WGR One Step Closer to Gold Producer Status with Preliminary Metallurgical Test Work Supporting Heap Leach Pathway

HIGHLIGHTS

- **WGR completed metallurgical test work from historic ore stockpiles located at the Gold Duke project to determine processing pathways and is potentially transformational for the company.**
- **Both Heap Leach and CIL amenability test work was completed and the results point towards a low capex gold operation.**
- **A heap leach would mean that WGR would not need to construct a mill, nor share revenue with external parties for toll treatment in a mill.**

Heap Leach amenability

- **Column leaching of a composite feed grade of 0.7-0.8g/t Au oxide ore returned recoveries of 52.9% after 51 days, equating to a Heap leach extraction of 71% Au within 70 days.**
- **An ~80% extraction is likely under standard operational conditions with a typical heap leach cycle rate of 90 days per pad.**
- **Satisfactory permeability and low slumping levels were achieved with low/moderate cement additions via agglomeration with both lime and cyanide consumptions being low to moderate.**

CIL amenability

- **A High-grade sample of oxide ore of approximately 2 g/t achieved 95.3% gold extraction from standard industry CIL leach conditions.**
- **The tails reported no deleterious and environmentally sensitive metal species with none reporting at elevated levels or of concern. The tailings solids were analysed for Potentially Acid Forming species and the material was found to be non-acid generating.**
- **The cyanide speciation at the end of the test contained minimal WAD species and the bulk was available as free cyanide.**
- **Lime and cyanide consumptions considered low within the West Australian gold industry.**

Western Gold Resources (ASX: **WGR**) ("**WGR**" or "the **Company**") is pleased to announce an update on metallurgical test work at the Gold Duke Project (Figure 1), that contains a combined Mineral Resource estimate JORC-2012 Mineral Resource estimate of 4,570,000 tonnes at 2.0 g/t Au for 293,000 oz Au (refer Table 1).

The test work was completed by Perth-based BHM Process Consultants to determine the amenability of the orebodies to heap leaching and CIL processing (see ASX announcement 13th March 2023).

WGR Managing Director Warren Thorne commented:

"WGR has been investigating the optimal pathway to production at the Gold Duke project. The preliminary column *leach test gold recoveries suggest that Gold Duke oxide ore is amenable to low-cost, low-capex heap leach techniques. A heap leach would mean that WGR would not need to construct a mill, nor share revenue with external parties for toll treatment in a mill. This is a highly desirable outcome to deliver value to both the Company and our shareholders."*

