# **ASX ANNOUNCEMENT**

8 December 2022



# Thick Gold Intersections Continue at Tuckanarra

Odyssey Gold Limited (ASX:ODY) ("Odyssey" or "Company") is pleased to announce progress results from the Highway Zone at the Company's Tuckanarra JV Project.

# **HIGHLIGHTS**

- Progress assay results from 10 holes of a 21-hole RC drilling program recently completed at the Highway Zone with 6 holes including significant results.
- The most eastern line of drilling includes results of:
  - o 21m @ 3.3g/t Au from 65m including 11m @ 5.5g/t Au from 66m (CBRC0143)
  - 9m @ 2.7g/t Au from 29m (CBRC0142)
- Holes are 140m to the east of the 43m @ 8.3g/t Au<sup>i</sup> intercept reported previously
- The structure remains open towards a historic result of 3m @ 3.0g/t Au in shallow RAB drilling 800m to the east
- High grade results down plunge continue to demonstrate significant underground potential including:
  - 11m @ 4.3q/t Au from 133m including 2m @ 21.6q/t Au from 141m (CBRC0141)
  - 5m @ 5.0g/t Au from 152m including 2m @ 12.0g/t Au from 153m (CBRC0137)
- First phase of drilling complete with 21 RC holes for 2,232m drilled. Assays are pending for a further five holes
- This is the first stage of a 7,800m multiphase resource infill and extension RC drilling program planned to prove up thick oxide mineralisation and the high-grade shoot along 300m of strike

### Commenting on the Highway Zone, Managing Director, Matt Briggs said:

"Drilling at the Highway Zone continues to produce consistent thick mineralisation in oxide and higher grade mineralisation in structures at depth. Two of the results in this announcement are from the most eastern line of drilling and clearly demonstrate the potential for strike extensions. The next RC drilling program is planned to test the eastern extensions of the structure."

"These results build upon the outstanding shallow results of 84m @ 2.5g/t Au≒ and 43m @ 8.3g/t Au∗ received over the last few months. The results of the final 5 holes are keenly awaited."

### For further information, please contact:

## **Matt Briggs**

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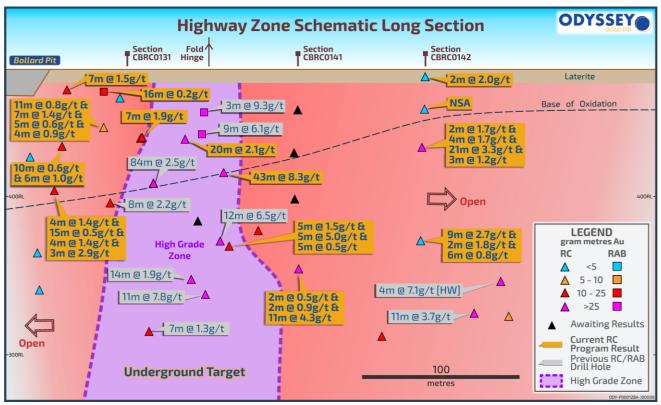


Figure 1 – Highway Zone Long Section displaying assay progress and notable results. Intersections are often 3-7 intervals across 20-40m true width therefore only highlight results are displayed. RAB holes (squares) did not always drill the full width of mineralisation.

## **Highway Zone**

Odyssey's Tuckanarra Project is part of the prolific Murchison Goldfields (Figure 9). The Murchison Goldfields are host to a +35Moz gold endowment (historic production plus current resources) with 7.5Mtpa of processing capacity within 120km of the Tuckanarra Project.

Odyssey's 2022 reverse circulation ("RC") drilling campaign has identified a mineralised shoot with significant scale potential. Drilling has defined a 10-20m true width structure with a 300m long mineralised shoot (Figure 1) open along strike.

A 21 hole, 2,232m RC program has been recently completed drilling the structure at an 80m x 40m spacing. The first results from this drilling included 43m @ 8.3g/t Au from 41m and 20m @ 2.1g/t Au from 42m. Results have now been returned for the most eastern line of drilling, 140m to the east of the recent results and include:

- 21m @ 3.3q/t Au from 65m (CBRC0143) including 11m @ 5.5q/t Au from 66m
- o 9m @ 2.7g/t Au from 29m (CBRC0142)

These holes demonstrate continuity of thick oxide gold mineralisation (Figure 2) extending to the east of the high-grade shoot. The structure remains open along strike to the east towards a historic rotary air blast ("RAB") hole with a result of 3m @ 3g/t Au<sup>v</sup>, 800m to the east. The extension along strike will be a focus for the next RC drilling program.



Mineralisation is associated with significant quartz veining in ultramafic rock or iron rich sediments extending into oxide and an overprinting supergene gold enrichment.

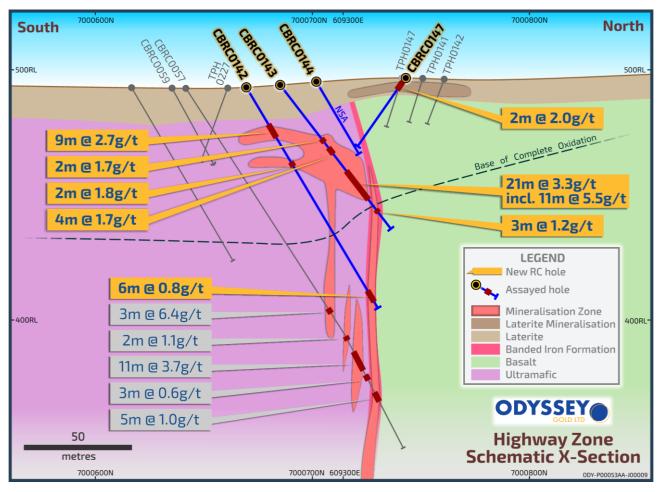


Figure 2 - Cross section through the Highway Zone hole CBRC0142 and CBRC0143 demonstrating the continuity of the wide oxide mineralisation and structure continuing to the east.

