

# **ASX ANNOUNCEMENT**

14 November 2024

**ASX: DEG** 

# Hemi Gold Project Mineral Resource Estimate (MRE) 2024

# Hemi MRE increases by 0.7Moz to 11.2Moz Hemi and Regionals MRE increases by 0.9Moz from 12.7Moz to 13.6Moz Maiden Hemi Measured MRE of 0.6Moz within Brolga starter pit

# Highlights

Hemi MRE grows by 0.7Moz to 11.2Moz Au based on drilling since the November 2023 MRE:

Hemi MRE (JORC 2	2012) 264Mt @ 1.3g/t Au for 11.2Moz
Measured (5%)	13Mt @ 1.4g/t Au for 0.6Moz
Indicated (56%)	149Mt @ 1.3g/t Au for 6.3Moz
Inferred (39%)	103Mt @ 1.3g/t Au for 4.3Moz

(0.3g/t Au cut-off above 390m depth, 1.0g/t Au cut-off below 390m depth, assays to 31 October 2024)

(Rounding may result in apparent summation differences between tonnes, grade and contained metal)

- Hemi MRE has grown at the rate of approximately 1.3Moz per annum since the maiden MRE of 6.8Moz was released in June 2021 and reinforces the quality of the Hemi discovery
- Drilling programs at Hemi have identified opportunities to increase mine life and annual gold production rate from open pit and underground sources, relative to the Hemi Definitive Feasibility Study (**DFS**). These include the Eagle cut-back conducted in November 2023 and the Hemi underground conceptual study currently underway and nearing completion
- Infill grade control drilling (refer ASX announcement of 29 October 2024) conducted at the Brolga deposit
  has resulted in a maiden Measured MRE of 0.6Moz to de-risk the first 12 months of mining at Hemi

Hemi and Regionals MRE increases by 0.9Moz to 13.6Moz:

Project MRE including Regional deposits (JORC 2012)	310Mt @ 1.4g/t Au for 13.6Moz
Measured (6%)	17Mt @ 1.5g/t Au for 0.8Moz
Indicated (53%)	167Mt @ 1.3g/t Au for 7.2Moz
Inferred (41%)	126Mt @ 1.4g/t Au for 5.5Moz

(Regional deposits - Withnell 0.5g/t Au cut-off within A\$3,000/oz shell and 2.0g/t Au cut-off below A\$3,000/oz shell to -300mRL, Withnell Trend 0.5g/t Au cut-off, Calvert 0.5g/t Au cut-off above -40mRL, Mallina 0.5g/t Au cut-off above -100mRL in northern zones, -50mRL elsewhere, Toweranna 0.5g/t Au above -160mRL and 2.0g/t Au below -160mRL and above -270mRL, Wingina 0.5g/t Au cut-off above -100mRL and 1.0g/t Au cut-off below 100mRL, Amanda 0.5g/t Au cut-off, and Mt Berghaus 0.5g/t Au cut-off)

(Rounding may result in apparent summation differences between tonnes, grade and contained metal)

 Drilling at Hemi and Greater Hemi is targeting new, near surface gold discoveries and large-scale resource step outs



# De Grey General Manager Exploration, Phil Tornatora, commented:

"Mineral Resource increases continue to be made at the Hemi deposits. Deeper drilling at Aquila-Crow has added significant Mineral Resources to this updated MRE and demonstrates grades and continuity with the potential for underground mining. Deeper drilling confirms that mineralisation continues at depth in all the Hemi deposits, which remain open below the current Mineral Resource and open pit mine designs.

A concept study into underground mining at Hemi based on the November 2023 MRE is currently being finalised.

It is satisfying to see the exceptional intercepts returned from the infill grade control drilling at Brolga, confirming the quality and continuity of the Brolga orebody. This has enabled the reporting of a portion of Measured Resources within the Brolga starter pit corresponding with the first 12 months of mining at Hemi.

Our ongoing exploration is targeting strike and depth extensions to the Hemi deposits, new shallow potential resources adjacent to Hemi, as well as new large-scale discoveries at Regional prospects including the Egina and Farno JV areas with Novo Resources."



Figure 1 Change in Hemi MRE from November 2023 to November 2024

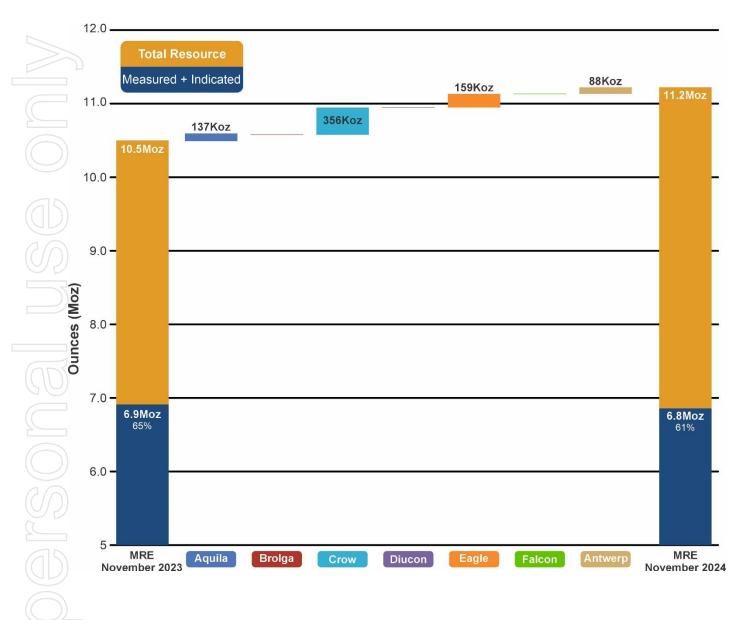
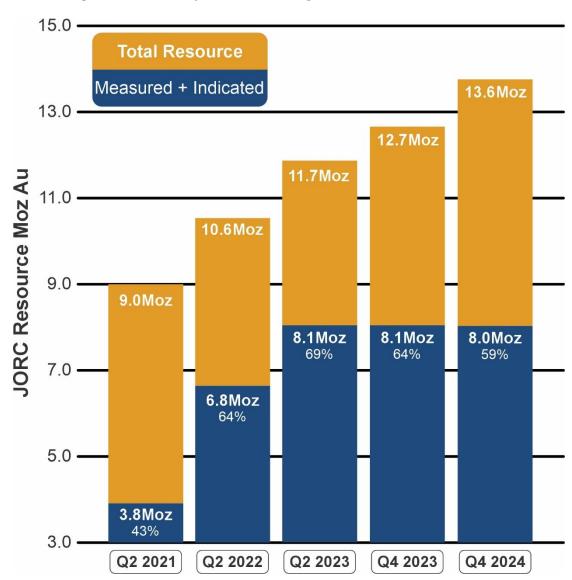




Figure 2 Five year Hemi and Regional Mineral Resource Growth



De Grey Mining Limited (ASX: DEG, **De Grey** or the **Company**) is pleased to report an updated Mineral Resource Estimate (**MRE**) for the Hemi Gold Project (**Hemi** or **Project**), completed by Cube Consulting Pty Ltd. The updated MRE is based on additional drilling and assay results received from the Hemi deposit between 7 November 2023 and 31 October 2024. The Withnell deposit, Withnell Trend deposits (Camel, Roe, and Dromedary) and Calvert deposit have also been updated for drilling completed between 2021 and 2023, including updates to lithostratigraphy and regolith. All other Regional deposits remain unchanged.

The Hemi MRE increase of approximately 0.7Moz of contained gold includes:

- Crow resource increase of approximately 0.36Moz to 1.5Moz
- Aquila resource increase of approximately 0.14Moz to 1.0Moz
- Eagle resource increase of approximately 0.16Moz to 2.1Moz

The Hemi MRE is based on 591 diamond drill holes for a total of 191,430m and 1,497 reverse circulation (**RC**) drill holes for 289,847m, including pre-collars, completed between February 2020 and the October 2024 cut-off date.

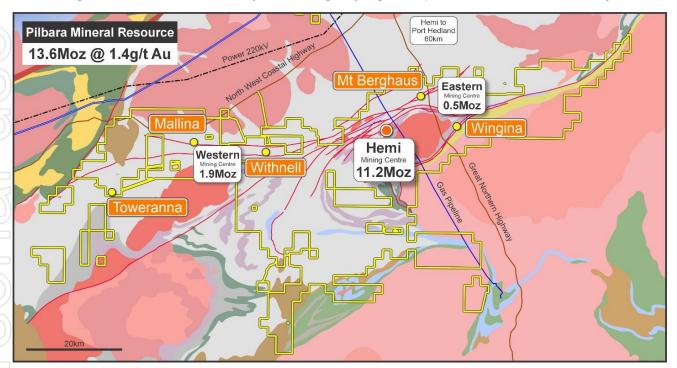


Since the November 2023 MRE, a total of 58 diamond drill holes for a total of 29,368m and 132 RC drill holes for 17,771m have been completed, including pre-collars.

# **Hemi Mineral Resource Update**

Hemi is located immediately southwest of Port Hedland in the northern Pilbara region of Western Australia. The Hemi deposits are located centrally within De Grey's ~1,500km² project area which includes exposure to another ~1,000km² incorporating the Egina JV with Novo Resources as shown in Figure 3.

Figure 3 Hemi Gold Project showing major gold deposits and the Hemi discovery



The Hemi Definitive Feasibility Study (**DFS**), based on the June 2023 MRE, was released on 28 September 2023, and demonstrates a robust, Tier 1 project with outstanding financial metrics. This is the second MRE update since the DFS resource, representing further upside potential to the DFS outcomes.

The previous MRE update was provided on 21 November 2023. Additional drilling after the 7 November 2023 drill data cut-off for the November 2023 MRE includes resource extensions down plunge and along strike at Eagle and Aquila-Crow as shown in Figure 4.

Depth extensions at deposits such as Aquila-Crow and Eagle reported here are still open at depth and could provide additional resources for potential future underground mining. A concept study into underground mining potential at Hemi is currently being finalised.

Additional work included an infill drilling program at Brolga corresponding to the first year of ore production. The drilling was conducted to allow detailed ore production, stockpiling and plant feed scheduling for the critical commissioning and ramp-up phase at Hemi. This work has enabled the reporting of a maiden Measured MRE of 12.7Mt @ 1.4g/t Au for 0.6Moz within the Brolga Stage 1 starter pit. The MRE has been estimated at a cut-off grade of 0.3g/t Au. The Brolga Probable Ore Reserve, based on the June 2023 MRE corresponding with the first



year of ore production, of 9.9Mt @ 1.65g/t Au for 525koz<sup>1</sup> was estimated at a cut-off grade of approximately 0.5g/t Au.

Outstanding results from the recent infill program were reported in an ASX release on 29 October 2024 (see Figure 5 below).

A maiden Inferred MRE for the Antwerp deposit has also been included in the MRE update. The Antwerp mineralisation defined in this update has been drilled to 80mE by 80mN spacing and has a strike length >600m, mineralisation width of 5-30m, and depth of 250m. Mineralisation remains open along strike and down plunge with the potential for further growth from future drill programs.

<sup>&</sup>lt;sup>1</sup> Details on the Brolga pit are included in the Hemi Resource and taken from the DFS dated 28 September 2023. Refer to the DFS dated 28 September 2023 for further details on the key assumptions and risks. The Hemi mine plan contains approximately 1% Inferred Mineral Resources. 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. Hemi is not currently in production.



Figure 4 Aquila-Crow depth extension

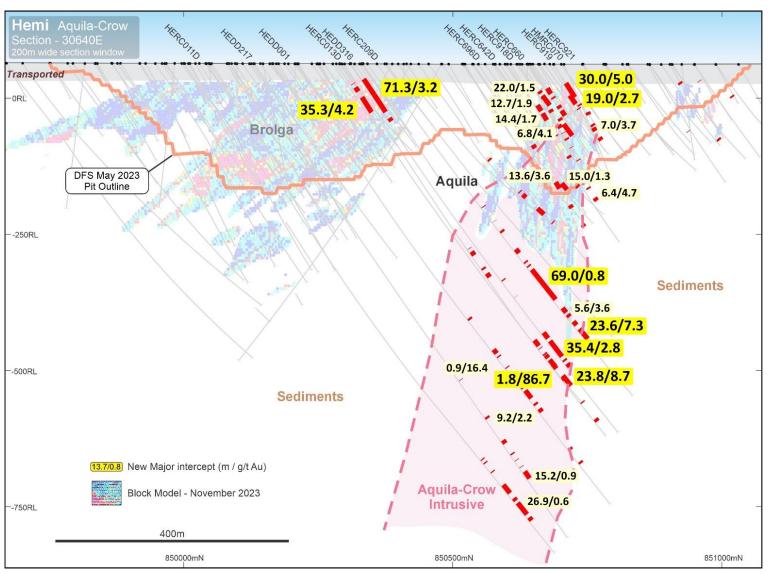




Figure 5 **Brolga Cross Section 30660E** BRINO152 BAINO151 Hemi - Brolga S (grid) (grid) Section: 30660E N 0m -Transported 78/2.5 72/2.3 68/1.4 68/2.7 66/1.5 70/1.9 26/1.8 66/1.6 4/3.6 22/2.0 4/0.4 MRE Resource - 50m 50m -(Nov 2023) 12/0.4 Intrusion 14/0.5 **Drill Hole Trace** 106m Gold Intersection 70/1.9 72/2.3 20/5.0 66/2.8 48/1.9 16/2.6 18/3. 68/1.4 ✓ 0.3g/t cut-off (metres/grade) 0.5g/t 7 Holes end in mineralisation 100m cut-off First 12 months production 107.0/1.9 Logging is superceded by assay results **Drill Collar** Assays Recieved O Assays Pending Intersection Labels Sediments 44/4.4 New Results 0.5g/t Previously Reported 50m 44/4.4 New Results 0.3g/t 44/4.4 Previously Reported 850250N 850300N 850400N 850200N 850350N 850150N

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Gold mineralisation at Hemi is primarily hosted in a series of intermediate intrusions associated with sulphide (pyrite and arsenopyrite) stringers and disseminations within brecciated and altered quartz diorites that intrude into the surrounding Archaean aged Mallina Basin sediments. The Archaean basement is eroded and truncated by a 25m to 45m thick horizon of recent transported sediments that are barren of gold mineralisation. The Hemi style of mineralisation was previously unknown in the Pilbara region and shows a scale of gold mineralisation not previously seen in the Mallina Basin.

The November 2024 MRE for Hemi is summarised below by deposit (Table 1) and then by the depth breakdown (Table 2) for open pit (above 390m depth) and underground (below 390m depth). A plan view of the various Hemi deposits is shown in Figure 6 and the relative JORC Measured, Indicated and Inferred portions are shown in Figure 7.

A summary of the Hemi Mineral Resource Estimate is provided in Appendix 2.

Table 1 Hemi - Mineral Resource Estimate (JORC 2012) by Deposit, November 2024

Donosit		Measured			Indicated		Inferred			Total			
Deposit	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	
Aquila				12.3	1.6	650	9.0	1.4	400	21.3	1.5	1,050	
Brolga	12.7	1.4	588	30.7	1.4	1,345	14.9	1.1	546	58.3	1.3	2,479	
Crow				23.2	1.1	850	14.5	1.4	668	37.7	1.3	1,517	
Diucon				37.1	1.3	1,584	20.6	1.4	925	57.7	1.4	2,509	
Eagle				19.7	1.2	743	29.8	1.4	1,338	49.5	1.3	2,081	
Falcon				25.4	1.3	1,089	10.2	1.1	361	35.6	1.3	1,450	
Antwerp							3.9	0.7	88	3.9	0.7	88	
Total Hemi	12.7	1.4	588	148.5	1.3	6,261	102.7	1.3	4,326	263.9	1.3	11,174	

Note: 0.3g/t Au cut-off above 390m depth, 1.0g/t Au cut-off below 390m depth, assays to 31 October 2024. Rounding may result in apparent summation differences between tonnes, grade and contained metal

Table 2 Hemi - Mineral Resource Estimate (JORC 2012) by Depth, November 2024

	Depth		Measured			Indicated			Inferred			Total	
	Deptil	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz
Ī	0 – 390m	12.7	1.4	588	148.0	1.3	6,241	62.5	1.1	2,295	223.2	1.3	9,123
	Below 390m				0.5	1.2	20	40.2	1.6	2,031	40.7	1.6	2,050
	Total Hemi	12.7	1.4	588	148.5	1.3	6,261	102.7	1.3	4,326	263.9	1.3	11,174

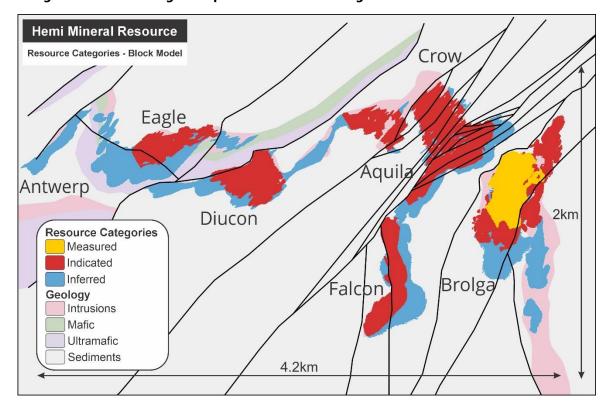
Note: 0.3g/t Au cut-off above 390m depth, 1.0g/t Au cut-off below 390m depth, assays to 31 October 2024. Rounding may result in apparent summation differences between tonnes, grade and contained metal.



