RED HILL MINERALS Limited

ASX: RHI 15 December 2023

EXPLORATION UPDATE – RC DRILLING EXTENDS GOLD SYSTEM AT THE BARKLEY PROSPECT

Highlights

Significant results have been received from exploration conducted at the Barkley Prospect within Red Hill Minerals West Pilbara Gold and Base Metal Project.

In November a 6-hole RC program was completed to follow up on initial RC drilling results at Barkley (refer RHI ASX release dated 27th September 2023 "RC drilling intersects gold mineralisation at the Barkley Gold Target").

Drillhole 23BKRC008 has intersected 4 metres at 4.1 grams per tonne gold from 65 to 69 metres, including 2 metres at 6.6 grams per tonne gold from 65 to 67 metres. This intersection is approximately 100 metres North of 23BKRC005 which intersected 4 metres at 3.7 grams per tonne gold from 90 to 94 metres, including 2 metres at 6.4 grams per tonne gold from 91 to 93 metres.

Drillhole 23BKRC007 has intersected 4 metres at 2.6 grams per tonne gold from 17 to 21 metres and 4 metres at 2.1 grams per tonne gold from 88 to 92 metres. This intersection is approximately 15 metres down-dip of the result in 23BKRC005 noted above.

Mineralisation remains open in all directions.

In combination with the RC drilling above, recent wide-spaced Ultrafine (UFF) soil sampling along strike from these RC drilling intersections has defined significant gold anomalism over a strike length of approximately 2.2 kilometres which is interpreted as being associated with a NW striking shear/fault related to folding and the regional scale Deepdale Fault.

The drilling and soil sampling has highlighted this fertile NW shear/fault as a priority drill target for follow-up work in early 2024. Geophysical interpretation suggests the fault extends over approximately 9 kilometres and further UFF soil sampling, geological mapping and geophysics will be completed in Q1 2024 to define additional drill targets along this significant strike length.

Red Hill Minerals CEO Michael Wall commented: *"Red Hill Mineral's exploration model for the project has been based on identifying Carlin type gold systems in the Ashburton Basin. The Company has interpreted a structure of approximately 9 kilometres in strike length, within which drilling has intersected high grade gold in fresh rock. Approximately 2.2 kilometres of this trend has been soil sampled to date and returned highly anomalous gold results from soil geochemistry. We will continue our exploration on this exciting prospect in 2024".*

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Exploration Work Completed at Barkley

Barkley is located proximal to the major NW trending Deepdale Fault which separates the stratigraphy of the Hamersley and Ashburton Basins.

During November 2023 a 6-hole 895m RC program was completed to follow up on significant initial results from 23BKRC005 that intersected 4m at 3.7 grams per tonne gold from 90 to 94m (Figure 1, Table 1).

Results from the November 2023 program have been received and significant intersections include (Table 2):

23BKRC006

- 1 metre at 1.1 grams per tonne gold from 39 to 40 metres,
- 1 metre at 1.3 grams per tonne gold from 59 to 60 metres, and
- 1 metre at 2.5 grams per tonne gold from 95 to 96 metres.

23BKRC007

- 4 metres at 2.6 grams per tonne gold from 17 to 21 metres,
- 1 metre at 0.9 grams per tonne gold from 61 to 62 metres, and
- 4 metres at 2.1 grams per tonne gold from 88 to 92 metres.

23BKRC008

- 1 metre at 0.5 grams per tonne gold from 8 to 9 metres, and
- 4 metres at 4.1 grams per tonne gold from 65 to 69 metres, including 2 metres at 6.6 grams per tonne gold from 65 to 67 metres.

23BKRC009

- 1 metre @ 1.9 grams per tonne gold from 76 to 77 metres.

23BKRC011

- 1 metre @ 1.2 grams per tonne gold from 50 to 51 metres,
- 1 metre @ 0.7 grams per tonne gold from 53 to 54 metres, and
- 1 metre @ 1.4 grams per tonne gold from 123 to 124 metres.

