 The Hemi Mineral resource overview – Brolga is the biggest contributor

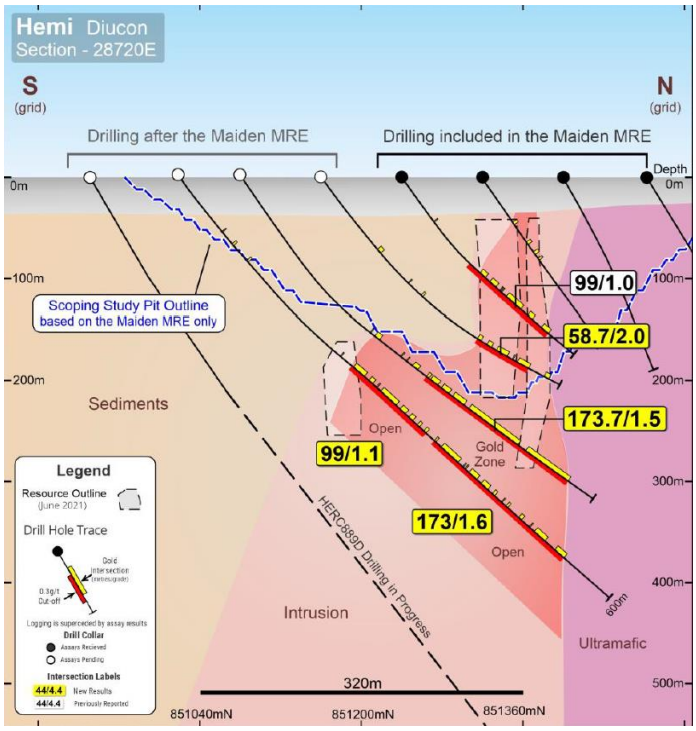


Source: DEG, November 2021

Diucon and Eagle present clear low-hanging fruit for resource growth

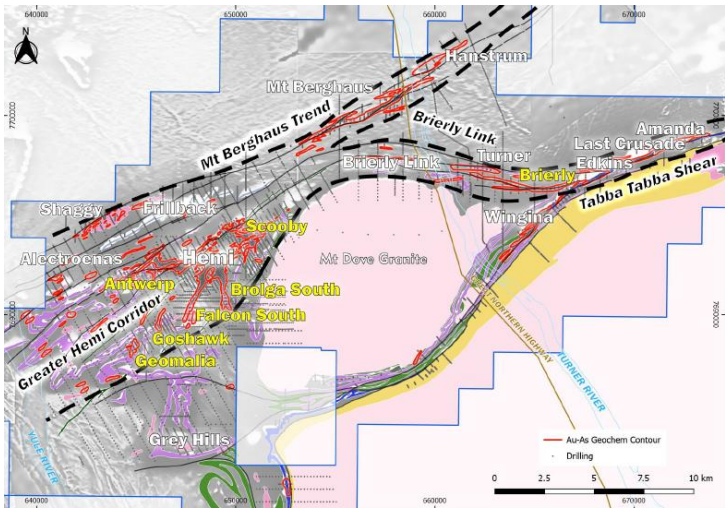
This view is supported by the announced discovery of the Diucon and Eagle intrusions in January 2021. Given the May 17, 2021, resource data cut-off date, only ~4-months of drill data post the discovery announcement were incorporated into the maiden resource estimate for Diucon and Eagle. Despite this short timeframe, 48.5Mt at 0.9g/t for 1.45Moz were reported in the Diucon/Eagle maiden resource estimate, all of which is in the inferred category. This equates to a resource discovery rate equivalent to ~0.4Moz per month for Diucon and Eagle alone during this initial discovery and drill-out period.

Fig 41 The resource extension potential at Diucon is clear



Source: DEG, November 2021.

Fig 42 Intrusion exploration targets near Hemi are plentiful



Source: DEG, November 2021.

All Hemi deposits are open

Drilling at Diucon and Eagle has delivered strong intersections of 173.7m at 1.5g/t, 99m at 1.1g/t and 173m at 1.6g/t below the Scoping Study/Resource shell. DEG comments that these intersections will extend the resource and that refreshed pit shell optimisations would also extend deeper than the Scoping Study pit shell. DEG notes that all the hemi resources remain open along strike and at depth. We note that DEG plans to provide four more Mallina resource updates before the commencement of production, with the first update expected in early CY22.

