

## De Grey Mining Mallina Gold Project Scoping Study

- The Study presents an initial evaluation of the Mallina Gold Project. The Company has identified clear opportunities for improvement.
- Projected average gold production of approximately 473,000oz pa at an average feed grade of 1.6g/t Au over the first 5 years and approximately 427,000oz pa at an average feed grade of 1.4g/t Au over the 10 year scoping study evaluation period.
- Production rate and mine life expected to grow with continued resource definition and extensions as demonstrated in recent announcements at Diucon and Eagle and ongoing exploration activities in Greater Hemi and Regionally.
- Board approval to advance to prefeasibility study with results in H2 2022.

### Cautionary Statement

The Scoping Study referred to in this ASX release has been undertaken for the purpose of initial evaluation of a potential development of the Mallina Gold Project in the Pilbara region of Western Australia. It is a preliminary technical and economic study of the potential viability of the Mallina Gold Project. The Scoping Study outcomes, production target and forecast financial information referred to in this release are based on low accuracy level technical and economic assessments that are insufficient to support estimation of Ore Reserves. The Scoping Study has been completed to a level of accuracy of +/- 35% in line with a scoping level study accuracy. While each of the modifying factors was considered and applied, there is no certainty of eventual conversion to Ore Reserves or that the production target itself will be realised. Further exploration and evaluation work and appropriate studies are required before De Grey will be in a position to estimate any Ore Reserves or to provide any assurance of an economic development case. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study.

Of the Mineral Resources scheduled for extraction in the Scoping Study production plan approximately 70.2% are classified as Measured and/or Indicated and 29.8% as Inferred during the 10 year evaluation period. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised. Inferred Resources comprise 20% of the production schedule in the first three years of operation and an average of 21.9% over the first five years of operation. De Grey confirms that the financial viability of the Mallina Gold Project is not dependent on the inclusion of Inferred Resources in the production schedule.

The Mineral Resources underpinning the production target in the Scoping Study have been prepared by a competent person in accordance with the requirements of the JORC Code (2012). The Competent Person's Statement is found in Appendix A of this ASX release. For full details of the Mineral Resources estimate, please refer to De Grey ASX release dated 23 June 2021. De Grey confirms that it is not aware of any new information or data that materially affects the information included in that release. All material assumptions and technical parameters underpinning the estimates in that ASX release continue to apply and have not materially changed.

This release contains a series of forward-looking statements. Generally, the words "expect," "potential", "intend," "estimate," "will" and similar expressions identify forward-looking statements. By their very nature forward-looking statements are subject to known and unknown risks and uncertainties that may cause our actual results, performance or achievements, to differ materially from those expressed or implied in any of our forward-looking statements, which are not guarantees of future performance. Statements in this release regarding De Grey's business or proposed business, which are not historical facts, are forward-looking statements that involve risks and uncertainties, such as Mineral Resource estimates, market prices of gold, capital and operating costs, changes in project parameters as plans continue to be evaluated, continued availability of capital and financing and general economic, market or business conditions, and statements that describe De Grey's future plans, objectives or goals, including words to the effect that De Grey or management expects a stated condition or result to occur. Forward-looking statements are necessarily based on estimates and assumptions that, while considered reasonable by De Grey, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies. Since forward-looking statements address future events and conditions, by their very nature, they involve inherent risks and uncertainties. Actual results in each case could differ materially from those currently anticipated in such statements. Investors are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date they are made.

De Grey has concluded that it has a reasonable basis for providing these forward-looking statements and the forecast financial information included in this release. This includes a reasonable basis to expect that it will be able to fund the development of the Mallina Gold Project upon successful delivery of key development milestones and when required. The detailed reasons for these conclusions are outlined throughout this ASX release (including the Funding section of this announcement) and Section 17 in the Appendix. While De Grey considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Scoping Study will be achieved.

To achieve the range of outcomes indicated in the Scoping Study, pre-production funding estimated to be approximately A\$900M may be required. There is no certainty that De Grey will be able to source that amount of funding when required. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of De Grey's shares. It is also possible that De Grey could pursue other value realisation strategies such as a sale, partial sale or joint venture of the Mallina Gold Project. This could materially reduce De Grey's proportionate ownership of the Mallina Gold Project.

No Ore Reserve has been declared. This ASX release has been prepared in compliance with the current JORC Code (2012) and the ASX Listing Rules. All material assumptions, including sufficient progression of all JORC modifying factors, on which the production target and forecast financial information are based have been included in this ASX release.

De Grey Mining Limited (ASX: DEG) (**De Grey** or the **Company**) is pleased to present the range of outcomes of the scoping study (the **Study**) completed on its 100%-owned Mallina Gold Project, located in the Pilbara region of Western Australia (**Mallina Gold Project** or the **Project**). The Study presents an initial evaluation of the Project. The Company has identified clear opportunities for improvement.

In June, the Company announced the maiden Mineral Resource Estimate (**MRE**) (JORC 2012) for Hemi of 192Mt @ 1.1g/t Au for 6.8Moz. The Hemi discovery added to the previously defined Regional resource estimate of 37.4Mt @ 1.8g/t Au for 2.2Moz for a Total Global Mallina Gold Project Mineral Resource Estimate of **230Mt @ 1.2g/t Au for 9.0Moz**. The Study is based on the June Global MRE.

The Study does not include extensions to mineralisation at Diucon and Eagle announced since the completion of the June MRE or the potential for extensions to the existing resources at Hemi nor new discoveries that could result from the Company's extensive and ongoing exploration activities.

A summary of the Study highlights is shown below with additional details provided in the Scoping Study Executive Summary attached to this announcement. All financials are provided in Australian dollars unless stated otherwise.

### Study Highlights:

- Average gold production ranges from approximately 473,000oz per annum for the first five years to approximately 427,000oz pa over the 10 year evaluation period:
  - Places the Project in the top five Australian gold mines and a top three global gold development project based on average annual output <sup>1</sup>
  - Average feed grade of 1.6g/t Au in the first five years and 1.4g/t Au over the current 10 year evaluation period
  - The percentage of JORC Indicated resources is 78.1% (Inferred 21.9%) over the first five years and 70.2% (Inferred 29.8%) over the current 10 year evaluation period
- Average All-in Sustaining Cost (**AISC**) ranges from approximately \$1,111/oz over the first five years to approximately \$1,224/oz over the current 10 year evaluation period. This places the Project in the lowest quartile of Australian gold producing peers<sup>1</sup>
- Estimated capital cost for a 10Mtpa plant and site infrastructure of approximately \$835M inclusive of a 25% (\$167M) contingency
  - Total pre-production capital of \$893M inclusive of \$58M pre-stripping and contingency
  - Attractive pre-production capital intensity of global gold development projects<sup>1</sup> based on average annual gold production
- Average processing recovery of approximately 93% is based on conventional comminution, flotation, oxidation via one of pressure oxidation, Albion or biological oxidation, and CIL. The optimal oxidation process route will be determined with further studies
- Attractive financial outcomes demonstrating the quality of the Mallina Gold Project:
  - Pre-tax undiscounted free cashflow of approximately \$3.9 billion (post-tax \$2.9 billion) over 10 years
  - Pre-tax Net Present Value (**NPV**<sub>5%</sub>) of approximately \$2.8 billion and post-tax NPV<sub>5%</sub> of \$2.0 billion
  - Pre-tax Internal Rate of Return (**IRR**) of approximately 60% and post-tax IRR of 49%
  - Unleveraged payback of approximately 1.5 years (pre-tax) and 1.8 years (post-tax)
- Production and financial metrics of the project to be optimised with anticipated resource growth and further studies

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<sup>1</sup>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 Scoping Study Executive Summary (Appendix A) Peer Comparison Reference List.

- Immediate upside opportunities to be considered in the Pre-Feasibility Study (**PFS**) include:
  - Approximately 800,000oz (~10% JORC Indicated and ~90% JORC Inferred) of the recent June MRE within Study pit shell optimisations has been excluded from the current 10 year evaluation period. No value has been ascribed in the financial evaluation of the Project to this mineralisation. This mineralisation will be considered for inclusion in the PFS evaluation subject to further resource definition drilling aimed at increasing the resource confidence from JORC Inferred to JORC Indicated
  - Detailed consideration of plant throughput rates during the (**PFS**)
  - The Study mine designs and evaluation exclude mineralisation extensions along strike, width and at depth at Diucon and Eagle announced since the June Hemi MRE
  - Ongoing resource extension drilling at Diucon and Eagle and other Hemi and Regional deposits
  - Ongoing exploration drilling results within Greater Hemi and Regional prospects

**De Grey Managing Director and CEO, Glenn Jardine, commenting on the Scoping Study outcomes:**

*“The Scoping Study provides an initial evaluation of the Project’s physical and financial metrics., following the discovery of Hemi in February 2020 and the definition of Hemi’s maiden Mineral Resource Estimate of 6.8 million ounces in June 2021. The results of the initial evaluation of the Project are compelling and confirm its status as a Tier 1 gold asset.*

*The Company sees further improvements and optimisation of the Project with ongoing resource extension and definition drilling and exploration success. This could increase production rates and/or the mine life of the project. For example, the production metrics for Diucon and Eagle incorporated into the Study do not include the recently announced mineralised extensions along strike, in width and at depth.*

*The six existing zones at Hemi provide the Company with the flexibility to sequence production according to gold grade, gold endowment per vertical metre, mining advance rate and the strip ratio of each zone. The Hemi deposits comprise approximately 80% of the production over the 10 year study evaluation period.*

*Metallurgical testwork has demonstrated that consistently high gold recoveries can be achieved across the different zones at Hemi using the robust flowsheet developed during the Study. Each of the three potential sulphide oxidation processes (pressure oxidation, biological oxidation and Albion) have delivered excellent gold recoveries and will be carried forward into future studies. Further testwork and trade off studies will optimise capital cost, operating costs, recoveries and operability to enable the Company to select the preferred sulphide oxidation route for the future operation.*

*The Study provides justification that the Mallina Gold Project is commercially viable and accordingly the Board has approved progression of the Project to a PFS. The PFS will immediately commence in parallel with ongoing resource extension and definition drilling, exploration activities and further metallurgical testwork. The results of the PFS are expected to be provided in the second half of calendar year 2022.*

*The Company has achieved rapid resource growth and exploration success in the last 18 months and is committed to continuing an extensive program of exploration activities across its 100% owned, 150km long tenement package.”*

## Conference Call

Managing Director, Glenn Jardine, will host a conference call to discuss the Scoping Study at 9:00am Australian Western Standard Time ("AWST") / 12:00PM Australian Eastern Daylight Time ("AEDT") on Tuesday 5 October 2021.

To access the conference call, participants will need to pre-register for the call at the link below.

<https://s1.c-conf.com/diamondpass/10017065-ah9qbr.html>

You will receive a calendar invite and a unique code which is to be quoted when dialling into the call.

### **Analysts and media – conference call details**

Conference call details for analysts and media includes Q&A participation. Please dial in five minutes before the conference call starts and provide your name and the participant ID number. To ask a question, participants will need to dial \*1 (star, 1) on their telephone keypad.

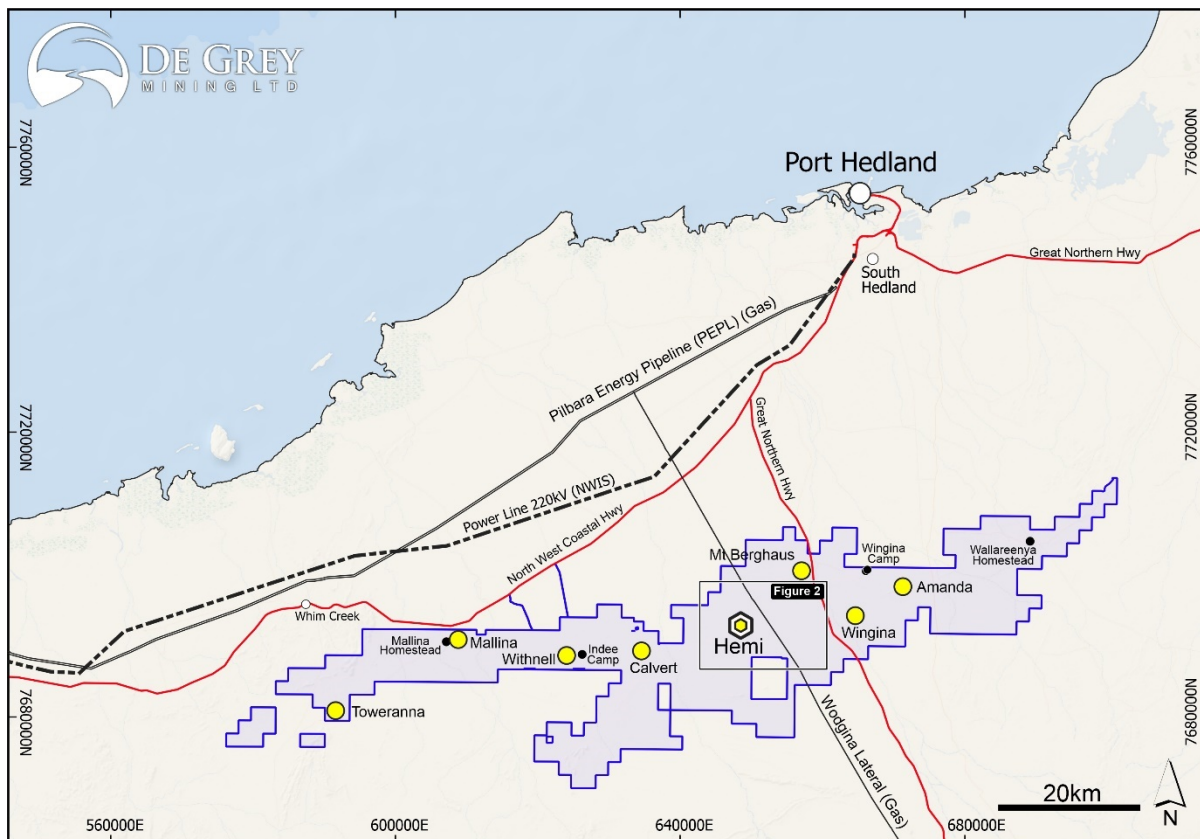
## Introduction

De Grey is assessing the potential to develop the Mallina Gold Project in the Pilbara region of Western Australia, located approximately 70 kilometres (km) from the regional hub of Port Hedland.

Existing infrastructure capable of servicing the Project includes:

- Two lane bitumen highways; the North West Coastal highway and the Great Northern highway;
- Two gas pipelines; the Pilbara Energy gas pipeline and the Wodgina Mine gas pipeline;
- Port Hedland to Karratha 220kV power transmission line fed separately by two gas fired power stations located at Port Hedland and Karratha;
- The port of Port Hedland, a bulk export and materials import facility;
- The international airport at Port Hedland;
- Existing combined mobile (cell) tower and optic fibre/wireless communications.

**Figure 1: Hemi Pits and Regional Pits Location Map**



The Project comprises two principal sources of production; the Hemi deposits which underpin the Project and the Regional deposits. The Study assessed various plant throughput rates. Plant throughput rates during the course of the Study varied with the ongoing discovery of new mineralised zones during late 2020 with Falcon and in early 2021 with the discovery of Diucon and Eagle. During the Study, the Company considered throughput rates ranging from 7.5, 10.0 and 12.5Mtpa. A plant throughput rate of 10.0Mtpa was considered optimal at this point in time based on various constraints applied to the Study including the maiden MRE and annual vertical mining rates. The 7.5Mtpa and 10.0Mtpa throughput rates were studied in detail with a 12.5Mtpa case assessed at a conceptual level.

## Key Study Outcomes and Assumptions

The Study confirmed that the Mallina Gold Project presents a potentially commercially viable development opportunity, with significant upside. A summary of the initial physical and financial evaluation of the Project at a 10Mtpa throughput rate is shown in Table 1 with additional details provided in the scoping study Executive Summary.

**Table 1: Scoping Study 10 Year Evaluation Period Results and Key Assumptions**

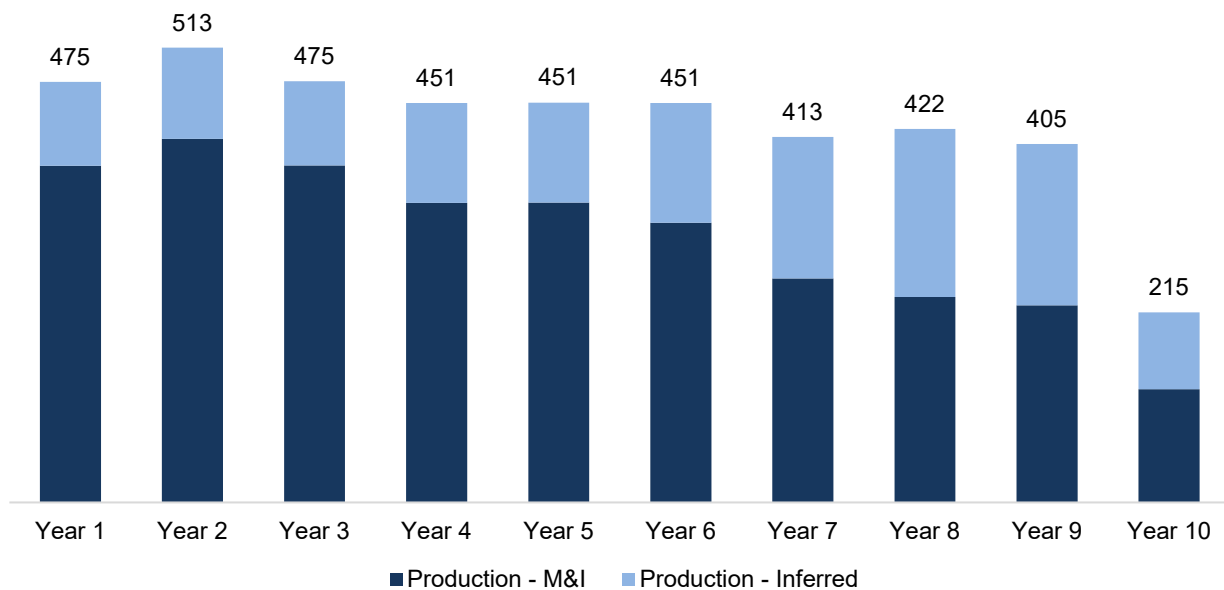
<b>Physicals &amp; Costs</b>		
Mining Physicals		
<i>Ore Tonnage</i>	Mt	111
<i>Grade</i>	g/t	1.43
<i>Contained Ounces</i>	Moz	4.6
Plant Throughput	Mtpa	10.0
Evaluation Period	Years	10
Strip Ratio - Hemi	waste:ore	4.8:1
Processing Recovery	%	93.0
Gold Production		
<i>Total Evaluation Period (10 years)</i>	Koz	4,271*
<i>Average Annual</i>	koz pa	427
<i>Average Annual – first 5 years</i>	koz pa	473
Upfront Capital Cost		
<i>Development Capital</i>	\$M	835
<i>Pre-Strip</i>	\$M	58
Total Development Capital Cost	\$M	893
Operating Costs		
<i>Mining</i>	\$/t ore mined	21
<i>Processing</i>	\$/t ore milled	26
<i>General &amp; Administration</i>	\$/t ore milled	1.40
<b>Financials and Key Assumptions</b>		
Gold Price	\$/oz	2,400
C1 Cash Costs		
<i>First 5 year average</i>	\$/oz	1,059
<i>10 year average</i>	\$/oz	1,170
AISC		
<i>First 5 year average</i>	\$/oz	1,111
<i>10 year average</i>	\$/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

\*excludes approximately 800,000oz (~90% Inferred and 10% Indicated) from the 10 year evaluation period

## Production Projection

The production profile of the Mallina Gold Project demonstrates annual production range of up to 513,000 ounces in year 2, with average production of 473,000 ounces over the first 5 years and 427,000 ounces per annum over the 10 year evaluation period. Production over the first 10 year evaluation period is sourced from Measured and Indicated Resources, with 80.0% Measured and Indicated resources (20% Inferred) over the first three years of production spanning the payback period of the project, 78.1% Indicated (21.9% Inferred) over the first five years of production and 70.2% (29.8% Inferred) over the first 10 year evaluation period. The Hemi deposits comprise approximately 80% of the production over the 10 year Study evaluation period.

