HORIZON

A S X R E L E A S E 14 March 2023

Gum Creek Project

Maiden Altair Base Metal Resource and Drilling Results from Altair and Mensa Targets

HIGHLIGHTS

- Maiden Altair Inferred Mineral Resource Estimate of 7.0 Mt @ 1.8% Zn, 0.5% Cu, 5.0g/t Ag (2.9% ZnEq) at a 2.0% ZnEq cut-off for 200,000 ZnEq tonnes (130,000t Zn, 30,000t Cu, 1.1Moz Ag).
- Diamond and Reverse Circulation (RC) drilling at the Altair Prospect returned the following significant results:
 - 154m @ 0.5% Zn, 0.1% Cu, 1.1g/t Ag from 168m including 8m @ 3.0% Zn, 0.5% Cu, 7.6g/t Ag from 224m
 - 29m @ 0.8% Zn, 0.1% Cu, 2.4g/t Ag from 369m including 9m @ 1.9% Zn, 0.3% Cu, 6.0g/t Ag from 389m
 - 43m @ 0.7% Zn, 0.1% Cu, 1.9g/t Ag from 485m including 11m @ 1.5% Zn, 0.2% Cu, 3.8g/t Ag from 514m
 - 14m @ 1.6% Zn, 0.3% Cu, 4.6g/t Ag from 177m
 - 24m @ 0.6% Cu, 4.6g/t Ag from 70m
- Zinc-copper-silver mineralisation at Altair has now been defined over a strike length of 750 metres and remains open to the east and to the north towards the Mensa Prospect.
- RC drilling testing electromagnetic conductors, magnetic highs, and anomalous surface geochemical targets at the Mensa Prospect returned a best intercept of 35m @ 0.3% Zn, 0.1% Cu, 1.1g/t Ag from 261m in host rocks similar to Altair, confirming the prospective Volcanogenic Massive Sulphide (VMS) geological environment.
- The conductive host rock sequence forms a large open fold extending over five kilometres from Altair to the Mensa Prospect, exhibits the geological and geochemical hallmarks of a polymetallic VMS system, and could potentially form part of a district-scale VMS camp similar to the Teutonic Bore group of deposits.
- Geochemical and spectral test work to identify vectors to the centre of the VMS system is required prior to additional drilling along strike.



Horizon Gold Limited (ASX Code: HRN) (Horizon or Company) is pleased to announce a maiden Mineral Resource Estimate (MRE) for the Altair Zinc-Copper-Silver deposit located 24 kilometres to the north-northwest of the Gidgee Mill with direct links to the existing haul road and the Meekatharra-Yeelirrie Road. The MRE is reported in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012 edition).

The Altair MRE is reported using a Zn equivalent (ZnEq%) cut-off grade (Table A). The MRE is **7.0 Mt @ 1.8% Zn, 0.5% Cu, 5.0g/t Ag (2.9% ZnEq)** at a 2.0% ZnEq cut-off for **200,000 ZnEq tonnes (130,000t Zn, 30,000t Cu, 1.1Moz Ag)**. The Altair deposit location is displayed in Figure 1, with plans, sections and 3D diagrams presented in Figures 2 to 9.

Final assay results from initial RC and follow-up diamond drilling at Altair have been received and have been incorporated into the Altair MRE. The most significant drill intercepts include **8m @ 3.0% Zn**, **0.5% Cu**, **7.6g/t Ag** from 224m (ALRC009D).

Final assay results from initial RC drilling at the Mensa Base Metal Prospect, located 28 kilometres to the north-northwest of the Gidgee Mill, have also been received returning a best result of **35m @ 0.3% Zn, 0.1% Cu, 1.1g/t Ag** from 261m (MERC002). The host rocks and VMS style of mineralisation at Mensa are similar to that observed at Altair.

The host rock and electrical conductors at Altair and Mensa cover more than five kilometres of strike, with several prospective zones containing coincident anomalous surface geochemistry, strong electrical conductors and elevated magnetics. The area exhibits the geological and geochemical hallmarks of a polymetallic VMS system, and could potentially form part of a district-scale VMS camp similar to the Teutonic Bore group of deposits.





Figure 1: Gum Creek Gold Project showing the Altair deposit and Mensa Prospect, existing gold resources¹, and exploration targets over simplified geology.

Managing Director Leigh Ryan said:

"The Altair base metal mineral resource estimate is in line with the Company's expectations, with the Prospect retaining the potential to add significant resource tonnes and improved metal grades both down plunge and along strike to the north. We're highly encouraged by the drilling results, the VMS style of mineralisation, and the potential to discover significant high grade underground Zn-Cu-Ag mineralisation between the Altair and Mensa prospects. The company intends to consult VMS specialists to determine vectors to a potential hydrothermal feeder vent and complete drill target generation work prior to conducting further drilling."

¹ Refer to ASX Announcement dated 25 July 2022 titled "32% Increase in Resources at Gum Creek Gold Project" to which the Company confirms there has been no changes.



Table A: Altair Inferred Mineral Resource by Material Type and cut-off grade as at 14 March 2023 (Zinc Equivalent % cut off)

Cut-off			Oxide				T	ransition	1				Fresh					Total		
ZnEq %	Mt	ZnEq %	Zn %	Cu %	Ag g/t	Mt	ZnEq %	Zn %	Cu %	Ag g/t	Mt	ZnEq %	Zn %	Cu %	Ag g/t	Mt	ZnEq %	Zn %	Cu %	Ag g/t
1.5	0.1	1.8	0.05	0.6	1.8	1.4	2.2	0.1	0.7	6.6	10.4	2.6	1.7	0.3	4.2	11.9	2.3	1.5	0.3	4.5
2.0	-	-	-	-	-	0.7	2.7	0.1	0.9	7.0	6.3	3.2	2.0	0.4	4.8	7.0	2.9	1.8	0.5	5.0
2.5	-	-	-	-	-	0.3	3.6	0.1	1.2	7.1	4.0	3.5	2.3	0.4	5.3	4.3	3.3	2.1	0.5	5.4

Note: The metal equivalent calculation formula is ZnEq % = Zn (%) + 2.78 x Cu (%) + 0.018 x Ag (g/t) using metal prices of A\$4,500/t Zn, A\$12,500/t Cu and A\$30/oz Ag. Based on preliminary metallurgical studies, recoveries used were 90% for Zn, 90% for Cu, and 75% for Ag. In Horizon's opinion all elements included in the metal equivalents calculation have a reasonable potential to be recovered and sold. Rounding errors are apparent.



Altair Deposit

The Altair Prospect is located 24 kilometres north-northwest of the historic Gidgee Mill. One diamond tailed RC hole (558.7m), one diamond hole from surface (438.7m), and one RC hole (180m) were drilled to test modelled electromagnetic conductor plates located down-plunge of previous Horizon Gold significant intercepts including **55m @ 3.32% Zn, 0.52% Cu, 9.4g/t Ag** from 184m including **9m @ 6.69% Zn, 1.00% Cu, 17.0g/t Ag** from 213m².

Significant Zn-Cu-Ag intercepts returned from this recent drilling campaign (Figures 2 & 3, Table B) included:

- 154m @ 0.5% Zn, 0.1% Cu, 1.1g/t Ag from 168m including 8m @ 3.0% Zn, 0.5% Cu, 7.6g/t Ag from 224m (ALRC009D)
- 29m @ 0.8% Zn, 0.1% Cu, 2.4g/t Ag from 369m including 9m @ 1.9% Zn, 0.3% Cu, 6.0g/t Ag from 389m (ALDD023)
- 43m @ 0.7% Zn, 0.1% Cu, 1.9g/t Ag from 485m including 11m @ 1.5% Zn, 0.2% Cu, 3.8g/t Ag from 514m (ALRC009D)
- 14m @ 1.6% Zn, 0.3% Cu, 4.6g/t Ag from 177m (ALDD023)
- 24m @ 0.6% Cu, 4.6g/t Ag from 70m (ALRC009D)



Figure 2: Altair Deposit drill hole location plan showing hole type, drill hole trace and interpreted geology.

