UPDATED BOORARA MINERAL RESOURCE DELIVERS A 34% INCREASE IN GOLD GRADE

HIGHLIGHTS

- Highly successful grade control drilling, trial mining and toll milling completed at the Boorara gold project, 15km east of Kalgoorlie-Boulder in the Western Australian goldfields
- Over 18,000m of grade control drilling completed in 2019 on a 4m x 10m pattern at Royal and 5m x 10m pattern at Regal and Crown Jewel to a depth of 54m
- Trial mining and toll milling in 2016 and 2020 produced 8,100oz at a reconciled grade of 1.44g/t Au and a 94% calculated gold recovery
- Extensive pit mapping and review of structural geology at all trial pits completed to improve geological confidence and de-risk the larger scale development
- Trial in 2020 generated $3.6M in free cash flow after all costs and enabled an extensive assessment of the geology, mining parameters, metallurgy and processing parameters
- Key learnings include the demonstrated presence of multiple flat lying vein arrays in addition to the main contact lode and excellent metallurgical performance
- Optimal development pathway for Boorara is bulk mining the entire orebody and ore processing onsite which avoids additional haulage and toll milling costs [1]
- New geological and trial data enabled compilation of a new independent open pit April 2021 Mineral Resource estimate (after depletion) which now stands at:
  - **11Mt grading 1.26g/t Au for 448,000 oz at a 0.5g/t Au cut-off grade [2]**
- Importantly, over 77% of the resource is in the Measured and Indicated Mineral Resource JORC Categories with resource grade increasing 34% in line with the trial results [2]
- The mineralisation remains open along strike and at depth with a significant quantity of unclassified material outside the current resource envelope [2]
- Open pit mining optimisation and design studies well advanced for generation of Ore Reserves in the September Quarter 2021 as part of the consolidated Feasibility Study [1]

Commenting on the updated Boorara Mineral Resource, Horizon Managing Director Jon Price said:

"The highly successful trial has added to an extensive body of work completed at Boorara over many years. We now have a much greater understanding of the deposit which will significantly de-risk the larger scale development being assessed as part of the consolidated Feasibility Study. Mine optimisation and design work is well advanced and we see the potential for Boorara to provide long term baseload feed for the proposed mill at site avoiding additional haulage and toll milling costs."

[1] See Forward Looking and Cautionary Statements on Page 17. [2] See Tables, data and Competent Persons Statement on pages 4 and 11 and JORC Tables on Page 18.

Overview

Horizon Minerals Limited (ASX: HRZ) ("Horizon" or the "Company") is pleased to announce an updated independent Mineral Resource estimate for the Boorara gold project located 15km east of Kalgoorlie - Boulder in the Western Australian goldfields (Figure 1).

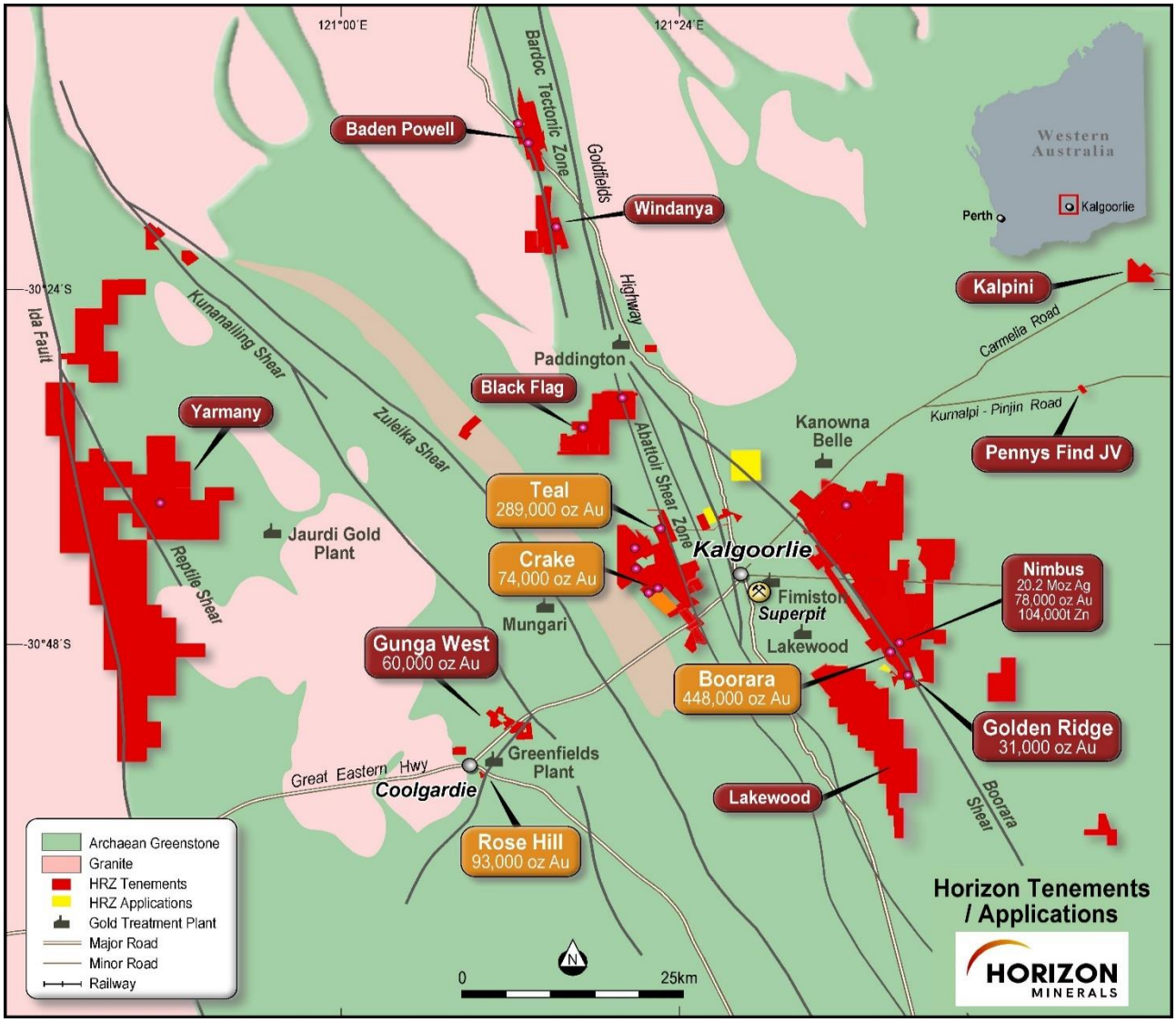

Figure 1: Horizon's project area including resources and surrounding infrastructure

Boorara is one of five core advanced development projects being assessed as part of the consolidated Feasibility Study aimed at delivering an initial five-year mine plan to underpin the establishment of a stand-alone processing plant at the Boorara mine site. [1]

The project comprises three deposits (Royal, Regal and Crown Jewel) along 1.5km strike length with the potential to provide long life, baseload feed and has been subject to extensive drilling, metallurgical, geotechnical and approvals work in addition to the recent large-scale trial mining and processing campaign.

[1] See Forward Looking and Cautionary Statements on Page 17.

Boorara Project Summary and Geology

The Boorara gold project is located on granted Mining Leases 1km southwest of the Nimbus zinc-silver-lead mine site where established offices are connected to mains power and a production water supply from the Stoneville bore field.

The deposit is hosted in a typical quartz dolerite comprising a sheeted quartz vein array system with bounding shear zones and late-stage cross faults. Mineralisation occurs as:

1. Northwest dipping sheeted and stockwork quartz-carbonate vein arrays within the quartz dolerite host rocks
2. Steeply dipping zones along sheared geological contacts trending to the north-northwest

A significant amount of RC and diamond drilling has been completed at Boorara over the last 10 years with the project hosting a previous 2018 Mineral Resource Estimate (MRE) prepared by Cube Consulting totalling 16.45Mt grading 0.96g/t Au for 507,000oz [1].

Gold mineralisation is associated with pyrite and arsenopyrite with alteration halos of iron carbonate, sericite and bleaching. The current resource covers a strike length of over 1.5km and widths of over 250m and remains open along strike to the south and north and at depth. Depth of weathering can vary from less than 10m in the northern area and over 60m in the southern area.

A small-scale trial pit to 20m depth was mined in the Royal area at Boorara in 2016, with ore up to 15m wide mined on 2.5m high flitches. A close spaced grade control program undertaken prior to mining yielded planned trial pit grades well above the global resource grade of 0.96g/t Au. Ore mined from the trial pit was processed at FMR Investments' Greenfields Mill in Coolgardie which reconciled at 30,239 tonnes at 1.73g/t Au of high-grade ore, with an additional 13,095 tonnes at 0.68g/t Au of low grade still stockpiled at Boorara.

The aim of the 2020 grade control program was to further test the grade uplift potential on a larger scale and enable a new geological model to be compiled for mine optimisation, design and economic analysis. In 2020, the decision was made to toll treat up to 150,000t through the Lakewood Mill, 7km to the west, to further de-risk the larger scale development and confirm metallurgical recoveries, reagent consumptions and optimal processing parameters for plant design.

Results from the 2020 trial were positive with ore mined (high and low grade) totalling 267kt of ore at a mine claimed grade of 1.23g/t Au. Milling of the higher-grade component reconciled at 1.45g/t Au at an excellent calculated recovery of 94.5%. Testing of a low-grade parcel was also completed to assess the grade allocation process with the low-grade reconciling 6% higher than the modelled grade of 0.85g/t Au. Milling performance was in line with expectations with respect to grind size, viscosity and reagent consumption.

In addition to testing all ore zones through a mill in real time, an extensive pit mapping and geological review was undertaken to demonstrate the presence of multiple flat lying cross structures within the orebody as identified in the drilling and the 2016 trial. The 2018 MRE only included the main contact lodes and the trial and mapping has enabled these new vein arrays to be incorporated into a new independent Mineral Resource Estimate.

[1] As announced to the ASX by MacPhersons Resources "BOORARA GOLD PROJECT TOTAL GOLD RESOURCE up 118% to 507,000 OUNCES" dated 6th March 2018.