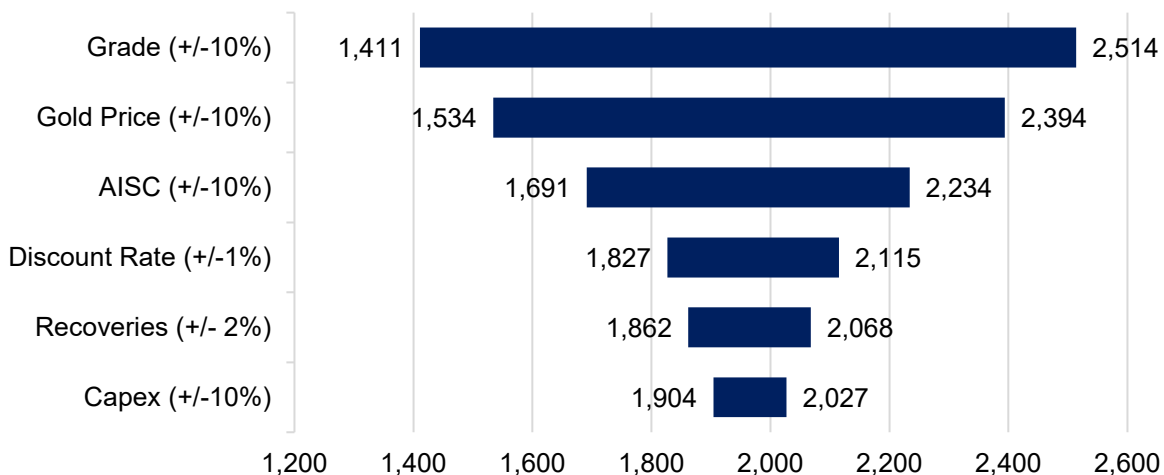
**Figure 2: Annual Production Projection ('000ozs)**



## Sensitivity Analysis

Sensitivity analysis shows the Project to be resilient to changes in capital costs and recoveries, with significant leverage to improved head grade, gold price and AISC.

**Figure 3: Project NPV Sensitivity Analysis (A\$M)**

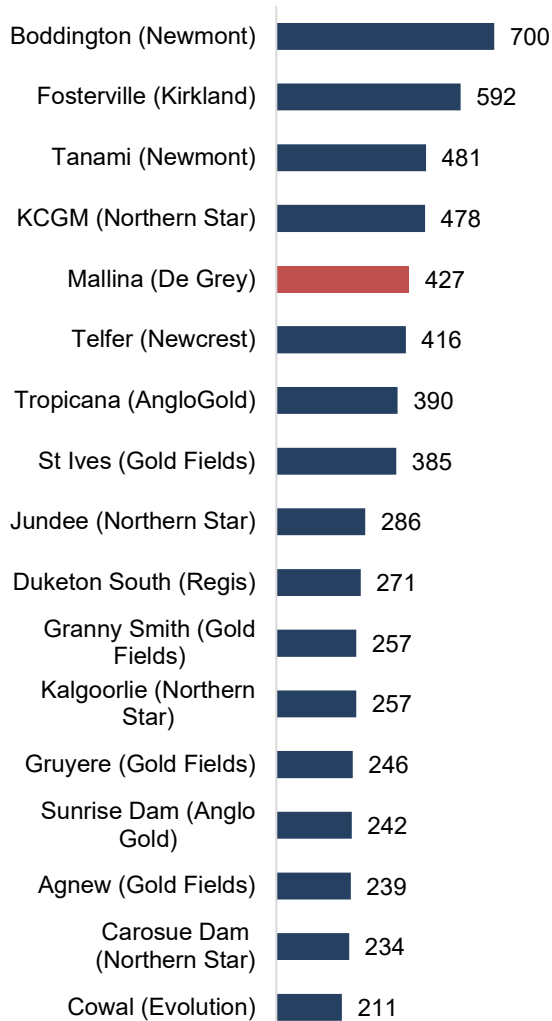


## Project Positioning

The Mallina Gold Project would be a low-cost producer compared with current Australian producing gold mines, with a projected average AISC of \$1,111/oz over the first five years and \$1,224/oz over the 10 year evaluation period, placing the Project toward the lowest quartile of Australian producing gold mine. Details of peer comparisons over the last 12 months (LTM) are provided in Appendix A of the Executive Summary.

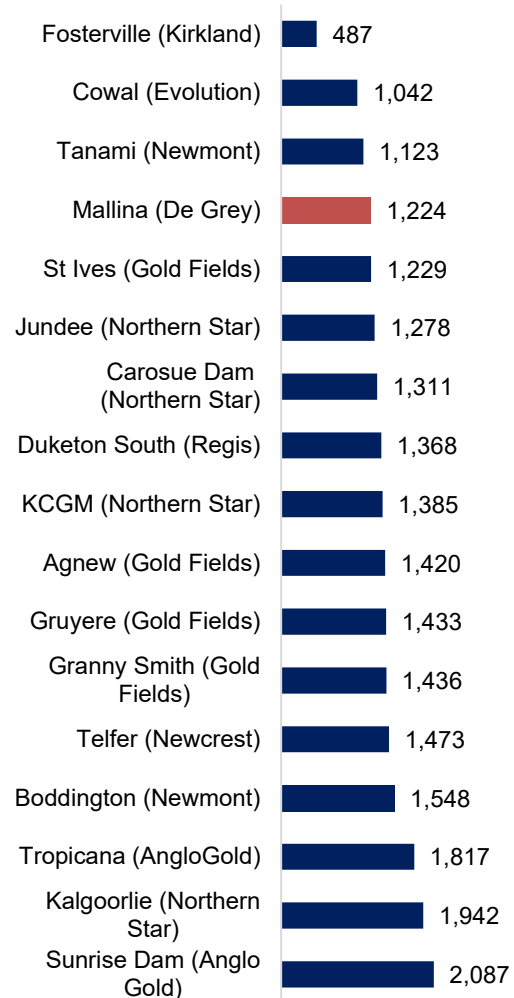
**Figure 4: Project Positioning Against Australian Operating Peers<sup>2</sup>**

*LTM Production (koz) of Australian Gold Mines >200koz pa*



**Figure 5: Project Positioning Against Australian Operating Peers<sup>1</sup>**

*LTM AISC (A\$/oz) of Australian Gold Mines >200koz pa*



The capital intensity of the project is favourable compared with other large global development projects.

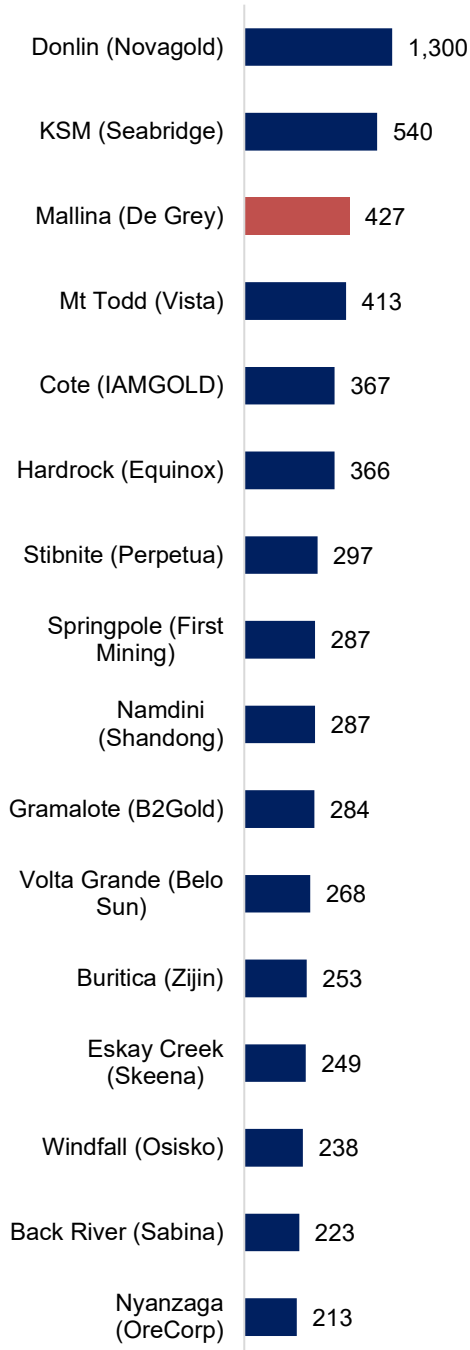
<sup>1</sup> Comparable project data sourced from public company disclosures for the 12 months ended 30 June 2021. Developers that have released a PFS or FS with LOM average AISC were used for comparison purposes.

<sup>2</sup> Comparable project data sourced from public company disclosures for the 12 months ended 30 June 2021. Gruyere & Tropicana quoted on 100% basis.



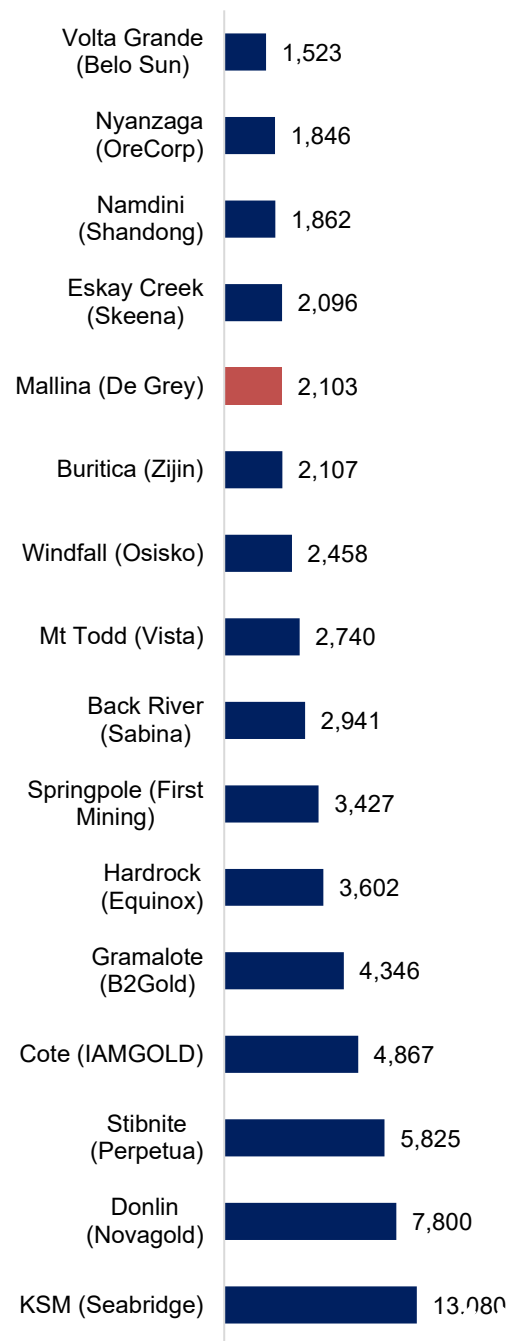
**Figure 6: Project Positioning Against Global Development Projects<sup>3</sup>**

*Forecast LOM Annual Production (koz) of Development Projects with Projection Production >200koz pa*



**Figure 7: Project Positioning Against Global Development Projects<sup>3</sup>**

*Capital Intensity (A\$/koz Au) of Development Projects with Forecast Production >200koz pa*



<sup>3</sup> 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. Capital intensity is determined by dividing preproduction capital (\$) by annual gold production (oz).

## Project Configuration

The Company studied a range of plant throughput scale options; 7.5Mtpa, 10.0Mtpa and 12.5Mtpa. The production outcomes of each throughput scale are shown in Table 2. Resource extension and definition drilling at Diucon and Eagle are in progress. Recent announcements have highlighted extensions to mineralisation at along strike, width and at depth. This drilling aims to extend the June MRE and to increase the resource confidence level from Inferred to Indicated. This may result in increases to gold production rates and/or mine life.

**Table 2: Annual throughput rates studied and annual gold production**

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

The capital cost of the plant shown in Table 3 represents the average capital cost of the comminution flowsheet and oxidation process options studied and available to the Company for the process plant. Comminution options studied included semi autogenous ball mill crusher (SABC) and two stage crushing with high pressure grinding roll (HPGR). Oxidation processes studied included pressure oxidation, Albion and biological oxidation.

The range of plant capital costs that encompass the comminution and three oxidation options is within +/- 5% of the average capital cost shown in Table 3. The operating cost shown in Table 4 has been determined on the same basis as the average capital cost and is also within +/-5% of the range of the different comminution and oxidation process flowsheets studied.

## Capital Cost Estimate

Capital cost estimates have been estimated for the three key areas of the Project, namely Mining, Processing and Administration. The capital cost estimate has been primarily derived using a desktop study approach to an accuracy of  $\pm 35\%$ , typical of a scoping level study and includes a 25% contingency.

The location of world class infrastructure on the project's doorstep is a significant advantage in mitigating infrastructure related capital costs.

**Table 3: 10Mtpa Plant and Infrastructure Capital Cost Estimate**

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
<b>TOTAL</b>	<b>835</b>

## Operating Cost Estimate

Operating costs have been estimated for the three key areas of the Project, mining, processing and administration. The operating cost estimates have been derived using a first principles desktop study approach to an accuracy of  $\pm 35\%$ .

Majesso Consulting was engaged to independently estimate the mining costs based on a contractor mining strategy. The mining costs were estimated based on the equipment sizing at each deposit, the nature of the deposit and the distance to the ROM (local and Hemi) and to the centroid of the waste rock emplacement. The haul distance was then applied to the costs on an individual basis for each of the Regional deposits.

GR Engineering was engaged to undertake an independent assessment of the processing operating cost estimate at a throughput rate of 7.5Mtpa. This estimate was then adjusted by De Grey to allow for a processing throughput rate of 10Mtpa.

Administration costs were estimated by De Grey at \$1.40 per tonne of ore treated. This administration cost estimate accounts for the costs of flights and accommodation for administration and village personnel as well as safety and administration consumables, communications, other ancillary administration costs and the leasing cost for the village.

**Table 4: Operating Cost Estimate (rounded)**

Area	Cost Estimate
Mining	\$21/t ore processed
Processing	\$26/t ore processed
Administration	\$1.40/t ore processed

## Funding

The Mallina Gold Project's technical and economic fundamentals provide a strong platform for De Grey to source traditional financing through debt and equity markets, in addition to pursuing other financing strategies should this be to the benefit of shareholders. There is, however, no certainty that De Grey will be able to source funding as and when required.

Whilst no formal funding discussions have commenced the Company has engaged with a number of financial institutions on the Project and these financial institutions have expressed a high level of interest in being involved in the funding of the project.

To achieve the range of outcomes indicated in the Study, pre-production funding of approximately A\$900M may be required. Typical project development financing would involve a combination of debt and equity. De Grey has formed the view that there is a reasonable basis to believe that requisite future funding for development of the Mallina Gold Project will be available when required. There are grounds on which this reasonable basis is established including:

- Global debt and equity finance availability for high-quality gold projects remains robust. Recent examples of significant funding being made available for construction of single asset gold developers located in Australia in the last 12 months include Bellevue Gold and Red 5
- The Mallina Gold Project is world-class by scale and quality parameters. Release of the study results provides a platform for De Grey to discuss the outcomes with potential financiers
- De Grey has a current market capitalisation of approximately A\$1.2 billion and no debt. The Company has an uncomplicated, clean corporate and capital structure. De Grey also owns 100% of the Mallina Gold Project. These are all factors expected to be highly attractive to potential financiers
- The De Grey Board and management team has extensive experience in mine development, financing and production in the resources industry
- The Company has achieved a strong track record of raising equity funds as and when required to further the exploration and evaluation of the Mallina Gold Project.

## Conclusions and Recommendations

The Study provides justification that the Mallina Gold Project is commercially viable and accordingly the Board of De Grey has approved progression of the Project to a PFS.

The PFS will immediately commence in parallel with ongoing exploration and resource drilling and further metallurgical testwork with results expected to be provided in the second half of calendar year 2022.

