HIGH GRADE DRILLING RESULTS DEMONSTRATE OPEN PIT AND UNDERGROUND POTENTIAL AT KALPINI

HIGHLIGHTS

- Reverse Circulation (RC) and diamond drilling (DD) completed at 100% owned Kalpini gold project area, 50km northeast of Boorara in the Western Australian goldfields
- Kalpini acquired in November 2020 for A$2.75 million in cash with an historic JORC 2004 Mineral Resource (before depletion) of 4.6Mt grading 1.7g/t Au for 255,000oz [1,2]
- Stage 1 of the Gambia open pit was completed in 2019 producing approximately 39,000oz with a mill reconciled grade of 2.62g/t Au and calculated gold recovery of 95.1% [1]
- Drilling completed in 2021 totalled 49 RC holes for 5,677m and 3 DD holes for 346m to a maximum depth of 240m infilling for improved confidence and testing extensions
- Significant results including composite assays include [3]:
  - **12m @ 5.57g/t Au from 203m including 2m @ 12.92g/t Au from 211m** (KPRC21049)
  - **5m @ 10.21g/t Au from 70m including 1m @ 28.83g/t Au from 72m** (KPRC21030)
  - **7m @ 6.01g/t Au from 91m including 1m @ 22.04g/t Au from 93m** (KPRC21034)
  - **1m @ 41.53g/t Au from 195m** (KPRC21047)
  - **6m @ 4.45g/t Au from 90m including 1m @ 10.24g/t Au from 92m** (KPRC21021)
  - **1.5m @ 20.74g/t Au from 99.5m including 0.5m @ 54.25g/t Au from 99.5m** (KPDD21033)
  - **5m @ 3.97g/t Au from 3m including 1m @ 11.04g/t Au from 6m** (KPRC21023)
- Results demonstrate significant open pit and underground potential with excellent width and grade continuity and mineralisation open along strike and at depth
- All drilling data now being compiled to generate an updated (JORC 2012) Mineral Resource estimate with completion expected early in the December Quarter 2021[4]
- Kalpini joins Boorara, Binduli, Cannon, Rose Hill and Teal as core projects under assessment as part of the consolidated Feasibility Study[4]

Commenting on the drilling results, Horizon Managing Director Mr Jon Price said:

"The first drilling program we have completed has delivered excellent results confirming the potential for further open pit stages and significant upside at depth for potential underground development. We now look forward to completing the updated MRE and advancing the project as part of the consolidated Feasibility Study."

[1] As announced to the ASX on 12 October and 5 November 2020. [2] As reported by KalNorth Gold Mines Ltd to the ASX on 16 July and 24 October 2012. [3] See Table 1 on Page 7, Competent Persons Statement on page 8 and JORC Tables on Page 12. [4] See Forward Looking and Cautionary Statements on Page 11.

Overview

Horizon Minerals Limited (ASX: HRZ) (Horizon or the Company) is pleased to announce new high-grade drilling results from the 100% owned Kalpini gold project areas located 50km northeast of the Boorara gold project and comprises the Gambia, Camelia and Atlas deposits covering 585 hectares on granted mining lease M27/485 (Figures 1 and 2).