Hemi Mineral Resource Crow 11.2Moz @ 1.3g/t Au 1.5Moz Eagle Aquila 1.0Moz Antwerp Diucon 88Koz 2km 2.5Moz 7.7Mt @ 1.4g/t Au Falcon Geology 1.4Moz Brolga Intrusions 2.5Moz Mafic Ultramafic Sediments 4.2km

Figure 6 Hemi gold deposits resource areas

Figure 7 Hemi gold deposits resource showing JORC Indicated and Inferred areas





The high average gold endowment, shown as ounces per vertical metre (oz/Vm) for each Hemi deposit, provides strong support for the economic potential of open pit mining. The upper 200m portion of the Brolga resource equates to 10,400oz/Vm and is the reason the Brolga starter pit described in the DFS is prioritised in the early stages of the development strategy and sequencing.

Brolga 6,700oz/Vm above 390m depth with 10,400oz/Vm above 200m depth

Aquila 2,350oz/Vm above 390m depth

Crow 3,000oz/Vm above 390m depth

**Falcon** 3,800oz/Vm above 390m depth

**Diucon 5,100oz/Vm** above 390m depth

**Eagle** 4,200oz/Vm above 390m depth

**TOTAL HEMI** 25,200oz/Vm above 390m depth

The combined strike of the seven deposits at Hemi, including Antwerp, is approximately 7km. Where comprehensive drilling has been conducted at the deposits, the combined gold endowment is approximately 25,200oz/Vm. This provides an indication of the deeper potential at Hemi, where all the deposits remain open at depth.

Limited drilling has been conducted below 390m depth. There is strong potential to increase the deeper gold endowment (Figure 8), where previous drilling has intersected broad zones of mineralisation including higher grade intervals as well as additional discoveries along strike and in the Greater Hemi area.

646 000 mE 646 500 mE 647 000 mE 647 500 mE 648 000 mE 648 500 mE 649 000 mE 649 500 mE 650 000 mE Crow Eagle Aquila Antwerp Diucon Brolga Falcon

Figure 8 Hemi showing potential resource extension target areas

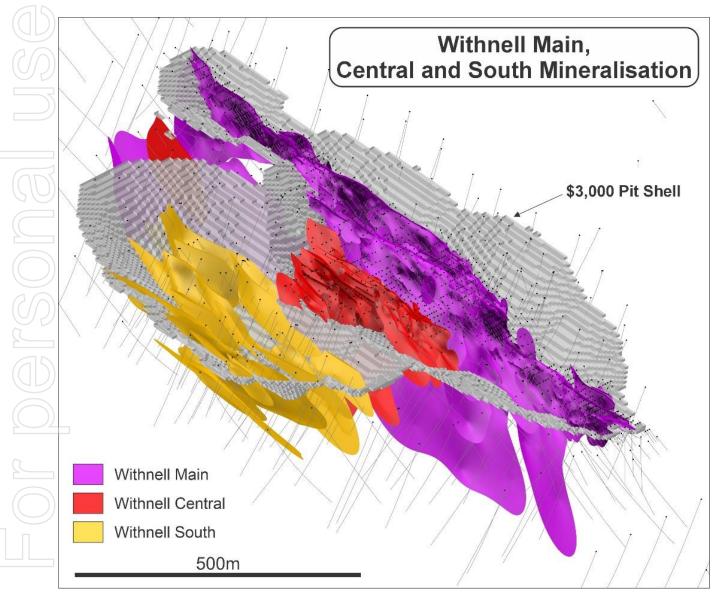


# Withnell update

At the Regional deposits, resource updates were completed for the Withnell deposit, Withnell Trend (Camel, Roe, and Dromedary) and Calvert deposits. This has resulted in an increase of 0.2Moz to 2.4Moz for the Regional deposits, outside of the Hemi area.

The previous MRE update for Withnell was in June 2021. Drilling since then has focussed on the Withnell South discovery to 50mE x 40mN spacing and metallurgical and geotechnical drilling for studies. The litho-structural model has been updated including key shear zone corridors that guide mineralisation modelling as well as an updated regolith model. The updated mineralisation domains are shown in Figure 9.

Figure 9 Withnell mineralisation domains within a A\$3,000/oz pit shell



A summary of the Withnell, Withnell Trend, and Calvert Mineral Resource Estimate is provided in Appendix 4.



# **Comparison to Previous Hemi Mineral Resource Estimate**

The MRE update for the Hemi deposit was completed in November 2024 and contained 9.1Moz in open-cut resources and 2.1Moz in underground resources, for a total of 11.2Moz. Comparisons between the November 2024 and November 2023 MREs are provided in Table 4 and Table 5.

Table 4 Hemi - MRE comparison for open-cut resource above -320 mRL (>0.3g/t Au)

	No	vember 2	024	No	vember 2	023		Change	
Category	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz
Measured	12.7	1.44	588						
Indicated	148.0	1.31	6,241	165.3	1.29	6,859	-10%	2%	-9%
Inferred	62.5	1.14	2,295	61.0	1.13	2,210	2%	1%	7%
TOTAL	223.2	1.27	9,124	226.2	1.25	9,068	-1%	2%	1%

Table 5 Hemi - MRE comparison for underground resource below -320 mRL (>1.0g/t Au)

Catagoni	No	ovember 20	024	No	vember 2	023		Change	
Category	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz
Measured									
Indicated									
Inferred	40.7	1.57	2,050	28.3	1.52	1,388	44%	3%	48%
TOTAL	40.7	1.57	2,050	28.3	1.52	1,388	44%	3%	48%

Note that the insignificant amount of Indicated resources below -320 mRL for the November 2024 and November 2023 model have been included in Inferred in Table 5.

The Measured and Indicated resources of the Hemi MRE occurs within the Open Pit classification to a depth of 390m from surface. The main change to Indicated classification is the result of infill drilling at Brolga, where the Indicated resource has been upgraded to Measured.

The significant increase in Inferred resources is from drilling programs concentrated on extending resources below and along strike of defined DFS pit shells at Aquila, Crow, and Eagle with the potential for resource extensions to be included in future open-pit and underground mining plans.

## **Hemi and Regional Resources**

The overall Global Hemi and Regional MRE (JORC 2012) has increased 7% to **309.5Mt @ 1.4g/t Au for 13.6Moz**. Increases have occurred at Hemi, Withnell, and Calvert with all other Regional resources within the Western and Eastern Mining centres unchanged (Table 6).

Table 6 Hemi and Regional MRE by Mining Centre, November 2024

Minima Contro		Measured			Indicated			Inferred			Total	
Mining Centre	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz
Hemi	12.7	1.4	588	148.5	1.3	6,261	102.7	1.3	4,326	263.9	1.3	11,174
Western <sup>1</sup>	1.0	1.8	56	16.2	1.6	835	16.5	1.8	980	33.7	1.7	1,871
Eastern <sup>1</sup>	3.1	1.7	173	2.5	1.5	122	6.3	1.2	243	11.9	1.4	538
Total	16.8	1.5	817	167.2	1.3	7,218	125.5	1.4	5,549	309.5	1.4	13,584

1: The Withnell Mining Centre and Wingina Mining Centre have been renamed to The Western Mining Centre and The Eastern Mining Centre respectively.



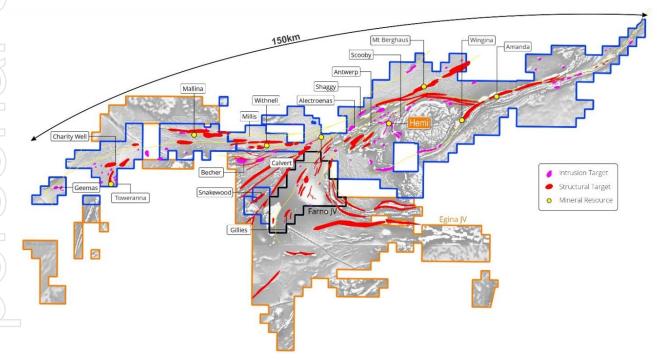
Exploration activities are ongoing across the Hemi Gold Project, which includes the Egina and Farno JVs with Novo. Work is currently aimed at increasing resources and making new discoveries across existing deposits and new target areas including:

- Resource extensions and new zones at Hemi;
- Resource extensions at Withnell and the other regional shear-hosted deposits;
- Application of geological experience to discover new intrusion-style and shear-hosted deposits across De Grey's extensive tenement portfolio (Figure 10).

A conceptual assessment of the potential for future underground mining is well advanced. Deposits at Hemi including Diucon, Eagle and Aquila-Crow are still open at depth and discovery of additional deeper mineralisation could contribute to future underground mining potential.

The Hemi discovery is under five years old and Hemi is a large gold mineralised system. Similar large scale gold discoveries experience ongoing growth with additional extensional drilling over many years.

Figure 10 Hemi Gold Project – Large Provincial scale 150km landholding



**Ends** 

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

For further information, please contact:

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# **Competent Person's Statement**

# **Exploration Results**

The information in this report that relates to **Exploration Results** is based on, and fairly represents, information and supporting documentation prepared by Mr Phil Tornatora, a Competent Person who is a Member of The Australian Institute of Geoscientists. Mr Tornatora is an employee of De Grey Mining Limited. Mr Tornatora 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 Resource and Ore Reserves". Mr Tornatora consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

## Ore Reserves – Hemi (includes Brolga)

The information in this report that relates to Ore Reserves at the Hemi Gold Project is based on and fairly represents information and supporting documentation compiled by Mr Quinton de Klerk, a Competent Person who is an Associate Consultant with Cube Consulting Pty Ltd, a company engaged by De Grey. Mr de Klerk is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr de Klerk has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which 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 (2012 JORC Code). Mr de Klerk consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

# Mineral Resources - Hemi

The Information in this report that relates to **Hemi Mining Centre and Toweranna Mineral Resources** is based on, and fairly represents, information and supporting documentation prepared by Mr Michael Job, a Competent Person who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Job is a full-time employee of Cube Consulting. Mr Job 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 Job consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

### **Mineral Resources - Regional**

The Information in this report that relates to **Western and Eastern Mining Centre Mineral Resources** (**excluding Toweranna**) is based on, and fairly represents, information and supporting documentation prepared by Mr Callum Browne, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Browne is a full-time employee of De Grey Mining Limited. Mr Browne 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 Browne consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.



### **PRODUCTION TARGETS**

This report contains De Grey production targets and forecast financial information derived from those. The information in this report that relates to the DFS and its outcomes for the Hemi Project is extracted from the ASX announcement "Hemi Gold Project Definitive Feasibility Study" dated 28 September 2023. The total life of mine production of the Project schedule is underpinned by 99% Probable Ore Reserves, with the remaining 1% being classified as Inferred Mineral Resources. 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. The stated production target is based on the Company's current expectations of future results or events and should not be solely relied upon by investors when making investment decisions. Further evaluation work and appropriate studies are required to establish sufficient confidence that this target will be met. De Grey confirms that the financial viability of the Project is not dependent on the inclusion of Inferred Mineral Resources in the production schedule.

De Grey confirms that it is not aware of any new information or data that materially affects the information included in that announcement. All material assumptions and technical parameters underpinning the estimates or production targets or forecast financial information derived from a production target (as applicable) in that ASX announcement continue to apply and have not materially changed. De Grey confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from that announcement.

### FORWARD LOOKING STATEMENTS

This report contains forward-looking statements. Forward-looking statements include those containing words such as "anticipate", "estimates", "forecasts", "indicative", "should", "will", "would", "expects", "plans" or similar expressions. Indications of, and guidance or outlook on, future earnings or financial position or performance, including forecast financial information derived from the production target and the DFS, are also forward-looking statements. You are cautioned not to place undue reliance on forward-looking statements. Forward-looking statements are provided as a general guide only.

Such forward-looking statements are based on information available as at the date of this report and are not guarantees of future performance and involve known and unknown risks, uncertainties, assumptions and other important factors, many of which are beyond the control of the Company, are preliminary views and are based on assumptions and contingencies subject to change without notice, and which could cause actual results or trends, projections, guidance and estimates to differ materially from those expressed in this report.

Relevant factors include risks associated with exploring for gold, project development and construction and the mining, processing and sale of gold, including without limitation, the ability to obtain debt finance on expected terms, obtaining environmental and regulatory approvals and the time and conditions attached to the same, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development, including the risks of obtaining necessary licenses and permits and diminishing quantities or grades of reserves, political and social risks, changes to the regulatory framework within which the Company operates or may in the future operate, environmental conditions including extreme weather conditions, geological and geotechnical events, and environmental issues, recruitment and retention of personnel, industrial relations issues and litigation.

Readers of this report are cautioned not to place undue reliance on forward-looking statements included in it.

Forward looking statements in this report only apply at the date of issue. Subject to any continuing obligations under applicable law or any relevant securities exchange listing rules, in providing this information the Company



does not undertake any obligation to publicly update or revise any of the forward-looking statements or to advise of any change in events, conditions or circumstances on which any such statement is based.

Financial figures are in Australian dollars unless otherwise noted.



# **Appendix 1: Hemi and Regional Global Mineral Resource Estimate Summary**

# Hemi and Regional Global MRE by Mining Centre, November 2024

Minimus Combus		Measured			Indicated			Inferred			Total	
Mining Centre	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz
Hemi	12.7	1.4	588	148.5	1.3	6,261	102.7	1.3	4,326	263.9	1.3	11,174
Western <sup>1</sup>	1.0	1.8	56	16.2	1.6	835	16.5	1.8	980	33.7	1.7	1,871
Eastern <sup>1</sup>	3.1	1.7	173	2.5	1.5	122	6.3	1.2	243	11.9	1.4	538
Total	16.8	1.5	817	167.2	1.3	7,218	125.5	1.4	5,549	309.5	1.4	13,584

<sup>1:</sup> The Withnell Mining Centre and Wingina Mining Centre have been renamed to The Western Mining Centre and The Eastern Mining Centre respectively.