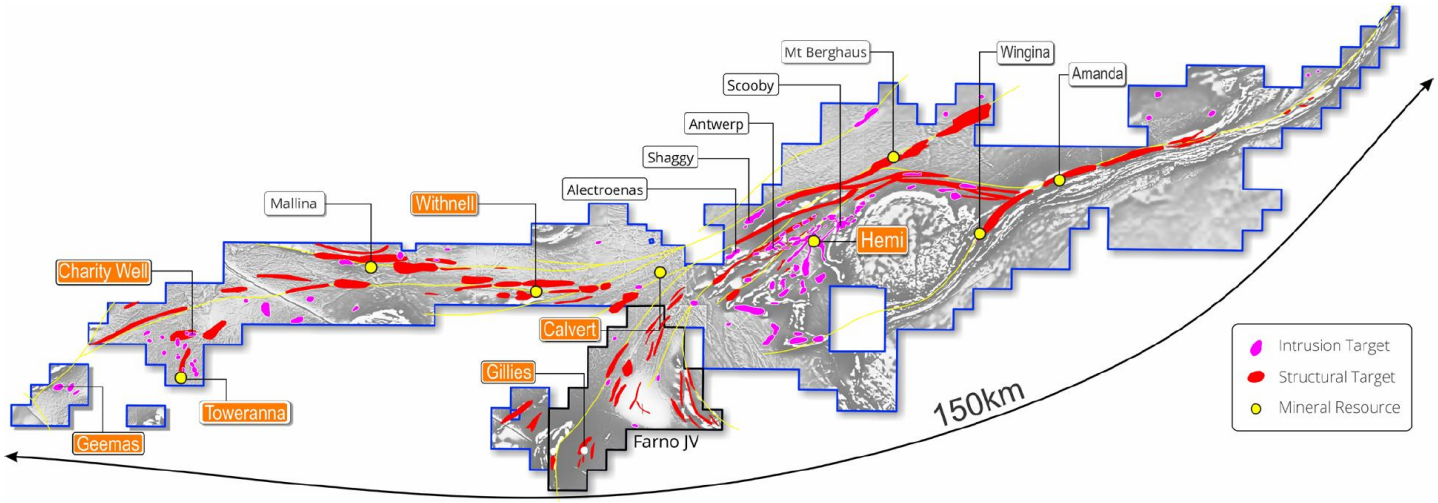
Exploration continues to be a core focus

Strong exploration prospects in the Greater Hemi area

Alongside DEG's busy infill and extension drill programs at Hemi the company also has a healthy regional exploration program. Large areas of the Greater Hemi area have been first pass aircore drilled which has identified new intrusions (Hemi target geology), gold zones and gold-arsenic anomalies. DEG plans to follow up these targets with deeper RC drilling. Thus far limited RC drilling has been undertaken at Antwerp, Geomalia, Goshawk, Shaggy, Scooby, Hanstrum, Brierly and Falcon South with intersections of anomalous gold and/or arsenic recorded. A summary of key Greater Hemi targets is below:

- ⇒ **Scooby**: Aircore has returned anomalous gold and arsenic zones over an area of ~2.0 x 2.0km with altered host intrusion intersected. An encouraging first pass RC program has recently been completed, with results including 1m at 31.2g/t gold, 2m at 9.2g/t and 1m at 19.1g/t.
- ⇒ **Antwerp, Geomalia and Goshawk:** Along the Hemi corridor to the southwest first pass, wide spaced aircore drilling had been conducted. This drilling identified new prospective intrusions with variable alteration with Antwerp, Geomalia and Goshawk prospects identified as the higher priority targets. RC drilling at Geomalia has intersected 1m at 10.6g/t, 4m at 1.6g/t and 2m at 1.8g/t. A recent Aircore result at Antwerp returned 12m at 0.25g/t, while Goshawk saw 4m at 0.43g/t, 1m at 7.57g/t, 3m at 2.48g/t and 4m at 0.29g/t.
- ⇒ **Brierly link and Turner:** DEG comments that the Brierly Link area is a trend that connects the main Hemi Corridor with the large Tabba Shear Zone. Small intrusions are interpreted along this trend with wide spaced aircore drilling having been completed along the zone. Results from the Brierly and Turner prospects include: 4m at 24.9g/t, 16m at 1.0g/t and 8m at 1.0g/t, with recent results including 1m at 9.7g/t, 8m at 0.3g/t and 4m at 0.6g/t.

