Havilah Resources
Strategic Minerals in South Australia

17 October 2023

Wide Sulphide Drill Intersection at Cockburn Prospect

HIGHLIGHTS

- Wide mineralised quartz-sulphide lode intersected at Cockburn prospect, namely **70 metres of 0.33 g/t gold, 0.15% copper and 0.11% cobalt (0.89% CuEq or 1.14 g/t AuEq) from 68 metres** downhole.
- Drilling confirms the quartz-sulphide lode extends over a strike length of at least 350 metres and remains open to the north and at depth.
- The combined metal values and width point to a promising new mineral discovery at Cockburn that could potentially provide an additional source of ore-feed to a conceptual sulphide ore processing hub at Mutooroo, which is located 15 km to the south.

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

"The most recent sulphide lode intersection is more than double the width of our earlier discovery result, which is encouraging for delineation of a sizeable tonnage resource at Cockburn.

"The prospectivity of the region for new discoveries and lack of prior exploration is underscored by the fact that the subcropping gossan had never been drilled prior to Havilah's work in the area and it lies within sight of the main east-west Barrier Highway and Transcontinental railway line."

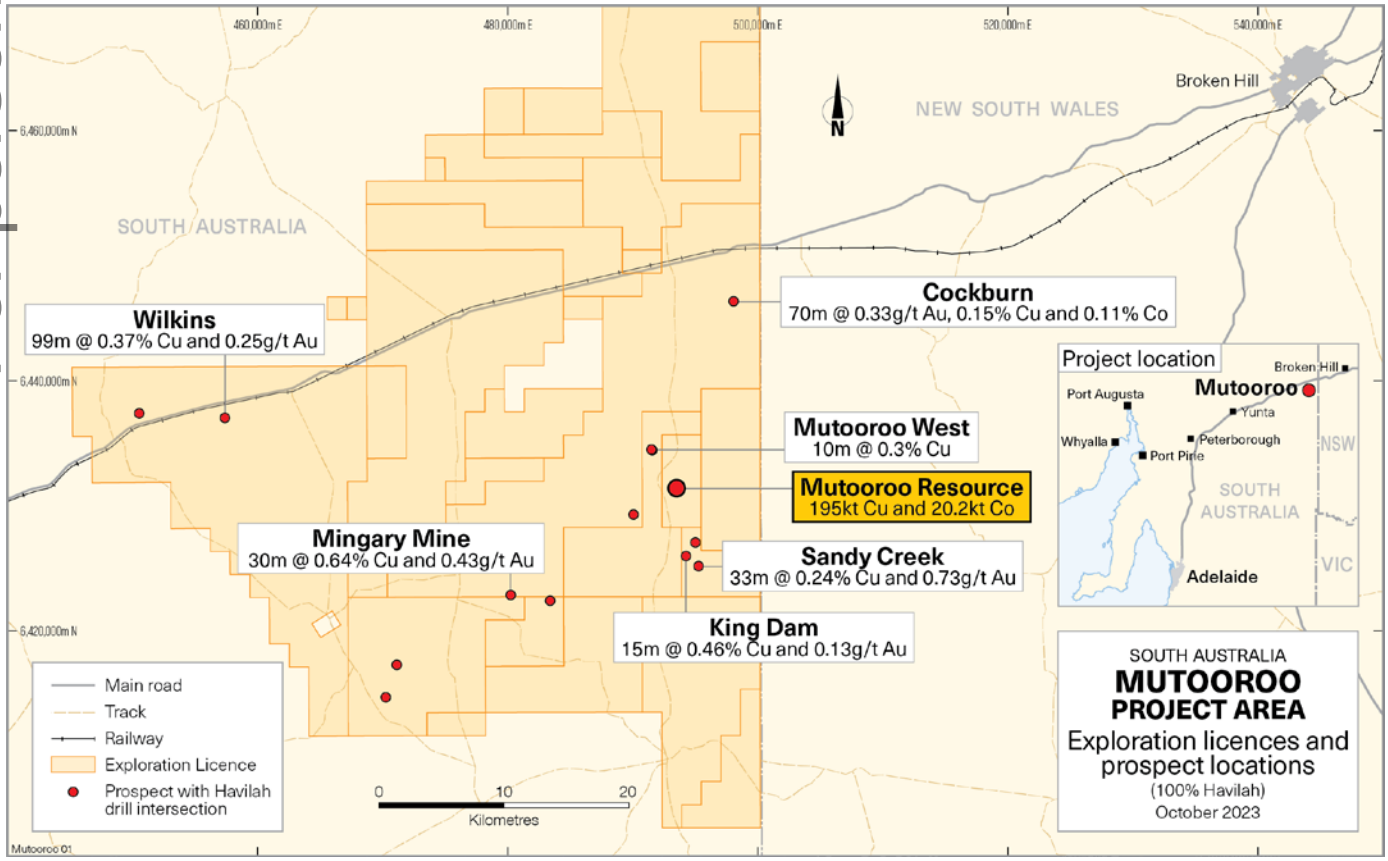

Figure 1 *Location of exploration prospects within the Mutooroo Project Area showing earlier Havilah drilling intersections.*

Havilah Resources Limited (**Havilah** or the **Company**) (**ASX**: **HAV**) is pleased to report new drilling results from the Cockburn prospect as part of the 2023 Mutooroo Project Area drilling program. The Cockburn prospect lies a few kilometres south of the Barrier Highway, 45 km southwest of Broken Hill (Figure 1). Sulphide mineralisation was first discovered here by Havilah's drilling beneath subcropping gossan during 2021 (refer to ASX announcement of 17 August 2021).