Geological interpretation suggests mineralisation at Barkley is open along strike and at depth and is focussed along faults into anticlinal zones or shears and along favourable geological contacts.

Ultrafine (UFF) soil sampling was also completed at Barkley and covered an interpreted 2.2 kilometre strike length both north and south of the area currently drilled (Figure 2).

Results from this work have defined a highly anomalous 2.2 kilometre long zone of >10ppb gold in soils, with coincident anomalous arsenic-mercury-antimony, that is interpreted as the mineralised zone intersected in drilling to date.

In early 2024 RC drilling will begin testing the 2.2 kilometre strike extension identified in soils, while further extensional UFF soil sampling, gravity surveying and geological mapping will be extended to cover a 9 kilometre strike length that has potential to host significant gold mineralisation.

Authorised by the Board.

Michael Wall
CHIEF EXECUTIVE OFFICER

Figure 1: Drill Hole Locations and Results at the Barkley Prospect.

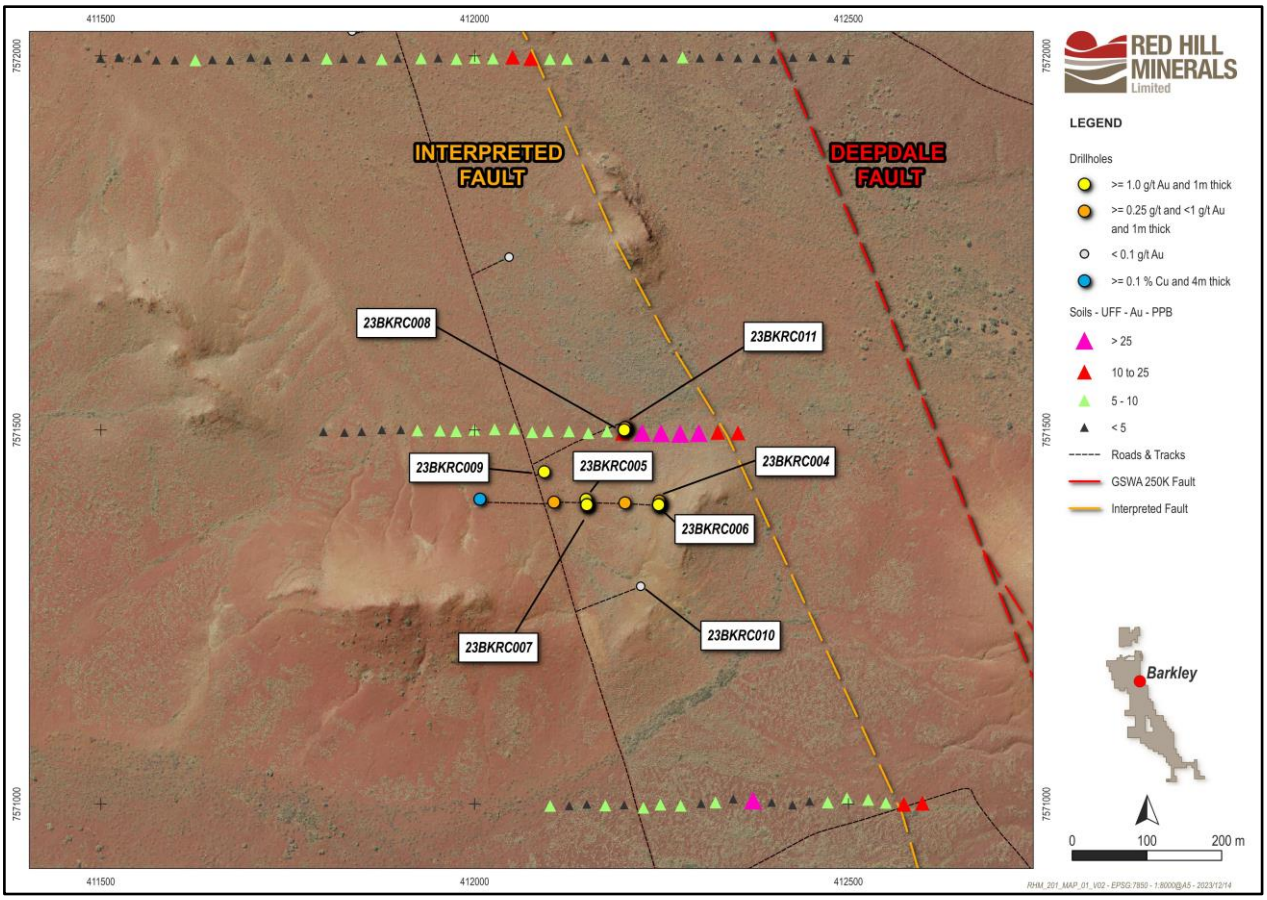

Figure 2: Anomalous Gold in Soil Results from UFF Soil Sampling Over 2.2km Stike Length at the Barkley Prospect.

