

# INVESTOR PRESENTATION

Mallina Gold Project Scoping Study 5 October 2021



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All references to the scoping study and its outcomes in this presentation relate to ASX announcement *Mallina Gold Project Scoping Study* dated 5 October 2021. Please refer to the announcement for full details and supporting information.

## ACKNOWLEDGMENT **OF COUNTRY**

At De Grey Mining, we acknowledge the Traditional Custodians of the land upon which we operate, the Kariyarra, Ngarluma and Nyamal peoples. We recognise their unique cultural heritage, beliefs and connection to these lands, waters and communities.

We pay our respects to all members of these Indigenous communities, and to Elders past, present and emerging. We also recognise the importance of continued protection and preservation of cultural, spiritual and educational practices.

As we value treating all people with respect, we are committed to building successful and mutually beneficial relationships with the Traditional Custodians throughout our areas of operation.



## **CORPORATE OVERVIEW**





Corporate st	tructure
Shares (ASX:DEG)	1,292M
Options	5.85M
Performance rights	1.59M
Share price (4 Oct 2021)	A\$0.965
Market capitalisation	A\$1.24B
Cash (30 Jun 2021)	A\$71.0M



DGO Gold Limited

- Jupiter Asset Management
- Invesco
- Van Eck
- Northwest Nonferrous
- Directors and Management

Other

Major Shareholders

Top 20 holders	56%
Top 50 holders	67%

## THE MALLINA GOLD PROJECT



#### An Exceptional Asset and Jurisdiction

- Initial evaluation demonstrates annual gold production potential of >450koz
- High quality scoping study and proportion (>70%) of JORC Indicated resources in initial production profile
- Proximity to world class infrastructure is a major advantage
- Opportunity to incorporate leading sustability principles



#### **Outstanding Exploration and Production Upside Remains**

- Hemi maiden Mineral Resource Estimate of 6.8Moz defined at the rate of ~450koz per month
- Resource extension drilling has been successful at Diucon and Eagle and is currently continuing
- Company commitment to exploration across the 150km tenement package



## **PROJECT INITIAL EVALUATION HIGHLIGHTS**



#### Production and operating costs

- Average annual production of 473koz over the first five years and 427koz over 10 years
- Average AISC of A\$1,111/oz over the first five years and \$1,224/oz over 10 years

#### **Compelling projected financial returns**

- Pre-tax NPV<sub>5%</sub> of \$2.8b, pre-tax IRR of 60% and pre-tax unleveraged payback of 1.5 years
- Free cashflow (undiscounted, pre-tax) of \$3.9B and \$2.9B (undiscounted, post-tax)
- Payback under two years following commencement of production



## **PROJECT INITIAL EVALUATION HIGHLIGHTS**





A future top 5 Australian Gold Mine Based on production



Total production 4.6Moz over 10 years



Undiscounted free cash flow \$3,946M: pre-tax \$2,857M: post-tax



Mining physicals 111Mt @ 1.43g/t Au processed at 93% recovery



Annual production 473koz: first 5 years 427koz: 10 years



NPV<sub>5%</sub> \$2,764M: pre-tax \$1,976M: post-tax



**Strip ratio (Hemi) 4.8**:1 waste:ore



AISC \$1,111/oz: first 5 years \$1,224/oz: 10 years



Plant throughput 10Mtpa



Pre-production capital \$835M: cost of plant and infrastructure including 25% contingency (\$167M) plus \$58M pre-stripping cost



60%: pre-tax 49%: post-tax



Unleveraged payback period 1.5 years: pre-tax 1.8 years: post-tax

## **IMMEDIATE PROJECT UPSIDE**



#### Mineralisation excluded from the initial 10 year evaluation

- ~800koz (~90% Inferred and ~10% Indicated) of the Mineral Resource within scoping study pit shell optimisations not included in the initial evaluation
- Resource definition drilling to be undertaken to increase classification for inclusion in future evaluations



#### **Resource extensions to the maiden Hemi MRE**

Recently announced extensions at Diucon and Eagle and further extensional potential with ongoing drilling



#### **Exploration for large new discoveries**

- RC drilling in progress at Antwerp to the west of Diucon
- Follow up drilling of near surface gold results recently announced within Greater Hemi
- Untested regional exploration targets



