ASX MEDIA RELEASE

Havilah Resources
A New Mining Force in South Australia

17 August 2021

COCKBURN QUARTZ-SULPHIDE LODE DISCOVERY

HIGHLIGHTS

- A new 10-20 metre wide quartz-sulphide lode discovery in 4 reverse circulation (RC) drillholes at the Cockburn prospect, 45 km southwest of Broken Hill.
- Logging of the RC drill chips indicates abundant vein quartz, pyrite (iron sulphide) and lesser chalcopyrite (copper sulphide), supported by Niton XRF analyser results showing anomalous copper and cobalt.
- At least 1.5 km of strike to be drill tested pending receipt of laboratory assays.

Havilah's Technical Director, Dr Chris Giles, said:

"Our drilling shows that the subtle gossan outcrop at the Cockburn prospect is the surface expression of a quartz-sulphide lode at depth, with general similarities to the Mutooroo massive sulphide lode.*

"The 10-20 metre wide sulphide mineralised zone discovered is promising and further drilling and assaying will be required to determine the economic significance of the discovery.

"This is one of many promising prospects that we plan to drill in the Mutooroo Project Area and highlights the prospectivity for new sulphide discoveries within trucking distance of the Mutooroo deposit," he said.

Figure 1 Small area of gossan outcrop at Cockburn prospect, comprising scattered dark iron-rich rocks within a largely sand covered area, that was located by Havilah geologists when following up strong copper, cobalt and gold surface geochemical anomalies. *Gossan is a geological term that refers to the usually distinctive iron-rich cap rock that forms from the complete oxidation of underlying sulphide minerals (in this case mostly pyrite - see Figure 6).

Havilah Resources Limited (**Havilah** or the **Company)** (**ASX**: **HAV**) is pleased to report preliminary results of its recent RC drilling of a gossan outcrop at the Cockburn prospect 45 km southwest of Broken Hill (Figure 2). Highly anomalous surface geochemical samples containing up to 0.26% copper, 0.16% cobalt and 1.03 g/t gold were collected by earlier exploration groups and confirmed by Havilah's 2018 systematic surface lag sampling and rock chip sampling program (refer to ASX announcement of 28 August 2018 and ASX announcement of 7 December 2018 page 17, noting name change to Cockburn prospect from Viper prospect, previously).

Follow up field checking by Havilah geologists identified the likely source of the geochemical anomaly as a sulphide gossan that returned up to 0.4% copper and 0.15% cobalt in Niton XRF readings. The subtle gossan outcrop is restricted to an area of a few tens of square metres while gossan surface scree covers a larger area (Figures 1 & 3).