**This announcement has been authorised for release by the De Grey Board.**

**For further information, please contact:**

**Glenn Jardine**  
**Managing Director**  
+61 8 6117 9328  
admin@degreymining.com.au

**Andy Beckwith**  
**Technical Director/Operations Manager**  
+61 8 6117 9328  
admin@degreymining.com.au

**Peter Canterbury**  
**Chief Financial Officer**  
+61 8 6117 9328  
admin@degreymining.com.au

**Michael Vaughan**  
**(Media enquiries)**  
Fivemark Partners  
+61 422 602 720  
michael.vaughan@fivemark.com.au

October 2021  
**EXECUTIVE  
SUMMARY**



**DE GREY**  
MINING LTD



**SCOPING STUDY**

**MALLINA  
GOLD PROJECT**

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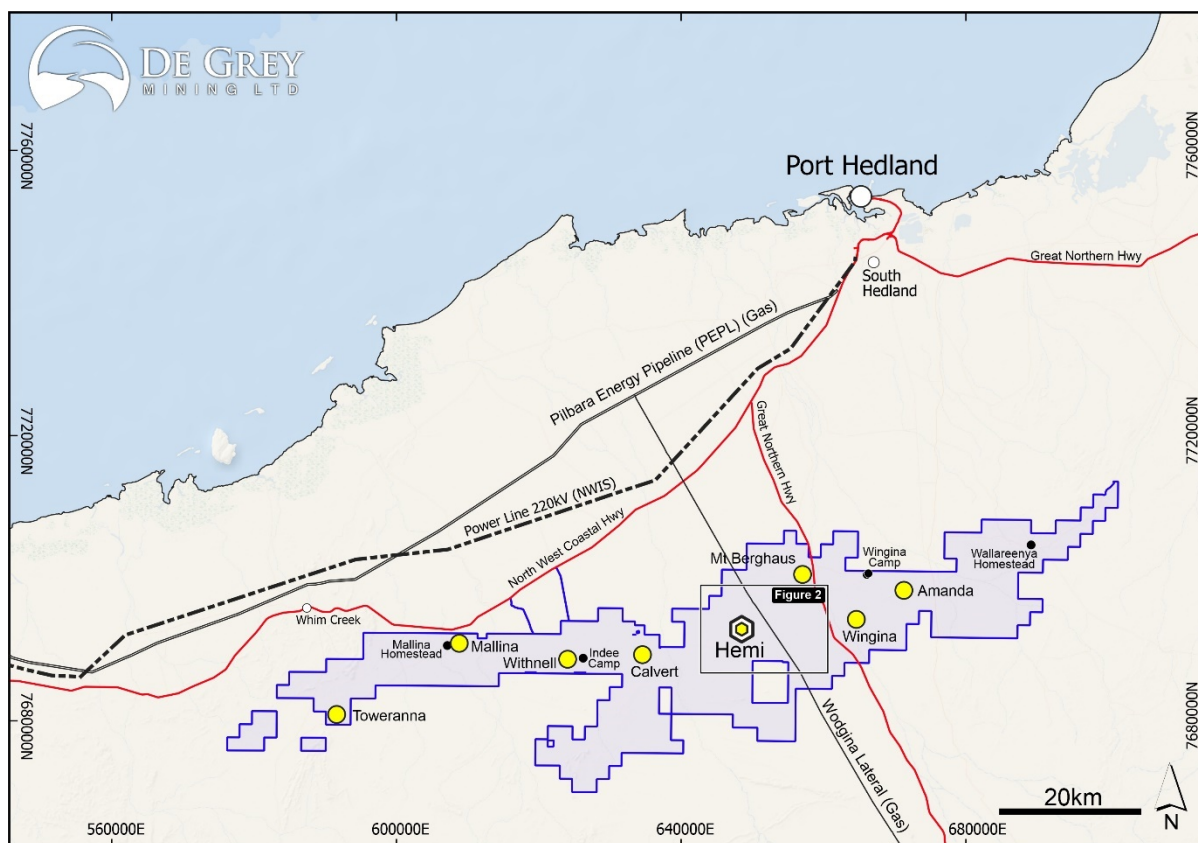
## 1. Introduction and Project Overview

De Grey Mining Ltd (“De Grey”) is a Western Australian based exploration company listed on the Australian Securities Exchange (ASX:DEG). De Grey is assessing the potential to develop the Mallina Gold Project (“Project”) in the Pilbara region of Western Australia, located approximately 70 kilometres (“km”) from the regional hub of Port Hedland.

Existing infrastructure capable of servicing the Project includes:

- Two lane bitumen highways; the North West Coastal highway and Great Northern highway;
- Two gas pipelines; the Pilbara Energy gas pipeline and the Wodgina Mine gas pipeline;
- Port Hedland to Karratha 220 kV power transmission line fed separately by two gas fired power stations located at Port Hedland and Karratha;
- The port of Port Hedland, a bulk export and materials importation facility;
- The international airport at Port Hedland;
- Existing combined mobile (cell) tower and optic fibre / wireless communications.

**Figure 1.1: Hemi Pits and Regional Pits Location Map**



The Project comprises two principal sources of production; the Hemi deposits which underpin the Project and the Regional deposits. The Study assessed various plant throughput rates. Plant throughput rates during the course of the Study varied with the ongoing discovery of new mineralised zones during late 2020 with Falcon and in early 2021 with the discovery of Diucon and Eagle. During the Study, the Company considered throughput rates ranging from 7.5, 10.0 and 12.5Mtpa. A plant throughput rate of 10.0Mtpa was considered optimal at this point in time based on various constraints applied to the Study

including the maiden MRE and annual vertical mining rates. The 7.5Mtpa and 10.0Mtpa throughput rates were studied in detail with a 12.5Mtpa case assessed at a conceptual level.

The key gold production parameters for the 10Mtpa scenario are shown in Table 1.1 and a summary of the Mineral Resource estimate (MRE) announced on 23 June, 2021 are shown in Table 1.2.

**Table 1.1: Key Gold Production Parameters for the Mallina Gold Project at 10.0Mtpa processing rate**

Time Period	Tonnes Processed	Gold Grade Processed	Gold Recovery <sup>1</sup>	Average Gold Production <sup>1</sup>	% Indicated
Years	Mt	g/t Au	%	koz Au / annum	
<b>Years 1 - 5</b>	50	1.57	93.6	473	78.1%
<b>Years 1 - 10</b>	100	1.43	92.7	427	70.2%

**Table 1.2: Summary of Mineral Resource Estimate - Mallina Gold Project - June 2021**

Deposit	Indicated <sup>2</sup>			Inferred			Total		
	Tonnes Mt	Au g/t	Au Moz	Tonnes Mt	Au g/t	Au Moz	Tonnes Mt	Au g/t	Au Moz
Hemi <sup>1</sup>	65.5	1.3	2.78	126.9	1.0	4.03	192.4	1.1	6.8
Regional <sup>2</sup>	18.9	1.7	1.05	18.5	1.9	1.11	37.4	1.8	2.2
<b>Total</b>	<b>84.4</b>	<b>1.4</b>	<b>3.83</b>	<b>145.3</b>	<b>1.1</b>	<b>5.14</b>	<b>229.8</b>	<b>1.2</b>	<b>9.0</b>

Note 1. Above -300 mRL (370 m vertical depth) the deposit has been reported at a cutoff grade of 0.3 g/t Au. Below -300 mRL the deposit has been reported at a cutoff grade of 1.5 g/t Au.

2. Approximately 25% of Indicated shown for Regional deposits are in Measured category.

## 2. Study Team

The Study Team, consisting of De Grey personnel and external consultants assessed to a scoping level the environmental impacts, community interaction, technical requirements and financial robustness of the Mallina Gold Project.

The Study team comprised:

- Study Compilation De Grey
- Geology De Grey
- Resource Estimation PayneGeo
- Geotechnical MineGeoTech
- Geochemical SRK Consulting
- Hydrogeological GeoWater
- Hydrological Surface Water Solutions
- Mining Engineering Cube Consulting
- Mining Costing Majesso Consulting
- Metallurgy GR Engineering Services
- Metallurgy ALS Australia
- Process Engineering GR Engineering Services
- Process Engineering Lycopodium Limited
- Tailings Storage CMW Geosciences
- Power Supply ECG Engineering
- Environmental Blueprint Strategies
- Heritage and Native Title De Grey
- Social and Community De Grey
- Risk, Health and Safety De Grey
- Financial Modelling Azure Capital



The De Grey Study team completed gap and fatal flaw analysis, along with risk assessments at designated stages throughout the scoping study process. Where appropriate, these were undertaken with input from the respective independent expert consultants to ensure that a robust outcome was achieved in all areas of the Study at a scoping level.

Input from the independent experts was summarised into a report format to enable a detailed scope to be prepared for the next phase of studies.

### 3. Project Area and Tenement Status

The Project is located in the Pilbara region of Western Australia, a well-established mining hub, approximately 70 km (45 minute drive) south of Port Hedland, approximately 200 km east of Karratha (2 hour 20 minute drive) and approximately 1,600 km (17 hour drive) north of Perth.

Port Hedland is the closest town and has a population of around 16,000 people from diverse backgrounds. The traditional owners, the Kariyarra people, call the place Marapikurrinya for the hand shaped formation of the tidal creeks coming off the natural harbour.

Port Hedland has Australia's largest bulk export port operated by the Pilbara Ports Authority with an annual export capacity in excess of 460 Mt. Three major companies, BHP (eight berths), Fortescue Metals Group (five berths) and Roy Hill Iron Ore (two berths) each export iron ore from their respective port facilities. In addition to the iron ore export berths, there are four other berths with different capabilities and capacities, and which are used for; containers, petroleum products, bulk liquids, livestock, bulk salt, mineral commodities and cruise ships. In November 2020 global container company ANL began a new sea freight service into Port Hedland, which allows sea freight imported directly into the Pilbara for the first time. The service will be of significant benefit to the construction and operation of the project and will result in material reduction in transportation costs related to the project.

The proposed Project site is connected to Port Hedland by two major sealed highways, with an existing access point (with turn in / out lanes) located approximately 12 km from the proposed processing plant location. A high voltage (220 kV) overhead powerline and two natural gas pipelines are all in close proximity to the proposed processing plant location.

De Grey's exploration tenements stretch from east to west in the area across a distance of approximately 150 km. The Ngarluma people (western), Kariyarra people (central) and Nyamal people (eastern) are the traditional owners across the different areas of the Project.

De Grey has 100% ownership of the Mallina Gold Project, which covers an area of approximately 1,359 km<sup>2</sup>, with the exception of one tenement (E47/2502 - 75%). This includes approximately 1,262 km<sup>2</sup> of granted tenements and approximately 97 km<sup>2</sup> of tenements that are pending. In all, De Grey has 34 tenements granted and 22 tenements pending.

### 4. Geology and Resource Estimate

#### Local Geology

##### *Hemi Deposits*

The Hemi discovery is an intrusion related gold deposit consisting predominately of diorite to quartz diorite intrusions and sills hosted within the Mallina Basin. Gold mineralisation is associated with localised to massive zones of brecciated albite, chlorite and carbonate (calcite) altered intrusion with disseminated sulphides and stringers containing pyrite and arsenopyrite with minor occurrences of pyrrhotite, overprinted in places by quartz-sulphide veins that can host visible gold. There are strong correlations between gold, arsenic and sulphur. The sulphide mineral assemblage is characterised by pyrite, arsenopyrite and minor pyrrhotite along with anomalous associated elements including silver, bismuth, molybdenum, antimony, tin, tellurium and zinc.

The intrusions were emplaced into a sequence of sedimentary rocks within the Mallina Basin, currently interpreted to be part of the Mallina Formation which locally comprises greywacke, siltstones, sandstones,

shale and black shale. There are mafic-ultramafic sills of the Langenbeck Suite within the area and these help map the interpreted folding and faulting within the region around the Hemi discovery amongst the otherwise poorly-outcropping and non-magnetic sediments of the Mallina Formation. The sediments immediately enclosing the intrusions have been hornfelsed, expressed by locally developed hardening and biotitic alteration developed related to the heat of the intrusions.

The alteration in the wallrock / waste rock units away from the intrusions is typified by regional metamorphic chlorite (possibly with calcite) alteration. Proximal to the intrusions there is volumetrically minor chlorite-albite-sulphide alteration within the sediments as well as the hornfelsing. Waste rock sourced from intrusions will be characterised by reduced sulphide levels, lower to no albite and increased chlorite and/or carbonate.

### *Regional Deposits*

#### Withnell

The Withnell area is dominated by a sequence of Archaean turbidite sediments. Multiple zones of mineralisation lie within the regionally extensive, east-west trending Withnell Shear Zone. Gold mineralisation at Withnell and the adjacent Hester deposit is associated with quartz veins, quartz-sulphide lodes, disseminated sulphides and associated carbonate alteration and hosted by altered and poly-deformed folded sediments. The mineralised zones are typically sub-vertical, however folding and deformation of the sequence has resulted in some complexity to the interpreted geometry.

#### Toweranna

Toweranna gold mineralisation occurs in numerous variously oriented pyrite-rich quartz veins which occur within, and marginal to, an intermediate granitoid stock. The veins comprise quartz, pyrite, arsenopyrite and can occasionally exhibit free gold. The stock has intruded a suite of moderate to steeply dipping meta-sandstones, greywackes, and argillites of Archaean age.

#### Mt Berghaus

The Mt Berghaus Central, North Lode and Berghaus West gold deposits are controlled by the Mt Berghaus Shear Zone and are hosted within deformed metasediments of Archean age. Gold mineralisation is developed within a NE-SW striking, sub-vertical zone with resource grade mineralisation defined to date in three separate areas. Gold mineralisation is associated with zones of quartz-pyrite veining developed as multiple steep lodes within metasediments.

#### Wingina

The Wingina gold deposit is shear-hosted and occurs within deformed cherts and banded iron formation of Archean age. The cherty horizons form a prominent ridge along much of the extent of the identified shear zone. Gold mineralisation is associated with extensive development of pyrrhotite resulting in iron rich gossanous zones in the oxidised portion of the deposit.

#### Mallina

Mallina gold mineralisation and associated alteration zones occur as linear multiple stacked lodes hosted within metasediments. The gold is intimately associated with quartz-sulphide veining and pervasive carbonate, pyrite-arsenopyrite alteration of the metasedimentary wall rock units.

### **Geotechnical**

MineGeoTech was engaged to complete a geotechnical assessment for the Mallina Gold Project and to provide bench configurations for pit designs undertaken by Cube Consulting for the Hemi deposits and the Regional deposits to a scoping study level utilising available data. This data included previous reports for Regional deposits, logging of Hemi drillholes and engineering experience in similar material types in both Western Australia and elsewhere. Table 4.1 shows the bench configurations that were applied to the Hemi deposits.

**Table 4.2: Hemi Deposits – Range of Recommended Bench Configurations**

Domain	Bench Height	Batter Angle	Berm Width	IRA
Transported	10 m	44°	11 m	25°
Oxide	10 m	50°	6 m	35°
Transitional	10 m	65°	7 m	41°
Fresh	20 m	75°	8 m	56°

MineGeoTech also provided bench configurations for the Regional deposits based on existing knowledge from previous mining activities and / or completed studies.

### Geochemical

SRK Consulting Pty Ltd (“SRK”) was engaged to complete a desktop geochemical assessment for the Mallina Gold Project to scoping level.

The desktop geochemical characterisation and potential for acid mine drainage was completed utilising De Grey’s extensive drillhole multi-element assay dataset.

This allowed for a high level assessment to be undertaken considering indicators such as total sulphur content and the use of Global Abundance Indices to evaluate elements that are ‘enriched’ with respect to average crustal abundances. Particular focus was given to elements of significance in terms of potential to leach from mined materials (waste rock, low grade mineralisation, pit walls) and other wastes (e.g. tailings).

The desktop assessment determined that total sulphur content within the main waste lithologies from the Hemi pit shells had median values below 0.1% S. This value is used as a preliminary threshold for estimating non-acid forming (“NAF”) and potential acid forming (“PAF”) waste rock. Based on this threshold, 20% of waste material was classified as PAF requiring encapsulation. Further assessment and planning for encapsulation will be undertaken as part of ongoing studies.

### Hydrogeology and Hydrology

Geowater Consulting (“Geowater”) was engaged to complete a hydrogeological (groundwater) assessment and Surface Water Solutions was engaged to complete a hydrological (surface water) assessment for the Mallina Gold Project to scoping level.

The hydrogeological study focused on the shallow aquifer present within the alluvial sediments that overlie the Hemi Deposit, as well as on establishing baseline groundwater conditions in the regional area between Hemi and the Yule and Turner rivers.

To date, eleven monitoring bores and three production bores have been constructed with an additional eight test pump production bores to be drilled as part of the next phase of studies. Preliminary modelling indicates that approximately 30ML/day of pit dewatering would be required. This exceeds the requirements for mining (dust suppression) and processing operations for a 10Mtpa processing rate.

The hydrological study utilised available hydrological and meteorological data relevant to the site, including precipitation gauge records and stage discharge data for the Yule River and the Turner River.

The flood extents associated with a 1% Annual Exceedance Probability (“AEP”) event, that is a 1 in 100 year 72 hour event were assessed to a scoping level. Based on the data assessed, a 1% AEP flood event would produce relatively shallow flows (<300mm) at relatively low flow velocities (<0.3m/s) across the proposed Hemi infrastructure area.

Water quality is very good with low chlorides and other elements, making it suitable for conventional mining and processing operations including for the sulphide oxidation process.

### Mineral Resource Estimate

The Mallina Gold Project comprises two principal Mineral Resource Estimates; the Hemi deposits and the Regional deposits.

The Hemi deposits were first discovered in late 2019 and have been drilled extensively since then. The Regional deposits consist of nine areas geographically separated by up to 60km from Hemi.

Summaries of the total Mineral Resource Estimates for the overall Project, Hemi and Regional deposits is presented in Table 4.1, Table 4.2 and Table 4.3 respectively.

**Table 4.1: Summary of Mineral Resource Estimate - Mallina Gold Project - June 2021**

Deposit	Indicated			Inferred			Total			% Indicated
	Tonnes Mt	Au g/t	Au Moz	Tonnes Mt	Au g/t	Au Moz	Tonnes Mt	Au g/t	Au Moz	
Hemi <sup>1</sup>	65.5	1.3	2.8	126.9	1.0	4.0	192.4	1.1	6.8	41%
Regional <sup>2</sup>	18.9	1.7	1.1	18.5	1.9	1.1	37.4	1.8	2.2	49%
<b>Total</b>	<b>84.4</b>	<b>1.4</b>	<b>3.8</b>	<b>145.3</b>	<b>1.1</b>	<b>5.1</b>	<b>229.8</b>	<b>1.2</b>	<b>9.0</b>	<b>43%</b>

Note 1: Cut off grade of 0.3 g/t Au above -300 mRL. Cutoff grade of 1.5 g/t Au below -300 mRL

Note 2: Approximately 25% of Indicated shown for Regional deposits are in Measured category.

**Table 4.3: Summary of Mineral Resource Estimate - Hemi by Deposit - June 2021**

Deposit	Indicated			Inferred			Total			% Indicated
	Tonnes Mt	Au g/t	Au Moz	Tonnes Mt	Au g/t	Au Moz	Tonnes Mt	Au g/t	Au Moz	
Aquila	10.6	1.5	0.52	7.4	1.3	0.32	18.1	1.4	0.84	62%
Brolga	28.1	1.3	1.21	34.7	0.9	1.05	62.8	1.1	2.26	53%
Crow	9.8	1.1	0.35	19.5	1.1	0.68	29.3	1.1	1.03	34%
Diucon / Eagle				48.5	0.9	1.45	48.5	0.9	1.45	
Falcon	17.0	1.3	0.70	16.6	1.0	0.53	33.7	1.1	1.23	57%
<b>Total<sup>1</sup></b>	<b>65.5</b>	<b>1.3</b>	<b>2.78</b>	<b>126.9</b>	<b>1.0</b>	<b>4.02</b>	<b>192.4</b>	<b>1.1</b>	<b>6.80</b>	<b>41%</b>

Note 1: Cut off grade of 0.3 g/t Au above -300 mRL. Cutoff grade of 1.5 g/t Au below -300 mRL.