12 reverse circulation percussion (**RC**) drillholes were completed to follow up promising intersections from Havilah's earlier drilling that included **27 metres of 0.47 g/t gold, 0.12% copper and 0.11% cobalt** from 69 metres depth in drillhole CKRC003 (refer to ASX announcement of 26 August 2021, page 7). Results for the first three Havilah RC drillholes have been received and include **70 metres of 0.33 g/t gold, 0.15% copper and 0.11% cobalt (0.89% CuEq or 1.14 g/t AuEq) from 68 metres** downhole in drillhole CKRC007, which lies approximately 125 metres north of CKRC003 (Figure 2). CKRC007 intersected intensely altered and variably mineralised multiple quartz-sulphide lode. Gold is distributed throughout while cobalt and copper are higher in the more sulphidic intervals. The mineralisation appears to occur within a shear zone at or near the contact of quartz feldspar biotite gneiss and mica schist and may in part be controlled by the ductility contrast between these two rock types, which are comparatively common in the region.

On most sections the mineralisation is incompletely drilled and remains open down dip. Other recent drillholes for which assay results are not yet available show that the mineralised lode extends over a strike length of at least 350 metres northwards from drillhole CKRC003.

The planned drilling program at the Cockburn prospect has now been completed and a decision on further drilling will await an assessment of all assay results when they are received. In the meantime, Havilah's drilling rig has returned to Mutooroo to complete an earlier program of drilling aimed at delineating further shallow resources that could support an extension of the conceptual open pit.

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Hole_ID	From	To	Width	Au (g/t)	Co (%)	Cu (%)	CuEq (%)	AuEq (g/t)
CKRC005	28	43	15	0.26	0.03	0.02	0.37	0.47
and	88	96	8	0.01	0.06	0.02	0.28	0.36
CKRC006	105	107	2		0.10		0.41	0.52
and	119	121	2	0.02	0.05	0.07	0.32	0.41
CKRC007	52	55	3	0.11	0.02	0.11	0.26	0.34
	68	**138**	**70**	**0.33**	0.11	0.15	**0.89**	**1.14**
incl.	**73**	**83**	**10**	**0.45**	0.23	0.18	**1.52**	**1.95**
incl.	**79**	**104**	**25**	**0.34**	0.09	0.21	**0.84**	**1.08**
incl.	**119**	**135**	**16**	**0.49**	0.18	0.11	**1.27**	**1.63**
and	144	150	6	0.14	0.07	0.05	0.44	0.56