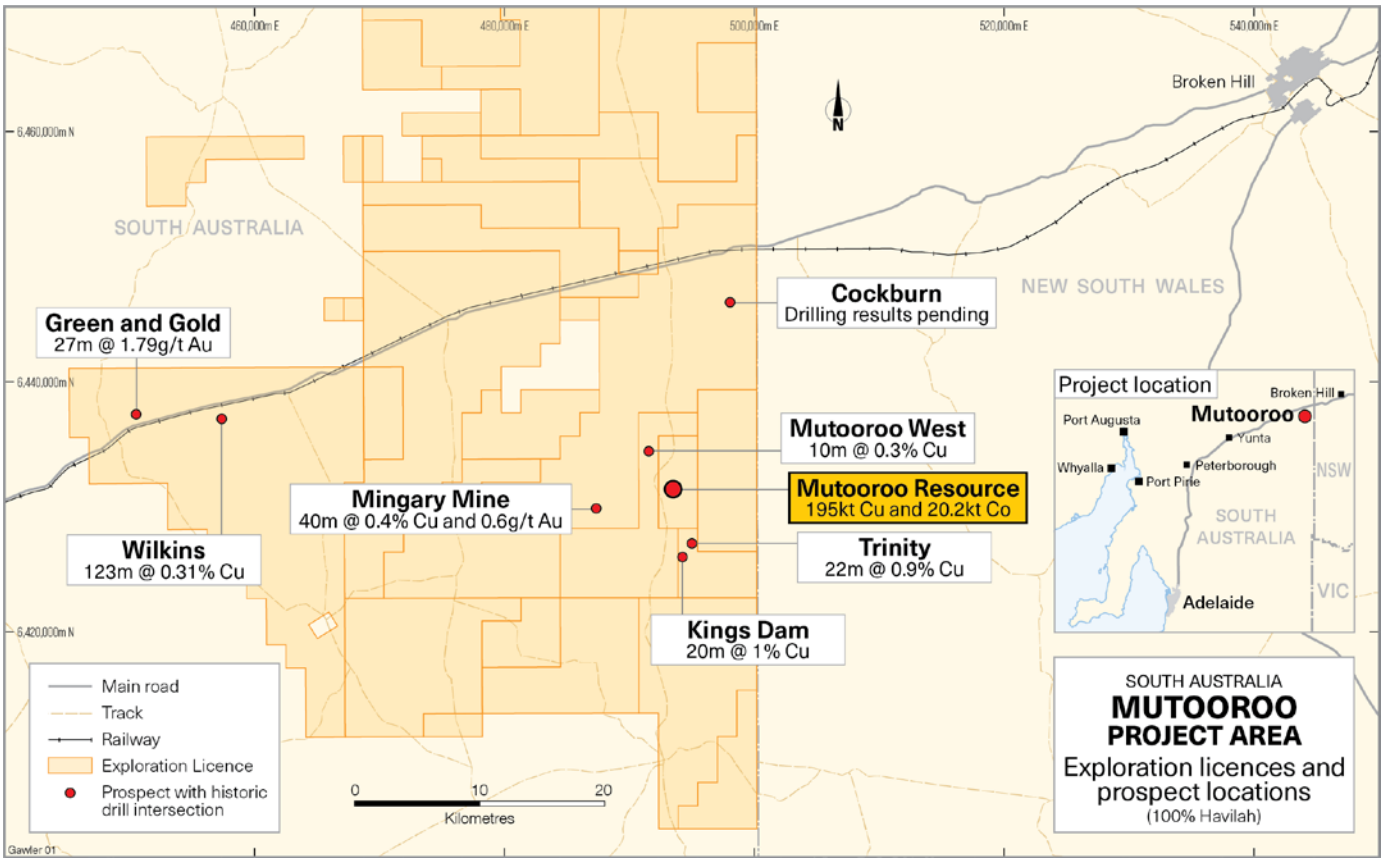
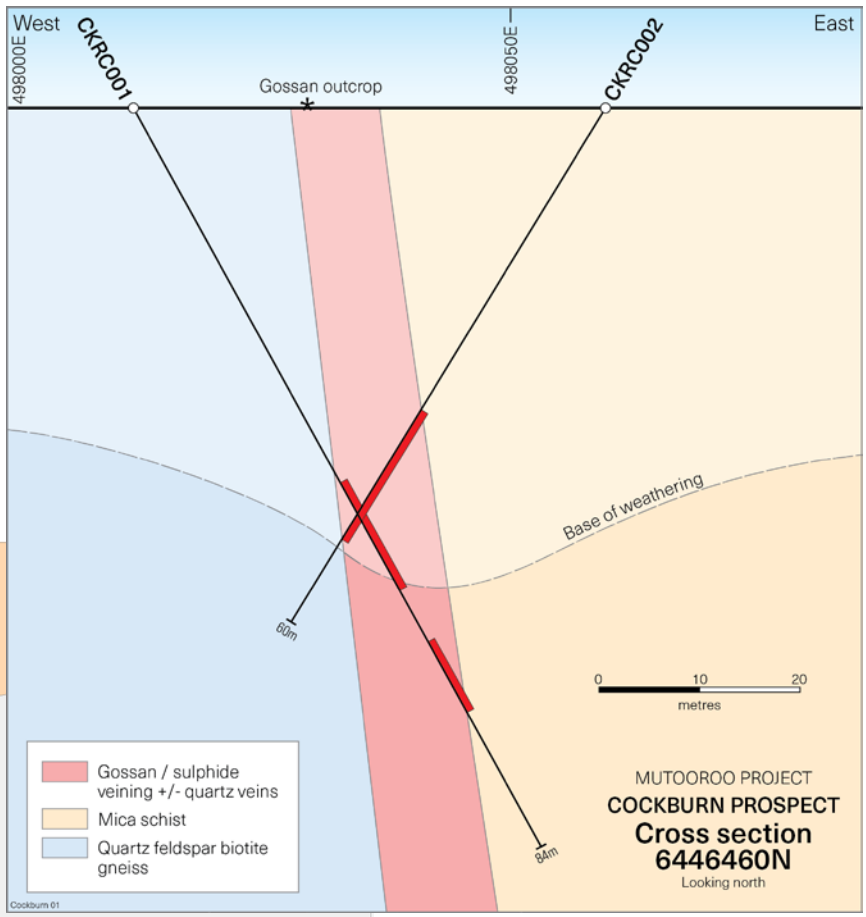