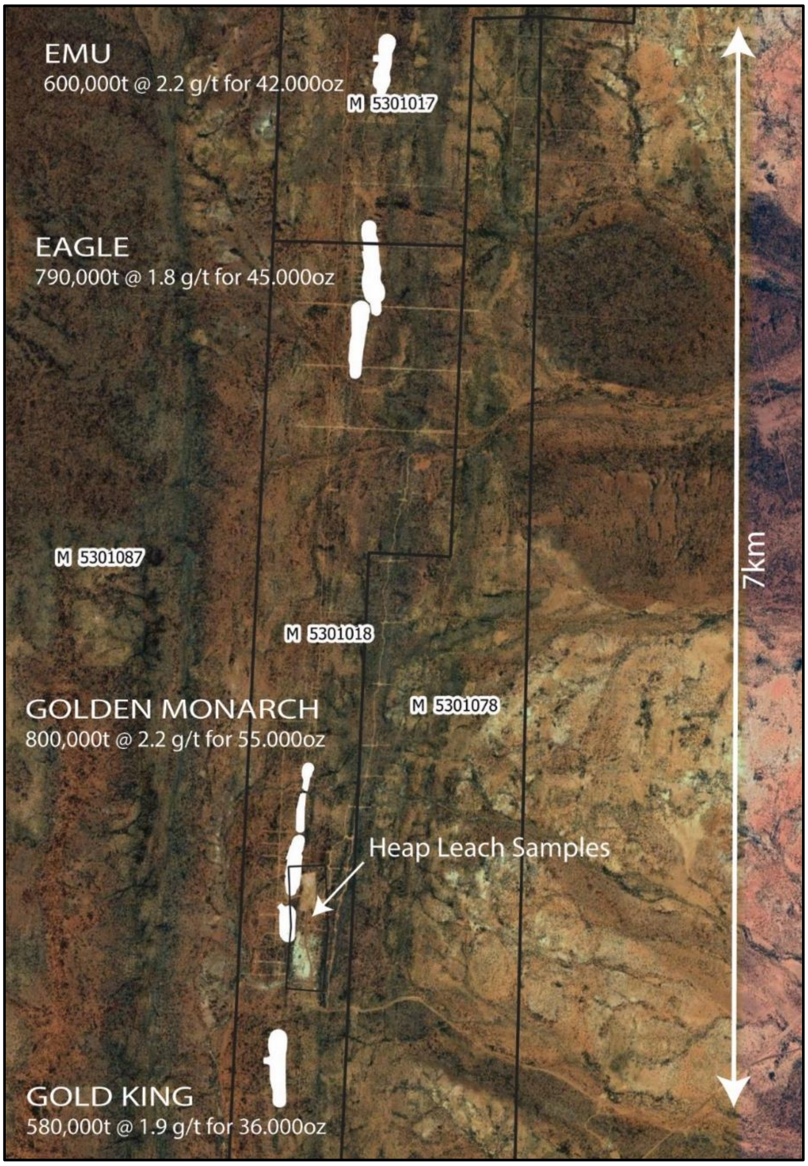

Figure 1. The location of Gold Duke optimized pit designs and location of heap leach samples.

Heap Leach Test Work Summary

BHM developed an investigative metallurgical program based on intermittent bottle roll and column leach methods to investigate the ores amenability to heap leaching.

Samples were taken from oxide ore stockpiles located at the Golden Monarch deposit (Figure 1). The stockpiles had previously been sampled as part of a trial toll-treatment program Golden West Resources Limited (GWR) and Apex Minerals NL (AXM) in 2012. A high-grade (153kgs) and a low-grade (137kgs) composite were formed from the stockpiles and submitted to Nagrom laboratory in Kelmscott. Head-grade analysis determined the grade of the high-grade sample as 2.00g/t Au and 0.10g/t. for the low-grade sample.

For CIL test work the high-grade sample of 2.00g/t Au was used and for the heap leach test work a composite of subsamples of the high-grade and low-grade samples were composited to form an average grade composite of 0.7g/t Au/t. The test program consisted of head assays, sizing analyses with fractional assays, coarse-crush intermittent bottle roll tests (‘IBRT’), agglomeration/percolation testing and column leach testing.

Average Grade (0.8g/t) Composite Coarse Cyanide Bottle Rolls

The average grade composite was already at P100 32mm. Two (2) 5kg subsamples were crushed to P100 25mm and P100 12.5mm. Each crushed charge underwent an intermittent cyanide bottle roll for eight days. The extractions are shown graphically in Figure 2. The results from the Average Grade Composite bottle rolls do not show a clear trend and there are inconsistencies in the solid and solution grade reconciliations. This is indicative of coarsely liberated Au present in the sample affecting the leach kinetics.