Results have returned for drilling targeting the plunge extension of mineralisation. The high-grade plunge has been successfully intersected with higher grade results of:

- o 11m @ 4.3g/t Au from 133m including 2m @ 21.6g/t Au from 141m (CBRC0141)
- 5m @ 5.0g/t Au from 152m including 2m @ 12.0g/t Au from 153m (CBRC0137)

These results demonstrate high grade mineralisation in fresh rock at depth below the thick oxide mineralisation (Figure 3 and 4).

The mineralised intervals reported are the parts of a 20-40m wide structure above 0.5g/t Au. The structure has anomalism across a broader width. Higher grade areas are associated with quartz veining in ultramafic and iron rick sediments. Higher grade mineralisation has a strong correlation with quartz veining, including in oxide.



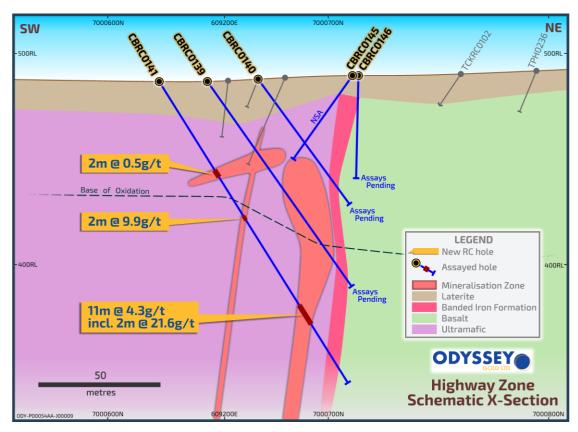


Figure 3 - Cross section displaying CBRC0141 result of 11m @ 4.3g/t Au in fresh rock.

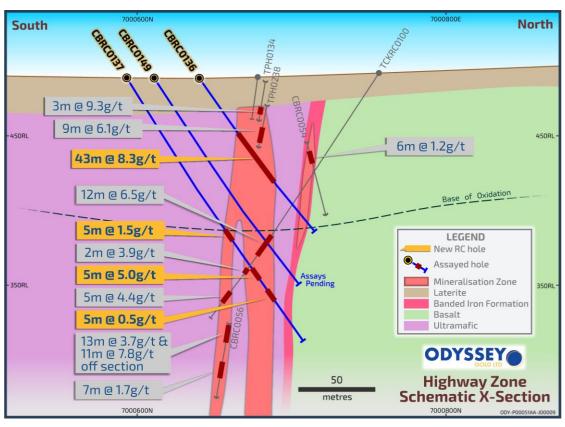


Figure 4 – Cross section displaying CBRC0137 result of 5m @ 5.0g/t Au in fresh rock below the recent results of 43m @ 8.3g/t Au.



Drillholes CBRC0130 and CBRC0131 were completed to the west of the high-grade shoot (Figure 5). These holes intersected the oxide mineralisation including:

- 11m @ 0.8g/t Au from 30m (CBRC0131) and
- o 7m @ 1.4g/t Au from 51m (CBRC0131)
- 16m @ 0.2g/t Au from 40m (CBRC0130)

Holes CBRC0144 and CBRC0145 drilled depleted oxide to the northwest of the target structure and did not intersect significant assays. Hole CBRC0147 drilled a similar position on the most eastern section line and intersected shallow laterite mineralisation with a result of:

o **2m @ 2.g/t Au from 6m** (CBRC0147)

Most holes intersected multiple zones of mineralisation and the full details of the results of all 10 holes are outlined in detail in Appendix 1. Results are pending for a further five holes intersecting the high-grade shoot and hanging wall oxide mineralisation.

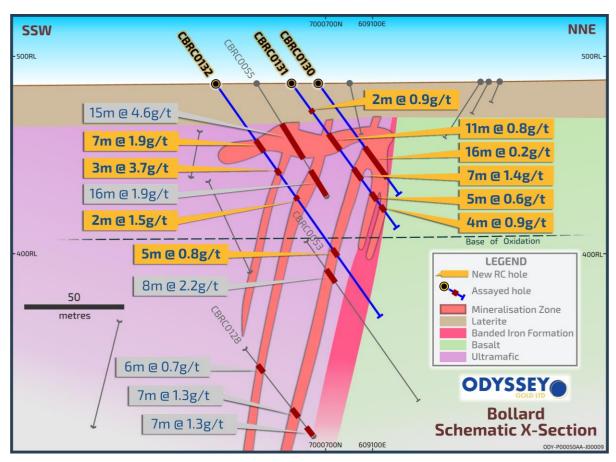


Figure 5 - Cross section drilled to the west of the high-grade shoot.



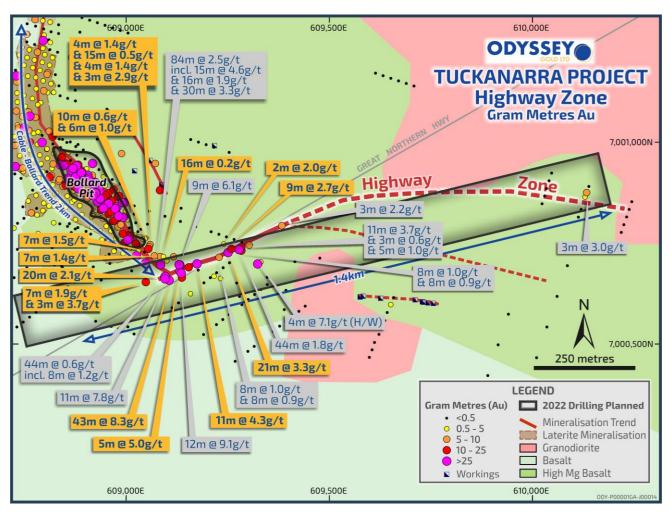


Figure 6 - Exceptional results from drilling at the Highway Zone Target. Results from the recent drilling program in yellow. Holes contain up to 7 intersections therefore highlights are labelled.