**Table 4.4: Summary of Mineral Resource Estimate - Regional by Deposit - June 2021**

Deposit	Indicated			Inferred			Total			% Indicated
	Tonnes Mt	Au g/t	Au Moz	Tonnes Mt	Au g/t	Au Moz	Tonnes Mt	Au g/t	Au Moz	
Withnell	4.4	1.8	0.25	3.1	3.5	0.34	7.5	2.5	0.60	43%
Camel	0.6	2.4	0.03	0.2	1.7	0.01	0.8	2.2	0.06	50%
Roe	0.3	2.0	0.01	0.3	2.0	0.02	0.6	2.0	0.04	46%
Dromedary	0.2	2.0	0.01	0.1	1.7	0.01	0.3	1.9	0.02	60%
Calvert	1.0	1.3	0.04	0.3	1.2	0.01	1.3	1.3	0.05	80%
Mallina	1.6	1.2	0.06	5.1	1.5	0.24	6.8	1.4	0.31	21%
Toweranna	4.3	2.1	0.29	3.0	2.4	0.23	7.4	2.2	0.52	56%
Wingina	4.1	1.7	0.22	1.4	1.6	0.07	5.5	1.6	0.29	75%
Amanda	0.6	1.4	0.03	1.4	0.9	0.04	2.0	1.1	0.07	37%
Mt Berghaus	1.0	1.7	0.05	3.4	1.2	0.13	4.3	1.3	0.18	29%
Hester	0.1	2.1	0.00	0.1	1.4	0.00	0.1	1.7	0.01	54%
Leach Pad	0.9	0.7	0.02				0.9	0.7	0.02	100%
<b>Total</b>	<b>18.9</b>	<b>1.7</b>	<b>1.05</b>	<b>18.5</b>	<b>1.9</b>	<b>1.11</b>	<b>37.4</b>	<b>1.8</b>	<b>2.16</b>	<b>49%</b>

De Grey engaged Payne Geological Services Pty Ltd (“PayneGeo”), to complete a Mineral Resource estimate for the Hemi gold deposit, part of the Mallina Gold Project (“Project”).

This estimate was conducted in accordance with the 2012 Edition of the ‘*Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves*’ prepared by the Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Geoscientists and Minerals Council of Australia (2012).

Other than exploration results released subsequently, De Grey confirms that it is not aware of any new information or data that materially affects the information included in its ASX release dated 23 June 2021 (6.8Moz Hemi Maiden Mineral Resource drives MGP to 9.0Moz). All material assumptions and technical parameters underpinning the estimates in these releases continue to apply and have not materially changed.

## 5. Mine Design and Schedule

Cube Consulting (“Cube”) was engaged by De Grey to undertake mining engineering studies in relation to the Hemi and Regional deposits. The scope of works included the collation of input parameters, open pit optimisation studies, open pit designs and pit production scheduling.

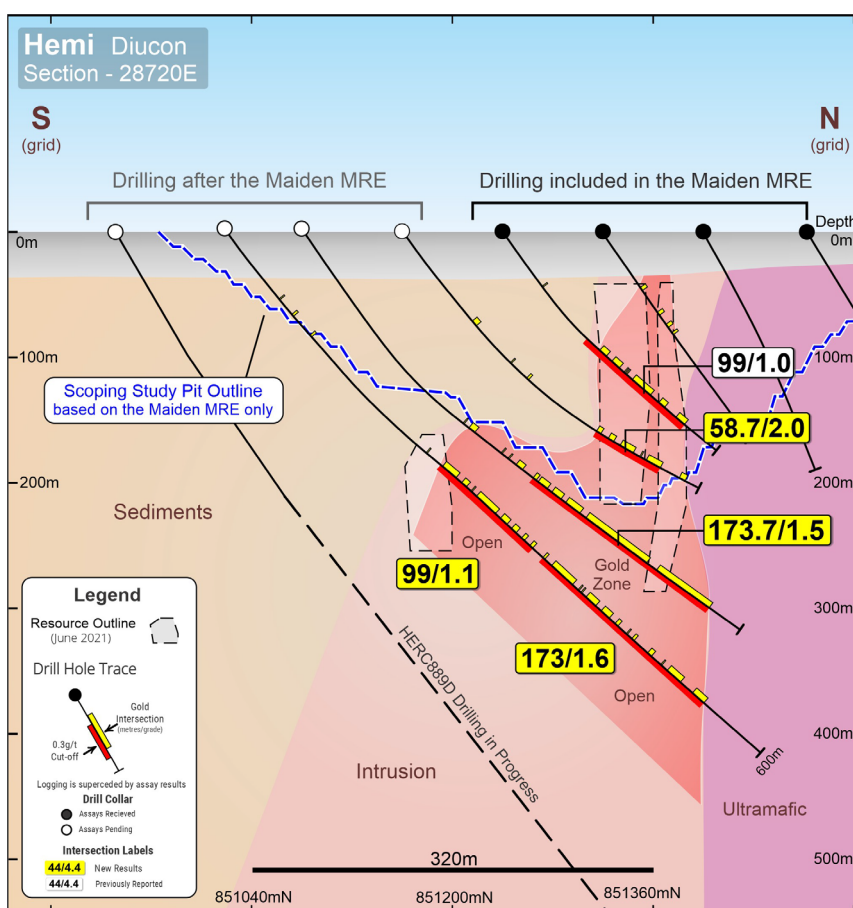
The resource models utilised in the mining engineering studies were provided by PayneGeo. The Hemi resource model was produced in 2021, whilst the Regional resource models were produced over a range of years from 2016 to 2020. Final input parameters containing processing, operating, fixed and mining costs and recovery were arrived at in consultation with De Grey, which included base economic, geotechnical, mining and processing parameters required for the study.

The open pit optimisations were developed using WHITTLE® software, which uses the Lerchs-Grossman algorithm to determine a range of optimal shells at varying metal prices. The program generates economic shells based on input parameters consisting of operating costs (mining & processing costs, royalties, selling costs), metallurgical recoveries, geological and geotechnical (slope) considerations. The optimal

pit shells derived from the open pit optimisation were then used to develop open pit mine plans for the deposit. The models supplied were estimated using an ordinary kriging estimation process. The applicable dilution for each ore block was then calculated based on the selective mining unit (“SMU”) of 5m x 5m x 5m. Mine production schedules using the final pit designs were then developed for the 10Mt/pa processing rate scenario.

The scoping study does not include extensions to mineralisation at Diucon and Eagle that have been announced since the completion of the June MRE. It is expected that the initial resource at Diucon and Eagle of 1.45Moz will be extended along strike, in width and at depth beyond the current limits of the maiden MRE. This will have the added benefit of being able to optimise pit designs. Figure 5.1, section 28720E at Diucon, provides an example of the potential upside to the initial evaluation of the Project and the Study. Section 28720E shows the maiden MRE outline, the pit design based on the maiden MRE and mineralisation intersected in drilling conducted since the maiden MRE.

**Figure 5.2: Diucon Cross Section 28720E showing extensions to mineralisation in new drilling since the MRE**



Mining rates have been constrained at 90Mt/pa and 60 vertical metres advance per annum. Production from Regional deposits has been constrained to three being mined at any one time in addition to Hemi. The Hemi deposits comprise approximately 80% of the production over the first ten year Study evaluation period. Extensions to mineralisation recently demonstrated at Diucon and Eagle are expected to increase the contribution from Hemi zones in future project evaluations.

The design criteria for the Hemi and Regional pit wall designs are shown in Table 5.1 and Table 5.2 respectively with the ramp design criteria shown in Table 5.3. The Hemi pit designs are shown in Figure 5.2.

**Table 5.1: Pit Design Parameters - Hemi Pits**

Domain	Batter Height	Batter Angle	Berm Width	IRA <sup>1</sup>
	m	degrees	m	degrees
Cover	10	50°	6	34.8°
Oxide	10	60°	6	40.3°
Transition	20	65°	6	52.5°
Fresh	20	75°	5	62.6°

*Note 1 – IRA – Internal Ramp Angle*

**Table 5.2: Pit Design Parameters - Regional Pits**

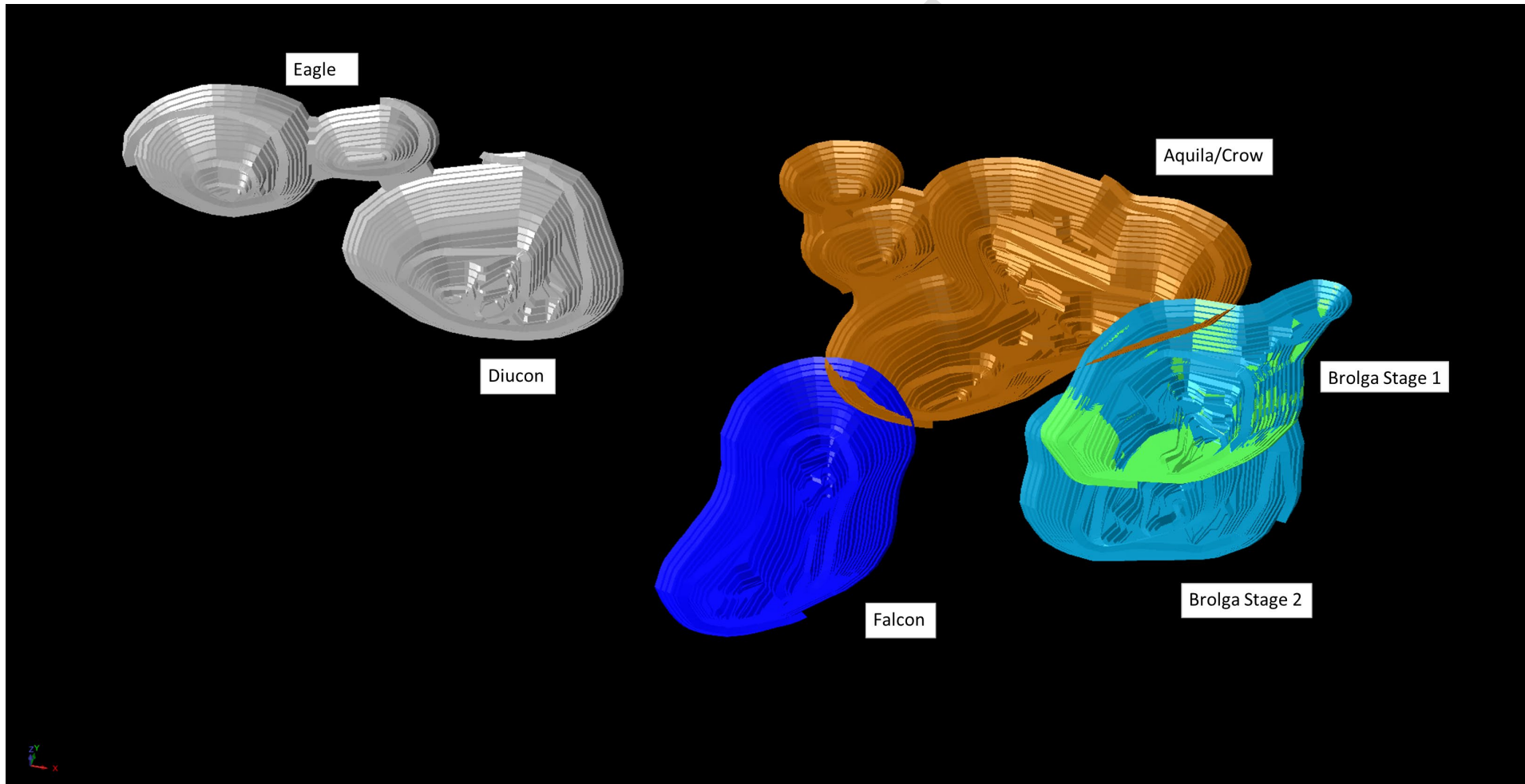
Domain	Batter Height	Batter Angle	Berm Width	IRA <sup>1</sup>
	m	degrees	m	degrees
Oxide	10	50°	6	34.8°
Transition	10	65°	7	40.6°
Fresh	20	75°	8	56.3°

*Note 1 – IRA – Internal Ramp Angle*

**Table 5.3: Ramp Design Parameters**

Description	Units	Value
		degrees
Ramp Width – Double Lane	m	25
Ramp Width – Single Lane	m	15
Gradient	1:x	9
Single Lane	3	Bottom 60 m vertical

**Figure 5.2: Hemi Pit Designs**





Mining load and haul, and drill and blast costs were provided by Majesso Consulting based on a typical contract mining scenario with the scope of work covering the following aspects:

- Supply and mobilisation of mining equipment and personnel;
- Establishment of mining facilities;
- Preliminary works for clearing, grubbing, topsoil removal and haul road construction;
- Drilling and blasting including supply of explosives and presplitting;
- Loading and hauling of ore to the Run of Mine (“ROM”) pad stockpiles;
- Loading and hauling of waste materials to a single waste rock emplacement;
- Rehandle of ore from the ROM pad stockpiles to the processing plant crusher;
- Pit dewatering;
- Waste rock emplacement profiling and topsoiling; and
- Miscellaneous dayworks activities.

The mining costs provided were generated using a first principles approach with inputs that are considered to be typical and consistent with a mining contractor approach for this type of operation. The proposed mining fleet would typically include 600 tonne class excavators and 220 tonne payload haul trucks.

## 6. Metallurgy and Processing

GR Engineering Services (“GRES”) was engaged by De Grey to manage the metallurgical testwork programs for the Hemi deposits and Regional deposits since 2017. The mineralogical nature of the deposits across the Project can be broadly classified into two main categories; free milling and semi-refractory.

The nature and degree of the semi refractory component is relatively consistent throughout the Hemi deposits and somewhat variable across the Regional deposits. In almost all cases, there is a component of gold that is free milling (>60%) and a component of gold that is refractory (<40%) categorising the ore samples as semi refractory in nature.

From a metallurgical perspective, the refractory gold component is not problematic in terms of gold recovery, rather it simply requires two additional processing stages to be included in the process flowsheet; a flotation stage to produce a concentrate, and a sulphide oxidation stage for the concentrate.

The flotation stage allows for the recovery and concentration of sulphide minerals, which is where the refractory gold component is located. In the case of the Hemi deposits and more generally, the overall Project, the sulphide minerals are predominantly pyrite and arsenopyrite, with arsenopyrite hosting the majority of the refractory gold component. The sulphide minerals that are recovered in the flotation concentrate are then oxidised to release the gold and treated via conventional carbon in leach (“CIL”).

Three sulphide oxidation methodologies have been successfully applied to the flotation concentrates; pressure oxidation (“POX”), bacterial or biological oxidation, and, ultra-fine grinding (“UFG”) followed by atmospheric oxidation at a controlled pH level (“Albion”).

To date, the Aquila, Brolga, Crow and Falcon deposits have had metallurgical testwork completed to an advanced scoping level, whilst the more recent discoveries of Diucon and Eagle are yet to have metallurgical samples selected for testwork.

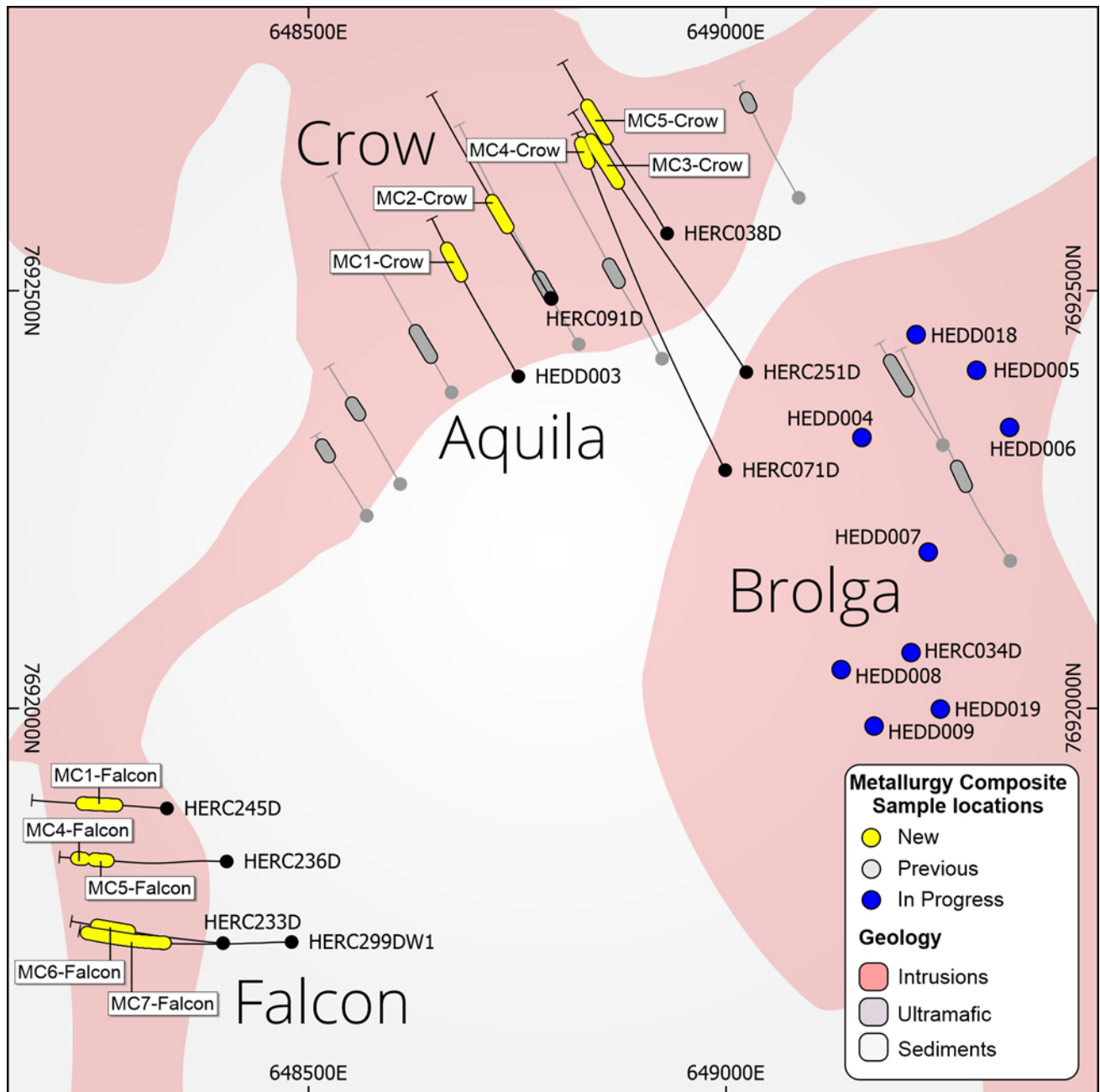
Despite this, the geological drill hole sample database has had multi element analysis undertaken on five metre intervals across all of the Hemi deposits. This has allowed for geometallurgical assessment both from a chemistry and mineralogical perspective. At this point in time, the chemistry and mineralogical interpretations have not identified any significant differences between each of the Hemi deposits that might

impact on the ability of the proposed flowsheet to achieve similar metallurgical outcomes for Diucon and Eagle.