Fig 43 Intrusion and structural targets within the 150km of strike that make up the Mallina project



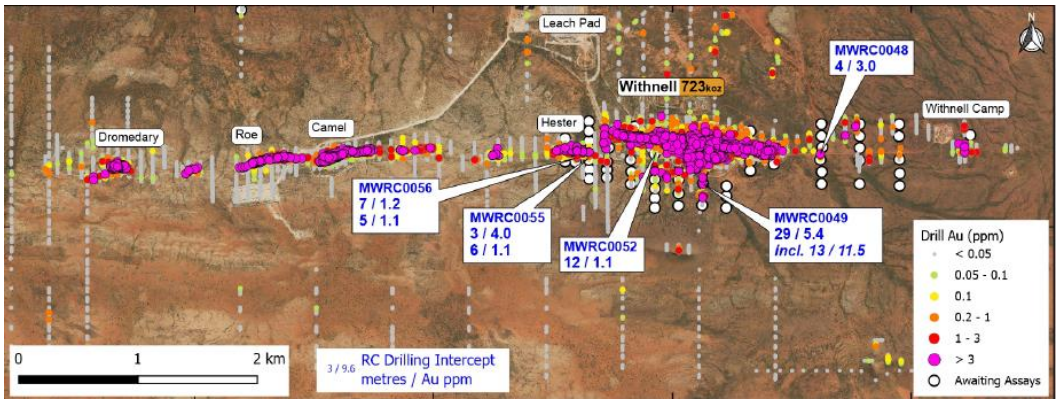
Source: DEG, November 2021

Regional targets show good prospectivity

The company is also continuing exploration activities at Mallina's more regional areas including the Withnell, Calvert, Gillies Charity Well and Geemas Prospects. A summary of key Mallina regional targets are below:

⇒ **Withnell**: Recent drilling aimed to extend the strike of Withnell's mineralisation to the west and look for potential sub-parallel structures. The program recorded success on both fronts with an intersection of 29m at 5.39g/t in a new gold zone 150m south of the main trend. Other recent drilling at Withnell included 4m at 2.98g/t, 12m at 1.10g/t and 5.0m at 0.95g/t. Follow up drilling is planned.

Fig 44 Drilling in the Withnell area has been a success over CY21.



Source: DEG, November 2021

⇒ **Calvert**: Recent activity has been aimed at extending mineralisation of the fault hosted resource some 300m along strike and 250m down dip while also testing an intrusion target in the area. RC drilling has extended mineralisation down dip by 250m while aircore drilling shows potential for a strike extension of +300m. Recent RC intersections at Calvert include 14m at 3.15g/t, 9m at 1.79g/t and 11m at 0.69g/t while intrusion targets returned 19m at 0.82g/t, 5m at 1.12g/t and 5m at 0.44g/t.

⇒ **Gillies**: Two target corridors have been identified at Gillies to date. Additional drilling is planned along strike once heritage surveys are conducted. Recent RC results at Gillies include 5m at 14.81g/t and 4m at 1.24g/t.

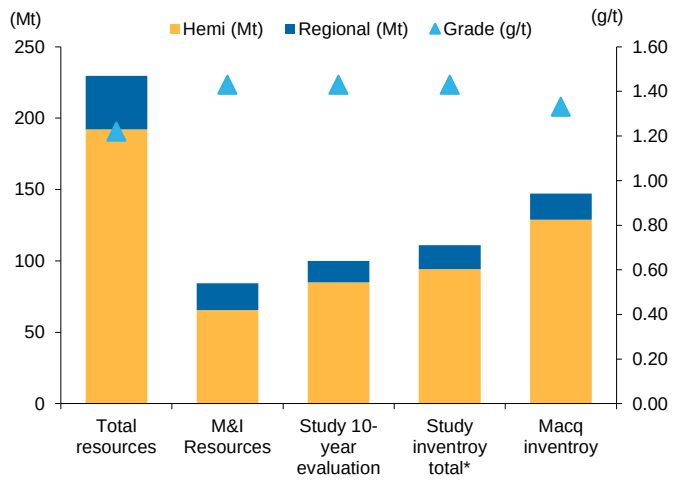
⇒ **Charity Well and Geemas**: DEG is targeting large-scale mineralised intrusions at Charity Well and Geemas. Geemas is a cluster of four intrusions drilled by previous owners with results that include 5m at 1.2g/t, 1m at 13.5g/t, 3m at 1.1g/t and 1m at 5.9g/t. Charity Well's intrusion is ~500m in strike. Intersections from previous owners include 2m at 14.3g/t, 4m at 2.2g/t, 1m at 7.8g/t and 1m at 2.2g/t.