# Hemi and Regional Global MRE by mineralisation type, November 2024

Mining			Measure	d		Indicate	d		Inferred			Total	
Centre	Туре	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz
7	Oxide	1.4	1.8	80	5.0	1.6	249	0.7	0.9	21	7.1	1.4	349
Hemi	Sulphide	11.3	1.4	508	143.5	1.3	6,012	102.0	1.3	4,305	256.9	1.2	10,825
	Total	12.7	1.4	588	148.5	1.3	6,261	102.7	1.3	4,326	263.9	1.3	11,174
	Oxide	0.3	1.7	18	2.7	1.4	119	1.8	1.4	82	4.9	1.4	220
Western	Sulphide	0.7	1.8	38	13.5	1.7	716	14.7	1.9	898	28.8	1.8	1,652
))	Total	1.0	1.8	56	16.2	1.6	835	16.5	1.8	980	33.7	1.7	1,871
	Oxide	2.7	1.8	152	1.8	1.5	88	2.2	1.1	75	6.7	1.5	315
Eastern	Sulphide	0.4	1.6	21	0.7	1.6	35	4.0	1.3	168	5.1	1.4	224
	Total	3.1	1.7	173	2.5	1.5	122	6.3	1.2	243	11.9	1.4	538
	Oxide	4.4	1.8	250	9.6	1.5	456	4.7	1.2	178	18.7	1.5	884
Total	Sulphide	12.4	1.4	567	157.7	1.3	6,762	120.8	1.4	5,371	290.8	1.4	12,700
	Total	16.8	1.5	817	167.2	1.3	7,218	125.5	1.4	5,549	309.5	1.4	13,584



# Hemi and Regional MRE by Mining Centre and Deposit, November 2024

# **Hemi Mining Centre**

		T		Measured	ı		Indicated			Inferred			Total	
	Deposit	Type	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz
		Oxide	0.0	0.0	0	1.2	1.5	58	0.2	0.9	6	1.4	1.4	63
	Aquila	Sulphide	0.0	0.0	0	11.2	1.7	593	8.8	1.4	394	19.9	1.5	987
		Total	0.0	0.0	0	12.3	1.6	650	9.0	1.4	400	21.3	1.5	1,050
		Oxide	1.4	1.8	80	0.5	1.1	16	0.0	0.8	1	1.9	1.6	96
	Brolga	Sulphide	11.3	1.4	508	30.3	1.4	1,329	14.9	1.1	546	56.5	1.3	2,382
40		Total	12.7	1.4	588	30.7	1.4	1,345	14.9	1.1	546	58.3	1.3	2,479
		Oxide	0.0	0.0	0	1.2	1.2	43	0.0	0.8	1	1.2	1.1	44
	Crow	Sulphide	0.0	0.0	0	22.1	1.1	806	14.4	1.4	666	36.5	1.3	1,473
		Total	0.0	0.0	0	23.2	1.1	850	14.5	1.4	668	37.7	1.3	1,517
		Oxide	0.0	0.0	0	0.2	1.9	10	0.2	1.1	8	0.4	1.4	18
	Diucon	Sulphide	0.0	0.0	0	37.0	1.3	1,574	20.4	1.4	917	57.3	1.4	2,491
9		Total	0.0	0.0	0	37.1	1.3	1,584	20.6	1.4	925	57.7	1.4	2,509
		Oxide	0.0	0.0	0	0.1	1.7	8	0.0	0.9	1	0.2	1.6	9
	Eagle	Sulphide	0.0	0.0	0	19.5	1.2	736	29.7	1.4	1,337	49.3	1.3	2,072
		Total	0.0	0.0	0	19.7	1.2	743	29.8	1.4	1,338	49.5	1.3	2,081
		Oxide	0.0	0.0	0	1.9	1.9	115	0.0	0.4	0	1.9	1.9	115
	Falcon	Sulphide	0.0	0.0	0	23.5	1.3	974	10.2	1.1	361	33.7	1.2	1,335
		Total	0.0	0.0	0	25.4	1.3	1,089	10.2	1.1	361	35.6	1.3	1,450
		Oxide	0.0	0.0	0	0.0	0.0	0	0.2	0.8	4	0.2	0.8	4
	Antwerp	Sulphide	0.0	0.0	0	0.0	0.0	0	3.7	0.7	84	3.7	0.7	84
7		Total	0.0	0.0	0	0.0	0.0	0	3.9	0.7	88	3.9	0.7	88
	Hemi	Oxide	1.4	1.8	80	5.0	1.6	249	0.7	0.9	21	7.1	1.4	349
	Mining Centre	Sulphide	11.3	1.4	508	143.5	1.3	6,012	102.0	1.3	4,305	256.9	1.2	10,825
	Centre	Total	12.7	1.4	588	148.5	1.3	6,261	102.7	1.3	4,326	263.9	1.3	11,174



# **Western Mining Centre**

							9						
			Measure	d		Indicate	ed		Inferred			Total	
Deposit	Type	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz
	Oxide	0.3	1.7	18	2.0	1.4	86	0.5	1.5	24	2.8	1.4	128
Withnell OP <sup>1</sup>	Sulphide	0.7	1.8	38	4.4	1.8	259	5.3	1.6	263	10.3	1.7	560
	Total	1.0	1.8	56	6.4	1.7	345	5.8	1.5	287	13.1	1.6	688
	Oxide	0.0	0.0	0	0.0	2.4	0	0.0	3.0	1	0.0	3.0	1
Withnell UG	Sulphide	0.0	0.0	0	0.0	3.3	5	2.9	3.2	292	2.9	3.2	297
	Total	0.0	0.0	0	0.0	3.3	5	2.9	3.2	293	2.9	3.2	298
	Oxide	0.0	2.8	3	0.5	2.6	45	0.1	1.7	8	0.7	2.4	56
Withnell Trend <sup>2</sup>	Sulphide	0.0	0.0	0	0.2	2.8	21	0.5	2.0	31	0.7	2.2	52
nena	Total	0.0	2.8	3	0.8	2.7	66	0.6	1.9	39	1.4	2.3	109
	Oxide	0.0	0.0	0	0.3	1.1	10	0.0	1.0	1	0.3	1.1	11
Calvert	Sulphide	0.0	0.0	0	0.9	1.5	42	1.1	1.0	37	2.0	1.2	80
	Total	0.0	0.0	0	1.2	1.4	52	1.2	1.0	39	2.3	1.2	90
	Oxide	0.0	0.0	0	0.5	1.3	20	1.2	1.4	53	1.7	1.3	73
Mallina	Sulphide	0.0	0.0	0	1.1	1.2	44	3.9	1.5	190	5.1	1.4	234
	Total	0.0	0.0	0	1.6	1.2	64	5.1	1.5	243	6.8	1.4	307
	Oxide	0.0	0.0	0	0.3	1.5	13	0.1	1.6	4	0.4	1.5	18
Toweranna OP	Sulphide	0.0	0.0	0	7.6	1.6	384	1.9	1.4	85	9.6	1.5	469
O1	Total	0.0	0.0	0	7.9	1.6	397	2.0	1.4	89	9.9	1.5	487
	Oxide	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0
Toweranna UG	Sulphide	0.0	0.0	0	0.3	3.0	24	0.7	3.0	68	0.9	3.0	92
00	Total	0.0	0.0	0	0.3	3.0	24	0.7	3.0	68	0.9	3.0	92
Western	Oxide	0.3	1.7	18	2.7	1.4	119	1.8	1.4	82	4.9	1.4	220
Mining	Sulphide	0.7	1.8	38	13.5	1.7	716	14.7	1.9	898	28.8	1.8	1,652
Centre	Total	1.0	1.8	56	16.2	1.6	835	16.5	1.8	980	33.7	1.7	1,871

1: Withnell OP includes Leach Pad Stockpile

2: Withnell Trend includes Camel, Roe, and Dromedary satellite deposits



# **Eastern Mining Centre**

			Measure	d		Indicate	ed		Inferred			Total	
Deposit	Type	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz
	Oxide	2.7	1.8	152	0.6	1.3	27	0.3	1.3	14	3.7	1.6	193
Wingina	Sulphide	0.4	1.6	21	0.3	1.5	16	1.1	1.7	57	1.8	1.6	94
	Total	3.1	1.7	173	1.0	1.4	43	1.4	1.6	72	5.5	1.6	288
	Oxide	0.0	0.0	0	0.7	1.8	39	1.0	1.1	36	1.7	1.4	75
Mt Berghaus	Sulphide	0.0	0.0	0	0.3	1.7	14	2.4	1.2	92	2.7	1.2	106
)	Total	0.0	0.0	0	1.0	1.7	53	3.4	1.2	128	4.3	1.3	181
	Oxide	0.0	0.0	0	0.5	1.3	22	0.9	0.9	25	1.4	1.0	46
Amanda	Sulphide	0.0	0.0	0	0.1	1.8	4	0.6	1.1	19	0.6	1.2	23
	Total	0.0	0.0	0	0.6	1.4	26	1.4	0.9	44	2.0	1.1	70
Eastern	Oxide	2.7	1.8	152	1.8	1.5	88	2.2	1.1	75	6.7	1.5	315
Mining	Sulphide	0.4	1.6	21	0.7	1.6	35	4.0	1.3	168	5.1	1.4	224
Centre	Total	3.1	1.7	173	2.5	1.5	122	6.3	1.2	243	11.9	1.4	538



# **Appendix 2: Hemi Mineral Resource Estimate Summary**

# **Geology**

# Lithology, Structure, Alteration and Mineralisation

The Hemi discovery comprises a series of gold deposits hosted within predominately diorite to quartz diorite intrusions and sills that have been emplaced within the Mallina Basin. The gold deposits comprise of Aquila, Brolga, Crow, Falcon, Diucon, Eagle, and Antwerp, with the latter two straddling the locally important Diucon Thrust and the former four being situated to the south of the Diucon Thrust.

The intrusions in the Hemi area were emplaced into a sequence of sedimentary rocks (Figure 1) that form part of the Mallina Formation and locally comprise greywacke, siltstones, sandstones, shale and black shale. Maficultramafic sills occur within the area, which help to 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 largely been strongly sheared but in limited instances the contact is hornfelsed, expressed by locally developed hardening and biotitic alteration related to emplacement of the intrusions.

The rock sequence at Hemi has undergone a complex deformation history commencing in extension during basin development, basin inversion that resulted in SW-NE striking folding and brittle-ductile shear zone development (Figure 1). The area was subject to a locally less significant compression event that has resulted NW-SE striking folding and typically local scale faulting that forms a weak interference pattern on the earlier event. The SW-NE striking folding and brittle-ductile shear zone development has resulted in dislocation, truncation and repetition of the lithostratigraphy. Current studies are ongoing but the brittle-ductile shear zones are likely to have initiated in response to the inability of flexural slip and flow mechanism during folding to accommodate continued strain. The shear zones occur as fold hinge parallel shears and as imbricate thrust fault fans/stacks that are important constraints on the lithostratigraphy and mineralisation.

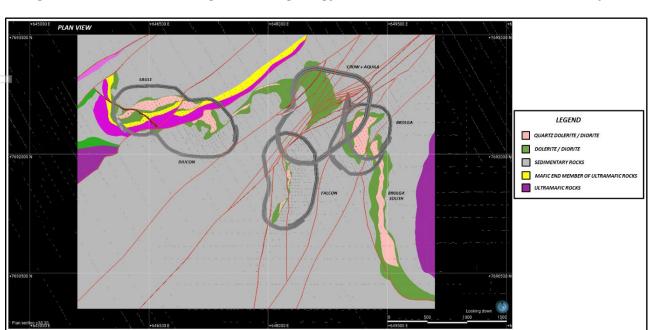


Figure 1 Plan flitch diagram of the geology and structures (red lines) at the Hemi Project.

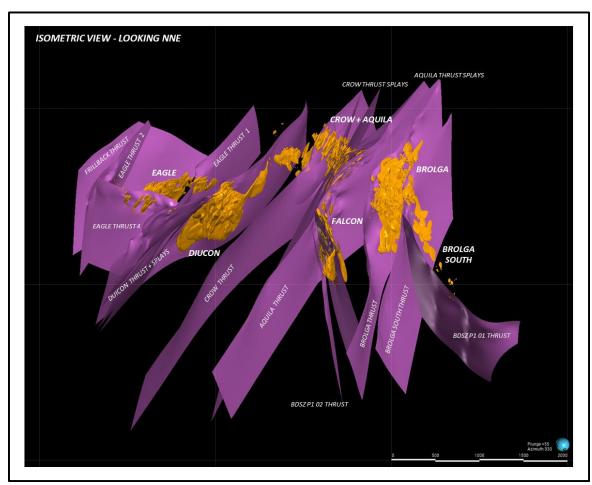


### **Alteration and Mineralisation**

The alteration in the country rock/waste rock units away from the intrusions is typified by regional metamorphic chlorite alteration.

There are two main deposit alteration and mineralisation styles, informally named as the Brolga-type and the Diucon-type. The Brolga-type all occur south of the Diucon Thrust and Diucon and Eagle type straddle the Diucon Thrust (Figure 2). The Aquila, Brolga South, Crow and Falcon deposits are interpreted as Brolga-type and Diucon and Eagle are interpreted as Diucon-type.

Figure 2 Isometric view looking north by northeast of the Hemi deposit gold resource wireframes (gold) and the current brittle-ductile shear zone architecture (purple).



There is volumetrically minor chlorite-albite-sulphide alteration within the sediments that occur proximal to the intrusions. Unmineralised intrusions adjacent to the deposits are characterised by reduced sulphide levels, lower to no albite and increased chlorite and/or carbonate.

At the Brolga-type, strong albite-chlorite-sulphide alteration occurs within the intrusions and this alteration is intimately associated with a stockwork of quartz veins and chlorite-sulphide carbonate-quartz veins and small and localised brittle-ductile shear zones. Rare sericite and later chlorite alteration and veins are also observed.



At the Diucon-type a similar assemblage of alteration minerals is present with the exception of an initial development of sericite and albite alteration and smoky quartz veining. Later brittle-ductile shear zones exploit the alteration and veining, where later chlorite-carbonate-talc alteration and sulphide-gold mineralisation is observed.

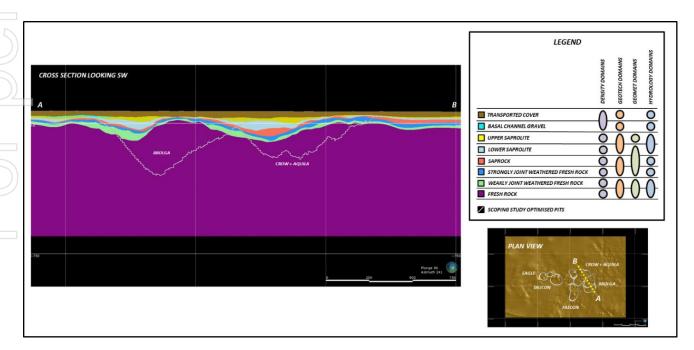
Sulphide abundance in the mineralised intrusions typically ranges from 2.5% to 10%, whilst marginal alteration zones peripheral to the gold mineralised zones comprise sulphide contents that typically range from 0.5% to 1%. The ore mineralogy is fairly consistent in type but not content across the different deposits and consists of dominantly sulphides – arsenopyrite and pyrite. Native gold is typically constrained to the Diucon and Eagle deposits. Away from the gold mineralised zones the arsenopyrite content drops off rapidly to <0.5% and pyrite is the main sulphide mineral. Arsenopyrite is generally absent within the country rock away from mineralisation.

# Regolith

At Hemi, the deposits are covered by 20m to 45m thick horizon of barren transported material and the upper portion of the bedrock is weathered to varying degrees of saprolite, saprock, joint weathered fresh rock, and fresh bedrock (Figure 3). The regolith (weathered bedrock) models are derived from multiple geoscientific datasets to improve model robustness and be applicable to the end users of the models. The input datasets consist of:

- Physical diamond drill core and percussion drill chips and spoils
- Density measurements
- Geotechnical parameters such as RQD, GSI and RMR89
- Geochemistry
- Hyperspectral data
- 3D lithostratigraphy and structural geology impacts on the weathering regime
- Potential field datasets (airborne aeromagnetics and ground gravity)

Figure 3 Cross-section to display the different regolith models at the Hemi Project





# **Drilling**

The Hemi deposit was discovered by De Grey in 2019 and therefore there is no historical drilling by other companies.

The total drilling database that represents the Hemi area includes >6,000 drill holes of varying drill types including air core (AC), reverse circulation (RC) and diamond (DD). Aircore holes were drilled with an 83mm diameter blade bit, RC holes were drilled with a 5.5-inch bit and face sampling hammer, and diamond core diameters are NQ2 (51mm), HQ3 (61mm), and PQ (85mm).

All DD and RC holes used for the Mineral Resource Estimate were drilled between 2020 and 2024, with details of this drilling in the immediate area of Hemi deposit shown in Table 1. AC holes are used to assist in geological interpretation, but they are not used for grade interpolation.

Hole Type	Year	No. Holes	Metres	Hole ID Series
	2020	98	25,733	HEDD, HERC_D
	2021	200	51,180	HEDD, HERC_D, HMRC_D
DD	2022	127	51,521	HEDD, HERC_D, HMRC_D
	2023	108	36,724	HEDD, HMRC_D
	2024	58	26,272	HEDD, HMRC_D
	2020	412	80,579	HERC, HMB
	2021	698	141,499	HERC, HMRC
RC	2022	164	33,702	HMRC
	2023	84	16,296	HMRC
	2024	139	17,771	BRIN, HMRC
Total	2020 - 2024	1,847	481,278	

# **Sampling and Sub-Sampling Techniques**

For RC drilling, samples were obtained using a rig mounted cone splitter. Samples were typically collected at 1m intervals (2m intervals for Brolga infill drilling) targeting a sample weight between 2.5kg and 3.0kg. Through the transported cover sequence, the holes were either unsampled, or sampled using 4m composites.

For diamond drilling, sampling boundaries are geologically defined and commonly one metre in length unless a significant geological feature warrants a change from this standard unit. Core was cut to preserve the alignment line and the same side of the core was sent for assay using half core from NQ and HQ holes and quarter core from PQ holes and selected metallurgical HQ holes.

Geological logging is completed for all holes by the Company geological team. The major rock units (colour, grain size, texture), weathering, alteration (style and intensity), mineralisation (type), interpreted origin of mineralisation,



estimation of % sulphides/oxides, and veining (type, style, origin, intensity) are logged following De Grey Mining standard procedure. Diamond core is photographed for future reference.

# Sample Analysis Method

Sample preparation and assaying was carried out at the ALS facility in Perth. Samples were crushed (core) then the full sample pulverised (RC and core) before splitting to provide a sub-sample for analysis. Samples were analysed using a 50 g charge fire assay fusion technique with an AAS finish (ALS procedure Au-AA26).