Mineral Resource Summary

All drilling, mapping and toll milling trial data has been reviewed, validated and incorporated into the drilling database and used to compile an updated independent Mineral Resource Estimate compliant with the JORC 2012 Code. Geological consultants Optiro were responsible for the new 2021 Mineral Resource Estimate. The updated open cut Mineral Resource Estimates are shown below:

Table 1. Boorara (April 2021) Mineral Resource Category Summary [1]

Boorara at 0.5 g/t Au lower cut-off grade			
Resource category	Tonnes (Mt)	Grade (g/t Au)	Gold metal (koz)
Measured	1.28	1.23	51
Indicated	7.19	1.27	294
Inferred	2.56	1.26	103
Total	**11.03**	**1.26**	**448**

Table 2. Boorara (April 2021) Mineral Resource Material Summary [1]

Boorara at 0.5 g/t Au lower cut-off grade				
Material	Category	Tonnes (Mt)	Grade (g/t Au)	Gold metal (koz)
Oxide	Measured	0.16	1.20	6
	Indicated	0.35	1.30	15
	Inferred	0.04	1.06	1
	Sub-total	**0.54**	**1.26**	**22**
Transitional	Measured	0.65	1.24	26
	Indicated	1.54	1.23	60
	Inferred	0.30	1.10	11
	Sub-total	**2.49**	**1.22**	**97**
Fresh	Measured	0.47	1.22	19
	Indicated	5.30	1.28	219
	Inferred	2.23	1.28	92
	Sub-total	**8.00**	**1.28**	**329**
All	Measured	1.28	1.23	51
	Indicated	7.19	1.27	293
	Inferred	2.56	1.26	104
	TOTAL	**11.03**	**1.26**	**448**

[1] The information in this table that relates to the Estimation and Reporting of Gold Mineral Resources at the Boorara Deposit is based upon information compiled by Mr Mark Drabble B.App.Sci.(Geology), a Competent Person who is a current Member of the Australian Institute of Mining and Metallurgy (MAusIMM) and a Member of the Australian Institute of Geoscientists (MAIG). Mr Drabble is a Principal Geological Consultant at Optiro Pty Ltd. and an independent consultant to Horizon Minerals Ltd (HRZ). Mr Drabble has sufficient experience relevant to the style of mineralisation and deposit type under consideration and to the activities 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 Drabble consents to the inclusion in the report of matters based on his information in the form and context in which it appears.

The updated MRE as reported within this announcement is limited to 200m depth to the 200mRL RPEEE constraint for open pittable ore (Reasonable Potential for Eventual Economic Extraction). As a comparison, the 2018 Cube MRE to the top 200m is 15.62Mt @ 0.94g/t Au for 474,000oz at a 0.5g/t cut-off with an additional 0.82Mt @ 1.2g/t Au for 33,000oz Au estimated at a 1.0g/t cut-off below 200m depth (or "underground style ore") [1].

The updated April 2021 MRE as a direct comparison of the Cube 2018 MRE to 200m depth shows a significant increase in grade from 0.94g/t Au to 1.26g/t Au. Total gold decreases from 474,000oz (excluding the trial mining depletion of 8,100oz) to 448,000oz, a small 4% reduction. This result is largely due to improved modelling of the flat lodes at Regal and also at Royal and Crown Jewel.

The April 2021 Mineral Resource model (after depletion from trial mining) shows a reduction in tonnage offset by a **34% increase in grade** which was the main aim of the trial. The inclusion of the cross cutting flat lying vein arrays in addition to the main contact lode has potential to significantly improve the economics of the project with a high metal content per vertical metre.

Next Steps

The updated Mineral Resource Estimate will now be used to update the mine optimisation and design work enabling the compilation of a maiden Ore Reserve for Boorara for incorporation into the consolidated Feasibility Study and economic models. The calculation of the MRE on the basis of open pittable ore with RPEEE is expected to result in a high level of conversion to Ore Reserves [2].

Statutory approvals are well advanced and preliminary process plant design and associated infrastructure work has been completed enabling a production schedule and financial evaluation to be finalised in the December Quarter 2021.

Further work on the core 100% owned satellite projects including Rose Hill, Crake, Jacques Find and Kalpini is advancing with further resource updates expected in the June Quarter 2021.

Approved for release by the Board of Directors

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[1] As announced to the ASX by MacPhersons Resources "BOORARA GOLD PROJECT TOTAL GOLD RESOURCE up 118% to 507,000 OUNCES" dated 6th March 2018. [2] See Forward Looking and Cautionary Statements on Page 17.

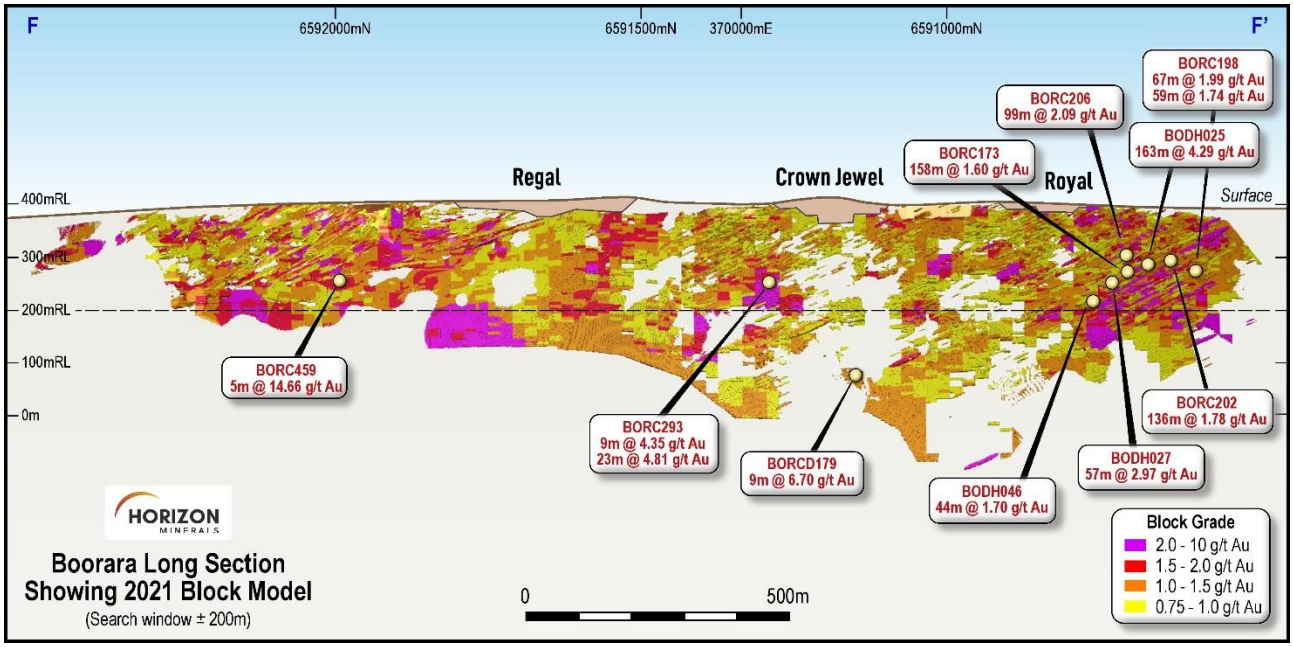

Figure 2: Boorara long section highlighting the northern plunge of the modelled ore zones

Figure 3: Boorara grade control drilling plan and cross section locations

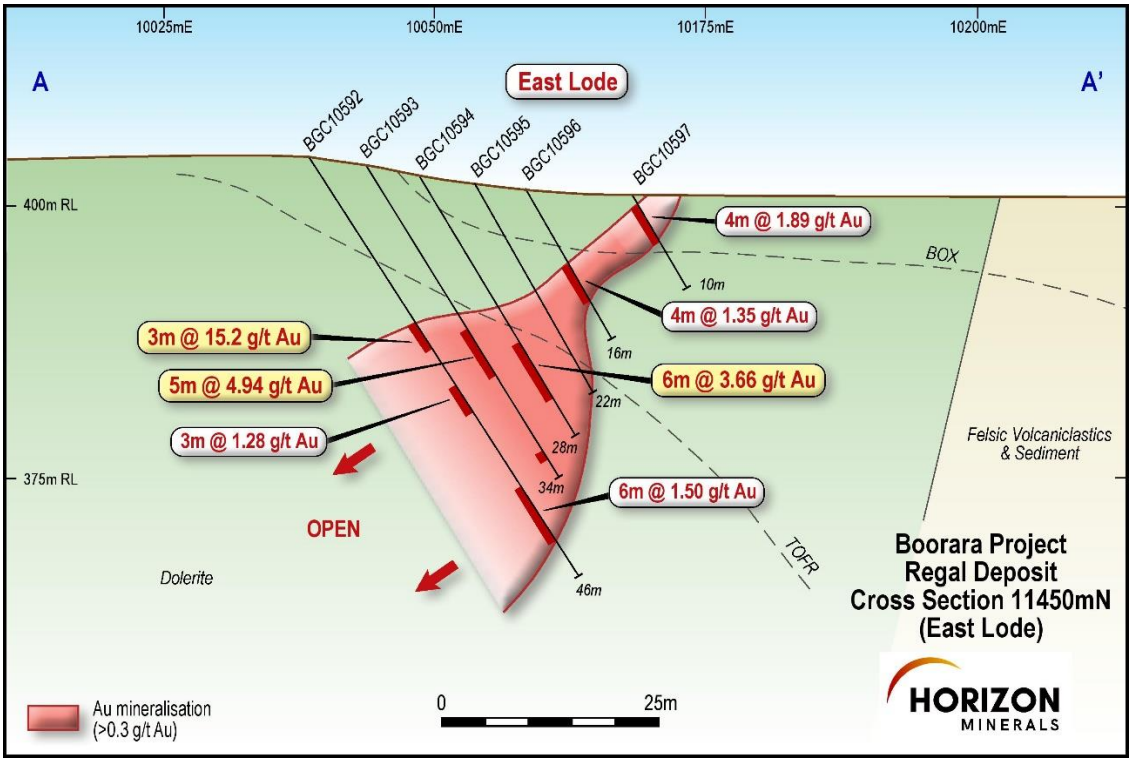

Figure 4: Regal deposit cross section A - A' (see Figure 3 for location)

