16 January 2020 **ASX Release**

New gold mineralisation defined at Buckle

Buckle Prospect

- **Wide zone of gold mineralisation intersected in first drilling at the Buckle prospect with holes ending in mineralisation.**

  +20m @ 0.9g/t Au *from 70m in BKRC003 (hole ending in mineralisation)*
  incl ***5m @ 1.5g/t Au*** *from 74m and* ***1m @ 3.2g/t Au*** *from 89m (last sample of hole)*
  +3m @ 2.2g/t Au *from 37m in BKRB001 (hole ending in mineralisation)*

- **Gold mineralisation defined over approximately 1km strike length associated with southern limb of plunging fold.**
- **Mineralisation grade and thickness is increasing towards the plunging fold closure to the south west and remains open. Further drilling will be required to test the 400m towards the fold closure zone.**
- **At the larger scale, no drilling exists in the 10km zone between Buckle and the Amanda deposit**

Hemi and Antwerp Prospects

- **Follow-up aircore drilling to commence shortly at the Hemi Prospect with initial drilling aimed at defining the vertical and lateral orientations of encouraging new shallow high grade mineralisation.** (previously reported ASX release "New Gold Discoveries at Hemi and Antwerp", 17 Dec 2019)

  Hemi Prospect
  43m @ 3.7g/t Au from 36m in BWAC245, including 12m @ 9.0g/t
  25m @ 2.7g/t from 32m in BWAC258, including 8m @ 4.5g/t
  Antwerp Prospect
  6m @ 10.7g/t from 4m in BWAC185
  4m @ 21.7g/t from 32m in BWAC211

- **RC drilling is planned to commence during February to determine the resource potential of this important new gold discovery.**

Mallina

- **RC and diamond drilling results from the December resource extension program are on track to be finalise during January**

Andy Beckwith, Technical Director commented;

"The new Buckle gold mineralisation provides another new resource drilling target on top of the newly defined Hemi and Antwerp discoveries.

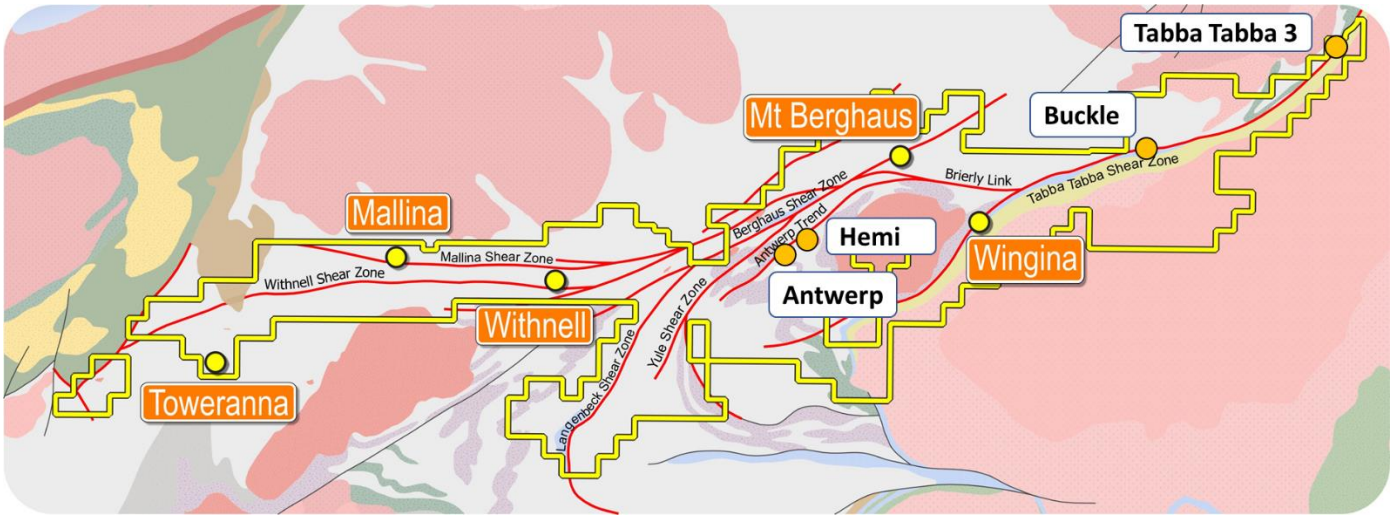
Buckle mineralisation is hosted along the southern limb of a folded sediments and mineralisation appears to be increasing in width and grade as we move closer to the plunging fold closure. Further drilling is required to test the fold closure and a further 10km of untested ground between the Buckle Prospect and the Amanda Deposit."