## **POTENTIAL RESOURCE EXTENSIONS AT HEMI**

- Diucon represents an excellent example of resource upside which has potential flow on improvements to the outcomes of the scoping study
  - Extensions at depth
  - Extensions in width to the south beneath sediments
- Intersections outside the resource include:
  - 173.7m @ 1.5g/t Au in HERC442D
  - 99m @ 1.1g/t Au AND 173m @ 1.6g/t Au in HERC851D





#### **TRANSFORMATIONAL REGIONAL POTENTIAL**



- Four Aircore and two RC rigs currently drilling outside the Hemi deposit:
  - Greater Hemi Area
    - Antwerp, Scooby and southwest of Hemi
  - Regional



#### A FUTURE TOP FIVE AUSTRALIAN GOLD MINE





Comparable project data sourced from public company disclosures for the 12 months ended 30 June 2021. Developers that have released a PFS or FS with LOM average AISC were used for comparison purposes. Refer to ASX announcement *Mallina Gold Project Scoping Study* dated 5 October 2021.

#### **ATTRACTIVE OPERATING COSTS AT SCALE**





Comparable project data sourced from public company disclosures for the 12 months ended 30 June 2021. Developers that have released a PFS or FS with LOM average AISC were used for comparison purposes. Refer to ASX announcement *Mallina Gold Project Scoping Study* dated 5 October 2021.

#### **A WORLD-CLASS GOLD DEVELOPMENT ASSET**





Developers production and capital cost forecasts were based off the most recent publicly disclosed study. Capital costs were converted into Australian dollars as at 15 September 2021. Refer to ASX announcement *Mallina Gold Project Scoping Study* dated 5 October 2021.

## LOW CAPITAL INTENSITY RELATIVE TO PEERS



\$/oz pa Au production	
\$14,000	
\$12,000	
\$10,000	
\$8,000	
\$6,000	
\$4,000	
\$2,000	
\$0	
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Developers production and capital cost forecasts were based off the most recent publicly disclosed study. Capital costs were converted into Australian dollars as at 15 September 2021. Refer to ASX announcement Capital intensity is determined by dividing preproduction capital (\$) by annual production (oz). *Mallina Gold Project Scoping Study* dated 5 October 2021

## A FIRST CLASS TEAM OF EXPERT CONSULTANTS





## **EXPERIENCED MANAGEMENT TEAM**





**Glenn Jardine** Managing Director



**Peter Canterbury** Chief Financial Officer

Bronwyn Campbell Community Relations

John Brockelsby Risk and HSE

**Courtney Morgan** People and Capability



Andy Beckwith Executive Technical Director



Phil Tornatora Exploration

Allan Kneeshaw **Business Development** 

**Rod Smith** Studies Manager



Noel O'Brien **Studies Consultant** 

A management team with experience spanning across the exploration, assessment, planning, construction and operation of large scale resources projects

#### **TIER 1 JURISDICTION & INFRASTRUCTURE**





## **ANNUAL PRODUCTION FORECAST**



- Production based on June maiden Hemi MRE <sup>koz pa</sup> and existing Regional resources 475
- Resource extensions to Hemi and Regional deposits, increases to Indicated mineralisation and new discoveries expected to improve production profile and life
- Three throughput scenarios evaluated with 10Mtpa scenario adopted for the scoping study
- Financial metrics expected to improve with physical metrics



Throughput		Year (koz pa)									
Mtpa	1	2	3	4	5	6	7	8	9	10	koz pa
7.5	463	487	442	382	344	342	352	325	296	261	370
10.0	475	513	475	451	451	451	413	422	405	215	427
12.5	539	637	583	496	517	422	416	524	476	337	495

## MALLINA GOLD PROJECT GLOBAL RESOURCE DE GREY

	Measured		Indicated		Inferred			Total				
Mining Centre	Mt	Au g/t	Au Moz	Mt	Au g/t	Au Moz	Mt	Au g/t	Au Moz	Mt	Au g/t	Au Moz
Hemi Mining Centre <sup>1</sup>				65.5	1.3	2.8	126.9	1.0	4.0	192.4	1.1	6.8
Withnell Mining Centre <sup>2</sup>	1.6	1.8	0.1	11.7	1.8	0.7	12.2	2.2	0.9	25.6	2.0	1.6
Wingina Mining Centre <sup>2</sup>	3.1	1.7	0.1	2.5	1.5	0.1	6.3	1.2	0.2	11.9	1.4	0.5
Total Mallina Project	4.7	1.7	0.3	79.8	1.4	3.6	145.3	1.1	5.1	229.8	1.2	9.0