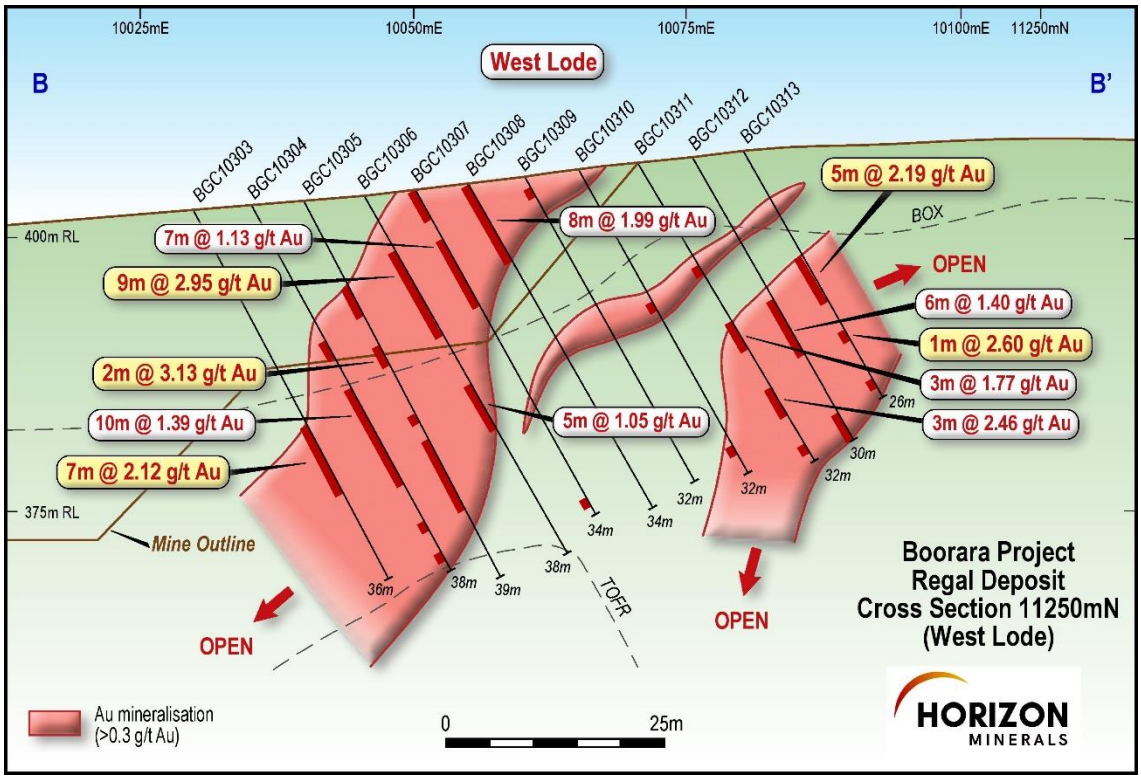

Figure 5: Regal deposit cross section B - B' (see Figure 3 for location)

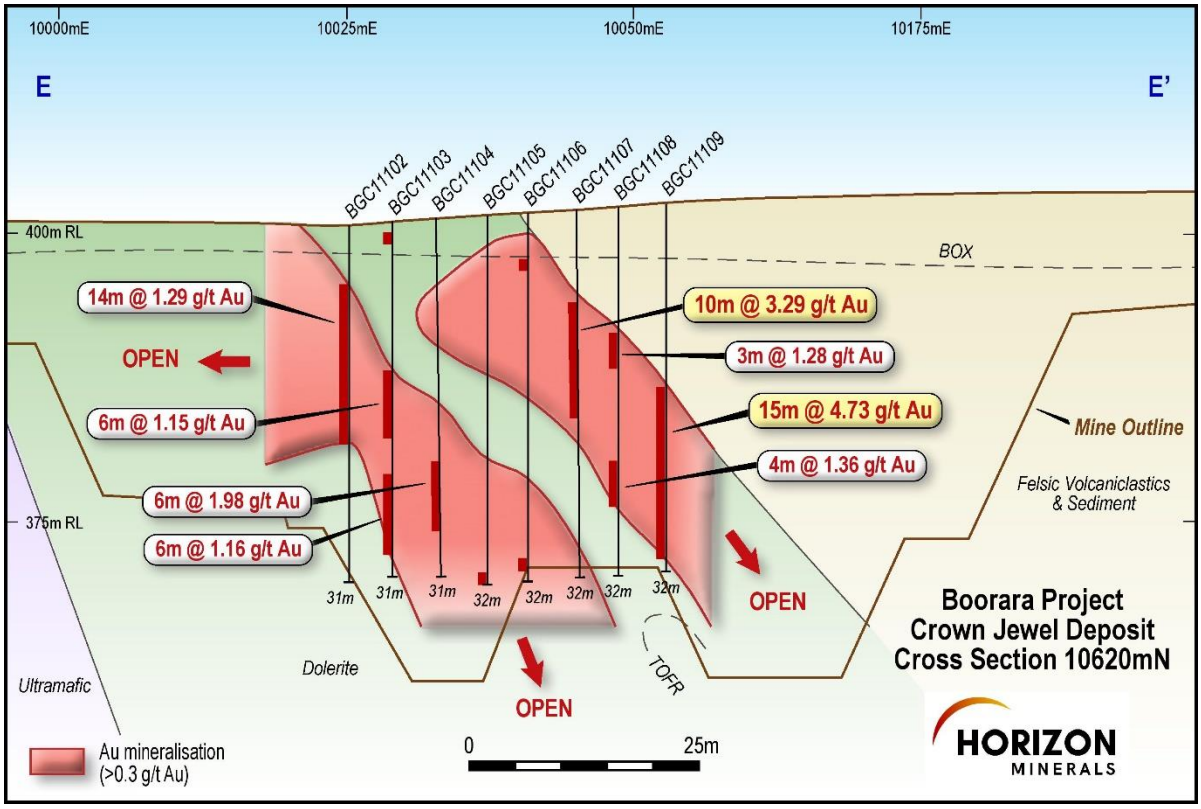

Figure 6: Crown Jewel deposit cross section E - E' (see Figure 3 for location)

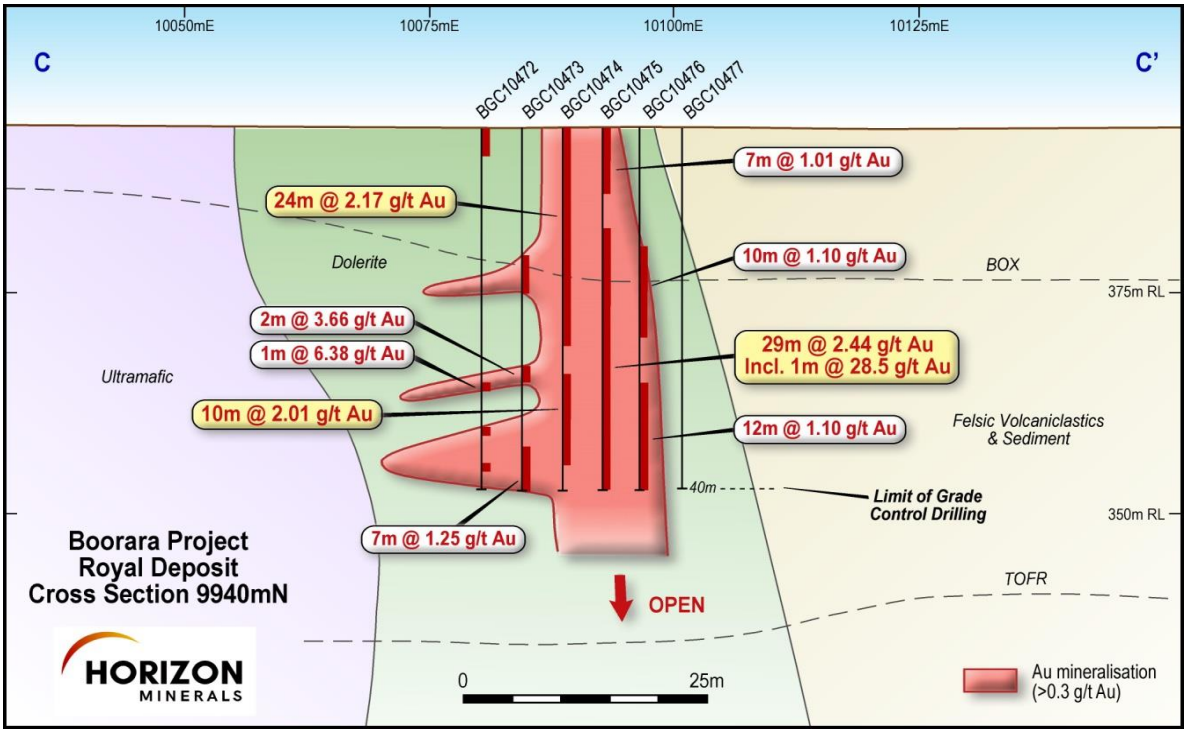

Figure 7: Royal deposit cross section C - C' (see Figure 3 for location)