Table 1 *Summary of copper (Cu), cobalt (Co) and gold (Au) intersections in three Havilah RC drillholes (CKRC005 – CKRC007). CuEq and AuEq are calculated using conversion factors as summarised in the table below, assuming metal prices at close of trade on 16 October 2023, sourced from kitcometals.com and dailymetalprice.com. In the absence of metallurgical data, the same recovery levels of all metals is assumed. Grade numbers in both tables are rounded to two decimal places.*

Metal	Grade g/t	Grade %	USD/oz	USD/lb	CuEq factor	AuEq factor	CuEq % factored Grade	AuEq g/t factored Grade
Au	0.33		1,919.7		0.78	1	0.26	0.33
Cu		0.15		3.5794	1	1.28	0.15	0.19
Co		0.11		15.159	4.24	5.41	0.48	0.62
							0.89	**1.14**

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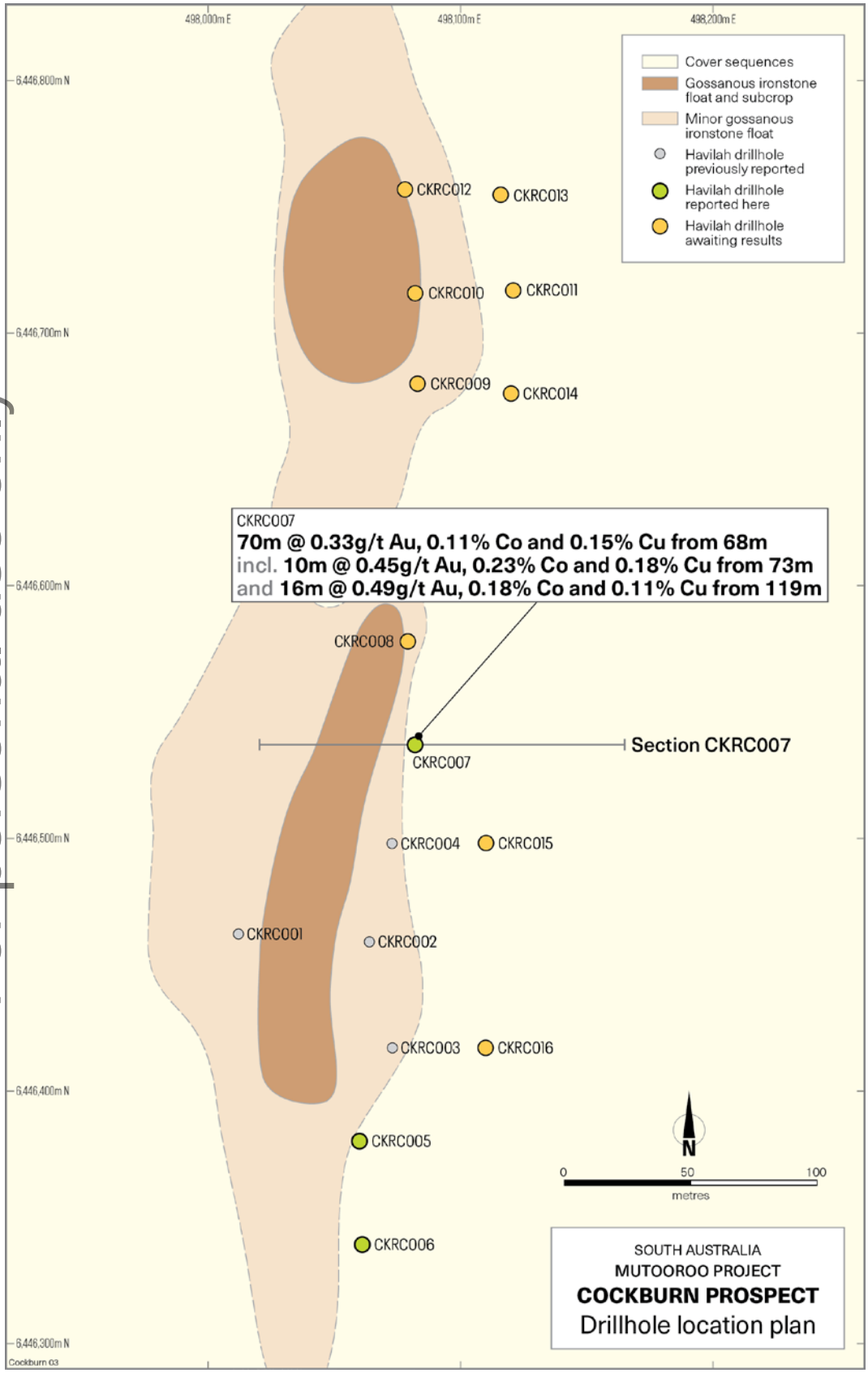