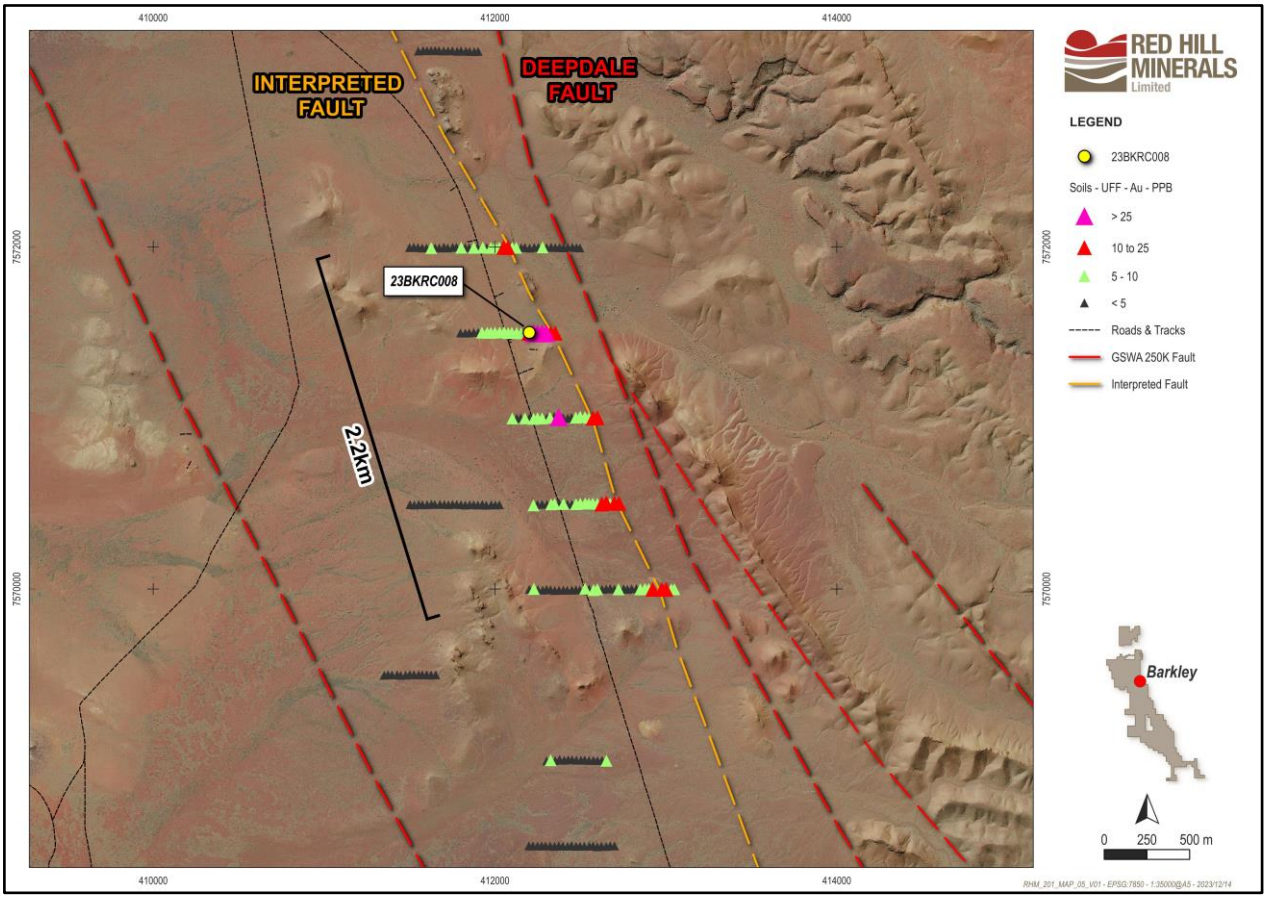

Table 1: Summary of RC Drill Hole Collars.

Hole ID	Target	Easting	Northing	RL (mAHD)	Dip*	Azimuth*	Total Depth (m)
23BKRC006	Barkley	412246	7571400	191.8	-70	273	143
23BKRC007	Barkley	412150	7571400	183.71	-67	76	155
23BKRC008	Barkley	412200	7571500	183.99	-65	271	173
23BKRC009	Barkley	412093	7571444	182.8	-60	80	143
23BKRC010	Barkley	412222	7571291	189.15	-89	129	78
23BKRC011	Barkley	412201	7571503	183.99	-59	75	203

**Calculated average of downhole surveys conducted every 5m.*

Table 2: Summary of Significant RC Drill Hole Assay Intersections (Gold ≥ 0.5 grams per tonne).

Hole ID	Target	Depth From (m)	Depth To (m)	Width (m)	Au g/t	Gold Intercept	Comments
23BKRC006	Barkley	39	40	1	1.09	1m @ 1.1g/t Au	Oxide
23BKRC006	Barkley	59	60	1	1.35	1m @ 1.3g/t Au	Oxide
23BKRC006	Barkley	95	96	1	2.49	1m @ 2.5g/t Au	Fresh
23BKRC007	Barkley	17	18	1	0.70	4m @ 2.6g/t Au	Oxide
		18	19	1	3.94		
		19	20	1	4.9		
		20	21	1	0.80		
23BKRC007	Barkley	61	62	1	0.86	1m @ 0.9g/t Au	Fresh
23BKRC007	Barkley	88	89	1	3.89	4m @ 2.1g/t Au	Fresh
		89	90	1	1.24		
		90	91	1	0.17		
		91	92	1	3.19		
23BKRC008	Barkley	8	9	1	0.52	1m @ 0.5g/t Au	Oxide