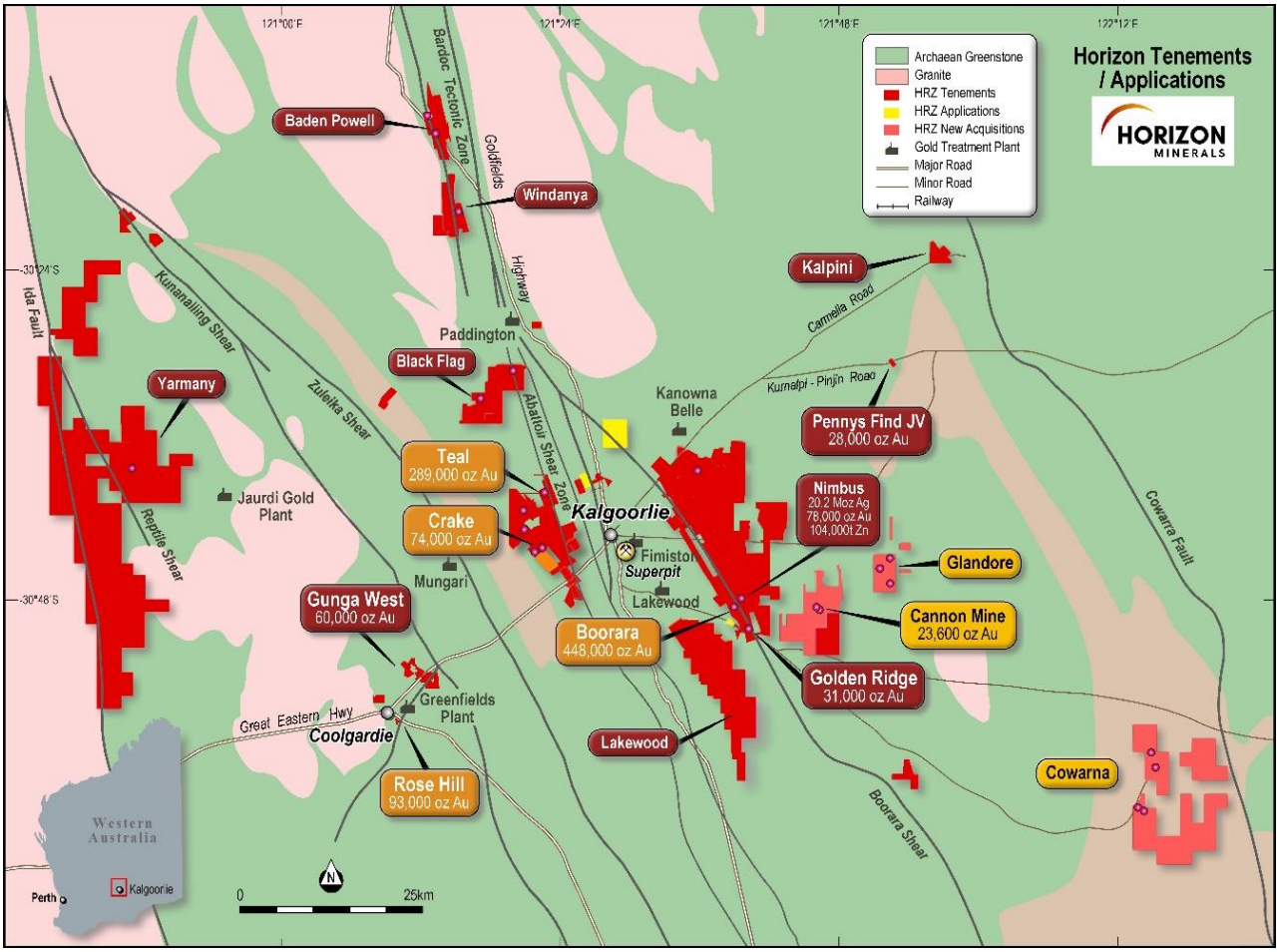

Figure 1: Horizon's Project area location, resources and surrounding infrastructure

Kalpini was acquired in November 2020 for A$2.75 million in line with the Company's strategy of consolidating additional development ready assets in close proximity to the proposed Boorara mill for inclusion in the initial 5-7year production profile under assessment as part of the consolidated Feasibility Study.

The drilling forms part of the 50,000m CY21 program testing high priority resource definition and new discovery targets across the 1,100km^2 portfolio. The aim of the Kalpini 2021 program was to validate and infill/extend the historical drilling enabling the previous JORC 2004 resource to be upgraded to JORC 2012 standard whilst improving the resource classification for generation of Ore Reserves.

About the Kalpini gold project

Kalpini is located approximately 65kms north-east of Kalgoorlie in the Eastern Goldfields of Western Australia (Figure 1) and 50km by existing roads to the 100% owned Boorara gold project. The project comprises granted mining lease M27/485 and miscellaneous lease L27/88 and covers approximately 585 hectares. The main ore deposits within the project are Gambia, Atlas and Camelia (Figure 2).