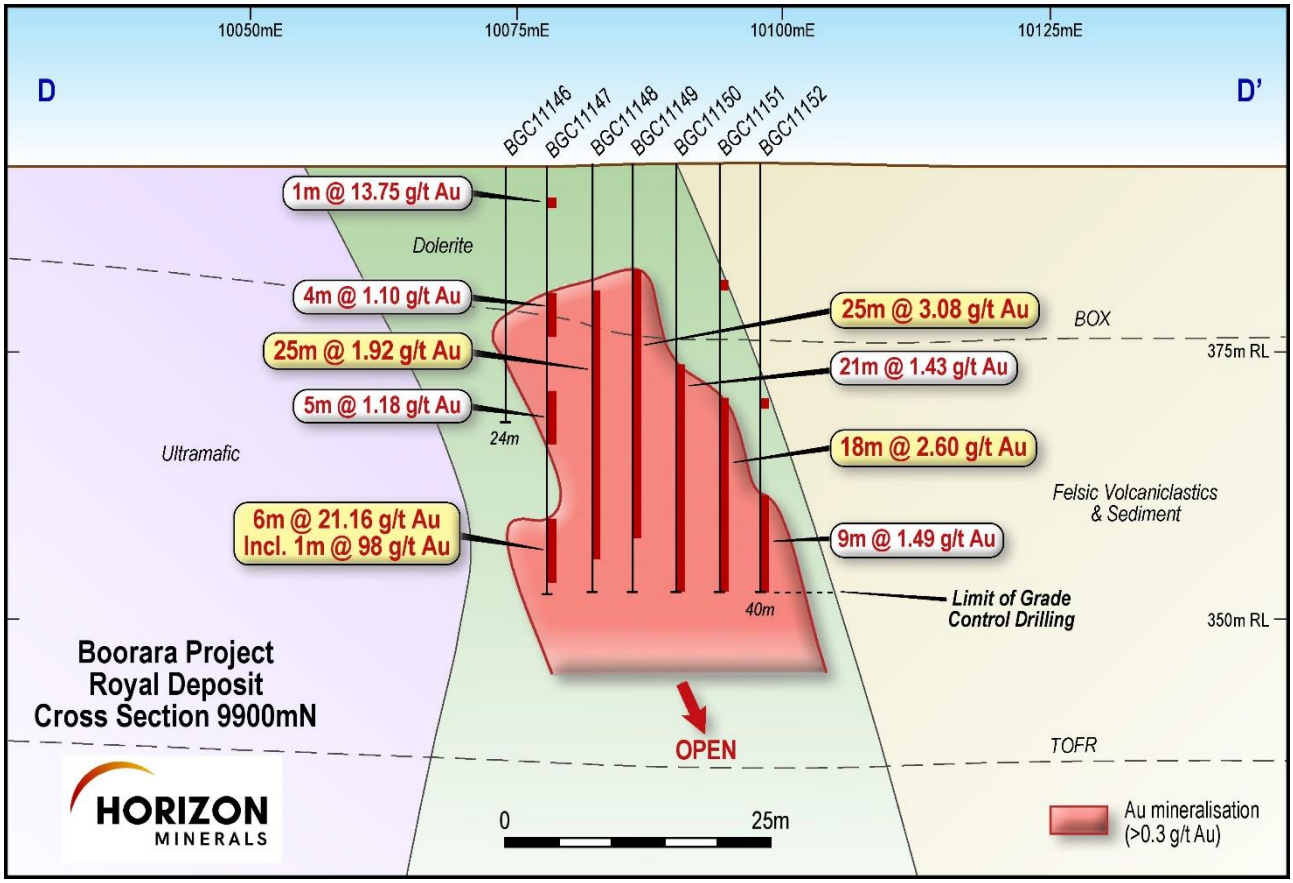

Figure 8: Royal deposit cross section D - D' (see Figure 3 for location)

Material information summary as required under ASX Listing Rule 5.8 and JORC 2012 reporting guidelines.

Geology and Mineralisation Interpretation

Boorara is hosted within the Boorara Shear Zone (BSZ), a major tectonic feature of the Kalgoorlie Terrrane. At Boorara the BSZ contains a number of ultramafic, mafic-volcanic and sedimentary units. The host Boorara Dolerite package has a 4km strike length, and consists of layers of pyroxenite, dolerite and granophyric coarse-grained quartz dolerites. The package is at its widest in the northern area (500m) due to intercalated dolerite, high magnesian basalt (komatiite) and sediment units. The central and southern parts of the project generally lack the internal komatiites and sediments and averages less than 60m width.

The local geology has been extensively mapped and relogged by Dr Gerard Tripp and forms the basis for the compilation of a 3D geological model for the Boorara deposit and the construct of mineralisation domains. Additionally, the vein analysis provides significant support for the grade continuity analysis.

Due to the change in deposit characteristics along its strike length, the Boorara deposit is divided into three areas: Regal, Crown Jewel and Royal.

The Regal mineralisation is dominantly hosted in stockworks within quartz dolerites or on the margins of sedimentary units. These consist of moderately northeast dipping veins within steeply dipping zones.

The Crown Jewel area has mineralisation within a moderately northeast dipping zone within the quartz dolerite. This is a continuation of the Royal (southern stockwork) style of mineralisation, but with a narrower zone of quartz dolerite and shallower dip.

The Royal area presents as well-developed steeply northeast dipping zones containing high frequency vein arrays developed proximal to shears at the upper and lower contacts of the dolerite unit.

Drilling Techniques

The deposit was sampled using Reverse Circulation (RC), Diamond drillholes (DDH) and Grade Control RC (GCRC) on spacings ranging from 4 m x 10 m and 4 m x 4 m (vertical) at Royal, nominally 4 m x 10 m (vertical) at Crown Jewel and 5 m x 10 m (angled) at Regal. The exploration/resource development drilling patterns were typically spaced at 10 m to 20 m x 20 m but can extend out to >100m spacing where deeper. An approximate total of 337 RC holes, 50 DDH holes and 812 GCRC holes were drilled for 133,695 m, 8,537 m and 22,978 m respectively. Other types of sampling such as trenches, Aircore and RAB drilling were not used in the Mineral Resource Estimate.

Sampling Techniques

Reverse Circulation drilling was used to obtain 1 m samples from which approximately 1.5-2kg was pulverised to produce a 50g charge for fire assay. RC chips were geologically logged. Diamond core was logged and sampled by cutting PQ, HQ, NQ2 core along the orientation line and submitting the half core for assay. Sample intervals were determined by the supervising geologist.

Sampling Analyses Method

Samples were assayed for Au ppm only for this program. Assays were determined by 50g fire assay with AAS finish samples grading >5g/t were repeat assayed and if a sample exceeded 100g/t or coarse gold is suspected then a screen fire assay (Au-SCR22AA) has been undertaken on those samples and those results reported instead of the fire assay result. Detection limits are typically accurate to 0.01g/t Au.

Estimation Methodology

Mineralisation was domained as two mineralisation sets (termed the "Contact" Lodes and "Flat" Lodes) which were then estimated as separate block models that were then joined together for the final model. The Contact Lode mineralisation model relates to the vein stockworks contained within steeply dipping granophyric dolerites. The Flat Lode mineralisation relates to sheeted extensional quartz vein arrays that are developed between the Contact Lodes at Regal, and mainly on the footwall side of the Crown Jewel and Royal deposits. These models were estimated separately, and the Contact Lodes were overprinted onto the Flat Lode mineralisation model.

In terms of the interpretation process where Flat lode Mineralisation domains cross-cut the Contact domains the samples were used to form the wireframes and the composites were used to inform both models. The tenor of the mineralisation is very similar for both lode styles and it is not considered likely or result in over-estimation issues in the model.

Grades were composited to 1 m downhole constrained within the mineralised domains. To avoid loss of data from small 'residuals' at the end of a composite (i.e., small intervals that might otherwise be excluded), a "best fit" compositing routine that divided each mineralised intercept into equal lengths that was as close as possible to 1 m was chosen.

High grade results within the deposit were capped by analysing histograms, log histograms, log probability plots and spatial analysis of individual high grades. Top-cuts for the Contact Lodes were selected on a lode-by-lode basis and top-cuts for the Flat Lodes were selected on a domain grouping basis. Top cuts varied between 8g/t and 43g/t gold. Low grade subdomains within the Contact Lodes were all top cut to 2g/t gold. Top cuts were applied to composites prior to estimation.

Flat Lode model:

Flat Lode domains were grouped into seven orientation domains and variography was undertaken. The Regal Flat Lodes (88 domains) were individually estimated by ordinary kriging dynamic anisotropy, using hard domain boundaries. The search ellipse for the Regal Lodes was aligned to the local orientation of the mineralised trend of each domain using dynamic anisotropy. The Crown Jewel and Royal Lodes were estimated as a group, using ordinary kriging with a search ellipse flattened across strike to force a strong anisotropic search in the plane of the veins. Flat lodes were estimated into a parent block of 10m (Y) x 10m (X) x 5m (Z) with sub celling to 1m (X, Y, Z).

Contact Lode model:

Categorical indicator variography was completed for each of the Contact Lodes using dynamic anisotropy to control the search at a 0.25g/t gold indicator. This estimation was used to define the low-grade subdomains. Variography was undertaken on the Contact Lode high grade sub-domains which were individually estimated by ordinary kriging using dynamic anisotropy with hard boundaries applied apart from domain 101, 301 and 401. Contact Lodes were estimated into a parent block of 10m (Y) x 20m (X) x 5m (Z) with sub celling to 1m (X) by 2m (Y) by 1m (Z).

For both models three search passes were run. The size of the initial anisotropic search ellipsoid was based on the variogram ranges. The searches were oriented in the same directions as the variograms (i.e. parallel to the individual vein geometries).

Cut-off Grade

The cut-off grades for Mineral Resource Estimation reporting are 0.5g/t gold for open pit resources and the Mineral Resource has been reported above the 200mRL (approximately 200m below ground level) as the constraint for open pit RPEEE ("Reasonable Potential for Eventual Economic Extraction")

Previously reported MREs have used the same cut-off grade based on reasonable prospects of eventual economic extraction using optimisation shells run by Mining Consultants using assumed cost scenarios.

Mineral Resource Classification

Blocks have been classified as Measured, Indicated, Inferred or Unclassified based on drill hole spacing, geological continuity and estimation quality parameters.

Measured Mineral Resource is supported by multiple orientations of drilling, tighter than 20m x 20m exploration spacing and grade control drilling of 4-5m x 10m spacing within the open pits. The grade estimate is supported by greater than 20 samples in the estimate. There is strong geological support including open pit mapping of vein structures and frequency.

Indicated Mineral Resource is supported by exploration drilling with nominal 20m x 30m spacing, supported by 15 to over 20 samples. Geological continuity is demonstrated by the geological interpretation, pit and surface mapping, vein studies of orientation and continuity and multiple exposures of mineralisation in-mine workings.

Inferred Mineral Resource was defined where there was a low to moderate level of geological confidence in geometry, there was still continuity of grade and drill spacing was greater than 30m. It is supported by less than 15 samples in the estimate. Geological support was defined to a lower level of confidence in terms of continuity and extent.

Unclassified mineralisation has not been included in this Mineral Resource and is the material that has no estimated grades and is unsupported by geology and drilling. This includes all material below the 200mRL.

Mining and Metallurgical Parameters

Gold grades and geometry of the mineralised veins are amenable to open pit mining. No dilution for mining has been incorporated into the model. The model and reported Mineral Resources are for the mineralised lodes only, and further mining studies are required to determine the appropriate amount of dilution. Trial mining in 2016 and 2020 and reconciliation of ore shall also assist in determining the appropriate mining parameters.

Metallurgical test work on Boorara was completed by ALS Laboratories in 2014, 2015, a further two test work programs undertaken in 2016 and another two in 2018 and 2019. Bureau Veritas completed metallurgical testwork in 2011 and 2021 and two programs in 2017 in addition to ore characterisation testwork undertaken in 2017 by HydroGeoSense. Test work was undertaken on the various lodes and weathering profiles through master and bulk composites. In addition, trial mining in 2016 of the Royal lodes processed at FMR Investments' Greenfields Mill, and trial mining in 2020 of the Regal and Crown Jewel lodes treated at Golden Mile Milling's Lakewood plant, enabled confirmation of metallurgical recoveries, reagent consumptions and optimal processing parameters for plant design

Comminution test work included SAG Mill Comminution Data, Unconfined compressive strength (UCS), Crushing Work Index, Bond Ball Work Index, Bond Abrasion Index which indicate the transitional/fresh ore on average is of medium hardness and moderately abrasive.