De Grey Mining Limited (ASX: DEG, "De Grey", "Company") is pleased to advise a new zone of gold mineralisation has been defined in wide spaced aircore and limited follow-up RC drilling at the Buckle Prospect, located along the major Tabba Tabba Shear Zone, that hosts the Wingina (287,700oz*) and Amanda (69,700oz*) gold deposits.

The aircore drilling was part of a large regional aircore drilling program (>47,500m) completed across many areas of the project, focused on new gold discoveries in prospective structural corridors. The 2019 aircore drilling program has successfully delineated strong gold mineralisation at Buckle and the previously reported discoveries at Hemi and Antwerp along the Scooby to Antwerp Trend (Figure 1). All three areas show potential for shallow open pit resource potential.

An additional limited follow-up RC drilling was also completed at Buckle in order to better define the potential of the new gold mineralisation. Results reported in this release relate to the Buckle and Tabba Tabba 3 prospect areas.

Figure 1 Mallina Gold Project showing main gold deposits and areas of discussion.



Buckle Drilling Program and Results

A program of wide spaced aircore and limited RC drilling was completed to test a 1km long zone of anomalous gold and indicator elements in previously reported soil sampling. Earlier RAB drilling at the Wallareenya Prospect had also previously intersected 2m @ 0.4g/t, immediately along strike to the east of the recent drilling at Buckle (Figure 2).

The aircore drilling program was completed on nominal 320m spaced sections with holes spaced 20-40m along the sections for a total of 78 holes and 3798m. A subsequent limited program of RC drilling was also undertaken to better define the gold mineralisation at depth and totaled 3RC holes (BKRC001-003) for 354m. Significant results are presented in Table 1.

The results are encouraging and highlight the potential to define new additional gold resources from surface along a 1km long strike length and remains open to the west (Figure 3). The new mineralisation is located approximately 400m north of the Tabba Tabba Shear Zone and 10km along strike from the Amanda Gold deposit (2.03Mt @ 1.1g/t for 69,700oz*). The gold mineralisation is defined in drilling over a 1km strike length, from surface to 80m depth, remains open at depth and is hosted along the southern limb of a regional scale plunging antiform.

The gold mineralisation appears to be increasing in width and grade as drilling nears the plunging fold closure. Further drilling is required to test the fold closure. The subvertical orientation of the mineralisation is shown in cross section (Figure 4) and is interpreted to be at least 10m in width however the margins of the zone remain undefined as the drill holes finished in strong +3g/t mineralisation.

Figure 2 **Buckle prospect located ~10km ENE of the Amanda gold deposit, showing anomalous drilling and Au/As soil anomalies.** (Note there has been no drill testing along the 10km zone between Amanda and Buckle.)