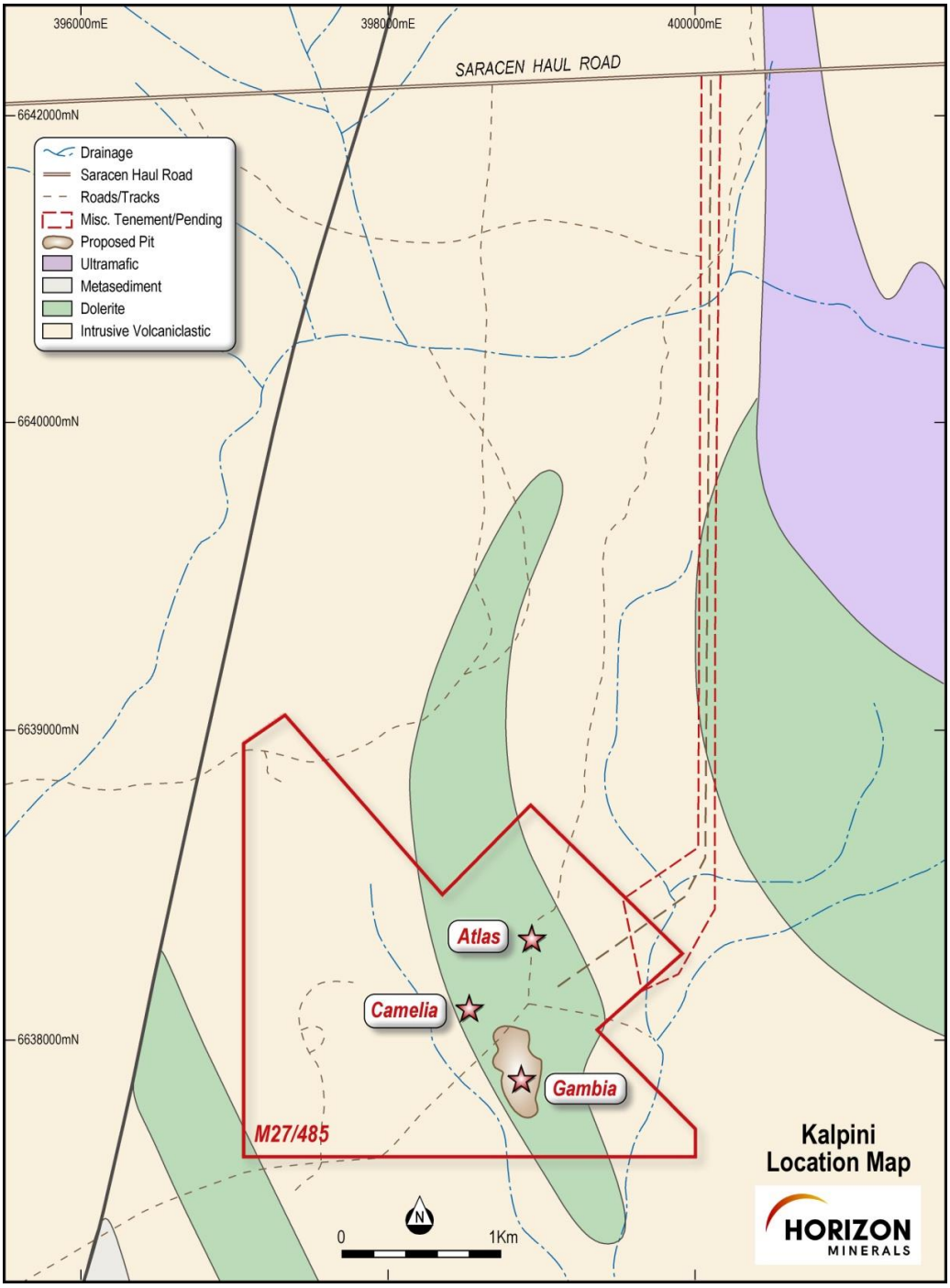

Figure 2: Kalpini prospect locations and underlying regional geology

Project Geology

Kalpini is located in the Kurnalpi domain of the Norseman Wiluna greenstone belt in the Yilgarn Craton. The region is characterised by a series of north-northwest trending interconnected greenstone belts which have been intruded by granitoid batholiths.

The dominant lithology encountered in Gambia is an Archean dolerite-gabbro unit. This is leucrocratic in composition, with granophyric textures being very common. Based upon assay results and observations made in hand specimen and drill core, two types of primary ore have been identified. A more common strongly bleached ore type, typified by strong silicification and often accompanied by quartz veining. Sulphides are abundant in this ore type. A second less common second ore type is typified by a dark colour with very little or no bleaching, and strong carbonate alteration. Pyrite is often present in this ore type but not in high concentrations. Magnetite is sometimes present in this ore type and is sometimes accompanied by small concentrations of pyrite. Veining in this ore type is less intense, and sometimes includes carbonate minerals.