Our mining inventory assumes 23% more ounces than Scoping Study

70% of the scoping inventory is sourced from Measured and Indicated resources

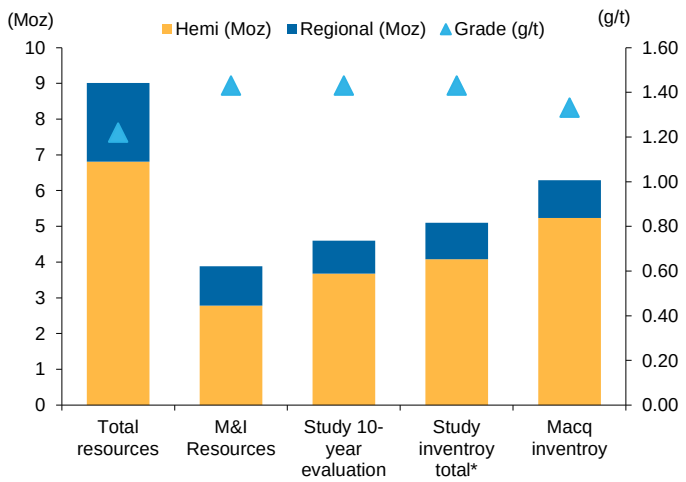
Mallina's Scoping Study mining inventory is sourced from the Project's recent resource estimate. The Scoping Study outlined a total inventory for Mallina of 111Mt at 1.43g/t for ~5.1Moz. However, only 4.6Moz is included in the mining inventory for the initial ten-year evaluation period. The first three years (payback period) of the Scoping Study production schedule is sourced 80% from the Measured and Indicated resource category's and 20% from inferred. Over the first five years 78% of inventory is sourced from the Measured and Indicated categories with 22% from inferred resources, while over the whole ten-year evaluation period 70% of inventory is sourced from Measured and Indicated categories and 30% from inferred.

Fig 45 Resources vs scoping inventory vs Macq base case on a tonnes basis



Source: DEG, Macquarie Research, November 2021

Fig 46 Resources vs scoping inventory vs Macq base case on an ounces basis



Source: DEG, Macquarie Research, November 2021

DEG is drilling to upgrade the 0.8Moz of resources not included in the Scoping Study but lies within the pits

Importantly, ~0.8moz of resource material (10% indicated and 90% inferred) sits within the scoping study pit shells but has been excluded from the ten-year economic evaluation period. The company will work to include this inventory in the PFS with further drilling aimed at upgrading the resource confidence to the indicated category, which is of adequate geological confidence for inclusion in a reserve estimate.

Our mining inventory adds an additional 36Mt at 1.03g/t for 1.2Moz to the scoping study inventory

Our mining inventory assumption for Mallina is based on DEG's PFS, while we also add an additional 36Mt at 1.03g/t for 1.2Moz (23% more ounces and 32% more tonnes) to account for what we believe are reasonable prospects of extensional inventory growth and/or inventory growth through exploration activities. The additional 1.2Moz of inventory brings our total mining inventory assumption for Mallina to 147Mt at 1.33g/t for 6.3Moz. Given first gold is not expected until 1HFY26, we suspect DEG could go a long way to adding or exceeding our additional inventory assumption at Mallina before first gold is achieved.

We assume a 70% resource conversion presently, but we expect resource growth

We note that our inventory assumption, which could be considered optimistic when compared to the Scoping Study inventory, represents a current resource-to-inventory conversion rate of 70%. However, given that Hemi's resources have grown at an average rate of 400koz per month since the 2019 Hemi discovery, we anticipate resources will continue to grow and, over time, underpin a more conservative rate of resource to inventory conversion.

ESG Considerations

ESG commentary provided by Macquarie's ESG analyst, Anita Stanley (Anita.Stanley@macquarie.com, Ph: +61 437 435 927).

Governance

Board

The DEG Board comprises five non-executive directors and the CEO. Of the five NEDs, one NED is considered independent. There are no female representatives on the DEG board.

Fig 47 Board Overview

Company	Board member details	Number of Directors (including CEO)	% of Independent Directors (excluding CEO)	% of Women on the Board	Average Tenure (in years)	No. of directors that hold other directorships in listed companies
DEG	DEG Board	6	20%	0%	3.4	3

Source: Company data, Macquarie Research, November 2021.

Remuneration

DEG's remuneration structure consists of fixed salary, STI and LTI.

