Havilah Resources NL

(ASX: HAV)
2 March 2015

Havilah Resources NL *plans to sequentially develop its copper, gold and other mineral resources in northeastern South Australia. Mining at its Portia gold project is set to commence this month, with Kalkaroo to follow later.*

156.3 million ordinary shares
36.0 million listed options
5.0 million unlisted options

HAVILAH TARGETS SECOND NEW (COPPER-GOLD) MINE IN SA

HIGHLIGHTS

- **Targetting 2016 go-ahead decision for new Kalkaroo copper-gold mine near Broken Hill.**
- **Initial mine life up to 17.5 years.**
- **Projected annual production of up to 34,000 tonnes of copper and 108,000 oz gold**
- **Conceptual financial models for both *High Capital Start-Up* (maximising project returns) and *Lower Capital Start-Up* (longer mine life) mining alternatives indicate robust economics at current metal prices, with C1 cash costs for copper falling in the lowest quartile globally due to appreciable gold credits (see table).**

Parameter	High Capital Start-up	Lower Capital Start-up
Mine life	**14 years**	**17.5 years**
Upfront capex (± 30%)	**A$340 M**	**A$83 M**
Annual metal production	**34,000 tpa copper 108,000 oz gold**	**Rising to 35,000 tpa copper 106,000 oz gold from Year 6**
Total site operating and copper transport and refining costs (per lb payable copper)	**US$2.47**	**US$2.57**
Gold revenue credit (per lb payable copper)	**US$1.89**	**US$1.89**
C1 Cash Cost (net of Au by-product credit and rounded)	**US$0.59**	**US$0.69**
Breakeven copper price (NPV=0 at a 10% discount rate)	**US$1.40 / lb**	**US$1.65 / lb**

Figures reported in the above table are based on financial models that assume a copper price of US$2.80 /lb, a gold price of US$1,300/ oz and an exchange rate of A$:US$ 0.80

Havilah Resources NL (ASX: HAV) ("Havilah" or the "Company") – currently developing its Portia gold mine near Broken Hill for production start-up in coming weeks – is now targeting a 2016 go-ahead mining decision for its much larger neighbouring Kalkaroo copper-gold project.

The Company completed its Kalkaroo feasibility study in 2010 and today has released an Updated Mining Study report, which is attached to this announcement.

The Company's Managing Director, Dr Chris Giles, said Kalkaroo is one of Australia's largest undeveloped copper and gold resources, with a *JORC Measured and Indicated Resource inventory of 620,000 tonnes of copper and 2 million oz of gold.

"We have continued to steadily advance and de-risk the Kalkaroo copper-gold project, 100km northwest of Broken Hill, with significant positive advances made in a number of material respects, which we are pleased to present in the attached "Updated Mining Study" report.
"Subject to timely permitting and financing being in place, we hope to be able to bring the Kalkaroo mine on stream as the Portia gold mine is winding down in the second half of 2016" he said.

Key milestones recently achieved have included :

- Removal of land access risk by acquisition of the surrounding 550 km^2 Kalkaroo station.
- Major progress in mine permitting following submission and public exposure of a comprehensive Mining Lease Proposal document for the Kalkaroo mining operation.
- Markedly improved gold recoveries in sulphide ores indicated by new metallurgical testing, potentially adding more than 300,000 ounces to total gold production.
- Many new economic grade ore intercepts that either confirm existing mineralization or indicate new mineralized positions outside of the current resource, based on additional drilling.

Dr Giles said key technical advances, especially in open pit optimisation, mine design and metal recoveries, have allowed formulation of conceptual financial models for various Kalkaroo mining scenarios and funding options.

"In particular, high capital start-up and lower capital start-up options have been considered in some detail. Such alternatives are possible for Kalkaroo because of a combination of two unique physical characteristics of the deposit, namely, a distinctive and mappable vertical zonation in mineralisation types and the exceptionally long (3 km) strike of the main ore zone.
"This allows sequential mining of various mineralization types to optimise processing plant utilization and also provides the opportunity for in-pit waste dumping as mining progressively moves along the main ore zone.
"At current metal prices and exchange rates the conceptual financial models indicate that in both cases the Project can generate positive economic returns after return of all investment capital. With significant gold credits Kalkaroo has a natural hedge because prices of these two metals often move in opposite directions in response to the same external economic factors, as has happened over the past few months " he said.

Given the favourable economics, Havilah continues to progress Kalkaroo on a number of fronts, including :

- Updated resource and mining model taking into account new drilling results and revised geological interpretations.
- Further metallurgical studies aimed at firming up processing plant design and costing.
- Negotiations towards a native title mining agreement.
- Compilation of a Program for Environmental Rehabilitation and Protection (PEPR) document that is required by the regulators as a pre-requisite to obtaining full mining approval.

It is planned to complete these activities over the next twelve months, which will further de-risk the project and assist Havilah in attracting the necessary mine development financing.

For further information visit the Company website www.havilah-resources.com.au or contact: Dr Chris Giles, Managing Director, on: info@havilah-resources.com.au.

*Refer to ASX release 29/02/2012 and tables presented in Section 4 and Appendix 2 of the attached **"Updated Mining Study"** report for the JORC resource statements.

Competent Persons Statement
The information in this announcement that relates to Exploration Targets and Exploration Results and JORC Resources is based on data compiled by geologist, Dr Chris Giles, a Competent Person who is a member of The Australian Institute of Geoscientists. Dr. Giles is a director of the Company and is employed by the Company on a consulting contract. 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.
This information was prepared and first disclosed under the JORC Code 2004 and has been re-stated in the attached report to comply with the JORC Code 2012. This is to comply with ASX guidelines that require financial forecasts based on Production Targets to be underpinned by Mineral Resource estimates that have prepared by a Competent Person in accordance with the requirements of the JORC Code 2012.

Kalkaroo Copper – Gold Project

Native copper in drill chips at Kalkaroo

Updated Mining Study

February 2015

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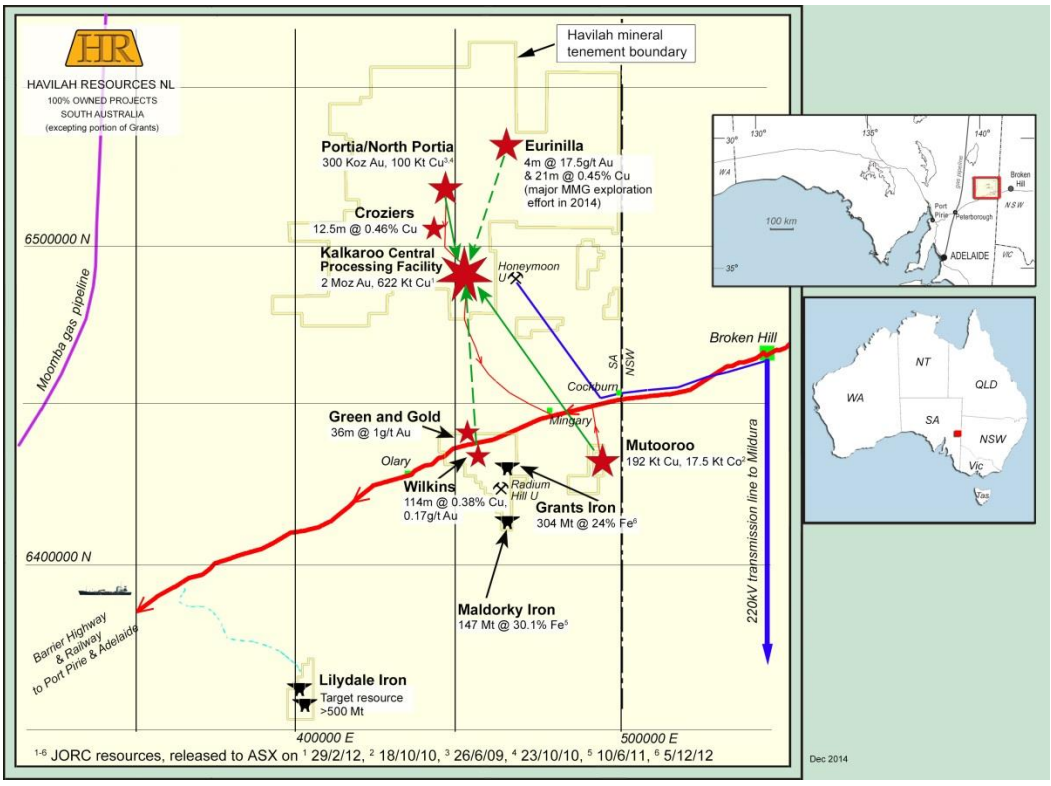
1 Executive Summary

The Kalkaroo copper-gold deposit ("Kalkaroo" or the "Project") is one of Australia's largest undeveloped copper and gold resources, containing approximately 620,000 tonnes of copper and 2 million ounces of gold in JORC Measured and Indicated Resources as summarised in section 4 and Appendix 2.

Following release of this resource to the ASX on 29/02/12, Havilah Resources NL ("Havilah" or the "Company") has significantly advanced and de-risked the project in several material aspects :

- Acquisition of the surrounding 550 km^2 Kalkaroo station pastoral property in order to secure certain land access for mining (ASX release 18/09/14).
- Completion of a comprehensive mining lease proposal of a standard acceptable to the regulators in support of mining lease applications over the Kalkaroo deposit, which has now passed the public comment stage (ASX release 12/12/14).
- Demonstration by deep diamond drilling that the Kalkaroo copper-gold mineralization extends to depth and potentially adding to the current resource (ASX release 30/07/12).
- Confirmation of high gold recoveries, in excess of 95% by cyanide leaching in the saprolite gold cap from five composite samples covering a range of gold values (ASX release 29/04/13).
- Boosting of gold recoveries in the sulphide ore from 60-65% to 80-85% by cyanide leaching of pyrite concentrate from the tailings stream, potentially recovering a further 330,000 ounces of gold (ASX release 29/04/13).
- Many new confirmatory ore grade intersections from shallow aircore drilling in the saprolite gold and native copper zones at West Kalkaroo, within the confines of the conceptual starter open pit (ASX release 04/10/13).
- Discovery of low grade gold in Tertiary clays above the orebody at West Kalkaroo, potentially able to cover mining costs of overburden for the starter open pit (ASX releases 26/07/13 & 23/08/13).
- Discovery of several ore intersections outside of the current resource (ASX release 23/0/13).

Kalkaroo Location



The unique geometry of the Kalkaroo deposit and the vertical zonation of mineralization enables various mining scenarios to be modelled. Conceptual financial models of both higher and lower start-up capital alternatives indicate robust economics at current metal prices.

The following table summarises the key expected operating parameters for the Kalkaroo project, based on the updated mining study (all amounts are in A$ unless otherwise stated).

Kalkaroo Project Development Summary		
Key Parameters	**High Start-up Capital**	**Low Start-up Capital**
Havilah Ownership	100%	
Location	Curnamona Craton, Northeast South Australia	
Status	• Feasibility study completed in 2010 • Progressing mining permitting requirements	
JORC Resource	622.5 kt copper @ 0.50% Cu & 2,006 koz gold @ 0.44g/t Au	
Mine Type	Open Pit : using optimised pit 8 design model	Starter Open Pit : merging into pit 8 design model in Year 6
Throughput Rate	Year 1 : 9 Mtpa start up, comprising 2 Mtpa saprolite ore and 7 Mtpa sulphide.	Years 1&2 : 1-2 Mtpa saprolite ore. First sulphide ore in Year 3 and rising to full production in Year 6
Resource Mined (optimised pit 8 design)	527 kt copper @ 0.53% Cu & 1,751 koz gold @ 0.47g/t Au (not allowing for 5% mining dilution at zero grade applied in financial model)	
Processing	• Saprolite ore: Screening and gravity separation and CIL • Sulphide ore: Conventional grinding and flotation	Saprolite ore only for Years 1&2. Sulphide ore production increasing from Year 3 and reaching capacity in Year 6
Forecast Mining Decision	2H 2016 (subject to permitting, financing and other factors)	
Metal Recoveries	>80% overall for both gold and copper using multiple processing options	
Average Annual Production	34,000 tpa copper and 108,000 ozpa gold over a 14 year mine life	Years 1&2 : 3,800 tpa Cu, 35koz Au Rising to 35,000 tpa Cu, 106 koz Au average from Year 6 to Year 17
Main Products	• Copper concentrate (>25% Cu) • Native copper (>99% Cu) • Gold bullion • Pyrite concentrate (Co, Cu, Au)	Year 1&2 gold bullion and native Cu Thereafter same products as high capital model
Mine Life	Modelled 14 years at above production rates	Modelled 17.5 years at above production rates
Capital Costs	Total startup $340 M including $24 M pre-strip and 10% contingency (± 30%)	Total startup capital $83 M including 10% contingency (± 30%). Deferred expansionary capital $260 M.
C1 cash cost (with Au credit)	US$0.59 /lb of payable copper	US$0.69 /lb of payable copper
Breakeven Cu price (NPV=0 at a 10% discount rate)	US$1.40/lb	US$1.65/lb

High Start-up Capital Option : produces the best financial return (highest NPV) from the optimised pit 8 mine design. It is based on maximising metal production from the outset, which requires substantial upfront capital investment of $340 M.

Low Start-up Capital Option : minimises upfront capital outlay by commencing with a starter open pit on the highest grade and shallowest ore at West Kalkaroo and recovering only the gold and native copper in the saprolite material for the first two years. Sulphide processing commences in Year 3 and ramps up to capacity in Year 6, when the starter open pit merges with the pit 8 design model.

Conceptual financial models generated for both options indicate that the Kalkaroo project produces favourable financial metrics at conservative $A copper and gold prices (refer to section 9, Financial Analysis and section 10, Operational Projections Summaries for further details). Accordingly, Havilah is pressing ahead with permitting of the project and is seeking to finalise the process plant design and costing, with the view to attracting a funding partner to allow a mine development decision by 2H 2016.