Metallurgical recovery test work included gravity and CIL leach test work and direct leach test work at various grind sizes which showed moderate to high gravity recovery and high leach recovery, with milling confirming these results averaging typically above 40% gravity recovery and achieving overall recovery of 94.5% across all lodes at Boorara.

Horizon Minerals Limited – Summary of Gold Mineral Resources

Project	Cut-off grade (g/t)	Measured			Indicated			Inferred			Total Resource		
		Mt	Au (g/t)	Oz	Mt	Au (g/t)	Oz	Mt	Au (g/t)	Oz	Mt	Au (g/t)	Oz
Boorara OP	0.5	1.28	1.23	50,630	7.19	1.27	294,140	2.56	1.26	103,470	11.03	1.26	**448,240**
Jacques Find	1.0				1.60	2.24	114,850	0.32	1.68	17,140	1.91	2.14	**131,970**
Teal	1.0				1.01	1.96	63,680	0.80	2.50	64,460	1.81	2.2	**128,140**
Peyes Farm	1.0				0.31	1.65	16,310	0.22	1.77	12,550	0.53	1.7	**28,860**
Crake	1.0	0.46	1.85	27,460	0.48	1.49	22,570	0.33	2.22	23,790	1.27	1.82	**73,820**
Rose Hill OP	0.5	0.19	2.00	12,300	0.09	2.00	6,100				0.29	2.00	**18,400**
Rose Hill UG	2.0				0.33	4.50	47,100	0.18	4.80	27,800	0.51	4.60	**74,900**
Pennys Find (50%)					0.07	8.06	19,000	0.05	5.57	9,000	0.12	7.04	**28,000**
Gunga West	0.6				0.71	1.60	36,440	0.48	1.50	23,430	1.19	1.56	**59,870**
Golden Ridge	1.0				0.47	1.83	27,920	0.05	1.71	2,800	0.52	1.82	**30,720**
TOTAL		**1.94**	**1.45**	**90,390**	**12.24**	**1.65**	**648,110**	**4.99**	**1.77**	**284,430**	**19.18**	**1.66**	**1,022,930**

Confirmation

The information in this report that relates to Horizon's Mineral Resources estimates is extracted from and was originally reported in Horizon's ASX announcements "Intermin's Resources Grow to over 667,000 Ounces" dated 20 March 2018, "Crake Gold Project Continues to Grow" dated 10 December 2019, and "Rose Hill firms as quality high grade open pit and underground gold project" dated 8 December 2020, "Horizon enters high grade underground development JV", dated 30 November 2020, "Updated Boorara Mineral Resource Delivers a 34% Increase In Gold Grade" dated 27 April 2021, each of which is available at www.asx.com.au. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the estimates in those announcements continue to apply and have not materially changed. The Company confirms that the form and context of the Competent Person's findings in relation to those Mineral Resources estimates or Ore Reserves estimates have not been materially modified from the original market announcements.

Horizon Minerals Limited – Summary of Vanadium / Molybdenum Mineral Resources

Project	Cut-off grade (%)	Tonnage (Mt)	Grade			Metal content (Mt)		
			V_2O_5 (%)	Mo (ppm)	Ni (ppm)	V_2O_5	Mo	Ni
Rothbury (Inferred)	0.30	1,202	0.31	259	151	**3.75**	0.31	0.18
Lilyvale (Indicated)	0.30	430	0.50	240	291	**2.15**	0.10	0.10
Lilyvale (Inferred)	0.30	130	0.41	213	231	**0.53**	0.03	0.03
Manfred (Inferred)	0.30	76	0.35	369	249	**0.26**	0.03	0.02
TOTAL		**1,838**	**0.36**	**256**	**193**	**6.65**	**0.46**	**0.36**

Horizon Minerals Limited – Summary of Silver / Zinc Mineral Resources

Nimbus All Lodes (bottom cuts 12g/t Ag, 0.5% Zn, 0.3g/t Au)

Category	Tonnes	Grade	Grade	Grade	Ounces	Ounces	Tonnes
	Mt	**Ag (g/t)**	**Au (g/t)**	**Zn (%)**	**Ag (Moz)**	**Au ('000oz)**	**Zn ('000t)**
Measured Resource	3.62	102	0.09	1.2	**11.9**	10	**45**
Indicated Resource	3.18	48	0.21	1.0	**4.9**	21	**30**
Inferred Resource	5.28	20	0.27	0.5	**3.4**	46	**29**
Total Resource	12.08	52	0.20	0.9	**20.2**	77	**104**

Nimbus high grade silver zinc resource (500g/t Ag bottom cut and 2800g/t Ag top cut)

Category	Tonnes	Grade	Grade	Ounces	Tonnes
	Mt	**Ag (g/t)**	**Zn (%)**	**Ag (Moz)**	**Zn ('000t)**
Measured Resource	0	0	0	**0**	**0**
Indicated Resource	0.17	762	12.8	**4.2**	**22**
Inferred Resource	0.09	797	13.0	**2.2**	**11**
Total Resource	0.26	774	12.8	**6.4**	**33**

Confirmation

The information is this report that relates to Horizon's Mineral Resources estimates on the Richmond Julia Creek vanadium project and Nimbus Silver Zinc Project is extracted from and was originally reported in Intermin's and MacPhersons' ASX Announcement "Intermin and MacPhersons Agree to Merge – Creation of a New Gold Company Horizon Minerals Ltd" dated 11 December 2018 and in MacPhersons' ASX announcements "Quarterly Activities Report" dated 25 October 2018, "Richmond – Julia Creek Vanadium Project Resource Update" dated 16 June 2020, "New High Grade Nimbus Silver Core Averaging 968 g/t Ag" dated 10th May 2016, "Boorara Trial Open Pit Produced 1550 Ounces" dated 14 November 2016 and "Nimbus Increases Resources" dated 30th April 2015, each of which is available at www.asx.com.au. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the estimates in those announcements continue to apply and have not materially changed. The Company confirms that the form and context of the Competent Person's findings in relation to those Mineral Resources estimates have not been materially modified from the original market announcements.

Forward Looking and Cautionary Statements

Some statements in this report regarding estimates or future events are forward looking statements. They include indications of, and guidance on, future earnings, cash flow, costs and financial performance. Forward looking statements include, but are not limited to, statements preceded by words such as “planned”, “expected”, “projected”, “estimated”, “may”, “scheduled”, “intends”, “anticipates”, “believes”, “potential”, “could”, “nominal”, “conceptual” and similar expressions. Forward looking statements, opinions and estimates included in this announcement are based on assumptions and contingencies which are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions. Forward looking statements are provided as a general guide only and should not be relied on as a guarantee of future performance. Forward looking statements may be affected by a range of variables that could cause actual results to differ from estimated results and may cause the Company’s actual performance and financial results in future periods to materially differ from any projections of future performance or results expressed or implied by such forward looking statements. These risks and uncertainties include but are not limited to liabilities inherent in mine development and production, geological, mining and processing technical problems, the inability to obtain any additional mine licenses, permits and other regulatory approvals required in connection with mining and third party processing operations, competition for among other things, capital, acquisition of reserves, undeveloped lands and skilled personnel, incorrect assessments of the value of acquisitions, changes in commodity prices and exchange rate, currency and interest fluctuations, various events which could disrupt operations and/or the transportation of mineral products, including labour stoppages and severe weather conditions, the demand for and availability of transportation services, the ability to secure adequate financing and management’s ability to anticipate and manage the foregoing factors and risks. There can be no assurance that forward looking statements will prove to be correct.

Statements regarding plans with respect to the Company’s mineral properties may contain forward looking statements in relation to future matters that can only be made where the Company has a reasonable basis for making those statements.

This announcement has been prepared in compliance with the JORC Code (2012) and the current ASX Listing Rules.

The Company believes that it has a reasonable basis for making the forward-looking statements in the announcement, including with respect to any production targets and financial estimates, based on the information contained in this and previous ASX announcements.

Appendix 1 – Boorara Gold Project

JORC Code (2012) Table 1, Sections 1 and 2

Competent Person Statement

Mr David O'Farrell, Exploration Manager compiled the information in Section 1 and Section 2 of the following JORC Table 1 and is the Competent Person for those sections. Mr Mark Drabble, Principal of Optiro Pty Ltd, compiled the information in Section 3 of the following JORC Table 1 and is the Competent Person for that section. The following Table and Sections are provided to ensure compliance with the JORC Code (2012 edition) requirements for the reporting of Mineral Resources. For further detail, please refer to the announcements made to the ASX by Intermin Resources Ltd and Horizon Minerals Ltd (2019-2020) relating to the Boorara gold project areas.

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.*	• The deposit was sampled using Reverse Circulation (RC), Diamond drillholes (DDH) and Grade Control RC (GCRC) on spacings ranging from 4m x 10m and 4m x 4m (vertical) at Royal, nominally 4m x 10m (vertical) at Crown Jewel and 5m x 10m (angled) at Regal. The exploration/resource development drilling patterns were typically spaced at 10-20m x 20m but can extend out to >100m spacing where deeper. An approximate total of 337 RC holes, 50 DDH holes and 812 GCRC holes were drilled for 133,695m, 8537m and 22,978m respectively. • Other types of sampling such as trenches, Aircore and RAB drilling were not used in the Mineral Resource Estimate. • Exploration (RC) samples are collected from the drill rig cyclone in a bucket or green plastic bag in 1m intervals and are laid out in rows of 10, 20, 30 or 40. A 2-4 kg representative sample is split via the rig mounted cone splitter and placed on top of the green plastic for that metre interval. • GCRC samples are typically collected from rig mounted cone type splitters on a 1m downhole interval producing and 2-4kg sample. • Diamond drilling was HQ, PQ or NQ2 size. MRP drilled 24 of the 50 DDH. Sampling typically uses one metre lengths with half cut core being taken adjacent to bottom of hole orientation line.

