

ASX ANNOUNCEMENT

10 May 2021

High gold recoveries achieved at Aquila

Highlights

- Overall metallurgical recovery of 94.0% was achieved on a bulk composite of primary mineralisation at Aquila.
 - The head grade of the composite was 1.67g/t Au and the overall tail grade achieved was 0.10g/t Au.
- The flowsheet for the primary mineralisation bulk composite comprised sulphide flotation followed by oxidation of the flotation concentrate through pressure oxidation and then cyanide leaching of the pressure oxidation residue. Flotation tailings were treated by cyanide leaching.
- Individual composites of transition and primary mineralisation at Aquila achieved overall recoveries of between 89.8% and 97.2% via the same process used for the primary mineralisation bulk composite.
- A composite of oxide mineralisation at Aquila achieved a recovery of 94.9% after 24 hours through cyanide leaching.
 - The head grade of the oxide composite was 1.08g/t Au and the tail grade was 0.06g/t Au.
- Separate gravity testwork was conducted on the oxide mineralisation composite from Aquila and achieved a gravity recovery of 18.5%.

De Grey Managing Director, Glenn Jardine, commented:

"The new metallurgical testwork results on oxide, transition and primary mineralisation from the Aquila zone at Hemi are encouraging. These results from Aquila are consistent with the positive results previously achieved from the Brolga zone at Hemi. Our ongoing metallurgical testwork program continues to provide confidence in the multiple pathways available to achieve high gold recoveries from Hemi and the regional deposits across the Mallina gold project."

"Each of the three potential oxidation processes has delivered high gold recoveries for the Brolga and Aquila zones. Each of the oxidation processes will be carried forward into future testwork. Further testwork and trade off studies underway will enable the Company to optimise the various aspects of our metallurgical testwork program in terms of capital, operating costs, recoveries and operability."

De Grey Mining Limited (ASX: DEG, “De Grey”, “Company”) is pleased to report metallurgical testwork results from its Aquila zone at Hemi, located approximately 60km south of Port Hedland in Western Australia. Testwork at Aquila was conducted on twelve (12) individual composites representing oxide, transition and primary mineralisation and one (1) bulk composite comprising primary mineralisation (Figure 1).

The samples were sourced from the top 200vm of the Aquila zone early in the drilling program. Additional samples of oxide, transition and primary mineralisation will be collected from the Aquila zone for further testwork as necessary and as studies progress.

The Company is utilising multi-element analysis to determine mineralogical variability and the requirements to conduct metallurgical testwork based on this mineralogical variability. Multi-element analysis indicates that the primary mineralisation tested at Aquila to date is similar to primary mineralisation at depth.

In addition, cyanide leach testwork is being conducted on samples taken every five metres downhole for every hole drilled at Hemi. This testwork along with multi-element analysis will assist in the modelling of oxide, transition and primary mineral domains for the maiden mineral resource estimate (MRE) for Hemi proposed to be announced mid-2021.

Results have previously been announced for testwork conducted on oxide, transition and primary mineralisation from the Brolga zone.

The Company is undertaking a comprehensive metallurgical testwork program across each of the mineralised zones at Hemi (Aquila, Brolga, Crow, Diucon, Eagle and Falcon) as well as the regional deposits of Mallina and Withnell. The other main regional deposits of Toweranna and Wingina are free milling and will be able to be treated through a conventional CIL circuit.

A full suite of metallurgical testwork has commenced on composite samples from Crow and Falcon. The same program will be conducted for the Diucon and Eagle zones when core for testwork becomes available from diamond drilling at those zones.

Primary mineralisation bulk composite

A bulk composite of primary mineralisation at Aquila was obtained by combining individual composites, 2, 5 thru 9 and 11 as shown in Table 1 and Figure 1.

Primary mineralisation comprises gold associated with sulphide particles of arsenopyrite and pyrite and minor free gold. The bulk composite was tested through the process flowsheet shown in Figure 2 excluding the gravity recovery step. The overall gold recovery achieved was 94.0%.