In addition to the gold assay, every 5th sample from the Hemi drilling have been analysed using a four-acid digest and an ICP AES/MS analysis, providing key pathfinders, major elements and trace element data. The ALS ME-MS61 procedure was used which analyses a 48-element suite. For these samples that were in mineralised zones, they were also analysed via bottle roll, a cyanide extraction technique, to provide an indication of the proportion of the gold that would be recoverable via conventional processing using cyanide extraction. Except for some of the early drilling in 2020, the intervening four samples were also analysed using a four-acid digestion and an ICP-AES finish which provided key pathfinders and major element data.

A comprehensive 'Best Practice' QAQC monitoring system was used. Certified Reference Materials, Blanks and Field Duplicates are inserted within batches of samples to ensure ongoing quality control. Standards, Blanks, and Field Duplicates are inserted at a minimum of 2% frequency rate.

# **Resource Estimation Methodology**

Figure 4

The Mineral Resource was estimated using Localised Uniform Conditioning ("LUC") and Ordinary Kriging (OK) grade interpolation of 2m composited data within wireframes prepared using nominal outer margin cut-off of 0.2g/t Au and a minimum 4m interval selection and guided by trends defined by the structural model (Figure 4).

Plan view of the Hemi Domains

7693000 N

Eagle

Aquila

Brolga

7692000 N

×

Falcon

7691000 N

7691000 N

7691000 N

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High grade caps ranging between 10g/t and 20g/t gold were determined by statistical analysis and applied to the composite data per lode. For the eastern deposits (Aquila, Brolga, and Falcon), very few samples were capped, whereas for the western deposits (Crow, Diucon, and Eagle), grade capping was more significant (see Table 2).

Table 2 Gold grade caps (ppm Au) chosen based on all 2m composites per domain

	Domain	Тор Сар	No. Capped	Uncapped Mean	Capped Mean	% Reduction Mean	Uncapped CoV	Capped CoV	% Reduction CoV
7	Aquila	18	4	1.38	1.36	1.5%	1.61	1.40	12.9%
	Brolga	20	11	1.33	1.32	1.2%	1.65	1.36	17.2%
	Crow	10	60	1.03	0.86	16.6%	4.22	1.66	60.7%
	Diucon	10	107	1.27	1.07	15.7%	2.79	1.61	42.3%
	Eagle	10	66	1.23	0.97	20.9%	3.58	1.60	55.3%
	Falcon	15	7	1.29	1.25	3.0%	1.72	1.22	29.4%
フ コ	Antwerp	-	-	0.65	-	-	1.35	-	-

A primary block model was constructed to include all seven deposits at Hemi. The model was rotated to 050° with panel block dimensions of 20mE by 20mN by 5mRL with a selective mining unit (SMU) block size of 5mE by 5mN by 5mRL. The panel block size dimension was selected at half the nominal drill hole spacing throughout the deposits. An additional block model was constructed constrained to the area defined by the Brolga infill drilling. The model was rotated to 050° with panel block dimensions of 10mE by 20mN by 5mRL with a selective mining unit (SMU) block size of 5mE by 5mN by 5mRL. The Mineral Resource block model was created and estimated in Datamine software.

Variography was performed on capped data transformed to normal scores, and the variogram models were back-transformed to original units. Variography was performed separately for each deposit area. The major direction of continuity is sub-parallel to the strike for each estimation domain, generally with a plunge towards the southwest with ranges of 95 to 180m. The semi-major direction is along strike, generally plunging to the northeast with ranges of 70 to 100m. The variogram models had low to moderate nugget effects (25 to 30% of the total sill).

Panel estimation (via Ordinary Kriging (OK) – a necessary precursor step for UC) used a minimum of eight and maximum of 20 composites, with a search ellipse radius similar to the variogram ranges (160m x 80-120m x 30-40m).

Up to two search passes were used for each estimation domain, with the second pass twice the size of the first pass. The number of samples required was the same for both searches. The second pass was only required for <2% of blocks for all deposit areas.

A locally varying ellipsoid orientation was used to account for the subtle changes in estimation domain orientation along strike and down dip. The local dips and dip directions were calculated from the orientation of specially constructed 'trend surfaces' for each deposit area.

The UC process applies a Change of Support correction (discrete Gaussian model) based on the composite sample distribution and variogram model, conditioned to the Panel grade estimate, to predict the likely grade tonnage distribution at the SMU selectivity.



For the grades above the capped threshold, localised OK estimates were run using uncapped composites on SMU sized blocks to allow the very high grade samples with short ranges to have an appropriate influence on the final estimate. This was completed for Crow, Diucon and Eagle where SMU blocks within 5m of the composite grades that were above the capping threshold were selected, and the uncapped estimates for these blocks were merged over the estimates.

Estimates of Au grades were validated against the composited drill hole data by extensive visual checking in cross-section, plan and on screen in 3D, by global (per shoot) comparisons of input data and model, and by semilocal statistical methods (swath plots). All methods showed satisfactory results.

## **Bulk Density**

Bulk densities applied to the model were based on an extensive dataset of density determinations carried out on drill core. More than 30,000 bulk density determinations have been made at Hemi, using the water immersion method on drill core. The values assigned to the block model are summarised in Table 3.

Table	e 3	Density val	ues assi	igned to	the b	lock	mode	ı
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Material Type	TYPE_N Code	Lithology	LITH Code	Density Assigned (t/m³)
Transported Cover	6	Transported Cover	6	1.7
Upper Saprolite	5	Sediment / Ultramafic / Intrusion	1, 2, 3, 4, 5, and 6	1.7
Lower Saprolite	4	Sediment / Ultramafic	1, 2, and 3	1.9
	•	Intrusion	4, 5, and 6	1.7
Saprock	3	Sediment / Ultramafic	1, 2, and 3	2.1
Suprock	J	Intrusion	4, 5, and 6	2.15
Fresh with strong	2	Sediment / Ultramafic	1, 2, and 3	2.4
weathering on joints	_	Intrusion	4, 5, and 6	2.6
		Sediment	1	2.7
Fresh with weak weathering on joints	1	Ultramafic	2 and 3	2.85
		Intrusion	4, 5, and 6	2.7
		Sediment	1	2.75
Fresh (primary sulphide)	0	Ultramafic	2 and 3	2.9
		Intrusion	4, 5, and 6	2.8



### **Mineral Resource Classification**

The Mineral Resource has been classified and reported in accordance with the 2012 JORC Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC Code).

Classification of Mineral Resources uses two main criteria as follows:

- 1. Confidence in the Au estimate
- 2. Reasonable prospects for eventual economic extraction.

Assessment of confidence in the estimate of gold included guidelines as outlined in JORC (2012):

- Drill data quality and quantity
- Geological domaining (for mineralised domains)
- The spatial continuity of Au mineralisation
- Geostatistical measures of Au estimate quality.

In summary, the more quantitative criteria relating to these guidelines include data density and kriging metrics are as follows:

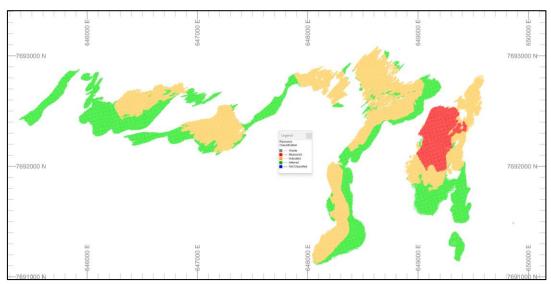
- The Measured Mineral Resource is the material within the mineralised domains having a drill spacing of 40mN x 20mE and where the kriging slope of regression for the panel estimates is greater than about 0.8.
- The Indicated Mineral Resource is the material within the mineralised domains having a drill spacing of 40mN x 40mE and where the kriging slope of regression for the panel estimates is greater than about 0.7. In a very few instances where the mineralisation showed clear continuity into areas of 80m by 40m drill hole spacing, the resource was classified as Indicated.
- The Inferred Mineral Resource is material within the mineralised domains, with a drill hole spacing of 80m by 80m and with slopes of regression for the panel estimates less than 0.7.

Extrapolation of the mineralisation was generally limited to 60m along strike and down dip of drill hole intersections. Extrapolation of up to 100m down dip was used where the strongest mineralisation remained open and untested.

The resource classification is shown in plan view (Figure 5).



Figure 5 MRE classification plan view



To assist in defining reasonable prospects for eventual economic extraction (RPEEE) for Hemi, pit optimisation work has been undertaken by Cube on the block model, and the resulting shells have been used to guide the constraints for the declared resource.

The optimisations were run at a gold price of A\$3,000 per ounce, with mining costs varying with depth, but averaging A\$9.33/BCM for ore and A\$7.88/BCM for waste (down to the -405mRL)

A fixed residual of 0.1ppm Au after processing was assumed, rather than an overall processing recovery. Processing costs (including G&A) of A\$30.01 per tonne for all material type used.

Wall angles used are based on detailed geotechnical analysis of the wall rocks at Hemi and vary based on the rock type and oxidation type.

Spot gold price in November 2024 was ~A\$4,000 per ounce, so an assumed optimistic gold price of A\$3,000 per ounce is reasonable. The optimised pit shell at Brolga reached a maximum depth of 450m below surface (-390 mRL), for Diucon it reached a maximum depth of 470m below surface (-410 mRL), and the maximum depths for the shells for the other deposits was 400m to 420m below surface (-340 to -360 mRL).

Therefore -320mRL (390m below surface) was selected as the level dividing open cut from underground resources.

The underground resources have been reported above a cut-off grade of 1.0ppm Au. Appropriate mining cost and gold prices have been used to determine the cut-off grade.

Reporting parameters for the November 2024 MRE remain the same as the November 2023 MRE.

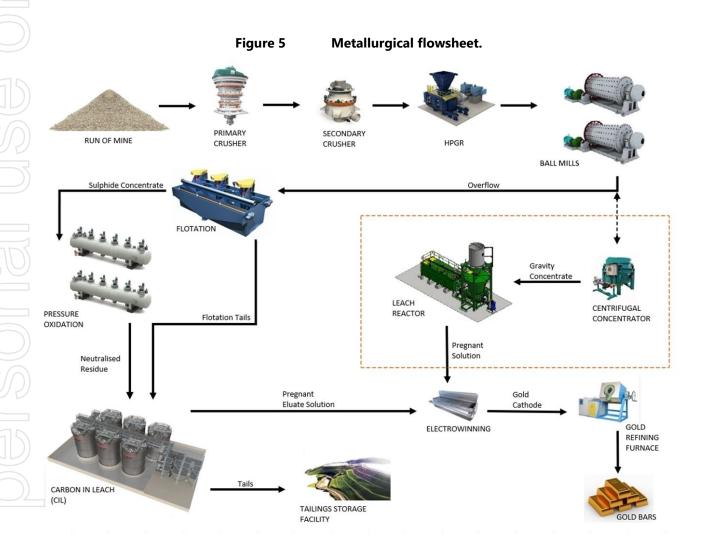
# Metallurgy

Extensive metallurgical test work has been undertaken at Hemi, with similar mineralogy and metallurgical characteristics noted across all deposits tested thus far. The gold mineralisation is semi-refractory, and a flowsheet (see Figure 5). combining the conventional processing technologies of crushing, milling, sulphide flotation,



concentrate pressure oxidation, and cyanide leaching has been tested thoroughly, and has proven successful in achieving high recoveries.

Summary information regarding the metallurgical results and proposed processing plant have been reported on in the Definitive Feasibility Study Summary ASX announcement (September 2023). For fresh mineralisation, overall gold recoveries of typically 94% have been achieved on samples from Brolga, Falcon, Aquila, Crow, Diucon and Eagle. Oxide mineralisation is non-refractory with recovery averaging 96% via conventional cyanide leaching.





# **Comparison to Previous Hemi Mineral Resource Estimate**

The MRE update for Hemi was completed in November 2024 and contained 9,124k ounces in open-cut resources and 2,050k ounces in underground resources for a total of 11.2M ounces. Comparisons between the November 2024 and November 2023 MREs are provided in Table 4 and Table 5.

Table 4 Hemi - Mineral Resource statement comparison for open-cut resource above -320 mRL (>0.3 g/t Au)

6.	No	vember 2	024	No	vember 2	023		Change	
Category	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz
Measured	12.7	1.44	588						
Indicated	148.0	1.31	6,241	165.3	1.29	6,859	-10%	2%	-9%
Inferred	62.5	1.14	2,295	61.0	1.13	2,210	2%	1%	7%
TOTAL	223.2	1.27	9,124	226.2	1.25	9,068	-1%	2%	1%

Table 5 Hemi - Mineral Resource statement comparison for underground resource below -320 mRL (>1.0 g/t Au)

Catagory	No	November 2024		November 2023			Change		
Category	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz
Measured									
Indicated									
Inferred	40.7	1.57	2,050	28.3	1.52	1,388	44%	3%	48%
TOTAL	40.7	1.57	2,050	28.3	1.52	1,388	44%	3%	48%

Note that the insignificant amount of Indicated resources below -320 mRL for the November 2024 and November 2023 model have been included in Inferred in Table 5.

The Measured and Indicated resources of the Hemi MRE occurs within the Open Pit classification to a depth of 390m from surface. The main change to Indicated classification is the result of infill drilling at Brolga, where the Indicated resource has been upgraded to Measured.

The significant increase in Inferred resources is from drilling programs concentrated on extending resources below and along strike of defined DFS pit shells at Aquila, Crow, and Eagle with the potential for resource extensions to be included in future open-pit and underground mining plans.



# Appendix 3: Hemi JORC Code, 2012 Edition - Table 1

# **Section 1: Sampling Techniques and Data**

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3kg was pulverised to produce a 30g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>All drilling and sampling was undertaken in an industry standard manner.</li> <li>Core samples were collected with a diamond rig drilling mainly NQ2 diameter core.</li> <li>After logging and photographing, NQ2 drill core was cut in half, with half sent to the laboratory for assay and the other half retained. HQ and PQ core was quartered, with one quarter sent for assay. Mineralised intervals were sampled to geological boundaries on a nominal 1m basis.</li> <li>Sample weights ranged from 2-4kg.</li> <li>RC holes were sampled on a 1m basis (Brolga infill holes were sampled on a 2m basis) with samples collected from a cone splitter mounted on the drill rig cyclone. Samples typically ranged in weight from 2.5kg to 3.0kg.</li> <li>Aircore samples were collected by spear from 1m sample piles and composited over 4m intervals. Samples for selected holes were collected on a 1m basis by spear from 1m sample piles. Sample weights ranges from around 1kg to 3kg.</li> <li>Commercially prepared certified reference materials ("CRM") and coarse blanks were inserted at a minimum rate of 2%</li> <li>Field duplicates were selected on a routine basis to verify the representivity of the sampling methods.</li> <li>Sample preparation is completed at an independent laboratory where samples are dried, split, crushed and pulverised prior to analysis as described below.</li> </ul>



	Criteria	JORC Code explanation	Commentary
	Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	<ul> <li>Sample sizes are considered appropriate for the material sampled.</li> <li>The samples are considered representative and appropriate for this type of drilling.</li> <li>Diamond core and RC samples are appropriate for use in the Mineral Resource estimate.</li> <li>Diamond core diameters are - NQ2 (51mm), HQ2 (61mm), PQ (85mm).</li> <li>Reverse Circulation (RC) holes were drilled with a 5 1/2-inch bit and face sampling hammer.</li> <li>Aircore holes were drilled with an 83mm diameter blade bit.</li> </ul>
FOLDELSOUS	Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul> <li>Core recovery is measured for each drilling run by the driller and then checked by the company geological team during the mark up and logging process.</li> <li>RC and aircore samples were visually assessed for recovery. For routine RC holes, duplicate samples were collected from the beta port every interval and weighed to assess sample representativity and recovery. On selected RC holes, all material is collected from the waste chute and weighed in conjunction with alpha and beta samples to assess sample recovery. Samples are considered representative with generally good recovery.</li> <li>Deeper RC and aircore holes encountered water, with some intervals having less than optimal recovery and possible contamination.</li> <li>No sample bias was observed.</li> </ul>
	Logging	Whether core and chip samples    have been geologically and    geotechnically logged to a level of    detail to support appropriate	All drill holes have been geologically logged and core was photographed by company geologists, with systematic sampling



Criteria	JORC Code explanation	Commentary
Sub-	<ul> <li>Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>undertaken based on rock type and alteration observed.</li> <li>RC and diamond sample results are appropriate for use in resource estimation.</li> <li>The aircore results provide a good indication of mineralisation but are not used in resource estimation.</li> </ul>
Sub- sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>NQ2 drill core was cut in half, with one half sent to the laboratory for assay and the other half retained. HQ and PQ core was quartered, with one quarter sent for assay. Holes were sampled over mineralised intervals to geological boundaries on a nominal 1m basis.</li> <li>RC sampling was carried out by a cone splitter on the rig cyclone and drill cuttings were sampled on a 1m or 2m basis in bedrock and 4m composite basis in cover.</li> <li>Aircore samples were collected by spear from 1m sample piles and composited over 4m intervals. Samples for selected holes were collected on a 1m basis by spear from 1m sample piles.</li> <li>Each sample was dried, split, crushed and pulverised to 85% passing 75µm.</li> <li>Sample sizes are considered appropriate for the material sampled.</li> <li>The samples are considered representative and appropriate for this type of drilling.</li> <li>Core and RC samples are appropriate for use in a Mineral Resource estimate.</li> <li>Aircore samples are generally of good quality and appropriate for delineation of geochemical trends but were not used in the Mineral Resource estimate.</li> </ul>
Quality of assay data and	The nature, quality and appropriateness of the assaying and laboratory procedures used and	The samples were submitted to a commercial independent laboratory in Perth, Australia.