Fig 48 CEO remuneration structure for period commencing 30 June 2020

Component	Instrument	Performance Period	Vesting conditions	Value
Fixed base salary	Cash payment	Annual basis	n/a	Base salary, superannuation & other non-cash benefits. 50% of total remuneration package.
STI	Cash payment	Financial year	Subject to performance conditions with 50% held at risk and measured against performance. Conditions include: project-based milestones, regulatory compliance, meeting budget, safety, business development, etc.	STI is valued at 15% of base salary for CEO.
LTI	Zero Exercise Price Options	Three years	Conditions include: delineation of Mineral Resources of not less than 12m ounces of gold at the Mallina Gold Project by Dec 2024, completion of DFS, ability to secure debt or equity finance to fund DFS.	LTI is valued at 35% of base salary for CEO.

Source: Company data, Macquarie Research, November 2021.

Social

Diversity

DEG released its first diversity policy in FY21. DEG does not currently have a gender diversity target but is in the process of developing diversity initiatives to increase participation into under-represented areas of its business. Currently, 18% of DEG's senior management team are female.

Modern slavery

DEG does not publish a Modern Slavery Statement, as its annual consolidated revenue is below the reporting requirement threshold of A$100m.

Safety

In FY21, DEG had zero workplace injuries and a zero rolling Lost Time Injury Frequency Rate (LTIFR). During the period, the company announced that it sought to build significant capability within the organisation and has appointed a Health & Safety Superintendent and site-based Health and Safety advisors to support the Mallina Project.

Indigenous and community engagement

DEG's tenements are located on five pastoral leases in the Pilbara and the company regularly engages with the Kariyarra Aboriginal Corporation, the Ngarluma Aboriginal Corporation and the Nyamal Aboriginal Corporation where the Hemi deposit and Mallina tenements are located. DEG noted that it has been working with these groups in relation to heritage surveys, exploration agreements and, longer-term, executing mining agreements. Native Title discussions are also in progress.

Reform of WA's Aboriginal Heritage Act 1972 is currently underway, with a new Aboriginal Cultural Heritage Bill 2021 expected to be passed by the end of the year. DEG's future dealings with indigenous communities and its broader stakeholders could be impacted by the outcomes of the newly passed Bill.

Environmental

As a gold exploration company, DEG currently has limited direct environmental exposure as a business with primary environmental impacts around transport emissions and minor clearing to undertake exploration drilling activities.

As part of its Mallina Gold Project Scoping Study, DEG commissioned an Environmental Scoping Report which encompassed desktop and field ecology studies. These studies included: flora baseline studies, terrestrial fauna database searches, subterranean fauna, short-range endemic reviews and groundwater and surface water study outcomes.

DEG has also stated that their PFS will incorporate practical outcomes in areas including the use of renewable energy, future procurement decisions, environmental management and mine closure planning.

DEG has adopted the ICMM Principles which align to the UN sustainable development goals for future studies and development phases, and the Board has resolved to adhere to the TCFD framework for future disclosure.

Future environmental risks

As the Mallina Gold Project ramps up to construction and production phases (2023-2025), the following environmental impacts should be considered: energy consumption, operational emissions, biodiversity impact, air quality, water, waste and hazardous materials management.

Energy management: As part of DEG's most recent equity raising in October, the company flagged that there was sufficient capacity at the 220kV transmission line located 30km north of the project, therefore suggesting the company's intention to opt for grid (gas-powered) power. In addition, the company noted that the use of renewable energy sources would be considered in future studies, thereby controlling the company's scope-2 emissions.

Appendices - Board and management

Summarised from https://degreymining.com.au/ and company releases.

Board members

Mr Simon Lill – Non-Executive Chairman

Mr. Lill has a BSc and a Masters of Business Administration, both from The University of Western Australia, and has been a corporate adviser with Trident Capital Pty Ltd for the last five years. He has over 25 years' experience in stockbroking, capital raising, management, business development and analysis for a range of small and start-up companies, both in the manufacturing and resources industries, and has specialised in that time in company restructuring activities.

Mr Glenn Jardine – Managing Director

Mr. Jardine is a senior mining executive with direct experience growing resource companies from early-stage exploration through to multi-operation entities. This includes taking projects through feasibility studies, equity funding, debt financing, project development and operations.

Commodity experience includes precious metals, base metals and bulk commodities across underground and open pit operations. Processing methods utilised at these projects and operations include CIP/CIL, DMS, sulphide flotation, BIOX, pressure oxidation and SX/EW. Projects developed have received Australian State and Federal recognition for environmental best practice and health and safety and human resources systems.

Mr Peter Hood AO – Independent Non-Executive Director

Mr. Hood, a Chemical Engineer, has had a distinguished career in the Australian Mining and Chemical Industries. He held the position of Senior Production Engineer at the Kwinana Nickel Refinery from 1971 to 1981, then Mill Superintendent of the WMC Kambalda Nickel and Gold Operations between 1982 to 1985. In 1985, he joined Coogee Chemicals Pty Ltd in the position of General Manager and then as their CEO between 1998 and 2005. He then held the position of CEO of Coogee Resources Ltd before retiring in 2008. Through that period he was part of the management team that oversaw significant growth in Coogee Chemicals company capitalisation.