After crushing and grinding, the composite was subject to sulphide flotation. A sulphide concentrate containing 89.9% of the gold in the bulk composite was floated. The flotation concentrate was then subject to oxidation by pressure oxidation (POX). The residue generated by POX was then treated by cyanide leaching. Gold recovery of the flotation concentrate through POX and cyanide leaching of the POX residue was 97.5%. In addition, the flotation tailing was treated by cyanide leaching. The flotation tailing contained 10.1% of the gold in the bulk composite. Gold recovery of the flotation tailing through cyanide leaching was 62.8%. Adding these two process streams together resulted in the overall recovery of 94.0% for the primary mineralisation bulk composite.

The Brolga zone primary mineralisation bulk composite tested separately through POX, Albion and biological oxidation achieved overall recoveries respectively of 93.5%, 95.3% and 91.7% (*previously announced 16 February 2021*). Results are pending for testwork currently being conducted on the flotation concentrate from the Aquila bulk composite for bacterial oxidation and Albion oxidation processes. These results are expected in the current quarter.

Transition and primary mineralisation individual composites

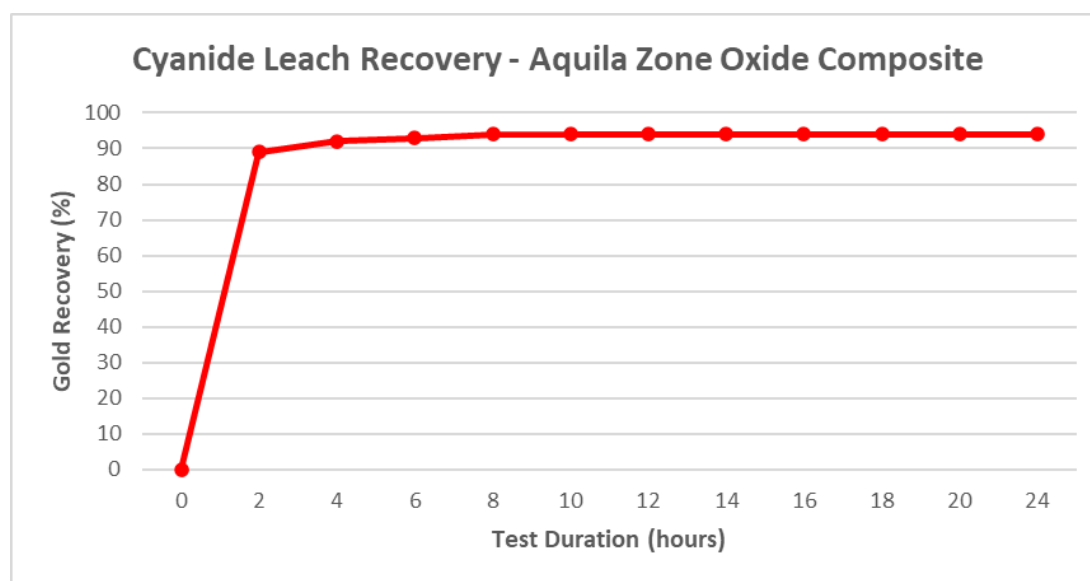
Eleven (11) individual composites of transition and primary mineralisation were tested using the same flowsheet as used for the primary mineralisation bulk composite. Overall recovery from the individual composites varied between 89.8% and 97.2%. The head grades of the composites varied from 0.6g/t Au to 3.6g/t Au. Results are summarised in Table 2. The locations from which the individual composites were taken are shown in Figure 1.

Composites demonstrating higher gold recovery into the flotation concentrate have greater primary mineralisation present. Conversely, composites demonstrating lower recovery into the flotation concentrate have more oxide mineralisation present. It is encouraging to see that transition and primary composites demonstrate high recoveries.

The Brolga zone transition mineralisation composite tested through POX achieved an overall recovery of 92.5% (*previously announced 16 February 2021*).