2 Background Information

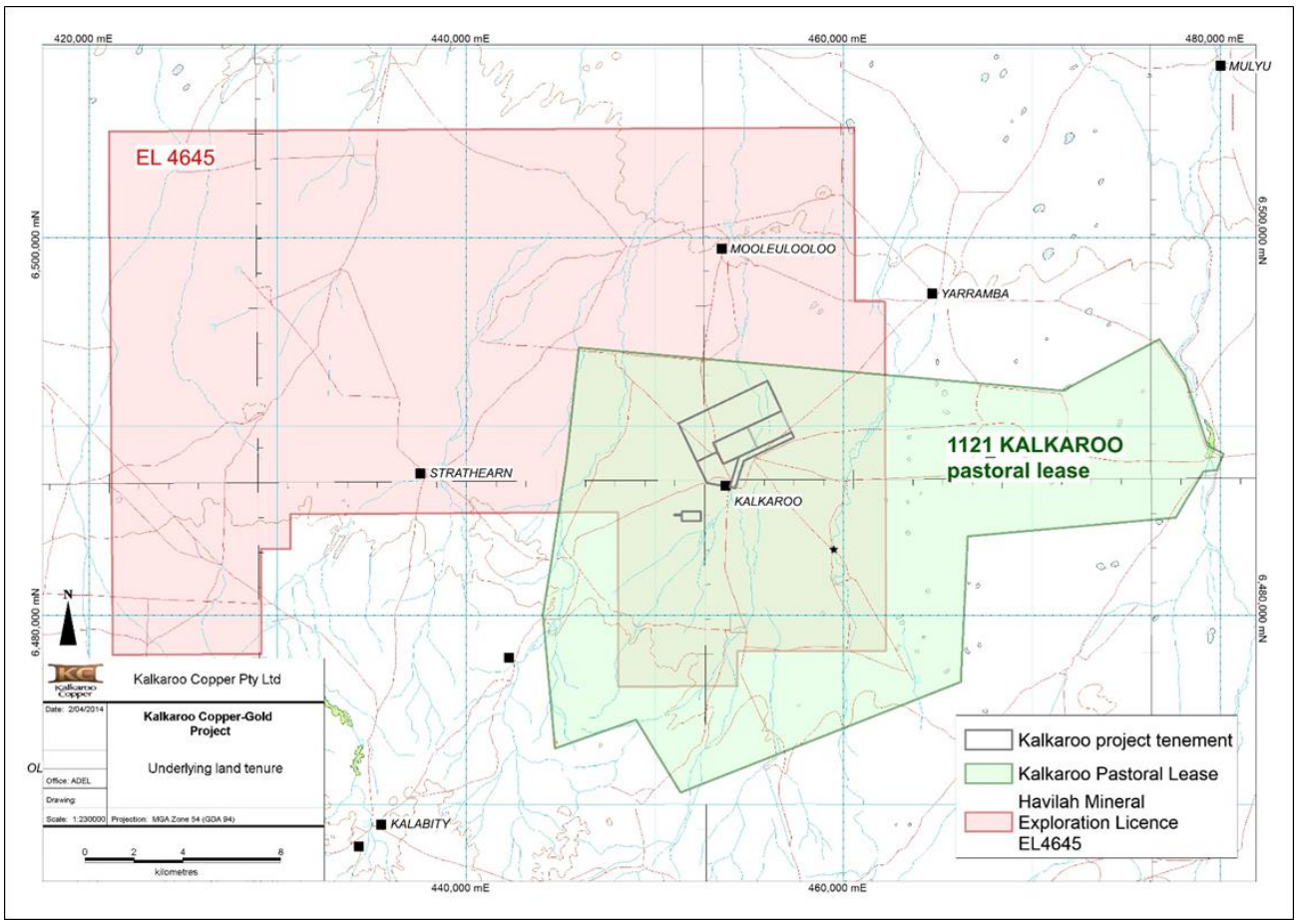
2.1 Location

Havilah holds a 100% interest in the Kalkaroo which is located in northeastern South Australia approximately 100 km west-northwest of the major regional mining centre of Broken Hill and around 500 km northeast of Adelaide. Kalkaroo is well positioned with respect to infrastructure and its metals offtake is uncommitted.

Native copper and sulphide concentrate can be transported in covered containers on a well maintained unsealed public road to the Barrier Highway and Transcontinental Railway, which are roughly 50km to the south of Kalkaroo. Options then exist to transport the product by rail or truck to Port Pirie or Port Adelaide.

The camp site will be located immediately south of Kalkaroo homestead, with the processing plant and tailings storage facility to the north and east of the camp, respectively.

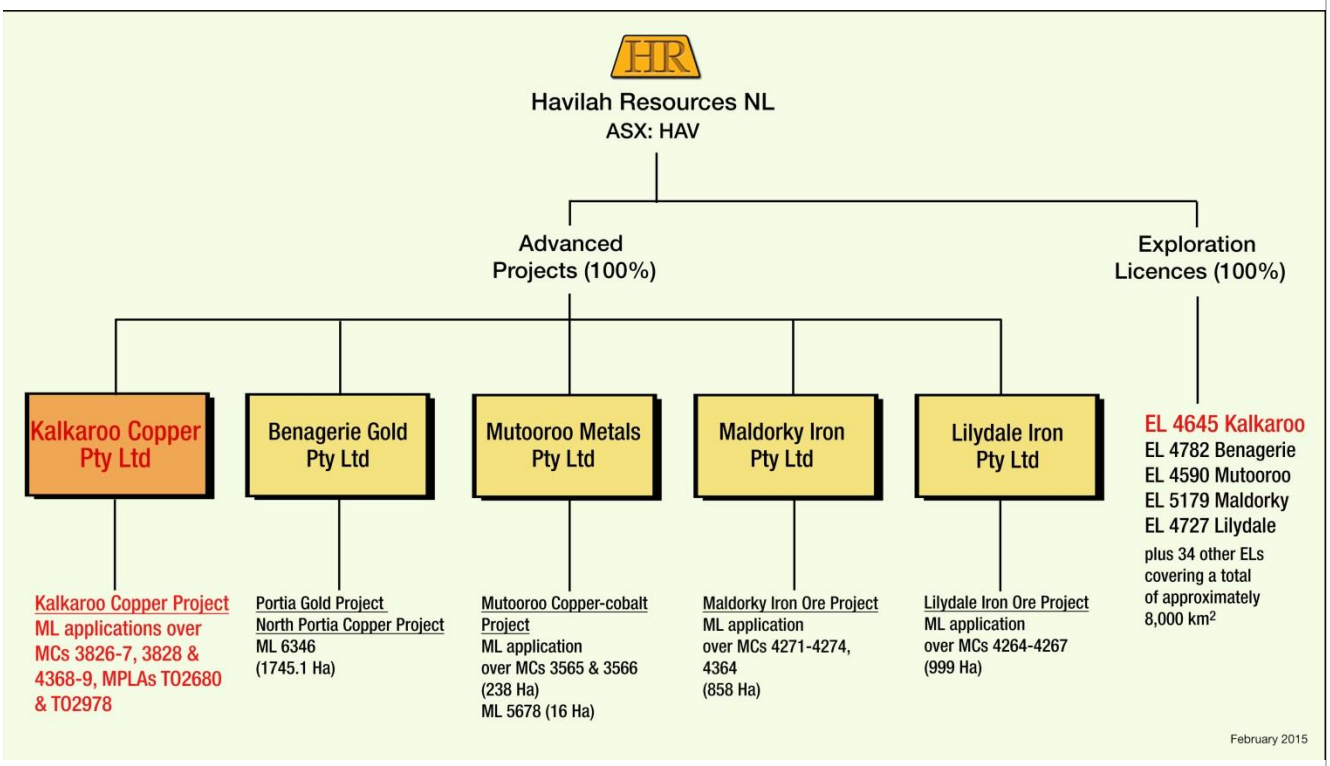
Kalkaroo Project Location



2.2 Ownership

The Kalkaroo Project is 100% owned by Havilah, via its wholly owned subsidiary Kalkaroo Copper Pty Ltd (ACN 111 129 812) as summarized in the following chart.

Organisation Structure Chart



2.3 Tenure

The Kalkaroo Project includes a Mining Lease Application over four Mineral Claims (MCs 3826, 3827, 4368 and 4369) that cover the deposit, two Special Purposes Licences (MPL T02680 and T02978) for mining infrastructure and MC 3828 for extractive minerals, all held by Kalkaroo Copper Pty Ltd. The Project lies within EL 4645, which is owned 100% by Havilah Resources.

The underlying land holding is a Pastoral Lease covering the 550 km^2 Kalkaroo sheep station, that has recently been purchased by Havilah. No stock is currently run on the property and Havilah plans to set up its regional operational base and exploration camp near the existing homestead.

Tenement Details

Licence	Purpose	Registered Holder	Area
MCs 3826/3827	Covers deposit	Kalkaroo Copper Pty Ltd	4.97km^2
MC 3828	For surfacing material	Kalkaroo Copper Pty Ltd	0.90km^2
MCs 4368/4369	Site infrastructure	Kalkaroo Copper Pty Ltd	9.74km^2
MPLA T02680	For mining infrastructure	Kalkaroo Copper Pty Ltd	2.49km^2
MPLA T02978	For accommodation camp	Kalkaroo Copper Pty Ltd	0.7km^2
EL 4645		Havilah Resources NL	998km^2

2.4 History & Project Status

Kalkaroo was explored by a number of major mining groups in the past including Placer, Newcrest Mining and MIM Exploration, who completed more than 45,000 metres of drilling in the region. The Kalkaroo deposit was originally discovered by Placer Dome. Mount Isa Mines subsequently earned a joint venture interest. Havilah purchased a 100% interest in the exploration licence from these parties in 2004.

Following a detailed evaluation of all historic exploration data, Havilah developed a 3D geological model of an interpreted potential copper resource envelope which it commenced drill testing in July 2004. This model was neither thought of, nor tested, by previous explorers. Over the subsequent six months, Havilah completed twenty-one, 100m spaced, drill traverses over a strike length of 2000 metres and achieved continuous ore grade copper and gold intersections on every section line.

In July 2007 Havilah signed a heads of agreement with Glencore International whereby Glencore would fund a A$14 million feasibility study and arrange financing for the development of Kalkaroo project in exchange for a 14% participating interest in the Project and metals offtake.

Havilah, in combination with Glencore International, undertook a feasibility study between 2007 and 2010 based on a JORC Resource of 62Mt at 0.55% copper and 0.44g/t gold.

In July 2011 Glencore International elected to convert its interest and off-take rights in the Kalkaroo Project into ordinary shares in Havilah together with a deferred cash payment.

Following completion of the feasibility study, Havilah continued with technical work on the Kalkaroo copper-gold deposit, including additional drilling, metallurgical testing and re-modelling of the deposit using the new inputs.

As the result of this additional work, on 29 February 2012, Havilah announced a substantially increased JORC resource estimate (see section 4 of this report), specifically :

Gold Cap: 18.7Mt @ 0.74 g/t Au Measured resource
Main deposit: 124.5Mt @ 0.50% Cu & 0.39g/t Au Measured + Indicated resource

Based on this resource estimate, Havilah developed a revised mine plan and financial model which forms the basis for this updated feasibility study. A major conclusion is that the Kalkaroo deposit, with its large oxidized cap, is amenable to various development scenarios that offer considerable flexibility in financing arrangements and metal production rates. At current $A metal prices Kalkaroo is financially viable with a choice of development options.

3 Geology

3.1 Regional Setting

Kalkaroo lies within the Curnamona Craton, an area of Proterozoic rocks around 1750 million years old. Approximately 1600 million years ago, immediately after intense folding and metamorphism, the region was intruded by mineralising igneous rocks, including various phases of granite. The folding was accompanied by widespread east-west fracturing which provided pathways for metal-rich solutions to rise through the meta-sedimentary pile and selectively replace particular highly reactive evaporite-carbonate beds, termed the “mineralised horizon”. This generated widespread stratiform copper-gold mineralization throughout the Curnamona Craton, of which Kalkaroo is the largest known example. Other occurrences are at North Portia (35 km north of Kalkaroo on the Benagerie Dome) where a JORC resource of 11.3Mt of 0.89% Cu and 0.64g/t Au has been defined by Havilah (ASX release 23/11/10) and also on the Eurinilla Dome 35km to the northeast.

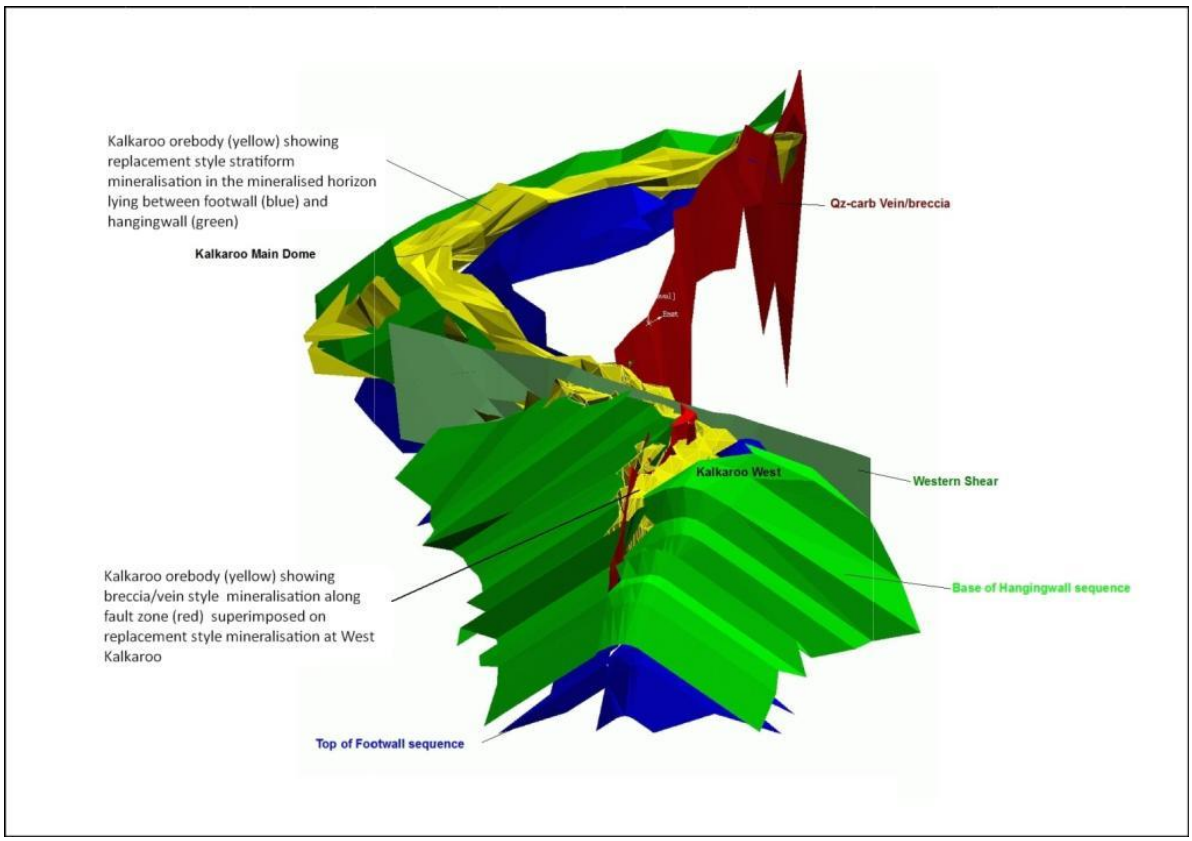
The stratiform mineralization is often associated with adjacent, near-vertical, mineralised quartz vein breccia fracture/fault fillings, which most likely formed the channelways for the mineralising fluids. There is often a marked zonation in metals, with lead-zinc mineralization typically occurring a few hundred metres stratigraphically above the copper-gold rich horizons. Havilah’s exploration focus has been directed solely towards copper-gold mineralization, and consequently, no economic accumulations of zinc have been discovered to date.