² Refer to Horizon Gold Ltd ASX Announcement titled "Additional Broad Zn-Cu mineralisation intercepted at Altair" Appendix 2 dated 2 April 2019. CPs J Hicks & M Demmer





Figure 3: Altair Prospect cross section showing interpreted geology and significant intercepts.

Zn-Cu-Ag mineralisation defined at Altair is coincident with anomalous multi-element surface geochemistry, magnetic highs visible in regional aeromagnetic surveys, and electromagnetic conductivity highs defined in both helicopter-borne Transient Electromagnetic (TEM) and ground moving loop electromagnetic (MLEM) surveys.

Mineralisation is best developed towards the base of a black shale sequence and occurs as fine to very fine-grained red/brown sphalerite and fine-grained chalcopyrite associated with semi-massive pyrite and magnetic pyrrhotite located in folded sub-millimetre stratiform layers interpreted to reflect original bedding plane deposition. The black shale host rock, altered underlying intermediate volcanics, and over lying felsic units and sediments are folded about a NW trending fold plane (Figure 2).

Oxidation ranges between 60m and 140m below surface. Zn depletion and Cu enrichment is apparent in both the oxide and transition zones, whilst in fresh rock Zn mineralisation and grades are dominant over Cu mineralisation.

RC and diamond drilling by Horizon at the Altair Prospect has now defined a broad continuous lens of polymetallic (zinc-copper-silver+/-gold) mineralisation over a strike of around 750m. **Mineralisation remains open down plunge to the southeast and along strike to the northeast.**

Mensa Prospect

The Mensa Prospect is located 28 kilometres north-northwest of the historic Gidgee Mill. Three RC holes (892m) were drilled to test modelled electromagnetic conductor plates and coincident elevated magnetics and anomalous geochemistry located approximately 5km along strike from the Altair Prospect. Significant intercepts (Figures 4 & 5, Table C) included:

- 35m @ 0.3% Zn, 0.1% Cu, 1.1g/t Ag from 261m (MERC002)
- 57m @ 0.2% Zn, 0.1% Cu, 0.8g/t Ag from 176m (MERC001)
- **11m @ 0.2% Zn, 0.1% Cu, 1.1g/t Ag** from 241m (MERC003)



The RC drilling has confirmed the geochemically anomalous nature of the black shale and volcanic units and the interpreted geological setting at Mensa to be that of a VMS environment similar to that at Altair, with the potential for the target stratigraphy hosting the Altair mineralisation to extend to the Mensa Prospect. Evidence to support the VMS interpretation at Mensa includes:

- Black shale and volcanic depositional environment,
- Semi-massive sulphides present in shale units,
- Extensive chlorite-silica alteration and pyrite development in footwall intermediate to mafic volcanic units,
- Lack of Pb mineralisation,
- Anomalous geochemical pathfinder elements characteristic of VMS systems (elevated Ba, Mo, Sn).



Figure 4: Mensa Prospect cross section showing interpreted geology and significant intercept.

Downhole electromagnetic surveying at Mensa is warranted to detect any off-hole conductive base metal mineralisation, and to assist with follow up drill hole planning.

Further detailed geochemical work to reveal metal and pathfinder element zonation / patterns, and spectral measurements to identify alteration minerals to determine vectors to a potential hydrothermal feeder vent is required at both Altair and Mensa prior to conducting additional drilling.



Figure 5: Modelled 3D conductor plates, historic drillhole collars (coloured by hole type), and recent drill holes (large red dots) over a greyscale derivative aeromagnetic image.

Table B:	Significant	Drill Hole Inte	rcepts – Altaiı	r RC and Di	amond Drilling
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Hole ID	East	North	RL	Dip	Azi	Depth	From	То	Width	Zn %	Cu %	Ag g/t
ALDD023	731430	7006240	530	-60	353	438.7	177*	191	14	1.55	0.27	4.56
							213	226	13	0.28	0.06	0.86
							238	283	45	0.32	0.07	0.77
							289	364	75	0.25	0.07	0.64
							369	398	29	0.80	0.13	2.44
						incl.	389	398	9	1.87	0.27	5.96
ALRC008+	731430	7006240	530	-57	0	180	88	124	36#	0.02	0.17	1.85
							142	180 EOH	38	0.22	0.04	0.75
ALRC009D	731433	7006140	529	-56	0	558.7	70	94	24#	0.01	0.61	4.57
							136	148	12	0.20	0.03	BDL
							156	160	4#	0.07	0.34	1.60
							168	322	154	0.51	0.10	1.14
						incl.	224	232	8	3.03	0.49	7.61
						and	244	249	5	1.20	0.12	1.90
						and	297	301	4#	1.18	0.13	1.88
							366	372	6	0.16	0.04	BDL
							382	456	74	0.28	0.07	0.74
							462	465	3	0.20	0.06	BDL
							485	528	43	0.71	0.12	1.93
						incl.	514	525	11	1.51	0.19	3.75

Notes: All coordinates are GDA94 zone 50, all intercepts are determined using 0.15 % Zn lower cut or 0.1% Cu lower cut (#), no upper cut, 4m maximum internal dilution, all intercepts >2m are reported, BDL = Below Detection Limit, * = upper limit of sampling, + = hole abandoned



Table C: Significant Drill Hole Intercepts – Mensa RC Drilling

Hole ID	East	North	RL	Dip	Azi	Depth	From	То	Width	Zn %	Cu %	Ag g/t
MERC001	732229	7010547	548	-60	220	336	16	34	18	0.18	0.02	BDL
							52	62	10	0.21	0.01	BDL
							176	233	57	0.20	0.05	0.77
							258	260	2	0.24	0.04	BDL
MERC002	732930	7010500	557	-60	90	298	261	296	35	0.30	0.07	1.10
MERC003	731635	7010876	549	-60	330	258	47	54	7	0.25	0.02	0.87
							203	206	3	0.18	0.01	BDL
							236	238	2#	0.13	0.10	1.87
							241	252	11	0.19	0.08	1.06

Notes: All coordinates are GDA94 zone 50, all intercepts are determined using 0.15 % Zn lower cut or 0.1% Cu lower cut (#), no upper cut, 4m maximum internal dilution, all intercepts >2m are reported, BDL = Below Detection Limit.



MRE Summary

Matrix Resource Consultants Pty Ltd (Matrix) were engaged by Horizon Gold Limited to report a mineral resource consistent with the JORC code 2012 guidelines for the Altair Zn-Cu-Ag deposit following additional RC and diamond drilling completed at the prospect during 2022. The estimates were undertaken using Multiple Indicator Kriging (MIK) with block support adjustment, and are reported at ZnEq cut-off grades of 1.5 to 2.5%. The metal equivalent calculation formula is ZnEq % = Zn (%) + 2.78 x Cu (%) + 0.018 x Ag (g/t) using metal prices of A\$4,500/t Zn, A\$12,500/t Cu and A\$30/oz Ag. The Company considers the MRE to have a reasonable prospect for eventual economic extraction (RPEEE) on the basis of comparison of ZnEq resource tonnes and grades for open pit and underground mining operations in similar mining jurisdictions to that of Western Australia.

The estimates are based on 2 metre down-hole composited Zn, Cu, and Ag assays from aircore, RC and diamond drilling. Due to Zn depletion and Cu enrichment in the oxide and transition zones, and the dominance of Zn over Cu in fresh material, the Altair MRE is summarised by resource material type in Table A, and summarised by tonnes and grade, and contained metal content in Table D below.