Figure 2 Location of the Cockburn prospect which lies 15 km north of the Mutooroo deposit. The Mutooroo Project Area includes many promising prospects, which it is planned to systematically test for economic resources that can potentially provide supplementary feed for a central ore processing hub at Mutooroo. The area is a short commute from Broken Hill and straddles the Barrier Highway and Transcontinental railway line.

Four RC drillholes directed beneath the gossan intersected a 10-20 metre wide zone of fresh and oxidised sulphides with associated vein quartz. The fresh sulphides are comprised predominantly of pyrite (iron sulphide) and some chalcopyrite (copper sulphide). It is interpreted that the steeply east-dipping mineralisation occurs at the possibly sheared contact of mica schist and gneissic rocks (Figures 4 & 5 below). The presence of copper and cobalt has been confirmed by Niton XRF analyses, while gold assays will be determined by laboratory analysis of drill samples presently in progress. Gold levels of 1 g/t as detected by surface sampling would be economically significant if they persisted into the primary sulphide zone.

A decision on further drilling at the Cockburn prospect will be made after receipt of laboratory assay results and completion of geological mapping and additional surface geochemical sampling.

Figure 4 Cross section showing 2 of Havilah's recent RC drillholes that have defined a 10-20 metre wide, steeply east-dipping quartz-sulphide lode system beneath the gossan outcrop at the Cockburn prospect. Red sections of drillhole traces are sulphide or oxidised sulphide intervals from logging of drill chips.