During the Mesozoic and Tertiary period the region was exposed to deep weathering before being covered by up to 60 metres of lake sediments in the late Tertiary. This clay layer blankets the northern part of the Curnamona Craton and forms a flat, featureless landscape. As a result, the Kalkaroo deposit is not exposed and exploration is guided by geophysical data, drilling and detailed geological logging, and careful 3D modelling of all data. The stratigraphic and structural controls on mineralization are well understood by Havilah and it is expected that additional discoveries will be made as drilling continues to test the various conceptual targets.

3.2 Kalkaroo Deposit

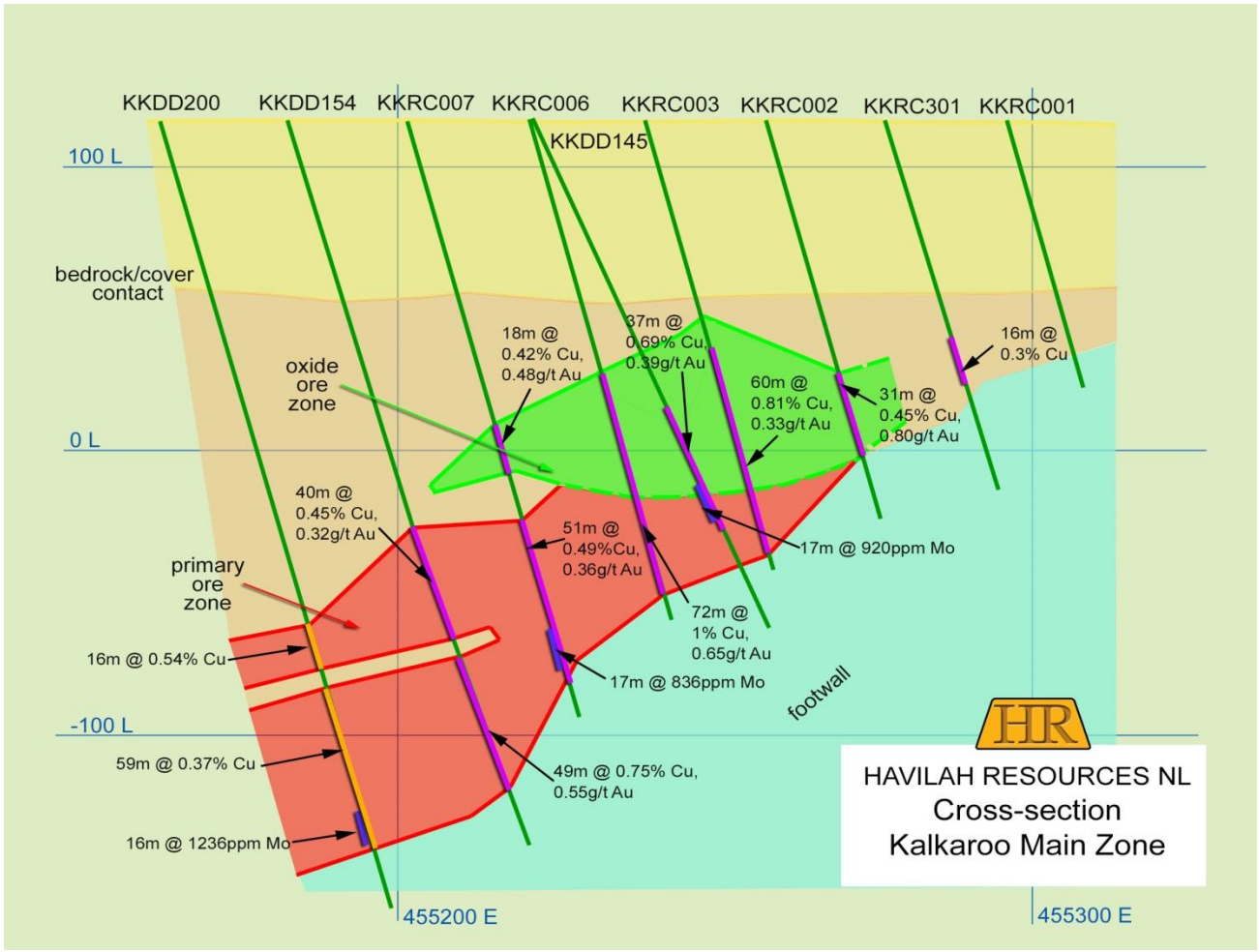
At Kalkaroo, the stratiform mineralization is uniformly distributed along more than 3 km of strike that arcs around the 35 degree dipping northern nose of the Kalkaroo south dome. It is hosted by an 80m -120m thick mineralised horizon that is sandwiched between psammitic footwall rocks and a thick pelitic hangingwall sequence. In part, the mineralization is associated with near-vertical, mineralised quartz vein breccia fracture/fault fillings, which probably formed channel ways for the mineralising fluids. Interference folding resulted in dome structures which probably acted as structural traps for the rising mineralising fluids carried by these vertical structures. The mineralising events were associated with iron-rich and sodium-rich alteration fronts, which are manifest as widespread fine-grained magnetite in the lower sandy formations and as pervasive albite alteration.

Kalkaroo Deposit: 3D Oblique View



3D oblique view of the Kalkaroo deposit (yellow) showing the dipping hangingwall (green) and footwall (blue) contacts and the vein/breccias occupying the east-west fault zone (red).

Kalkaroo Cross Section



Typical cross section Kalkaroo central showing primary and oxidised ore overlain by Tertiary clay overburden

Erosion in the Mesozoic and Tertiary period exposed the Kalkaroo deposit to prolonged and deep weathering. Consequently, the deposit shows typical supergene enrichment features in its upper part, caused by oxidation of the primary sulphides in the weathering zone, forming a soft clay rich rock called saprolite. This is manifest in a sub-horizontal stratification of the ore minerals from top to bottom, forming four main ore types as follows:

1. **Supergene free gold in saprolite**, with generally minor copper, largely recoverable by gravity methods.
2. **Native copper and gold in saprolite**, largely recoverable by gravity methods.
3. **Chalcocite dominant with gold**, recoverable by conventional flotation.
4. **Chalcopyrite dominant with gold** and locally rich molybdenum, recoverable by conventional flotation.

Proportions of the four mineralization types comprising the Kalkaroo resource are summarized below :

Mineralization Types Comprising the Kalkaroo Resources

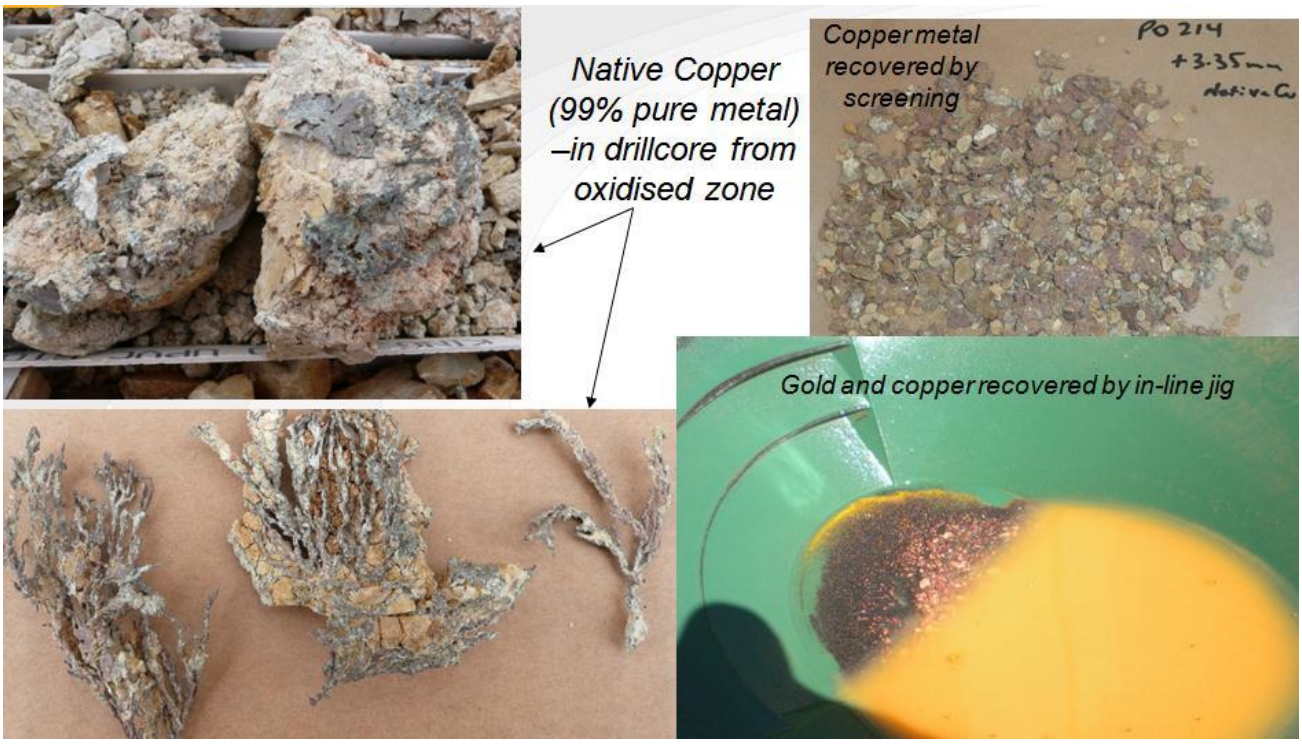
Type	Tonnes	% of Tonnes	% CuEq Metal	Cu Grade (%)	Au Grade (g/t)	SG
Saprolite Gold	18,690,232	13.0			0.74	1.86
Native Copper	13,120,485	9.1	13.0	0.55	0.58	2.02
Chalcocite	29,525,558	20.5	26.2	0.56	0.43	2.49
Chalcopyrite	81,863,723	56.9	60.7	0.47	0.34	2.68
Total	**143,000,000**	**100**	**100**			

Eluvial (or hydromorphic) gold that has been leached and re-deposited from the adjacent sulphide mineralization occurs over the central portion of the deposit at the base of the Tertiary clay and also within specific layers of the clays that form the barren overburden of the deposit. This style of gold occurs at Portia and elsewhere in the region.

Immediately under the Tertiary clays there is a 20 m thick zone of leached and generally barren saprolite (highly weathered ore). Traces of copper and gold occur in this material but it is sub-economic. This barren zone overlies the gold saprolite where gold leached from the upper zone has been chemically transported in the weathering process to be concentrated over millions of years by weathering of sulphidic ore.

The upper gold saprolite is typically around 15-30m thick, reddish in colour (due to ferric iron oxides), with gold enriched to around 1 g/t. The copper minerals in this zone are predominantly present as silicates (atacamite) and do not interfere with normal gold cyanide dissolution. The gold is typically fine-grained and while gravity concentration will recover about 60%, cyanide extraction indicates a recovery of at least 95%. These saprolite zones are essentially porous clay material, of low strength; this will enable mining via free-digging (no blasting required). Test work indicates that disaggregation will occur readily in a trammel scrubber.

Saprolite Mineralization

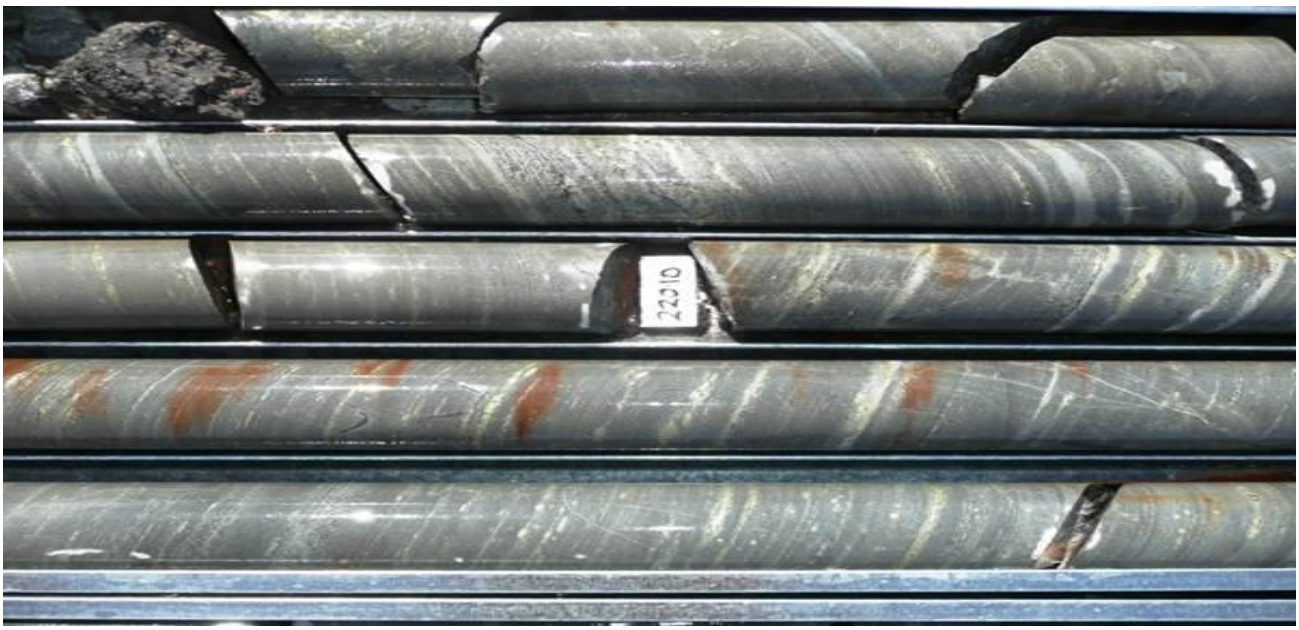


Native copper in saprolite, and gold from saprolite with fine native copper

The native copper saprolite occurs in a zone around 25m thick immediately underlying the gold saprolite. It is olive green in colour due to the reduced (ferrous) iron minerals. Native copper, in both coarse and fine forms, fills joints and bedding planes with filigrees and sheets of almost pure copper. Chalcocite also occurs within this zone, increasing in concentration with depth. The saprolite rocks remain soft and of low strength and are likely to be free-digging to the base of this zone (effectively down to 125m below the surface). At this horizon the oxidised ore blends into fresh, primary chalcopyrite ore. This fresh, hard ore continues to the bottom of the evaporite sequence where a sharp change to typically barren magnetite-bearing lithic sediments occurs.