Gold mineralisation along the Gambia-Camelia trend has been defined over a 900m strike length and is confined to multiple stacked narrow (0.5-3m) high grade flat dipping lodes hosted within gabbro. The lodes are characterised by arsenopyrite-sericite-carbonate quartz breccia's that have a limited leucoxene-chlorite-carbonate alteration halo in the host gabbro. Arsenopyrite content is variable but in the high-grade lodes can be in the range 1-3%. Importantly, all drilling along the Gambia-Camelia trend has focussed on the flat dipping lodes which are focussed in the central portion of the gabbro, with no drilling targeting the contact with the intermediate volcanoclastic rocks. Both the hanging and footwall contacts of the gabbro may provide the locus for shear hosted gold mineralisation, the flat narrow high-grade lodes being perhaps brittle link lodes.

Summary of Results

The bulk of the Kalpini drilling was dedicated to drillhole and resource validation in critical areas. Areas with wide spaced ("Inferred') drilling were infilled with a view to improving the JORC category to Indicated status with results including[1]:

- **1.4m @ 20.74 g/t Au from 99.5m** (KPDD21033)
- **5m @ 3.97 g/t Au from 3m including 1m @ 11.04 g/t Au from 6m** (KPRC21023)

The Atlas mineralisation was tested with 8 holes directed south across the strike. The best result was an encouraging 2m @ 6.25g/t from 31m in KPRC21005 (Figure 3).

The bulk of the drilling was directed between the south end of the Camelia pit and the north end of the Gambia pit with a view to validating historic high grade drill holes and infill drilling. The results are promising with confirmation of high-grade quartz mineralisation. Better intercepts include[1]:

- **5m @ 10.21g/t Au from 70m including 1m @ 28.83g/t Au from 72m** (KPRC21030)
- **7m @ 6.01g/t Au from 91m including 1m @ 22.04g/t Au from 93m** (KPRC21034)
- **1m @ 41.53g/t Au from 195** (KPRC21047)
- **6m @ 4.45g/t Au from 90m including 1m @ 10.24g/t Au from 92m** (KPRC21021)

[1] See Table 1 on Page 7, Competent Persons Statement on page 8 and JORC Tables on Page 12.

At the Gambia pit, several holes were also dedicated to validation drilling and testing depth extensions. The best result was obtained in KPRC21049 (12m @ 5.57g/t Au from 203m including 2m @ 12.92g/t Au from 211m). The thickness and tenor of the intercept is encouraging in regard to underground high grade resource potential, follow up drilling has been prioritised.

Next Steps

All new data is now being incorporated into the geological model enabling the compilation of and updated Mineral Resource Estimate (JORC 2012) which is expected to be released early in the December Quarter 2021. The updated resource will then be used for mine optimisation, design, and economic analysis for Ore Reserve generation.

Deeper drilling below KPRC21049 and extension targets along strike and at the Atlas deposits are being planned with drilling approvals submitted for drilling in 2021.

Authorised for release by the Board of Directors.