### **Future Work**

Three phases of drilling are planned at the Highway Zone:

- The recently completed 21 hole program targeting the structure in the oxide zone to add shallow mineralisation to support open pit evaluation;
- The second phase of drilling will extend the structure along strike, in particular, to the northeast towards the encouraging RAB, rock chip and soil samples; and
- The third phase of drilling will grow >5g/t Au mineralisation down dip to demonstrate the scale of underground mining potential. Underground mines in the area extend to over 1km depth. The deepest intersection at the Highway Zone intersected the structure ~180m below surface. The structure is open down dip.

The Company has a portfolio of advanced open pit and underground targets being actively explored.



# **Highway Zone Background**

#### A Wide Predictable Structure

The Highway Zone structure is typically a 12-33m wide shear on an ENE-SSE trend. Internal to the structure are multiple zones of mineralisation, with the highest grades on the footwall (Figure 3).

The structure is consistently mineralised with 12 holes intersecting over 25 gram metres (width x grade), an exceptional success rate at this early stage of drilling.

The mineralisation is associated with quartz veining and sulphide in sheared ultramafic and sulphidic sediments. A tholeitic basalt forms a predictable footwall to the mineralisation (Figure 3).

### Oxide Mineralisation

Historic RAB drilling intersected oxide mineralisation as shallow as 9m vertically below surface. Enrichment of gold in oxide is seen in several open pits mined at Tuckanarra. The Highway Zone displays the same enrichment of widths and gold grades in oxide.

Drillholes intersecting the structure in oxide include intervals of:

- o 84m @ 2.5g/t Au from 25m including 15m @ 4.6g/t Au from 25m (CBRC0055)vi
- o 43m @ 8.3g/t Au from 41m including 3m @ 80.9g/t Au from 73m (CBRC0136)vii
- o 9m @ 6.1g/t Au from 41m (TPH0238 does not drill the full width of the structure)viii
- o 20m @ 2.1g/t Au from 42m (CBRC0148)ix

Growing the shallow oxide mineralisation along strike to the east is a focus for future drilling programs.

## High-grade shoot extending to depth

An emerging high-grade shoot currently drilled to ~180m vertically below surface and with five holes including intervals of over 5g/t Au (Figure 1) including:

- o 7m @ 10g/t Au from 89m (CBRC0055)x
- 12m @ 9.1g/t Au from 132m (TCKRC0100)xi
- O 11m @ 7.8g/t Au from 199m (CBRC0056)xii
- 4m @ 7.1g/t Au from 176m (CBRC0058)\*iii
- 3m @ 8.0g/t Au from 194m (CBRC0057)xiv

The consistency of high grade gives strong encouragement of future underground mining potential. The structure is open down dip and future diamond drilling is targeted to define extensions to the high-grade shoot.



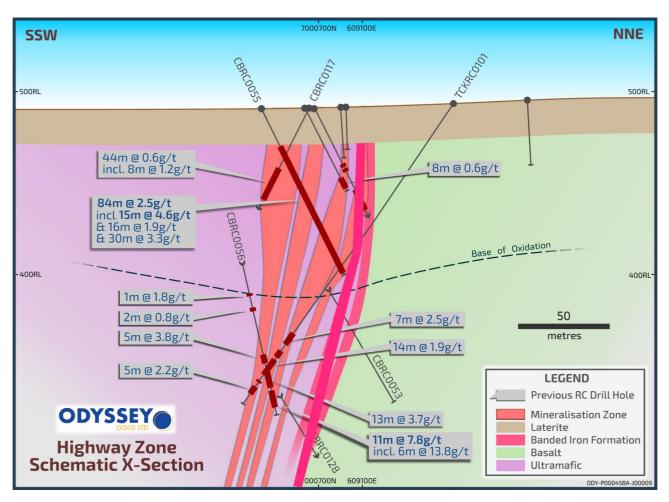


Figure 7 - Cross section through the Highway Zone displaying the wide mineralisation extending 180m below surface.

### **Scale Potential**

RC drilling has successfully intersected the structure along 300m of strike. The structure is open to the northeast, the southwest and down dip. Shallow cover masks the surface expression of the target, which is the reason why it has not been discovered previously.

The structure trends towards historic RAB holes of 3m @ 3.0g/t Au from 9m in hole (TPH0150)<sup>xv</sup>.(Figure 6) and 3m @ 0.7g/t Au from 27m to end of hole ("EOH") in hole TPH0151<sup>xii</sup>, 800m to the northeast and undrilled >10ppb soil anomalies 500m to the east northeast.

Recent mapping and sampling has identified high-grade rock chips up to 18.5g/t Au 400m to the east of the Highway Zone Target. These confirm historic rock chip samples collected from prospector's test pits of up to 34.7g/t Au<sup>xvi</sup>.

Mapping with geochemistry confirms the presence of ultramafic adjacent to BIF. This is the same stratigraphic position as the Cable-Bollard Trend and likely represents the extension of the system to the east of the Highway Zone.