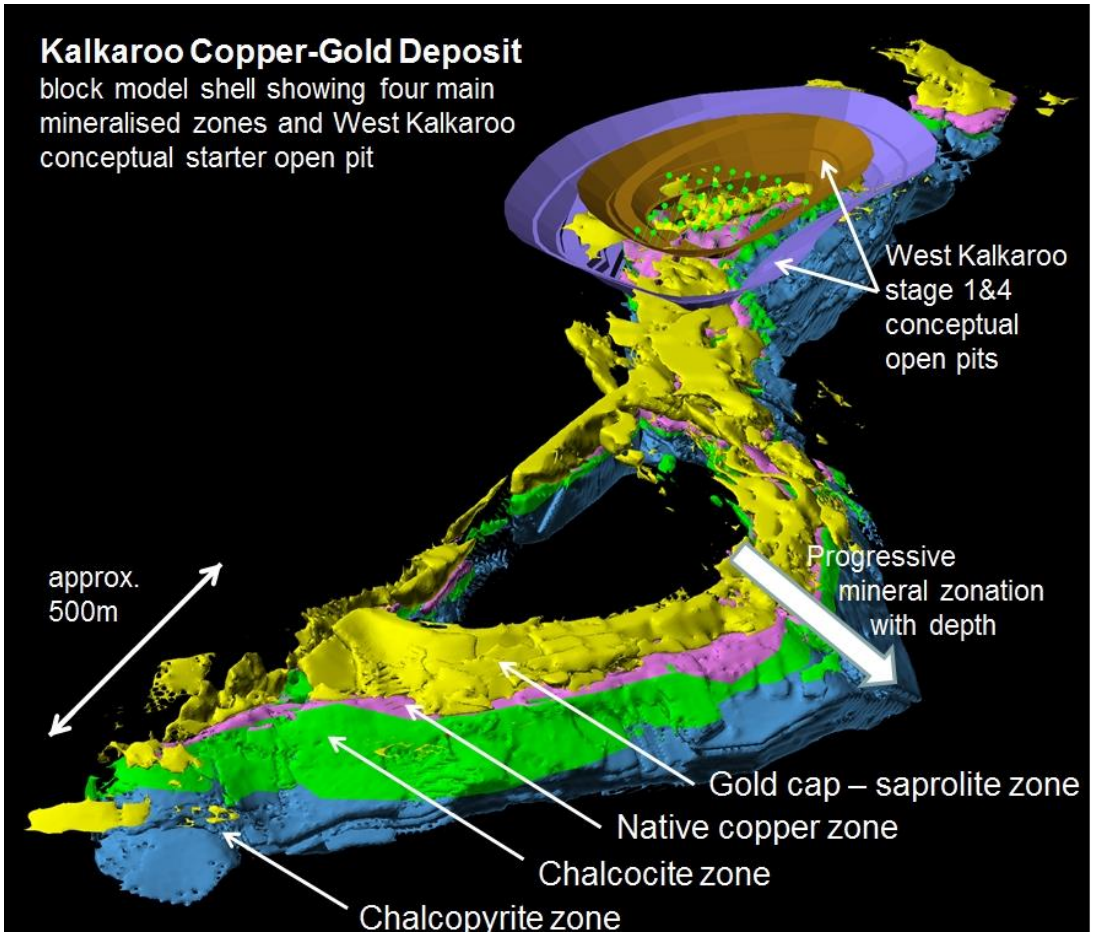
The primary ore typically dips at 35° making it conformable with the regional strata. This ore contains a mixture of pyrite and chalcopyrite with locally abundant molybdenite. The sulphides partially fill bedding planes and small fractures following replacement of the original carbonate minerals. The primary sulphide ore is relatively hard, however abundant fracturing will aid blasting and primary crushing effectiveness.

Kalkaroo Primary Sulphide Ore



Harder, primary replacement sulphide ore with sulphides replacing carbonates along bedding.

Adjacent, but separate to the ore described in the preceding pages, mineralized fracture systems of quartz sulphide breccia have been found. These breccias are up to 100m wide and consist of irregular quartz zones and country rock. Their rocks are deeply weathered and fractured with oxidation often occurring to depths greater than 200 m.



4 JORC Resources

Following new drilling and metallurgical testing, generated after the Glencore feasibility study in 2010, the Kalkaroo resource was re-modelled in Vulcan 3D software using the new data and updated metal prices. In addition, the substantial gold cap on the Kalkaroo deposit was modelled separately as it contained no recoverable copper. Total mineralised strike length at Kalkaroo exceeds 3 km and the deposit is not closed off in any direction by drilling, so that there is high potential for discovery of additional resources.

Having regard to the above factors, a new resource model was generated resulting in revised estimated Measured and Indicated JORC resources for the Kalkaroo deposit as detailed in the following table. This resource estimate was originally prepared under the 2004 JORC code, but is restated here under the 2012 JORC code in order to comply with clause 24 of the JORC FAQ published on ASX's website. The supporting geological information is provided in section 3 of this report and additional technical information as required under part 5.8 of the ASX Listing Rules is provided in Appendix 1.

Kalkaroo Mineral Resources Summary* (ASX release 29/02/12) – restated under JORC 2012 code

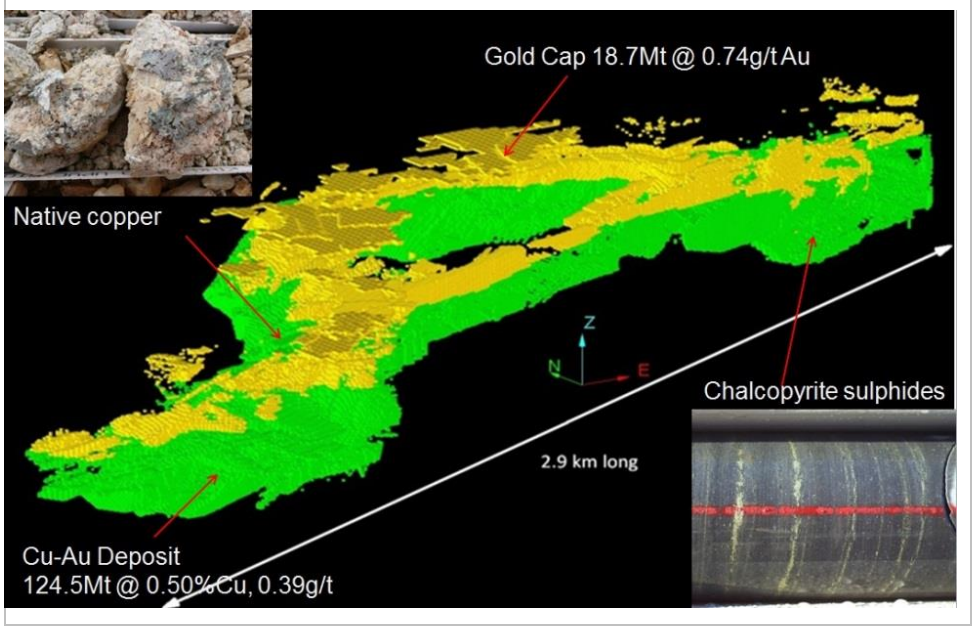
	Tonnes (Mt)	Grade (Cu %)	Grade (Au g/t)	Contained Metal
Gold Cap (Measured)	18.69	-	0.74	445koz Au
Kalkaroo (Measured)	85.89	0.52	0.41	
Kalkaroo (Indicated)	38.62	0.45	0.33	
Kalkaroo (Measured & Indicated)	124.51	0.50	0.39	622.5kt Cu 1,561koz Au
Kalkaroo Total	**143**			**622.5kt Cu 2,006koz Au**

** the resource estimation is based on A$6,000 / tonne copper price and A$1,600 / oz gold price and cut-off grades of 0.3% copper equivalent for the main deposit and 0.2g/t gold for the gold cap.*

The Indicated category is defined by all ore blocks that lie more than 50m distant from the nearest drillhole and requires additional confirmatory drilling to bring it to a Measured status. Elsewhere, the Measured status incorporates all ore blocks lying within 50m of a drillhole and reflects the excellent geological continuity of mineralization and host rocks observed between drill sections and individual drillholes.

Molybdenum, while ubiquitous in the Kalkaroo deposit, was excluded from the above resource estimate. Significant cobalt credits also occur in parts of the deposit, but they too were not incorporated into the resource model. The economic impact of this mineralization has therefore not been taken into account in the financial models, and this is a task that will be addressed in more detail in for future studies.

Kalkaroo Resource Block Model: Oblique View

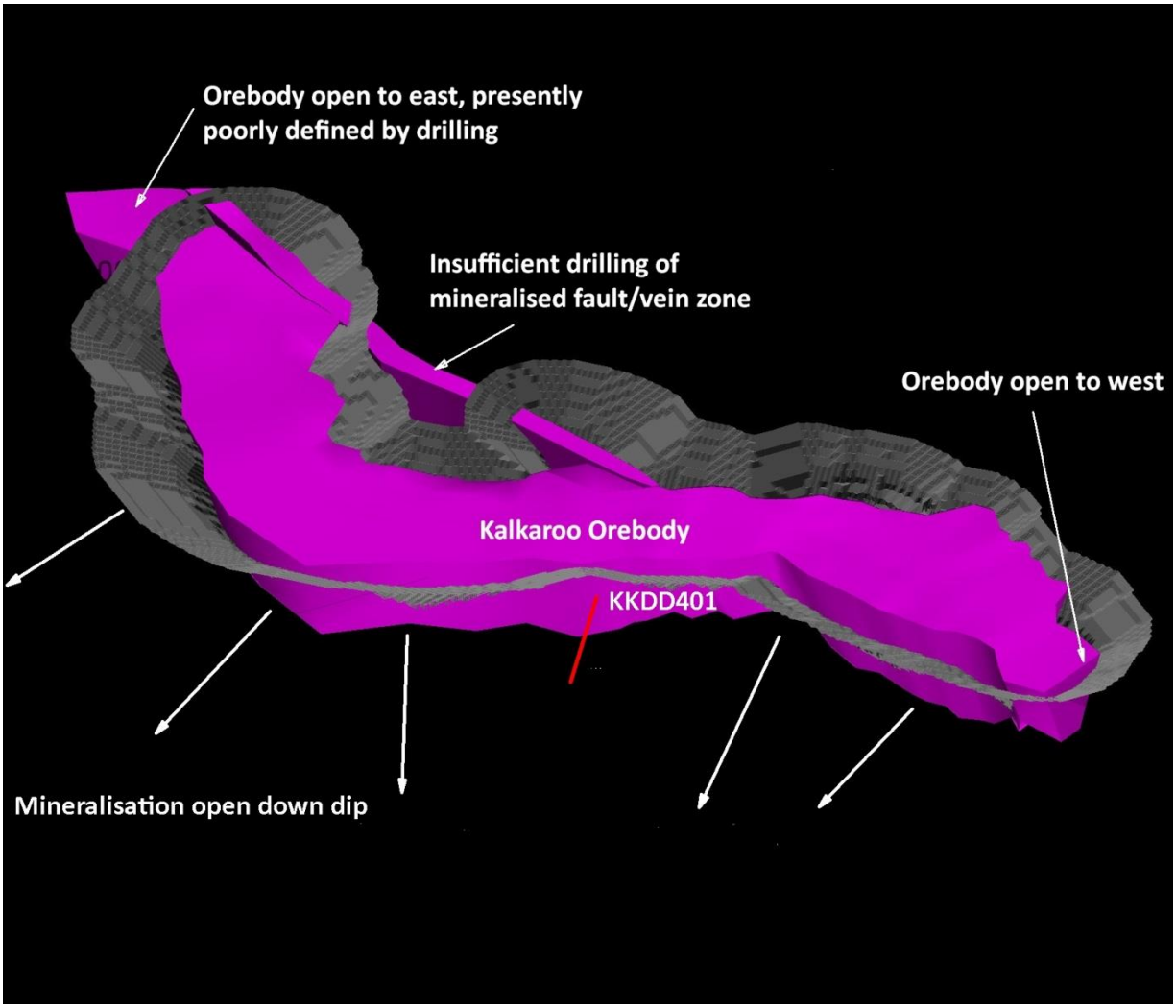


5 Additional Resource Potential

5.1 Resource Extension Potential

The Kalkaroo deposit is limited in size only by the extent of drilling. It is open along strike in both easterly and westerly directions, and is also open down dip on all section lines. It is therefore likely that additional strategic drilling will continue to expand the size of the resource. Currently, known mineralization to the east, and from the fault zone, has been excluded from the mining model due to insufficient density of drilling.