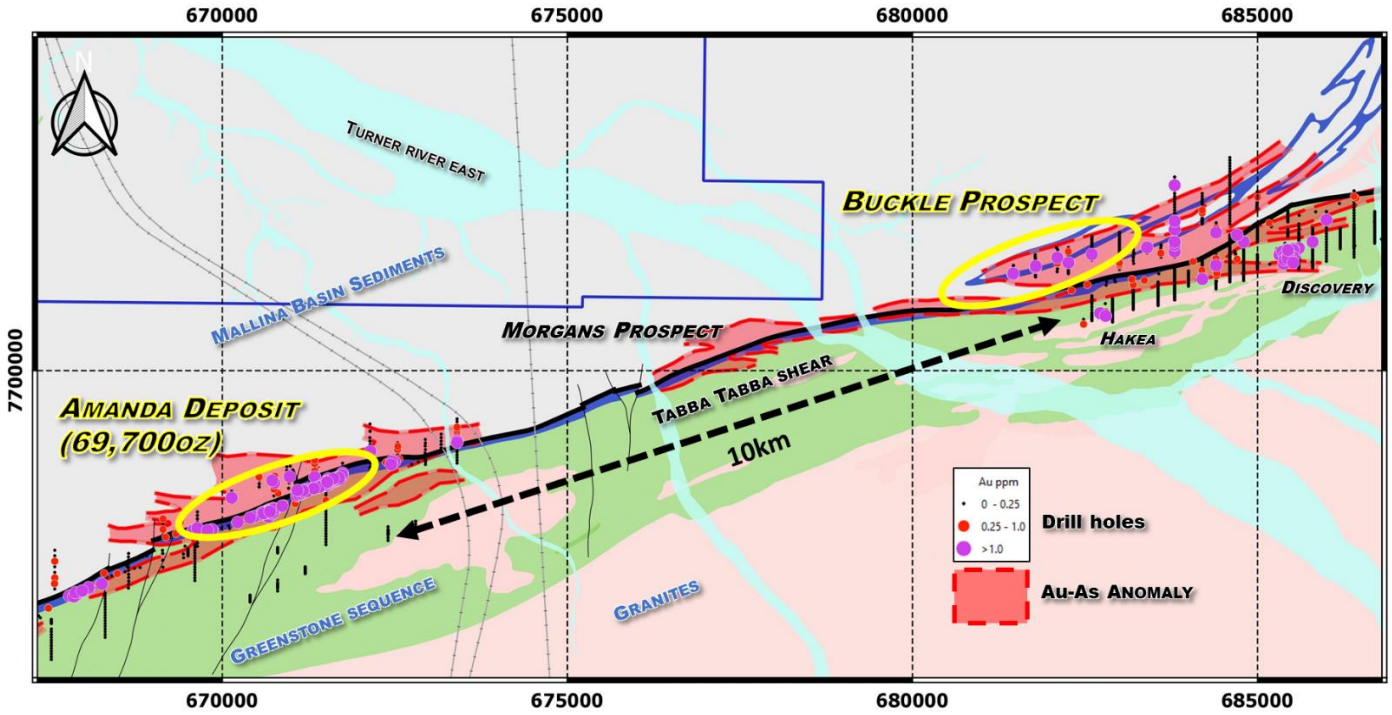
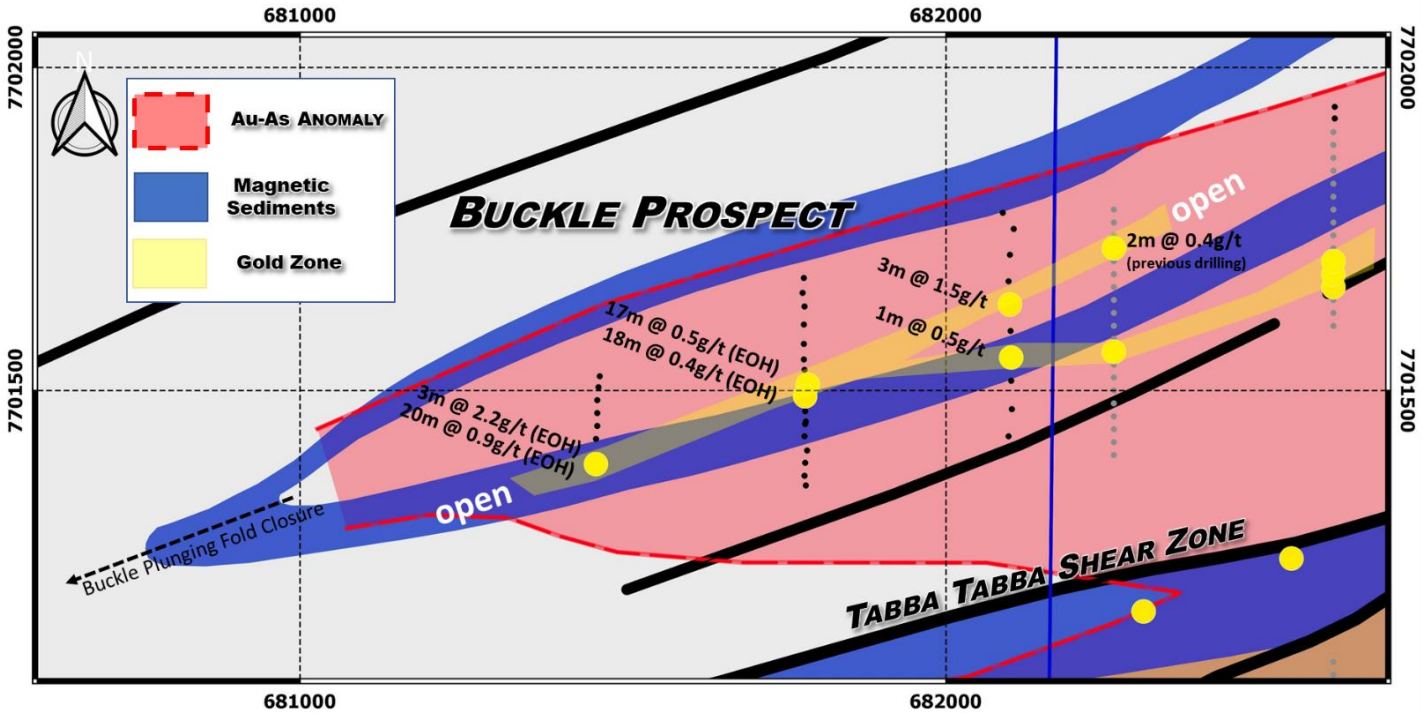