### Sample Selection

Representative samples were selected from geological drill holes and dedicated metallurgical drill holes based on mineralogical domaining for scoping level testwork programs. Figure 6.1 shows a plan view of the metallurgical sample holes for the Hemi deposits.

**Figure 6.3: Hemi All Pit Designs**



A full suite of comminution testwork has been undertaken on the selected Hemi samples. This testwork has shown the Hemi ores to be in the medium to hard range of ores with rod and ball mill Bond work indices

averaging 20.8 kWh/t and 19.3 kWh/t respectively for the Brolga, Crow and Falcon deposits and 16.1kWh/t and 15.6kWh/t for the Aquila deposit.

The A x b for Aquila of 69 demonstrates semi-autogenous ball mill crushing circuit (SABC) amenability, whilst the A x b values averaged around 30 for Brolga, Crow and Falcon placing these samples on the cusp of SABC amenability. For this reason, an alternative approach of two stage crushing with high pressure grinding rolls (HPGR) has also been assessed.

### **Flotation Testwork**

Flotation testwork has been conducted on individual composites and bulk composites across four of the Hemi deposits. All Hemi samples responded well to flotation with greater than 95% of the sulphide minerals reporting to the flotation concentrate. The flotation testwork was carried out at P<sub>80</sub> grind sizes between 75µm and 150µm with minimal impact from grind size on flotation performance, although cyanidation recovery in the flotation tail improved with decreasing grind size.

### **Oxidation Testwork**

The flotation concentrates from the bulk flotation testwork programs were subjected to three sulphide oxidation methodologies; POX, bacterial oxidation, and, Albion.

All three oxidation methodologies were successful in oxidising the sulphide minerals in the flotation concentrate. The flotation concentrates displayed cyanidation leach gold recoveries in excess of 95% after sulphide oxidation.

The next phase of studies will focus on the selection of the preferred oxidation methodology based on the respective technical and commercial parameters.

### **Cyanidation Leach Testwork**

Extensive cyanidation leach testwork has been conducted on samples from four of the Hemi deposits. The testwork was completed on samples at conventional P<sub>80</sub> grind sizes and after ultra-fine grinding to assess direct cyanidation gold recovery. Analysis of the residues from this testwork indicated that gold recoveries in excess of 90% could be readily achieved if the sulphide minerals were oxidised. That is, the majority of the residual gold formed part of the sulphide mineral atomic lattice.

Cyanidation leach testwork undertaken on the oxidised flotation concentrates has yielded gold recoveries in excess of 95%. Flotation tail cyanidation leach tests have also been successful in recovering the non-sulphide associated gold with overall final residue values for the combined flotation concentrate and flotation tail of less than 0.1 g/t Au.

The cyanidation leach residues were generally consistent in their value and as such independent of the head grade, making the calculation of gold recovery using a fixed residue more appropriate than a fixed recovery percentage.

### **Ancillary Testwork**

No ancillary testwork was completed as part of the scoping study testwork program.

### **Process Flowsheet**

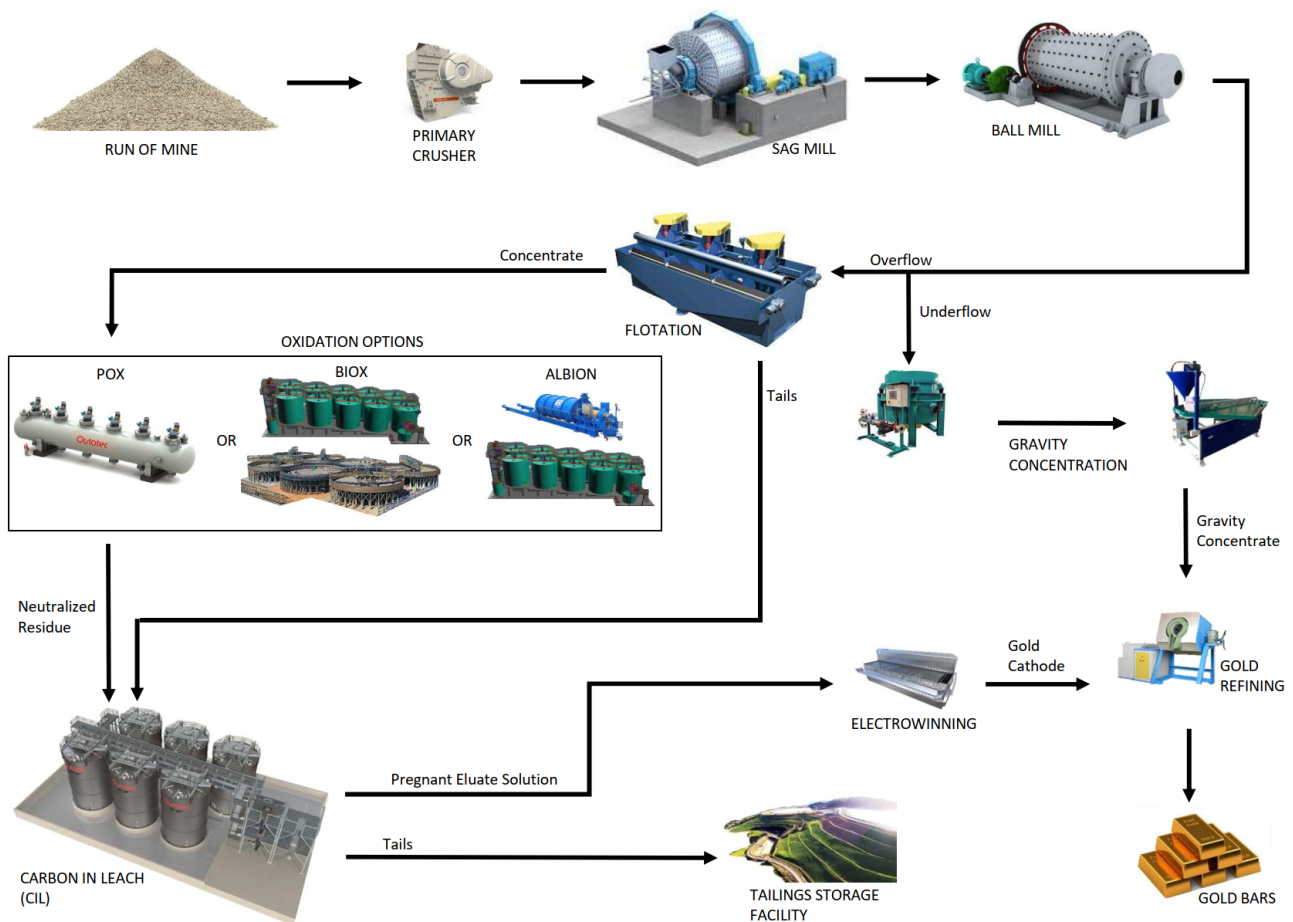
The process flowsheet for the Hemi and Regional deposits is based on a conventional carbon in leach (CIL) gold circuit with the addition of flotation and oxidation stages.

The comminution section of the process flowsheet was initially assessed based on a semi autogenous ball mill crushing circuit (“SABC”). At throughput rates of 10Mtpa and higher, an alternative approach utilising two stage crushing with high pressure grinding rolls (“HPGR”) was also assessed.

A conventional flotation rougher circuit has been included, with three alternative options available for the oxidation of the flotation concentrate. The flotation concentrate would represent on average around 8% of the mass of the whole ore feed. This has significant benefits for the capital cost of the sulphide oxidation circuit compared with sulphide oxidation circuits that treat “whole of ore”. The oxidised flotation concentrate would be neutralised either during or post the oxidation process (pending the oxidation route), prior to it being recombined with the flotation tail, which represents 92% of the whole ore feed. The combined stream would then undergo cyanidation leach in a conventional CIL circuit.

The proposed process flowsheet is shown in Figure 6.2 showing each potential sulphide oxidation process. The potential sulphide oxidation technologies include pressure oxidation, biological oxidation and Albion.

**Figure 6.2: Hemi Proposed Process Flowsheet showing each potential sulphide oxidation process**



## 7. Tailings Storage

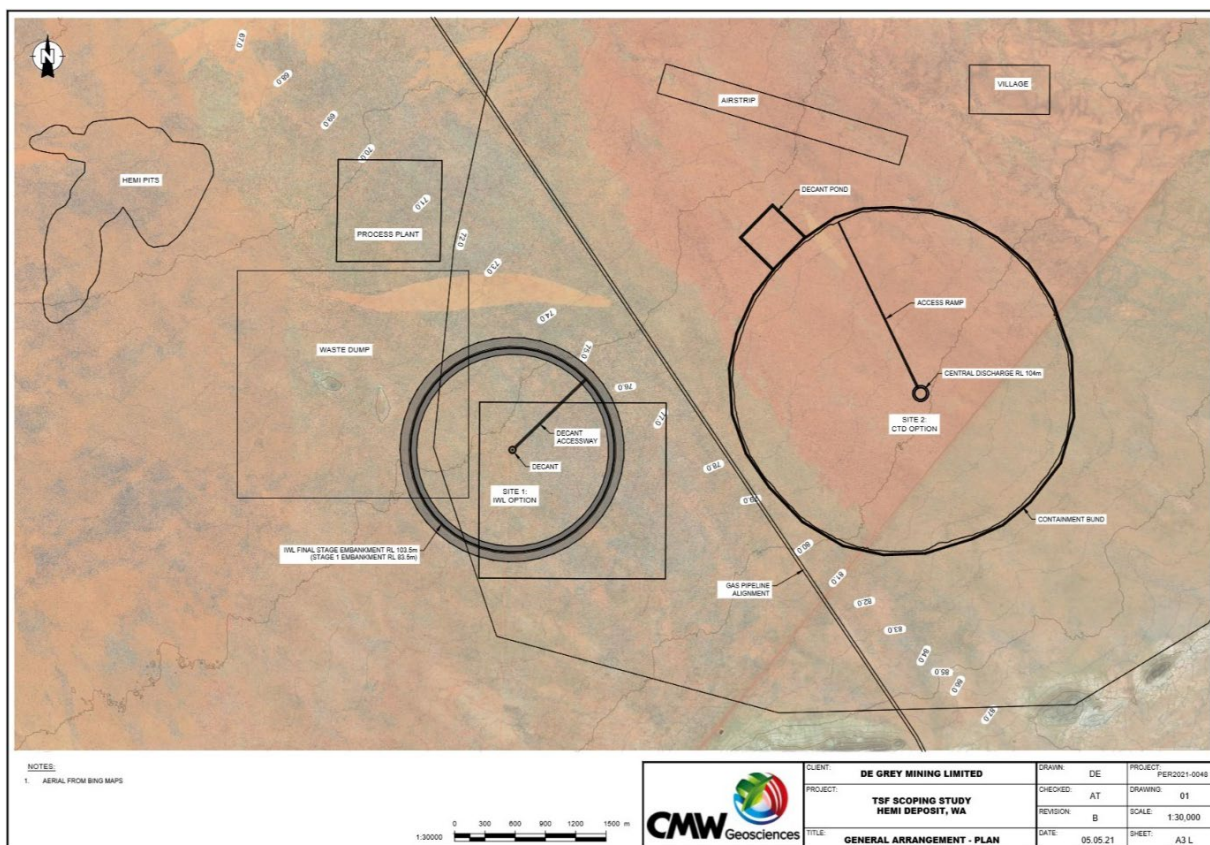
CMW Geosciences (“CMW”) was engaged to investigate viable options for a 100Mt capacity tailings storage facility (“TSF”) for the Mallina Gold Project.

CMW recommended two viable design options for the tailings storage facility:

- Option 1 - Integrated Waste Landform (IWL);
- Option 2 - Central Thickened Discharge (CTD).

Both options require modest quantities of material, 2.0Mbcm and 0.3Mbcm respectively for embankment construction in the initial stages. Figure 7.1 shows a conceptual layout for the IWL and CTD options, whilst Table 7.1 shows the storage characteristics for the two options. The IWL was used for costing in the Study.

**Figure 7.4: Conceptual Layout for the IWL and CTD Options**



**Table 7.1: Storage Characteristics for the IWL and CTD Options**

Deposit	Storage Capacity	Tailings Storage Area	Maximum Tailings Height
	Mm <sup>3</sup>	ha	m
IWL <sup>1</sup>	72	317	30.3
CTD <sup>2</sup>	72	883	24.0

The IWL option would be constructed in two stages with an initial embankment volume of approximately 2Mbcm required in the first stage. The average rate of tailings rise for the IWL option is 2.5–3.0metres per year, which would allow for adequate drying of tailings to achieve adequate tailings density and strength.

Cost estimates were similar for both options based on quantities estimated from AutoCAD Civil 3D. The costs were estimated based on rates from other projects in the Pilbara and Goldfields regions of WA and are included in the capital costs section of this summary.

## 8. Power and Water Supply

### Power supply

ECG Engineering Pty Ltd (“ECG”) was engaged to undertake a scoping level assessment of potential power supply options for the Project.

The 220kV power line shown in Figure 8.1 that connects Port Hedland to Karratha is approximately 30km north of the Hemi area. The power line is owned and operated by Horizon Power. In addition to the power

line, there is a gas pipeline owned by APA proximal to the Hemi area. The gas pipeline network for the Port Hedland region is shown in Figure 8.2.

The maximum power demand for scoping study purposes was estimated at approximately 70MW with an average power draw at 80% load factor of approximately 56MW. This equates to an annual power consumption of 490GWh at an 80% load factor.

The 220kV transmission line that extends approximately 30km north of the Project is supplied by two gas fired generating stations located in South Hedland and Cape Lambert. The South Hedland power station has 120MW of installed capacity, whilst the Cape Lambert power station has 90MW of installed capacity. The power line capacity is 270MVA and the maximum demand based on the last two years data was 140MVA. This leaves a spare capacity of approximately 70MW to 80MW for the Project should it progress that option. Other energy supply options including renewable energy are currently being assessed.

**Figure 8.1: Horizon Power 220kV Power Line Location**



### **Water supply**

The principal sources of water for the Project will be from pit dewatering bores and, if required, groundwater bores. Preliminary hydrogeological investigations have estimated that an extraction rate of approximately 30ML/day will be required for initial pre-mining pit dewatering for a period of approximately 6 to 12 months.

Detailed groundwater modelling will be completed as part of the next phase of studies utilising data collected from the monitoring bore system that has been installed and is currently being sampled and expanded where required. Should the preliminary estimate of 30ML/day be accurate and sustainable over the mine life, then there will be a water surplus at the currently proposed processing throughput rates.

A water management system will be required at the Hemi deposits to connect multiple pit dewatering bores to a series of intermediate water storage tanks, where the water can be distributed as required; to the processing plant, mining operations for dust suppression, a RO water treatment plant for subsequent use in the village, site administration and safety equipment, and to the areas where surplus water would be released back to the environment. The cost estimate for the water management system is included in the Study capital cost estimate.

## 9. Other Infrastructure

The Project is located in the Pilbara region of Western Australia, a well-established mining hub, approximately 70 km (45 minute drive) south of Port Hedland, approximately 200 km east of Karratha (2 hour 20 minute drive) and approximately 1,600 km (17 hour drive) north of Perth.

Port Hedland is the closest town and has a population of approximately 16,000 people from diverse backgrounds. The traditional owners, the Karriyarra people, call the place Marapikurrinya for the hand shaped formation of the tidal creeks coming off the natural harbour.

Port Hedland has Australia's largest bulk export port operated by the Pilbara Ports Authority with an annual export capacity in excess of 460 Mt. Three major companies, BHP (eight berths), Fortescue Metals Group (five berths) and Roy Hill Iron Ore (two berths) each export iron ore from their respective port facilities. In addition to the iron ore export berths, there are four other berths with different capabilities and capacities, and which are used for; containers, petroleum products, bulk liquids, livestock, bulk salt, mineral commodities and cruise ships.

### Village Accommodation

It is anticipated that there would be a requirement to accommodate approximately 900 persons during the construction phase and approximately 600 persons during the operational phase.

The accommodation requirements during the construction phase would incorporate rooms at the existing Wingina and Withnell villages in addition to hot bedding at the 600 person facility. The establishment and operation of a 600 person accommodation village is included in the capital and operating cost estimates.

### Airstrip

A high level trade off assessment was undertaken to determine the net benefit, if any, 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 provide an overwhelming case for the establishment of an airstrip at Hemi, this infrastructure could be delayed if required until the project was established. Despite this opportunity for delaying 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 for the project.

### Access Road

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.

### Haul Roads

No allowance for haul road construction has been allowed for 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.

## 10. Environmental and Social

Blueprint Environmental Strategies (“Blueprint”) was engaged by De Grey to assess to a scoping study level, the environmental and social aspects of the Project.

The scope for the assessment comprised a process throughput rate of between 7.5Mtpa and 12.5Mtpa through a newly constructed processing plant with tailings discharge to a purpose built TSF. Waste rock from the mining operations would be stored in surface waste rock emplacements (WRE) with a water supply of between 17 Ml/day and 27 Ml/day required for mining and processing operations sourced from a paleochannel aquifer.

The environmental component of the study included desktop and field surveys for flora, with field surveys for fauna scheduled to occur in the September quarter of 2021. Subterranean habitat drill holes have been established and will be monitored and assessed during 2021. Based on the potential for surplus water discharge, detailed surveys relating to existing aquatic ecology will also be carried out in relevant areas during 2021.

The Project lies within Shield subregion of the Great Victoria Desert region, as described by the Interim Biogeographic Regionalisation for Australia Version 7. The western end of the Shield subregion is situated on the Yilgarn Craton.

The dominant land use of the Shield subregion is Unallocated Crown Land or Crown Reserves which make up 55.7% of the total subregion area. Other land uses include grazing (24.9%), Aboriginal Reserves (12.3%), Conservation Reserves (7.1%) and major water courses (0.1%).

There is one Water Reserve within the Project area, the Yule River Water Reserve, intersecting Hemi Project tenement E47/3554-I. The Reserve is Priority 1 PDWSA supplying water to the Port Hedland region. The water is abstracted from a shallow alluvial aquifer beneath the Yule River.

### *Climate*

The nearest weather station for meteorological data is Port Hedland Airport, with an annual average rainfall of 317.8mm. Most rainfall occurs between December and June and the annual mean number of days of rain is 20.5. The climate is characterised as semi-arid to tropical due to occasional severe weather from tropical cyclones and rain bearing depressions (ex-tropical cyclones). The Company has recently installed a series of automatic weather stations in the project area.