Kalkaroo Resource Extension Potential

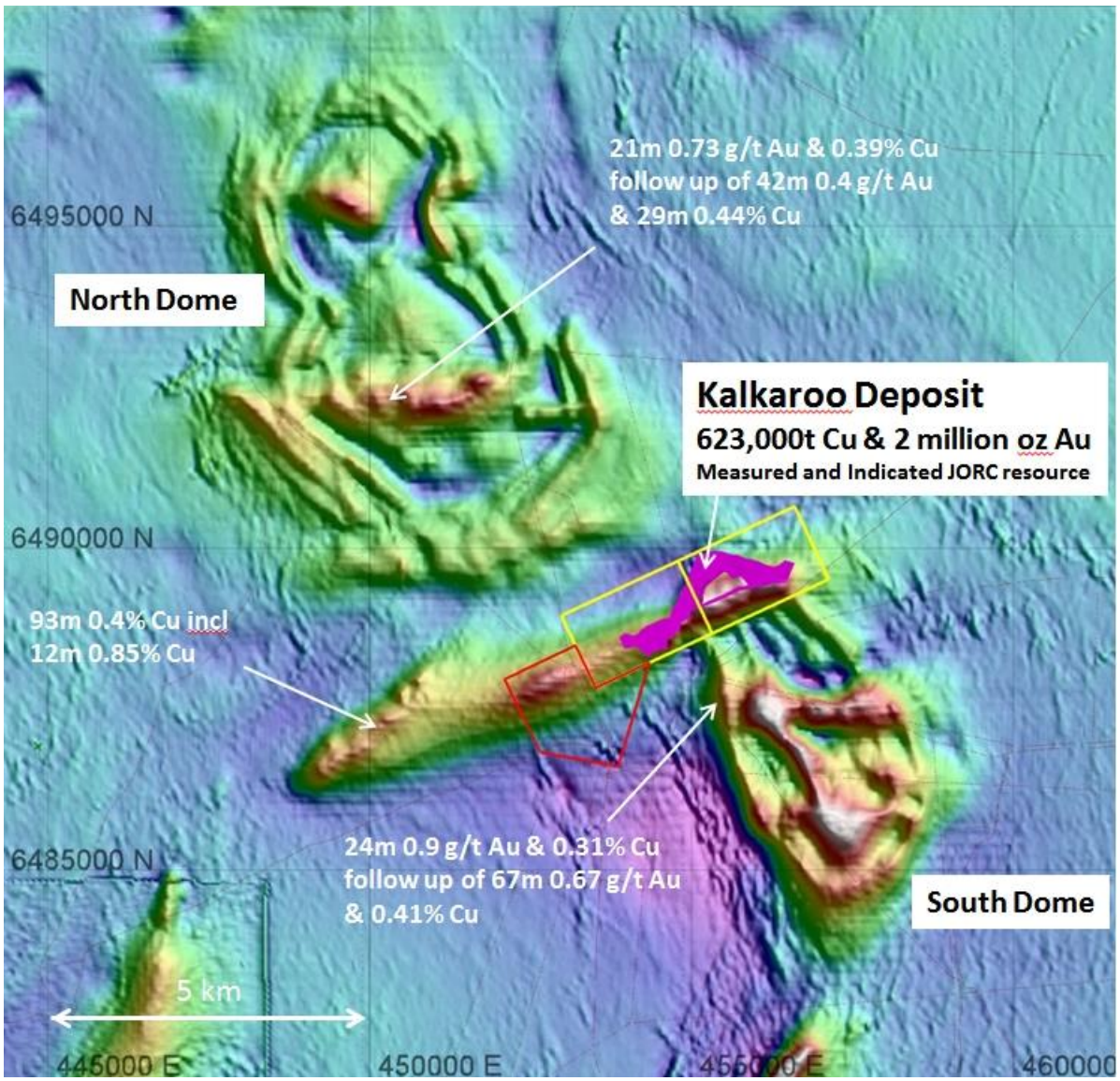


Deep diamond drilling by Havilah in mid 2012 revealed that the Kalkaroo mineralization extends more than 100 m down dip from the previous deepest resource hole. For example, drillhole KKDD401 intersected 58m of 0.48% Cu and 0.45g/t Au (see image above).

5.2 Near Mine Exploration Potential

Havilah's limited Reverse Circulation (RC) drilling on conceptual targets in other parts of the Kalkaroo north and south domes has resulted in discoveries of three new mineralized zones. In all cases, long intervals of economic to sub-economic copper and gold mineralization were intersected (see image below). The extent and strength of the mineralization in each of these new discoveries is notable, and indicates high potential for discovery of an economically significant new copper-gold deposit in the region.

Near Mine Exploration Potential and Drill Results



Exploration results on Havilah conceptual targets in the vicinity of Kalkaroo deposit

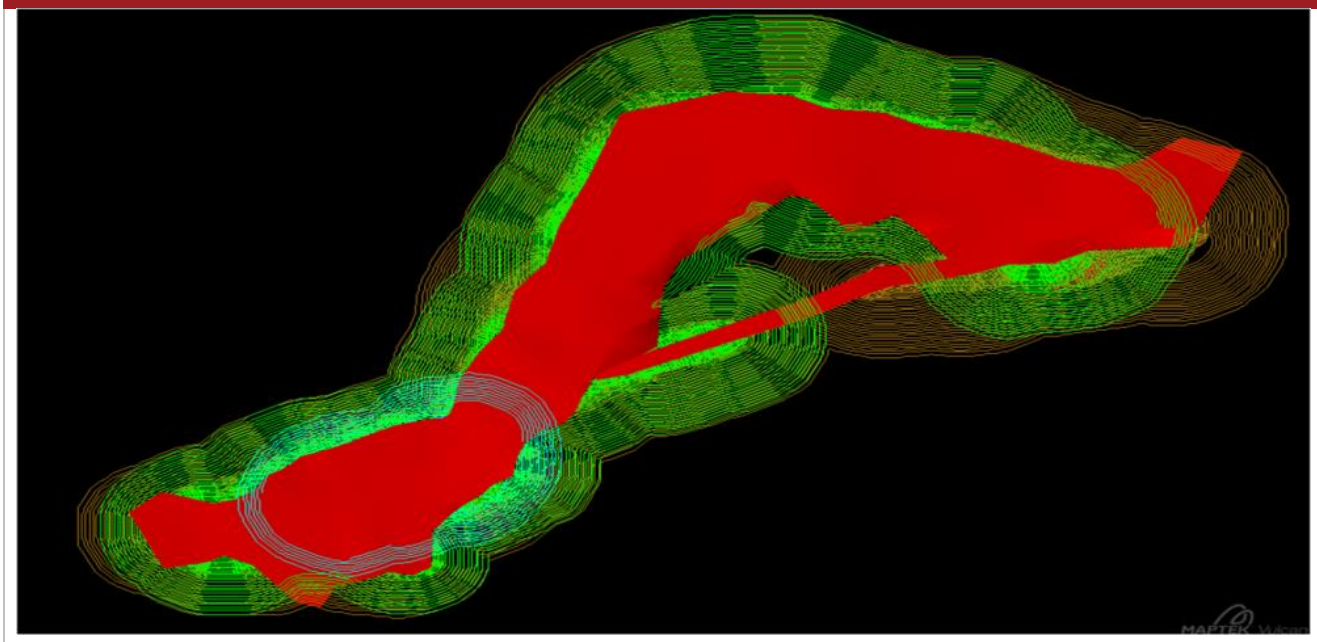
6 Mining

A revised open cut mine design was developed applying metal prices of A$6,000 / tonne copper and A$1,600 / oz gold in the optimization modeller. The chosen **optimized open pit shell 8** captures 115.6 Mt split between the gold cap and the main copper-gold orebody, as summarized in the table below. This represents approximately 81% of the JORC resource cited above and is contained within a total open pit volume of 484.4 Mt, indicating an overall life of mine strip ratio of 3.2.

Resource lying within within optimised open pit shell 8

	Tonnes (Mt)	Grade (Cu %)	Grade (Au g/t)	Cu (kt)	Gold (koz)
Gold Cap	16,682,000		0.77		413
Main Ore Body	98,948,000	0.53	0.42	527	1,338
Kalkaroo Total	**115,630,000**			**527**	**1,751**

Optimised Open Pit Design



Kalkaroo JORC resource envelope is shown in red within the optimised open pit 8 (green).The larger Pit 12 (brown) captures almost the entire resource, but is less economically favourable than pit 8 at current metal prices. The West Kalkaroo starter open pit design is shown on the left.

The tonnes and grade for each mineralization type are summarised below.

Mining Inventory by Mineralization Type

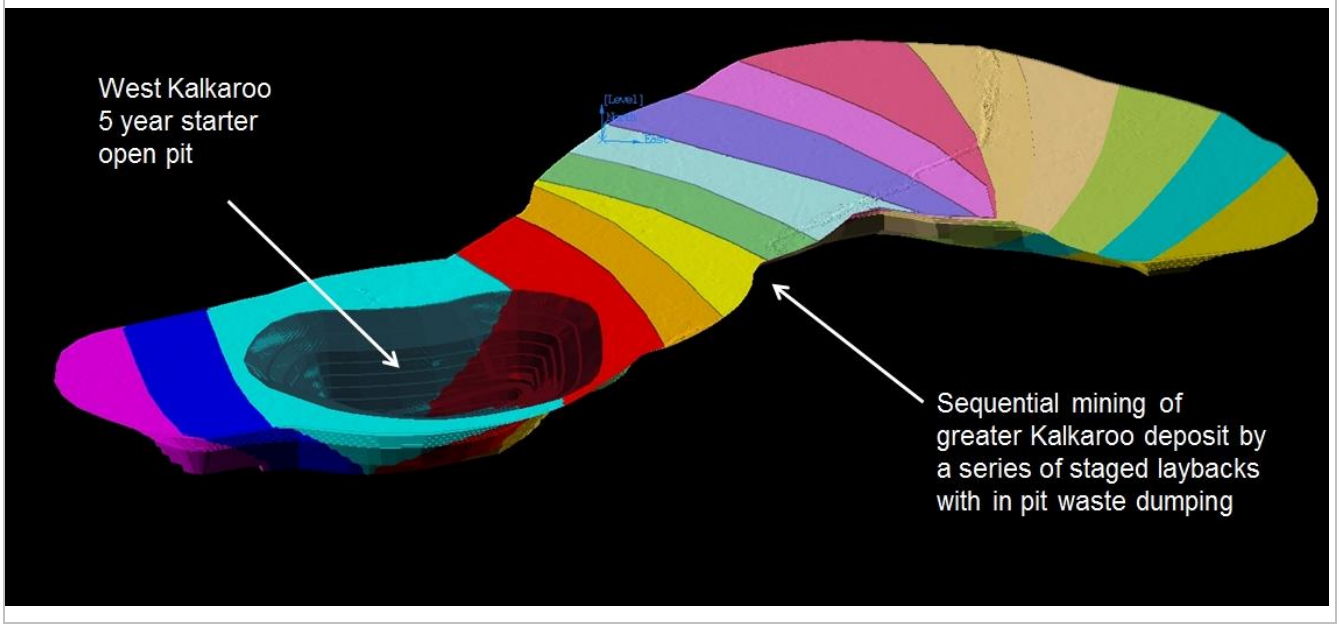
Ore Type	Tonnes	Grade (Au g/t)	Grade (Cu %)
Saprolite Gold	16,682,203	0.77	
Native Copper	12,096,227	0.58	0.58
Chalcocite	26,413,153	0.44	0.59
Chalcopyrite	60,438,503	0.38	0.50
Kalkaroo Total	**115,630,000**		

Owing to its 3 km long strike length and the vertical zonation of mineralization types, Kalkaroo presents a number of mining alternatives which could be pursued depending on the availability of development capital (see part 9 Financial analysis). A low capital alternative would see mining commence at West Kalkaroo on the shallowest and highest grade portion of the deposit. However, if capital was not a constraint, then the objective would be to optimise the copper and gold production by maximising the ore throughput rate to approximately 9 million tonnes per annum for a 14 year mine life based on the current resource.

Once mining was underway, returns could potentially be enhanced by evaluating deepening of the open pit on the high wall side. Such evaluation is recommended as the ore horizon is known to extend below the open pit design depth so the maximum mining depth at any given time will be determined by the cost of overburden and ore removal, along with the grade of the ore and prevailing metal prices. In practice the cost of exploiting this additional ore will be assessed at the time and the risk minimised. This process could extend the mine life.

The soft Tertiary clay overburden is required to be stripped from the initial box-cut excavation. A conventional truck and shovel operation has been scoped; out-of-pit dumping is required for only the first three years of operation. After that time, the ore for the first part of the pit will have been totally removed and the void will be progressively back-filled by terrace mining the overburden and horizontal haulage of the waste along the footwall.

Optimised Pit Shell



Optimised pit shells through the life of the mine as it moves from west to east along the strike of the deposit. The void is progressively backfilled as the mine advances.

Waste above 120m depth is free digging and consequently no blasting will be required, which along with in-pit dumping, significantly reduces mining costs. Likewise the gold and native copper saprolite ores will not require blasting. Prevailing oil/diesel prices and labour market conditions provide opportunities for further cost savings.

Ultimately, the drill and blast capacity will be around 7 Mtpa to match the expected throughput tonnage of fresh sulphide ore.The gold saprolite ore will be selectively mined and delivered to the gravity and carbon in leach (CIL) plant. At a capacity of approximately 1 Mtpa, the plant can continue to process gold saprolite ore for the life of the mine. When the native copper saprolite ore is reached the gravity plant will need to be increased by approximately 0.9 Mtpa to adequately handle this material. It is expected that any ore extensions not included in the current resource will have approximately the same ratio of oxide to sulphide ore and the dual processing stream will have adequate treatment capability.

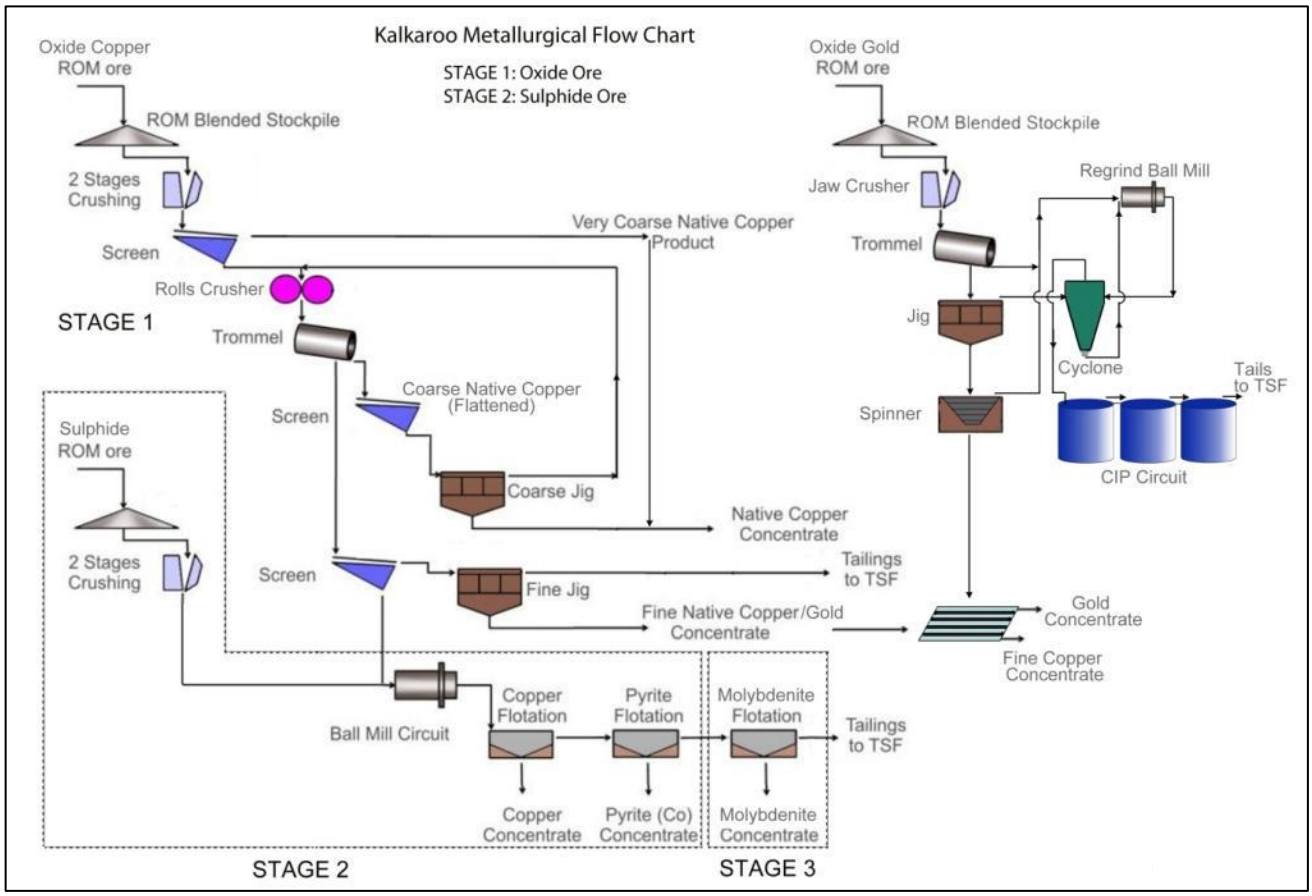
The mining lease proposal submitted to the Department for State Development (DSD) is currently based on an initial five year mining plan involving a conceptual starter open pit on the highest grade and shallowest copper - gold ore zone at West Kalkaroo. This mining plan considerably reduces the start up capital required, and focuses on recovery of native copper during the first three years and the higher grade chalcocite sulphide ore thereafter. The mining plan allows for the starter open pit to merge into the optimised 9 million tonne per annum life of mine plan based on the open pit 8 design.