Cut-off		-	Fotal		Total				
ZnEq %	Mt	ZnEq %	Zn %	Cu %	Ag g/t	ZnEq (Kt)	Zn (Kt)	Cu (Kt)	Ag (Moz)
1.5	11.9	2.3	1.5	0.3	4.5	270	180	40	1.7
2.0	7.0	2.9	1.8	0.5	5.0	200	130	30	1.1
2.5	4.3	3.3	2.1	0.5	5.4	140	90	20	0.8

Table D: Altair Inferred Mineral Resource as at 14 March 2023 (Zinc Equivalent % cut off)

Note: The metal equivalent calculation formula is $ZnEq \% = Zn (\%) + 2.78 \times Cu (\%) + 0.018 \times Ag (g/t)$ using metal prices of A\$4,500/t Zn, A\$12,500/t Cu and A\$30/oz Ag. Based on preliminary metallurgical studies, recoveries used were 90% for Zn, 90% for Cu, and 75% for Ag. In Horizon's opinion all elements included in the metal equivalents calculation have a reasonable potential to be recovered and sold. Rounding errors are apparent.

Geology and Geological Interpretation

Zn-Cu-Ag mineralisation at Altair is interpreted to dip to the south at around 50[°] with an average thickness of around 140m. It is currently defined over a strike of around 750m. Mineralisation is best developed towards the base of a black shale sequence and occurs as fine to very fine-grained red/brown sphalerite and fine-grained chalcopyrite associated with semi-massive pyrite and magnetic pyrrhotite located in folded sub-millimetre stratiform layers interpreted to reflect original bedding plane deposition. The black shale host rock, altered underlying intermediate volcanics, and overlying felsic units and sediments at Altair form a parasitic fold on the western limb of a regional syncline, both displaying NW-trending fold axes (Figure 2). Mineralisation remains open down plunge to the east and along strike to the north.

Oxidation extends to between approximately 60m and 140m below surface. Zn depletion with markedly lower Zn grades, and Cu enrichment with elevated Cu grades is apparent in both the oxide and transition zones. Zn mineralisation is dominant over Cu mineralisation in fresh rock.

Drilling Techniques

Pre-2012 Drillholes

Diamond core, Reverse Circulation (RC), and Aircore (AC) drilling data was used in the MRE.

RC drilling by Goldfields Exploration was completed with industry standard RC drill rigs using face sampling RC drilling techniques. AC drilling by Pancontinental and Goldfields Exploration was completed with industry standard AC drill rigs using reverse circulation blade bits.



Diamond drilling was completed with an industry standard diamond drill rig acquiring NQ diamond core with core oriented when possible. Some orientation marks have faded or disappeared.

RC drill holes were routinely surveyed for down hole deviation using industry standard downhole cameras set to collect readings every 5m down each hole.

Post-2012 Drillholes

RC drilling was completed with industry standard RC drill rigs using face sampling RC drilling techniques with 5 ¹/₄" hammers and nominal 143mm tungsten button drill bits.

Most diamond holes were drilled with RC pre-collars. Diamond drilling was completed with industry standard diamond drill rigs acquiring HQ or NQ2 diamond core with all core oriented whenever feasible. Drill core was orientated using "Ori-Mark" or Reflex "Ezi-Mark" orientation tools, with core initially cleaned and pieced together at the drill site. Core was then reconstructed into continuous runs on an angle iron cradle for down hole depth marking and then fully orientated with all orientation lines marked up by field staff at the Gidgee core shed.

Drill holes are routinely surveyed for down hole deviation using industry standard gyros set to collect readings every 5m or 10m down each hole.

Sampling and Sub-Sampling Techniques

Pre-2012 Drillholes

RC cuttings were collected at 1m intervals and composited by riffle splitter into 2m or 4m samples. AC samples were composited by spear sampling into 2m or 4m samples. Approximately 2 to 3kg samples were collected.

Measures taken to ensure that the sampling is representative include regular cleaning of cyclones, and sampling equipment to prevent contamination.

Duplicate RC and AC samples were collected at every 30th sample in the sample sequence.

Diamond core drilling (ALDD001) completed by Pan Continental Mining in 1993 involved 1m and 2m sampling. The diamond core was cut in half for sampling, however some quarter core was sampled subsequent to half core sampling and presumably submitted for analysis or thin section work.

Post-2012 Drillholes

The upper non-prospective sections of some RC holes were either not sampled or sampled at 4m intervals using a PVC spear to generate composite assay samples. Samples through more prospective zones were collected at the drill rig every metre using a rig-mounted cone splitter to collect a nominal 2 to 3kg sub sample. Where warranted, individual 1m assay samples covering anomalous 4m composite samples (+0.2% Zn) were submitted for analysis. A qualitative estimate of sample recovery was done for each RC sample collected from the drill rig.

Selected HQ3 and NQ2 diamond core was halved using an on-site Almonte diamond saw and half core sampled over 1m intervals for mineralised intervals as determined by the supervising geologist. Duplicate samples are quarter core cut from the remaining half core.

Sampling for both RC and diamond core was undertaken using HRN sampling protocols and QAQC procedures in line with industry best practice, with laboratory standard (certified reference material), duplicate and blank samples were inserted/collected at every 25th sample in the sample sequence, or prior to 2020 one laboratory standard or blank sample inserted at every 20th sample in the sample sequence. Selected samples are also re-analysed to confirm anomalous results.



Laboratory in-house QAQC included insertion of certified standards, blanks, check replicates and fineness checks to ensure grind size of 85% passing <75µm.

Measures taken to ensure that the sampling is representative include regular cleaning of cyclones, splitters and sampling equipment to prevent contamination; statistical comparison of duplicate samples; and statistical comparison of anomalous 4m composite assays versus average of follow up 1m assays where collected.

RC and diamond core sample sizes and laboratory preparation techniques are considered to be appropriate for the commodities being targeted.

Sample Preparation and Analysis Method

Pre-2012 Drillholes

Sample preparation, gold analysis by fire assay, and As, Cu, Pb, Zn, Ag, Bi, Mo, Sn, Ba analysis was completed at off-site laboratories where RC, AC and core samples were weighed, dried and crushed as per industry standards at the time. Analysis methods were not recorded in the pre-2012 drilling reports.

Laboratory quality control procedures included insertion of standards and blanks. Laboratory QAQC data is not available for some of the historical drilling to review.

There is no evidence to suspect that any issues with assaying occurred. An analysis of duplicates showed that in general the repeatability of sample results was very good.

Post-2012 Drillholes

All samples were submitted to Australian Laboratory Services (ALS Perth) for preparation where RC and core samples were weighed, dried and crushed to between 3mm and 6mm. Crushed samples were subsequently bulk-pulverised in a ring mill to achieve a nominal particle size between 85% to 90% passing <75µm.

RC and core sample analysis was completed by four-acid digest for 31 or 33 element ICP determination (code ME-ICP61a or ME-ICP61). Over-Limit (i.e. >1%) Zn and Cu values were reassayed by Ore Grade four-acid digest ICP determination (code OG62). Over-Limit (>1%) S values were re-assayed by the S-IR08 method.

Selected analysis for gold only was undertaken at ALS Perth for preparation and analysis for gold by 50g fire assay with AAS finish to a lower detection limit of 0.01ppm. Fire assay is considered a "total" assay technique and is appropriate for the commodity being targeted.

All QAQC assay data is recorded in the Gum Creek drill hole database. A review of assays for routine standards, sample blanks and duplicate samples suggest there are no significant analytical bias or preparation errors in the reported analyses and the laboratory was performing within acceptable limits. Results of analyses from field sample duplicates are consistent with the style of mineralisation being evaluated and considered to indicate sampling is adequately repeatable.