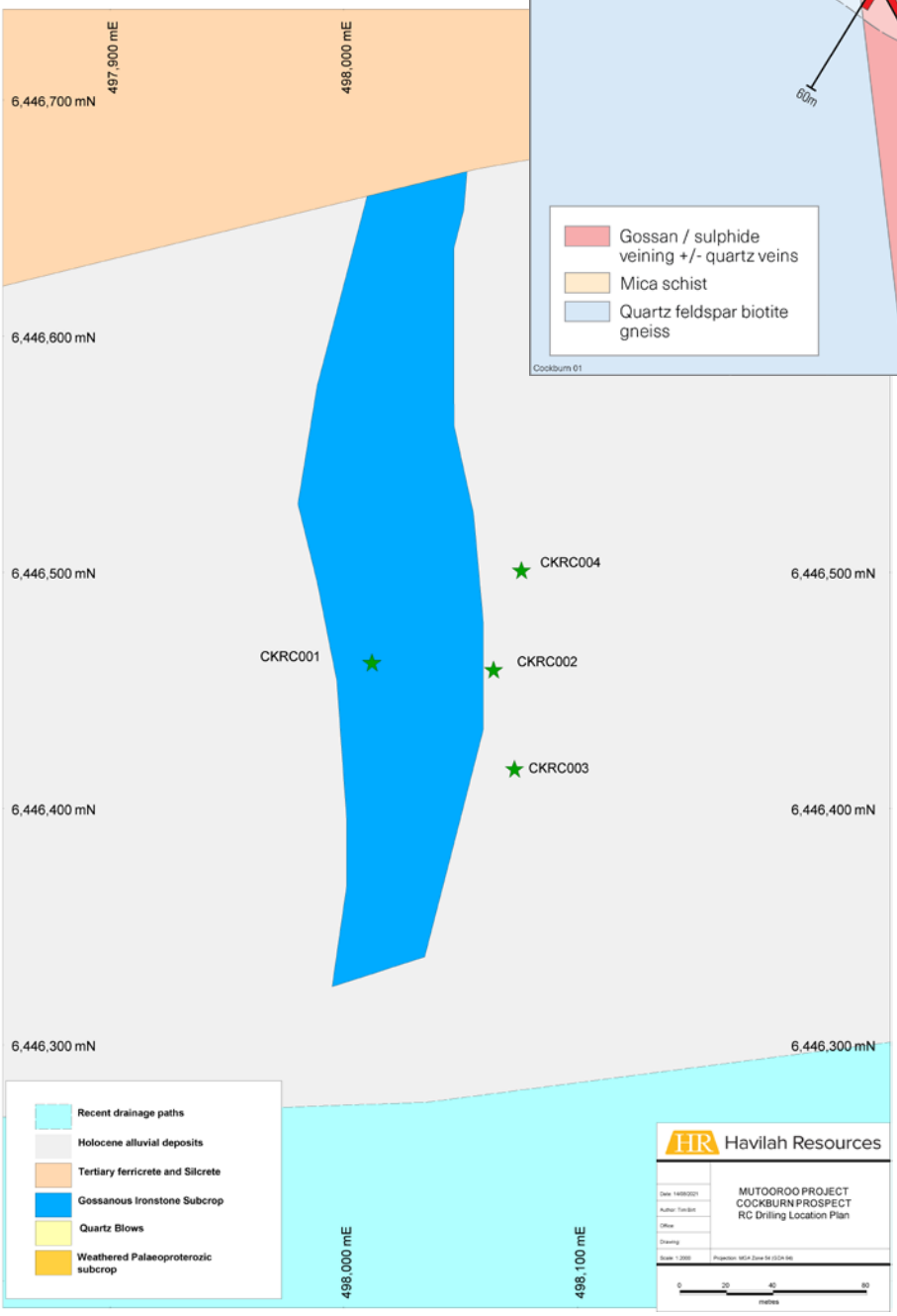


Figure 3 RC drilling location plan showing locations of Havilah's 4 RC drillholes in relation to the gossan subcrop and associated surface scree (blue) at the Cockburn prospect.