Currently Mr Hood holds positions on the board of two other ASX-listed companies: GR Engineering and Matrix Composites and Engineering Ltd.

Mr Eduard Eshuys – Non-Executive Director

Eduard is a geologist with several decades of exploration experience in Australia. His successes as Joseph Gutnick's exploration director are well known. In the late 1980s and early 1990s he led the teams that discovered the Plutonic, Bronzewing and Jundee gold deposits, and the Cawse Nickel Deposit. He has also had involvement in the Maggie Hays and Mariners nickel discoveries in the 1970s. More recently he was the Managing Director and CEO of St Barbara Limited from July 2004 to March 2009. During this time St Barbara Limited grew substantially as a gold producer.

Eduard is also a Director of DGO Gold Limited.

Mr Andy Beckwith – Executive Technical Director

Mr. Beckwith has a Bachelor of Science (Applied Geology) from the University of South Australia, and has over 30 years of Geological and Management experience. His more recent roles include successfully building Westgold to circa 5M ounces of resources as Managing Director and prior to that, senior roles with Anglo Gold Australia.

Andy has successfully worked on projects from grassroots to mine development and has extensive experience working with corporate transactions, project acquisitions and project generation.

Andy Beckwith joined De Grey Mining originally as a consultant, before coming on as Technical Director and Operations Manager in November 2017 and has played a significant role in the rebirth of the company.

Mr Bruce Parncutt – Non-Executive Director

Bruce is Chairman of investment banking group Lion Capital, a member of The Australian Ballet Board, The University of Melbourne Campaign Board, and the University of Melbourne Centre for

Positive Psychology Strategic Advisory Board, and a Trustee of the Helen MacPherson Smith Trust. His career spans over 40 years in investment management, investment banking and stock broking. Previous roles include have included: Managing Director of McIntosh Securities, Senior Vice President of Merrill Lynch, Director of Australian Stock Exchange Ltd, President of the Council of Trustees of the National Gallery of Victoria, Board Member and Chairman of the NGV Foundation, member of the Felton Bequest Committee, Council member of Melbourne Grammar School, and Director of a number of listed public companies, including Acrux Ltd, Praemium Limited and Stuart Petroleum Ltd.

Bruce is also a Director of DGO Gold Limited.

Key management

Mr Peter Canterbury – Chief Financial Officer

Mr. Canterbury is an experienced mining executive and Certified Practicing Accountant with a broad skillset spanning financial and corporate management, accounting, project financing, feasibility studies, contract negotiation and mining operations. He has held senior roles within the mining industry for close to 20 years, including as CEO and CFO of several ASX-listed companies. His previous positions include Managing Director of Triton Minerals Ltd, CEO/Executive Director of Bauxite Resources Ltd and CFO and Acting CEO of Sundance Resources Ltd. Mr. Canterbury brings highly relevant financial expertise to support De Grey's ambitions of becoming a Tier-1 gold producer from Hemi.

Mr Phil Tornatora – General Manager Exploration

Mr. Tornatora joins De Grey Mining with over 25 years of geological experience. He has had substantial Exploration Management experience; with over 4 years as General Manager of Exploration at Northern Star. During this time Northern Star advanced from a single mine operation to a multi-mine company producing around 500Koz gold per annum. Prior to this, Phil worked as Exploration and Geology Manager for Galaxy Resources, a prominent Australian lithium/tantalum producer. He has held senior Geology roles with major international gold producer AngloGold Ashanti and has had a range of experience from regional to near mine exploration and resource development roles.

Philip has a Bachelor of Science (Hons), Master of Economic Geology, and is a member of the AUSIMM and AIG. He has worked on numerous projects in Australia, Africa and SE Asia.

Mr Allan Kneeshaw – Manager, Business Development

Mr. Kneeshaw is a diversified exploration geologist with 26 years' experience in gold, base metals and bulk commodities in Australia and China. He has held senior roles with major mining companies, including Head of Greenfields Exploration (Australia) for AngloGold Ashanti, Country Manager (Exploration – Australia) for Anglo American and Chief Geologist (China) for AngloGold Ashanti. Mr. Kneeshaw joined De Grey Mining as a consulting geologist in 2017.