Average maximum temperatures range from 36.8°C in March to 27.3°C in July, with average minimum temperatures ranging from 25.6°C in January to 12.5°C in July. De Grey has established a local weather station at Wingina and is in the process of establishing two more local weather stations at Hemi and Withnell.

### *Climate Change*

Climate change projections for the Pilbara region suggest that the following climate trends are likely to occur:

- Increase in temperatures especially through the January to March period, which will in turn increase the rate of evaporation and evapotranspiration in the region;
- Increase in the severity of extreme weather events or storms including an increase in the strength of cyclones; and
- Decrease in rainfall during both the winter and summer periods.



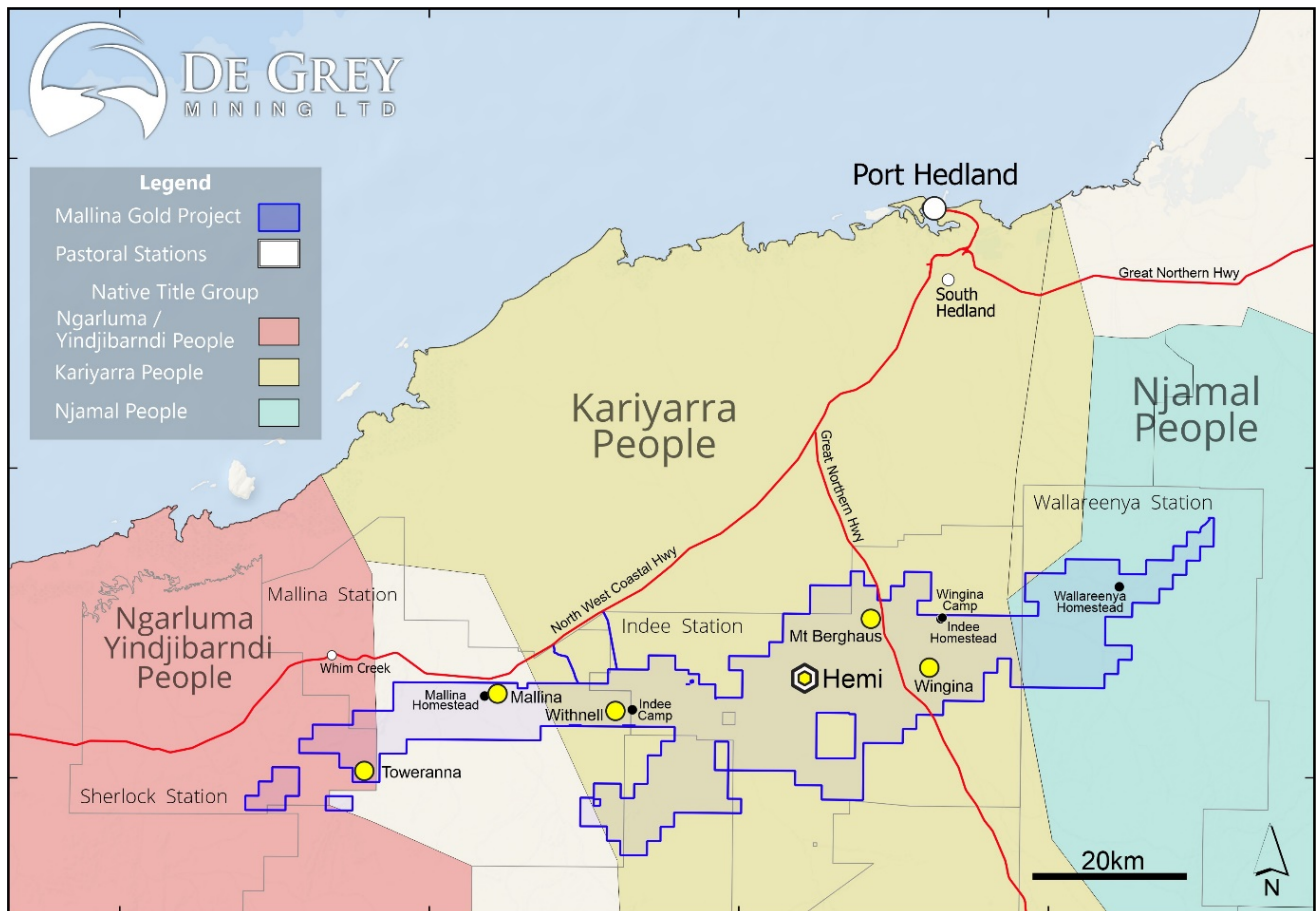
## Native Title

The Project is located across three Native Title claimants as follows:

- Kariyarra People
- Ngarluma People
- Nyamal People

Figure 10.1 shows the Native Title areas relative to the Mallina Project. The Company has exploration agreements in place with all Native Title claimant groups across the tenement package.

**Figure 10.1: Native Title Areas relative to the Mallina Gold Project**



### Kariyarra

The Kariyarra people live around the town of Port Hedland, west to the Sherlock River and south to the Yule River. The Kariyarra country is bound by Ngarla country to the north, Nyamal to the east and Ngarluma to the southwest.

The Kariyarra native title claims were lodged with the National Native Title Tribunal (“NNTT”) over the traditional lands of the Kariyarra people in the Pilbara region of Western Australia and are collectively, they are known as the Kariyarra Claims. The claims were determined on Thursday 13 December 2018 and cover approximately 17,354km<sup>2</sup> of traditional Kariyarra country, encompassing Port Hedland, the Aboriginal community of Yandeyarra, several pastoral leases, and mining operations.

Although an existing mining agreement already exists with Kariyarra, De Grey is currently working through a newly structured six month negotiation protocol to develop a Mining Agreement with the group. The new agreement will replace any previous agreements.

### *Ngarluma*

Ngarluma (and Yindjibarndi) Country is located in the West Pilbara region of Western Australia. The lands include hills and tablelands, river systems and coastline, including the world-famous Burrup Peninsula and Dampier Archipelago.

The Ngarluma native title claims were lodged with the NNTT over the traditional lands of the Ngarluma and Yindjibarndi People in the Pilbara region of Western Australia and were originally granted in May 2005 to the Ngarluma and Yindjibarndi People.

An exploration agreement was approved by the Ngarluma Aboriginal Corporation board on 28 May 2021 and is yet to be executed by all parties. Following execution of the Exploration Agreement, De Grey will seek to work with Ngarluma to develop a Mining Agreement.

### *Nyamal*

Nyamal (also Njamal) country traditionally covers an area east of the coastal Kariyarra country, inland from the town of Port Hedland Western Australia. It encompasses the towns of Marble Bar and Nullagine and runs north past the Oakover River to the borders of Manyjilyjarra, Warnman, Nyangumarta and Ngarla country and south past the Shaw River.

The Nyamal native title claims were lodged with the NNTT over the traditional lands of the Nyamal People granted in September 2019 to the Nyamal People. Seven separate exploration agreements exist with Nyamal, aligned with each De Grey held tenement on Nyamal country.

## **Heritage**

Numerous heritage surveys have been undertaken across the Project as part of the approval process for exploration activities. These heritage surveys will continue to be undertaken in cooperation with the respective Traditional Owners of each area.

In addition to existing studies that have been completed, future studies will continue to include the Traditional Owners, archaeological expertise and ethnographical expertise, so as to identify and assess the significance of Aboriginal heritage in all areas that may be impacted should the Project be developed.

## **Pastoral Leases**

The Project is located across five Pastoral Lease holders as follows:

- Indee Station
- Mallina Station
- Sherlock Station
- Wallareenya Station
- Mundabullangana Station

### *Indee Station*

Indee Station is a 160,000 ha cattle station located approximately 65 km south of Port Hedland off the Great Northern Highway in the Pilbara region of Western Australia.

Indee Station overlays the Hemi deposits, Wingina, Mt Berghaus, Amanda and Calvert. In early 2021, De Grey and Indee Station signed a Pre-emptive Access Agreement, which allows for ongoing exploration and the development of a mining operation on Indee Station, should De Grey opt to proceed to a production phase and Regulatory approval is granted.

#### *Mallina Station*

Mallina Station is a 400,000 ha cattle station located approximately 86km south west of Port Hedland on the Peawah River in the Pilbara region of Western Australia. Mallina Station overlays the Regional deposits of Mallina.

De Grey and Bettini Beef are currently in negotiations for an access agreement, similar to the agreement negotiated with Indee Station owners.

#### *Sherlock Station*

Sherlock Station is a pastoral lease located approximately 54km east of Roebourne in the Pilbara region of Western Australia. Covering an area of 216,700 acres (87,695ha), the lease provides good grazing land. In 2015 it was purchased by Bettini Bros, now Bettini Beef, in a package with Mallina and Pyramid Stations. Sherlock Station overlays the regional deposit of Toweranna.

#### *Wallareenya Station*

Wallareenya Station, along with Pippingarra (abandoned and derelict) and Indee, emerged from Boodarie Station. Wallareenya is managed by Zane and Carolyn Day and does not overlay any known Regional deposits.

#### *Mundabullangana Station*

Mundabullangana Station (also known as Munda Station) is a 225,000 ha cattle station located approximately 100km south west of Port Hedland in the Pilbara region of Western Australia. The station has been owned by the Thompson family since 1995 with the family being the fifth owners since first settled.

De Grey and the Mundabullangana Station owners currently have limited interaction since Munda Station covers only a limited area of the tenement package and does not overlay any known Regional deposits for De Grey.

### **Community Relations**

De Grey Community Relations conducts extensive community consultation with stakeholders across a range of classifications including state and local government, Aboriginal groups, pastoral, local businesses and community groups.

A comprehensive stakeholder register has been developed in accordance with mining proposal requirements and all meetings are captured therein. De Grey group also attends numerous community forums and conferences to ensure engagement with a wide range of stakeholders.

A baseline study of existing Port Hedland and surrounds social environment has been developed by analysing demographic characteristics, social infrastructure, social values and economics.

Baseline information will then be used, through development of a Socio Economic Impact Assessment ("SEIA"), to help predict any social impacts the community may face, or changes that may occur to the existing social environment, by introducing the Mallina Gold Project. The SEIA will enable De Grey and government to determine effective strategies to help mitigate any negative impacts, and maximise positive impacts, of the project. A SEIA will be completed as part of next phase of studies.

## 11. Permitting

De Grey have applied for Miscellaneous Licences across all proposed infrastructure areas and is in the process of applying for a Mining Lease over the Hemi and regional deposits.

The scoping study has identified all of the necessary studies that are required to be undertaken in order to seek both primary and secondary approvals for the Project.

## 12. Operating Cost Estimate

Operating cost estimates have been estimated for the three key areas of the project, namely mining, processing and administration. The operating cost estimates have been primarily derived using a first principles desktop study approach to an accuracy of  $\pm 35\%$ .

### Mining

Majesso Consulting was engaged to estimate the mining costs based on a contractor mining strategy. The mining costs were estimated based on the equipment sizing at each deposit, the nature of the deposit and the distance to the ROM (local and Hemi) and to the centroid of the waste rock emplacement. The haul distance was then applied to the costs on an individual basis for each of the Regional deposits.

Downtime from weather events typically affects mining operations more than processing operations. The mine schedule allows for the equivalent of 16 operating days to be lost per year through a combination of public holidays and climatic factors such as rainfall, lightning and cyclone activity. Mining contractors at the scale of operation proposed for the Project is typically operate on a 24 hour per day, 365 days a year basis.

Capital costs associated with the establishment of facilities for the mining contractor have been included in the mining operating cost estimate. The Mining operating cost estimate included the following:

▪ Mobilisation, establishment and demobilisation	\$	0.23/t ore
▪ Monthly fees	\$	1.11/t ore
▪ Drill and blast	\$	3.87/t ore
▪ Load and haul – ore and waste	\$	15.10/t ore
▪ Clear and grub, topsoil, waste emplacement shaping	\$	0.14/t ore
▪ Primary crusher loading and rehandle	\$	0.49/t ore
▪ <b>Total</b>	<b>\$</b>	<b>20.94/t ore</b>

### Processing

GRES was engaged to undertake an assessment of the processing operating cost estimate at a throughput rate of 7.5Mtpa. This estimate was then adjusted by De Grey to allow for a processing throughput rate of 10Mtpa.

The design criteria for the plant throughput and capital and operating cost estimates are based on the comminution data for the Brolga zone, being the hardest mineralisation from a comminution standpoint at Hemi. No benefit has been allowed in the Study of expected increased throughput rates and/or reduced operating costs when softer mineralisation from Crow and particularly at Falcon and Aquila is treated. Comminution testwork is yet to be conducted for Diucon and Eagle zones. The design criteria for the comminution circuit uses the 85th percentile of the comminution data analysed to date when sizing the comminution circuit providing an inherent level of conservatism into the comminution circuit design criteria.

The processing operating cost estimate was calculated by cost centre and by plant area and included the following:

By Cost Centre:

▪ Power	\$	7.62/t ore
▪ Maintenance, spares and consumables	\$	1.38/t ore
▪ Operating consumables	\$	11.13/t ore
▪ Labour	\$	2.65/t ore
▪ Other	\$	3.02/t ore
▪ <b>Total</b>	<b>\$</b>	<b>25.90/t ore</b>

By Plant Area:

▪ Comminution	\$	8.03/t ore
▪ Flotation and Oxidation	\$	6.69/t ore
▪ Leaching and Adsorption	\$	4.31/t ore
▪ Other	\$	6.86/t ore
▪ <b>Total</b>	<b>\$</b>	<b>25.90/t ore</b>

### Administration

Administration costs were estimated at \$1.40 per tonne of ore processed. This administration cost estimate accounts for the costs of flights and accommodation costs for administration and village personnel as well as safety and administration consumables, communications, other ancillary administration costs and the leasing cost for the village.

## 13. Capital Cost Estimate

Capital cost estimates have been estimated for the three key areas of the project, namely Mining, Processing and Administration. The capital cost estimate has been primarily derived using a desktop study approach to an accuracy of  $\pm 35\%$ .

### Mining

Majesso Consulting was engaged to undertake the cost estimates for mining operations assuming that a contract mining approach is implemented.

Based on this approach, the capital costs associated with establishing the mining operation were incorporated into the mining operating costs. These include but are not limited to mobilisation, demobilisation, administration offices and maintenance workshops.

### Processing (and Administration)

GRES was engaged to undertake an assessment of the processing capital cost estimate at a throughput rate of 7.5Mtpa. The assessment was calculated using a first principles approach for all areas of the processing plant with only the electrical and piping calculated using a factored approach.

A 10.0Mtpa capital cost estimate was then developed by De Grey using the GRES 7.5Mtpa capital cost estimate and applying the 0.6 engineering factor rule. This engineering rule raises the increase in production to the power of 0.6 to provide an upscaled estimate from the original capital cost estimate.

De Grey then requested Lycopodium Limited to independently provide a capital cost estimate for a 10Mtpa process plant with the same flowsheet with the exception of the comminution area, which was to include two stage crushing plus high pressure grinding rolls (HPGR) rather than the original SABC comminution circuit.

The De Grey estimate and the Lycopodium independent estimate at 10Mtpa were within 1% of each other providing further confidence that not only was the upscaling of the original GRES estimate appropriate, but that the original 7.5Mtpa GRES estimate was also valid.

The plant design criteria incorporate availability of 70% for the crushing circuit and 91% for the remainder of the plant. These are industry standard metrics for plant availability at a scoping level stage. Run of mine and crushed ore stockpiles have been built into the plant design to mitigate any impacts from downtime in the mine or the crusher from affecting the remainder of the plant. Flotation concentrate storage tanks have been built in to the plant design to provide a buffer ahead of the sulphide oxidation circuit.

The scope of the 10Mtpa processing capital cost estimate included the following:

- Crushing circuit including two stage crushing and HPGR;
- Grinding circuit utilising ball milling;
- Flotation circuit producing a nominal 8% mass pull flotation concentrate and flotation tail;
- Oxidation circuit (POX, bacterial, or Albion);
- CIL circuit with capacity to leach the flotation concentrate and flotation tail
- Ancillary equipment, including thickeners, etc;
- Tailings Storage Facility;
- Water supply;
- Access roads, airstrip, offices and buildings;
- First fills and critical spares; and
- Construction management costs to enable the processing plant to be fully commissioned.

The 220kV overhead transmission lines and switching station would be operated and maintained by the network provider and has therefore been included into the network charges of the power supply as part of the operating cost estimate. A breakdown of the 10Mtpa capital cost estimate is shown in Table 13.1.

**Table 13.1: 10Mtpa Processing and Administration Capital Cost Estimate**

Area	Capital Cost Estimate \$M
Site Development	9
Processing Plant	370
Infrastructure - Process	31
Construction	125
Owners Costs	27
Power & Distribution	34
Tailings Storage Facility	31
Infrastructure - General	41
Subtotal	668
Contingency – 25%	167
<b>TOTAL</b>	<b>835</b>

### **Pre-production capital**

The pre-production (prestrip) requirements for the Project equate to approximately 20Mt of free dig cover material equating to a mining cost of \$58M.

### **Sustaining capital**

Sustaining capital has been included in the economic analysis at 2.5% per annum of the process plant capital cost.

## **14. Economic Analysis**

Azure Capital was engaged by De Grey to undertake a financial analysis based on the outcomes of the scoping study.

Azure Capital was provided with the following production physicals and cost estimates:

- Mining and processing schedule;
- Mining operating cost estimate;
- Processing and administration capital cost estimate;
- Processing and administration operating cost estimate.

At the end of the 10 year Study evaluation period there remains approximately 800,000oz (~10% Indicated and ~90% Inferred) of untreated mineralisation from the maiden MRE within Study pit shell optimisations. This mineralisation will be considered in future study evaluations with the completion of resource definition drilling to increase the confidence level of the mineralisation from JORC Inferred to JORC Indicated classification.

The scoping study does not include extensions to mineralisation at Diucon and Eagle that have been announced since the completion of the June MRE. It is expected that the initial resource at Diucon and Eagle of 1.45Moz will be able to be extended along strike, in width and at depth beyond the current limits of the maiden MRE. This will have the added benefit of being able to optimise pit designs.

Figure 14.1 shows the annual production and average AISC along with the breakdown of indicated and inferred resources on an annual basis. The production profile of the Mallina Gold Project demonstrates annual production of up to 513,000 ounces in year 2, with average production of 473,000 ounces over the first 5 years and 427,000 ounces over the 10 year evaluation period. The majority of production over the mine life is sourced from Measured and Indicated Resources, with 80.0% Measured and Indicated resources over the first 3 years of production spanning the payback period of the project, 78.1% Indicated over the first 5 years of production and 70.2% over the 10 year evaluation period. The Hemi deposits comprise approximately 80% of the production over the first ten year Study evaluation period.