Oxide mineralisation – cyanide leaching

A composite (composite 1) of oxide mineralisation from Aquila was tested through cyanide leaching. The sample head grade was 1.08g/t Au and achieved an overall recovery of 94.9% after 24 hours. This is the typical duration of a cyanide leach test and represents the typical design criteria for gold plants. The testwork showed rapid leach kinetics with 90% recovery achieved after 2 hours as shown in the graph below.



The Brolga zone oxide mineralisation composites tested through CIL achieved average overall recovery of 93.0% (*previously announced 9 July 2020*).

Oxide mineralisation – gravity recovery

A separate gravity recovery test was undertaken on the oxide sample. The gravity gold recovery, using a Knelson concentrator, was 18.5%. The gravity process recovers free gold.

A gravity recovery circuit can be placed at the start of the process flowsheet (Figure 2) after crushing and grinding and ahead of flotation. Gravity recovery represents one step in the overall process flowsheet. The benefit of gravity recovery is that the gold recovered requires no further physical or chemical processing ahead of refining on site.

Three Brolga zone primary mineralisation composites were tested for gravity recovery and achieved gravity recoveries of 12.4%, 27.3% and 12.1% (*previously announced 16 February 2021*).

Table 1 Aquila - Overall recovery of primary mineralisation bulk composite

	Composite Sample Grade (g/t Au)	Gold Recovered into Sulphide Concentrate (%)	POX Recovery of Sulphide Concentrate (%)	Flotation x POX Recovery (%)	Gold Recovered into Flotation Tailing (%)	CIL Recovery of Flotation Tail (%)	Flotation Tail x CIL Recovery (%)	Overall Recovery (%)
		a	b	c = a x b	d	e	f = d x e	c+f
Bulk Composite - primary	1.67	89.9	97.5	87.7	10.1	62.8	6.3	94.0

Table 2 Aquila - Overall recovery of individual transition and primary mineralisation composites

	Composite Sample Grade (g/t Au)	Gold Recovered into Sulphide Concentrate (%)	POX Recovery of Sulphide Concentrate (%)	Flotation x POX Recovery (%)	Gold Recovered into Flotation Tailing (%)	CIL Recovery of Flotation Tail (%)	Flotation Tail x CIL Recovery (%)	Overall Recovery (%)
Composite #		a	b	c = a x b	d	e	f = d x e	c+f
2 – primary	0.7	83.6	97.5	81.5	16.4	73.6	12.1	93.6
3 – transition	0.8	56.3	97.5	54.9	43.7	81.7	35.7	90.6
4 – transition	2.0	75.2	97.5	73.3	24.8	66.3	16.4	89.8
5 – primary	0.9	85.8	97.5	83.7	14.2	69.6	9.9	93.5
6 – primary	0.6	86.7	97.5	84.5	13.3	73.3	9.7	94.3
7 – primary	2.9	85.8	97.5	83.7	14.2	60.3	8.6	92.2
8 – primary	3.6	92.0	97.5	89.7	8.0	52.5	4.2	93.9
9 – primary	1.1	98.9	97.5	96.4	1.1	73.8	0.8	97.2
10 – transition	1.0	73.6	97.5	71.8	26.4	78.1	20.6	92.4
11 – primary	1.2	91.1	97.5	88.8	8.9	42.4	3.8	92.6