Criteria	JORC Code explanation	Commentary
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	• All sampling is undertaken using Macphersons Resources and/or Horizon Minerals Ltd (HRZ) sampling procedures and QAQC in line with industry best practice which includes duplicate cyclone split samples every 25 samples and insertion of certified standards followed by a blank sample every 30 samples. The RC drilling rig provides a sample at the end of each metre of drilling. A 2-4kg is collected from the drill rig mounted cone splitter which is representative of that metre. PQ, HQ and NQ2 diamond core was half cut to produce a 1 -4 kg sample for analysis.
Drilling techniques	*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.*	• RC was used to obtain 1m samples from which approximately 1.5-2kg was pulverised to produce a 50 g charge for fire assay. RC chips were geologically logged over 1m intervals, sampled over 1m intervals. Samples assayed for Au only for this program. Assays were determined by 50g fire assay with AAS finish samples grading >5g/t were repeat assayed and if a sample exceeded 100 g/t or coarse gold is suspected then a screen fire assay (Au-SCR22AA) has been undertaken on those samples and those results reported instead of the fire assay result. • Historic hole collars have been recovered where possible and surveyed by a licenced surveyor using a DGPS (0.01). Historic holes were down hole surveyed where access was possible for deviation by north seeking gyroscope method by local contactor ABIMS.
	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).	• RC drilling accounts for 81% of the drilling in the resource area, with DDH (5%) and RCGC (14%). Hole depths range from 11m to 332m for RC, 45m to 1,023m for DDH and 6m to 54m for RCGC drilling. • RC drilling used a 137 mm face sampling hammer bit. The diamond drilling used HQ3 (tripletube) and NQ2 sizes. • Core was oriented using the Reflex Technique/method with the bulk of the orientations rated as "reasonable" especially in the ore zone areas. Poor core orientations were usually found in highly weathered, low indurated core and fractured or broken ground.
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	• RC recovery and meterage were assessed by comparing drill chip volumes for individual meters. Estimates of sample recoveries were recorded. Routine checks for correct sample depths are undertaken every RC rod (6m). RC sample recoveries were visually checked for recovery, moisture and contamination. The cyclone was routinely cleaned ensuring no material build up. • Due to the generally good/standard drilling conditions around sample intervals (dry) the geologist believes the samples are representative. Poor sample recovery was rarely an issue, apart from intersecting narrow

Criteria	JORC Code explanation	Commentary
	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.*	intervals in old underground workings. • Drill core was measured and compared to drilled intervals and recorded as a percentage recovery. Recovery in oxidised rock is regarded as reasonable whereas in fresh rock is noted as excellent. • No sample bias has been identified to date.
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.*	• Each RC metre drilled underwent detailed logging through the entire hole with record kept of colour, lithology, degree of oxidation, and type and intensity of alteration, veining and sulphide content. Chip trays are stored on site. • Logging was qualitative in nature. • All drill holes were geologically logged in full (100%). • All 24 MRP diamond core holes have been photographed and are stored on the Nimbus mine site server.
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.*	• Standard 1m RC sample interval. • All RC sub-samples are collected via a cone splitter system mounted on the drill rig. • All samples were analysed via a 50-gram fire assay. Following that analysis in cases where visible gold has been observed or a fire assay grade has exceeded 100 g/t or coarse gold is suspected then a screen fire assay (Au-SCR22AA) has been undertaken on those samples and those results reported instead of the fire assay result. • Sample preparation and analysis were completed by ALS/SGS in Kalgoorlie. When received, samples are processed by code PREP-31: logged into tracking system and bar code attached, fine crush to better than 70% passing 2mm, split sample using riffle splitter, split of up to 1000g pulverised to >85% sample passing 75um. • All sampling equipment and sample bags are kept clean at all times. The RC drill rig mounted cone splitter is set to ensure that the 1m split sample weights average between 2-4kg. The cone splitter is cleaned using

Criteria	JORC Code explanation	Commentary
	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.*	an air nozzle after every drill rod (6m). Horizon Minerals sampling procedures and QAQC is used to maximise representivity of samples and minimise contamination. Duplicate field samples are collected every 25 samples from the cyclone splitter. • The sample sizes of 2-4 kg are considered appropriate for the style of mineralisation at Boorara. • Core was half cut with a diamond saw with the same half always sampled (w.r.t bottom of hole line) and the other half retained in coretrays. No duplicate core was taken. • In some instances, oxidised and non-competent clay zones are carefully split in half using sampling wedge and sampled as half core.
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 nature, quality and appropriateness of the assaying and laboratory procedures follow industry standard best practices for Archaean mesothermal lode gold deposits. The fire assay technique will result in a total assay result. In cases where visible gold has been observed or a fire assay grade has exceeded 100 g/t or coarse gold is suspected then a screen fire assay (Au-SCR22AA) has been carried out on those samples and reported instead of the fire assay result. • No geophysical assay tools were used. • Certified Reference Materials (standards) are purchased from an independent supplier of such materials. Blanks are made up from samples previously collected from other drill programs that have analysed as less than detection Au values. A standard sample followed by a blank sample are inserted every 30th sample. A duplicate sample is taken every 25 samples. Evaluation of the Macphersons/Horizon submitted standards and blanks analysis results indicates that assaying is accurate and without significant drift or bias.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.* *The use of twinned holes.*	• At least two different company personnel visually verified intersections in the collected drill chips. A representative sample of each metre is collected and stored for further verification if needed. • Work was supervised by senior ALS staff experienced in metals assaying. QC data reports confirming the sample quality are supplied. • Data collected in the form of spread sheets, for drill hole collars, surveys, lithology and sampling. All geological and field data is entered into Microsoft Excel spreadsheets with lookup tables and fixed

Criteria	JORC Code explanation	Commentary
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. *Discuss any adjustment to assay data.*	formatting (and protected from modification) thus only allowing data to be entered using the MacPhersons geological code system and sample protocol. Data is verified and validated by MRP/HRZ geologists and stored in a Microsoft Access Database. Data is emailed to a database administrator for validation and importation into a GEMS database. All drill data is stored in a database at Horizon's Perth office. • No adjustments are made to the primary assay data imported into the database.
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.*	• Initial hole collars surveyed by licenced surveyor DGPS and a 0.01m dip reading was checked with clinometer on drill mast at set up on hole. RC holes are surveyed by down hole surveys at 20m intervals using "Reflex Gyro" +/- 0.1^0 by drill contractor. Some holes were open hole gyro surveyed by local contractor ABIMS. • Final hole locations were surveyed by licenced surveyor (Minecomp Pty Ltd) using RTK DGPS (0.01m). • The grid system used is Geodetic Datum of Australia 1994 (GDA 94) and local grid. • In 2011 Fugro Spatial Solutions Pty Ltd carried out a detailed aerial photographic survey with Ortho rectification and mosaicking performed using Inpho Digital Photogrammetric Systems. Expected accuracy of detail within 0.8mm at ortho-image map scale. Topographic control is from ground surveys and aerial imagery elsewhere.
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.*	• Drilling at Boorara is nominally on 10 to 20m line spacings with infill on 4 or 5m to 20m spacings. Deeper drilling is typically done at 40m or 80m centres. • The mineralisation style is quartz veins in sheeted vein arrays and stockworks within mafic host rocks. A significant amount of test work has been carried out to determine the optimal drilling orientation for intersection of each style of mineralisation and the density and orientation is considered to be sufficient for definition and classification of the Mineral Resource. • No sample compositing has been applied in the field.
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.*	• Drilling at Boorara Regal deposit is a 060°/-60° perpendicular to geology contacts but also is preferred orientation for estimating grade of quartz veins and arrays. Drilling at Boorara Crown Jewel and Royal deposits uses vertical holes which is also a preferred orientation for estimating grade of quartz veins and arrays in these two areas. Previously vertical drill hole assay results at Boorara Trial Pit reconciled very well to actual tonnes mined and milled. Angled holes used in the latest grade control program appeared to be

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.*	in broad agreement with mined grade, suggest that any potential bias from oblique holes has been countered via increased drill density. • Historical drilling has used a number of drill orientations, resulting in some low angle intersections due to the complex geometry of the quartz and ore zones where ore lodes have been hit obliquely. This is not considered to have a material effect on the interpretation or estimation.
Sample security	*The measures taken to ensure sample security.*	• Chain of custody is managed by MRP/ Horizon Minerals Ltd. Field samples are stored overnight onsite (if not delivered to laboratory) which is equipped with security cameras and caretaker in residence who is an employee of Horizon. • Field samples are delivered to the assay laboratory in Kalgoorlie. Whilst in storage at the laboratory, they are kept in a secured yard. Tracking sheets have been set up online to track the progress of batches of samples through the laboratory.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	• CSA Global completed a review in early 2015 of the MRP sampling protocols as part of their Resource estimation work and were satisfied that the adequacy of sample preparation, sample security and analytical procedures are of industry standard. This procedure has been adopted and now used by HRZ. Optiro carried out a field visit and desktop review of the sampling and QAQC during 2019 and did not identify any issues.

Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and	*Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties,*	• The Boorara Project is located approximately 17km east-southeast of Kalgoorlie, 2km west of Nimbus and 6km north-northwest of Golden Ridge. The Boorara project is situated within mining leases M26/29, M26/277 and M26/318 accessed from the Kalgoorlie-Bulong Road via an unsealed haul road. The tenements are located within the Hampton Hill Pastoral Station.

Criteria	JORC Code explanation	Commentary
land tenure status	*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 licence to operate in the area.*	• Normal Western Australian state royalties apply. A third-party royalty of $1/t is payable to a maximum of $1 million on M26/277. A third-party royalty based on production milestones is payable on M26/29, M26/318 & M26/161 as below; 25,000 ounces gold production – 375-ounce royalty payable 50,000 ounces gold production – 375-ounce royalty payable 75,000 ounces gold production – 375-ounce royalty payable 100,000 ounces gold production – 375-ounce royalty payable • Situated within the Boorara Project area is the historic townsite reserve. Proposed open pit operations will not impact on this land. The location of waste dumps will be sited so as to avoid Mineral Resources, exploration targets and to work with other mining infrastructure associated with the Nimbus operations located within 2km of the proposed Boorara open pits. MRP purchased the Nimbus property on 8th September 2011 from Kalgoorlie Ore Treatment Company Pty Ltd (KOTC). The tenements are held by KOTC, a wholly owned subsidiary of Horizon Minerals Limited. • The tenements are in good standing and no known impediments exist.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	• Historic gold production at Boorara produced 30,673 oz's from the treatment of 54,731 tonnes of ore. This production was from underground mining at the Cataract shaft, East Lode shaft and the Crown Jewel shaft. Historic mine plans and sections show two orientations of mine stopes, one at 040°/25° NW and another at 315°/65°W. • Dampier Mining Pty Ltd and Texas Gulf Australia Ltd in 1980 drilled 20 RC holes for 1,038m and 10 diamond holes for 1,695m. • Western Reefs NL in 1985 undertook soil sampling on a 40m x 20m grid. They also completed 180 RAB holes for 9892m, 268 RC holes for 20,831m and 26 diamond holes for 2,609m. Geological mapping was undertaken by Western Reefs including costean mapping and sampling. • The Cataract shaft was refurbished and geologically mapped and surveyed. The Crown Jewel shaft was mapped and surveyed also. • Windsor Resources in 1988 drilled 174 RC holes for 11,274m. • Newmont in 1990 drilled 338 RAB holes for 15,446m, 39 RC holes for 4,319m and 4 diamond holes for 718m. Geological mapping and soil sampling was also undertaken. • Mt Monger Gold Project in 1993 drilled 116 RC holes for 6,222m.