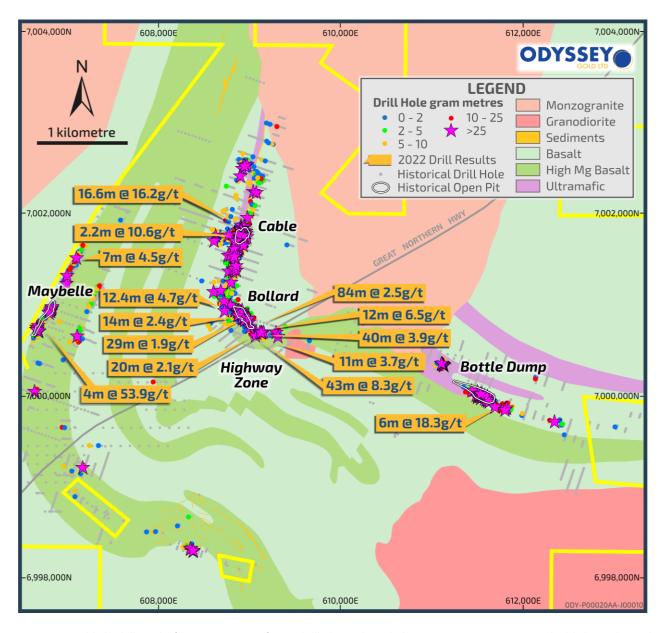


Figure 8 - Highlight drill results from 2022. ~30% of 2022 drillhole results include 25 gram metres Au or more highlighting the quality of the Tuckanarra deposits.



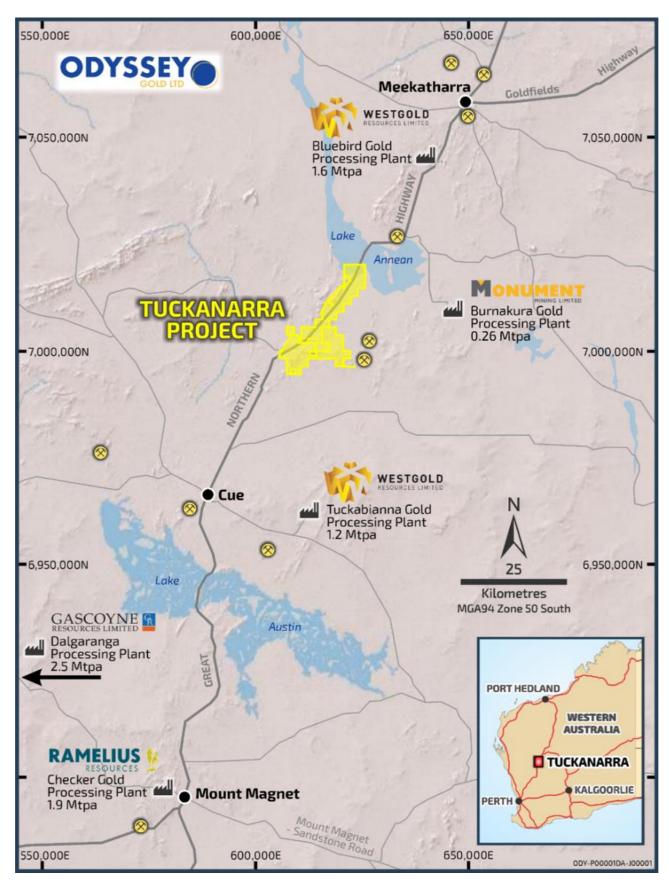


Figure 9 - Tuckanarra Project Location Map highlighting the multiple proximal gold processing plants (combined 7.5Mtpa capacity).



# **APPENDIX 1 – Collar and Results Tables**

Holes_id	East	North	RL	Depth	Dip	Azimuth	Comment
CBRC0130	609075	7000700	485	64	-55	45	
CBRC0131	609063	7000694	485	88	-55	45	
CBRC0132	609043	7000663	486	142	-55	45	
CBRC0133	609046	7000727	489	58	-55	45	
CBRC0134	609028	7000713	487	94	-55	45	
CBRC0135	609008	7000709	487	124	-55	50	
CBRC0136	609134	7000639	486	125	-55	3	
CBRC0137	609130	7000590	486	209	-60	5	
CBRC0138	609103	7000597	485	84	-55	7	Abandoned
CBRC0139	609208	7000648	487	128	-55	330	
CBRC0140	609194	7000677	487	77	-55	330	
CBRC0141	609216	7000630	487	179	-60	330	
CBRC0142	609288	7000668	488	154	-60	330	
CBRC0143	609280	7000685	488	107	-55	330	
CBRC0144	609265	7000713	489	45	-60	330	
CBRC0145	609170	7000717	491	52	-55	155	
CBRC0146	609171	7000719	491	52	-90	330	
CBRC0147	609240	7000751	492	52	-55	150	
CBRC0148	609089	7000662	488	106	-55	45	
CBRC0149	609137	7000607	486	167	-55	344	Replacement of CBRC0138
CBRC0150	609137	7000599	486	125	-55	52	

MGA94 Zone 50 Grid. Collars are handheld GPS measurements.

Hole ID	From (m)	To (m)	Length (m)	Au (g/t)	Structure	Wet samples
CBRC0130	40	56	16	0.2	Oxide	
CBRC0131	12	14	2	0.9	Bollard Laterite	
and	30	41	11	0.8	Oxide	
including	36	40	4	1.2		
and	51	58	7	1.4	Oxide	
and	65	70	5	0.6	Footwall BIF	
and	75	79	4	0.9	Footwall BIF	77-79
CBRC0137	119	124	5	1.5	Highway	
and	152	157	5	5	Highway	
including	153	155	2	12		
and	168	173	5	0.5	Highway	
CBRC0138	39	58	19	0.3		
and	80	82	2	0.7	Hole abandoned at 84m	
CBRC0141	53	55	2	0.5	Highway	
and	80	82	2	0.9		
and	133	144	11	4.3		
including	141	143	2	21.6		
CBRC0142	29	38	9	2.7	Oxide	



Hole ID	From (m)	To (m)	Length (m)	Au (g/t)	Structure	Wet samples
including	35	37	2	6.2		
and	55	57	2	1.8	Oxide	
and	142	148	6	0.8	Footwall BIF	
CBRC0143	43	45	2	1.7	Oxide	
and	49	53	4	1.7	Oxide	
and	65	86	21	3.3	Oxide	
including	66	77	11	5.5	Highway	
and	94	97	3	1.2	Footwall BIF	
CBRC0144	7	10	3	NSA	Oxide	
CBRC0145	5	11	6	NSA		
CBRC0147	6	8	2	2	Footwall laterite	

Results of over 2m at 0.5g/t or where geologically significant. No composites are included in reported intervals. Wet samples may be compromised and unrepresentative of in situ mineralisation.