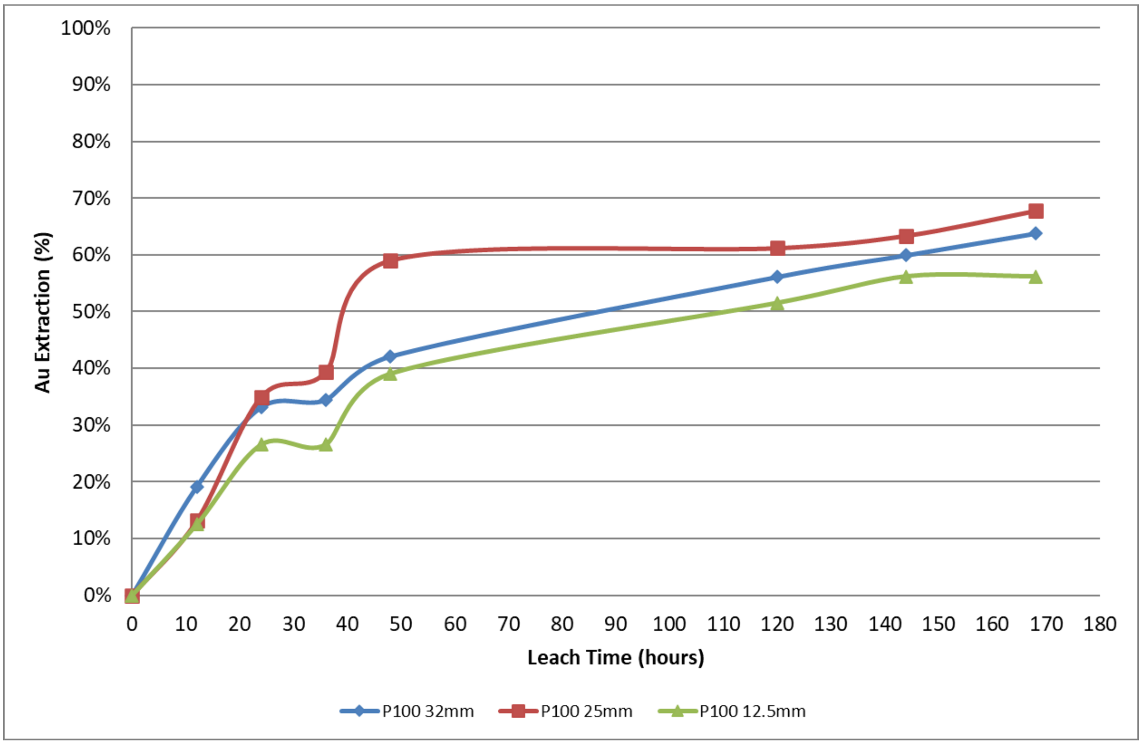

Figure 2: Average Grade Composite Coarse Cyanide Bottle Roll Gold Extraction Over Time

While the P100 32mm sample appeared to have a higher recovery than the 12.5mm, interpretation of the graphs in respect to kinetics would suggest that it is indeed the slowest. The relatively poor recovery of the P100 12.5mm is somewhat surprising suggesting, as stated above, the presence of coarse gold in the sample.

Additionally, the leach liquors do not suggest that there are any other metals that are preventing the leaching of gold. As heap leaching a coarser crush size has several benefits from percolation and heap stability, the Average Grade Composite was crushed to P100 25mm for the column leaching test work.

Percolation Testing

Percolation testing was completed to determine how much the material will slump during a column leach and the impact the slump has, due to the presence of fine particles, on the irrigation rate of the leach solution. Approximately 5kg of the Average Grade Composite was crushed to P100 25mm for the percolation test. The percolation test recorded an initial bed height drop (slump) of 14%. Typically, a slump of >10% is a sign that the material is not competent from a geotechnical perspective and will likely cause compaction and a decrease in the percolation rate.

After approximately 24 hours of soaking the fines appear to have slumped further and compacted, resulting in a percolation rate of 3 $L/hr/m^2$. For high clay ores the minimum acceptable percolation rate is 10,000 $L/hr/m^2$. For high-fines (non-clay) ores the minimum acceptable percolation rate is 1,000 $L/hr/m^2$.

Figure 3. Average Grade Composite Pre-Agglomeration (left), and Post-Agglomeration (right)

Figure 4. Agglomerated Average Grade Composite Pre-Curing (left), and Post-Curing (right)

Due to the low percolation rate (a result of the material slumping), the percolation test was repeated with agglomerated material to increase the percolation rate and better asses the amenability of the material to heap leaching. Another 5kg of the Average Grade Composite was crushed to P100 25mm. and mixed with 11kg/t of cement, 7kg/t of lime in a cement mixer for 5 minutes, followed by an additional 4 minutes with water. After agglomerating, the mixture was left to cure for 72 hours. (Figures 3 and 4).

The percolation test recorded an initial bed height drop (slump) of 6%, with a final slump of 11%. The percolation rate was 26,996 L/hr/m^2. The percolation rate post-agglomeration is a significant improvement from the original percolation rate. Resultingly, column leaching with agglomeration was conducted.

<u>Column Leaching</u>

Approximately 40kg of the Average Grade Composite was crushed to P100 25mm and agglomerated. The P100 25mm material was mixed with 10kg/t of cement, 6kg/t of lime in a cement mixer for 5 minutes, followed by an additional 4 minutes with water. After agglomerating, the mixture was left to cure for 72 hours. After curing, the column leaching was commenced (Table 2).