Refer to ASX announcement 6.8Moz Hemi Maiden Mineral Resource drives MGP to 9.0Moz dated 23 June 2021
Refer to ASX announcement Total Gold Mineral Resource increases to 2.2Moz dated 2 April 2020

## MAIDEN HEMI MINERAL RESOURCE<sup>1</sup>



	Indicated			Inferred			Total			
Deposit	Mt	Au g/t	Au Moz	Mt	Au g/t	Au Moz	Mt	Au g/t	Au Moz	
Brolga	28.1	1.3	1.21	34.7	0.9	1.05	62.8	1.1	2.26	4
Aquila	10.6	1.5	0.52	7.4	1.3	0.32	18.1	1.4	0.84	4
Crow	9.8	1.1	0.35	19.5	1.1	0.68	29.3	1.1	1.03	4
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	4
Total Hemi	65.5	1.3	2.78	126.9	1.0	4.02	192.4	1.1	6.80	

A maiden Mineral Resource Estimate of high integrity

77% Indicated in the upper 140m84% Indicated in the upper 220m

46% Indicated in the upper 140m

77% Indicated in the upper 140m

Only discovered in January 2021

Hosted within 200m of surface Mineral Resources are open along strike and at depth

1. Refer to ASX announcement 6.8Moz Hemi Maiden Mineral Resource drives MGP to 9.0Moz dated 23 June 2021

## MEASURED & INDICATED GLOBAL RESOURCES

- High percentage of Measured (M) and Indicated (I) mineral resources occur within pit designs
- Resource definition (infill) drilling is required at Diucon and Eagle (currently 100% Inferred)
- Indicated resources tend to have higher grades than Inferred resources
- De Grey focusses drilling to M&I classification in areas that fall within open pit designs
- Increases in total resources at Diucon and Eagle and the conversion on Inferred mineralisation within pit shells to Indicated will result in Diucon and Eagle displacing Regional production

	Measured			Indicated			M&I		
Mining Centre	Mt	Au g/t	Au Moz	Mt	Au g/t	Au Moz	Mt	Au g/t	Au Moz
Hemi Mining Centre <sup>1</sup>				65.5	1.3	2.8	65.5	1.3	2.8
Withnell Mining Centre <sup>2</sup>	1.6	1.8	0.1	11.7	1.8	0.7	13.3	1.9	0.8
Wingina Mining Centre <sup>2</sup>	3.1	1.7	0.1	2.5	1.5	0.1	5.6	1.1	0.2
Total Mallina Project	4.7	1.7	0.3	79.8	1.4	3.6	84.5	1.4	3.9

Refer to ASX announcement 6.8Moz Hemi Maiden Mineral Resource drives MGP to 9.0Moz dated 23 June 2021
Refer to ASX announcement Total Gold Mineral Resource increases to 2.2Moz dated 2 April 2020

## HEMI GRADE PROFILE FOR MINING



Cut-off grade in the top 370m	Cut-off grade below 370m	Mineral Resource Estimate
0.3g/t Au	1.5g/t Au	192Mt @ 1.1g/t Au for 6.8Moz
0.4g/t Au	1.5g/t Au	172Mt @ 1.2g/t Au for <mark>6.6Moz</mark>
0.5g/t Au	1.5g/t Au	155Mt @ 1.3g/t Au for <mark>6.4Moz</mark>
0.6g/t Au	1.5g/t Au	135Mt @ 1.4g/t Au for <mark>6.1Moz</mark>
0.7g/t Au	1.5g/t Au	114Mt @ 1.5g/t Au for <b>5.6Moz</b>

## HEMI OUNCES PER VERTICAL METRE



Deposit	Ounces per vertical metre
Brolga	9,000
Aquila	2,500
Crow	4,000
Falcon	3,800
Diucon/Eagle	6,000
Total Hemi	25,300