Internal laboratory QAQC checks are also reported by the laboratories. A review of the internal laboratory QAQC suggests the laboratories performed within acceptable limits.

All analytical data were generated by direct laboratory assaying. No geophysical tools or other nonassay instrument types were used in the analyses reported.



Resource Estimation Methodology, Cut-Off Grades and Classification

Recoverable resources were estimated for the Altair deposit by Multiple Indicator Kriging with block support correction to reflect open pit mining selectivity, a method that has been demonstrated to provide reliable estimates of resources recoverable by open pit mining for a wide range of mineralisation styles.

The estimates are from RC and diamond drilling data supplied by Horizon in February 2023. Horizon specified that, for the current study, Matrix were not required to review the reliability of the supplied sampling information, with Horizon personnel taking responsibility for this aspect of the estimates, and Matrix used the sampling data on an as-supplied basis.

Micromine software was used for data compilation, domain wire framing and coding of composite values and GS3M was used for resource estimation. The resulting estimates were imported into Micromine for resource reporting. The estimation methodology is appropriate for the mineralisation style.

The MIK modelling is based on 2m down-hole composited assay grades from AC, RC and diamond drilling. The selected composite length represents a multiple of common sample lengths. Un-assayed intervals were generally assigned zero grades.

The estimation dataset comprises 5,335 composites with copper grades ranging from 0.0% to 3.7% and averaging 0.1% and zinc grades ranging from 0.0% to 8.1% and average 0.22%. AC, RC and Diamond drilling provides around 4%,45% and 52% of the estimation dataset respectively.

The modelling incorporates a mineralised domain interpreted by Matrix which capture composites with ZnEq grades of generally greater than 0.1%. The domain trends east-west over around 750m of strike and dips to the south at around 50°, averaging around 140m true thickness and extends to around 500m in depth.

Surfaces representing the base of oxidation and top of fresh rock interpreted by Horizon from drill hole logging were used for portioning estimation dataset composites by oxidation zone and density assignment. Within the resource area, depths to the base of oxidation range from around 11m to 70m and average around 43m, with fresh rock occurring at depths of around 60m to 140m, averaging around 100m.

Central portions of the mineralisation have been tested by generally westerly inclined drill holes spaced at around 100 metres along approximately 60m spaced traverses. Drill spacing is broader in peripheral areas and at depth.

For estimation of copper, zinc and silver grades, grade continuity was characterised by indicator variograms modelled at 14 indicator thresholds. Class grades were derived from class mean grades subdivided by oxidation zone with the exception of upper bin grades which were generally derived from the class median or class threshold, reducing the impact of small numbers of outlier composite grades.

The block model used for MIK modelling covers the full extents of the informing composites and mineralised domains. It extends to 0m RL, which represents around 530m depth below surface. For each metal, an initial MIK recoverable resource model was constructed with 60m by 60m by 30m panels including variance adjustment to give estimates for selective mining dimensions of 5m by 5m by 5m with high quality grade control sampling on a 10m by 8m by 2.5m pattern. The variance adjustments were applied using the direct lognormal method. Increments from the recoverable resource estimates were assigned to 10m by 10m by 10m blocks by ranked E-type MIK grades at this block size. This approach generates a small block model with estimates honouring the primary MIK recoverable resource estimates for each metal.



Indicator variograms modelled from mineralised domain composite ZnEq grades were used for estimation of each metal and for determination of variance adjustment factors a variogram was modelled from composite ZnEq grades. This approach reflects the correlation between metal grades, and the broad drill spacing. The modelled variograms are consistent with geological interpretation and composite grade trends.

The search criteria used for MIK estimation are presented in Appendix 1 JORC Table 1. All model estimates, generally extrapolated to a maximum of around 100m from drill holes, are classified as Inferred.

The estimates include densities of 2.0, 2.5 and 3.0 tonnes per bank cubic metre (t/bcm) for oxidised, transition and fresh material respectively. The density assigned to fresh material is based on immersion measurements completed on 2,215 diamond core samples. Densities assigned to oxide and transition material, which represent around 10% of the estimated resource, are based on a small number of measurements of diamond core from similar rock types at nearby prospects.



Figure 6: Altair resource block model coloured by Cu (%) – long section looking south.

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Figure 7: Altair resource block model coloured by Zn (%) – long section looking south.



Figure 8: Altair resource block model coloured by ZnEq (%) – long section looking south.





Figure 9: Altair resource block model coloured by ZnEq (%) 3D looking down to the south-west.

Mining and Metallurgical Methods

The estimates include variance adjustment factors reflecting open pit mining with mining selectivity of 5m by 5m with high quality grade control sampling on a 10m by 8m by 2.5m pattern.

Preliminary metallurgical testwork stated that, as with many multi-mineral complex sulphide deposits, mineralised Altair core samples do not respond well to conventional single mineral flotation due to their fine-grained nature. This factor results in lower-than-expected mineral recoveries when attempting to float sequential copper concentrate and zinc concentrate, however Altair is capable of producing a bulk flotation concentrate containing recoveries close to 90% for both copper and zinc.

To recover copper and zinc from a bulk Cu/Zn concentrate the recommended extraction process is the Roast – Leach – Electrowinning (RLE) process.

A 3.5kg bulk Cu/Zn concentrate containing 83% of the copper at a grade of 0.79% Cu and 89.6% of the zinc at a grade of 4.77% Zn has been produced and is being held in cold storage for testing the downstream hydrometallurgical process. A test program has been scoped and costed at Curtin University.



About the Company

Horizon Gold Limited (ASX:HRN) is an exploration company focused on its 100% owned Gum Creek Gold Project in Western Australia (Figure 10). The Gum Creek Gold Project hosts JORC 2012 Mineral Resources of 1.79 million ounces of gold³. The free milling portion of the MRE is 29.2Mt @ 1.26g/t Au for 1.19Moz, representing over 66% of the total resource ounces. The Project is located within a well-endowed gold region that hosts multi-million-ounce deposits including Big Bell, Wiluna, Mt Magnet, Meekatharra and Agnew/Lawlers. Horizon is continuing to drill at multiple advanced targets to expand its resource base with the aim of developing a stand-alone operation.



Figure 10: Gum Creek Gold Project and surrounding mines over simplified geology.

This ASX announcement was authorised for release by the Horizon Board.

For further information contact:

Leigh Ryan Managing Director +61 8 6331 6092

³ Refer to ASX Announcement dated 25 July 2022 titled "32% Increase in Resources at Gum Creek Gold Project" to which the Company confirms there has been no changes.



Competent Persons Statement:

The information in this report that relates to Altair resource modelling is based on information compiled by Mr Jonathon Abbott, a Competent Person who is a member of the Australian Institute of Geoscientists. Mr Abbott has sufficient experience, that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking 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. Abbott is a director of Matrix Resource Consultants Pty Ltd, and an independent consultant to Horizon. Mr. Abbott consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Exploration Data and the sampling information informing the Altair Mineral Resources, metal equivalents, cut-off grades and the potential for eventual economic extraction of the Altair Mineral Resource estimates, is based on information compiled and reviewed by Mr Leigh Ryan, who is a member of the Australian Institute of Geoscientists. Mr Ryan is the Managing Director of Horizon Gold Limited and holds shares and options in the Company. Mr Ryan has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking 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 Ryan consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

No New Information or Data:

This announcement contains references to Mineral Resource estimates, all of which have been cross referenced to previous market announcements. The Company confirms that it is not aware of any additional information or data that materially affects the information included in the relevant market announcements and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

Forward Looking Statements:

This ASX announcement may contain certain "forward-looking statements" which may not have been based solely on historical facts, but rather may be based on the Company's current expectations about future events and results. Where the Company expresses or implies an expectation or belief as to future events or results, such expectation or belief is expressed in good faith and believed to have a reasonable basis. However, forward looking statements are subject to risks, uncertainties, assumptions and other factors, which could cause actual results to differ materially from future results expressed, projected or implied by such forward-looking statements. Such risks include, but are not limited to metals price volatility, currency fluctuations, as well as political and operational risks, and governmental regulation and judicial outcomes.