At the end of 51 days of column leaching 52.9% of the Au has been extracted into the leach liquor and wash. The Au extraction was extrapolated to approximate the Au extraction over a longer period. At 70 days of leaching approximately 71% of the Au should be extracted into the leach liquor (Figure 4). A typical heap leach cycle rate is 90 days per pad and thus, an 80% gold extraction has been kinetically extrapolated as a likely gold recovery from this material under standard operational heap leach conditions.

Table 2 Column Leach Test Parameters

Feed Mass:	40,160.3g
Column Inner Diameter:	202mm
Initial Bed Height:	1090mm
Perth Tap Water Added:	54,760.0g
Initial pH:	7.6
Initial Ca(OH)2 Added:	1.3g
Adjusted pH:	10.7
Initial NaCN Added:	12.5g
Irrigation Rate	10 L/hr/m^2
Initial DO	11.11ppm
Start pH	10.2

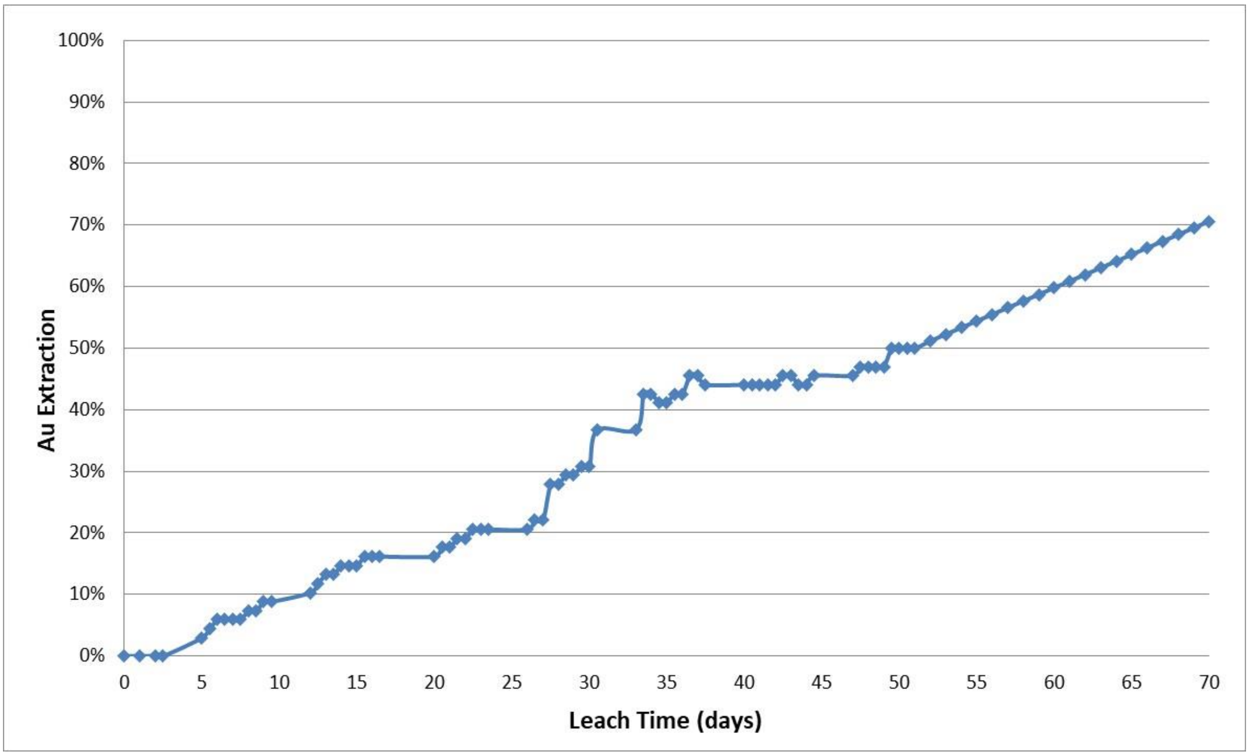

Figure 5. Average Grade Composite P100 25mm Agglomeration Column Leach Au Extraction Over Time (Extrapolated).

The results up to day 51 are actual test results with the data out to day 70 extrapolated utilizing the r2 value from the graph (Figure 5). Decreasing kinetic modelling for diminishing returns have been applied out to day 90 which yields the 80 % expected extraction figure overall." BHM Process Consultants.