## **KEY STUDY OUTCOMES AT 10Mtpa**



Physicals & Costs	Unit	Outcome
Mining Physicals		
Tonnage	Mt	111
Grade	g/t	1.43
Contained Ounces	Moz	4.6
Plant Throughput	Mtpa	10.0
Evaluation Period	Years	10
Strip Ratio - Hemi	waste:ore	4.8:1
Processing Recovery	%	93.0
Gold Production		
Total Evaluation Period (10 years)	koz	4,271*
Average Annual	koz pa	427
Average Annual – first 5 years	koz pa	473
Upfront Capital Cost		
Development Capital	\$M	835
Pre-Strip	\$M	58
Total Development Capital Cost	\$M	893
Operating Costs		
Mining	\$/t ore mined	21
Processing	\$/t ore milled	26
General & Administration	\$/t ore milled	1.4

Financials and Key Assumptions	Unit	Outcome
Gold Price	\$/oz	2,400
C1 Cash Costs		
First 5 year average	\$/oz	1,059
10 year average	\$/oz	1,170
All-in Sustaining Cost (AISC)		
First 5 year average	\$/oz	1,111
10 year average	\$/oz	1,224
Free cash flow (undiscounted, pre-tax)	\$M	3,946
Free cash flow (undiscounted, post-tax)	\$M	2,857
NPV <sub>5%</sub> (pre-tax)	\$M	2,764
NPV <sub>5%</sub> (post-tax)	\$M	1,976
IRR (pre-tax)	%	59.5
IRR (post-tax)	%	49.4
Payback Period (pre-tax)	Years	1.5
Payback Period (post-tax)	Years	1.8

## **PROJECT NPV SENSITIVITY ANALYSIS**







## HIGH QUALITY SCOPING STUDY



#### **Mining studies**

- Geotechnical, geochemical, hydrogeological and hydrological
- Pit optimisations, pit designs and detailed mine schedules
- Detailed mine operating costs linked to mining schedule

#### Metallurgy and processing

- Metallurgical testwork across Brolga, Diucon, Crow and Falcon
- Testwork included oxidation utilising pressure oxidation, biological oxidation and Albion processes
- Process design criteria and robust process flowsheet design
- Capital and operating cost estimates prepared for 10Mtpa

#### **Environment and social**

- Ecology surveys (desktop and/or field) completed and ongoing
- Heritage surveys and Native Title discussions in progress

## **HIGH QUALITY SCOPING STUDY**

#### Infrastructure

- Power supply modelling completed by network provider
- Water supply confirmed and management system designed
- Designs and cost estimates for village, airstrip and access roads well advanced

#### **Financial analysis**

- Mining operating costs developed from first principles
- Processing capital cost estimate includes 25% contingency
- Processing operating costs from up to date benchmarking of similar projects

#### Key next steps – PFS

- Complete field work in all disciplines where only desktop data was available
- Appoint engineer for processing component of PFS
- Complete workstreams to support documents for project approvals









#### **PROCESS FLOWSHEET**





#### **METALLURGY AND PROCESSING PLANT**

- Mineralisation at the Mallina Project can be broadly classified as free milling or semi-refractory (>60% free milling and <40% refractory)</li>
- The refractory gold component requires two additional processing stages in the process flowsheet; a flotation stage to produce a concentrate, and a sulphide oxidation stage of the concentrate
- Three pathways still being considered for the oxidation the flotation concentrate – pressure oxidation (POX), Albion and biological oxidation (BOIX) with the PFS to select the preferred process
- High metallurgical recoveries averaging 93% have been achieved from composite samples at Hemi using robust process flowsheet and POX, Albion and BIOX
- Three alternative throughput rates were considered under the scoping study: 7.5Mtpa, 10Mtpa and 12.5Mtpa
- A scale of 10Mtpa has been selected for the scoping study based on the current Mineral Resource scale and JORC classification



## SITE INFRASTRUCTURE



#### / Energy

- Sufficient capacity currently exists within the 220kV transmission line located 30km north of the project.
- The costs of a spur line connecting Hemi with this transmission line has been included in the operating cost estimate.
- The use of renewable energy sources will be considered in future studies.

#### У Water

- Preliminary studies have indicated sufficient groundwater exists from future pit dewatering bores for operational purposes.
- Further studies will be conducted and the capital costs of a water management system has been included in the capital cost estimate.