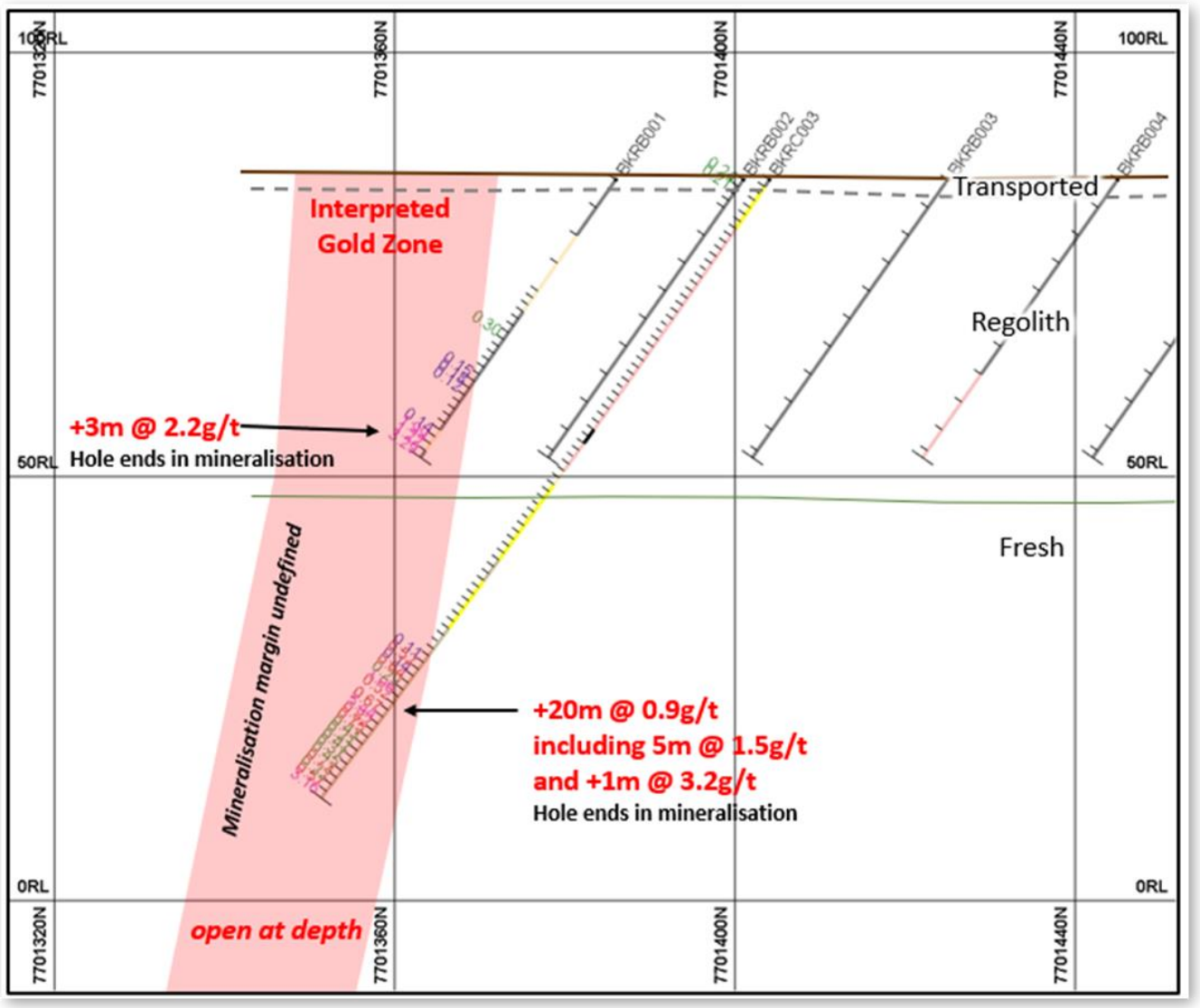
Figure 3 **Buckle prospect – New significant zone of gold mineralisation over 1km**



Additionally, the 10km strike length between Amanda and Buckle shows further anomalous gold and arsenic soil anomalies at the Morgans Prospect (Figure 2) with at least 3km of strike that has not been sampled to date. No drilling has tested any of the additional 10km strike potential from Buckle to the Amanda deposit, including the Morgans Prospect.