**Figure 14.1: Annual Gold Production ('000 ounces per annum)**

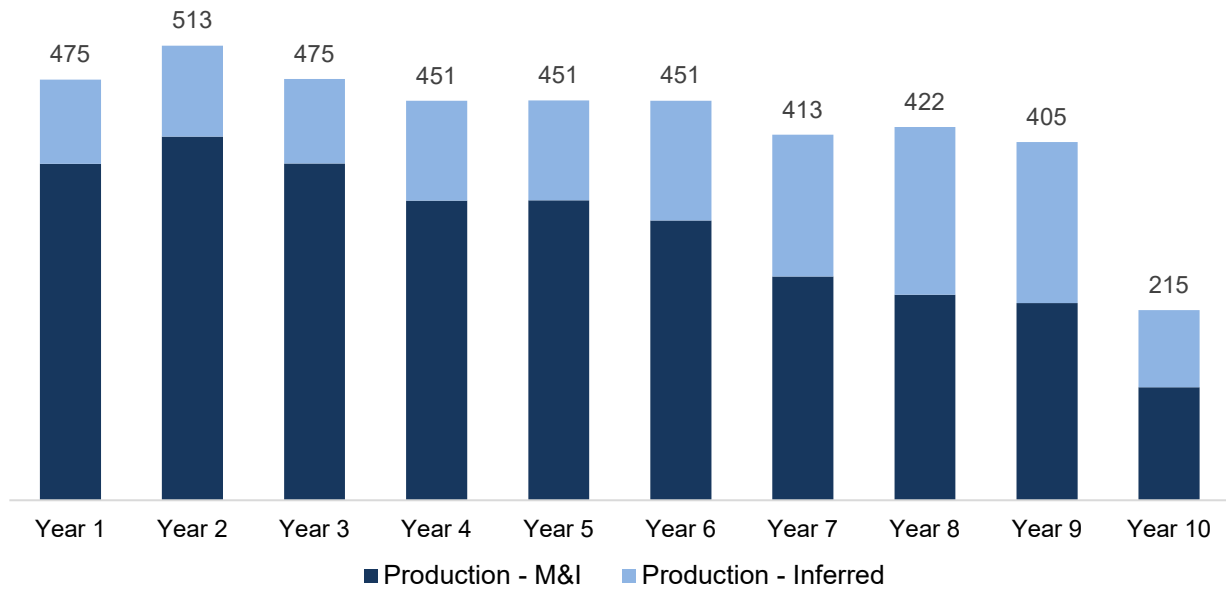


Figure 14.2 shows the sensitivity analysis for the Project. Sensitivity analysis shows the Project to be resilient to changes in capital costs and recoveries, with significant leverage to improved head grade, gold price and AISC.

**Figure 14.2: Project NPV Sensitivity Analysis**

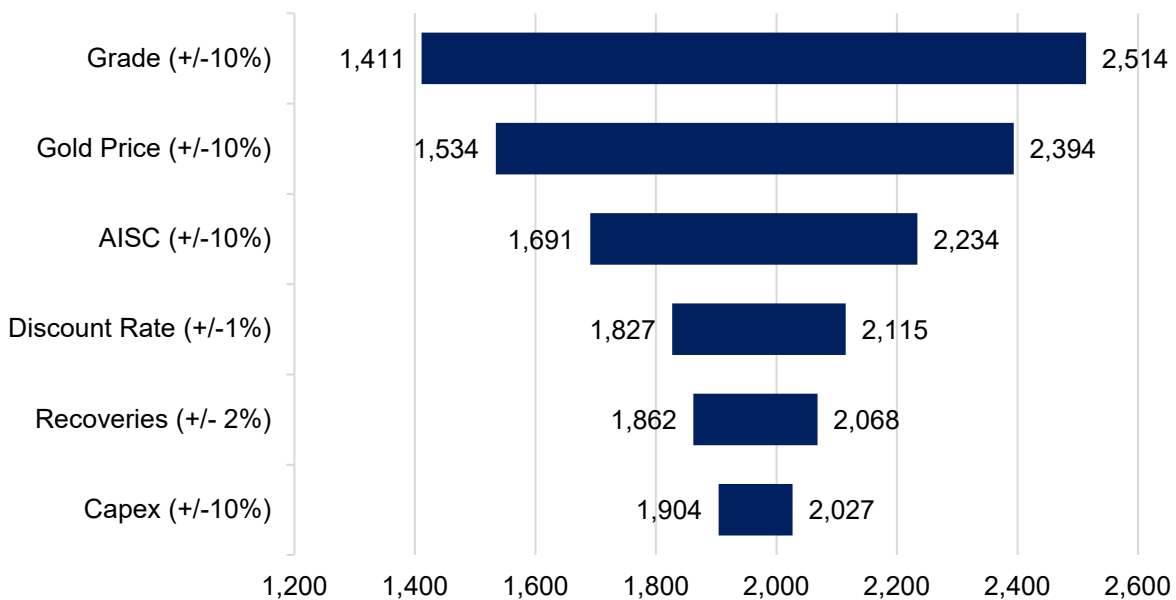


Table 14.1 shows a summary of the physical outcomes and financial evaluation of the 10Mtpa throughput rate option for the scoping study.

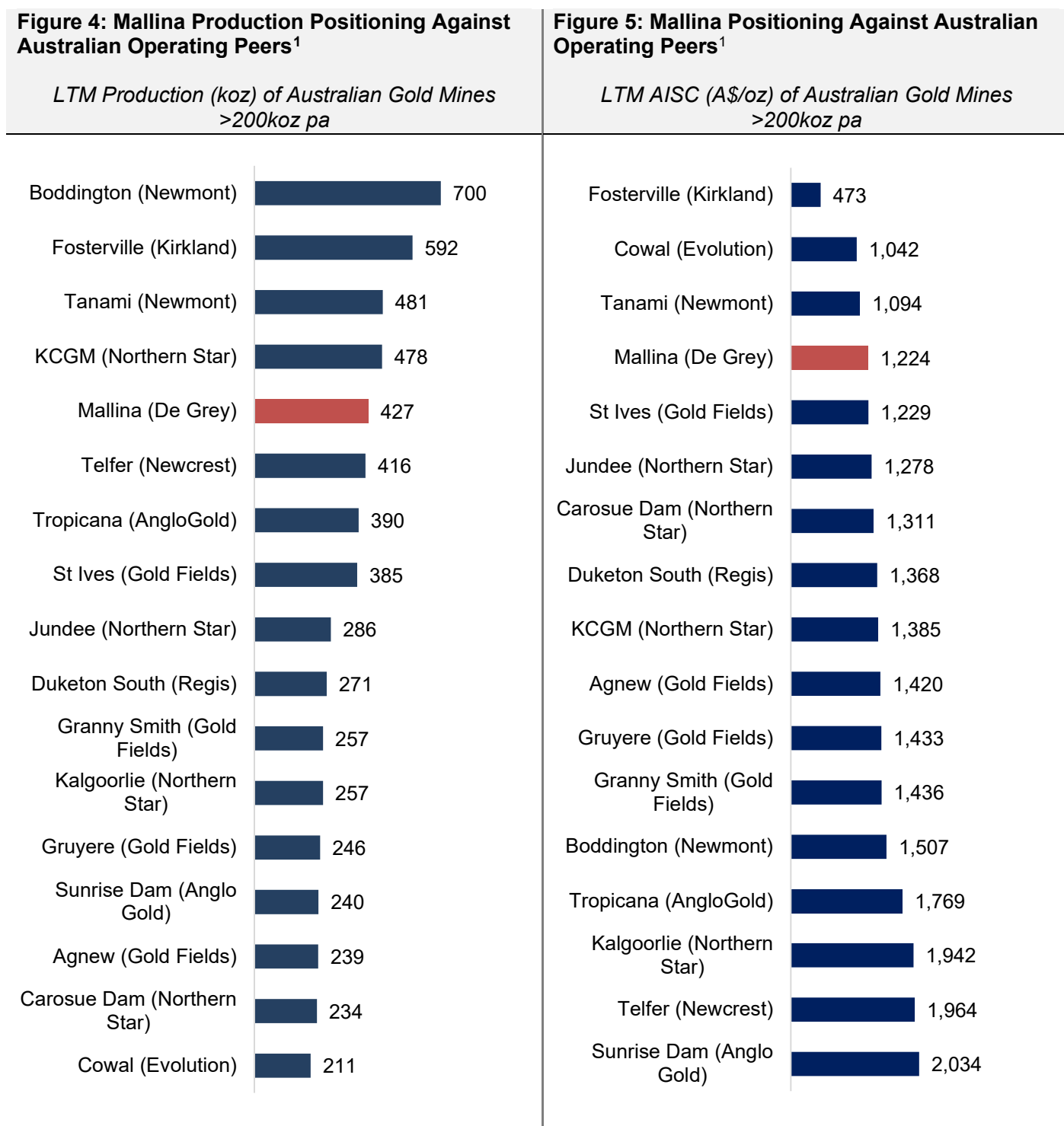


**Table 14.1: Study Results and Key Assumptions**

<b>Physicals &amp; Costs</b>		
Mining Physicals		
<i>Ore Tonnage</i>	Mt	111
<i>Grade</i>	g/t	1.43
<i>Contained Ounces</i>	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		
<i>Total Evaluation Period (10 years)</i>	koz	4,271
<i>Average Annual</i>	koz pa	427
<i>Average Annual – first 5 years</i>	koz pa	473
Upfront Capital Cost		
<i>Development Capital</i>	\$M	835
<i>Pre-Strip</i>	\$M	58
Total Development Capital Cost	\$M	893
Operating Costs		
<i>Mining</i>	\$/t ore mined	21
<i>Processing</i>	\$/t ore milled	26
<i>General &amp; Administration</i>	\$/t ore milled	1.40
<b>Financials</b>		
Gold Price	\$/oz	2,400
C1 Cash Costs		
<i>First 5 year average</i>	\$/oz	1,059
<i>10 year average</i>	\$/oz	1,170
AISC		
<i>First 5 year average</i>	\$/oz	1,111
<i>10 year average</i>	\$/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

The outcome of the Study forecasts the Mallina Gold Project to become a top five producing gold mine in Australia with average annual production over the 10 year evaluation period of approximately 427,000 ounces and over the first 5 years of approximately 473,000 ounces. The Mallina Gold Project would be a relatively low-cost producer compared with current Australian producing gold mines, with the projected average AISC of \$1,224/oz over the 10 year evaluation period and \$1,111/oz over the first 5 years, placing the Project toward the lowest quartile of Australian producing gold mine.

Figure 14.3: Mallina Gold Project Positioning Against Australian Peers

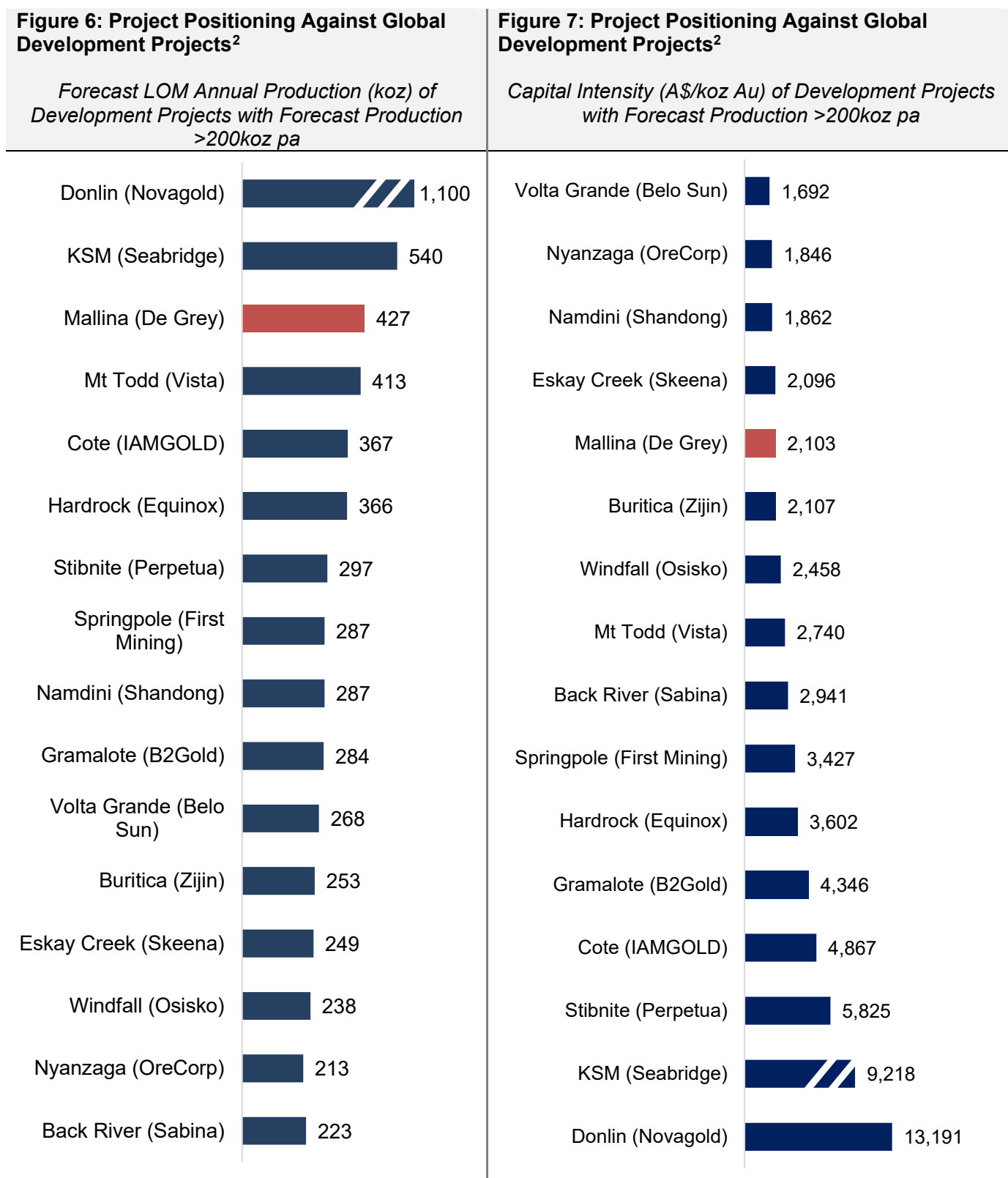


The capital intensity of the project is favourable compared with other large global development projects.

<sup>1</sup> 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 Appendix A.

<sup>1</sup> Comparable project data sourced from public company disclosures for the 12 months ended 30 June 2021. Gruyere & Tropicana quoted on 100% basis. Refer Appendix A.

**Figure 14.3: Mallina Gold Project Positioning Against Australian Peers**



<sup>2</sup> 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 Appendix A.

## 15. Development Schedule

An indicative development schedule for the project is as follows:

- |                                      |              |
|--------------------------------------|--------------|
| ▪ Pre-Feasibility Study              | 2021-2022    |
| ▪ Definitive Feasibility Study       | 2022-2023    |
| ▪ Development Application Assessment | 2022-2023    |
| ▪ Construction Phase                 | 2023-2025    |
| ▪ Operational Phase                  | 2025-ongoing |

## 16. Conclusions and Next Steps

The Study provides justification that the Mallina Project is commercially viable and accordingly the Board of De Grey has approved progression of the Project to a Pre-Feasibility Study (PFS).

The PFS will commence immediately, in parallel with ongoing exploration and resource drilling and further metallurgical testwork. The PFS completion is targeted for the second half of calendar year 2022.

## 17. Reasonable Basis for Funding Assumption

The Mallina Gold Project's technical and economic fundamentals provide a strong platform for De Grey to source traditional financing through debt and equity markets, in addition to pursuing other financing strategies should this be to the benefit of shareholders. There is, however, no certainty that De Grey will be able to source funding as and when required,

Whilst no formal funding discussions have commenced the Company has engaged with a number of financial institutions on the MGP and these financial institutions have expressed a high level of interest in being involved in the funding of the project.

To achieve the range of outcomes indicated in the Study, pre-production funding of approximately A\$900M may be required. Typical project development financing would involve a combination of debt and equity. De Grey has formed the view that there is a reasonable basis to believe that requisite future funding for development of the Mallina Gold Project will be available when required. There are grounds on which this reasonable basis is established including:

- Global debt and equity finance availability for high-quality gold projects remains robust. Recent examples of significant funding being made available for construction of single asset gold developers located in Australia in the last twelve months include Bellevue Gold, Red 5 and Calidus Resources
- The Mallina Gold Project is world-class by scale and quality parameters. Release of these Study results provides a platform for De Grey to discuss the outcomes with potential financiers
- De Grey has a current market capitalisation of approximately A\$1.2 billion and no debt. The Company has an uncomplicated, clean corporate and capital structure. De Grey also owns 100% of the Mallina Gold Project. These are all factors expected to be highly attractive to potential financiers
- The De Grey Board and management team has extensive experience in mine development, financing and production in the resources industry
- The Company has a strong track record of raising equity funds as and when required to further the exploration and evaluation of the Mallina Gold Project.