Figure 2 *Geological plan and location of recent RC drillholes at the Cockburn prospect. The restricted subcrops of the discovery gossan are shown.*

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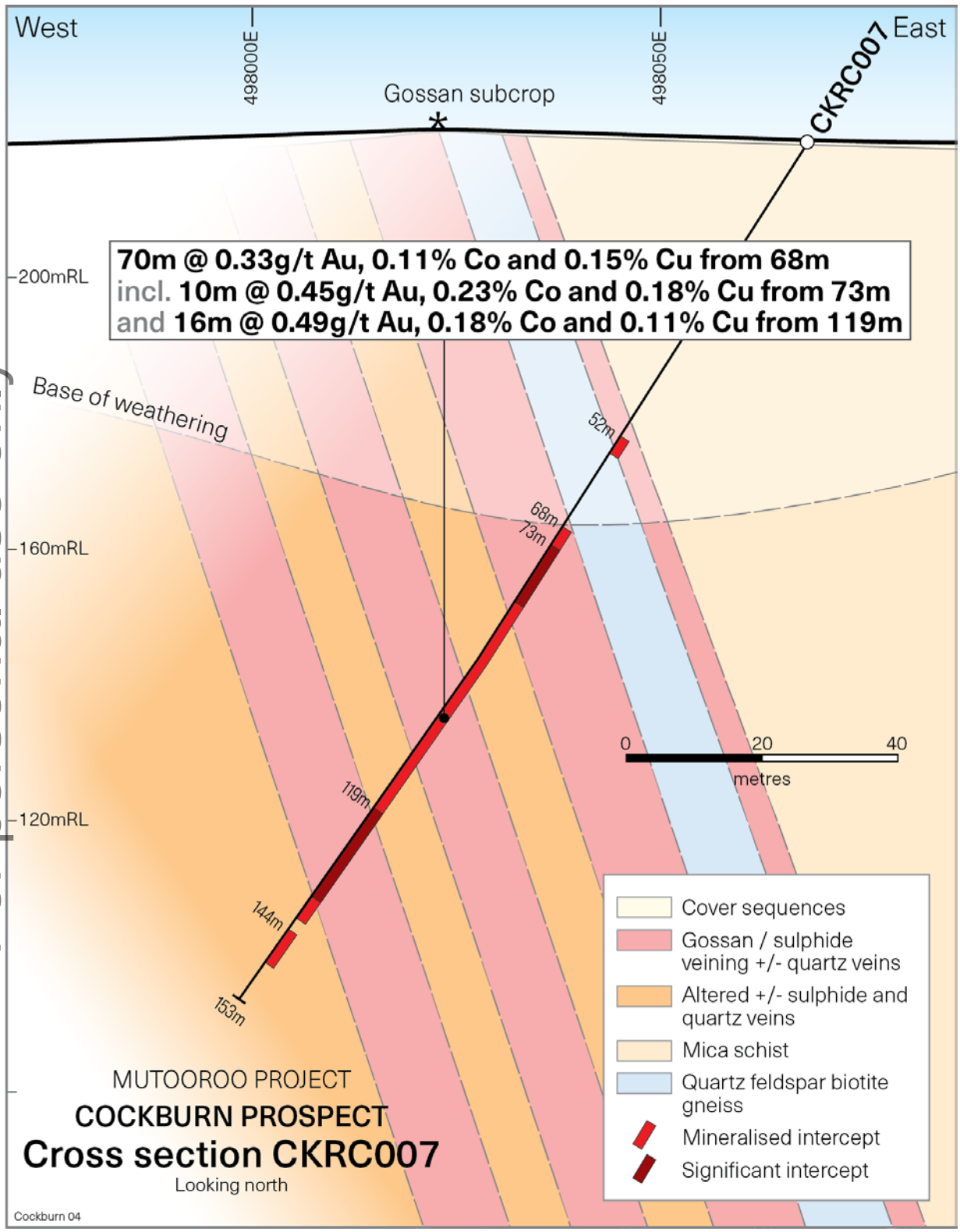