23BKRC008	Barkley	65	66	1	7.92	4m @ 4.1g/t Au Including 2m @ 6.6g/t Au	Fresh
		66	67	1	5.38		
		67	68	1	1.72		
		68	69	1	1.34		
23BKRC009	Barkley	76	77	1	1.92	1m @ 1.9g/t Au	Fresh
23BKRC010	Barkley	NSI					Dolerite Dyke
23BKRC011	Barkley	50	51	1	1.17	1m @ 1.2g/t Au	Oxide
23BKRC011	Barkley	53	54	1	0.73	1m @ 0.7g/t Au	Oxide
23BKRC011	Barkley	123	124	1	1.38	1m @ 1.4g/t Au	Fresh

Notes: g/t (grams per tonne). Gold (Au) intercept grade rounded to 1 decimal place
NSI = No significant Intersections

Competent Person Statement

The information in this report that relates to exploration activities is based on information compiled by Mr Glenn Martin, Chief Geologist, Red Hill Minerals Limited who is a Member of the Australian Institute of Geoscientists. Mr Martin is a full-time employee of Red Hill Minerals Limited. He has sufficient experience which is relevant to the style of mineralisation and types of deposits under consideration, and to the activity which has been undertaken, to qualify as a Competent Person as defined by the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Martin consents to the report being issued in the form and context in which it appears.