Criteria	JORC Code explanation	Commentary
		• Fimiston Mining NL in 1995 drilled 110 RC holes for 7,257m and 1 diamond hole for 195m. The data relating to the Boorara gold deposits comprising the Southern Stockwork Zone, Northern Stockwork Zone, Cataract Area, East Lode and Digger Dam was reviewed. The database was updated to incorporate the drilling completed by Fimiston and cross sections and interpretations made. A global polygonal based resource estimate was compiled which reported global Mineral Resources of 2.25 million tonnes @ 1.40g/t Au at a cut-off grade of 0.5g/t Au or 1.42 million tonnes @ 1.72 g/t Au at a cut off of 1.0 g/t Au. Block modelling of this polygonal data was then completed which returned a total oxide Mineral Resource of 1,293,000 tonnes @ 1.49 g/t, and a total fresh Resource of 1,095,000 tonnes @ 1.86g/t Au. • New Hampton Goldfields Ltd in 2001 undertook a MRE at Boorara which resulted in a JORC compliant undiluted Mineral Resource of 1,506,000t @ 1.85 g/t Au. Open pit design of the Southern Stockwork, Cataract and the Northern Stockwork resulted in a Probable Reserve of 179,000t @ 3.0 g/t Au. The New Hampton Goldfields Ltd – Jubilee Gold Operations report, "Mineral Resource Estimate Report, Boorara M26/29 M26/318 and M26/161, June 2001, G. Job" outlines the methodology and an explanation of the resource calculation. • Polymetals (WA) Pty Ltd in 2006 estimated a NON JORC complaint total Mineral Resource summary of 1,904,800t @1.38g/t Au using a cut-off grade of 0.5 g/t Au. Polymetals in 2009 completed 18 RC holes for 1770m. From this program 126 samples with >1.0g/t Au were screen fire assayed, with another 34 duplicates taking the total samples assayed via screen fire assay to 160.
Geology	*Deposit type, geological setting and style of mineralisation.*	• The Boorara Au deposit is an Archaean mesothermal Au deposit. The Boorara local geology consists of a sequence of ultramafic, mafic and felsic volcanic and volcaniclastic rocks, with interflow carbonaceous sediments found on the lithological boundaries. Dolerite intrusions are conformable within the sequence. The metamorphic grade of rocks at Boorara is lower greenschist facies. The alteration assemblage associated with mineralisation consists of quartz carbonate and sericite. Pyrite and arsenopyrite are associated with the higher Au grades at Boorara. Mineralisation envelopes at Boorara consist of three dominant orientations: 1. Regal - NW trending sub-vertical mineralisation which is typically sub parallel to lithology contacts. 2. Crown Jewel - NW trending, NE shallow dipping mineralisation, sub parallel to lithology contacts. 3. Quartz dolerite hosted NW striking with shallow to moderate NW dipping vein arrays as seen in the Boorara trial pit and at the Cataract workings.

Criteria	JORC Code explanation	Commentary
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.*	• Please refer to previous ASX announcements by Horizon Minerals, Macphersons Resources Ltd and previous operators for full details. • No individual drill holes are quoted in this release. The report is a Mineral Resource Estimate Summary only.
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.*	• Holes include up to 2m of internal dilution - host dolerite was intersected in the 2m diluted section with significant alteration. A nominal cut-off grade of 0.4 g/t Au was used to interpret mineralisation domains and top cut grades were applied to each domain. Further detail is given in Section 3. The procedure applied to the aggregate intercepts quoted is length weighted average (sum product of interval x corresponding interval assay grade), divided by sum of interval lengths and rounded by one decimal place. • No metal equivalent calculations were applied.

Criteria	JORC Code explanation	Commentary
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').*	• Drill intercepts at Regal are 50-75% of the true width of vertical sub vertical mineralisation and close to true width of NW striking NE dipping lodes. • Drill intercepts at Crown Jewel and Royal may be down dip of the dolerite host and do not represent true widths over the majority of this mineralisation. • Vertical and 060°/-60° intersect the mineralisation hosted in the various quartz vein sheeted vein array orientations 020˚/48˚NW, 060˚/40˚NW & 100˚/43˚N.
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.*	• Please refer to 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 to avoid misleading reporting of Exploration Results.*	• No summary results are shown.
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,*	• See details from previous ASX releases from MacPhersons Resources Limited (ASX; MRP) and more recently Horizon Minerals (ASX: HRZ). These can be accessed via the internet. • Diamond drill core was utilized for bulk density measurements by the dry weight/wet weight (Archimedes method). Geotechnical logging has been completed on all geotechnical diamond holes by a consultant geotechnical engineer.

Criteria	JORC Code explanation	Commentary
	geotechnical and rock characteristics; potential deleterious or contaminating substances.	
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.*	• No further Boorara resource (specific) drilling is planned in 2021. Mine based exploration such as strike extensions, will be reviewed in conjunction with open pit or underground economic assessments.

Section 3 Estimation and Reporting of Mineral Resources

Boorara Gold deposit

The following table provides a summary of important assessment and reporting criteria used for the reporting of the Boorara Deposit Mineral Resource in accordance with the Table 1 checklist in The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code, 2012 Edition) on an 'if not, why not' basis.

Criteria	JORC Code explanation	Commentary
Database integrity	*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.*	• The integrity and security of the drill hole database was preserved by the Company by only allowing access to the persons authorized to handle the data and by ensuring that all original data is kept securely on site. Secure backups are stored offsite. • Data from MRP drilling and pre-MRP drilling has been checked and validated prior to uploading into the MRP Datashed database by the Project Geologist. HRZ data is checked and validated by the Project Geologist prior to uploading to the current MS Access Database. • Historical data was validated by CSA global in 2016 with no fatal flaws detected. Minor validation issues were corrected. CSA again reviewed the database in 2018 and found no issues. • Cube Consulting completed validation and verification checks in 2018 and concluded that the exploration database has been prepared according to industry standards and is suitable for Mineral Resource estimation.
	Data validation procedures used.	• At the preliminary data entry stage, the database is checked against the raw logs. • Historical data has been checked against available reports (internal, WAMEX). • All data was checked visually in 3D to ensure that hole locations and surveys were correct. • The MRP DataShed database was validated against available original data in 2016 (CSA). • A large number of holes were verified against core photography by CSA (2018).

Criteria	JORC Code explanation	Commentary
Site visits	*Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* *If no site visits have been undertaken indicate why this is the case.*	• The Competent Person (Mr Mark Drabble) visited the Boorara project on May 29, 2019. The areas covered during this visit were the drilling information and exposures of geology and mineralisation visible in outcrops, pits and underground workings.
Geological interpretation	*Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*	• The framework of the deposits is based on field mapping of the host units which has been interpreted into a 3D model of the lithology and mineralisation domains, with a fault system imposed to control offsets and terminations in the deposit. Mapping of the Cataract underground workings was also incorporated into the 3D model. The high density of RC and DDH drilling throughout the deposit has supported the development of a robust geological model. • The host rocks are generally well defined in the logged lithology records and the structural framework is based on field measurements, aeromagnetic data and detailed surface geological mapping within test pits. • Geological continuity is demonstrated by field exposures of host rocks and vein packages.
	Nature of the data used and of any assumptions made.	• Data is stored in Access databases. Data is verified using Datashed, Micromine and Surpac.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	• Alternative interpretations for the Flat Lodes have been analysed using categorical indicator estimation and were not considered representative of the volume of these domains. Mapping of the trial pits supports the current interpretations.
	The use of geology in guiding and controlling Mineral Resource estimation.	• Detailed structural mapping of a test pit confirms the orientations of flat lying veins and contact stockwork domains. • All geological observations were used to guide the interpretation and further control the trends of the Mineral Resource estimate.

Criteria	JORC Code explanation	Commentary
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 Boorara deposit Mineral Resource has an approximate strike length of 2,150m and width of 150m. The full block model extends down to 720 m depth. The classified Mineral Resource is constrained to 200m depth. • The plan width of mineralised zones ranges from 5m to 30m for the steep Contact lodes. The NW dipping sheeted Flat Lodes have thickness averaging 1m to 5m and can extend along strike for up to 200m.