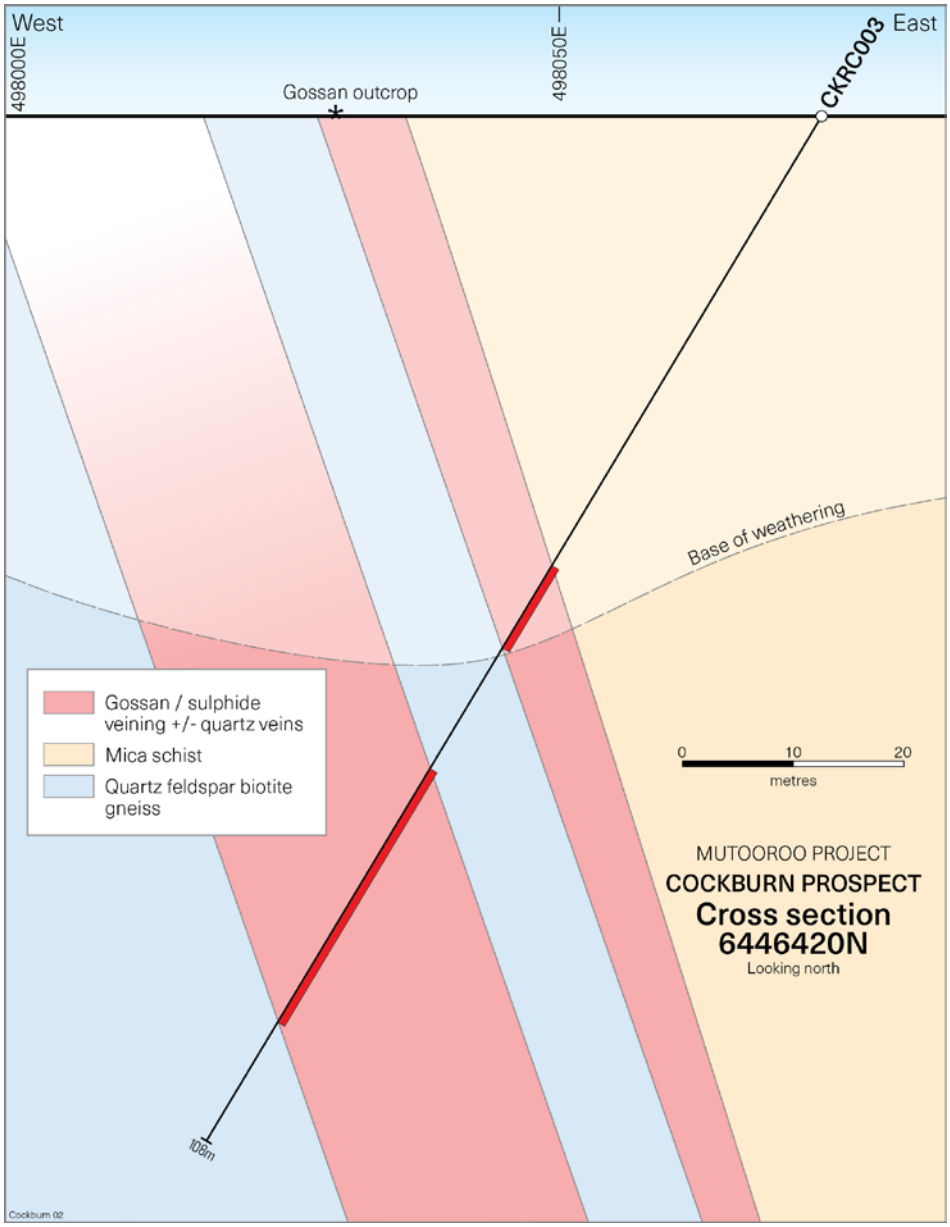


Figure 5 Drill section 40 metres south of that shown in Figure 4 that further defines the 10-20 metre wide, steeply east-dipping quartz-sulphide lode system beneath the gossan outcrop at the Cockburn prospect. Red sections of drillhole traces are sulphide or oxidised sulphide intervals from logging of drill chips. The drill chip tray for the mineralised zone is dominated by vein quartz and pyrite (iron sulphide), with some chalcopyrite (copper sulphide).

Drilling has now moved to the Mutooroo West prospect, which lies 4 km northwest of the Mutooroo deposit (Figure 2). This will be the first drilling at this prospect for over 50 years. Havilah plans several RC drillholes to test for shallow copper-cobalt mineralisation near the base of oxidation, and specifically testing a priority one AEM (airborne electromagnetic) bedrock conductor (refer to ASX announcement of 12 August 2019).