Section 1 - Sampling Techniques and Data (*Criteria in this section apply to all succeeding sections.*)

Criteria	JORC Code explanation	Commentary
Sampling techniques	 Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where "industry standard" work has been done this would be relatively simple (eg "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 (eg submarine nodules) may warrant disclosure of detailed information. 	 The commentary in this section has been divided in to Pre-2012 and Post 2012 periods due to the more detailed information available to Horizon Gold Limited (HRN) after 2012. Diamond (DD), Reverse Circulation (RC),and Aircore (AC) were the drilling techniques used in the MRE. The Altair resource area contains 2 diamond drillholes (579.2m), 21 RC drillholes with diamond tails (7,651.8m), 11 RC drillholes (1,231.5m), 19 AC holes (1,446.5m), and 69 RAB holes (3719.5m). Drillholes used in the MRE range from holes drilled in 1993 to 2022. <u>Pre-2012 Drillholes</u> Diamond, RC, and AC drilling data was used in the MRE. RC cuttings were collected at 1m intervals and composited by riffle splitter into 2m or 4m samples. Approximately 2 to 3kg samples were collected. Measures taken to ensure that the sampling is representative include regular cleaning of cyclones, and sampling equipment to prevent contamination. Duplicate RC and AC samples were collected at every 30th sample in the sample sequence. Diamond core drilling (ALDD001) completed by Pan Continental Mining in 1993 involved 1m and 2m sampling. The diamond core was cut in half for sampling, however some quarter core was sampled subsequent to half core sampling and presumably submitted for analysis or thin section work.
		 The upper non-prospective sections of some RC holes were either not sampled or sampled at 4m intervals using a PVC spear to generate composite assay samples. Samples through more prospective zones were collected at the drill rig every metre using a rig-mounted cone splitter to collect a nominal 2 to 3kg sub sample. Where warranted, individual 1m assay samples covering anomalous 4m composite samples (+0.2% Zn) were submitted for analysis. A qualitative estimate of sample recovery was done for each RC sample collected from the drill rig. Selected HQ3 and NQ2 diamond core was halved using an on-site Almonte diamond saw and half core sampled over 1m intervals for mineralised intervals as determined by the supervising geologist. Duplicate samples are quarter core cut from the remaining half core. Sampling for both RC and diamond core was undertaken using HRN sampling protocols and QAQC procedures in line with industry best practice, with laboratory standard (certified reference material), duplicate and blank samples were inserted/collected at every 25th sample in the sample sequence, or prior to 2020 one laboratory standard or blank sample inserted at every 20th sample in the sample sequence. Selected samples are also reanalysed to confirm anomalous results. Laboratory in-house QAQC included insertion of certified standards, blanks, check replicates and fineness checks to ensure grind size of 85% passing <75µm. Measures taken to ensure that the sampling is representative include regular cleaning of cyclones, splitters and sampling equipment to prevent contamination; statistical comparison of duplicate samples; and statistical comparison of anomalous 4m composite assays versus average of follow up 1m assays where collected.



Criteria	JORC Code explanation	Commentary	
		 RC and diamond core sample sizes and laboratory preparation techniques are considered to be appropriate f the commodities being targeted. 	or
Drilling techniques	 Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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). 	 Pre-2012 Drillholes Diamond core, RC, Aircore (AC) and RAB drilling data was used in the MRE. RC drilling by Goldfields Exploration was completed with industry standard RC drill rigs using face sampling R drilling techniques. AC drilling by Pancontinental and Goldfields Exploration was completed with industry standard AC drill rigs usin reverse circulation blade bits. Diamond drilling was completed with an industry standard diamond drill rig acquiring NQ diamond core with co oriented when possible. Some orientation marks have faded or disappeared. RC drilling be very 5m down each hole. Post-2012 Drillholes RC drilling was completed with industry standard RC drill rigs using face sampling RC drilling techniques with ¼" hammers and nominal 143mm tungsten button drill bits. Most diamond holes were drilled with RC pre-collars. Diamond drilling was completed with industry standard core with al amond drill bits. Most diamond holes were drilled with RC pre-collars. Diamond drilling was completed with industry standard core with all core oriented whenever feasible. Drill core wa orientated using "Ori-Mark" or Reflex "Ezi-Mark" orientation tools, with core initially cleaned and pieced togeth at the drill site. Core was then reconstructed into continuous runs on an angle iron cradle for down hole depimarking and then fully orientated with all orientation lines marked up by field staff at the Gidgee core shed. Drill holes are routinely surveyed for down hole deviation using industry standard gyros set to collect reading every 5m or 10m down each hole. 	IC ng re to rd as er th gs
		Company Hole Type No. of Holes Avg Depth (m) Metres Year	
		Pancontinental DD 1 140.5 140.50 1994	
		Pancontinental AC 14 75.4 1,055.50 1994	
		Pancontinental RAB 69 53.9 3,719.50 1993	
		Goldfields Exploration AC 5 78.2 391.00 1995	
		Goldfields Exploration RC / 125.1 875.50 1994	
		Panoramic Gold RC 4 89.0 356.00 2019 Panoramic Gold RCD 10 363.8 6.012.10 2019/10	
		Failuratility RCD 19 303.0 0,913.10 2018/19 Horizon Gold DD 1 //38.7 //38.70 2022	
		Horizon Gold RC 1 180.0 180.00 2022	
		Horizon Gold RCD 1 558.7 558.70 2022	
		Totals 122 119.9 14,628.50	



Criteria	JORC Code explanation	Commentary
Drill sample recovery	 Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. 	 <u>Pre-2012 Drillholes</u> Poor recoveries were not mentioned in any reports, except for one report that stated possible Cu enhancement in one shallow AC hole due to wet samples. There is no stated evidence of there being sample bias due to preferential sampling in any RC or diamond drilling. All RC and AC samples were thoroughly mixed in the splitting process. There is no apparent relationship between sample recovery and grade. <u>Post-2012 Drillholes</u> A qualitative estimate of RC sample recovery was done for each sample metre collected from the drill rig. Over 95% of RC samples were dry when sampled. Diamond core recovery was noted during the drilling and geological logging process as a percentage recovered vs. expected drill length. Recoveries were generally very good (mostly 100%). Drill sample recovery and quality is considered to be adequate for the drilling technique employed.
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. 	 Pre-2012 Drillholes All historical drill holes have been qualitatively logged using the various company logging codes. The type of drill log varies with time depending on drill technique, year and company. Logging included codes and descriptions of weathering, oxidation, lithology, alteration and veining. Geological logging is qualitative and based on visual field estimates. All hard copy DD, RC, and AC logs have been data entered and converted to HRN geology codes. All diamond core was photographed and appropriately logged. Post-2012 Drillholes All drill sample intervals were qualitatively and quantitatively geologically logged in full by a qualified Geologist.
		 Geological logging recorded colour, grain size, weathering, oxidation, lithology, alteration, veining and mineralisation including the abundance of specific minerals, veining, and alteration using an industry standard logging and geological coding system. Structural measurements of foliation, shearing, faulting, veining, lineations etc. (using a kenometer to collect alpha and beta angles) were collected for all diamond core. These measurements were then plotted down drill traces in 3D software to aid geological interpretations and modelling of mineralisation. Rock Quality Designation (RQD) measurements are completed on all diamond core. All diamond core is photographed in the core tray in both dry and wet conditions. A small sample of all RC drill material was retained in chip trays for future reference and validation of geological logging.
Sub-sampling techniques and sample preparation	 If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. 	 Pre-2012 Drillholes RC cuttings were collected at 1m intervals and composited by riffle splitter into 2m or 4m samples. AC samples were composited by spear sampling into 2m or 4m samples. Approximately 2 to 3kg samples were collected.