Estimation and modelling techniques	*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.*	• Software used:
		  • Leapfrog Geo – wireframe modelling of geology and mineralised domains.
		  • Snowden Supervisor - geostatistics, variography, quantitative kriging neighbourhood analysis (KNA) and block model validation.
		  • Datamine Studio RM - drill hole validation, compositing, block modelling, estimation, classification and reporting.
		  • Surpac - data transform from AGM to local grid.
		• Mineralisation was domained as two mineralisation sets (Contact and Flat Lodes) which were estimated as separate block models that were combined. The Contact Lode mineralisation model overprinted the Flat Lode mineralisation model.
		• Grades were composited to 1 m downhole constrained within the mineralised domains. Where Flat lode domains cross over the Contact domains the composites are used to inform both models, however the low proportion of intersections and the consistent gold grade tenor of both sets of lodes means this issue is not considered to be detrimental to the estimate.
		• Treatment of extreme grade values – high grade results within the deposit were capped by analysing histograms, log histograms, log probability plots and spatial analysis of individual high grades. Top-cuts varied between 8g/t and 43g/t. gold. Low grade subdomains within the Contact Lodes were all top-cut to 2 g/t gold. Top cuts were applied to composites prior to estimation.
		• Flat Lode Model
		  • Individual Flat Lode domain statistics was analysed and determined to be a single population so were then grouped into 7 orientation domains, for further exploratory data analysis. The variography search was aligned to the mineralised trend of each domain-group. Variography was undertaken returning a nugget between 51% and 58% and most of the remaining correlation

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		associated with the nugget and first range structure (73% to 91%) ranging from 8m to 11m. • The Regal Flat Lodes (88 domains) were individually estimated by ordinary kriging dynamic anisotropy, using hard domain boundaries. The Crown Jewel and Royal Lodes were estimated as two groups, using ordinary kriging. Flat Lodes were estimated into a parent block of 10m (Y) x 10m (X) x 5m (Z) with sub celling to 1m (X, Y, Z). • The search ellipse for the Regal Lodes was aligned to the mineralised trend of each domain using dynamic anisotropy. The search ellipse for the Crown Jewel and Royal Lodes was aligned to the mineralised trend of each domain and flattened across strike to force a strong anisotropic search. • Search neighbourhood for the Flat Lodes was determined by KNA and variography. Search pass one correlated with the maximum range of variography from 35m by 35m by 5m to 45m by 54m by 12m using a minimum of 8 and maximum of 22 composites per estimate. Pass 2 expanded the search range by 1.5 and used a minimum of 6 and maximum of 28 composites per estimate. Pass 3 expanded the search range by 3 and used a minimum of 4 and maximum of 28 composites per estimate. Blocks that were not estimated were given their domain mean grade and a search pass of four. • Contact Lode Model • Categorical indicator variography was completed for each of the Contact Lodes using dynamic anisotropy to control the search at a 0.25g/t gold Indicator. Categorical variography returned a nugget between 38% and 46% and maximum ranges extending from 34m by 15m by 14m to 34m by 15m by 14m. Categorical indicator estimation was used to define the low-grade subdomains that are below the 50% threshold. • Grade variography was undertaken on the Contact Lode high-grade sub-domains to provide a nugget in the range of 42% to 57% and a range extending out up to 62m by 62m by 25m. As the Contact Lode is a mixed population of stockwork veins 78% to 90% of the continuity is within the nugget and shorter first range structure (up to 20m by 20m by 10m). • The Contact Domains were individually estimated by ordinary kriging dynamic anisotropy. Hard boundaries were applied apart from Domain 101, 301 and 401 which are continuous along strike and offset by faults. Contact Lodes were estimated into a parent block of 10m (Y) x 20m (X) x 5m (Z) with sub celling to 1m (X) by 2m (Y) by 1m (Z). • The variography search was aligned to the mineralised trend of each domain-group. Variography was undertaken returning a nugget between 51% and 58% and most of the remaining correlation associated with the first range structure (22% to 31%) ranging from 8m to 11m.

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		• The search ellipse for the Contact Lodes was aligned to the mineralised trend of each domain using dynamic anisotropy. Search neighbourhood was determined by KNA and variography. Search pass one correlated with the maximum range of variography from 15m by 12m by 10m to 70m by 70m by 30m using a minimum of 10 and maximum of 32 composites per estimate. Pass 2 expanded the search range by 1.5 and used a minimum of 6 and maximum of 32 composites per estimate. Pass 3 expanded the search range by 3 and used a minimum of 4 and maximum of 32 composites per estimate. Blocks that were not estimated were given their domain mean grade and a search pass of four.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	• Previous recent estimates have been carried out by CSA (July 2018) and Cube (2018). Comparisons to these models are not definitive due to the markedly differing interpretation and estimation methodology used. It is considered the comparisons are useful at a global level, as significant changes to the local interpretations have occurred in the 2021 MRE. Production has been carried out from open pits in each deposit and reconciliations are comparable to the MRE expectations.
	The assumptions made regarding recovery of by-products.	• No by-product recovery has been assumed.
	Estimation of deleterious elements or other non-grade variables of economic significance (e.g., sulphur for acid mine drainage characterisation).	• No other elements were estimated.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	• For the Contact Lode block model, the parent block size is 10m (Y) x 20m (X) x 5m (Z) and the Flat Lode block model the parent block size is 10m (Y) x 10m (X) x 5m (Z). This is based upon an average drillhole spacing of 20 m x 20 m.
	Any assumptions behind modelling of selective mining units.	• The Boorara deposit has been mined by open pits and the selectivity implied by the MRE model is considered to be appropriate for a vein style gold deposit being exploited by this mining method. Internal dilution has been applied during grade control to account for the stockwork nature of the mineralisation domains.

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	Any assumptions about correlation between variables.	• No correlated variables have been investigated or estimated.
	Description of how the geological interpretation was used to control the resource estimates.	• The geological interpretation was used at all stages to control the estimation. It was used to guide the orientation and shape of the mineralised domains. These were then used as boundaries for the grade estimation, using the trend of the mineralisation to control the search ellipse direction and the major controls on the distribution of grade.
	Discussion of basis for using or not using grade cutting or capping.	• Top cuts were used in the estimate to control the over-influence of high grades outliers. Top cuts, where appropriate, were applied on an individual domain basis for the Contact Lodes and a grouped (by orientation) domain basis for the Flat Lodes.
	The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.	• Validation checks of the estimate occurred by way of global and local statistical comparison, comparison of volume of wireframe verses the volume of the block model, comparison of the model average grade (and general statistics) and the declustered sample grade by domain, swath plots by northing, easting and elevation, visual check of drill data vs model data, comparison of global statistics for check estimates. • Where domains were showing an overestimation of gold the top-cuts were further reduced to ensure metal was representing the declustered input data.
Moisture	*The basis of the adopted cut-off grade(s) or quality parameters applied*	• The tonnage was estimated on a dry basis.
Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied*	• A nominal lower cut-off grade of 0.4g/t gold was utilised for interpreting geological continuity of the mineralisation. For reporting, the cut-off grades applied to the estimate were 0.5g/t gold reporting above 200mRL. A 0.5g/t gold cut-off grade is generally considered to be the lower limit of economic extraction in an open pit.
Mining factors or assumptions	*Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable,*	• The Mineral Resource is constrained to a maximum vertical depth of 200m below surface to satisfy the reasonable prospect of eventual economic extraction criteria for JORC compliance. This is based on pit optimisations run by Mining Consultants using assumed cost scenarios.

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	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.	
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.*	• Processing of the 'test pit' high- and low-grade material through the processing facility did not identify any significant problematic issues of concern. • An approximate metallurgical recovery of 90% has been assumed in determining Reasonable Prospects of Eventual Economic Extraction.
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*	• The deposit lies within granted Mining Leases M26/29, M26/277 and M26/318. • The Boorara project is located in a mature gold mining district, with mining in the area occurring over the past 100 years. There are no major water courses in the project area, although ephemeral streams cut across the project. There are reserves associated with the Boorara townsite situated within the Boorora Project area. Permission has been granted from the City of Kalgoorlie-Boulder and the DMIRS to mine on these reserves. • The current assumption of waste rock being of no environmental significance is based on local experience in numerous greenschist facies gold deposits which contain significant carbonate mineralogy as part of the mineralisation and waste rock. The mineralisation is a low sulphidation type with limited

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	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	acid forming potential. • It is assumed that surface waste dumps will be used to store waste material and conventional storage facilities will be used for the process plant tailings.
Bulk density	*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.* *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,* *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	• Bulk density was assigned to the block model based on material type and lithology. The assumed density values were derived from 2,130 experimental data primarily based on specific gravity determinations from predominantly unweathered diamond core pieces. The values assigned are similar to those assumed in previous estimates. • The method for the bulk density measurements was by the dry weight/wet weight (Archimedes method) on both mineralised and waste rock. • Samples taken were coded by lithology and weathering. Averages were derived within each weathering zone and this value then used to code the block model. Results within each weathering zone (oxide, transitional and fresh) compared well to previous model bulk density application.
Classification	*The basis for the classification of the Mineral Resources into varying confidence categories*	• The Mineral Resource has been constrained to a maximum vertical depth of 200m below surface. • Blocks have been classified as Measured, Indicated, Inferred or Unclassified based on drill hole spacing, geological continuity and estimation quality parameters. • Measured Mineral Resource is supported by multiple orientations of drilling, tighter than 20m x 20m exploration spacing and grade control drilling of 4-5m x 10m spacing within the open pits. The grade estimate is supported by greater than 20 samples in the estimate. There is strong geological support including open pit mapping of vein structures and frequency. • Indicated Mineral Resource is supported by exploration drilling with nominal 20m x 30m spacing, supported by 15 to over 20 samples. Geological continuity is demonstrated by the geological interpretation, pit and surface mapping, vein studies of orientation and continuity and multiple exposures of mineralisation in-mine workings.

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		• Inferred Mineral Resource was defined where there was a low to moderate level of geological confidence in geometry, there was still continuity of grade and drill spacing was greater than 30m. It is supported by less than 15 samples in the estimate. Geological support was defined to a lower level of confidence in terms of continuity and extent. • Unclassified mineralisation has not been included in this Mineral Resource and is the material that has no estimated grades and is unsupported by geology and drilling. This includes all material below the 200mRL.
	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).	• Grade reliability, volume uncertainty and assay uncertainty have all been considered in the assignment of Mineral Resource categories. Consideration has been given to all relevant factors in the classification of the Mineral Resource.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	• The classification reflects the Competent Person's view of the deposit.
Audits or reviews	*The results of any audits or reviews of Mineral Resource estimates.*	• No external audits have been conducted on the Mineral Resource estimate.
	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	• With further drilling it is expected that there will be variances to the tonnage, grade and metal of the deposit. The Competent Person expects that these variances will not impact on the economic extraction of the deposit. One of the main issues is continuity and thickness variations, and these will continue to be a key focus of mining as the deposit is exploited, and locally there will be variable outcomes as grade control progresses. Optiro considers the Mineral Resource categories to be appropriate with respect to these risks. • It is the Competent Person's view that this Mineral Resource estimate is appropriate to the type of deposit. The Eastern Goldfields vein hosted style of mineralisation is well understood and has a substantial mining history to underpin the decisions made in preparing this MRE.

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	qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate *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* *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available*	• The Mineral Resource classification is appropriate at the global scale. • The Model was validated against Crown Jewel test pit and the Regal test pits mined high-grade claimed tonnes and grade. • Variability in the reconciliation is attributed to the incomplete mill processing of pit material (only high-grade material has been processed).