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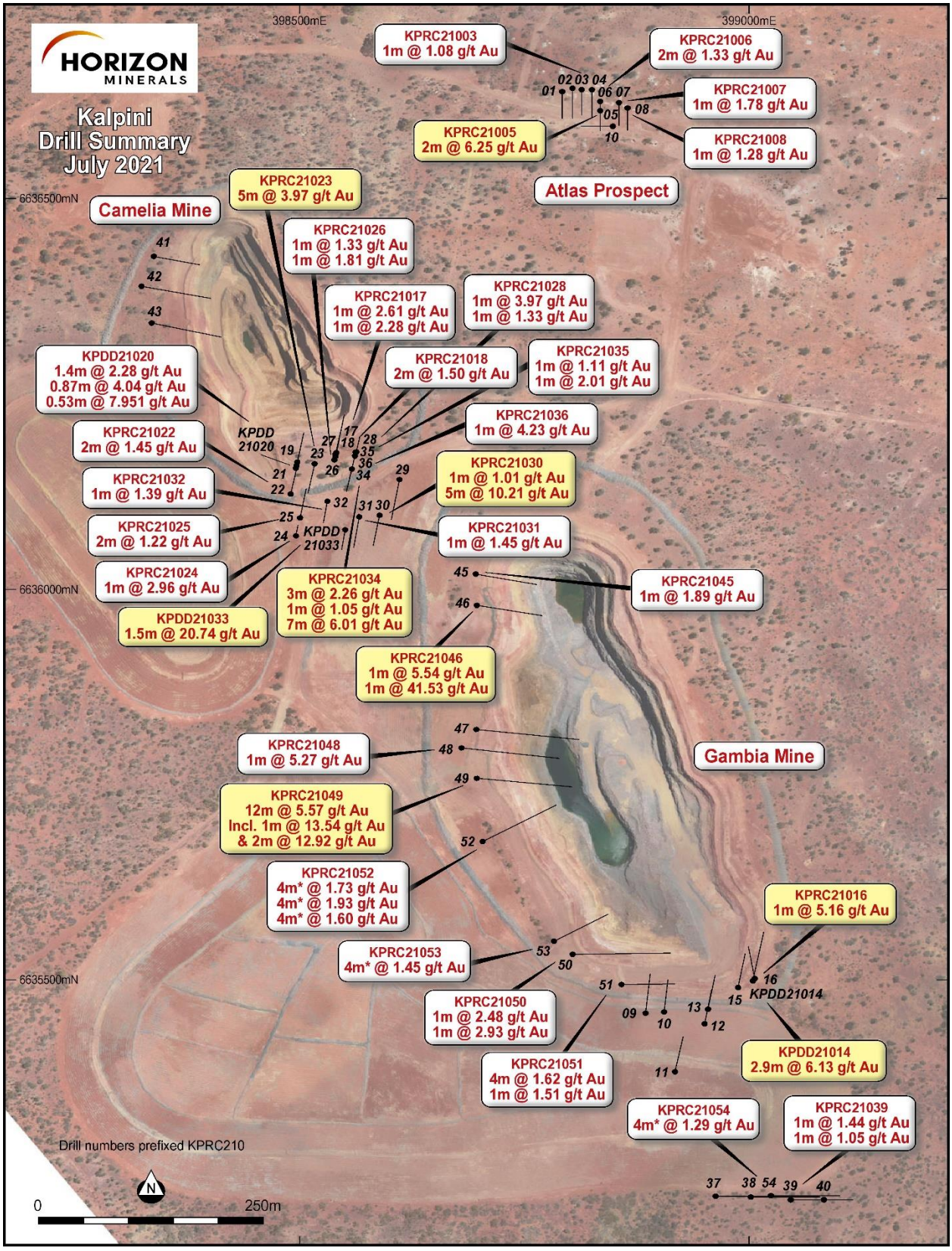

Figure 3: Kalpini 2021 drill location plan and highlights

Table 1: Kalpini (2021) significant downhole RC and DD intercepts >1.0 g/t Au (Au g/t FA50 is a fire assay). True width intercepts are not known but estimated to be close to the downhole width for the angled drill holes[1]

Hole Id	East (m)	North (m)	Depth (m)	Dip	Azimuth	From (m)	To (m)	Interval (m)	Au g/t (FA50)
RC HOLES									
KPRC21003	398813	6636615	60	-61	180	1	2	1	1.08
KPRC21005	398834	6636588	50	-60	180	31	33	2	6.25
KPRC21006	398833	6636600	60	-61	180	47	49	2	1.33
KPRC21007	398854	6636599	60	-60	180	52	53	1	1.78
KPRC21008	398864	6636592	55	-60	180	44	45	1	1.28
KPRC21016	399006	6635491	95	-66	351	80	81	1	5.16
KPRC21017	398543	6636160	108	-60	11	71	72	1	2.61
						88	89	1	2.28
KPRC21018	398542	6636157	101	-69	11	72	74	2	1.50
KPRC21021	398498	6636138	96	-79	11	90	96	6	4.45
KPRC21022	398493	6636105	114	-71	11	112	114	2	1.45
KPRC21023	398519	6636140	117	-72	191	3	8	5	3.97
KPRC21024	398499	6636053	103	-84	11	44	45	1	2.96
KPRC21025	398503	6636077	117	-72	11	54	56	2	1.22
KPRC21026	398541	6636149	94	-88	11	33	34	1	1.33
						76	77	1	1.81
KPRC21028	398565	6636158	96	-79	11	11	12	1	3.97
						64	65	1	1.33
KPRC21029	398612	6636119	103	-62	191	14	15	1	4.06
						27	28	1	3.43
						77	78	1	1.33
KPRC21030	398591	6636079	90	-62	191	30	31	1	1.01
						70	75	5	10.21
KPRC21031	398569	6636077	118	-70	191	117	118	1	1.45
KPRC21032	398533	6636093	110	-76	191	61	62	1	1.39
KPRC21034	398559	6636133	105	-76	191	8	11	3	2.26
						68	69	1	1.05
						91	98	7	6.01
KPRC21035	398563	6636154	97	-86	191	13	14	1	1.11
						72	73	1	2.01
KPRC21036	398562	6636150	104	-76	191	84	85	1	4.23
KPRC21039	399040	6635208	146	-60	90	77	78	1	1.44
						82	83	1	1.05
KPRC21044	398408	6636174	140	-60	91	127	128	1	1.16
KPRC21045	398696	6636004	140	-60	101	40	42	2	1.89
KPRC21046	398697	6635964	150	-60	101	35	37	2	1.20
KPRC21047	398696	6635806	233	-60	97	32	33	1	5.54
						195	196	1	41.53
KPRC21048	398680	6635782	236	-62	97	225	226	1	5.27