## Appendix A: Scoping Study Peer Comparison Reference List

### Annual Gold Production – Australian Peers

Asset / Company	Koz/pa	Source
Boddington / Newmont	700	Refer to Newmont Mining's 10-Q for period 30 June 2020 (Page 60) Refer to Newmont Mining's 10-Q for period 31 December 2020 (Page 72) Refer to Newmont Mining's 10-Q for period 30 June 2021 (Page 54)
Fosterville / Kirkland	592	Refer to Kirkland Lake's Second Quarter 2021 MD&A (Page 28) Refer to Kirkland Lake's Fourth Quarter 2020 MD&A (Page 32) Refer to Kirkland Lake's Third Quarter 2020 MD&A (Page 27)
Tanami / Newmont	481	Refer to Newmont Mining's 10-Q for period 30 June 2020 (Page 60) Refer to Newmont Mining's 10-Q for period 31 December 2020 (Page 72) Refer to Newmont Mining's 10-Q for period 30 June 2021 (Page 54)
KCGM / Northern Star	478	Northern Star 2021 Annual Report (page 17)
Telfer / Newcrest	416	Refer to Newcrest Mining's 30 June 2021 Quarterly Report (Page 6)
Tropicana / AngloGold	390	Refer to AngloGold's Interim 2021 – Summary of Operations (Page 6) Refer to AngloGold's Year End 2020 – Summary of Operations (Page 6)
St Ives / Gold Fields	385	Refer to Gold Fields Unaudited Results Six Months Ended 30 June 2021 Refer to Gold Fields Unaudited Results Six Months Ended 30 June 2020 Refer to Gold Fields Reviewed Results Year Ended 31 December 2020
Jundee / Northern Star	286	Northern Star 2021 Annual Report (page 17)
Duketon South / Regis	271	Refer to Regis Resources Appendix 4E dated 31 August 2021 (Page 7)
Granny Smith / Gold Fields	257	Refer to Gold Fields Unaudited Results Six Months Ended 30 June 2021 Refer to Gold Fields Unaudited Results Six Months Ended 30 June 2020 Refer to Gold Fields Reviewed Results Year Ended 31 December 2020
Kalgoorlie / Northern Star	257	Northern Star 2021 Annual Report (page 17)
Gruyere / Gold Fields	246	Refer to Gold Road Resources' September 2021 Investor Presentation dated 9 September 2021 (Page 16)
Sunrise Dam / Anglo Gold	242	Refer to AngloGold's Interim 2021 – Summary of Operations (Page 6) Refer to AngloGold's Year End 2020 – Summary of Operations (Page 6)
Agnew / Gold Fields	239	Refer to Gold Fields Unaudited Results Six Months Ended 30 June 2021 Refer to Gold Fields Unaudited Results Six Months Ended 30 June 2020 Refer to Gold Fields Reviewed Results Year Ended 31 December 2020
Carosue Dam / Northern Star	234	Northern Star 2021 Annual Report (page 17)
Cowal / Evolution	211	Evolution Mining Appendix 4E 2021 (page 5)

## AISC – Australian Peers

Asset / Company	A\$/oz	Source
Fosterville / Kirkland	487	Refer to Kirkland Lake's Second Quarter 2021 MD&A (Page 28) Refer to Kirkland Lake's Fourth Quarter 2020 MD&A (Page 32) Refer to Kirkland Lake's Third Quarter 2020 MD&A (Page 27)
Cowal / Evolution	1,042	Evolution Mining Appendix 4E 2021 (page 5)
Tanami / Newmont	1,123	Refer to Newmont Mining's 10-Q for period 30 June 2020 (Page 60) Refer to Newmont Mining's 10-Q for period 31 December 2020 (Page 72) Refer to Newmont Mining's 10-Q for period 30 June 2021 (Page 54)
St Ives / Gold Fields	1,229	Refer to Gold Fields Unaudited Results Six Months Ended 30 June 2021 Refer to Gold Fields Unaudited Results Six Months Ended 30 June 2020 Refer to Gold Fields Reviewed Results Year Ended 31 December 2020
Jundee / Northern Star	1,278	Northern Star 2021 Annual Report (page 17)
Carosue Dam / Northern Star	1,311	Northern Star 2021 Annual Report (page 17)
Duketon South / Regis	1,368	Refer to Regis Resources Appendix 4E dated 31 August 2021 (Page 7)
KCGM / Northern Star	1,385	Northern Star 2021 Annual Report (page 17)
Agnew / Gold Fields	1,420	Refer to Gold Fields Unaudited Results Six Months Ended 30 June 2021 Refer to Gold Fields Unaudited Results Six Months Ended 30 June 2020 Refer to Gold Fields Reviewed Results Year Ended 31 December 2020
Gruyere / Gold Fields	1,433	Refer to Gold Road Resources' September 2021 Investor Presentation dated 9 September 2021 (Page 16)
Granny Smith / Gold Fields	1,436	Refer to Gold Fields Unaudited Results Six Months Ended 30 June 2021 Refer to Gold Fields Unaudited Results Six Months Ended 30 June 2020 Refer to Gold Fields Reviewed Results Year Ended 31 December 2020
Boddington / Newmont	1,548	Refer to Newmont Mining's 10-Q for period 30 June 2020 (Page 60) Refer to Newmont Mining's 10-Q for period 31 December 2020 (Page 72) Refer to Newmont Mining's 10-Q for period 30 June 2021 (Page 54)
Tropicana / AngloGold	1,817	Refer to AngloGold's Interim 2021 – Summary of Operations (Page 6) Refer to AngloGold's Year End 2020 – Summary of Operations (Page 6)
Kalgoorlie / Northern Star	1,942	Northern Star 2021 Annual Report (page 17)
Telfer / Newcrest	1,473	Refer to Newcrest Mining's 30 June 2021 Quarterly Report (Page 6)
Sunrise Dam / Anglo Gold	2,087	Refer to AngloGold's Interim 2021 – Summary of Operations (Page 6) Refer to AngloGold's Year End 2020 – Summary of Operations (Page 6)

## Annual Gold Production – Global Development Projects

Asset / Company	Figure	Source
Donlin / Novagold	1,300	Refer to Novagold's NI 43-101 Technical Report on the Donlin Gold Project, Alaska, USA (Pages 1-2)
KSM / Seabridge	540	Refer to Seabridge Gold's KSM Prefeasibility Study and Preliminary Economic Assessment Update, NI 43-101 Technical Report (dated 30 April 2020) (page 1-30)
Mt Todd / Vista	413	Refer to Vista Gold's September 2021 corporate presentation (Page 8)
Cote / IAMGOLD	367	Refer to IAMGold's News release dated 21 July 2020, 'IAMGOLD TO PROCEED WITH CONSTRUCTION OF THE CÔTÉ GOLD PROJECT IN ONTARIO, CANADA' (Page 2)
Hardrock / Equinox	366	Refer to Premier Gold Mines' NI 43-101 Technical Report Hardrock Project Ontario, Canada dated 16 December 2020' (Page 1-21)
Stibnite / Perpetua	297	Refer to Perpetua Resources' September 2021 Investor Presentation (page 7)
Springpole / First Mining	287	Refer to First Mining Gold's September 2021 Corporate Presentation (page 11)
Namdini / Shandong	287	Refer to Cardinal Resources Namdini Gold Project Feasibility Study NI 43-101 Technical Report dated 28 October 2019 (Page 21)
Gramalote / B2Gold	284	Refer to B2Gold Corp's announcement dated 21 January 2020, 'B2Gold Corp. Announces Positive Results from the Updated Preliminary Economic Assessment for the Gramalote Project in Colombia and Assumes Role of Manager of the Gramalote Joint Venture'
Volta Grande / Belo Sun	268	Refer to Volta Grande Gold Project presentation for the Precious Metals Summit September 2021 < chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/viewer.html?pdfurl=https%3A%2F%2Fwww.belosun.com%2F_resources%2Fpresentations%2FCorporate-Belo-Sun-Presentation-2021.pdf&clen=3094995&chunk=true> (Pages 4, 11)
Buritica / Zijin	253	Refer to Continental Gold's announcement, 'Continental Gold Announces a Positive Feasibility Study for the Buriticá Project' dated 24 February 2016
Eskay Creek / Skeena	249	Refer to Skeena 'Eskay Creek Project Revitalization' presentation (September 2021) (page 22)
Windfall / Osisko	238	Refer to Osisko Windfall website <https://www.osiskomining.com/projects/windfall/>
Nyanzaga / Orecorp	213	OreCorp August 221 Presentation (page 32)
Black River / Sabina	223	Sabine Gold and Silver Presentation (September 2021) - Advancing the Proposed Goose Gold Mine at the 100% owned Back River Gold District in Nunavut, Canada (Page 6)



**Capital Intensity – Global Development Projects – converted at AUD:USD of 0.73 and AUD:CAD of 0.93**

Asset / Company	Production (koz)	Capex (A\$m)	Intensity (A\$/koz)	Source
Volta Grande / Belo Sun	268	408	1,523	Refer to Volta Grande Gold Project presentation for the Precious Metals Summit September 2021 < chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/viewer.html?pdfurl=https%3A%2F%2Fwww.belosun.com%2F_resources%2Fpresentations%2FCorporate-Belo-Sun-Presentation-2021.pdf&clen=3094995&chunk=true> (Pages 13)
Nyanzaga / Orecorp	213	393	1,846	OreCorp August 221 Presentation (page 18)
Namdini / Shandong	287	534	1,862	Refer to Cardinal Resources Namdini Gold Project Feasibility Study NI 43-101 Technical Report dated 28 October 2019 (Page 42)
Eskay Creek / Skeena	249	522	2,096	Refer to Skeena 'Eskay Creek Project Revitalization' presentation (September 2021) (page 22)
Buritica / Zijin	253	533	2,107	Refer to Continental Gold's announcement, 'Continental Gold Announces a Positive Feasibility Study for the Buritica Project' dated 24 February 2016
Windfall / Osisko	238	585	2,458	Refer to Osisko Windfall website <https://www.osiskominig.com/projects/windfall/>
Mt Todd / Vista	413	1,132	2,740	Refer to Vista Gold's September 2021 corporate presentation (Page 8)
Black River / Sabina	223	656	2,941	Sabine Gold and Silver Presentation (September 2021) - Advancing the Proposed Goose Gold Mine at the 100% owned Back River Gold District in Nunavut, Canada (Page 6)
Springpole / First Mining	287	984	3,427	Refer to First Mining Gold's September 2021 Corporate Presentation (page 11)
Hardrock / Equinox	366	1,318	3,602	Refer to Premier Gold Mines' NI 43-101 Technical Report Hardrock Project Ontario, Canada dated 16 December 2020' (Page 22-13)
Gramalote / B2Gold	284	1,234	4,346	Refer to B2Gold Corp's announcement dated 21 January 2020, 'B2Gold Corp. Announces Positive Results from the Updated Preliminary Economic Assessment for the Gramalote Project in Colombia and Assumes Role of Manager of the Gramalote Joint Venture'
Cote / IAMGOLD	367	1,786	4,867	Refer to IAMGold's News release dated 21 July 2020, 'IAMGOLD TO PROCEED WITH CONSTRUCTION OF THE CÔTÉ GOLD PROJECT IN ONTARIO, CANADA' (Page 3)
Stibnite / Perpetua	297	1,730	5,825	Refer to Perpetua Resources' September 2021 Investor Presentation (page 31)
KSM / Seabridge	540	7,063	13,080	Refer to Seabridge Gold's KSM Prefeasibility Study and Preliminary Economic Assessment Update, NI 43-101 Technical Report (dated 30 April 2020) (page 1-38)
Donlin / Novagold	1,300	10,140	7,800	Refer to Novagold's NI 43-101 Technical Report on the Donlin Gold Project, Alaska, USA (Pages 1-28)

## Appendix B: Competent Person's Statements

*The Information in this report that relates to Mineral Resources is based on information compiled by Mr Paul Payne, a Competent Person who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Payne is a full-time employee of Payne Geological Services. Mr Payne has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Payne consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

*The information in this Scoping Study Summary was compiled by Mr Rod Smith, who has been a qualified metallurgist and a member of the Australasian Institute of Mining and Metallurgy for approximately 40 years. Mr Smith is a full time employee of Salsbury Enterprises Pty Ltd. Mr Smith has sufficient experience in the development of gold projects from the studies phase through to the operational phase and consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

## Appendix C: Reasonable basis for forward looking statements

No Ore Reserve has been declared. This ASX release has been prepared in compliance with the current JORC Code (2012) and the ASX Listing Rules. All material assumptions on which the Scoping Study production target and projected financial information are based have been included in this release and disclosed in the table below.

### Consideration of Modifying Factors (in the form of Section 4 of the JORC Code (2012) Table 1)

Criteria	JORC Code explanation	Commentary
<b>Mineral Resource estimate for conversion to Ore Reserves</b>	<ul style="list-style-type: none"> <li>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</li> <li>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</li> </ul>	<p>The Mineral Resource estimate on which the scoping study is based was separately and previously announced on 23 June 2021</p> <p>No Ore Reserve has been declared as part of the scoping study.</p>
<b>Site visits</b>	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<p>Site visit information and commentary pertaining to the Mineral Resource estimate are provided in the Mineral Resource estimate announcement of 23 June 2021.</p>
<b>Study status</b>	<ul style="list-style-type: none"> <li>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</li> <li>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</li> </ul>	<p>No Ore Reserve has been declared.</p> <p>No Ore Reserve has been declared. The Study is a scoping level study</p>
<b>Cut-off parameters</b>	<ul style="list-style-type: none"> <li>The basis of the cut-off grade(s) or quality parameters applied.</li> </ul>	<p>Cut-off grade parameters for the Mineral Resource estimate are provided in the Mineral Resource estimate announcement of 23 June 2021.</p>
<b>Mining factors or assumptions</b>	<ul style="list-style-type: none"> <li>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).</li> <li>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</li> <li>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.</li> <li>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</li> <li>The mining dilution factors used.</li> <li>The mining recovery factors used.</li> <li>Any minimum mining widths used.</li> </ul>	<p>No Ore Reserve has been declared.</p> <p>Refer Section 5 (Mining) of the Executive Summary</p> <p>Refer Section 5 (Mining) of the Executive Summary</p> <p>Refer Section 5 (Mining) of the Executive Summary</p> <p>Refer Section 5 (Mining) of the Executive Summary</p> <p>Refer Section 5 (Mining) of the Executive Summary</p>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li><i>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</i></li> <li><i>The infrastructure requirements of the selected mining methods.</i></li> </ul>	<p>Refer Section 5 (Mining) of the Executive Summary Refer Section 5 and Section 14 of the Executive Summary</p> <p>Refer to Section 8 (Power and Water Supply) and Section 9 (Other Infrastructure) of the Executive Summary</p>
<b>Metallurgical factors or assumptions</b>	<ul style="list-style-type: none"> <li><i>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</i></li> <li><i>Whether the metallurgical process is well-tested technology or novel in nature.</i></li> <li><i>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</i></li> <li><i>Any assumptions or allowances made for deleterious elements.</i></li> <li><i>The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.</i></li> <li><i>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</i></li> </ul>	<p>Refer Section 6 (Metallurgy and Processing) of the Executive Summary</p> <p>Refer Section 6 (Metallurgy and Processing) of the Executive Summary</p> <p>Refer Section 6 (Metallurgy and Processing) of the Executive Summary</p> <p>Refer Section 6 (Metallurgy and Processing) of the Executive Summary</p> <p>Refer Section 6 (Metallurgy and Processing) of the Executive Summary</p> <p>n/a</p>
<b>Environmental</b>	<ul style="list-style-type: none"> <li><i>The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.</i></li> </ul>	<p>Refer Section 10 (Environmental) and Section 4 (Geology and Resources) of the Executive Summary</p>
<b>Infrastructure</b>	<ul style="list-style-type: none"> <li><i>The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.</i></li> </ul>	<p>Refer Section 1 (Introduction), Section 8 (Power and Water Supply) and Section 9 (Other Infrastructure) of the Executive Summary</p>
<b>Costs</b>	<ul style="list-style-type: none"> <li><i>The derivation of, or assumptions made, regarding projected capital costs in the study.</i></li> <li><i>The methodology used to estimate operating costs.</i></li> <li><i>Allowances made for the content of deleterious elements.</i></li> <li><i>The source of exchange rates used in the study.</i></li> <li><i>Derivation of transportation charges.</i></li> <li><i>The basis for forecasting or source of</i></li> </ul>	<p>Refer to Section 13 (Capital Cost Estimate) of the Executive Summary</p> <p>Refer to Section 12 (Operating Cost Estimate) of the Executive Summary</p> <p>n/a</p> <p>Refer to Section 14 (Economic Analysis) of the Executive Summary</p> <p>Refer Section 5 (Mining) and Section 12 (Operating Cost Estimate) of the Executive Summary</p>

Criteria	JORC Code explanation	Commentary
	<p><i>treatment and refining charges, penalties for failure to meet specification, etc.</i></p> <ul style="list-style-type: none"> <li><i>The allowances made for royalties payable, both Government and private.</i></li> </ul>	<p>n/a</p> <p>Refer to Section 14 (Economic Analysis) of the Executive Summary</p>
<b>Revenue factors</b>	<ul style="list-style-type: none"> <li><i>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</i></li> <li><i>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</i></li> </ul>	<p>The derivation of feed grades comes from the Mineral Resource estimate referenced in Section 4 (Geology and Resources) and Section 5 (Mining) in the Executive Summary.</p> <p>The product to be sold is gold in the form of dore produced on site and to be sold on the spot market. Reference was made to the spot price of gold and forecast pricing. Refer to Section 14 (Economic Analysis) of the Executive Summary for commodity price assumptions.</p>
<b>Market assessment</b>	<ul style="list-style-type: none"> <li><i>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</i></li> <li><i>A customer and competitor analysis along with the identification of likely market windows for the product.</i></li> <li><i>Price and volume forecasts and the basis for these forecasts.</i></li> <li><i>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</i></li> </ul>	<p>n/a – the product in the form of gold dore will be sold on the spot market.</p> <p>n/a</p> <p>n/a</p> <p>n/a</p>
<b>Economic</b>	<ul style="list-style-type: none"> <li><i>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</i></li> <li><i>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</i></li> </ul>	<p>Refer to Section 14 (Economic Analysis) of the Executive Summary.</p> <p>Refer to Section 14 (Economic Analysis) of the Executive Summary.</p>
<b>Social</b>	<ul style="list-style-type: none"> <li><i>The status of agreements with key stakeholders and matters leading to social licence to operate.</i></li> </ul>	<p>Refer to Section 10 (Environment and Social) of the Executive Summary.</p>
<b>Other (incl Legal and Governmental)</b>	<ul style="list-style-type: none"> <li><i>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:</i></li> <li><i>Any identified material naturally occurring risks.</i></li> <li><i>The status of material legal agreements and marketing arrangements.</i></li> <li><i>The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-</i></li> </ul>	<p>No Ore Reserve has been declared</p> <p>No material naturally occurring risks have been identified.</p> <p>The project is owned 100% by De Grey and there are no marketing agreements in place.</p> <p>There are currently no governmental agreements in place. The tenements the subject of the Study have been granted and are owned 100% by De Grey.</p> <p>The Company continues to undertake relevant studies to support necessary</p>

Criteria	JORC Code explanation	Commentary
	<p><i>Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.</i></p>	<p>government approvals processes. There are reasonable grounds from the studies conducted to date to expect that all necessary Government approvals will be received within the timeframes anticipated. The Company is yet to commence Pre-Feasibility and Feasibility studies.</p>
<p><b>Classification</b></p>	<ul style="list-style-type: none"> <li>• <i>The basis for the classification of the Ore Reserves into varying confidence categories.</i></li> <li>• <i>Whether the result appropriately reflects the Competent Person’s view of the deposit.</i></li> <li>• <i>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</i></li> </ul>	<p>No Ore Reserve has been declared.</p> <p>No Ore Reserve has been declared.</p> <p>No Ore Reserve has been declared.</p>
<p><b>Audits or reviews</b></p>	<ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of Ore Reserve estimates.</i></li> </ul>	<p>No Ore Reserve has been declared.</p>
<p><b>Discussion of relative accuracy/ confidence</b></p>	<ul style="list-style-type: none"> <li>• <i>Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.</i></li> <li>• <i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></li> <li>• <i>Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.</i></li> <li>• <i>It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul>	<p>No Ore Reserve has been declared.</p> <p>No Ore Reserve has been declared.</p>