JORC Code, 2012 Edition – Table 1 Report

Section 1 Sampling Techniques and Data.

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.*	RC assays in this report were sampled at 1m intervals using a cone splitter from which a 3-4kg sample was obtained. 6m composite samples (3-4kg each) were collected from the drill spoil piles using a scoop and sent for initial laboratory analysis. Anomalous results were followed up using the 1m samples collected directly from the drill rig. Sample weight, quality, collection method and condition are logged at the time of collection and reported with the available data. Samples were dispatched to ALS in Wangara, Western Australia for Au photon analysis. <u>Soil Sampling</u> Samples are collected at a consistent depth of approximately 15cm at each site and sieved through a 1mm sieve with approximately 200g of soil collected and placed in paper geochemistry bags. Samples were dispatched to LabWest in Malaga, Western Australia for Ultrafine analysis consisting of a 50 element suite including gold.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, 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 was completed by Hagstrom Drilling. RC holes were drilled using a 5¾ inch face sampling hammer.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures are taken to maximise sample recovery and ensure the 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.*	Sample recovery was recorded by Geologists during logging. The cyclone used in the RC program was cleaned at the end of each 6m completed rod, and in between drill holes to minimise sample contamination. No association between lessened core/chip recovery and mineralised zones has been established at this time.
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.*	Chip samples were geologically logged for the entire length of the drillhole. Logging is both qualitative and semi-quantitative in nature. No Mineral Resource estimate is being reported. Sample spoil piles and chip trays were photographed.
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.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise the representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	RC samples were collected in pre-labelled calico bags via a cone splitter mounted directly below the cyclone on the rig (at 1m intervals). Wet and dry samples were collected via the same technique. 6m composite samples were collected initially for analysis, and significant zones (generally >0.1g/t Au) were resampled using the 1m samples from the cone splitter. Soil samples are collected at a consistent depth of approximately 15cm at each site and sieved through a 1mm sieve with approximately 200g of soil collected and placed in paper geochemistry bags. Wet and dry samples were collected via the same technique. Samples were stored on site prior to being transported to the laboratory. Wet samples were allowed to dry before being processed. All samples were appropriate for the grain size of the material being collected. Samples were sorted, dried and weighed at the laboratory where they were then crushed and riffle split to obtain a sub-fraction for pulverisation. Field duplicates were collected and certified reference material (CRM) data was submitted with drill samples. These were done at an approximate rate of one in 50 samples each.

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.*	Gold analysis was done using either 500g Photon Assay technique, or a 30g Fire Assay and ICP-AES finish. Laboratory QAQC data is requested by the company as part of QAQC processes. Field duplicates were collected and certified reference material (CRM) data was submitted with drill samples. These were done at an approximate rate of one in 50 samples each.
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 adjustments to assay data.*	Some verification of significant intersections and sampling/assaying has occurred with the re-assaying of 6m composites at 1m intervals. Twinned holes are not required at this early stage. Assay data results are sent electronically in csv and pdf format from the laboratory to the Company. <u>Soil Sampling</u> Duplicate samples are inserted at approximately 1 in 50 and LabWest report blanks, standards and repeats which are then analysed for QC.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	All drill holes and soil sample locations are initially surveyed by handheld GPS Drill hole collar coordinates were verified in GIS utilising aerial photography and track file data as part of QA/QC procedures. Downhole surveys were completed using a gyroscope at the completion of each drill hole. Topographic coverage of all the Company's projects has been covered by aerial survey (LIDAR) with a vertical accuracy of ±0.15 m. Drillhole collars/rock chip samples only picked up with GPS accuracy have been draped onto the topographic LIDAR data which is considered more accurate for RL; the eastings and northings were not changed. Historic collars surveyed by DGPS methods have not been draped onto topography. Company projects fall within the MGA Zone 50 (GDA 2020 based) for horizontal data and AHD for vertical data. No Mineral Resource estimate is being reported.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	Drilling has been completed on variable spacing. Drilling is considered early stage and spacing is variable due to the first pass assessment of the area being reported. Drill data spacing and distribution is not sufficient to establish a Mineral Resource estimate. Drill hole compositing has not been applied to results reported.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *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.*	Drill holes were attempted to be oriented across strike where known, however in areas of cover, strike orientations were assumed. Initial exploratory holes are drilled perpendicular to mineralisation if known, otherwise holes were drilled vertical or at varying angles to determine stratigraphy and mineralisation.
Sample security	• *The measures taken to ensure sample security.*	Samples were kept onsite until taken to transport depot for dispatch to the lab. A consignment number was used and the samples delivered directly to an analytical lab.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	No audits or reviews have been completed on sampling techniques.