Figure 3 *Cross section through drillhole CKRC007 showing the wide quartz-sulphide mineralised intersection.*

**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).*

This announcement has been authorised on behalf of the Havilah Board by Mr Simon Gray.

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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.

Competent Person's Statements

The information in this announcement that relates to Exploration Results 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.

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 Havilah drillholes cited in the text

Hole Number	Easting m	Northing m	RL m	Grid azimuth	Dip degrees	EOH depth metres
CKRC005	498060	6446380	218	270	-60	123
CKRC006	498061	6446339	217	270	-60	135
CKRC007	498082	6446537	221	270	-60	153
Datum: GDA94 Zone 54 Note: All azimuths and dips are as measured at surface; deviations may occur at depth.						

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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 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.*	• 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. • 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.
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 face sampling hammer bit. All samples were collected via conical splitting directly from the cyclone.
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 quality of the RC samples was routinely recorded in drill logs. • 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. • 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)*	• All RC samples were logged by an experienced geologist directly into an Excel spreadsheet and transferred to a laptop computer. • All RC chip sample trays and some representative samples are stored on site. • Logging is semi-quantitative and 100% of

Criteria	JORC Code explanation	Commentary
	photography. • *The total length and percentage of the relevant intersections logged.*	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.* • *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.*	• RC drill chips were received directly from the drilling rig via a cyclone and were conical 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 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 were 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 have been 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.*	• 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.

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Criteria	JORC Code explanation	Commentary
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 down-hole camera. • Present drillhole collar coordinates were surveyed in UTM coordinates using a GPS system with an x:y:z accuracy of <5m and are quoted in GDA94 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) and classifications applied.* • *Whether sample compositing has been applied.*	• The RC drillholes were positioned at appropriate spacing to test down dip of the surface expression of mineralisation. • Sample compositing was not used.
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 is then sealed with cable ties. The samples are transported to the assay lab by Havilah personnel or a commercial transport company. • There is minimal opportunity for systematic tampering with the samples as they are not out of the control of Havilah personnel on site and are secure within the commercial transport company's facility 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*	• Security of tenure is via current exploration licences over the Mutooroo Project Area, owned 100% by Havilah that are in good standing. • Exploration drilling was undertaken on Mingary Exploration Licence EL 5848. • A Native Title Exploration Agreement is in

Criteria	JORC Code explanation	Commentary
	reporting along with any known impediments to obtaining a license to operate in the area.	place for the Mutooroo Project Area. The agreement was executed between Havilah and Wilyakali Native Title Aboriginal Corporation.
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, Esso Exploration, MIM Exploration Ltd and Minotaur Resources Limited who completed various surface geochemistry, geophysical surveys and limited drilling in the region. • All previous exploration data has been integrated into Havilah's databases.
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	• *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*	• 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.

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Criteria	JORC Code explanation	Commentary
intercept lengths	*are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	• 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.
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.
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.

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