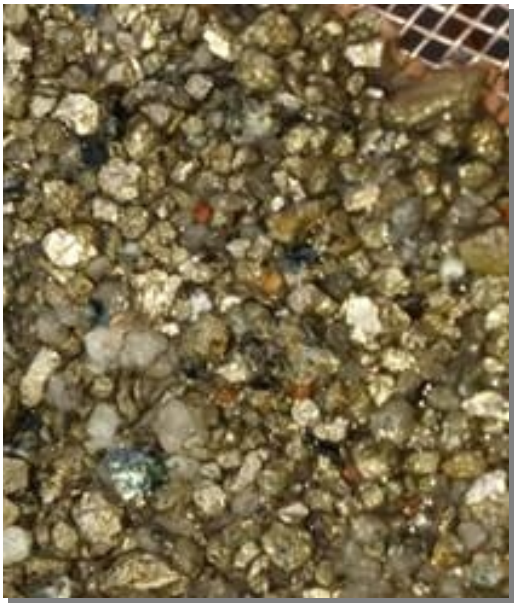
About the Mutooroo Project Area (MPA)

The Mutooroo Project Area (Figure 2) is centred on Havilah's 100% owned Mutooroo copper-cobalt-gold project that contains 195,000 tonnes of copper, 20,200 tonnes of cobalt and 82,100 ounces of gold in a massive sulphide lode (see JORC table below). As such, Mutooroo is one of the highest grade sulphide cobalt deposits associated with copper in Australia.

The MPA is highly prospective for the discovery of lode style copper-cobalt-gold mineralisation. Many earlier economic grade copper and/or gold drilling intersections in the MPA have never been followed up, in some cases for more than 50 years (eg Mutooroo West prospect). In addition, numerous copper, cobalt and gold surface geochemical anomalies identified by Havilah and earlier explorers present completely new targets to test (eg Cockburn prospect). Geologically, the MPA lies in the shadow of the giant Broken Hill lead-zinc-silver deposit in similar age rocks, and there is evidence to suggest that the mineralising processes that generated Broken Hill also operated in the MPA.

The MPA is particularly attractive for exploration owing to the lack of cover and applicability of surface geochemical sampling methods and electrical geophysical methods, plus the excellent logistics in proximity to Broken Hill. All known prospects are located within trucking distance of the Mutooroo deposit and the terrain is generally flat.

Havilah's exploration strategy is to discover copper-cobalt-gold resources in the MPA that can support a central mining and processing operation centred on the Mutooroo deposit. Havilah aims to systematically explore the MPA and an experienced exploration geologist has been dedicated to this task. Drilling of the Cockburn and Mutooroo West prospects is the first step in execution of this strategy.



oxidation

Figure 6 Oxidation of fresh sulphide minerals seen in the RC drill chips (at left) produces the typical gossan seen at surface at the Cockburn prospect (at right).

Cautionary Statement

This announcement contains certain statements which may constitute 'forward-looking statements'. Such statements are only predictions and are subject to inherent risks and uncertainties which could cause actual values, performance or achievements to differ materially from those expressed, implied, or projected in any forward-looking statements. Investors are cautioned that forward-looking statements are not guarantees of future performance and investors are cautioned not to put undue reliance on forward-looking statements due to the inherent uncertainty therein. Given the ongoing uncertainty relating to the duration and extent of the global COVID-19 pandemic, and the impact it may have on the demand and price for commodities (including copper, cobalt and gold), on our suppliers and workforce, and on global financial markets, the Company continues to face uncertainties that may impact its operating and financing activities.

Competent Person's Statements

The information in this announcement that relates to Exploration Results, JORC Mineral Resources and Ore Reserves is based on data and information compiled by geologist Dr Chris Giles, a Competent Person who is a member of The Australian Institute of Geoscientists. Dr Giles is Technical Director of the Company, a full-time employee and is a substantial shareholder. Dr Giles has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activities being undertaken to qualify as a Competent Person as defined in the 2012 Edition of *'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'*. Dr Giles consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant ASX announcements.