Criteria JORC Code exp	lanation Co	ommentary
 For all sample appropriatenes Quality control stages to maxi Measures take representative instance result Whether samp the material be 	 types, the nature, quality and so of the sample preparation technique. procedures adopted for all sub-sampling imise representivity of samples. en to ensure that the sampling is of the in situ material collected, including for is for field duplicate/second-half sampling. ele sizes are appropriate to the grain size of eing sampled. 	Measures taken to ensure that the sampling is representative include regular cleaning of cyclones, and sampling equipment to prevent contamination. Duplicate RC samples were collected at every 30th sample in the sample sequence. Diamond core drilling (ALDD001) completed by Pan Continental Mining in 1993 involved 1m and 2m sampling. The diamond core was cut in half for sampling, however some quarter core was sampled subsequent to half core sampling and presumably submitted for analysis or thin section work. The sample sizes used are typical sample sizes used throughout the goldfields and are considered appropriate to this style of deposit. Post-2012 Drillholes The upper non-prospective sections of some RC holes were either not sampled or sampled at 4m intervals using a PVC spear to generate composite assay samples. Samples through more prospective zones were collected at the drill rig every metre using a rig-mounted cone splitter to collect a nominal 2 to 3kg sub sample. Where warranted, individual 1m assay samples covering anomalous 4m composite samples (-0.2% Zn) were submitted for analysis. A qualitative estimate to sample recorey was done for each RC sample collected from the drill rig. Selected HQ3 and NQ2 diamond core was halved using an on-site Almonte diamond saw and half core sampled over 1m intervals for mineralised intervals as determined by the supervising geologist. Duplicate samples are quarter core cut from the remaining half core. Sampling for both RC and diamond core was undertaken using HRN sampling protocols and QAQC procedures in line with industry best practice, with laboratory standard (certified reference material), duplicate and blank samples were inserted/collected at every 20th sample in the sample sequence. Selected samples are also re- analysed to confirm anomalous results. Laboratory in-house QAQC included insertion of certified standards, blanks, check replicates and fineness checks to ensure grind size of 85% passing <75µm. Measures taken to ensure that the sampling is representati



Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	 The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established 	 Pre-2012 Drillholes Sample preparation, gold analysis by fire assay, and As, Cu, Pb, Zn, Ag, Bi, Mo, Sn, Ba analysis was completed at off-site laboratories where RC, AC and core samples were weighed, dried and crushed as per industry standards at the time. Analysis methods were not recorded in the pre-2012 drilling reports. Laboratory quality control procedures included insertion of standards and blanks. Laboratory QAQC data is not available for some of the historical drilling to review. There is no evidence to suspect that any issues with assaying occurred. An analysis of duplicates showed that in general the repeatability of sample results was very good. All analytical data was generated by direct laboratory sasaying. No field estimation devices were employed. Post-2012 Drillholes All samples were submitted to Australian Laboratory Services (ALS Perth) for preparation where RC and core samples were weighed, dried and crushed to between 3mm and 6mm. Crushed samples were subsequently bulk-pulverised in a ring mill to achieve a nominal particle size between 85% to 90% passing <75µm. RC and core sample analysis was completed by four-acid digest for 31 or 33 element ICP determination (code OG62). Over-Limit (>1%) S values were re-assayed by Ore Grade four-acid digest ICP determination (code OG62). Over-Limit (>1%) S values were re-assayed by the S-IR08 method. Selected analysis for gold only was undertaken at ALS Perth for preparation and analysis for gold by 50g fire assay with AS finish to a lower detection limit of 0.01 ppm. Fire assay is considered a "total" assay technique and is appropriate for the commodity being targeted. All QAQC assay data is recorded in the Sum Creek drill hole database. A review of assays for routine standards, sample blanks and duplicate sample suggest three are no significant analytical bias or preparation errors in the reported analyses and t



Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	 The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data. 	 Taking into consideration the effects of Zn leaching from the oxidised parts of the deposit, the deposit is reasonably continuous in terms of mineralisation and grade. The continuity and consistency of the grade intercepts down dip and along strike give reasonable confidence in the grade and style of deposit. No twin holes were completed to verify results. Infill RC drilling was completed to verify AC drilling results. Virtually all drilling confirmed expected geological and mineralogical interpretations. Geological logging was logged into or data entered and loaded into MS Excel and uploaded into acquire or Datashed databases for validation. Cross sections and long sections were generated, and visual validation was completed in 3D (Micromine) as further quality control. All primary drilling data has been held in a relational database in accordance with Industry best practice No adjustments were made to assay data except for replacing negatives with half detection limit numerical values. Assay intervals were composited for resource estimation work (as detailed in Section 3). All historic reported data has been reported in technical reports submitted by Companies to the Western Australian Government which are now available as open file. All significant intersections reported have been reviewed by senior geological personnel from the Company.
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. 	 <u>Pre-2012 Drillholes</u> Planned drill hole locations were positioned by either hand-held global positioning satellite (GPS) in AMG84 or pegged on local grids by a mine surveyor and transformed ton GDA94 coordinates. The majority of holes pre-2012 holes have subsequently been picked up by DGPS and were generally found to be within 1m horizontal and 1m vertical accuracy. Historic drilling coordinates include both local, AMG84 and GDA94 coordinates. The Company database contains all sets of coordinates, but for the purpose of this estimate the GDA94 grid coordinates have been used. All coordinates are reported in the GDA94 – Zone 50 grid datum. Topographic surfaces were built using a combination of drill hole DGPS pickup RL's and RL's from specifically selected DGPS points. All drill collars were displayed in Micromine and visually checked against the provided topographic layer. RL data bias or error is considered low given the flat topography at Altair. Down-hole surveys were routinely performed every 5m. Downhole survey tools were not noted in reports however it is assumed that industry standard down hole survey tools were used. A visual check of the traces in Micromine was completed, with no anomalous surveys being identified. All down survey data is recorded in the Company's drill hole database. Survey details for some historical holes are not known Location data is considered to be of sufficient quality for reporting of mineral resources. Portlholes Drillholes collars were positioned in MGA94_50 coordinates using hand held global positioning satellite (GPS) and located by differential GPS (DGPS) after the drilling was completed. Drillholes are routinely surveyed for down hole deviation at approximately 30m spaced intervals down the hole or more recently every 10m by downhole gyro surveys.



Criteria	JORC Code explanation	Commentary
		 Topography and relief is generally flat, however all collar RL's have been visually checked against digital terrain models (DTM's) in Micromine 3D software. Locational accuracy at collar and down the drillhole is considered appropriate for this stage of exploration and resource definition.
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. 	 The drill hole distribution within the resource area is sufficient to establish the degree of geological and grade continuity appropriate for Mineral Resource estimation procedures and classifications. Drilling is generally on a 40m x 50m, 50m x 50m and 60m x 100m grid spacing. This drill spacing is appropriate for the classification of an inferred mineral resource (see section 3). Samples have been composited to provide intersections which reflect Open Cut mining.
Orientation of data in relation to geological structure	 Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material. 	 All drillholes prior to 2022 were drilled to the west to focus on the east plunge to the south dipping mineralisation. These holes follow the strike of the south dipping mineralisation and may have exaggerated widths. No grade bias is seen or expected with this drill hole orientation. Recent holes have been drilled to the north to intersect target zones at an optimal orientation and no significant sampling width or grade bias is expected.
Sample security	The measures taken to ensure sample security.	 <u>Pre-2012 Drillholes</u> There is no evidence to suggest inadequate drill sample security prior to 2012. <u>Post-2012 Drillholes</u> All samples were stored on site before being delivered by company personnel to the Toll Transport depot in Meekatharra, prior to road transport to the laboratory in Perth.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	 <u>Pre-2012 Drillholes</u> There have been no external audits or reviews of the sampling techniques or data, however internal reviews occur on an ongoing basis. <u>Post-2012 Drillholes</u> There have been no external audits or reviews of the Company's sampling techniques or data, however internal reviews occur on an ongoing basis.