7 Metallurgy

Representative large diameter core was used for metallurgical testing at Optimet Laboratories in order to determine processing strategies and recovery characteristics for each of the ore types. The testing achieved the anticipated recoveries of both copper and gold with no abnormal metallurgical difficulties encountered. The copper concentrates produced are low in contaminants (including uranium), with elements like arsenic and chlorine, under penalty levels.

Processing will be tailored to maximise recoveries of the saprolite and non-saprolite ore types via a two stage processing plant (see flow chart below). It is proposed that saprolite ore containing gold and native copper will initially be treated in a relatively low capital scrubbing, screening and gravity separation plant, in order to capture the free gold and coarse-grained native copper, with an annual throughput of approximately 2Mtpa. Finer gold will be recovered in a conventional CIL plant, with recoveries >95% indicated. The finer native copper, not collected by screening or gravity methods will be recovered by flotation.

Kalkaroo Metallurgical Flow Chart



The harder primary sulphide ore will be treated in a conventional grinding and flotation processing circuit, with a nominal throughput of 7 Mtpa. Metallurgical testwork indicates acceptable chalcopyrite separation by flotation, with copper recoveries up to 85% at a concentrate grade exceeding 27%.

The flotation circuit will also be designed to extract a pyrite concentrate for cyanide leaching in order to boost the total recovered gold in the sulphide ore to approximately 80-85%.The pyrite concentrate will be retained as it carries approximately 0.28% cobalt, plus copper and gold credits, which is potentially marketable. Additional flotation cells may be added subsequently to recover high grades of molybdenum in the central part of the deposit.

Concentrates will be dewatered and dried and stored on site prior to transportation in covered containers to the railway some 50 km to the south. From there the concentrates will be freighted by rail to the port either Port Pirie or Port Adelaide.

By adopting the multi-stream processing approach, better recoveries of gold and native copper are achieved and the overall size of the expensive plant components (e.g. SAG mill) is reduced. No unnecessary grinding is contemplated and clayey material unsuited to SAG mills, is diverted to more appropriate size reduction methods. In the low capital mining model the three stages of the processing plant can be constructed and brought into production progressively as the various ore types are exposed by mining. For example, mining of appreciable sulphide ore would not occur until the third year, and thus the sulphide treatment plant could be commissioned at this time rather than earlier. Similarly the molybdenum recovery flotation cells could be added a further 2-3 years on when the molybdenum rich part of the deposit is encountered.

Saleable products from Kalkaroo will include:

- **Gold bullion:** Produced by the gravity circuit and CIL plant, largely from the saprolite gold ore
- **Native copper:** Assays show that the native copper is very pure (>99% Cu), and may be directly saleable to a refinery.
- **Copper sulphide concentrate:** Metallurgical testwork has shown that copper concentrate grades of 27-35% at >80% copper recovery are achievable using conventional flotation. Assays of the concentrate indicate that there are no penalty elements of significance, including uranium.

It is noted that significant credits of molybdenum and cobalt are potentially recoverable from a suitably designed processing plant, but no value has been assigned to either of these commodities in the present optimisation studies or the scoping financial models.

8 Permitting and timetable

Kalkaroo Copper Pty Ltd has lodged a Mining Lease Proposal document with DSD in support of its mining lease application over the Kalkaroo deposit. This document met DSD's stringent internal adequacy checks and was posted on DSD's website for the mandatory public exposure period, during which comments from the public were received for consideration by Havilah. This document may be viewed by clicking on the following link : http://www.minerals.dmitre.sa.gov.au/public_notices/mining_proposals_open_for_public_comment

The area is covered by the Stage 2 native title claim by the Adnyamathanha people, the validity of which has yet to be determined. Finalization of a native title mining agreement with the Adnyamathanha people is a necessary pre-requisite to grant of a mining lease over Kalkaroo by DSD.

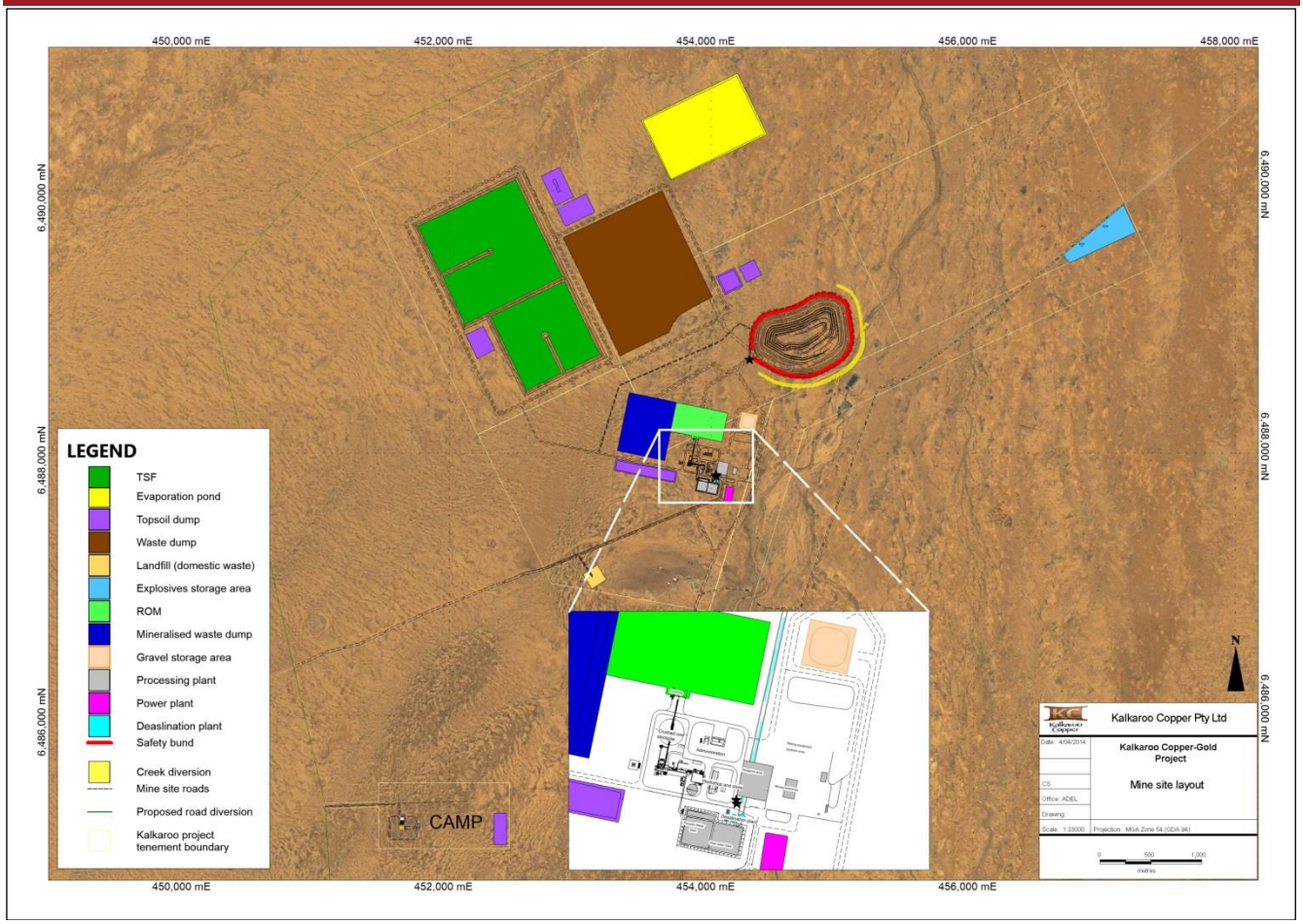
The key tasks to be completed ahead of mining development are listed below.

Indicative Project Timetable	
Milestone	**Timing**
Updated Resource Estimate & Mining Model	In progress
Probable Ore Reserve Estimate	Pending above
Additional Metallurgical Testing	In progress
Finalise Processing Flow sheet	Pending above
Updated Feasibility Study	Pending above
Native Title Agreement	Planned to complete in 2015
Grant of ML (mining lease proposal completed)	Subject to NTA above
PEPR Document (Government Approvals)	Planned to complete in 2015
JV Partner & Financing (decision to mine)	Planned to be in place by 2H 2016

Currently, the resource block model and open pit mine design are being refined to incorporate new drilling results obtained since the last resource update. Additional metallurgical testing is focusing on the sulphide ore treatment to enable finalisation of process plant design and more accurate estimation of capital and operating costs. This in turn will allow completion of an updated feasibility study.

Concurrently with this work, Havilah will complete the Program for Environmental Protection and Rehabilitation (PEPR) document required in order to obtain mining approval from the regulators, and will seek funding partners to provide the necessary development capital, ahead of a decision to mine planned for 2H 2016.

Kalkaroo Mine Site Proposed Layout



9 Financial analysis

Conceptual financial models have been prepared for different operational scenarios from low to high start-up capital expenditure, using prices of US$2.80/lb for copper and US$1,300/oz for gold and an A$:US$ exchange rate of 0.80. Havilah's modelling shows that the financial returns are maximised (ie highest NPV) from the optimised pit 8 design at an annual ore throughput of approximately 9 Mtpa (2 Mtpa oxidised ore and 7 Mtpa sulphide ore). This translates to an average production of approximately 34,000 tpa copper and 108,000 ozpa gold over a 14 year mine life. This would require an estimated start-up capital of $340 M including 10% contingency on all fixed plant and infrastructure (± 30% - refer to section 10, Operational Projection Summary "High Start-up Capital Option" table).

A viable lower capital start-up alternative is achievable by commencing production from a starter open pit at West Kalkaroo that transitions into the main open pit in year 6. Total upfront capital of $83 million including 10% contingency on all fixed plant and infrastructure (± 30%) is required and thereafter the operation is partially self-funding with additional external funding of approximately A$100 M required to fund the proposed expansions. The trade-off is lower annual metal production and a reduced NPV when compared to the higher capital model (refer to section 10 Operational Projection Summary "Low Start-up Capital Option" table).

There is a high level of confidence in the published Measured and Indicated JORC Resources and the mining optimisation studies and the total mining costs for waste and ore are considered to be reasonable estimates. However, owing to the complexity of ore types and variety of possible processing methods, some details of the processing flow sheet remain to be finalised, although the key elements of the processing route are clear. Also, for the low capital alternative at least, it is proposed to use secondhand equipment as far as possible, which could considerably reduce the currently estimated processing plant capex. This creates a level of uncertainty in the capital expenditure estimates, which for the sake of prudence, is assigned a ± 30% range in this study.

Apart from the permitting work, the process plant design is an area of study that Havilah is focusing on, in order to obtain more accurate capital cost estimates.

Key modifying factors and other relevant parameters relating to the financial models are summarized in Appendix 2. Key cost estimates applied in the conceptual financial models are listed below.

Kalkaroo Cost Estimates		
Costs	**Source**	**Amount (A$)**
Operating		
Mining	Contractor estimate	$10.00/tonne
Processing	Consultant report/ review of peers	$10.19/tonne
High capital startup option		(± 30%).
Plant & Infrastructure	Consultant report/review of peers	$311 M
Pre-strip	Contractor estimate	$29 M
Low capital startup option		(± 30%).
Plant & Infrastructure	Consultant report/review of peers	$56 M
Pre-strip	Contractor estimate	$27 M

The Kalkaroo deposit is quite unique in that the vertical zonation of ore types presents various mining development alternatives that are not available for most new open pit copper-gold mines. The conceptual financial models presented here show that both the high capital and low capital start-up development options are financially robust at conservative metal price assumptions. Which particular mine development and production scenario is adopted is critically dependent on the availability of capital, which in turn is heavily reliant on prevailing metal prices and market sentiment. In periods of bouyant metal prices mine development capital is generally more freely available and under these circumstances it would be advisable to maximise returns by maximising metal production. At the present time, given the capital contraints on new resource projects the low capital starter open pit option commencing at West Kalkaroo is considered to be the most realistic development alternative and the Mining Lease Proposal prepared by Havilah is based on this mining scenario.

Other important points to note in the financial models are :
1. The sensitivity analysis shows that the biggest determinant on the economics of the Project is the prevailing A$ copper and gold prices, which are the hardest numbers to determine with any certainty, especially at this time of historically volatile commodity prices and exchange rates. Havilah has chosen metal prices that it believes are reasonable based on its analysis, but readers should be aware of the high risk associated with the metal price assumptions.
2. A mining dilution factor of 5% at zero grade has been applied meaning that compared to the resource numbers, those used in the financial model have a slightly higher tonnage and lower grade. This is a conservative approach because in reality the dilution will not be at zero grade, and especially taking into account the thickness of the Kalkaroo ore zones and lack of internal waste in them. The new mining model in progress will assign observed grades to the dilution and may improve the mining economics.
3. The capital and operating costs, while assigned a ± 30% variation appropriate to a conceptual financial model, have been benchmarked against other comparable Australian copper-gold projects and found to be within these limits.
4. Both models incorporate a very low capital CIP plant (approximately $10 M) in order to exploit the saprolite gold cap. The returns in both cases are modest, with a pre-tax value add of approximately $18/tonne of saprolite ore processed at current gold prices, but it has an important contribution to the cashflow in the initial stages because it helps cover the overburden removal cost. The soft saprolite gold ore will require only disaggregation in a trommel and leaching tankage capacity. Havilah has available to it suitable leach tanks and agitation units for minimal upfront cost, thus making this a viable option to consider in order to maximise early cashflow.
5. The free-digging nature of the Kalkaroo ore and waste to depths of approximately 120 metres and the ability to utilize in pit waste dumping, owing to the linear geometry of the Kalkaroo deposit, provide important potential mining cost savings as compared with many hard-rock open pit mines.