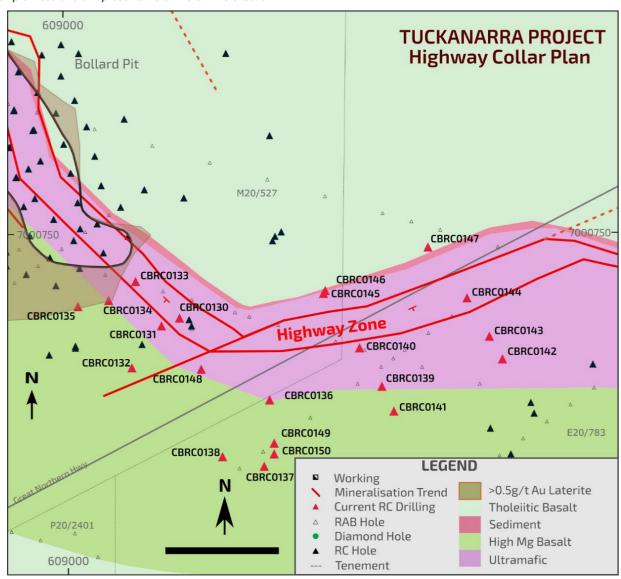


Figure 10 - Highway Zone Collar map



# APPENDIX 2 - JORC Code, 2012 Edition - Table 1

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

Criteria	JORC Code explanation	Commentary
	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.	RC samples are split using a cone splitter into calico bags representing the 1m interval. RC hole diameter starting at 5 ¾ inch diameter reducing as the hole progresses.  Individual samples weigh less than 5kg. The sample size is deemed appropriate for the grain size of the material being sampled. 1m intervals were selectively composited into 4m intervals as described below. 4m composites included in intersections are flagged in the results table.  All samples are routinely scanned with a portable XRF. The is initially used to identify the footway tholeitic basalt. Samples a classified by semi-supervised machine learning using a training database and generally a random forest algorithm. Magnetic Susceptibility measurements are generally taken for each 1m interval.
Sampling techniques	Include reference to measures taken to ensure sample representation and the appropriate calibration of any measurement tools or systems used.	Sampling was carried out under the ODY protocols and QAQC. See further details below. Sampling is supervised by a geologist and/or trained field technician. Rig inspections document chain markings of metre intervals, rig setup, splitter and cyclone cleanliness, consistency of sampling and adherence to company procedures. Sample recovery and moisture levels are estimated and recorded. Holes are terminated once two wet samples are generated to ensure sample quality. Certified standards and blanks were inserted into the assay batches.
<b></b>	Aspects of the determination of mineralisation that are Material to the Public Report.	Mineralisation is generally associated with foliation, quartz veining and pyrrhotite in ultramafic rocks, and pyrrhotite in banded iron formation. The mineralisation in oxide is not visual unless associated with more iron rick clays. The presence of these indicators or gold assay grades above 0.5g/t are used to report mineralisation. The highway zone is a broad zone of mineralisation. To avoid including more than 2m of below 0.5g/t Au the intervals of mineralisation are subdivided.
	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.	Samples are sent to the NATA accredited ALS/Minanalytical Laboratory in Canning Vale, Perth and analysed via Photon Assay technique (method code PAAU2) along with quality control samples. Individual samples are assayed for gold after drying and crushing to nominally 85% passing 2mm and 450-500g split taken for PhotonAssay). The PhotonAssay technique was developed by CSIRO and Chrysos Corporation and is a fast, chemical free non-destructive, alternative using high-energy X-rays to traditional fire assay and uses a significantly larger sample size (500g v's 50g for fire assay). This technique is accredited by the National Association of Testing Authorities (NATA). Repeat assays are routinely taken of elevated gold samples.
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).	RC drilling has been undertaken by Strike Drilling with a track mounted X350 rig with booster compressor.  Downhole surveys for both RC drilling are recorded using a True North Seeking Gyro survey tool.
	Method of recording and assessing core and chip sample recoveries and results assessed.	The majority of the samples are reported to be dry. Ground water ingress occurred in some holes at the rod change but overall, the holes were kept dry. Typically, drilling operators ensured water was lifted from the face of the hole at each rod change to ensure water did not interfere with drilling and to make sure samples were collected dry.
Drill sample recovery	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Drilling is carried out orthogonal to the mineralisation to get representative samples of the mineralisation. Standard practices for RC drilling are used.
	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 relationship between recovery and grade have been identified. This is not seen to be a material risk with the drilling methods and approach to sampling being undertaken.