KPRC21049	398699	6635743	233	-63	96	203	215	12	5.57
					Inc.	207	208	1	13.54
					and	211	213	2	12.92
KPRC21050	398803	6635518	222	-60	89	151	152	1	2.48
						177	178	1	2.93
KPRC21051	398857	6635480	192	-72	90	134	138	4	1.62
						170	171	1	1.51
						183	184	1	1.71
KPRC21052	398704	6635663	240	-66.5	60.4	176	180	4*	1.73
						196	200	4*	1.93
						212	216	4*	1.60
KPRC21053	398784	6635535	215	-71.2	59.2	192	196	4*	1.45
KPRC21054	399021	6635213	150	-69	90	88	92	4*	1.29
DIAMOND HOLES									
KPDD21014	399004	6635485	113	-55	11	88.4	91.3	2.9	6.13
KPDD21020	398499	6636142	116	-70	11	78.86	79.9	1.04	2.28
						91.13	92.0	0.87	4.04
						103.64	104	0.53	7.95
KPDD21033	398553	6636060	107	-76	191	99.5	101	1.5	20.74

* 4m composite result

[1] Competent Person Statement

Information in this announcement that relates to exploration results is based on information compiled by David O'Farrell who is the Exploration Manager of Horizon Minerals. Mr O'Farrell is a Member of The Australian Institute of Mining and Metallurgists (AusIMM) and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity that he is undertaking, to qualify as Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr O'Farrell consents to the inclusion in the document of the information in the form and context in which it appears.

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	2.20	**128,140**
Peyes Farm	1.0				0.31	1.65	16,310	0.22	1.77	12,550	0.53	1.70	**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	6,100				0.29	2.00	**18,400**
Rose Hill UG	2.0				0.33	4.5	47,100	0.18	4.80	27,800	0.51	4.60	**74,900**
Pennys Find (50%)	2.0				0.09	5.71	17,200	0.04	3.74	3,500	0.13	5.22	**20,700**
Gunga West	0.6				0.71	1.6	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		**1.93**	**1.45**	**90,390**	**12.28**	**1.64**	**646,310**	**4.98**	**1.74**	**278,940**	**19.18**	**1.65**	**1,015,640**

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 and "Penny's Find JV Resource Update" dated 14 July 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) where applicable 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 – Kalpini Gold Projects

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

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. 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 Horizon Minerals Ltd (12 October 2020) relating to the Kalpini 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.*	Kalpini has been sampled using Reverse Circulation (RC) and Diamond Drilling (DDH). Historical sampling also included Rotary Air Blast (RAB) drill holes. For the recent RC drilling, 1 m samples were taken using a cone splitter. 4 m composite samples of the 1 m intervals were taken with a 450 mm x 50 mm PVC spear thrust to the bottom of the sample bag. If analysis of the 4 m composite returned a grade above a nominal 0.2 g/t Au cut-off, the individual 1 m samples for the composite interval were analysed. Average sample weights were about 1.5 kg – 2 kg. Three diamond drill hole tails were drilled during the recent drilling (HQ3). Half core samples were taken. For all historical RC programs, chips were collected at 1 m intervals, via the cyclone, into sample bags. For most samples a rotary or cone splitter was used to also collect a smaller sample at the same time.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	For RC drilling regular air and manual cleaning of cyclone was undertaken to remove hung up sample where present. Duplicate field samples were submitted from the RC drilling. Commercial standards (CRM) were submitted with all samples sent for analysis. Standards & replicate assays added by the laboratory. Based on statistical analysis of these results, there is no evidence to suggest the samples are biased or not representative. Sampling of the diamond core was consistent with one half of the sawn core being sent for assay.
	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	Historical drilling was managed by qualified geologists. For the recent drilling mineralisation was identified and logged by a qualified Geologist. The designated ore zone was generally identifiable visually in RC chips and core. from the core, hanging wall and footwall samples extending over several metres were taken to check for any