Criteria	JORC Code explanation	Commentary
laboratory tests	whether the technique is considered partial or total.  • For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.  • Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	<ul> <li>For diamond core and RC samples, Au was analysed by a 50g charge Fire assay fusion technique with an AAS finish.</li> <li>Aircore samples were analysed for Au using 25g aqua regia extraction with ICPMS finish.</li> <li>All aircore samples and at least every fifth RC and DD sample were analysed with ALS procedure MS61 which comprises a four-acid digest and reports a 48-element analysis by ICPAES and ICPMS.</li> <li>The techniques are considered quantitative in nature.</li> <li>A comprehensive QAQC protocol including the use of CRMs, field duplicates and umpire assays at a second commercial laboratory has confirmed the reliability of the assay method.</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>A number of significant intersections were visually field verified by the Competent Person.</li> <li>Three twin holes were completed. The diamond twins verify grade tenor and mineralisation thickness of RC holes.</li> <li>Sample results have been merged into the database by the company's database consultants.</li> <li>Results have been uploaded into the company database, checked and verified.</li> <li>No adjustments were made to the assay data.</li> <li>Results are reported on a length weighted basis.</li> </ul>
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Diamond and RC drill hole collar locations are located by DGPS to an accuracy of +/- 10cm.



Criteria	JORC Code explanation	Commentary
Data spacing and distribution	<ul> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and</li> </ul>	<ul> <li>Aircore hole collar locations are located by DGPS or by handheld GPS to an accuracy of +/- 3m.</li> <li>Locations are recorded in GDA94 zone 50 projection.</li> <li>Diagrams and location tables have been provided in numerous releases to ASX.</li> <li>Topographic control is by detailed airphoto and Differential GPS data.</li> <li>Down hole surveys were conducted for all RC and DD holes using a north seeking gyro tool with measurements at 10m down hole intervals.</li> <li>Within the limits of the Mineral Resource, the drill hole spacing varies from 20m by 20m spacing to 80m by 80m spacing.</li> </ul>
	distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.  • Whether sample compositing has been applied.	<ul> <li>The extensive drilling programs have demonstrated that the mineralised domains have sufficient continuity in both geology and grade to be considered appropriate for the Mineral Resource and Ore Reserve estimation procedures and classification applied under the 2012 JORC Code.</li> <li>Samples have been composited to 2m lengths in mineralised lodes using best fit techniques prior to estimation.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul> <li>The drilling is approximately perpendicular to the strike of mineralisation. The holes are generally angled at -60° which provides good intersection angles into the mineralisation which ranges from vertical to -45° dip.</li> <li>The sampling is considered representative of the mineralised zones.</li> <li>Where drilling is not orthogonal to the dip of mineralised structures, true widths are less than down hole widths.</li> </ul>



Criteria	JORC Code explanation	Commentary
Sample security	The measures taken to ensure sample security.	Samples were collected by company personnel and delivered direct to the laboratory via a transport contractor.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	QAQC data has been both internally and externally reviewed.



# **Section 2: Reporting of Exploration Results**

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.</li> </ul>	<ul> <li>The entire Hemi Mineral Resource lies within exploration licence E45/3392-I. The tenement is held 100% by Last Crusade Pty Ltd, a wholly owned subsidiary of De Grey Mining Limited.</li> <li>The Hemi Deposit is approximately 60km SSW of Port Hedland.</li> <li>The tenements are in good standing as at the time of this report.</li> <li>There are no known impediments to operating in the area.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	No detailed exploration is known to have occurred on the tenement prior to De Grey Mining. Prior to the Hemi discovery, De Grey completed programs of airborne aeromagnetics/radiometrics, surface geochemical sampling and wide spaced aircore and RAB drilling. Limited previous RC drilling was carried out at the Scooby Prospect approximately 2km NE of the Brolga deposit at Hemi.
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>The Hemi discovery comprises a series of gold deposits hosted within predominately diorite to quartz diorite intrusions and sills that have been emplaced within the Mallina Basin. Seven main deposits have been delineated within the complex and have been separately estimated and reported. These include Aquila, Brolga, Crow, Diucon, Eagle, Falcon, and Antwerp.</li> <li>Gold mineralisation is associated with localised to massive zones of fractured to brecciated albite, chlorite and carbonate (calcite) altered intrusion with disseminated sulphides and stringers containing pyrite and arsenopyrite with minor occurrences of</li> </ul>



Criteria	JORC Code explanation	Commentary
		sulphide veins that occasionally host visible gold. Sulphide abundance in the mineralised intrusions typically ranges from 2.5% to 10% and there are strong correlations between gold, arsenic, and sulphur.
Drill hole Information	A summary of all information material to the under-standing of the exploration results including a tabulation of the following information for all Material drill holes:	All exploration results have previously been communicated
	<ul> <li>easting and northing of the drill hole collar</li> </ul>	
	<ul> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> </ul>	
	dip and azimuth of the hole	
	<ul> <li>down hole length and interception depth</li> </ul>	
	• hole length	
	• If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.	Not applicable as a Mineral Resource is being reported.
	Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should	



Criteria	JORC Code explanation	Commentary
	<ul> <li>be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported.</li> </ul>	<ul> <li>The drill holes are interpreted to be approximately perpendicular to the strike of mineralisation.</li> <li>Where drilling is not perpendicular to the dip of mineralisation the true widths are less than down hole widths.</li> </ul>
	down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	
Diagrams	Appropriate maps and sections     (with scales) and tabulations of     intercepts should be included for     any significant discovery being     reported. These should include, but     not be limited to a plan view of     drill hole collar locations and     appropriate sectional views.	Relevant diagrams have been included in numerous ASX releases.
Balanced reporting	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> </ul>	<ul> <li>All drilling used in the Mineral Resource estimate has been accurately located using DGPS for collar locations and gyroscopic downhole directional surveys.</li> <li>Exploration results are not being reported.</li> </ul>
	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	



Criteria	JORC Code explanation	Commentary
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples - size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Extensive metallurgical, groundwater, and geotechnical studies have been completed as part of the DFS.
Further work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large- scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Exploration drilling is ongoing at the project.</li> <li>Further infill drilling will be conducted prior to commencement of mining.</li> <li>Refer to diagrams in the body of this and previous ASX releases.</li> </ul>



# **Section 3: Estimation and Reporting of Mineral Resources**

Criteria	JORC Code explanation	Commentary
Database integrity	<ul> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul> <li>All drilling data in the Mineral Resource estimate has been generated by DEG since 2019. It has been systematically recorded and stored using industry best practice for data management.</li> <li>The database is hosted and managed by Expedio, using their customised SQL data storage system.</li> <li>Data was geologically logged electronically using the Expedio Ocris Mobile Logger; collar and downhole surveys were also received electronically as were the laboratory analysis results.</li> <li>The SQL server database is configured for optimal validation through constraints, library tables, triggers and stored procedures. Data that fails these rules on import is rejected or quarantined until it is corrected. Some of the automatic triggers on assay import are listed below.</li> <li>CRM results &gt; +/- 3 standard deviations</li> <li>CRM weight &gt; 200g</li> <li>Blank results &gt; 10 x detection limit</li> <li>Blank weight &lt; 400g</li> <li>Grind size &lt; 85% passing 75µm</li> <li>Data extracted from the database were validated visually in Datamine and Seequent Leapfrog software. Also, when loading the data, any errors such as missing values and sample/logging overlaps are highlighted.</li> <li>In summary the database is of high quality, consisting only of very recent drilling with no significant errors due to data corruption or transcription.</li> </ul>
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The Competent Person visited site on 15 and 16     December 2021, and personally inspected active diamond core drilling and geological logging at the core logging facility. Core recovery and logging was of a very high standard.



Criteria	JORC Code explanation	Commentary
D	If no site visits have been undertaken indicate why this is the case.	
Geological interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul> <li>The confidence in the underlying geological interpretation is considered to be high and is based on extensive RC and core drilling. The entire project area is overlain by 25m to 45m of transported cover so no outcrop is present.</li> <li>Seven discrete deposit areas have been defined within the Hemi project. These are: Aquila, Brolga, Crow, Diucon, Eagle, Falcon, and Antwerp.</li> <li>Geochemistry and geological logging have been used to assist with identification of lithology, mineralisation and weathering.</li> <li>The deposit consists of broad zones of gold mineralisation within well-defined intrusive lithologies. Gold is associated with pyrite and arsenopyrite with albite, sericite and silica alteration of the host rocks.</li> <li>The controlling lithologies are well defined and lithology boundaries commonly coincide with mineralisation boundaries.</li> <li>The overall dip and dip direction of the intrusives varies between each deposit area: <ul> <li>Aquila 80° towards the southeast</li> <li>Brolga 40° to 70° towards the southeast</li> <li>Crow 50° to 80° towards the southeast</li> <li>Diucon 70° to 80° towards the southeast</li> <li>Eagle 70° to 80° towards the southeast</li> <li>Falcon 50° to 70° towards the southeast</li> <li>Infill drilling has confirmed geological and grade continuity in most areas of the deposit.</li> </ul> </li> <li>The estimation domains were constrained by wireframes constructed in Leapfrog software using an approximate 0.2ppm Au cut-off grade, with the</li> </ul>



Criteria	JORC Code explanation	Commentary
		domain orientation consistent with the geological interpretation.
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	The Hemi Mineral Resource area extends over a north-south strike length of 2,000m, and an eastwest extent of 3,600m. It has been drilled and interpreted to a maximum vertical interval of 885m from surface at 65 mRL to -820 mRL.
Estimation and modelling techniques	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including	Estimation of the mineral resource was by the non- linear geostatistical method Localised Uniform Conditioning (LUC) and Ordinary Kriging (OK) using Datamine software. The LUC estimation process was as follows:
	treatment of extreme grade values, domaining, interpolation parameters and maximum distance of	<ul> <li>Drill hole data was selected within mineralised domains for each deposit area and composited to 2m downhole intervals in Datamine software.</li> </ul>
	extrapolation from data points. If a computer assisted estimation method	<ul> <li>The composited data was imported into Supervisor software for statistical and geostatistical analysis.</li> </ul>
	assisted estimation method was chosen include a description of computer software and parameters used.	<ul> <li>Top-caps were applied based on examination of histograms and Au grade distribution analysis. The caps per deposit area ranged from 10 to 20ppm Au.</li> </ul>
	<ul> <li>The availability of check estimates, previous estimates and/or mine production records and</li> </ul>	<ul> <li>Contact analysis of samples within the estimation domains and those outside ('background' domain) showed that hard domain boundaries were suitable.</li> </ul>
whether the Mineral Resource estimate takes appropriate account of such data.	<ul> <li>Variography was performed on capped data transformed to normal scores, and the variogram models were back-transformed to original units.</li> <li>Variography was performed separately for each deposit area.</li> </ul>	
	<ul> <li>The assumptions made regarding recovery of by- products.</li> </ul>	The variogram models had low to moderate nugget effects (25 to 30% of the total sill), with
	<ul> <li>Estimation of deleterious elements or other non- grade variables of economic</li> </ul>	maximum ranges of ~120m along strike and ~85m down dip for all deposit areas.  • Estimation (via OK) – a necessary precursor step for
	significance (e.g. sulphur for	Estimation (via OK) – a necessary precursor step for UC) was into a block model that was rotated +50° from the MGA94 grid. The panel block size of 20



Criteria	JORC Code explanation	Commentary
	<ul> <li>acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions behind modelling of selective</li> </ul>	<ul> <li>mE x 20 mN x 5 mRL is half the average drill spacing in the main well-drilled part of the deposit. Where infill drilling to 20mE x 40mN has been completed at Brolga, a panel block size of 10 mE x 20 mN x 5 mRL has been used.</li> <li>A minimum of 8 and maximum of 20 (2m composite) samples per panel estimate was used, with a search ellipse radius similar to the variogram ranges (160m x 80m x 40m).</li> </ul>
	<ul> <li>mining units.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> </ul>	<ul> <li>Up to two search passes were used for each estimation domain, with the second pass twice the size of the first pass. The number of samples required was the same for both searches. The second pass was only required for 1-2% of blocks for most deposit areas.</li> <li>A locally varying ellipsoid orientation was used to account for the subtle changes in estimation domain orientation along strike and down dip The variogram models did not use locally varying orientations in order to be consistent with the Change of Support correction.</li> </ul>
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	The UC process applies a Change of Support correction (discrete Gaussian model) based on the composite sample distribution and variogram model, conditioned to the Panel grade estimate, to predict the likely grade tonnage distribution at the SMU selectivity.
		<ul> <li>Localisation of the grades was into Selective Mining Units (SMU) block of 5 mE x 5 mN x 5 mRL (16 SMUs per panel). The SMU size is appropriate given the likely mining method (open-cut) and equipment selection.</li> </ul>
		To account for the higher grades that had been capped, a localised OK estimate using uncapped grades was made into SMU sized blocks in the immediate area (5m) of these higher grades. These grades superseded the LUC grades.
		<ul> <li>Estimates of Au grades were validated against the composited drill hole data by extensive visual checking in cross-section, plan and on screen in 3D, by global (per shoot) comparisons of input data</li> </ul>



	Criteria	JORC Code explanation	Commentary
	D		and model, and by semi-local statistical methods (swath plots). All methods showed satisfactory results.
			No recovery of by-products is anticipated.
			<ul> <li>In addition to gold, arsenic, sulphur, calcium and iron in total sulphide were estimated in the model to provide information for metallurgical evaluation.</li> </ul>
<b>a</b> 5			S, As, Ca and Fe in total sulphide were estimated by ordinary kriging into the panel-sized blocks.
			Moderate correlation was determined between Au and S and Au and As. Strong correlation was determined between S and As. No assumptions about correlation were made in the estimate.
	Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages and grades were estimated on a dry in situ basis.
	Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	The Mineral Resource has been reported using the LUC estimate at a cut-off 0.3ppm Au for mineralisation above 390m vertical depth (-320 mRL), except for the upper part of Brolga where infill drilling has been completed and the OK estimate is reported. Below 390 m from surface, the OK estimate is reported at 1.0 ppm Au cut-off.
			The reporting cut-off parameters were selected based on economic evaluation of the Hemi deposit to DFS level.
	Mining factors or assumptions	Assumptions made     regarding possible mining     methods, minimum mining     dimensions and internal (or,     if applicable, external)     mining dilution. It is always     necessary as part of the	The majority of the Hemi deposit would be mined by open pit extraction. Recent pit optimisation work was undertaken using an A\$3,000/oz gold price, with mining costs averaging \$9.33 per BCM for ore and \$7.88 per BCM for waste and processing costs of \$30.01 per tonne for all material types.
		process of determining reasonable prospects for eventual economic extraction to consider	The A\$3,000/oz pit shells reached a maximum depth of 455m at Brolga (to the -390 mRL), for Diucon it reached a maximum depth of 475m (-410).