Mutooroo JORC Mineral Resources as at 31 July 2020 from Havilah 2020 Annual Report

Project	Classification	Resource Category	Tonnes	Copper %	Cobalt %	Gold g/t	Copper tonnes	Cobalt tonnes	Gold ounces
Mutooroo [1]	Measured	Oxide	598,000	0.56	0.04	0.08			
	Total	**Oxide**	**598,000**	**0.56**	**0.04**	**0.08**	**3,300**	**200**	**1,500**
	Measured	Sulphide Copper-Cobalt-Gold	4,149,000	1.23	0.14	0.18			
	Indicated	Sulphide Copper-Cobalt-Gold	1,697,000	1.52	0.14	0.35			
	Inferred	Sulphide Copper-Cobalt-Gold	6,683,000	1.71	0.17	0.17			
	Total	**Sulphide Copper-Cobalt-Gold**	**12,529,000**	**1.53**	**0.16**	**0.20**	**191,700**	**20,000**	**80,600**
		Total Mutooroo	**13,127,000**				**195,000**	**20,200**	**82,100**

Numbers in above table are rounded.

Footnotes to the Mutooroo 2020 JORC Mineral Resource Table

[1] Details released to the ASX: 18 October 2010 and 5 June 2020.

This release has been authorised on behalf of the Havilah Resources Limited Board by Mr Simon Gray.

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Appendix 1

Sections 1 and 2 below provide a description of the sampling and assaying techniques in accordance with Table 1 of The Australasian Code for Reporting of Exploration Results.

Details for drillholes cited in the text

Hole Number	Easting m	Northing m	RL m	Grid azimuth	Dip degrees	EOH depth metres
CKRC001	497890	6446283	220	90	-60	84
CKRC002	497942	6446280	220	270	-65	60
CKRC003	497951	6446238	219	270	-60	108
CKRC004	497954	6446322	221	270	-65	60
Datum: AGD 66 Zone 54						

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.* • *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*	• Sample data was derived from Havilah reverse circulation (RC) drillholes as documented in the table above. • RC assay samples averaging 2-3kg were riffle split at 1 metre intervals. A small number of samples from the lower parts of some holes were too moist to go through the splitter and were collected directly from the cyclone in large plastic bags and grab sampled from them using a scoop. • All RC drill samples were collected into pre-numbered calico bags and packed into polyweave bags by Havilah staff for shipment to the assay lab in Adelaide.

Criteria	JORC Code explanation	Commentary
	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.	
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).*	• All RC holes were drilled with a 121mm face sampling bit. All samples were collected via riffle splitting directly from the cyclone. A small number of samples from the lower parts of some holes were too moist to go through the splitter and were collected directly from the cyclone in large plastic bags and grab sampled from them using a scoop.
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.*	• The sample yield and wetness of the RC samples was routinely recorded in drill logs. A small number of samples from the lower parts of some holes were too wet to split. • The site geologist and Competent Person consider that overall the results are acceptable for interpretation purposes. • No evidence of significant sample bias due to preferential concentration or depletion of fine or coarse material was observed. • No evidence of significant down hole or inter-sample contamination was observed in the samples that were too wet to split. • Sample recoveries were continuously monitored by the geologist on site and adjustments to drilling methodology were made in an effort to optimise sample recovery and quality where necessary.
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.*	• All RC samples were logged by an experienced geologist directly into a digital logging system with data uploaded directly into an Excel spreadsheet and transferred to a laptop computer. • All RC chip sample trays and some back-up samples are stored on site at Kalkaroo. • Logging is semi-quantitative and 100% of reported intersections have been logged. • Logging is of a sufficiently high standard to support any subsequent interpretations, resource estimations and mining and metallurgical studies.
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.*	• RC drill chips were received directly from the drilling rig via a cyclone and were riffle split on 1 metre intervals to obtain 2-3 kg samples. • Sampling size is considered to be appropriate for the style of mineralisation observed. Assay repeatability for gold and other metals has not proven to be an issue in the past and is checked with regular duplicates. • All Havilah samples were collected in