CIL Amenability Test Work Summary

A grind establishment series was conducted on three (3) 1kg subsamples of the High-Grade Composite to determine the grind time to achieve P80 0.125mm, P80 0.106mm and P80 0.09mm. A 1kg subsample was then ground to P80 0.106mm and subjected to a 24hr cyanide bottle roll. The parameters are shown in Table 3 and the results are summarised in Table 4 and Figure 5.

Table 3: Cyanide Bottle Roll Test Parameters

Sample Mass (Dry)	900g
Pulp Density	40% solids
Initial Cyanide Concentration	500ppm
Initial Dissolved Oxygen Concentration	8-10ppm
Target pH	10
Leach Time	24 hours

Table 4: High Grade P80 0.106mm Cyanide Bottle Roll Results

Grind	24hr Extraction	Residue Grade (Au g/t)	Cyanide Consumption (kg/t)	Lime Consumption (kg/t)
P_{80} 0.106mm	95.3%	0.10	0.29	0.71

As shown in Table 4 and Figure 6 95.3% of the Au was extracted over 24 hours. The Liquor was dispatched for solution analysis of Weak Acid Dissociable Cyanide (WAD). The solution assays indicated little dissolved metals (Cu/Fe/Zn). With the final solution liquor showing a free total cyanide concentration of 150ppm (300ppm NaCN) and the same as WAD, this check performed indicates that the cyanide post-leaching will be in a form where it can be destroyed down to discharge limits if required.

In addition, the Residue was dispatched for Non-Acid Forming (NAF), Potentially Acid Forming (PAF) and Acid Neutralisation Capacity (ANC). The Net Acid Product Potential (NAPP) was below detection limit making the leach residue non-acid generating.

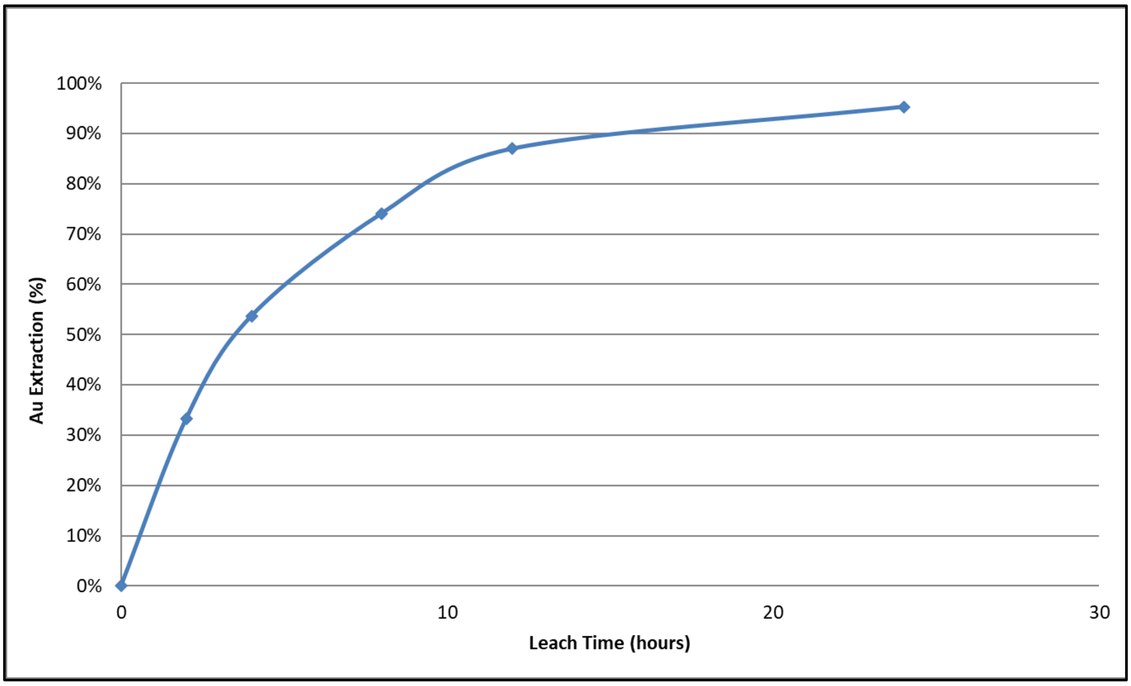

Figure 6: High Grade P80 0.106mm Cyanide Bottle Roll Gold Extraction Over Time

Next Steps

Based on the initial positive amenability of the oxide ore to be heap leachable WGR will:

- Work with BHM to create a metallurgical drill program to test effect on recovery on samples from different parts of the orebody.