Criteria	JORC Code explanation	Commentary
	potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	<ul> <li>mRL) and an average depth for the other deposit areas of 405 to 425m (-340 to – 360 mRL).</li> <li>Therefore the -320 mRL was selected as the level to divide open cut from underground resources.</li> <li>Higher grade zones below the -320 mRL within the deposit show potential for large scale underground mining. The cut-off grade for the underground resource (1.0ppm Au) was derived from a simple economic model, assuming the same Au price and processing costs as for the open cut, with an assumed stoping cost of \$50 per tonne.</li> </ul>
Metallurgical factors or assumptions	• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	<ul> <li>Extensive metallurgical test work has been undertaken at Hemi, with similar mineralogy and metallurgical characteristics noted across all deposits tested thus far. The gold mineralisation is semi-refractory, and a flowsheet combining the conventional processing technologies of crushing, milling, sulphide flotation, concentrate pressure oxidation, and cyanide leaching has been tested thoroughly, and has proven successful in achieving high recoveries.</li> <li>For transitional and fresh mineralisation, overall gold recoveries of typically 94% have been achieved on samples from Aquila, Brolga, Crow, Diucon, Eagle, and Falcon.</li> <li>Oxide mineralisation is non-refractory with recovery averaging 96% via conventional cyanide leaching.</li> </ul>
Environmental factors or assumptions	<ul> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental</li> </ul>	<ul> <li>There are no known environmental issues, with a number of operational and closed open cut mines (copper, lithium, iron ore) within 50 km of Hemi, in similar physical geographical settings.</li> <li>DEG will work to mitigate environmental impacts as a result of any future mining or mineral processing.</li> </ul>



Criteria	JORC Code explanation	Commentary
	impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	
Bulk density  Bulk density	<ul> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul> <li>Bulk density values applied to the Mineral Resource were based on a substantial number of density determinations on drill core.</li> <li>The bulk density values were assigned based on oxidation/weathering as follows:         <ul> <li>Sediment Upper Saprolite 1.7 t/m³</li> <li>Intrusion Upper Saprolite 1.7 t/m³</li> <li>Sediment Lower Saprolite 1.9 t/m³</li> <li>Intrusion Lower Saprolite 1.7 t/m³</li> <li>Sediment Saprock 2.1 t/m³</li> <li>Intrusion Saprock 2.15 t/m³</li> <li>Sediment Fresh with weathering along joints 2.4 to 2.7 t/m³</li> <li>Intrusion Fresh with weathering along joints 2.6 to 2.7 t/m³</li> <li>Sediment Fresh (primary sulphide) 2.75 t/m³.</li> <li>Intrusion Fresh (primary sulphide) 2.8 t/m³.</li> </ul> </li> <li>The transported cover material was assigned an assumed density value of 1.7 t/m³.</li> </ul>



Criteria	JORC Code explanation	Commentary
Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul> <li>The Mineral Resource estimate is reported in compliance with the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' by the Joint Ore Reserves Committee (JORC).</li> <li>The Hemi Mineral Resource was classified as Measured, Indicated and Inferred Mineral Resource based on data quality, sample spacing, geological and grade continuity and kriging metrics of the panel estimates.</li> <li>The Measured Mineral Resource has a drill spacing of 20mE x 40mN and where the kriging slope of regression for the panel estimates is greater than about 0.8.</li> <li>The Indicated Mineral Resource has a drill spacing of 40m x 40m and where the kriging slope of regression is greater than about 0.7. In a very few instances where mineralisation showed clear continuity into areas of 80m by 40m drill hole spacing, the resource was classified as Indicated.</li> <li>Wireframes were constructed to delineate the Indicated Mineral Resource i.e. the classification was not defined on a block-by-block basis.</li> <li>The Inferred Mineral Resource has been defined with a drill hole spacing of 80m by 80m and with slopes of regression for the panel estimates less than 0.7.</li> <li>Extrapolation of the mineralisation was generally limited to 60m along strike and down dip of drill hole intersections. Extrapolation of up to 100m down dip was used where the strongest mineralisation remained open and untested.</li> <li>The input data is on a regular drilling grid and has not been concentrated on higher -grade zones. The definition of mineralised zones is based on high level geological understanding producing a robust model of mineralised domains.</li> <li>The classification of the Mineral Resource Estimate appropriately reflects the view of the Competent Person.</li> </ul>



Criteria	JORC Code explanation	Commentary
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	<ul> <li>Cube Consulting have completed an internal peer review of the estimate.</li> <li>An independent external peer review of the estimate has been completed which found the estimate to be prepared using accepted industry practice with no material issues identified.</li> </ul>
Discussion of relative accuracy/ confidence	<ul> <li>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource 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 resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</li> <li>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.</li> </ul>	<ul> <li>The deposit geometry and continuity has been adequately interpreted to reflect the classification applied to the Mineral Resource.</li> <li>The data quality is excellent, and the drill holes have detailed logs produced by qualified geologists. An independent commercial laboratory has been used for all analyses.</li> <li>The Mineral Resource statement relates to global estimates of tonnes and grade.</li> </ul>
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	



# **Appendix 4: Withnell and Withnell Trend Mineral Resource Estimate Summary**

## Geology

#### Lithology, Structure, Alteration and Mineralisation

The Withnell area is hosted by a sequence of deformed Mallina Formation siliciclastic rocks. Gold mineralisation and discontinuous anomalism at Withnell and Withnell Trend (Camel, Roe, and Dromedary) deposits extends >7.5km in length and is locally 500m wide, with potential for growth along strike and north and south of the known gold mineralisation.

The rock sequence at Withnell has undergone a complex deformation history commencing in extension during basin development, basin inversion during a compression event that resulted in SW-NE striking folding and brittle-ductile shear zone development. Additionally, gentle approximately SSE-NNW shortening produced local box-folding, northeast and northwest-trending conjugate shear and fault zones, and upright north-trending folds.

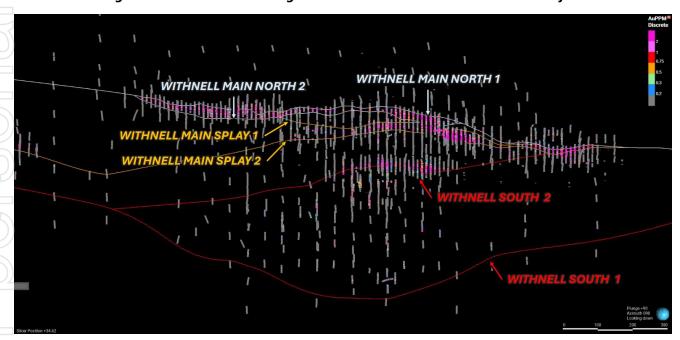


Figure 1 Plan flitch diagram of the shear zones at the Withnell Project

The Calvert deposit is hosted and dominated by a sequence of deformed Archaean siliciclastic rocks. A later intrusion intrudes the earlier siliciclastic rock sequence. The trend of the gold mineralisation has a known cumulative strike of >500m in length and is locally 50m wide, with potential for growth along strike of the known gold mineralisation.

# Metamorphism, Alteration and Mineralisation

The lithostratigraphy of the region is dominated by regional metamorphic lower greenschist facies metamorphism. This is interpreted to have occurred during the folding of the lithostratigraphy.



Multiple zones of mineralisation lie in limbs of a slightly overturned (south-verging) tight syncline developed in the northern hangingwall of the regionally significant, east-west trending Mallina Shear Zone.

Structural relationships indicate that gold-bearing veins, and alteration, were emplaced in the early stages of basin inversion, and subsequently deformed during the later stages of deformation and dismembered along NNE-trending dextral shearing along the Mallina Shear Zone. Proximal alteration is typically quartz-carbonate veins, silicification, quartz-sulfide lodes, disseminated sulfides with weak, pervasive sericite-ankerite alteration. Mineralised zones are typically sub-vertical, dipping steeply to the north or south, however folding and deformation of the sequence has resulted in some complexity to the interpreted geometry. High-grade zones plunge in the range of 35-45° to the west or east while the thickness of individual lodes is influenced by host rock composition, where the most favourable host rocks are interlaminated, wavy, non-parallel heterolithic carbonaceous siltstones and sandstones, developed in a sub-tidal, pro-delta facies above storm-wave base. Less favourable host rocks are end-member massive sandstones, or massive carbonaceous phyllites.

Sulphide abundance in the Withnell mineralisation typically ranges from 0.3% to 0.7% total rock mass but within the vein, sulphides can make up to 20% of the interval. The ore mineralogy is consistent in type and consists of pyrite, arsenian-pyrite, trace chalcopyrite, and native gold. In general, the gold mineralisation is free milling in nature and occurs on the grain boundaries of or fractures in pyrite and arsenian-pyrite.

Away from the gold mineralised zones the pyrite and arsenian-pyrite content drops off rapidly to <0.5%, with pyrite occurring as the main sulphide mineral if sulphides are present.

At Calvert, mineralised zones strike north-south and typically occurs as shallow dipping structures that dip to the west. Mineralisation typically comprises disseminated sulphides of pyrite and arsenopyrite and weak, pervasive chlorite-sericite-ankerite alteration. The unweathered gold mineralisation is considered semi refractory.

#### Regolith

Modelling of the regolith and fresh rock profiles was completed for the Withnell area and Calvert and includes a base of aeolian and colluvial cover model, a base of weakly hardpanised - calcretised - silcretised model, a base of upper saprock model, a base of strongly joint weathered fresh rock model, and base of weakly joint weathered fresh rock model. The saprolite profile at Withnell has been eroded away so no model is presented.

The regolith models range in thickness as follows:

- Aeolian and Colluvial Cover 0m to 4m
- Hardpan Calcrete Silcrete Model 0m to 4m
- Upper Saprock 1m to 20m
- Lower Saprock 1m to 30m
- Strongly Joint Weathered Fresh Rock 1m to 20m
- Weakly Joint Weathered Fresh Rock 1m to 30m
- Fresh Rock >500m



#### **Drilling**

Drilling has been completed in the Withnell region by various owners since 1997. The database export for the area covering the Withnell, Withnell Trend, and Calvert deposits contained records of >2,000 drill holes of varying drill types including air core (AC), rotary air blast (RAB), reverse circulation (RC) and diamond (DD). Most of the drilling has been completed by Range River Gold (RNG) focused on the resource definition drilling program featuring 37 DD holes (2,205m) and 1,355 RC holes (75,671m).

De Grey recommenced exploration activities in 2017 and have completed 63,277m of RC drilling and 17,485m of DD drilling up to 2023.

A summary of both historical and recent De Grey drilling for the Withnell, Withnell Trend, and Calvert deposits are summarised in Table 1.

Table 1 Summary of Drilling for Withnell, Withnell Trend, and Calvert Deposits by Area and Mineral Resource

	Deposit Area		Mineral F	
Hole Type	Drill I Number	Metres	Drill I Number	noles Metres
Historical RC	1,568	100,059	1,418	90,690
Historical DD	90	14,860	84	13,285
DEG RC	397	63,277	282	43,167
DEG DD	74	17,485	17,485	17,485
Total	2,083	195,681	1,812	164,627

#### Sampling and Sub-Sampling Techniques

Historical RC samples in mineralised zones were split using a free-standing riffle splitter at 1m intervals to obtain an analytical sample. Initially, 4m composite samples were collected for each hole. Any composites with anomalous gold grade were re-submitted at 1m intervals.

Historical core was sampled to geological contacts with half core samples cut with a diamond saw.

DEG RC drilling was carried out using a 5 ½-inch bit and face sampling hammer. RC samples were generally dry and visually determined recoveries were good. For recent routine RC holes, duplicate samples were collected from the beta port every interval and weighed to assess sample representativity and recovery.

DEG RC samples were split using a rig-mounted cone splitter at 1m intervals to obtain an analytical sample. For areas of known mineralisation or anomalism, the 1m samples were submitted to the laboratory. For visually unmineralised zones, 4m composite spear samples were collected for each hole. Any composites with anomalous gold grade were resubmitted at 1m intervals.



DEG diamond holes were NQ size and sampled to geological boundaries. Core was cut with a diamond saw to allow half core samples to be submitted for fire assay analysis.

#### **Sample Analysis Method**

Historical samples were submitted to commercial independent laboratories in Australia. Each sample was dried, crushed and pulverised. Au was analysed by a 50g Fire assay fusion technique with an AAS finish. Additional screen fire assays were completed in some programs.

Samples from the DEG programs were submitted to ALS Laboratories in Perth, Western Australia. Samples were dried then pulverised and a 50g split of the pulp analysed by the fire assay method with AAS analysis.

Drilling prior to 2003 at Withnell was undertaken with limited QAQC procedures. A comprehensive QAQC protocol was in place for most historical drilling programs since 2003, including certified reference materials, blanks, and field duplicates.

A comprehensive 'Best Practice' QAQC monitoring system was used for DEG drilling. Certified Reference Materials, Blanks and Field Duplicates are inserted within batches of samples to ensure ongoing quality control. Standards, Blanks, and Field Duplicates are inserted at a minimum of 2% frequency rate.

#### **Resource Estimation Methodology**

The Mineral Resource was estimated using Ordinary Kriging (OK) grade interpolation of 1m composited data within wireframes prepared using nominal outer margin cut-off of 0.3g/t (For the deeper parts of Withnell the outer margin cut-off is 1.0 g/t) Au and a minimum 4m interval selection and guided by trends defined by the structural model (Figure 2, Figure 3, and Figure 4). High grade caps ranging between 20g/t to 30g/t gold were determined by statistical analysis and applied to the composite data per lode at Withnell and Withnell Trend deposits. For Calvert, no grade cap was required.

For Withnell and Withnell Trend, two parent block dimensions of  $6.25 \text{mE} \times 5 \text{mN} \times 5 \text{mRL}$  (sub-cell  $1.25 \text{mE} \times 0.625 \text{mN} \times 1.25 \text{mRL}$ ) were constructed. The parent block size dimensions were selected at half the nominal drill hole spacing representing areas of different drill density across the deposit.

For Calvert, two parent block dimensions of  $12.5 \text{mE} \times 25 \text{mN} \times 5 \text{mRL}$  (sub-cell  $1.25 \text{mE} \times 1.25 \text{mN} \times 1.25 \text{mRL}$ ) and  $37.5 \text{mE} \times 37.5 \text{mN} \times 5 \text{mRL}$  (sub-cell  $1.25 \text{mE} \times 1.25 \text{mN} \times 1.25 \text{mRL}$ ) were constructed. The parent block size dimensions were selected at half the nominal drill hole spacing representing areas of different drill density across the deposit.

Mineral Resource block models were created and estimated in Datamine software.



Figure 2 Oblique northeast looking showing Withnell mineralisation (purple – Withnell Main, Red – Withnell Central, and Orange – Withnell South) and shear zones (Grey)

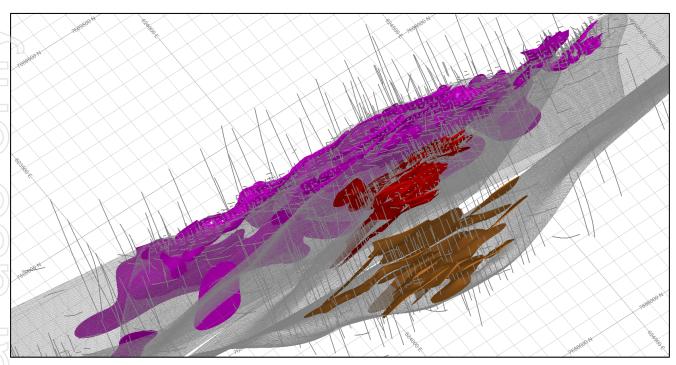


Figure 3 Oblique northeast looking showing Camel (Purple) and Roe (Red) mineralisation and shear zones (Grey)

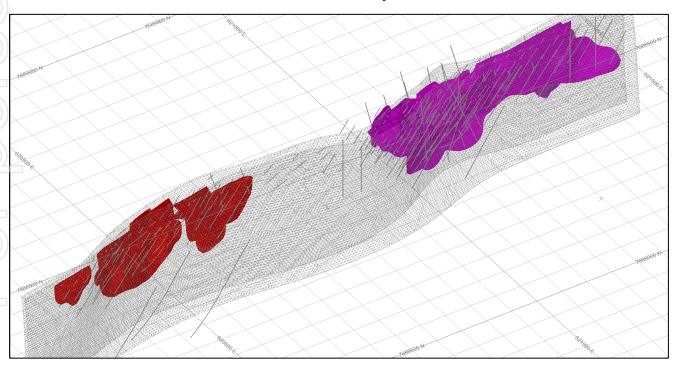
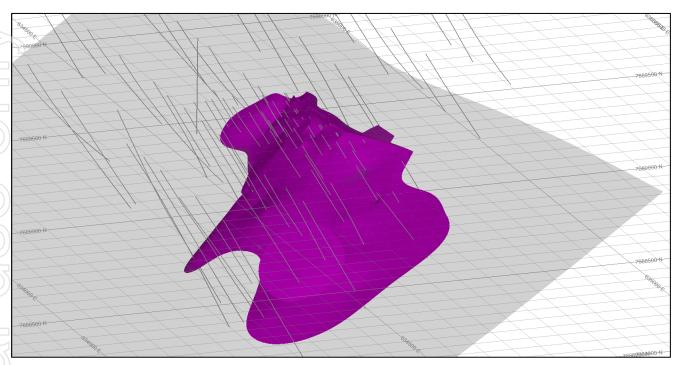




Figure 4 Oblique northeast looking showing Calvert (Purple) mineralisation and Calvert Fault (Grey)



Variography was performed on capped data transformed to normal scores, and the variogram models were back-transformed to original units. Variography was performed separately for each deposit area. The major direction of continuity is sub-parallel to the strike for each estimation domain, with a plunge towards the southwest at Withnell (ranges of 70 to 120m), southeast plunge at Withnell Trend deposits (ranges of 45 to 90m), and southwest plunge at Calvert (ranges 70 to 90m). The variogram models had low to moderate nugget effects (25 to 35% of the total sill).