Section 2 Reporting of Exploration Results (Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	 Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area. 	The tenements are located in the Murchison region of Western Australia, and extend from ~60km to ~130km north of Sandstone. The southern half of the Gum Creek Gold Project lies within the Gidgee Pastoral Lease, which is owned by Gum Creek Gold Mines Pty Ltd (a wholly owned subsidiary of Horizon Gold Limited). The northern half of the Project mainly lies within the Youno Downs Pastoral Lease. No environmental liabilities are associated with the Altair tenement. Mineral Resource Estimates (MRE) referred to in this report are located within the Gum Creek Gold Project on Exploration Licence E51/1538 which is held 100% by Gum Creek Gold Mines, a subsidiary of Horizon Gold Limited. The Yugunga-Nya People native title claim cover the north-western 1/3 of the licence and one registered heritage site exists within this native title claim area. One gold royalty exists over the central eastern edge of the tenement as noted in Section 8 of the Horizon Gold Ltd prospectus
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	As announcement dated is becember 2016. The Gum Creek Gold Project has previously been mined for gold by open pit and underground techniques. Significant historical exploration work to "industry standard" has been undertaken by other Companies including geochemical surface sampling, mapping, airborne and surface geophysical surveys, and substantial RAB, RC and DD drilling. The project boasts a long list of previous owners and operators including: Pancontinental Mining Ltd, Dalrymple Resources, Metana Resources, Noranda Pty Ltd, Legend Mining Ltd, Kundana Gold Pty Ltd, Goldfields Kalgoorlie Ltd, Australian Resources Ltd, Arimco Mining Pty Ltd, Apex Gold Pty Ltd, Abelle Ltd and Panoramic Resources Ltd. Exploration and mining completed by previous owners since discovery has led to good understanding of geology, rock mechanics and mineralisation throughout the Project area.
Geology	Deposit type, geological setting and style of mineralisation.	The project is located in the Gum Creek Greenstone Belt, within the Southern Cross Province of the Youanmi Terrane, a part of the Archaean Yilgarn craton in Western Australia. The Gum Creek Greenstone belt forms a lensoid, broadly sinusoidal structure approximately 110 km long and 24 km wide. It is dominated by mafic volcanic and sedimentary sequences. Zn-Cu-Ag mineralisation at Altair is up to 140m thick and currently defined over a strike of around 750 metres. Mineralisation is best developed towards the base of a black shale sequence and occurs as fine to very fine-grained red/brown sphalerite and fine-grained chalcopyrite associated with semi-massive pyrite and magnetic pyrrhotite located in folded sub-millimetre stratiform layers interpreted to reflect original bedding plane deposition. The black shale host rock, altered underlying intermediate volcanics, and overlying felsic units and sediments at Altair form a parasitic fold on the western limb of a regional syncline, both displaying NW-trending fold axes. Mineralisation remains open down plunge to the east and along strike to the north. Weathering/oxidation extends to between 60m and 140m below surface. Zn depletion with markedly lower Zn grades, and Cu enrichment with elevated Cu grades is apparent in both the oxide and transition zones. Zn mineralisation is dominant over Cu mineralisation in fresh rock.
Drill hole Information	A summary of all information material to the understanding of the exploration results including a	Relevant drill hole information and reported results are tabulated within the respective referenced ASX announcements. The new drill hole intercepts reported in this announcement have the following parameters applied;



Criteria	JORC Code explanation	Commentary
	 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	 Grid co-ordinates are MGA94_50. Collar elevation is defined as height above sea level in metres (RL). Dip is the inclination of the hole from the horizontal. Azimuth is reported in MGA94_50 degrees as the direction toward which the hole is drilled. Down hole length of the hole is the distance from the surface to the end of the hole, as measured along the drill trace. Intercept depth is the distance down the hole as measured along the drill trace. Intercept width is the down hole distance of an intercept as measured along the drill trace. Hole length is the distance from the surface to the end of the hole, as measured along the drill trace.
Data aggregation methods	 In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg 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 	Drill hole intercepts are reported from either 1m, or 2m composite down hole samples. Intercept grades is calculated as length weight average of sample grades. A minimum lower cut-off grade of 0.15 % Zn or 0.1% Cu, no upper cut, 4m maximum internal dilution, and all intercepts >2m are reported. Due to the dominance of contained Zn tonnes over contained Cu tonnes, the MRE is reported at ZnEq cut-off grades of 1.5 to 2.5%. The metal equivalent calculation formula is ZnEq % = Zn (%) + 2.78 x Cu (%) + 0.018 x Ag (g/t) using metal prices of A\$4,500/t Zn, A\$12,500/t Cu and A\$30/oz Ag. Based on preliminary metallurgical studies, recoveries used were 90% for Zn, 90% for Cu, and 75% for Ag.
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 (eg down hole length, true width not known'). 	The geometry of Zn-Cu-Ag mineralisation in the Altair area is relatively simple strikes east-west, dips at ~60° to the south, and plunges at ~20° to the east. Recent drilling oriented at right angles to strike and at an average of ~65° to the dip of mineralisation, indicates the true width of mineralisation to be ~91% of intercept width. Holes drilled to the west (prior to 2022) and parallel to strike and at an average of ~20° to the dip of mineralisation, indicates the true width of mineralisation to be ~34% of intercept width.
Diagrams	 Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should 	Appropriate drill hole and block model plans are included in the body of this announcement.



Criteria	JORC Code explanation	Commentary
	include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	
Balanced reporting	 Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results. 	All information considered material to the reader's understanding of the Exploration Results and data has been 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. 	All substantive exploration data has been discussed in the body of this announcement.
Further work	 The nature and scale of planned further work (eg 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. 	Appropriate follow-up RC and diamond drilling is expected along with additional metallurgical testwork.

Section 3 Estimation and Reporting of Mineral Resources (Criteria listed in the preceding section also apply to this section.)

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. Data validation procedures used. 	All data used in the Mineral Resource estimation process was exported from Horizon's SQL-based DataShed relational database. The data is managed by Horizon's database administrator and has been scrutinised and validated by Horizon and Panoramic geological staff and consultants since the project was purchased in 2011 to ensure the data meets minimum drilling and sampling requirements for resource estimation. Validation procedures include Micromine software drill hole validation module reporting, plotting of plans, flitch plans, cross sections, and long sections and 3D visualisation in Micromine software. Only AC, RC and diamond drillholes were used for Resource estimation.
		The drilling and sample data used in the MRE was supplied by Horizon to Matrix as a series of ASCII files containing collar, survey, assay and lithology logging information. Verification checks undertaken by Matrix to confirm the validity of the database compiled for the study included checking for internal consistency between, and within database tables, and comparison of assay values between nearby holes. These checks were undertaken using the working database compiled by Matrix to check potential data-transfer errors in compilation of the working Matrix database. No significant issues were identified and the data was generally used