Figure 1: Location of metallurgical testwork samples at Aquila

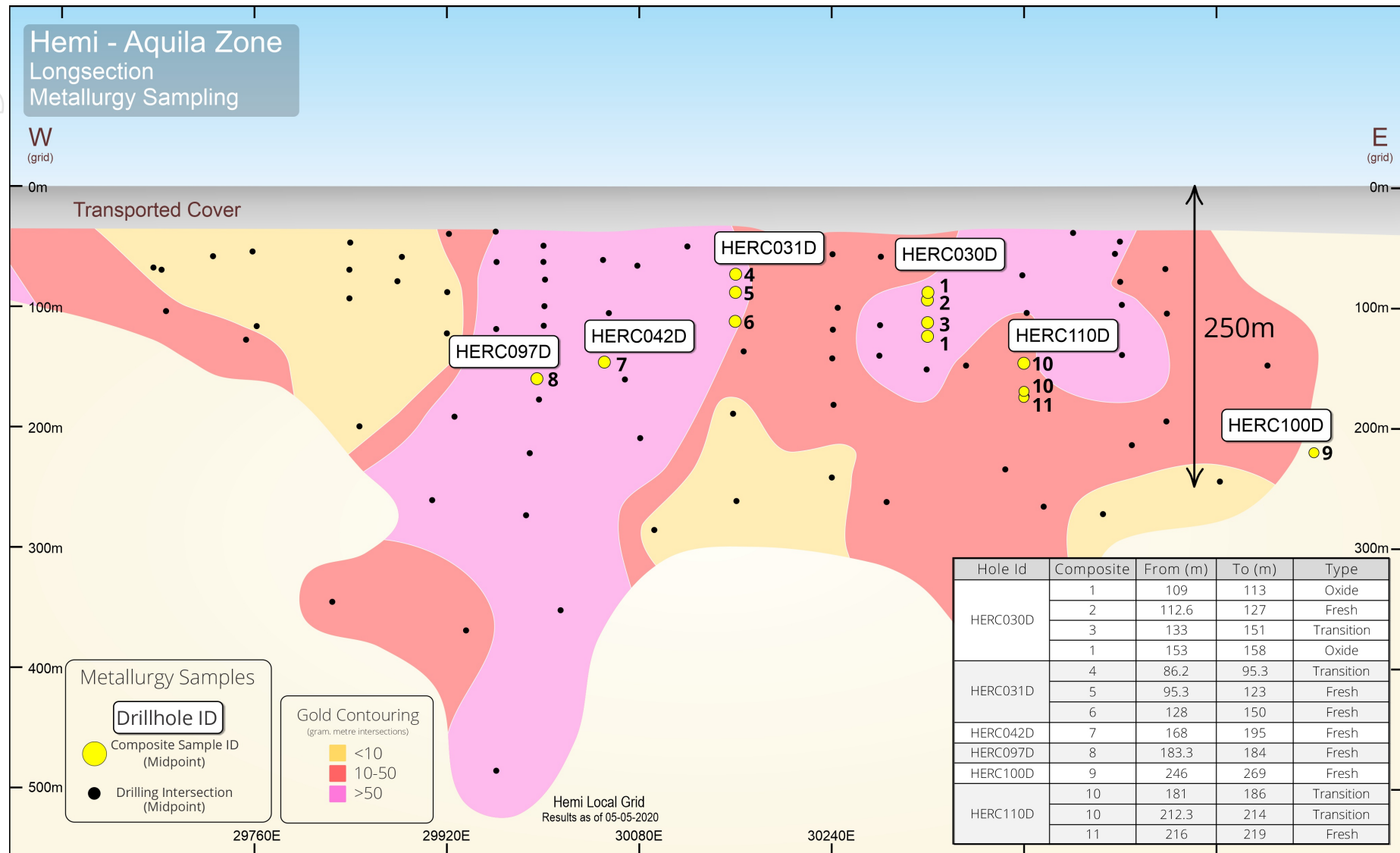
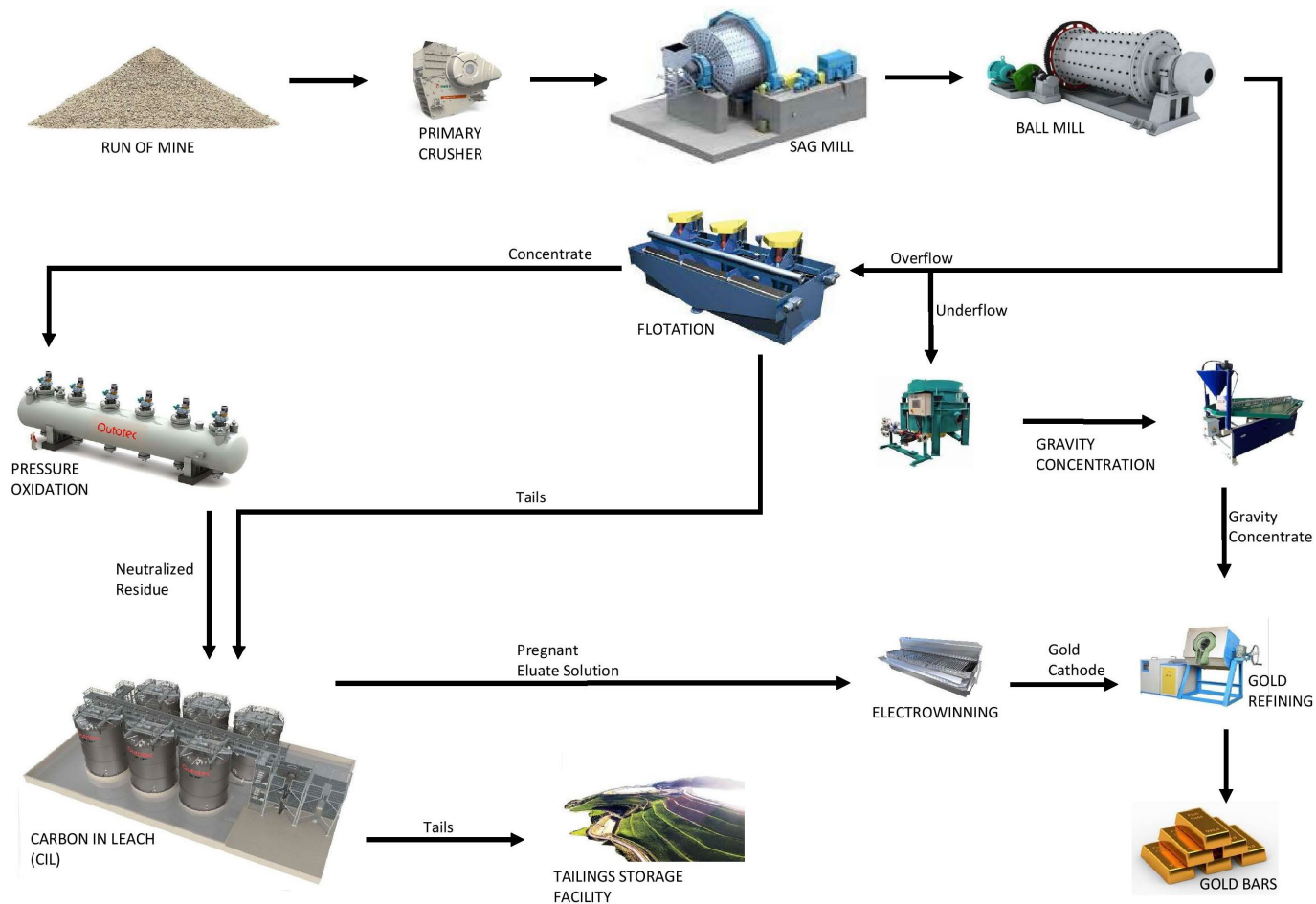