Criteria	JORC Code explanation	Commentary
	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.	All RC chips is logged onsite by geologists to a level of detail to support future mineral resource estimation, mining studies and metallurgical studies.
Logging	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging is qualitative and records lithology, grain size, texture, weathering, structure, alteration, veining and sulphides. Chips are digitally photographed. Chip trays are routinely scanned with pXRF
	The total length and percentage of the relevant intersections logged	All holes are logged in full, including the reported intersections.
	If core, whether cut or sawn and whether quarter, half or all core taken.	No core in this program yet.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	1m RC samples are split using a cone splitter. Unmineralised areas are composite RC samples collected by spear from the reject from the riffle splitter by spearing and combined into 4m composite samples. Most samples are dry. Two wet samples were recorded in a low grade mineralised interval in CBRC0131 at 77-79m. Drilling of a hole is terminated if dry samples cannot be produced.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	4m and 1m RC samples were submitted to ALS/Minanalytical Laboratory Perth where a 450-500g sample was assayed by Photon Assay.
Sub- sampling techniques and sample		The sample preparation procedures carried out are considered acceptable. All photon tubs and coarse rejects are retained at the laboratory.
preparation	Quality control procedures adopted for all sub-sampling stages to maximise representation of samples.	Sampling is supervised by a geologist and sample recovery and moisture content noted. A checklist to ensure ongoing checking for sample quality and to avoid contamination has been implemented.
	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.	Samples are inspected for contamination. The RC cyclone is routinely cleaned. RC field duplicates are collected on intervals that have been identified as geologically prospective by the field geologist at the time of drilling. The duplicate samples are collected directly from the second chute from the on-rig cone splitter.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered appropriate to give an indication of mineralisation. Once a meaningful population of samples is collected per sample domain an assessment will be made of the appropriate weight and number of samples to allow the classification of mineral resources.
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.	All samples were submitted to ALS/Minanalytical Laboratory Perth where a 450-500g sample was assayed by Photon Assay for gold. The PhotonAssay technique was developed by CSIRO and Chrysos Corporation and is a fast, chemical free non-destructive, alternative using high-energy X-rays to traditional fire assay and uses a significantly larger sample size (500g v's 50g for fire assay). This technique is accredited by the National Association of Testing Authorities (NATA). Repeat assays are routinely taken of elevated gold samples.
	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 surveys reported in this release.
	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.	Certified reference material (CRM) samples sourced from Geostats and were inserted every 20. External lab check assays have not been completed for the current program.



Criteria	JORC Code explanation	Commentary
	The verification of significant intersections by either independent or alternative company personnel.	All assays are reviewed by Odyssey Gold and significant intercepts are calculated as composites and reported using a nominal 0.5g/t Au cut-off grade; however, intercepts may be reported within sub-grade mineralisation if dictated by a geological domain. A maximum of 3m consecutive internal waste is nominally allowed in composites. All significant intercepts are checked by the Competent Person. Previous announced intersections may vary with a change in interpretation. A reannouncement of previous results will not occur unless the Competent Person decides the change is material. The competent person routinely inspects drilling, chips, and the geologists logging to ensure correlation with assay results.
Verification of sampling and assaying	The use of twinned holes.	Dedicated twin holes have not been drilled. No holes at the Highway zone have been twinned yet.
assaying	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	All drill hole logging is completed on digital logging templates with built-in validation. Logging spreadsheets are uploaded and validated in a central MS Access database. All original logging spreadsheets are also kept in archive. Duplicated copies of the database and drillhole data is routinely backed up through cloud server backups. Logging of key intersections has been reviewed by the Geology Manager / Managing Director.
		IT access is administered by the Apollo Group. The Apollo Group are a related party.
	Discuss any adjustment to assay data.	No assay data was adjusted.
	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.	Drill hole collars are located using handheld GPS with 3-5m accuracy. Downhole surveys for both RC and DDH drilling are recorded using a True North seeking GYRO survey tool. Subsequent to drilling, collars are surveyed by a licensed surveyor using a Topcon Hyper VR GNSS with expected accuracy of +/- 0.03m horizontal and +/- 0.05m vertical relative to the base station.
Location of data points	Specification of the grid system used.	The project currently uses the MGA94, Zone 50 grid system.
adia pointo	Quality and adequacy of topographic control.	The site topographic surveys including the pit surveys match well with the drill hole collars. Detailed aerial photography over the region has aided on locating historic drillhole collars. An updated digital terrain model has been generated from a recent UAV drone survey to validate GPS RL surveys.
	Data spacing for reporting of Exploration Results.	Drill hole spacing for the 2022 drill program is variable as most drilling to date is either first pass drilling of new exploration targets or stepout brownfields exploration targeting along strike from existing Resources. In general, drill hole collar spacing for the reported drillholes is 80x40m.
Data spacing and distribution	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.	Drilling is on a spacing which is sufficient to test the grade continuity of mineralisation for this style of mineralisation. The current data set is considered potentially appropriate for use in a future Mineral Resource. A non JORC 2012 resource has previously been declared for the Bollard Pit. No resource has been prepared for mineralisation to the east of the Bollard Pit.
	Whether sample compositing has been applied.	4m sample composites are used. Where reported intervals are composites this is disclosed in the announcement Table 2. All significant 4m composites are subsequently replaced with the intersections from 1m samples.
Orientation of data in relation	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	Drilling is designed to be perpendicular to the strike of mineralisation on a hole by hole or section by section basis. The current program has successfully achieved this. Drilling is aiming for an initial resource with geological and/or grade continuity. Subsequent infill programs will better define the continuity of grade and appropriate drill spacing.
to geological structure	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	The bulk of the intercepts appear to be orthogonal to the mineralisation +/- 25 degrees unless otherwise stated in the intercepts table. Further work will be undertaken to analyse this in the future as exploration works progress. Assay intercepts are stated as down-hole lengths. Previous resource modelled work has highlighted grade bias in holes drilled down the mineralisation.



Criteria	JORC Code explanation	Commentary
Sample security	The measures taken to ensure sample security.	RC samples are collected in prenumbered calico bags. Samples are delivered to the lab directly by Odyssey personnel or freighted via an independent freight provider.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	All QAQC data is reviewed to ensure quality of assays; batches containing standards that report greater than 2 standard deviations from expected values are re-assayed.