10 Operational Projections - Summaries

High Start-up Capital Option 9 Mtpa ore throughput for optimised pit 8 shell (total upfront capex A$340 M including overburden removal and 10% contingency allowance to ± 30% accuracy).

Key Outputs	Y -1	Y 1	Y 2	Y 3	Y 4	Y 5	Y 6	Y 7	Y 8	Y 9	Y 10	Y 11	Y 12	Y 13	Y 14	TOTAL
Copper Price - USD/Lb	2.80															
Gold Price - USD/Oz	1,300															
FX - USD	0.80															
Ore mined (Mt)		11.4	7.8	7.8	7.8	8.6	10.8	9.7	9.2	8.4	8.2	9.7	9.9	9.0	3.7	**122.1**
Waste mined (Mt)	11.4	22.4	25.4	25.4	25.4	25.4	31.3	32.3	32.3	30.5	29.8	30.1	27.5	26.9	8.1	**384.4**
Ore and waste mined (Mt)	11.4	33.8	33.3	33.3	33.3	34.1	42.1	42.0	41.5	38.9	38.0	39.8	37.4	35.8	11.9	**506.5**
Ore processed - Gold Circuit (Mt)		1.0	1.0	1.0	0.5	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.1	**17.6**
Gold Grade (g/t)		0.78	0.80	0.82	0.85	0.53	0.67	0.73	0.63	0.59	0.67	0.88	0.85	0.88	0.70	**0.73**
Ore processed - Copper/Gold (Mt)		5.9	8.3	8.3	8.3	8.3	8.1	7.5	7.6	7.7	7.7	8.3	7.8	7.6	3.2	**104.5**
Copper Grade (%)		0.48%	0.45%	0.45%	0.44%	0.44%	0.45%	0.43%	0.47%	0.52%	0.63%	0.61%	0.62%	0.57%	0.53%	**0.51%**
Gold Grade (g/t)		0.52	0.42	0.41	0.41	0.40	0.38	0.57	0.38	0.32	0.30	0.38	0.41	0.36	0.25	**0.40**
Copper Metal Produced (kt)		25.5	33.3	33.2	33.0	33.0	33.1	29.1	32.2	36.4	43.4	45.0	43.5	39.5	15.3	**475.4**
Gold produced (koz)		105.5	117.7	117.3	103.0	104.7	115.2	149.1	107.4	94.6	93.5	124.1	124.1	112.6	45.4	**1,514.1**
C1 Cash Costs (US$/lb payable Cu)		0.44	0.37	0.37	0.56	0.63	0.72	0.06	0.83	0.93	0.82	0.45	0.41	0.56	0.74	**0.59**
Capital expenditure (USD m)	272.0	2.4	8.8	8.8	8.8	12.0	7.2	7.2	7.2	7.2	7.2	7.2	6.4	6.4	6.4	**375.2**

Low Start-up Capital Option Starter open pit merging into optimised pit shell 8 in Year 6 (total upfront capex A$83 M including overburden removal and 10% contingency allowance to ± 30% accuracy); additional deferred expansion capital required during life of mine external to operational cashflow A$260M, (including 10% contingency).

Key Outputs	Y -1	Y 1	Y 2	Y 3	Y 4	Y 5	Y 6	Y 7	Y 8	Y 9	Y 10	Y 11	Y 12	Y 13	Y 14	Y 15	Y 16	Y 17	Y 18	TOTAL
Copper Price - USD/Lb	2.80																			
Gold Price - USD/Oz	1,300																			
FX - USD	0.80																			
Ore mined (Mt)	0.7	1.7	1.4	2.4	2.9	2.4	7.8	7.8	7.8	8.6	10.8	9.7	9.2	8.4	8.2	9.7	9.9	9.0	3.7	**122.1**
Waste mined (Mt)	9.1	7.1	7.3	6.2	5.7	15.5	19.4	19.4	19.4	24.4	36.3	34.0	27.5	30.5	26.8	35.1	25.5	26.9	8.1	**384.4**
Ore and waste mined (Mt)	9.8	8.8	8.7	8.6	8.6	17.9	27.3	27.3	27.3	33.1	47.1	43.7	36.7	38.9	35.0	44.8	35.4	35.8	11.9	**506.5**
Ore processed - Gold Circuit (Mt)		1.0	0.5	0.1	0.7	0.0	0.4	0.4	0.4	1.1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.0	**17.6**
Gold Grade (g/t)		0.77	0.85	0.53	0.79	0.24	0.85	0.86	0.86	0.53	0.67	0.73	0.63	0.58	0.67	0.90	0.85	0.88	0.67	**0.73**
Ore processed - Copper/Gold (Mt)		0.8	0.8	2.7	2.4	2.4	7.4	7.4	7.4	7.5	8.0	7.6	7.6	7.7	7.7	8.0	8.0	7.7	3.2	**104.5**
Copper Grade (%)		0.47%	0.56%	0.42%	0.44%	0.57%	0.44%	0.44%	0.44%	0.44%	0.45%	0.43%	0.47%	0.52%	0.63%	0.60%	0.62%	0.58%	0.53%	**0.51%**
Gold Grade (g/t)		0.80	0.74	0.63	0.51	0.44	0.38	0.38	0.38	0.38	0.38	0.57	0.38	0.32	0.30	0.37	0.41	0.36	0.25	**0.40**
Copper Metal Produced (kt)		3.6	4.0	10.3	9.7	12.3	29.5	29.5	29.5	30.0	32.5	29.3	32.2	36.4	43.4	43.5	44.7	39.8	15.3	**475.4**
Gold produced (koz)		42.2	28.4	48.0	48.5	27.7	87.2	87.1	87.1	95.0	113.7	150.1	107.4	94.4	93.6	121.2	127.0	113.4	42.1	**1,514.1**
C1 Cash Costs (US$/lb payable Cu)		(1.05)	0.52	0.44	0.53	1.80	0.72	0.72	0.73	0.84	0.86	0.09	0.73	0.93	0.77	0.57	0.41	0.54	0.84	**0.69**
Capital expenditure (USD m)	66.4	1.6	68.0	1.9	1.8	104.3	12.8	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	**352.4**

APPENDIX 1

Assessment and Reporting Criteria For JORC Code 2012

TABLE OF ASSESSMENT AND REPORTING CRITERIA

The following three tables provide a summary of important criteria related to the assessment and reporting of the Main copper-gold resource and the Gold Cap gold resource at Kalkaroo.

JORC Code, 2012 Edition – Table 1 report template

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. • Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. • Aspects of the determination of mineralisation that are Material to the Public Report. • In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	• RC drill chips received directly from the drilling rig via a cyclone were riffle split as 1m intervals to obtain 2-3kg samples and collected in numbered calico bags that were submitted to the assay lab in Adelaide. • Diamond drill core was marked up, logged and selected intervals cut by a diamond saw into halves. Typically 0.3-1.3m of half core samples were collected from visually interesting intervals as determined by the geologist's logging. Approx. 3 kg of sample in numbered calico bags submitted to the assay lab in Adelaide. • The sampling methods employed are industry standard practice to ensure representivity. There were no unusual circumstances that required special sampling methods.
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 using standard face-sampling bits, with bit sizes ranging from 120mm to 136mm. • Diamond core sizes ranged from NQ (50mm) to PQ3 (83mm). Triple tube methods were used where required to maximize core recoveries. • Drill core was routinely orientated where ground conditions allowed, mainly using the spear technique.
Drill sample	• Method of recording and assessing core and chip sample recoveries	• Recovery is measured in the core tube by the driller and a marker

Criteria	JORC Code explanation	Commentary
recovery	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.	inserted into the core tray noting any core loss. Core recovery is measured and recorded by the geologist when logging the hole. • The sample yield and wetness of the RC samples was routinely recorded in drill logs. • Sample recoveries were continuously monitored by the geologist on site and adjustments to drilling methodology were made to optimize sample recovery and quality where necessary. • Overall RC sample recoveries and diamond drill-core recovery (which averaged 93%) were at an acceptable level for interpretation purposes. • No consistent relationship between RC sample quality or core recovery and grade has been observed.
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 and drillcore was logged in detail by experienced geologists directly into a digital logging system with data uploaded directly into an Access database. • All drillcore and RC chip trays were photographed prior to sampling and remain stored onsite at Kalkaroo. • Logging is semi-quantitative and 100% of reported intersections have been logged. • Structural measurements are taken where appropriate and geotechnical logging was carried out on selected, orientated drillcore. • Logging is of a high standard and supports all the subsequent interpretations, resource estimations and mining and metallurgical studies conducted.
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.	• Continuous half core is sampled over 0.3-1.3 metre intervals as a general rule in visually interesting intervals. Where the core is visually unmineralised sampling is not usually undertaken. Splitting the core is done with a diamond saw. Where there is a major geological boundary, sampling intervals are made to honour the boundary. • RC drill samples are dry 1 or 2 m riffle splits. • Sample preparation and assaying methods are summarized above. • Duplicate samples were inserted into the regular sample number sequence in order to provide a quality control check on the sampling repeatability. • 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.

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.	• All samples are assayed by either AMDEL or ALS in Adelaide. The total assay methods were standard procedures that were suited to the mineralisation style. • All gold was determined by fire assay with AAS finish. Higher grade samples were check re-assayed as described below. • Other elements were analysed by multi-element digest methods with ICP finish. • The four companies who have carried out drilling at Kalkaroo (including Havilah) analysed a range of elements by a variety of methods and by different assay laboratories. All results show generally good consistency, indicating they are reliable. • Havilah samples that contained coarser grained native copper and visible gold, were also subjected to the following additional check assaying to provide more reliable results. • Screen copper analyses were routinely carried out for samples where native copper had been identified during geological logging. • All gold results >0.5 ppm or where visible gold was observed were re-assayed by 1 kg screen fire method. • Havilah's 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 20 drill samples. Results were carefully analysed by standard statistical methods in order to detect any outlier results. No data quality issues of significance were identified that would affect the integrity of the resource estimation.
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.	• Ten pairs of twinned RC/DD holes were analysed with comparisons made for the relative intersection widths, hole size, volume differences, metre x %Cu and metre x gm Au, RC sample size and quality and any possible contamination issues. It was found that although there were some variations in total copper metal and gold metal calculations between twinned holes, the overall average RC and drillcore metal calculations produced similar results (within 8% for copper and within 6% for gold). There was no observed bias between the drill methods and no significant differences in intersection widths. • Rigorous internal QC procedures are followed to check all assay results, including statistical analysis to identify any outlier sample values that could not be explained.

Criteria	JORC Code explanation	Commentary
		• All data entry is under control of the supervising project geologist, who is responsible for data management, storage and security. • No adjustments to assay data were necessary.
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.	• Drillhole collar coordinates were surveyed in UTM coordinates using a differential GPS system with an x:y:z accuracy of 20cm:20cm:40cm. • Diamond drillholes were surveyed at approximately 30m downhole intervals using an Eastman single or multi-shot down-hole camera or a digital camera. • Earlier shallower Havilah RC holes were not surveyed and were assumed not to have deviated significantly from their collar azimuth and inclination. Most later RC holes were surveyed in the rods with only dip measurements recorded. The last RC program used non magnetic drill rods to allow dip and azimuth readings to be collected with only minor (±1º) deviations noted.
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.	• Havilah drilling was completed on nominal 50m sections perpendicular to the strike of the primary copper-gold mineralisation at Kalkaroo West and on nominal 100m sections perpendicular to the strike of the Kalkaroo Main Dome mineralisation. Holes were drilled towards the south at -60 to -75º. • Earlier non-Havilah holes were drilled at various oblique angles and directions including to the north. • Most RC samples were initially composited over 2 m intervals where mineralisation was not obvious (eg in saprolite material) and mineralized intervals were re-assayed on 1m intervals. • The intersection angle is between 60 and 90 degrees through the Kalkaroo Main Dome style mineralisation and between 20 and 45 degrees through the more steeply dipping Kalkaroo West vein style mineralisation. • Resource drilling is predominantly concentrated between 453800E and 456600E and between 6488500N and 6490000N. The deposit is largely untested deeper than 250m below surface.
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 continuously adjusted to in order to intersect the mineralized zones as nearly as possible to right angles. For example the drillhole azimuths were varied almost 90º over the curved strike of the Kalkaroo main zone mineralisation in order to maintain a near constant angle of intersection. • The effect of the major Kalkaroo fault zone is well understood and is not considered to have introduced any bias in the results.

Criteria	JORC Code explanation	Commentary
Sample security	• The measures taken to ensure sample security.	• Drill-core samples are taken in covered core trays from the drill site to the core processing facility at Yarramba base camp. Company personnel log, photograph and split the core. Half or one quarter of the core is retained in the core tray as a geological reference and for use should further tests be required. The samples for assay are placed in numbered calico bags. • 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 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 have occurred.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• Extensive statistical analysis of the assay data has not revealed any systematic errors that affect data integrity. Ongoing internal auditing of sampling techniques and assay methods has not revealed any material issues. • Peer reviews by other organisations who have looked at the processes employed by Havilah has not highlighted any deficiencies.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section. Note this section is not strictly applicable to the subject matter of this report and re-stating of the Kalkaroo Mineral Resource under the JORC Code 2012, but is included here for completeness)

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 Kalkaroo project is secured by mineral tenements (both exploration licence and mineral claims) that have been validly granted and are effectively 100% owned by Havilah as summarized in ASX quarterly report releases. • Havilah has applied for a Mining Lease over the Kalkaroo mineral resource and this supported by a comprehensive mining lease proposal document that has passed the public exposure milestone. • There are no other third party agreements or royalty arrangements currently in place that affect access to the area or the ability to develop the deposit.