Follow-up programs are being planned and will include required heritage surveys, on-going soil sampling, additional widespaced and infill aircore drilling through to detailed follow-up RC drilling to define potential resources.

Figure 3 Buckle Prospect – Section 681460E showing gold zone at western end of the trend. (Individual 1m gold assays shown indicating holes end in +3g/t mineralisation)



Tabba Tabba 3 Drill Program and Results

An additional limited program of 2 RC holes was completed for 400m at the Tabba Tabba 3 geochemical and geophysical target, located on the Tabba Tabba Shear zone within E45/2364 and approximately 20km to the NE of the Buckle Prospect.

The drilling program tested for potential base metal and gold mineralisation similar to the Discovery and Orchard Tank base metal resources at a remodeled EM target with coincident low order anomalous multi-element soil sampling results. Results of the program showed anomalous gold mineralisation with 4m @ 0.6g/t intersected at 64m depth in TTRC036 with no significant base metal results (refer Table 1). The source of the EM anomaly is considered tested. Follow-up of the gold results will be ranked and prioritised against De Grey's many other gold targets.

2020 Hemi and Antwerp Drilling

At the Hemi and Antwerp Prospects, a +7000m program of follow-up aircore drilling is expected to commence within a few days with the rig currently mobilising to site. The initial priority drilling aims to define the vertical and lateral orientations of recently reported encouraging new shallow high grade mineralisation at both prospects (refer to *ASX release "New Gold Discoveries at Hemi and Antwerp", 17 Dec 2019).

Hemi Prospect
43m @ 3.7g/t Au from 36m in BWAC245, including 12m @ 9.0g/t
25m @ 2.7g/t from 32m in BWAC258, including 8m @ 4.5g/t

Antwerp Prospect
6m @ 10.7g/t from 4m in BWAC185
4m @ 21.7g/t from 32m in BWAC211

Subsequent to the initial priority aircore drilling, RC drilling is planned to commence during February 2020 to determine the resource potential of these two new gold discoveries.

Mallina Drilling Results

As announced on 17 December 2019, the Mallina resource extension drilling program comprised approximately 9,500m of RC and diamond core. Assay results from this program remain on track to be finalized in January and early February 2020.

This ASX report is authorised for release by Simon Lill (Executive Chairman).

For further information:

Simon Lill (*Executive Chairman***) or**

Andy Beckwith (*Technical Director and Operations Manager***)**

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Competent Person Statements

The information in this report that relates to exploration results is based on, and fairly represents information and supporting documentation prepared by Mr. Philip 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**

The information in this report that relates to the Buckle, Hemi and Antwerp Prospects and resources that has been previously released includes:

Exploration:

- New Gold Discoveries at Hemi and Antwerp, 17 Dec 2019
- Exploration potential of Turner River enhanced with significant new gold anomalies, 27 March 2017
- De Grey secures additional 9kms of highly prospective Tabba Tabba Thrust, 27 October 2016

Resources:

- Pilbara Gold Project increases gold resources by >20% to over 1.2Moz, 28 September 2017;
- 2018 Total Gold Mineral Resource increases to 1.4Moz, 3 October 2018; and
- 2019 Total Gold Mineral Resource – 21% increase to 1.7Moz, 16 July 2019.