Estimates into the parent blocks used a minimum of eight and maximum of 20 composites for most domains, with a search ellipse radius similar to the variogram ranges (70-120m  $\times$  40-90m  $\times$  6-20m).

Up to two search passes were used for each estimation domain, with the second pass twice the size of the first pass. The second search was required for <10% of blocks located on the edges or at depth.

A locally varying ellipsoid orientation was used to account for the subtle changes in estimation domain orientation along strike and down dip. The local dips and dip directions were calculated from the orientation of specially constructed 'trend surfaces' for each deposit area.

Estimates of Au grades were validated against the composited drill hole data by extensive visual checking in cross-section, plan and on screen in 3D, by global (per shoot) comparisons of input data and model, and by semilocal statistical methods (swath plots). All methods showed satisfactory results.

#### **Bulk Density**

Bulk densities applied to the model were based on a dataset of density determinations carried out on drill core. More than 5,000 bulk density determinations have been made at Withnell, using the water immersion method on drill core. The Withnell Trend and Calvert deposits only have limited density measurements with the assigned values from Withnell used.



The values assigned to the block models are summarised in Table 2.

Table 2 Density values assigned to the block model

Material Type	Weathering Code	Density Assigned (t/m³)
Upper Saprock	5	2.06
Lower Saprock	4	2.39
Fresh JW Strong	3	2.61
Fresh JW Weak	2	2.78
Fresh	1	2.84

## **Mineral Resource Classification**

The Mineral Resource has been classified and reported in accordance with the 2012 JORC Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC Code).

Classification of Mineral Resources uses two main criteria as follows:

- 1. Confidence in the Au estimate
- 2. Reasonable prospects for eventual economic extraction.

Assessment of confidence in the estimate of gold included guidelines as outlined in JORC (2012):

- Drill data quality and quantity
- Geological domaining (for mineralised domains)
- The spatial continuity of Au mineralisation
- Geostatistical measures of Au estimate quality.

In summary, the more quantitative criteria relating to these guidelines include data density and kriging metrics are as follows:

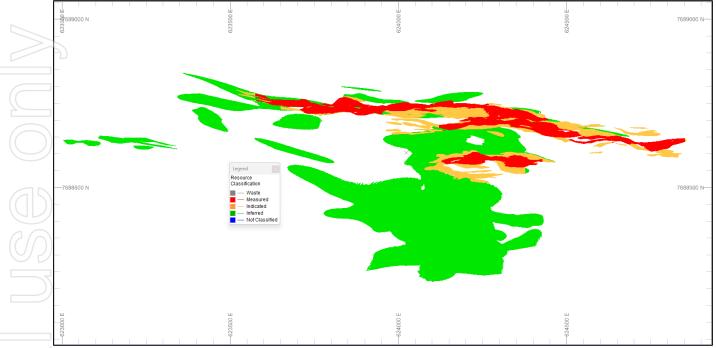
- The Measured Mineral Resource is the material within the mineralised domains having a drill spacing of 10mN x 12.5mE and where the kriging slope of regression for the estimates is greater than about 0.8.
- The Indicated Mineral Resource is the material within the mineralised domains having a drill spacing of 10mN x 25mE and where the kriging slope of regression for the estimates is greater than about 0.7.
- The Inferred Mineral Resource is material within the mineralised domains, with a drill hole spacing of 40mN by 50mE up to 50mE by 100mN and with slopes of regression for the estimates less than 0.7.

Extrapolation of the mineralisation was generally limited to 60m along strike and down dip of drill hole intersections.

The resource classification is shown in plan view (Figure 5, Figure 6, and Figure 7).



Figure 5 MRE classification plan view for Withnell



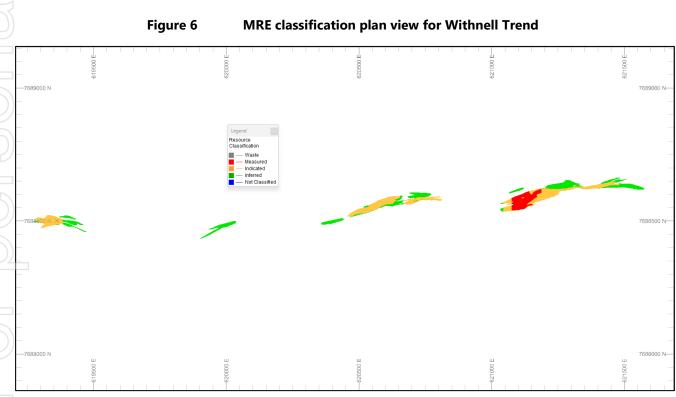
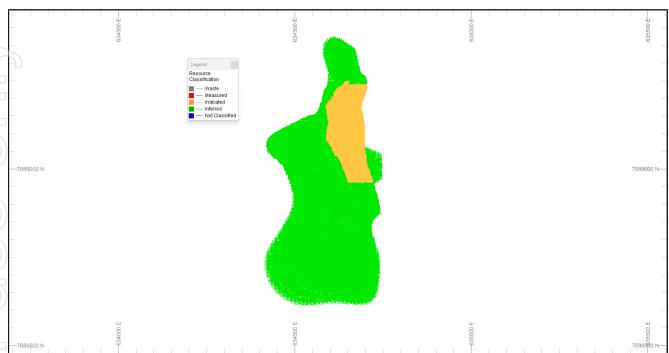




Figure 7 MRE classification plan view for Calvert



To assist in defining reasonable prospects for eventual economic extraction (RPEEE) for Withnell, pit optimisation work has been undertaken by De Grey using parameters as defined in the Regional Scoping Study on the block model.

The optimisations were run at a gold price of A\$2,500 per ounce, with mining costs varying with depth, but averaging A\$10.75/BCM for ore and A\$11.11/BCM for waste and processing cost of A\$34.97/tonne.

Wall angles used are based on detailed geotechnical analysis of the wall rocks at Withnell and vary based on the oxidation type.

Spot gold price in November 2024 was ~A\$4,000 per ounce, so an assumed optimistic gold price of A\$3,000 per ounce is reasonable. The Withnell resource is reported at a 0.5g/t cut-off inside the A\$3,000 per ounce pit shell.

The Withnell underground resource has been reported below the A\$3,000 per ounce pit shell to a depth of - 300mRL using a cut-off grade of 2.0g/t Au. Appropriate mining cost and gold prices have been used to determine the cut-off grade.

The satellite Withnell Trend deposits are reported at 0.5g/t cut-off and Calvert is reported at a 0.5g/t cut-off and above -40mRL.

#### Metallurgy

Metallurgical test work has been completed to a minimum Scoping study level across all the Regional deposits as part of the Hemi Regional Scoping Study ASX announcement (July 2024). The process flowsheet combining the conventional processing technologies of crushing, milling, sulphide flotation, concentrate pressure oxidation, and cyanide leaching has proven successful in achieving high recoveries. Withnell showed recoveries of 89% in oxide and 87.6% for transition and fresh, Withnell Trend deposits show recoveries of 95% in oxide, and Calvert showed recoveries of 95% in oxide and 80% in fresh. Further testwork is planned for the next phase of studies.



#### **Comparison to Previous Mineral Resource Estimate**

The MRE update for Withnell, Withnell Trend, and Calvert deposits was completed in November 2024. Comparisons between the November 2024 and June 2021 MREs are provided in Table 4 - Table 7.

Table 4 Withnell OP1 - Mineral Resource statement comparison for open-cut resource inside A\$3,000 pit shell (>0.5 g/t Au)

6.1	No	November 2024			June 2021			Change		
Category	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	
Measured	1.0	1.72	54	1.3	1.5	62	-23%	13%	-13%	
Indicated	4.4	1.59	226	4.0	1.6	201	12%	1%	13%	
Inferred	4.0	1.64	209	8.0	1.9	47	427%	-15%	348%	
TOTAL	9.4	1.62	489	6.0	1.6	309	57%	1%	58%	

1: Include Leach Pad Stockpile and Hester

Table 5 Withnell UG - Mineral Resource statement comparison for underground resource below A\$3,000 pit shell and above -300mRL (>2.0 g/t Au)

Catamami	No	ovember 2	024		June 2021			Change	
Category	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz
Measured									
Indicated	0.0	3.3	5	0.1	4.3	16	-60%	-24%	-70%
Inferred	2.9	3.2	293	2.4	3.9	301	21%	-20%	-3%
TOTAL	2.9	3.2	298	2.5	3.9	317	17%	-20%	-6%

Table 6 Withnell Trend - Mineral Resource statement comparison (>0.5 g/t Au)

Category	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz
Measured									
Indicated	0.0	3.3	5	0.1	4.3	16	-60%	-24%	-70%
Inferred	2.9	3.2	293	2.4	3.9	301	21%	-20%	-3%
TOTAL	2.9	3.2	298	2.5	3.9	317	17%	-20%	-6%
Table 6	Wi	thnell Tre	nd - Minera	al Resou	rce statem	ent compa	rison (>0	).5 g/t Au)	)
	No	ovember 20	024		June 2021			Change	
Category	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz
Measured	0.0	2.8	3	0.4	2.6	31	-92%	8%	-91%
Indicated	0.8	2.7	66	0.7	2.1	48	8%	29%	39%
Inferred	0.6	1.9	39	0.6	1.8	37	-1%	6%	5%
TOTAL	1.4	2.3	109	1.7	2.1	116	-16%	12%	-6%
Table 7	Calver	t - Mineral	l Resource	stateme	nt compar	ison above	e -40mRL	(>0.5 g/t	Au)
Category	N	ovember 2	024		June 2021	l e		Change	
Category	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz
Measured									
Indicated	1.2	1.4	52	1.0	1.3	42	17%	6%	24%
Inferred	1.2	1.0	39	0.3	1.2	11	310%	-12%	261%

Table 7 Calvert - Mineral Resource statement comparison above -40mRL (>0.5 g/t Au)

Catamami	No	ovember 2024			June 2021			Change		
Category	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	Mt	Au g/t	Au koz	
Measured										
Indicated	1.2	1.4	52	1.0	1.3	42	17%	6%	24%	
Inferred	1.2	1.0	39	0.3	1.2	11	310%	-12%	261%	
TOTAL	2.3	1.2	90	1.3	1.3	52	82%	-5%	72%	



The Measured and Indicated resources for Withnell, Withnell Trend, and Calvert have changed as a result of updating mineralisation interpretations to reflect updated litho-structural models, updated regolith models, and additional drilling.

The increase in Inferred resources at Withnell is from the addition of the Withnell South mineralisation that was drilled to 50mE x 40mN spacing between 2022 and 2023. The increase in Inferred resources at Calvert is from the inclusion of drilling from 2021 which targeted strike and depth extensions to mineralisation.



# Appendix 5: Withnell, Withnell Trend, and Calvert JORC Code, 2012 Edition - Table 1

# Section 1: Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3kg was pulverised to produce a 30g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>Since 2017 all drilling at the project has beed carried out by De Grey Mining Ltd ("DEG").</li> <li>All drilling and sampling was undertaken in an industry standard manner.</li> <li>Core samples were collected with a diamond rig drilling mainly NQ2 diameter core.</li> <li>After logging and photographing, NQ2 drill core was cut in half, with half sent to the laboratory for assay and the other half retained. HQ and PQ core was quartered, with one quarter sent for assay. Mineralised intervals were sampled to geological boundaries on a nominal 1m basis.</li> <li>Sample weights ranged from 2-4kg.</li> <li>RC holes were sampled on a 1m basis with samples collected from a cone splitter mounted on the drill rig cyclone. Samples typically ranged in weight from 2.5kg to 3.5kg.</li> <li>Aircore samples were collected by spear from 1m sample piles and composited over 4m intervals. Samples for selected holes were collected on a 1m basis by spear from 1m sample piles. Sample weights ranges from around 1kg to 3kg.</li> <li>Commercially prepared certified reference material ("CRM") and course blank was inserted at a minimum rate of 2%</li> <li>Field duplicates were selected on a routine basis to verify the representivity of the sampling methods.</li> <li>Sample preparation is completed at an independent laboratory where samples are</li> </ul>



Criteria	JORC Code explanation	Commentary
		<ul> <li>dried, split, crushed and pulverised prior to analysis as described below.</li> <li>Sample sizes are considered appropriate for the material sampled.</li> <li>The samples are considered representative and appropriate for this type of drilling.</li> <li>Diamond core and RC samples are appropriate for use in the Mineral Resource estimate.</li> </ul>
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	<ul> <li>Diamond core diameters are - NQ2 (51mm), HQ2 (61mm), PQ (85mm).</li> <li>Reverse Circulation (RC) holes were drilled with a 5 1/2-inch bit and face sampling hammer.</li> <li>Aircore holes were drilled with an 83mm diameter blade bit.</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul> <li>Core recovery is measured for each drilling run by the driller and then checked by the company geological team during the mark up and logging process.</li> <li>RC and aircore samples were visually assessed for recovery. For routine RC holes, duplicate samples were collected from the beta port every interval and weighed to assess sample representativity and recovery. Samples are considered representative with generally good recovery.</li> <li>Deeper RC and aircore holes encountered water, with some intervals having less than optimal recovery and possible contamination.</li> <li>No sample bias was observed.</li> </ul>
Logging	Whether core and chip samples     have been geologically and     geotechnically logged to a level of     detail to support appropriate	All drill holes have been geologically logged and core was photographed by company geologists, with systematic sampling undertaken based on rock type and alteration observed.



Criteria	JORC Code explanation	Commentary
	<ul> <li>Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>RC and diamond sample results are appropriate for use in resource estimation.</li> <li>The aircore results provide a good indication of mineralisation but are not used in resource estimation.</li> <li>Historical drill logs have been preserved in digital copies. Detailed drill logs have been produced by qualified geologists to an appropriate level for use in a Mineral</li> </ul>
Sub- sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Resource estimation</li> <li>NQ2 drill core was cut in half, with one half sent to the laboratory for assay and the other half retained. HQ and PQ core was quartered, with one quarter sent for assay. Holes were sampled over mineralised intervals to geological boundaries on a nominal 1m basis.</li> <li>RC sampling was carried out by a cone splitter on the rig cyclone and drill cuttings were sampled on a 1m basis in bedrock and 4m composite basis in cover. For recent routine RC holes, duplicate samples were collected from the beta port every interval and weighed to assess sample representativity.</li> <li>Aircore samples were collected by spear from 1m sample piles and composited over 4m intervals. Samples for selected holes were collected on a 1m basis by spear from 1m sample piles.</li> <li>Each sample was dried, split, crushed and pulverised to 85% passing 75µm.</li> <li>Sample sizes are considered appropriate for the material sampled.</li> <li>The samples are considered representative and appropriate for this type of drilling.</li> <li>Core and RC samples are appropriate for use in a Mineral Resource estimate.</li> </ul>



	Criteria	JORC Code explanation	Commentary
	2		Aircore samples are generally of good quality and appropriate for delineation of geochemical trends but were not used in the Mineral Resource estimate.
SONAI USE ON	Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	<ul> <li>The samples were submitted to a commercial independent laboratory in Perth, Australia.</li> <li>For diamond core and RC samples, Au was analysed by a 50g charge Fire assay fusion technique with an AAS finish.</li> <li>Aircore samples were analysed for Au using 25g aqua regia extraction with ICPMS finish.</li> <li>All aircore samples and at least every fifth RC and DD sample were analysed with ALS procedure MS61 which comprises a four-acid digest and reports a 48-element analysis by ICPAES and ICPMS.</li> <li>The techniques are considered quantitative in nature.</li> <li>A comprehensive QAQC protocol including the use of CRMs, field duplicates and umpire assays at a second commercial laboratory has confirmed the reliability of the assay method.</li> </ul>
	Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	A number of significant intersections were visually field verified by the Competent Person.
		<ul> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Sample results have been merged into the database by the company's database consultants.</li> <li>Results have been uploaded into the company database, checked and verified.</li> <li>No adjustments were made to the assay data.</li> <li>Results are reported on a length weighted basis.</li> </ul>
	Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine</li> </ul>	Historical drill hole collars were surveyed in AMG coordinates using RTK GPS.