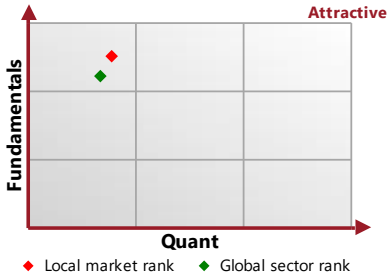
Macquarie Quant Alpha Model Views

The quant model currently holds a marginally negative view on De Grey Mining. The strongest style exposure is Earnings Momentum, indicating this stock has received earnings upgrades and is well liked by sell side analysts. The weakest style exposure is Profitability, indicating this stock is not efficiently converting investments to earnings; proxied by ratios like ROE or ROA.

503/646

Global rank in Metals & Mining

% of BUY recommendations	100% (3/3)
Number of Price Target downgrades	0
Number of Price Target upgrades	1

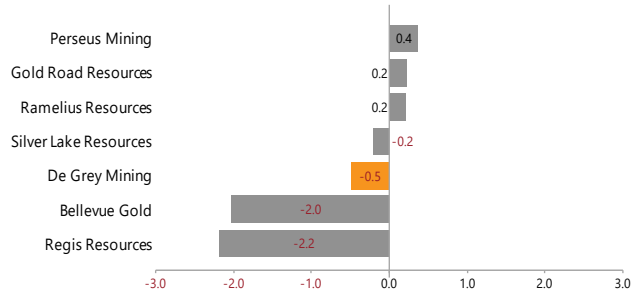


Displays where the company's ranked based on the fundamental consensus Price Target and Macquarie's Quantitative Alpha model.

Two rankings: Local market (Australia & NZ) and Global sector (Metals & Mining)

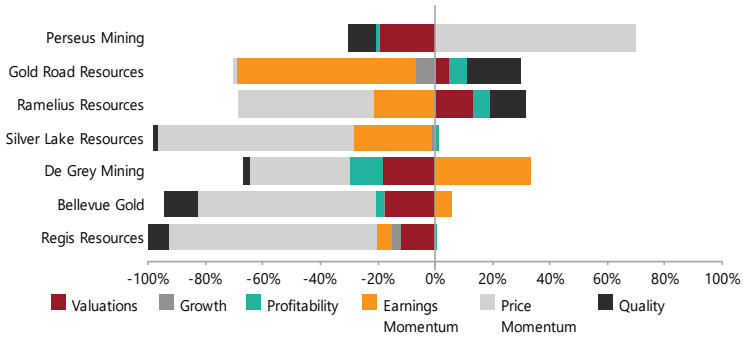
Macquarie Alpha Model ranking

A list of comparable companies and their Macquarie Alpha model score (higher is better).



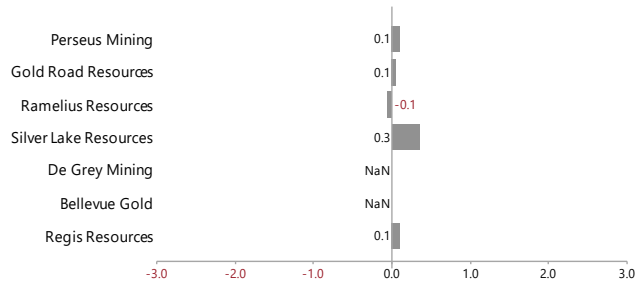
Factors driving the Alpha Model

For the comparable firms this chart shows the key underlying styles and their contribution to the current overall Alpha score.



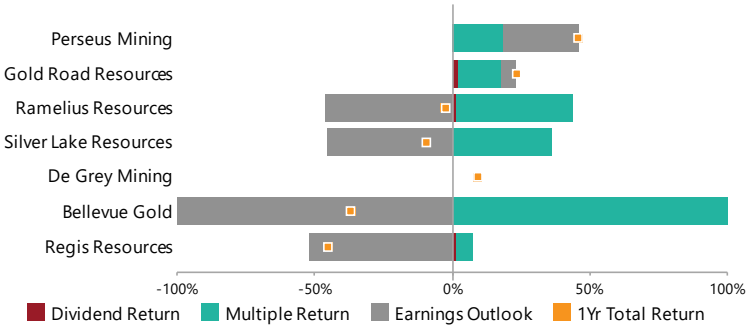
Macquarie Earnings Sentiment Indicator

The Macquarie Sentiment Indicator is an enhanced earnings revisions signal that favours analysts who have more timely and higher conviction revisions. Current score shown below.