Criteria	JORC Code explanation	Commentary
	• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	numbered calico bags that were sent to BV assay lab in Adelaide. • At BV assay lab the samples are crushed in a jaw crusher to a nominal 10mm (method PR102) from which a 3kg split is obtained using a riffle splitter. The split is pulverized in an LM5 to minimum 85% passing 75 microns (method PR303). These pulps are stored in paper bags. • All samples are analysed for gold by 40g fire assay, with AAS finish using BV method FA001 and a range of other metals by BV methods MA101 and 102. • All sample pulps are retained by Havilah so that check or other elements may be assayed using these pulps in the future.
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.*	• Fire assay method FA001 is a total gold analysis. • Assay data accuracy and precision was continuously checked through submission of field and laboratory standards, blanks and repeats which were inserted at a nominal rate of approximately 1 per 25 drill samples. • Assay data for laboratory standards and repeats for Kalkaroo were previously statistically analysed and no material issues were noted.
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.*	• Checking of the new Au and Cu assays against Au and Cu assays from adjacent earlier drillholes indicated good overall correlation. • Rigorous internal QC procedures are followed to check all assay results. • All data entry is under control of the responsible geologist, who is responsible for data management, storage and security.
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.*	• The holes were surveyed using an electronic downhole camera in a stainless steel rod and inner tube. • Present drillhole collar coordinates were surveyed in UTM coordinates using a differential GPS system with an x:y:z accuracy of <10cm and are quoted in AGD 66 Zone 54 datum.
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)*	• The RC drillholes were positioned at appropriate spacings to follow up and evaluate mainly vein style mineralisation. • Sample compositing was not used.

Criteria	JORC Code explanation	Commentary
	and classifications applied. • *Whether sample compositing has been applied.*	
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.*	• The drillhole azimuth and dip was chosen to intersect the interpreted mineralised zones as nearly as possible to right angles and at the desired positions to maximise the value of the drilling data. • At this stage, no material sampling bias is known to have been introduced by the drilling direction.
Sample security	• *The measures taken to ensure sample security.*	• RC chip samples are directly collected from the riffle splitter in numbered calico bags. • Several calico bags are placed in each polyweave bag which are then sealed with cable ties. The samples are transported to the assay lab by Havilah personnel at the end of each field stint. • There is minimal opportunity for systematic tampering with the samples as they are not out of the control of Havilah personnel until they are delivered to the assay lab. • This is considered to be a secure and reasonable procedure and no known instances of tampering with samples occurred during the drilling programs.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Ongoing internal auditing of sampling techniques and assay data has not revealed any material issues.

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 license to operate in the area.*	• Security of tenure is via current exploration licences owned 100% by Havilah. • A Native Title Exploration Agreement is in place for the areas being drilled. The agreement was executed between Havilah and the Wilyakali Native Title Aboriginal Corporation. • Havilah has provided the appropriate notices of entry and use of declared equipment to the respective landholders.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• The area has been explored by a number of major mining groups in the past including Seltrust Exploration, MIM Exploration Ltd and Minotaur Resources Limited who completed various surface geochemistry, geophysical surveys and drilling in the region. • All previous exploration data has been integrated into Havilah's databases.

Criteria	JORC Code explanation	Commentary
Geology	• *Deposit type, geological setting and style of mineralisation.*	• In general the mineralisation is lode style copper-cobalt-gold mineralisation within Willyama Supergroup rocks of the Curnamona Craton. • The mineralisation is considered to be predominantly structurally controlled.
Drill hole information	• *A summary of all information material to the under-standing of the exploration results including a tabulation of the following information for all Material drill holes:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *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.*	• This information is provided in the accompanying table for the relevant drillholes.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Not applicable as not reporting mineral resources.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	• Downhole lengths are reported. Drillholes are typically oriented with the objective of intersecting mineralisation as near as possible to right angles, and hence downhole intersections in general are as near as possible to true width. • For the purposes of the geological interpretations and resource calculations the true widths are always used.
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.*	• Not applicable as not reporting a mineral discovery.

Criteria	JORC Code explanation	Commentary
Balanced Reporting	• *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.* • *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.*	• Not applicable as not reporting mineral resources. • Not applicable in this case.
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.*	• Relevant geological observations are reported.
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large- scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Additional drilling may be carried out in the future to explore strike and depth extensions and for resource delineation.