- Further column leaching test work may further optimise the results and should consider:
- The effect of different crush sizes (including not crushing the ore at all), and
- The effect of particle size on gold recovery.

This ASX announcement was authorised for release by Gary Lyons, Chairman, on behalf of the Board.

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Competent Person's Statement

The information in this report relating to Metallurgical Results is based on information reviewed by Mr Steven Hoban, a competent person, and Member of the Australian Institute of Mining and Metallurgy (AusIMM). Mr Hoban is an employee of BHM Process Consultants and is considered independent of WGR. Mr Hoban has sufficient experience relevant to the mineralogy and to the type of activity described 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 Hoban consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

Where the Company refers to previous Exploration Results and to the Mineral Resource estimate included in its recently announced Prospectus dated 18 May 2021 and in previous announcements, it notes that the relevant JORC 2012 disclosures are included in the Prospectus and those previous announcements and it confirms that it is not aware of any new information or data that materially affects the information included in those announcements and all information in relation to the Exploration Results and material assumptions and technical parameters underpinning the Mineral Resource estimate within those announcements continues to apply and has not materially changed.

Forward looking statements

This document includes forward-looking statements. Forward-looking statements include, but are not limited to, statements concerning WGR's planned exploration programs, corporate activities, and any, and all, statements that are not historical facts. When used in this document, words such as "could," "plan," "estimate," "expect," "intend," "may", "potential," "should" and similar expressions are forward-looking statements. WGR believes that it has a reasonable basis for its forward-looking statements; however, forward-looking statements involve risks and uncertainties, and no assurance can be given that actual future results will be consistent with these forward-looking statements. All figures presented in this document are unaudited and this document does not contain any forecasts of profitability or loss.

Table 1 Gold Duke Project – JORC 2012 Mineral Resource Estimate

JORC Status	Year	Prospect	Classification	Tonnes	Grade (g/t Au)	Ounces
JORC 2012 at 0.5 g/t cut-off	2019	Golden Monarch	Measured	30,000	3.0	3,000
			Indicated	380,000	2.1	26,000
			Inferred	390,000	2.1	26,000
			Subtotal	**800,000**	**2.2**	**55,000**
		Eagle	Indicated	110,000	2.8	10,000
			Inferred	680,000	1.6	35,000
			Subtotal	**790,000**	**1.8**	**45,000**
		Emu	Inferred	600,000	2.2	42,000
		Joyners Find	Inferred	90,000	2.6	7,000
	2021	Bottom Camp	Inferred	640,000	1.6	33,000
		Bowerbird	Inferred	230,000	2.4	17,000
		Brilliant	Inferred	210,000	3.1	21,000
		Bronzewing	Inferred	110,000	2.7	9,000
		Comedy King	Inferred	260,000	1.5	12,000
		Gold Hawk	Inferred	150,000	1.5	7,000
		Gold King	Inferred	580,000	1.9	36,000
		Wren	Inferred	110,000	2.4	8,000
	Total JORC 2012		**Measured**	**30,000**	**3.0**	**3,000**
			Indicated	**490,000**	**2.3**	**36,000**
			Inferred	**4,050,000**	**2.0**	**254,000**
			Combined	**4,570,000**	**2.0**	**293,000**

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JORC 2012 Table 1

Section 1 Sampling Techniques and Data

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.***	• A high-grade (153kgs) and low-grade (137kgs) were composited from historic ore stockpiles at the Golden Monarch deposit. Sample type, style, condition, and size were recorded for all samples collected. • Grab samples attempted to be representative for the general rock within the ore piles.
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).***	• No drilling completed.
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.***	• No drilling completed.
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.***	• Company records of the grab samples from stockpiles were qualitative.
Sub-sampling techniques and sample preparation	• ***If core, whether cut or sawn and whether quarter, half or all cores 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.***	• The exploration results have been reported in a manner that presents them in a balanced context without bias. • Laboratory sample preparation includes drying then pulverizing of submitted sample to target of p80 at 75 um. • No samples checked for size after pulverizing failed to meet sizing target in the sample batches relevant to the report. • Samples were digested for both Aqua Regia and Fire Assay. Both control and duplicate samples were introduced by the Company, while the laboratory