Criteria	JORC Code explanation	Commentary
	workings and other locations used in Mineral Resource estimation.	Down hole surveys were recorded at 50m intervals using a single shot Eastman camera.
D	<ul> <li>Specification of the grid system used.</li> <li>Quality and adequacy of</li> </ul>	<ul> <li>Holes were originally located using AMG datum and have since been transformed to GDA94 grid.</li> </ul>
	topographic control.	<ul> <li>Historic mining volumes are approximately digitised from DMP annual reports.</li> </ul>
		<ul> <li>DEG Diamond and RC drill hole collar locations are located by DGPS to an accuracy of +/-10cm.</li> </ul>
		<ul> <li>Aircore hole collar locations are located by DGPS or by handheld GPS to an accuracy of 3m.</li> </ul>
		<ul> <li>Locations are recorded in GDA94 zone 50 projection.</li> </ul>
		<ul> <li>Diagrams and location tables have been provided in numerous releases to ASX.</li> </ul>
		<ul> <li>Topographic control is by detailed airphoto and Differential GPS data.</li> </ul>
		<ul> <li>Down hole surveys were conducted for all RC and DD holes using a north seeking gyro tool with measurements at 10m down hole intervals.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish</li> </ul>	<ul> <li>RC drilling has typically been completed at 25m to 50m spacings for Withnell, Withnell Trend, and Calvert. Beyond this drilling is completed at 50-40m by 50-100m spacings.</li> </ul>
	the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and	<ul> <li>Much of the Withnell and Withnell Trend Mineral Resource has been drilled with grade control holes at spacings from 6.25m to 12.5m.</li> </ul>
	<ul> <li>classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	The extensive drilling programs have demonstrated that the mineralised domains have sufficient continuity in both geology and grade to be considered appropriate for the Mineral Resource and Ore Reserve estimation procedures and classification applied under the 2012 JORC Code.



Criteria	JORC Code explanation	Commentary
D		Samples have been composited to 1m lengths in mineralised lodes using best fit techniques prior to estimation.
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul> <li>The drilling is approximately perpendicular to the strike of mineralisation. The holes are generally angled at -55° to -60° which provides good intersection angles into the mineralisation which ranges from sub vertical to -45° dip.</li> <li>The sampling is considered representative of the mineralised zones.</li> <li>Where drilling is not orthogonal to the dip of mineralised structures, true widths are less than down hole widths.</li> </ul>
Sample security	The measures taken to ensure sample security.	Samples were collected by company personnel and delivered direct to the laboratory via a transport contractor.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	QAQC data has been both internally and externally reviewed.



# **Section 2: Reporting of Exploration Results**

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.</li> </ul>	<ul> <li>The drilling is on M47/473, M47/474, M47/475, M47/476, and M47/480 which is located approximately 80km south of Port Hedland. The tenements are held by Indee Gold Pty Ltd, which is a 100% owned subsidiary of De Grey Mining Ltd.</li> <li>The tenements are in good standing as at the time of this report.</li> <li>There are no known impediments to operating in the area.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Extensive drilling of the various Indee orebodies leading to the definition of Ore Reserves and the development of a mining and processing operation was carried out mainly by Range River between 2003 and 2008.
Geology	Deposit type, geological setting and style of mineralisation.	The Withnell area is hosted by a sequence of deformed Mallina Formation siliciclastic rocks. The rock sequence in the Withnell area has undergone a complex deformation history commencing in extension during basin development, basin inversion during a compression event that resulted in SW-NE striking folding and brittle-ductile shear zone development.
		Structural relationships indicate that gold-bearing veins, and alteration, were emplaced in the early stages of basin inversion, and subsequently deformed during the later stages of deformation and dismembered along NNE-trending dextral shearing along the Mallina Shear Zone. Proximal alteration is typically quartz-carbonate veins, silicification, quartz-sulfide lodes, disseminated sulfides with weak, pervasive sericite-ankerite alteration. Mineralised zones are typically



Criteria	JORC Code explanation	Commentary
		sub-vertical, dipping steeply to the north or south, however folding and deformation of the sequence has resulted in some complexity to the interpreted geometry.  High-grade zones plunge in the range of 35-45° to the west or east while the thickness of individual lodes is influenced by host rock composition
		Sulphide abundance in the Withnell mineralisation typically ranges from 0.3% to 0.7% total rock mass but within the vein, sulphides can make up to 20% of the interval. The ore mineralogy is consistent in type and consists of pyrite, arsenian-pyrite, trace chalcopyrite, and native gold.
		The Calvert deposit is hosted and dominated by a sequence of deformed Archaean siliciclastic rocks.
		<ul> <li>At Calvert, mineralised zones strike north- south and typically occurs as shallow dipping structures that dip to the west. Mineralisation typically comprises disseminated sulphides of pyrite and arsenopyrite and weak, pervasive chlorite-sericite-ankerite alteration.</li> </ul>
Drill hole Information	A summary of all information material to the under-standing of the exploration results including a tabulation of the following information for all Material drill holes:	All exploration results have previously been communicated
	<ul> <li>easting and northing of the drill hole collar</li> </ul>	
	elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar	
	dip and azimuth of the hole	
	<ul> <li>down hole length and interception depth</li> </ul>	
	• hole length	



Criteria	JORC Code explanation	Commentary
	• If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	Not applicable as a Mineral Resource is being reported.
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	<ul> <li>The drill holes are interpreted to be approximately perpendicular to the strike of mineralisation.</li> <li>Where drilling is not perpendicular to the dip of mineralisation the true widths are less than down hole widths.</li> </ul>
Diagrams	Appropriate maps and sections     (with scales) and tabulations of     intercepts should be included for	Relevant diagrams have been included in numerous ASX releases.



Criteria	JORC Code explanation	Commentary
D	any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	
Balanced reporting	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul> <li>All drilling used in the Mineral Resource estimate has been accurately located using DGPS for collar locations and gyroscopic downhole directional surveys.</li> <li>Exploration results are not being reported.</li> </ul>
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples - size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Metallurgical, groundwater, and geotechnical studies to scoping study level have been completed as part of the Regional Scoping Study.
Further work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large- scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Further infill drilling will be conducted as part of future mining studies.</li> <li>Refer to diagrams in the body of this and previous ASX releases.</li> </ul>



# **Section 3: Estimation and Reporting of Mineral Resources**

Criteria	JORC Code explanation	Commentary
Database integrity	<ul> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul> <li>Historic drilling data as well as recent data collected by DEG since 2017 have been used to inform the Mineral Resource estimate.</li> <li>Data collected since 2017 has been systematically recorded and stored using industry best practice for data management.</li> <li>The database is hosted and managed by Expedio, using their customised SQL data storage system.</li> <li>Data was geologically logged electronically using the Expedio Ocris Mobile Logger; collar and downhole surveys were also received electronically as were the laboratory analysis results.</li> <li>The SQL server database is configured for optimal validation through constraints, library tables, triggers and stored procedures. Data that fails these rules on import is rejected or quarantined until it is corrected. Some of the automatic triggers on assay import are listed below.</li> <li>CRM results &gt; +/- 3 standard deviations</li> <li>CRM weight &gt; 200g</li> <li>Blank results &gt; 10 x detection limit</li> <li>Blank weight &lt; 400g</li> <li>Grind size &lt; 85% passing 75µm</li> <li>Data extracted from the database were validated visually in Datamine and Seequent Leapfrog software. Also, when loading the data, any errors such as missing values and sample/logging overlaps are highlighted.</li> <li>Historical data was validated where possible by recent DEG drilling.</li> <li>In summary the database is of high quality, with no significant errors due to data corruption or transcription.</li> </ul>
Site visits	<ul> <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>	<ul> <li>The Competent Person has visited site numerous times and personally inspected active diamond core drilling, geological logging at the core logging facility, mapped geology and shear zones within existing open pits. Core recovery and logging was of a very high standard.</li> </ul>



Criteria	JORC Code explanation	Commentary
Geological interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul> <li>The confidence in the underlying geological interpretation is considered to be high and is based on extensive RC and core drilling.</li> <li>At Withnell and Withnell Trend, Mineralised zones are typically sub-vertical, dipping steeply to the north or south, however folding and deformation of the sequence has resulted in some complexity to the interpreted geometry. High-grade zones plunge in the range of 35-45° to the west or east while the thickness of individual lodes is influenced by host rock composition.</li> <li>At Calvert, mineralised zones strike north-south and typically occurs as shallow dipping structures that dip to the west. Mineralisation typically comprises disseminated sulphides of pyrite and arsenopyrite and weak, pervasive chlorite-sericite-ankerite alteration.</li> <li>Interpreted shear zones and faults form the basis for guiding mineralisation modelling.</li> <li>Geochemistry and geological logging have been used to assist with identification of lithology, mineralisation and weathering.</li> <li>Infill drilling has confirmed geological and grade continuity in most areas of the deposits.</li> <li>The estimation domains were constrained by wireframes constructed in Leapfrog software using an approximate 0.3ppm Au cut-off grade, with the domain orientation consistent with the geological interpretation.</li> </ul>
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	<ul> <li>Gold mineralisation and discontinuous anomalism at Withnell and Withnell Trend (Camel, Roe, and Dromedary) deposits extends &gt;7.5 km in length and is locally 500 m wide. Withnell mineralisation has been defined to a depth of 400m and Withnell Trend has been defined to a depth of 140m.</li> <li>The Calvert deposit extends over 700m in length and has been defined to a depth of 220m</li> </ul>



Criteria	JORC Code explanation	Commentary
Estimation and modell techniques	<ul> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of byproducts.</li> <li>Estimation of deleterious elements or other nongrade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> </ul>	<ul> <li>Estimation of the mineral resources was by Ordinary Kriging (OK) using Datamine software.</li> <li>Drill hole data was selected within mineralised domains for each deposit area and composited to 1m downhole intervals in Datamine software.</li> <li>The composited data was imported into Supervisor software for statistical and geostatistical analysis.</li> <li>Top-caps were applied based on examination of histograms and Au grade distribution analysis. The caps per deposit area ranged from 20 to 30 g/t Au.</li> <li>Variography was performed on capped data transformed to normal scores, and the variogram models were back-transformed to original units. Variography was performed separately for each deposit area.</li> <li>The major direction of continuity is sub-parallel to the strike for each estimation domain, with a plunge towards the southwest at Withnell (ranges of 70 to 120 m), southeast plunge at Withnell Trend deposits (ranges of 45 to 90 m), and southwest plunge at Calvert (ranges 70 to 90m). The variogram models had low to moderate nugget effects (25 to 35% of the total sill).</li> <li>For Withnell and Withnell Trend, two parent block dimensions of 6.25mE x 5mN x 5mRL (sub-cell 1.25mE x 0.625mN x 1.25mRL) were constructed. The parent block size dimensions were selected at half the nominal drill hole spacing representing areas of different drill density across the deposit.</li> <li>For Calvert, two parent block dimensions of 12.5mE x 25mN x 5mRL (sub-cell 1.25mE x 1.25mN x 5mRL) were constructed. The parent block size dimensions were selected at half the nominal drill hole spacing representing areas of</li> </ul>
	<ul> <li>Any assumptions behind modelling of selective mining units.</li> </ul>	<ul> <li>different drill density across the deposit.</li> <li>A minimum of 8 and maximum of 20 (2m composite) samples per panel estimate was used,</li> </ul>



Criteria	JORC Code explanation	Commentary
D	<ul> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> </ul>	<ul> <li>with a search ellipse radius variogram ranges (70-120m x 40-90m x 6-20m).</li> <li>Up to two search passes were used for each estimation domain, with the second pass twice the size of the first pass. The second search was required for &lt;10% of blocks located on the edges or at depth.</li> </ul>
	<ul> <li>Discussion of basis for using or not using grade cutting or capping.</li> </ul>	A locally varying ellipsoid orientation was used to account for the subtle changes in estimation domain orientation along strike and down dip.
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Estimates of Au grades were validated against the composited drill hole data by extensive visual checking in cross-section, plan and on screen in 3D, by global (per shoot) comparisons of input data and model, and by semi-local statistical methods (swath plots). All methods showed satisfactory results.
		No recovery of by-products is anticipated.
		No estimation of deleterious elements was carried out. Only Au was interpolated into the block models.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages and grades were estimated on a dry in situ basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	The Withnell Mineral Resource has been reported at a 0.5 g/t Au cut-off for mineralisation within the A\$3,000 pit shell and 2.0 g/t Au cut-off for mineralisation below the A\$3,000 pit shell.
		The satellite Withnell Trend deposits are reported at 0.5g/t cut-off and Calvert is reported at a 0.5g/t cut-off and above -40mRL.
		The reporting cut-off parameters were selected based on economic evaluation of the Regional Scoping Study.



Criteria	JORC Code explanation	Commentary
Mining factors or assumptions	• Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	<ul> <li>The majority of the Withnell, Withnell Trend, and Calvert deposits would be mined by open pit extraction. The Withnell and Camel deposits have previously been mined as open cut operations. Recent pit optimisation work was undertaken for Withnell using an A\$2,500/oz gold price, with mining costs averaging \$10.75 per BCM for ore and \$11.11 per BCM for waste and processing costs of \$34.97 per tonne.</li> <li>The A\$3,000 pit shell was selected for reporting Withnell open cut and underground resources.</li> <li>Higher grade zones below the A\$3,000 pit shell at Withnell show potential for underground mining. The cut-off grade for the underground resource (2.0 g/t Au) was derived from a simple economic model, assuming the same Au price and processing costs as for the open cut, with an assumed stoping cost of \$50 per tonne.</li> </ul>
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of	Metallurgical test work has been completed to a minimum Scoping study level across all the Regional deposits as part of the Hemi Regional Scoping Study ASX announcement (July 2024). The process flowsheet combining the conventional processing technologies of crushing, milling, sulphide flotation, concentrate pressure oxidation, and cyanide leaching has proven successful in achieving high recoveries.



Criteria	JORC Code explanation	Commentary
	the metallurgical assumptions made.	
Environmental factors or assumptions	• Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	<ul> <li>There are no known environmental issues, with a number of operational and closed open cut mines (copper, lithium, iron ore) within 50 km of Withnell, in similar physical geographical settings.</li> <li>DEG will work to mitigate environmental impacts as a result of any future mining or mineral processing.</li> </ul>
Bulk density	<ul> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.),</li> </ul>	<ul> <li>Bulk density values applied to the Mineral Resource were based on a substantial number of density determinations on drill core primarily from Withnell.</li> <li>The bulk density values were assigned based on oxidation/weathering as follows:         <ul> <li>Upper Saprock 2.06 t/m³</li> <li>Lower Saprock 2.39 t/m³</li> <li>Fresh with weathering along joints 2.61 to 2.78 t/m³</li> <li>Fresh 2.84 t/m³.</li> </ul> </li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul> <li>moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	
Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul> <li>The Mineral Resource estimate is reported in compliance with the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' by the Joint Ore Reserves Committee (JORC).</li> <li>The Withnell, Withnell Trend, and Calvert Mineral Resource was classified as Measured, Indicated and Inferred Mineral Resource based on data quality, sample spacing, geological and grade continuity and kriging metrics of the panel estimates.</li> <li>The Measured Mineral Resource is the material within the mineralised domains having a drill spacing of 10mN x 12.5mE and where the kriging slope of regression for the estimates is greater than about 0.8.</li> <li>The Indicated Mineral Resource is the material within the mineralised domains having a drill spacing of 10mN x 25mE and where the kriging slope of regression for the estimates is greater than about 0.7.</li> <li>The Inferred Mineral Resource is material within the mineralised domains, with a drill hole spacing of 40mN by 50mE up to 50m by 100m and with slopes of regression for the estimates less than 0.7.</li> <li>Extrapolation of the mineralisation was generally limited to 60m along strike and down dip of drill hole intersections.</li> <li>The input data is on a regular drilling grid and has not been concentrated on higher -grade zones. The definition of mineralised zones is based on high level geological understanding producing a robust model of mineralised domains.</li> </ul>



Criteria	JORC Code explanation	Commentary
D		The classification of the Mineral Resource Estimate appropriately reflects the view of the Competent Person.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	Cube Consulting have completed an external peer review of the Withnell estimate.
Discussion of relative accuracy/ confidence	<ul> <li>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource 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 resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</li> <li>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.</li> <li>These statements of relative accuracy and confidence of</li> </ul>	<ul> <li>The deposit geometry and continuity has been adequately interpreted to reflect the classification applied to the Mineral Resource.</li> <li>The data quality is excellent, and the drill holes have detailed logs produced by qualified geologists. An independent commercial laboratory has been used for all analyses.</li> <li>The Mineral Resource statement relates to global estimates of tonnes and grade.</li> </ul>
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Criteria	JORC Code explanation	Commentary
	compared with production data, where available.	