Figure 2: Simplified process flowsheet incorporating pressure oxidation (POX)



**This announcement has been authorised for release by the De Grey Board.
 For further information, please contact:**

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

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

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

Competent Person's Statement

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 Australasian Institute of Mining and Metallurgy. 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.

Previously released ASX Material References in the calendar year 2020/21 that relates to Hemi Prospect include:

- Consistent extensive gold endowment at Falcon, 13 January 2021
- Diucon and Eagle: Two new intrusion hosted gold discoveries at Hemi, 29 January 2021
- Further metallurgical testwork confirms high gold recoveries, 16 February 2021
- Major depth extensions and new footwall lodes emerge at Falcon, 23 February 2021
- Crow – Aquila gold system continue to expand, 4 March 2021
- Rapid growth at Diucon and Eagle, 9 March 2021
- Extensional results show Brolga plunge potential, 16 March 2021
- Depth and strike extensions at Falcon, 8 April 2021
- Impressive resource definition drilling at Brolga, 13 April 2021
- Strong extension to Diucon and Eagle, 15 April 2021
- Strong mineralisation intersected at Crow and Aquila, 27 April 2021
- Large mineralised system confirmed at Diucon and Eagle, 04 May 2021

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	<i>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.</i> <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i> <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i> <i>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 3 kg was pulverised to produce a 30 g 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.</i>	- All drilling and sampling was undertaken in an industry standard manner - Core samples were collected with a diamond rig drilling mainly NQ2 diameter core. - After logging and photographing, 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. - Sample weights ranged from 2-4kg - RC holes were sampled on a 1m basis with samples collected from a cone splitter mounted on the drill rig cyclone. 1m sample ranges from a typical 2.5-3.5kg - 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 1-3kg. - The independent laboratory pulverises the entire sample for analysis as described below. - Industry prepared independent standards are inserted approximately 1 in 20 samples. - The independent laboratory then takes the samples which are dried, split, crushed and pulverized prior to analysis as described below. - Sample sizes are considered appropriate for the material sampled. - The samples are considered representative and appropriate for this type of drilling. Diamond core and RC samples are appropriate for use in a resource estimate.
Drilling techniques	<i>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.).</i>	- Diamond core diameters are - NQ2 (51mm), HQ3 (61mm), PQ (85mm). - Reverse Circulation (RC) holes were drilled with a 5 1/2-inch bit and face sampling hammer. - Aircore holes were drilled with an 83mm diameter blade bit.

Criteria	JORC Code explanation	Commentary
Drill sample recovery	• Method of recording and assessing core and chip sample recoveries and results assessed. • Measures taken to maximise sample recovery and ensure representative nature of the samples. • 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.	• 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. • RC and aircore samples were visually assessed for recovery. • Samples are considered representative with generally good recovery. Deeper RC and aircore holes encountered water, with some intervals having less than optimal recovery and possible contamination. • No sample bias is observed.
Logging	• Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. • Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. • The total length and percentage of the relevant intersections logged.	• The entire hole has been geologically logged and core was photographed by Company geologists, with systematic sampling undertaken based on rock type and alteration observed • RC and diamond sample results are appropriate for use in a resource estimation, except where sample recovery is poor. • The aircore results provide a good indication of mineralisation but are not used in resource estimation.
Sub-sampling techniques and sample preparation	• If core, whether cut or sawn and whether quarter, half or all core taken. • If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry. • For all sample types, the nature, quality and appropriateness of the sample preparation technique. • Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. • 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. • Whether sample sizes are appropriate to the grain size of the material being sampled.	• Core samples were collected with a diamond drill rig drilling NQ2, HQ3 or PQ diameter core. After logging and photographing, 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. • 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. • 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. • Industry prepared independent standards are inserted approximately 1 in 20 samples. • Each sample was dried, split, crushed and pulverised. • Sample sizes are considered appropriate for the material sampled. • The samples are considered representative and appropriate for this type of drilling • Core and RC samples are appropriate for use in a resource estimate. • Aircore samples are generally of good quality and appropriate for delineation of geochemical trends but are not generally used in resource estimates.

Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	- The nature, quality and appropriateness of the assaying and laboratory procedures used and 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.	- The samples were submitted to a commercial independent laboratory in Perth, Australia. - For diamond core and RC samples Au was analysed by a 50g charge Fire assay fusion technique with an AAS finish and multi-elements by ICPAES and ICPMS - Aircore samples were analysed for Au using 25g aqua regia extraction with ICPMS finish and multi-elements by ICPAES and ICPMS using aqua regia digestion - The techniques are considered quantitative in nature. - As discussed previously certified reference standards were inserted by the Company and the laboratory also carries out internal standards in individual batches - The standards and duplicates were considered satisfactory
Verification of sampling and assaying	- The verification of significant intersections by either independent or alternative company personnel. - The use of twinned holes. - Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. - Discuss any adjustment to assay data.	- Sample results have been merged by the company's database consultants. - Results have been uploaded into the company database, checked and verified. - No adjustments have been made to the assay data. - Results are reported on a length weighted basis.
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. - Specification of the grid system used. - Quality and adequacy of topographic control.	- Diamond and RC drill hole collar locations are located by DGPS to an accuracy of +/- 10cm. - Aircore hole collar locations are located by DGPS to an accuracy of +/-10cm., or by handheld GPS to an accuracy of 3m. - Locations are given in GDA94 zone 50 projection - Diagrams and location table are provided in the report - Topographic control is by detailed airphoto and Differential GPS data.
Data spacing and distribution	- Data spacing for reporting of Exploration Results. - Whether the data spacing, and 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.	- Drill spacing varies from 80m x 40m to 320m x 80m. - All holes have been geologically logged and provide a strong basis for geological control and continuity of mineralisation. - It has not yet been determined if data spacing and distribution of RC and diamond drilling is sufficient to provide support for the results to be used in a resource estimate. - Sample compositing has not been applied except in reporting of drill intercepts, as described in this Table
Orientation of data in relation to	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	The drilling is believed to be approximately perpendicular to the strike of mineralisation where known and therefore the sampling is considered representative

Criteria	JORC Code explanation	Commentary
geological structure	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.	- of the mineralised zone. - In some cases, drilling is not at right angles to the dip of mineralised structures and as such true widths are less than downhole widths. This is allowed for when geological interpretations are completed.
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.	No audits have been completed. Review of QAQC data has been carried out by database consultants and company geologists.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	- 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. - 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.	- Drilling occurs on various tenements held by De Grey Mining Ltd or its 100% owned subsidiaries. - The Hemi Prospect is approximately 60km SSW of Port Hedland.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The tenements have had various levels of previous surface geochemical sampling and wide spaced aircore and RAB drilling by De Grey Mining. Limited previous RC drilling was carried out at the Scooby Prospect. Airborne aeromagnetics/radiometrics has been flown previously.
Geology	Deposit type, geological setting and style of mineralisation.	The mineralisation style is not well understood to date but is thought to be hydrothermally emplaced gold mineralisation within structures and intrusions. Host rocks comprise igneous rocks intruding Mallina Basin metasediments. Style is similar to some other Western Australian gold deposits.
Drill hole Information	- A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: - easting and northing of the drill hole collar - elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar - dip and azimuth of the hole - down hole length and interception depth - 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	Drill hole location and directional information provide in the report.

Criteria	JORC Code explanation	Commentary
	<i>of the report, the Competent Person should clearly explain why this is the case.</i>	
Data aggregation methods	<i>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.</i> <i>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.</i> <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i>	- Results are reported to a minimum cutoff grade of 0.5g/t gold with an internal dilution of 4m maximum. - Higher grade intervals included in the above intercepts are reported at a 3g/t Au lower cut with an internal dilution of 2m maximum. - Intercepts are length weighted averaged. - No maximum cuts have been made.
Relationship between mineralisation widths and intercept lengths	<i>These relationships are particularly important in the reporting of Exploration Results.</i> <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i> <i>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').</i>	- The drill holes are interpreted to be approximately perpendicular to the strike of mineralisation. - Drilling is not always perpendicular to the dip of mineralisation and true widths are less than downhole widths. Estimates of true widths will only be possible when all results are received, and final geological interpretations have been completed.
Diagrams	<i>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.</i>	Plans and sections are provided in the report.
Balanced reporting	<i>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.</i>	- All drill collar locations are shown in figures and all significant results are provided in this report. - The report is considered balanced and provided in context.
Other substantive exploration data	<i>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.</i>	- Drilling is currently widely spaced and further details will be reported in future releases when data is available. - Metallurgical test results are given in the body of the text. No other results are applicable for this report.
Further work	<i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i>	- Follow up aircore drilling will be undertaken to test for strike extensions to mineralisation. - Programs of follow up RC and diamond drilling aimed at extending resources at depth and laterally are underway. - Further metallurgical testwork is in progress on each of the identified Hemi zones.