	• ***Whether sample sizes are appropriate to the grain size of the material being sampled.***	completed repeat assays on various samples. • Standard samples were also introduced into the sample stream by the laboratory. • Nagrom introduced duplicate samples indicate acceptable analytical accuracy and precision. • Laboratory analytical charge sizes are standard sizes and considered adequate for the material being assayed.
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.***	• Fire Assay (Au), Peroxide Fusion/ICP finish (As), Mixed Acid Digest/ICP finish (Ag), Carbon Sulphur (Total Sulphur) and Sulphate Sulphur via Barium Chloride Precipitation with ICP finish – ICP techniques are considered appropriate and industry standard for the elements analysed using this technique with the detection limits as stated. • Certified reference materials, blanks and replicates are analysed with each batch of samples. These quality control results are reported along with the sample values in the final report provided by Nagrom. The accuracy and precision revealed by this data is consistent with the levels routinely achieved for assay data. No significant grade bias or precision issues have been observed.
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.***	• No adjustments to the assay data were made.
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.***	• All samples were located using a handheld GPS system. The coordinates are stored in the exploration database referenced to the MGA Zone 50
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.***	• Samples from several pre stockpiles were composted to produce High-Grade and Low-Grade samples for test work.
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.*	• No drilling completed.
Sample security	• *The measures taken to ensure sample security.*	• Samples were green plastic bags sealed with a cable tie. The bags were to Nagrom Laboratories in Perth.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No audits have been conducted.

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Section 2 Reporting of Exploration Results

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.*	• The Gold Duke project is in Western Australia approximately 45km southeast of the township of Wiluna. The tenements comprising the project are listed below. Tenement / Holder / Expires / Area (Ha): M53/971-I / GWR / 24/01/2023 / 9.71 M53/972-I / GWR / 24/01/2023 / 9.71 M53/1016-I / GWR / 29/01/2027 / 617.45 M53/1017-I / GWR / 29/01/2027 / 808.7 M53/1018-I / GWR / 29/01/2027 / 593.65 M53/1087-I / GWR / 22/09/2031 / 6,343.37 M53/1096-I / GWR / 12/04/2037 / 195.1 • All tenements are 100% owned by the GWR Group Limited. The sampling described in this report is located over M53/1018. • All tenements are covered by the granted Wiluna Native Title Claim (WCD2013/004) and are subject to a Mining Agreement with the Native Title Holders. • M53/1016, M53/1017 and M53/1018 are subject to a Royalty Agreement of $10 per troy ounce to 50,000 ounces of gold produced and $5 per troy ounce thereafter • All the tenements are in good standing
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• The Gold Duke has been explored for gold since approximately 1920 and evidence of historical mine workings and prospecting pits are found in more than 20 separate locations over 15 km confined to the better exposed portions of the Joyners Find Greenstone Belt. Gold exploration has been carried out within the project area since 1980 with a peak between 1984 and 1990. In total, approximately 23,000 metres of reverse circulation and 15,000 metres of rotary air blast drilling was completed. Detailed and regional geological mapping was also undertaken along with aeromagnetic and aerial photography surveys • The ground has been held by GWR Group limited since 2004; where the primary focus has been iron ore exploration, but more recently gold exploration
Geology	• *Deposit type, geological setting, and style of mineralisation.*	• Gold mineralisation is related to two regional shear zones within the Archaean Joyners Find greenstone belt; the Joyners Find and Brilliant Shear Zones. Mineralisation within

		the Joyners Find Shear Zone is dominated by BIF hosted mineralisation, whilst mineralisation within the Brilliant shear is hosted by quartz reefs and quartz stockworks. • The gold mineralisation in this ASX release is understood to be related to the Joyners Find Shear zone
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.*	• No drilling completed
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.*	• No drilling completed
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').*	• No drilling 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.*	• Refer to diagrams provided in the body of 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 avoiding misleading reporting of Exploration Results.*	• The exploration results have been reported in a manner that presents them in a balanced context without bias
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.*	• Refer to previous releases made by WGR
urther 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.*	• Refer to body of report