Criteria	JORC Code explanation	Commentary
		as received, however the quality and representivity of sampling and assaying contained in the Horizon exploration database has not been independently verified by Matrix.
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 for the data used in the resource estimate, metal equivalents and reasonable prospects of extraction (L. Ryan) has visited the site on numerous occasions in 2021 and 2022 and is very familiar with the geology and styles of mineralisation throughout the Project. The Competent Person for the resource modelling, J. Abbott has not visited site. Mr Abbott worked closely with the Horizon Gold geologists, who have reviewed the estimates which in their opinion they are consistent with the current geological understanding.
Geological interpretation	 Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. Nature of the data used and of any assumptions made. The effect, if any, of alternative interpretations on Mineral Resource estimation. The use of geology in guiding and controlling Mineral Resource estimation. The factors affecting continuity both of grade and geology. 	Confidence in the interpreted geological / mineralisation model at Altair is adequate for the current Inferred resource estimates. Lithology, alteration and structural information obtained from drilling and outcrop mapping has been used as the basis of the geological and mineralisation interpretations. The mineralised domains used for the current estimates are consistent with geological understanding. Surfaces representing the base of oxidation and top of fresh rock interpreted by Horizon from previous and recent drill hole logging were used for portioning estimation dataset composites by oxidation zone and density assignment. Interpreted strings representing the base of complete oxidation (BOCO) and top of fresh rock (TOFR) were based on oxidation levels and weathering details from geological drill logs, digitised on sections aligned with the drilling traverses and triangulated to form wireframes representing the base of complete oxidation and top of fresh rock.
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.	Mineral resource estimates extend over around 750m of east-west strike, within a mineralised domain that dips to the south at around 50° with an average width of around 140m to around 500m below surface. Around 90% of the estimates are from depths of less than 330m.
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.	Altair mineral resources are estimated by deposit by Multiple Indicator Kriging (MIK) with block support correction to reflect open pit mining selectivity, a method that has been demonstrated to provide reliable estimates of resources recoverable by open pit mining for a wide range of mineralisation styles. Micromine software was used for data compilation, domain wire framing and coding of composite values and GS3M was used for resource estimation. The resulting estimates were imported into Micromine for resource reporting. The estimation methodology is appropriate for the mineralisation style. The modelling did not include estimation of any deleterious elements or other non-grade variables. No specific assumptions about correlation between variables were made.



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	 The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. The assumptions made regarding recovery of by- products. 	The MIK modelling is based on 2m down-hole composited assay grades from AC, RC and diamond drilling. Un-assayed intervals were generally assigned zero grades. The estimation dataset comprises 5,335 composites with AC, RC and Diamond drilling contributing around 4%,45% and 52% respectively. The modelling incorporates a generally low-grade background domain and a mineralised domains interpreted by Matrix which capture composites with ZnEq grades of generally greater than 0.1%. The domain trends east-west over around 750m of strike and
	 Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation). In the case of block model interpolation, the block size is relation to the success completering of the success of the suc	dips to the south at around 50 ⁰ , averaging around 140m true thickness and extends to around 500m depth. The mineralised domain is consistent with geological understanding. Surfaces representing the base of oxidation and top of fresh rock interpreted by Horizon from drill hole logging were used for portioning estimation dataset composites by oxidation zone and density assignment. Within the resource area, depths to the base of oxidation range from around 11m to 70m and average around 43m, with fresh rock occurring at depths of around 60m to 140m, averaging around 100m.
	 Any assumptions behind modelling of selective mining units 	Central portions of the mineralisation have been tested by generally westerly inclined drill holes spaced at around 100 metres along approximately 60 m spaced traverses. Drill spacing is broader in peripheral areas and at depth.
	 Any assumptions about correlation between variables. Description of how the geological interpretation was used to control the resource estimates. 	For each metal, an initial MIK recoverable resource model was constructed with 60m by 60m by 30m panels including variance adjustment to give estimates for selective mining dimensions of 5m by 5m by 5m with grade control sampling on a 10m by 8m by 2.5m pattern. The variance adjustments were applied using the direct lognormal method. Increments from the recoverable resource estimates were assigned to 10 by 10 by 10 m blocks by ranked E-type MIK grades at this block size. This approach generates a small block model with estimates honouring the primary MIK recoverable resource estimates for each metal.
	 Discussion of basis for using or not using grade cutting or capping. The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available. 	For estimation of copper, zinc and silver grades, grade continuity was characterised by indicator variograms modelled at 14 indicator thresholds. Class grades were derived from class mean grades subdivided by weathering zone with the exception of upper bin grades which were generally derived from the class median or class threshold, reducing the impact of small numbers of outlier composite grades.
	uala il avaliadie.	Indicator variograms modelled from mineralised domain composite ZnEq grades were used for estimation of each metal and for determination of variance adjustment factors a variogram was modelled from composite ZnEq grades. This approach reflects the correlation between metal grades, and the broad drill spacing. The modelled variograms are consistent with geological interpretation and composite grade trends.
		The modelling utilised a three-pass octant based search strategy giving estimates extrapolated to a maximum of generally around 100m from composite locations. Search radii (strike, dip, across strike) and data requirements for these search passes are: Search 1: 60 by 60 by 20 m (minimum 4 octants and 16 data, maximum 48 data), Search 2: 120 by 120 by 40 m (minimum 4 octants and 16 data, maximum 48 data), and Search 3: 120 by 120 by 40 m (minimum 2 octants and 8 data, maximum 48 data).
		Validation of the model estimates included visual comparison of model estimates with the informing data.
Moisture	 Whether the tonnages are estimated on a dry basis or with natural moisture, and the 	All tonnages are estimated on a dry basis.



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	method of determination of the moisture content.	
Cut-off parameters	 The basis of the adopted cut-off grade(s) or quality parameters applied. 	The MRE is reported for ZnEq cut-off grades of 1.5 to 2.5%. The resulting tonnes and grades are considered to have a reasonable prospect for eventual economic extraction (RPEEE) on the basis of comparison of ZnEq resource tonnes and grades for open pit and underground mining operations in similar mining jurisdictions to that of Western Australia.
Mining factors or assumptions	 Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, 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. 	The estimate included variance adjustment factors reflecting open pit mining with mining selectivity of 5m by 5m by 5m (across strike, strike, vertical) with high quality grade control sampling on a 10m by 8m by 2.5m pattern.
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. 	Horizon's interpretation of preliminary metallurgical test work indicates that, although as with many multi-mineral complex sulphide deposits, mineralised Altair core samples do not respond well to conventional single mineral flotation due to their fine-grained nature, it appears likely that the mineralisation may yield a bulk flotation concentrate containing recoveries close to 90% for both copper and zinc and around 75% for silver. To recover copper and zinc from a bulk Cu/Zn concentrate it is envisaged that a Roast – Leach – Electrowinning (RLE) process would be used.
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, 	There are no known environmental or other issues that could prohibit mining or processing within the Altair Deposit area or within the Gum Creek Project.



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	may not always be well advanced, the status of early consideration 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.	
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. 	As specified by Horizon, the estimates include densities of 2.0, 2.5 and 3.0 tonnes per bank cubic metre (t/bcm) for oxidised, transition and fresh material respectively. The density assigned to fresh material is based on immersion measurements completed on 2,215 diamond core samples. Densities assigned to oxide and transition material, which represent around 10% of the estimated resource, are based on a small number of measurements of diamond core from similar rock types at nearby prospects.
Classification	 The basis for the classification of the Mineral Resources into varying confidence categories. Whether appropriate account has been taken of all relevant factors (ie 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). Whether the result appropriately reflects the Competent Person's view of the deposit. 	The estimates are classified as Inferred, primarily reflecting the drill hole spacing. The resource classification accounts for all relevant factors and reflects the Competent Person's view of the deposit.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	The resource estimates have been reviewed by Horizon geologists and are considered to appropriately reflect the mineralisation and drilling data.
Discussion of relative accuracy /confidence	 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, 	Confidence in the relative accuracy of the estimates is reflected by the classification of estimates as Inferred.



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	 or, if such an approach is not deemed appropriate, a 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. 	