Criteria	JORC Code explanation	Commentary
	mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.	grade halo and ensure mineralisation boundaries were identified correctly.
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).*	RC drilling was undertaken with a 142 mm face sampling hammer bit. HQ3 (2.406 inch core) Diamond drilling used triple tube to help core recovery. Historical drilling was done using RC, RAB, and DDH. DDH were a mix of HQ and NQ.
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	RC sample recovery and metreage was assessed by comparing drill chip volumes (sample bags) for individual metres. Estimates of sample recoveries were recorded. Routine checks for correct sample depths were undertaken every RC rod (6m). RC samples were visually checked for recovery, moisture and contamination. The cyclone was routinely cleaned ensuring no material build up. DDH recovery was logged over every core run (typically 3m), no significant losses were noted inside the ore zone. No sampling issues were reported for the historical drilling.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Under normal drilling conditions Horizon believes a good, representative sample is being obtained. Some bias may occur where sample recovery is poor or very wet. These instances are recorded in the geological logging. Only RC and DDH samples were used in the resource estimation.
	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 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.*	RC drill chips are logged at 1 m intervals. Drill core is logged by geological interval. Logging is done on standard logging forms and transferred to a digital database once back at the office. Drill core was geotechnically logged.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Geological logging was qualitative in nature. Geotechnical logging is both quantitative and qualitative.
	The total length and percentage of the relevant intersections logged.	All RC chip samples and all DDH core intervals were logged.
Sub-sampling techniques and	*If core, whether cut or sawn and whether quarter, half or all core taken.*	Sawn half core was sampled at geological intervals.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	For the RC drilling, 1 m samples were taken using a cone splitter. 4 m composite samples of the 1 m intervals were taken with a 450 mm x 50

Criteria	JORC Code explanation	Commentary
sample preparation		mm PVC spear thrust to the bottom of the sample bag. If analysis of the 4 m composite returned a grade above a nominal 0.2 g/t Au cut-off, the individual 1 m samples for the composite interval were analysed. The RC samples collected were all predominantly dry. Exceptions were recorded on logs.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Horizon considers the RC and DDH sampling and sample preparation appropriate for the type of mineralisation being investigated.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	In recent RC drilling duplicate 1 m samples are taken every 20 m. 4 m and 1m samples were analysed by Jinnings Testing and Inspection (Kalgoorlie). The 1 m samples were consistent in size weighing 1.5 kg - 2.0 kg. Historical drilling has QAQC samples every 12 to 20 drill sample intervals. DDH HQ3 half core was sampled and also sent to Jinnings in Kalgoorlie. Samping was typically based on 0.5m – 1.0m length intervals. Historical samples were prepared and analysed by a variety of Kalgoorlie and Perth laboratories. All laboratories are NATA accredited.
	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.	Field duplicates were routinely taken to monitor laboratory sample preparation precision. Horizon intermittently resubmits samples to a referee laboratory and CRMs are submitted with all samples to monitor laboratory accuracy. Once samples arrived in Kalgoorlie or Perth, further work including replicates and QC was undertaken at the laboratory. Grind size is routinely recorded and monitored.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The quartz rich mineralisation is located in mafic rocks. The sample sizes are considered by Horizon to be appropriate for this material.
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.*	The 1 m and 4 m RC samples were assayed by Fire Assay (FA50) with ICP finish. DDH core samples were also assayed by Fire analysis (FA50) with ICP finish. These techniques are considered appropriate for this type of mineralisation and produce a near total metal content result.
	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.	No geophysical assay tools were used at Kalpini.