#### **Village** accommodation

- Expected requirement to accommodate approximately 900 people during the construction phase and approximately 600 people during the operational phase.
- The establishment and operation of a 600 person accommodation village at Hemi is included in the operating cost estimates.
- During construction rooms at the existing Wingina and Withnell villages would also be utilised.

#### Airstrip

- A high level trade off study was undertaken to determine any net benefit of constructing an airstrip at Hemi versus utilising the Port Hedland airport or an existing airstrip in close proximity to Hemi.
- Although the losses associated with travel time over the life of mine support the case for the establishment of an airstrip at Hemi, this infrastructure could be delayed if required until the project was established.
- Despite this opportunity to delay the establishment of the airstrip, a cost estimate for an airstrip with capability for take-off and landing of F100 jets has been included in the capital cost.

#### Access and haul roads

- An intersection currently exists on the major highway within proximity of the Hemi deposits. The intersection has previously been used for Atlas Iron's Mt Dove operations.
- No allowance for haul road construction has been allowed for in the capital cost estimate. The cost for constructing and maintaining haul roads from the respective Regional deposits is included in the mining operating costs for each Regional deposit

#### Communications

Communications are anticipated to consist of an upgrade to the existing hybrid arrangement of microwave and fibre to provide phone and internet coverage to the respective construction and operating centres

#### **PRINCIPLES INCORPORATED INTO STUDIES**

- Adoption of the ICMM's Principles which align with the UN Sustainable Development goals for future studies and development phases
- Board has also resolved to adhere to the Task Force on Climate-Related Financial Disclosures (TCFD)
- PFS to incorporate practical outcomes in areas including the use of renewable energy, future procurement decisions, environmental management and mine closure planning

**Acting Ethically** 

Apply ethical business practices. Implement sound systems of corporate

Help support sustainable operations.



#### Caring for the environment

Plan and design for closure. Implement water stewardship practises to achieve responsible water use. Design, construct, operate, monitor and decommission tailings disposal/storage facilities. Implement measures to improve energy efficiency and contribute to a low carbon future.



#### **Health & Safety**

Protect the health and safety of our De Grey family by developing a fatality, injury and illness free performance and culture. Designing healthy and safe work whilst embracing innovation and technology. Truly understand the psychological health and wellness of our employees and impacts of work. A capable and competent workforce who can perform at the optimum level to achieve our objectives.





#### **CONCEPTUAL PROJECT SCHEDULE**



	2021	2022	2023	2024	2025
Ongoing drilling					
Mineral Resource update					
Pre-Feasibility Study					
Definitive Feasibility Study					
Development application assessment					
Construction phase					
Production/operational phase					

## LONG-TERM GROWTH STRATEGY





Increase the Tier 1 scale resource and production potential at Hemi



Continue to grow resources at a discovery cost below industry average of A\$20/oz

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Build organisational capability and progress development studies



Ultimate objective to become a Tier 1 gold producer at Hemi Grow the 2.2Moz shear resource **Drill intrusions** close to Hemi Continue to expand the Hemi discovery Identify new intrusions along 150km strike **Progress mining** studies

# CONTACT

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#### **CAPITAL COST ESTIMATE**



- Capital cost estimate for processing plant and site infrastructure includes a 25% contingency of \$167m
- An additional \$58M is required for pre-stripping of open pits prior to first ore production

Area	Cost Estimate (\$M)
Site Development	9
Processing Plant	371
Infrastructure – Process	31
Construction	125
Owners Costs	27
Power & Distribution	34
Tailings Storage Facility	31
Infrastructure – General	41
Subtotal	668
Contingency – 25%	167
TOTAL	835

#### **OPERATING COST ESTIMATE**



- Large scale, open pitable, multiple options for development
- Multiple starter pits
- The Hemi deposits exhibit high ounces per vertical metre
- Further opportunities to optimise operating costs are being pursued in the prefeasibility study

Mining	Per tonne of ore
Mobilisation, establishment and demobilisation	0.23
Monthly fees	1.11
Drill and blast	3.87
Load and haul – ore and waste	15.10
Clear and grub, topsoil, waste emplacement shaping	0.14
Primary crusher loading and rehandle	0.49
Total	20.94

Processing	Per tonne of ore
Power	7.62
Maintenance, spares and consumables	1.38
Operating consumables	11.13
Labour	2.65
Other	3.02
Total	25.90