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.	Odyssey's subsidiary, Tuckanarra Resources Pty Ltd, owns an 80% interest in the Tuckanarra Project, comprising two Exploration Licences (E20/782 and EL20/783), one Mining Licence (M20/527), and seven Prospecting Licences. A royalty may be payable if Monument Mining dilutes its interest in the project. Open pit mining of the Highway Zone will require relocation of the Great Northern Hwy. Road relocations for mining are not uncommon in Western Australia. Underground mining would not be impacted by the presence of the road.
	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 tenement package is understood to be in good standing with the WA DMIRS.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Refer to the body of the report and to previous announcements.  Exploration History Gold was discovered at Tuckanarra in the late 1890s by prospectors searching further afield from Cue and Mt Magnet, with the first mine (Nemesis) discovered and developed in 1900.  Subsequent exploration and development located additional deposits in the general area with the majority of deposits being developed as small underground mines exploiting narrow, highly mineralised quartz veins associated with Banded Iron Formation lithologies. In general, these historic gold mines were mined down to the water table, which is approximately 20m deep at Tuckanarra.  1980 to 1987: Tuckanarra Minerals By the mid-1980s Tuckanarra Minerals had completed in excess of 64 RAB holes, defining gold mineralisation at the Maybelle prospect and identifying numerous additional areas which were prospective for gold resources. They concluded that the area hosted excellent potential for the delineation of small-to-medium gold mines and noted that little drilling had been completed at depth. Following the 1987 stock market crash, Metana Minerals purchased the Tuckanarra group of tenements.  1988 to 1996: Metana Minerals (Gold Mines of Australia)  Between 1988 and 1990 Metana Minerals (renamed Gold Mines of Australia ("GMA")) completed a systematic 200m x 40m soil geochemistry program over a large portion of their tenement holding, including Tuckanarra. Between 1990 and 1995 GMA undertook numerous drilling programs encompassing Rotary Air Blast ("RAB"), Reverse Circulation ("RC") and Diamond Drilling ("DD") over the defined gold anomalies and historic workings. This resulted in the delineation of gold mineral resources at the Maybelle, Bollard, Bottle Dump and Cable Prospects, which were mined between 1990-1994.  1996 to 2003: St Barbara Gold Mines ("St Barbara") purchased the Reedys plant and tenements from GMA. Minimal exploration was undertaken until Anglo Gold Australia ("Anglo") became managing joint venture partner in late 2000. Anglo focused on th
		2003 to 2006: Mercator Gold Pty Ltd



Criteria	JORC Code explanation	Commentary
		Following the withdrawal of Anglo from the joint venture, St Barbara entered into a joint venture with Mercator Gold Australia Pty Ltd ("Mercator"). Mercator completed GIS compilation work, mapped the existing pits and completed a number of lines of geophysical induced polarisation to test for the presence of chargeable zones that may have a gold-sulphide association.
Geology	Deposit type, geological setting and style of	2006 to 2011:  No field work was carried out on the Tuckanarra gold project post 2006. The Tuckanarra tenement package was acquired by Phosphate Australia in late 2011. Phosphate Australia focused on drilling laterite and oxide resources on the Cable-Bollard Trend, and Anchor with aircore drilling before selling the project to Monument mining in 2015. Odyssey Gold acquired the project in late 2020.  The Project area is located within the Meekatharra-Wydgee
contag	mineralisation.	Greenstone belt within the north-eastern Murchison Domain. The majority of greenstones within the Meekatharra-Wydgee belt have been stratigraphically placed within the Polelle Group and the Norie Group of the Murchison Supergroup.
		The Project area covers Archean basement rocks assigned to the 2815-2805 Ma basal Norie group of the Murchison Supergroup, which covers the eastern margin of the Meekatharra-Wydgee greenstone belt. The Norie group comprises a thick succession of pillowed and massive tholeitic basalts of the Muroulli Basalt, and conformably overlying and mafic schist and felsic volcanoclastics with interbedded BIF and
		felsic volcanic rocks of the Yaloginda Formation (Van Kranendonk et al, 2013). These rocks are folded around the south-plunging Besley Anticline. Adjacent to these rocks are the mafic sequences of the Meekatharra Formation (Polelle Group).
		Granitoids in the Project area comprise of the Jungar Suite and Annean Supersuite to the east and the Munarra Monzogranite of the Tuckanarra Suite to the west. The Jungar Suite comprises of foliated to strongly sheared K-feldspar-porphyritic monzogranites. These rocks are characterized by strong shear fabrics that suggest they may have been emplaced during, or just before, shearing. The Annean Supersuite includes hornblende tonalite and monzogranitic rocks. The Tuckanarra Suite consists of strongly foliated and locally magmatically layered granodiorite to monzogranitic rocks.
		The Project is situated within the 'Meekatharra structural zone', a major regional, NE-trending shear dominated zone, about 50 to 60km wide, stretching from Meekatharra through the Cue region as far south as Mount Magnet. This major shear zone is dominated by north and northeast-trending folds and shears (e.g. Kohinoor shear). The Mt Magnet fault is the major east- bounding structure of the Meekatharra structural zone.
		The mineralised zones of the Project are located in the Tuckanarra greenstone belt comprising a series of mafic and inter-banded mafic and iron formations, with a variable component of clastic sediments, (greywackes and minor shales). The sequence is folded into a southwesterly plunging anticline with a well-developed axial plane cleavage and numerous fractures, bedding parallel faults and shears. The belt extends northwards to Stake Well and east towards the Reedys mining centre.
		The area has four small open pits, extensive minor gold workings, and prospecting pits principally associated with mafic lithologies and Altered Ferruginous Transitional (AFT) and Altered Ferruginous Fresh (AFF) material which were originally banded iron formations. The magnetite content within the AFT/AFF's has been destroyed and predominantly altered to an assemblage of hematite with the relic structure of the banded iron intact.
		Where mineralised veins intersect major competency contrasts such as high magnesium basalt or AFT/AFF, veining becomes layer parallel resulting in larger deposits such as the Bollard and Cable deposits.
		A number of styles of gold mineralisation have been identified in the area including:
		Mineralised AFT and AFF material ± quartz veining (Cable East,