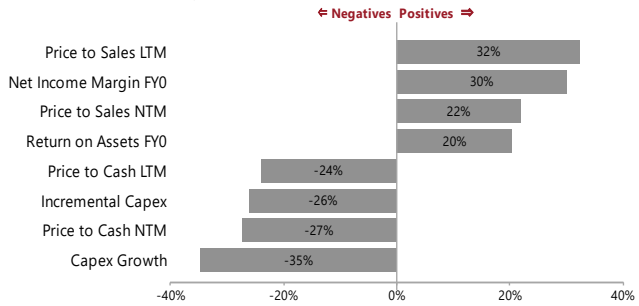
Drivers of Stock Return

Breakdown of 1 year total return (local currency) into returns from dividends, changes in forward earnings estimates and the resulting change in earnings multiple.



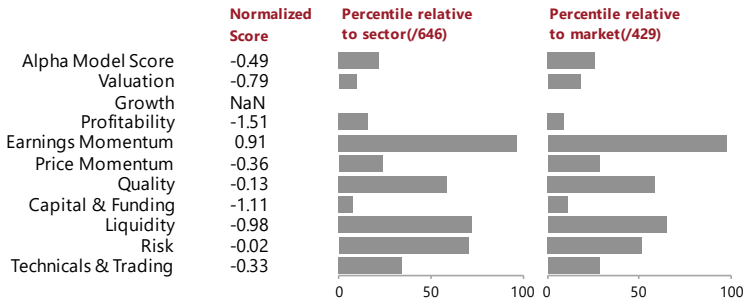
What drove this Company in the last 5 years

Which factor score has had the greatest correlation with the company's returns over the last 5 years.



How it looks on the Alpha model

A more granular view of the underlying style scores that drive the alpha (higher is better) and the percentile rank relative to the sector and market.



Source (all charts): FactSet, Thomson Reuters, and Macquarie Quant. For more details on the Macquarie Alpha model or for more customised analysis and screens, please contact the Macquarie Global Quantitative/Custom Products Group (cpg@macquarie.com)

Important disclosures:

Recommendation definitions

Macquarie – Asia and USA
Outperform – expected return >10%
Neutral – expected return from -10% to +10%
Underperform – expected return <-10%

Macquarie – Australia/New Zealand
Outperform – expected return >10%
Neutral – expected return from 0% to 10%
Underperform – expected return <0%

Note: expected return is reflective of a Medium Volatility stock and should be assumed to adjust proportionately with volatility risk

Volatility index definition*

This is calculated from the volatility of historical price movements.

Very high–highest risk – Stock should be expected to move up or down 60–100% in a year – investors should be aware this stock is highly speculative.

High – stock should be expected to move up or down at least 40–60% in a year – investors should be aware this stock could be speculative.

Medium – stock should be expected to move up or down at least 30–40% in a year.

Low–medium – stock should be expected to move up or down at least 25–30% in a year.

Low – stock should be expected to move up or down at least 15–25% in a year.
* Applicable to select stocks in Asia/Australia/NZ

Recommendations – 12 months
Note: Quant recommendations may differ from Fundamental Analyst recommendations

Financial definitions

All "Adjusted" data items have had the following adjustments made:
Added back: goodwill amortisation, provision for catastrophe reserves, IFRS derivatives & hedging, IFRS impairments & IFRS interest expense
Excluded: non recurring items, asset revals, property revals, appraisal value uplift, preference dividends & minority interests

EPS = adjusted net profit / efpowa*
ROA = adjusted ebit / average total assets
ROA Banks/Insurance = adjusted net profit /average total assets
ROE = adjusted net profit / average shareholders funds
Gross cashflow = adjusted net profit + depreciation
*equivalent fully paid ordinary weighted average number of shares

All Reported numbers for Australian/NZ listed stocks are modelled under IFRS (International Financial Reporting Standards).

Recommendation proportions – For quarter ending 30 Sept 2021

	AU/NZ	Asia	USA	
Outperform	62.76%	67.53%	74.19%	(for global coverage by Macquarie, 4.72% of stocks followed are investment banking clients)
Neutral	31.03%	21.83%	24.73%	(for global coverage by Macquarie, 3.23% of stocks followed are investment banking clients)
Underperform	6.21%	10.64%	1.08%	(for global coverage by Macquarie, 0.00% of stocks followed are investment banking clients)

DEG AU vs Small Ordinaries, & rec history

(all figures in AUD currency unless noted)

Note: Recommendation timeline – if not a continuous line, then there was no Macquarie coverage at the time or there was an embargo period.
Source: FactSet, Macquarie Research, November 2021

12-month target price methodology

DEG AU: A$1.70 based on a 1.0 x sum-of-the-parts NAV methodology

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