Section 2 Reporting of Exploration Results.

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	The drillholes reported in this announcement are located on Red Hill Iron Ore Joint Venture (RHIOJV) tenure of which the Company owns 100% of all mineral rights other than iron ore. Iron ore rights are held by the RHIOJV. No royalties are payable (other than WA Government). No other known impediments exist to operate in the area.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	Gold and Base metal mineral exploration has been conducted in the area since late last century resulting in the discovery and extraction of small scattered high grade copper occurrences near Red Hill, Rundle Hill and lead near Urandy Bore. More recently, Allied Minerals, BP-Seltrust, Sipa Resources, MIM, Pasminco, Western Mining, Aberfoyle, Goldfields, Poseidon, Mines Resources Australia and Chalice Gold conducted reconnaissance exploration for gold and base metals over extensive tracts of the lower Wyloo Group. Valiant Consolidated and CRA explored for manganese. Limited drilling for gold and base metals was conducted in several areas, but no economic intersections for the time resulted from this exploration.
Geology	• *Deposit type, geological setting and style of mineralisation.*	The project area lies along the western margin of the Hamersley Basin. It is dominated by the Proterozoic Ashburton Basin, consisting of the sedimentary succession belonging to the Mt Minnie Beds, the Ashburton Formation, and the volcano–sedimentary successions comprising the lower Wyloo Group which unconformably overlies the Hamersley Basin sequences. The area has potential for economic concentrations of gold and base metals. The lower Wyloo Group and the contact zone between the Ashburton and Hamersley Basins comprise the Paraburdoo Hinge Zone, which contains numerous base metal occurrences in the Ashburton Basin some of which is associated with the deep-seated, mantle-tapping faulting/fault splays associated with the Nanjilgardy Fault system. It is believed these deep-seated faults/splays transect the project area as identified from RHI interpretation work and GSWA datasets. Much of the area is undercover and deep weathering, acid leaching and silicification have caused geochemical deletion/suppression of the surface geochemistry.

Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*
	  ○ *easting and northing of the drill hole collar*
	  ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  ○ *dip and azimuth of the hole*
	  ○ *down hole length and interception depth*
	  ○ *hole length.*
	• *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*
		All relevant drill-hole information can be found in Section 1 – “Sampling techniques”, “Drilling techniques”, “Drill Sample Recovery” and the significant intercepts table.

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.*	Reported intercepts for the targets discussed in this report are based on the following: ≥1m thick @ >0.5 g/t Au and allowing for up to 1m internal dilution of <0.5g/t Au No upper cuts have been applied. No metal equivalent values are used. Intervals are weighted based on their downhole length.
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').*	Quoted mineralised intercepts are downhole lengths, true widths are not known.
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.*	Location maps of reported intercepts are included in the report.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	The accompanying document is considered to be a balanced report with a suitable cautionary note.
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 material information or data to report.
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.*	Further drilling is planned to assess lateral and depth extensions.