Criteria	JORC Code explanation	Commentary
		Cable Central);
		<ul> <li>Quartz veins ± altered ultramafic and basalts (Cable West, Highway, Lucknow, Maybelle, Maybelle North, Miners' Dream); and</li> </ul>
		<ul> <li>Gold mineralisation within laterite (Anchor, Bollard, Drogue).</li> <li>Below the base of complete oxidation (~40m) gold mineralisation is commonly seen associated with quartz-pyrrhotite veins and pyrrhotite replacement of the host rocks. Prospective models for the discovery of additional gold deposits in the area are related to the intersection of shear zones with prospective lithologies.</li> </ul>
Drill hole	A summary of all information material to the	Drill hole details are provided in Appendix 1. Results that are
Information	understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul> <li>easting and northing of the drill hole</li> </ul>	interpreted to be discontinuous, or outside the areas of interest may not be highlighted in the announcement.
	collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole	
	<ul> <li>down hole length and interception depth</li> <li>hole length.</li> </ul>	
	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.	
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.	Significant intercepts are reported as down-hole length-weighted averages of grades above a nominal 0.5 g/t Au; or according to geological/mineralised units in occasional cases where warranted. No top cuts have been applied to the reporting of the assay results.
	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.	Higher grade intervals are included in the reported grade intervals; and have also been split out on a case-by-case basis where relevant.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values are used.
Relationship between mineralisation widths and	These relationships are particularly important in the reporting of Exploration Results.	The bulk of the exploration drilling was conducted so that results would be close to orthogonal to the mineralisation as understood at the time; however, the true relationship to the mineralisation is not accurately determined. Due to restrictions of access, such as from historic open
intercept lengths	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	pits, the drill angle may be compromised. Cross sections are included in the announcement to illustrate the interpreted orientation of the drillhole to the mineralisation.
	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').	True widths of intersections in this announcement are interpreted to be 80-100% of the downhole width.
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Refer to Figures in the body of this announcement and Appendix 1.



Criteria	JORC Code explanation	Commentary
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.	Balanced reporting has been used. The exploration results should be considered indicative of mineralisation styles in the region. Exploration results illustrated may be highlights of the drilling and are not meant to represent prospect scale mineralisation. As the projects are brownfields exploration targets, and there are large numbers of holes drilled over the region, it is considered appropriate to illustrate mineralised and non-mineralised drill holes using diagrams, with reference to the table of significant intercepts.
		RC grade control holes are not displayed within the open pit and off section RC and RAB holes may not be displayed for clarity. Removing the off section holes does not materially change the interpretation from the that displayed. Mineralisation widths and grades are very consistent within the oxide zone as shown on the long section in this position.
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.	No other meaningful data is required to be presented other than what has been presented in the body of this announcement. The reader is referred to the Independent Geologists Report in the Odyssey Gold Prospectus.  Surveying of the depths of historic pits has identified that the mined volumes in JORC 2004 resources published by previous companies are incorrect.
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.	Updates to the geological interpretation are currently underway to allow for future resource estimation. Three phases of drilling are planned at the Highway Zone. The 2,232m program recently completed is targeting the structure in the oxide zone to add shallow mineralisation to support open pit evaluation. The second phase of drilling will extend the structure along strike, in particular, to the northeast towards the encouraging rotary air blast ("RAB"), rock chip and soil samples; and the third phase of drilling will grow >5g/t Au mineralisation down dip to demonstrate the scale of underground mining potential. Underground mines in the area extend to over 1km depth. The deepest intersection at the Highway Zone intersected the structure ~180m below surface. The structure is open down dip. The Company has a portfolio of advanced open pit and underground targets being actively explored.

## **COMPETENT PERSONS STATEMENT**

The information in this announcement that relates to Exploration Results and Targets is based on, and fairly represents, information compiled or reviewed by Matthew Briggs, who is a Competent Person. Mr Briggs is a Fellow of the Australasian Institute of Mining and Metallurgy, a full-time employee of Odyssey and is a holder of shares, options, and performance rights in Odyssey Gold Limited. Mr Briggs has sufficient experience that is relevant to exploration and the style of mineralisation and type of deposit under consideration, and to the activity being undertaken, to qualify as a Competent Persons as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC Code). Mr Briggs consents to the inclusion in the announcement of the matters based on their information in the form and context in which it appears.

#### FORWARD LOOKING STATEMENTS

Statements regarding plans with respect to Odyssey's project are forward-looking statements. There can be no assurance that the Company's plans for development of its projects will proceed as currently expected. These forward-looking statements are based on the Company's expectations and beliefs concerning future events. Forward looking statements are necessarily subject to risks, uncertainties and other factors, many of which are outside the control of the Company, which could cause actual results to differ materially from such statements. The Company makes no undertaking to subsequently update or revise the forward-looking statements made in this announcement, to reflect the circumstances or events after the date of that announcement.



This ASX Announcement has been approved in accordance with the Company's published continuous disclosure policy and authorised for release by the Managing Director.

<sup>i</sup> Refer ASX announcement dated 28 November 2022

ii Refer ASX announcement dated 27 November 2020

iii Refer ASX announcement dated 4 August 2022

 $<sup>^{\</sup>mathrm{iv}}$  Refer ASX announcement dated 28 November 2022

<sup>&</sup>lt;sup>v</sup> Refer ASX announcement dated 27 November 2020

vi Refer ASX announcement dated 4 August 2022

vii Refer ASX announcement dated 28 November 2022

 $<sup>^{</sup>m viii}$  Refer ASX announcement dated 27 November 2020

 $<sup>^{\</sup>mathrm{ix}}$  Refer ASX announcement dated 21 November 2022

x Refer ASX announcement dated 4 August 2022

xi Refer ASX announcement dated 1 September 2022

xii Refer ASX announcement dated 14 June 2022

xiii Refer ASX announcement dated 10 May 2022

xiv Refer ASX announcement dated 10 May 2022

 $<sup>^{\</sup>mathrm{xv}}$  Refer ASX announcement dated 27 November 2020

xvi Refer ASX announcement dated 27 September 2022