Table 1 Significant Drill Intersections

HoleID	Drill Type	Depth From (m)	Depth To (m)	Downhole Width (m)	Au (g/t)	Collar East (GDA94)	Collar North (GDA94)	Collar RL (GDA94)	Dip (degrees)	Azimuth (GDA94)	Hole Depth	Comments
BKAC011	AC	16.00	17.00	1.00	0.5	682101	7701551	85.0	-55	180	80	
BKAC013	AC	14.00	17.00	**3.00**	**1.5**	682099	7701633	85.0	-55	180	80	
BKAC032	AC	33.00	34.00	1.00	0.3	683599	7701697	85.0	-55	180	40	
BKAC039	AC	33.00	35.00	**2.00**	**2.8**	684399	7701994	85.0	-55	180	35	
incl		33.00	34.00	**1.00**	**4.9**							
BKAC042	AC	1.00	4.00	3.00	0.4	684401	7702059	85.0	-55	180	40	
BKAC042	AC	16.00	17.00	1.00	0.6	684401	7702059	85.0	-55	180	40	
BKAC056	AC	34.00	35.00	1.00	0.6	685002	7702506	85.0	-55	180	40	
BKRB001	RAB	22.00	23.00	1.00	0.3	681458	7701386	85.0	-55	180	40	
BKRB001	RAB	37.00	40.00	**3.00**	**2.2**	681458	7701386	85.0	-55	180	40	EOH
BKRB016	RAB	23.00	24.00	**1.00**	**1.1**	681782	7701491	85.0	-55	0	40	
BKRB016	RAB	30.00	34.00	4.00	0.3	681782	7701491	85.0	-55	0	40	
BKRB016	RAB	39.00	40.00	**1.00**	**2.8**	681782	7701491	85.0	-55	0	40	EOH
BKRB017	RAB	46.00	63.00	**17.00**	**0.5**	681786	7701509	85.0	-55	0	63	EOH
incl		55.00	56.00	**1.00**	**1.4**							
incl		62.00	63.00	**1.00**	**2.5**							EOH
BKRC003	RC	70.00	90.00	**20.00**	**0.9**	681461	7701404	85.2	-56	183	90	EOH
incl		74.00	79.00	**5.00**	**1.5**							
incl		89.00	90.00	**1.00**	**3.2**							EOH
TTRC036	RC	64.00	68.00	4.00	0.6	700191	7712441	104.7	-60	114	180	

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	• *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.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *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 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.*	• All drilling and sampling was undertaken in an industry standard manner. • 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. Intervals returning gold grades >0.1g/t Au were then collected on 1m intervals by spear from sample piles • The independent laboratory pulverises the entire sample for analysis as described below.
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.).*	• 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.
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.*	• RC and aircore samples were visually assessed for recovery. • Samples are considered representative with generally good recovery. • 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 by Company geologists. • RC sample results are appropriate for use in a resource estimation.

Criteria	JORC Code explanation	Commentary
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.*	• RC sampling was carried out by a cone splitter on the rig cyclone and drill cuttings were sampled on a 1m and 4m composite basis. • Aircore samples were collected by spear from 1m sample piles and composited over 4m intervals. Intervals returning gold grades >0.1g/t Au were then collected on 1m intervals by spear from 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. • 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. • Collection of 1m resplits of composite aircore samples is underway.
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 RC samples Au was analysed by a 50g charge Fire assay fusion technique with an AAS finish. • 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.*	• RC drill hole collar locations are located by DGPS to an accuracy of +/-10cm. • Aircore hole collar locations are located 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.*	• RC drilling is on a nominal 320m x 60m grid spacing. Aircore drilling is 320m spaced lines, with holes spaced at 20m to 40m along lines. • All holes have been geologically logged and provide a strong basis for geological control and continuity of mineralisation. • Data spacing and distribution of RC 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

Criteria	JORC Code explanation	Commentary
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *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.*	• The drilling is approximately perpendicular to the strike of mineralisation where known and therefore the sampling is considered representative 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 will be allowed for in resource estimates 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 tenements E45/2983 and E45/2533, both held by De Grey Mining Ltd. • The tenements are located approximately 60km south of Port Hedland.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• E45/2983 has had limited previous surface sampling and no previous exploration drilling. E45/2533 has had some previous surface geochemical sampling and wide spaced aircore and RAB drilling by De Grey Mining targeting gold mineralisation. Airborne aeromagnetics/radiometrics has been flown previously.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The mineralisation targeted is hydrothermally emplaced gold mineralisation within a shear zone. Host rocks comprise Mallina Basin metasediments and intrusive rocks and is similar in style to many 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 of the report, the Competent Person should clearly explain why this is the case.*	• Drill hole location and directional information provide in the report.

Criteria	JORC Code explanation	Commentary
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.* • *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.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Results are reported to a minimum cutoff grade of 0.3g/t gold with an internal dilution of 4m maximum. • Higher grade intervals included in the above intercepts are reported at a 1g/t Au lower cut. • Intercepts are length weighted averaged. • No maximum cuts have been made.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *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').*	• 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	• *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.*	• Plans and sections are provided in the report.
Balanced reporting	• *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.*	• All significant results are provided in this report. • The report is considered balanced and provided in context.
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.*	• Drilling is currently very wide spaced and further details will be reported in future releases when data is available.
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Follow up aircore drilling will be undertaken to test for strike extensions to mineralisation. • Programs of follow up RC drilling aimed at extending resources at depth and laterally will be planned based on aircore results.