Criteria	JORC Code explanation	Commentary
	Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	Horizon routinely use field duplicate, CRMs and blank samples in the QA process. The laboratory uses internal lab standards and replicate samples as part of their QA/QC. QC analysis indicated no bias and accurate results.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	Recent drill logging was supervised by a senior geologist. Senior Horizon geologist reviewed significant intersections. .
	The use of twinned holes.	No twin holes were intentionally drilled.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	For recent drilling original Analysis Data is stored digitally as PDF and XLS files on the Horizon servers in Perth and Kalgoorlie. Drill hole logs are stored as XLS files on a per hole basis and compiled by project into an Access database. Historical drilling is maintained in a digital database. The data has been validated against historical records where available. File servers are routinely backed up off site.
	Discuss any adjustment to assay data.	No data were adjusted.
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.*	All recent drill collar positions at Kalpini were located by hand held GPS. The holes were then picked up by a qualified surveyor once drilling operations ceased. Down hole surveys were taken by the drill crew. Historical drilling is reported as having been professionally surveyed., A local grid was used for some historical work.
	Specification of the grid system used.	Grid - MGA94 Zone 51. The transformation coordinates from local to MGA grids are known form statutory reporting.
	Quality and adequacy of topographic control.	A high-quality digital terrain model exists for the area.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	Drilling is regularly spaced across the deposit at a nominal 20 m spacing. Post mining drill hole locations are commonly opportunistic resulting in some irregular spacing.
	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.	The hole spacing was determined by Horizon to be sufficient when combined with confirmed historic drilling results to define the mineralisation. In addition, information from previous mining supports the interpreted geological and grade continuity. Data density is appropriate for the resource estimation and classification applied.

Criteria	JORC Code explanation	Commentary
	Whether sample compositing has been applied.	Samples have been composited over mineralised intervals for the reporting of drilling results. Preliminary RC sampling is done on 4 m composites. For any composite returning Au grade above a threshold, the individual 1 m intervals are assayed and reported.
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.*	At Kalpini, all holes were oriented to intersect the flat dipping lodes at a high angle. The intercept widths are close to true width, and provides an acceptable sample of the mineralisation.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	The relationship between the drilling orientation and the orientation of mineralised structures is not considered to have introduced a sampling bias.
The measures taken to ensure sample security	*The measures taken to ensure sample security.*	Recent RC drill samples and drill core were under the control of Horizon personnel at all times. Core trays were usually collected daily by Horizon and photographed before transport to the Nimbus site for processing. The Nimbus mine site is secure and visitors need permission enter. Once cut, the samples were labelled, bagged and transported to Jinnings Labs in Kalgoorlie by Horizon personnel.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	No Audits have been commissioned. Sample practices are monitored by senior Horizon geologists.

SECTION 2 REPORTING OF EXPLORATION RESULTS

(Criteria listed in section 1 also apply to this section.)

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.*	Kalpini is located on Mining Lease M27/485. A 2.5% NSR royalty for life of mine is payable to the state government. An approximate 0.75% royalty is payable to Landholders and local stakeholders. There are no Native Title issues on M27/485.
	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.	The tenements are in good standing and no known impediments exist.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	Norseman Mining 1970-1971, Pennzoil of Australia 1977, Kennecott 1979-1981, Esso Exploration 1984-1987, City Resources 1987, Geopeko 1988-1991, Moregold Carbon Services 1994, Kurnalp Gold 1996-1999, Man o' War Resources 2004, Carrick Gold 2005-2012, Kalnorth 2012-2016, Goldfield Technical Services 2018-2020.
Geology	*Deposit type, geological setting and style of mineralisation.*	Kalpini is Archaean mineralisation located within mafic rocks. The mineralisation is typically in thin 1.2m thick flat lying small quartz veins with variable amounts of sulphide mineralisation.
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.*	Horizon ASX announcement of 12 October 2020 details the geology and resource data.
	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 information has been intentionally excluded.
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.*	The reporting of diamond drilling results uses length weighted average grades for mineralised intersections.
	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 reporting of drilling results uses length weighted average grades for mineralised intersections.

	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent calculations were applied.
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 and true widths appear to be close to each other, or within reason allowing for the minimum intercept width of 1 m.
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*	See body of announcement.
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.*	Only the results of recent drilling activities are being reported.
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.*	Some historic comprehensive metallurgical work has been completed at Kalpini, however HRZ is currently planning some new metallurgy on the ore zone. Kalpini has previously been mined by open pit. Historical exploration details can be found in previous ASX releases from Carrick Gold and Kalnorth.
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).*	Underground mining economic assessment will be undertaken. Underground operations will include further drilling to investigate the strike and plunge continuation of the mineralisation.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Commercially sensitive.