Criteria	JORC Code explanation	Commentary
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	• The area was explored by Placer Dome, Newcrest and MIM Exploration in the past. All explorers carried out high quality work and left a legacy of an excellent drilling database. • Placer Dome were the original discoverers of Kalkaroo
Geology	• Deposit type, geological setting and style of mineralisation.	• Stratiform replacement style copper sulphide mineralisation within Willyama Supergroup rocks of the Curnamona Craton. • Mineralising fluids are believed to have migrated up major fault zones and upon contact with chemically reactive carbonate-rich meta-sediments the ore minerals have been deposited
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.	• An extensive database of 360 drillholes was used in compiling the Mineral Resource. Many of the Havilah drilling results have been reported in the past. • The purpose of the present report is to re-state the Mineral Resource under the JORC Code 2012 and not to report exploration results. • The drilling results are not provided here for the above reason, and also because it would be impractical to tabulate such a large volume of data here. • The absence of this data does not materially subtract from the integrity and results of the re-stated Mineral Resource estimate under the JORC Code 2012 as reported here.
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.	• Intercepts are calculated using the length-weighted averages of individual samples. Minimum grade truncations are applied. Local geology is also used as an input. • Where higher grades exist, a separate high grade sub-interval will normally be reported.
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’).	• Down-hole lengths are reported. Drillholes are always orientedwith the objective of intersected mineralisation as near as possible to a 90 degrees, and hence down-hole intersections in general will approximate the true width. • For the purposes of the geological interpretations and resource calculations the true widths are always used.

Criteria	JORC Code explanation	Commentary
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.	• This is not practical given the number of drillholes and the scope of this 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.	• Not specifically applicable because exploration results are not being reported in this report.
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.	• These factors have been given due consideration in the feasibility study, the mining lease proposal document and elsewhere in this 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.	• This is covered with descriptions and diagrams in section 5 of this report.

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	• Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. • Data validation procedures used.	• All drilling results are entered into a Vulcan database from which any inconsistencies are notified, such as overlapping assay intervals, incorrect hole dips and azimuths. • Examination of the database has not revealed any issues of concern that could significantly affect the current resource estimation.
Site visits	• Comment on any site visits undertaken by the Competent Person and the outcome of those visits. • If no site visits have been undertaken indicate why this is the case.	• Competent person is very familiar with the site and all technical aspects of the Project, having been involved with it since the inception of Havilah's work there
Geological interpretation	• Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. • Nature of the data used and of any assumptions made. • The effect, if any, of alternative interpretations on Mineral Resource estimation. • The use of geology in guiding and controlling Mineral Resource	• There is a high level of confidence in the geological interpretation due to the careful logging carried out by experienced geologists. The interpretations have been studied by geologist peers from other organisations, who have frequently visited site, with no issues raised. • Basic data is drill logs, observations and petrography. • No alternative interpretations have been validated.

Criteria	JORC Code explanation	Commentary
	estimation. • The factors affecting continuity both of grade and geology.	• The Mineral Resource estimation has been primarily guided by geology, with all surfaces and boundaries drawn by geologists who have been involved in the drilling and logging. • Kalkaroo is stratiform replacement mineralisation, hence there is good stratigraphic continuity of the geology and mineralisation grades vary uniformly and predictably from hole to hole and section to section.
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	• Mineral Resource extends for 3 km laterally (strike), is typically 50-80m thick, and extends from 80-200m below surface. • It shows a low degree of variability and is predictable within the resource envelope
Estimation and modelling techniques	• The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. • The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. • The assumptions made regarding recovery of by-products. • Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation). • In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed. • Any assumptions behind modelling of selective mining units. • Any assumptions about correlation between variables. • Description of how the geological interpretation was used to control the resource estimates. • Discussion of basis for using or not using grade cutting or capping. • The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	• Polygons and hence triangulations are based on interpretations completed on nominal 50m sections for Kalkaroo West and nominal 100m sections for Kalkaroo Main Dome. Sectional interpretations are made perpendicular to the strike. • Vulcan 3D mining software was used for the block modelling. • Triangulated interpretations have been generated for the following lithological domains: • Namba • Eyre • Saprolite (sap) • Kalkaroo Main Dome (k), subdivided into k1, k2.2, k2.5, k2.8, k3.2 and k3.5 • Kalkaroo West (kw), subdivided into kw1, kw2.2, kw2.5, kw2.8 and kw3.5 • Kalkaroo East West Quartz Vein (ewvein) • The block model was constructed with parent blocks of 15mE by 15mN by 15mRL. Within the lithological domains, the blocks were given a fixed size of 5mx5mx5m. • Length weighted assay composites were used. • Composite grades for Au were cut to 30ppm. • Composite Cu grades above 10% were restricted to having an influence of only 5mx5mx5m during estimation. • Estimation was performed using inverse distance techniques in combination with unfolding methodologies bound by upper and lower surfaces for each domain. • Cu, Au and specific gravity were estimated separately for all domains. • Ordinary kriging was used to estimate Cu, Au grades separately for

Criteria	JORC Code explanation	Commentary
		all domains except for the saprolite gold domain. • Up to three estimation passes with increasing search neighbourhood size was used. • Search ellipsoid orientation was controlled using stratigraphic surfaces during estimation with unfolding methods. • An octant based search was used for sample selection during grade estimation. • A minimum of 3 and maximum of 20 composites were used per block estimate. • A detailed visual examination of drillhole assays against block grades was carried out to check for consistency. Cross checking of composites against block estimates. • Visual checking of individual drill holes esp extremes. • Visual checking of the block model for 'geological' correctness.
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	• Tonnes have been estimated on a dry basis.
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	• Gold Cap resource has been calculated using a 0.2g/t gold lower cutoff grade, and 30g/t gold upper cutoff grade. • For the Kalkaroo main copper-gold resource a 0.3% copper equivalent lower cutoff grade was applied. Composite grades for gold were cut to 30 ppm, while composite copper grades above 10% were restricted to having an influence of only 5mx5mx5m during estimation. • The copper equivalent grade has been calculated as follows: copper equivalent grade = copper assay in ppm + (gold assay in ppm x 6866), reflecting the fact that 1 ppm Au has an equivalent value to 6866 ppm Cu using a conversion factor of 32150.746 troy ounce per metric tonne. The gold and copper prices used in the copper equivalent calculation (US $7,980/metric tonne for copper and US $ 1,704 / oz for gold) are the average prices for the six monthly period from 1 August 2011 to 31 January 2012 sourced from World Bank commodity price data, as published on their website (www.econ.worldbank.org). Metallurgical recoveries have not been factored into the calculation, because metallurgical test work indicates comparable metal recoveries for both copper and gold (in the range 80-95%). Based on comprehensive metallurgical test work on the various Kalkaroo ore types it is Havilah's opinion that both the copper and gold have a reasonable expectation of being recovered in economic quantities in line with the metallurgical test results.

Criteria	JORC Code explanation	Commentary
Mining factors or assumptions	• Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	• An open pit mining operation utilising conventional truck and shovel technique, using a mixture of in-pit and ex-pit dumping of waste. Ore is delivered directly to process plant. • Detailed geotechnical studies were undertaken to accurately define the pit slopes within the different material types defined in the model. Costs associated with grade control and drill and blast were used as inputs into the optimisation and cost modelling. • All cost inputs for mining and processing, geotechnical criteria and loss and dilution were factored into the resource model. Metal prices were defined as reported. • Loss and Dilution were defined as 5% at zero grade • 20m blocksize was used in the open pit optimisation. Pit stages were defined with minimum pit-floor spacing of 100m • All infrastructure was defined and planned during the feasibility study. Ex-pit and in-pit dumps were designed and scheduled.
Metallurgical factors or assumptions	• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	• Kalkaroo has four distinctive mineralization types that show little physical overlap, namely saprolite gold, native copper, chalcocite dominant and chalcopyrite dominant. Care was taken to obtain metallurgical drillcore samples from throughout the deposit and to ensure they were composited in such a way as to be representative of the different ore types. • Metallurgical information has been obtained over a number of tests and samples within the different ore types defined. The metallurgical recovery factors applied to the various ore types in the economic modelling were obtained directly from the metallurgical test results. Cost inputs for the optimisation were obtained from a number of sources and compared to similar operations. Modifying factors defined were modelled from the geometry of the orebody and the definition of the different material types contained within. • Extensive metallurgical tests on representative composite drillcore samples show that all of these ore types show acceptable copper and gold recoveries by conventional processing methods. • The 2010 feasibility study proposed treatment of all ore types in a single processing plant. • The updated feasibility study recognised that the four ore types can be mined and treated separately, thereby potentially improving metal recoveries by using the processing method that is most appropriate to the style of mineralisation (eg gold in the sulphide ores by cyanide leaching pyrite concentrates).

Criteria	JORC Code explanation	Commentary
		• No deleterious elements are at levels that are likely to cause penalties (eg uranium, arsenic).
Environmental factors or assumptions	• Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	• A comprehensive (1400 page) mining lease proposal document has been prepared, which addresses a range of environmental issues connected with the proposed Kalkaroo mining operation in some detail. This document has been posted on Department of State Development's (DSD) website for public comment. • Site specific environmental information is provided in this document, including baseline flora and fauna surveys, groundwater studies, flood mitigation and comprehensive syn-and post-mining rehabilitation strategies. • The document shows the proposed site layout and includes sections on waste dump (including waste rock characterisation), tailings and water storage.
Bulk density	• Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. • The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. • Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	• A total of 11,774 core samples were measured for density. • Most SG calculations were made using the weight in air vs weight in water method.
Classification	• The basis for the classification of the Mineral Resources into varying confidence categories. • Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data). • Whether the result appropriately reflects the Competent Person's view of the deposit.	• Mineral resources have been classified on the basis of distance of blocks from the nearest drillhole, with due regard to the geological continuity of mineralization. Indicated Resource category applies to all ore blocks > 50m from the nearest drillhole while Measured Resource category applies to all blocks 50m or closer to a drillhole. • In the geologist's opinion it is unlikely that further drilling within the resource envelope would materially alter the current resource estimate for the Measured Resource category due to the excellent geological continuity of mineralization and accompanying host lithologies between drill sections and individual drillholes. Additional drilling is required to bring the Indicated Resource to a Measured status.
Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	• The Resource estimates and mining design were carried out by experienced independent consultants using Vulcan 3D mining software, who are Competent Persons.

Criteria	JORC Code explanation	Commentary
		• The author of this report, who is also a Competent Person and who has had long involvement with the project at a technical level, has reviewed this work with the consultants in order to satisfy himself that the results are of a suitable standard be released in this report. • Other organisations with an interest in investing in the Kalkaroo project have reviewed the mineral resource estimates on an informal basis and have expressed general agreement with the results as reported.
Discussion of relative accuracy/ confidence	• Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. • The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. • These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	• The continuity of the mineralisation and general consistency in copper and gold grades from drill section to drill section provides a high level of confidence in the resource estimation. • Resource estimations have been carried out a number of times for Kalkaroo as new drilling data has become available and also using new approaches (eg “unfolding” the mineralisation to take into account the curve in strike). In each case the estimations have been consistent and any changes predictable, adding to confidence. • Comprehensive statistical analysis was carried out on the primary drillhole data grades vs the resource model (derived) grades on a global basis and also on a local basis for the specific mineralized domains (eg saprolite, native copper and other domains stated above). Comparisons revealed no issues of concern.

APPENDIX 2

Key modifying and other factors in financial analysis

The following table provides a summary of important modifying factors and other parameters considered to be relevant to the results of the financial analysis provided in section 9 of this report.

<table>
<tr><th>Criteria</th><th>Explanation</th></tr>
<tr><td>Mineral Resource estimate</td><td>The Mineral Resource estimate used as the basis for the mining plan to derive the optimised pit shell 8 on which the financial analysis has been conducted were reported to ASX on 29/2/12 and have been re-stated here in accordance with the JORC 2012 code as follows
<table>
<tr><th colspan="5">Mineral Resources Summary (February 2012) – Kalkaroo</th></tr>
<tr><th></th><th>Tonnes (Mt)</th><th>Grade (Cu %)</th><th>Grade (Au g/t)</th><th>Contained Metal</th></tr>
<tr><td>Gold Cap (Measured)</td><td>18.69</td><td>-</td><td>0.74</td><td>445koz Au</td></tr>
<tr><td>Kalkaroo (Measured)</td><td>85.89</td><td>0.52</td><td>0.41</td><td></td></tr>
<tr><td>Kalkaroo (Indicated)</td><td>38.62</td><td>0.45</td><td>0.33</td><td></td></tr>
<tr><td>Kalkaroo (Measured & Indicated)</td><td>124.51</td><td>0.50</td><td>0.39</td><td>622.5kt Cu
1,561koz Au</td></tr>
<tr><td>Kalkaroo Total</td><td>143</td><td></td><td></td><td>622.5kt Cu
2,006koz Au</td></tr>
</table>
</td></tr>
<tr><td>Familiarity</td><td>• Competent person is very familiar with the site and all technical aspects of the Project, having been involved with it since the inception of Havilah’s work there.</td></tr>
<tr><td>Study status</td><td>• A feasibility study completed in 2010 forms the technical basis for all of this work. This feasibility study is in process of being updated at the present time. Initial results indicate the updated feasibility study could produce improved outcomes, meaning that the financial analysis on the current JORC resource estimates could be conservative.

• This work has included detailed metallurgical work conducted by an independent testing lab (and reviews by several consultants), open pit mine design and optimisation studies by an engineering consultant, acquisition of relevant cost data and scoping financial studies. This work has resulted in a mine plan that is technically achievable and economically viable at current metal prices.

• Critical material factors that could effectively stop the Project, such as land access, have been resolved by purchase of the pastoral property by Havilah. Permitting is well advanced, with the Mining Lease Proposal document have passed DSD’s stringent adequacy checks and currently being posted for public comment on DSD website</td></tr>
<tr><td>Cut-off</td><td>• Cut-off grades of 0.3% Cu equivalent were applied in the Resource block modelling for the main copper-gold orebody and 0.2g/t for gold cap, based on economic criteria. The</td></tr>
</table>

Criteria	Explanation
parameters	open pit design was optimised for a copper price of A$6,000/tonne and a gold price of A$1,600 / oz to reflect the average metal prices that have prevailed over the last 5 years.
Mining factors and assumptions	• An open pit mining operation utilising conventional truck and shovel technique, using a mixture of in-pit and ex-pit dumping of waste. Ore is delivered directly to process plant. • Detailed geotechnical studies were undertaken to accurately define the pit slopes within the different material types defined in the model. Costs associated with grade control and drill and blast were used as inputs into the optimisation and cost modelling. • All cost inputs for mining and processing, geotechnical criteria and loss and dilution were factored into the resource model. Metal prices were defined as reported. • Loss and Dilution were defined as 5% at zero grade • 20m blocksize was used in the open pit optimisation. Pit stages were defined with minimum pit-floor spacing of 100m • VULCAN 3D mining software was used to run optimisations using the Lerchs & Grossmann 3D algorithm. • All infrastructure was defined and planned during the feasibility study. Ex-pit and in-pit dumps were designed and scheduled.
Metallurgical factors or assumptions	• Kalkaroo has four distinctive mineralization types that show little physical overlap, namely saprolite gold, native copper, chalcocite dominant and chalcopyrite dominant. Care was taken to obtain metallurgical drillcore samples from throughout the deposit and to ensure they were composited in such a way as to be representative of the different ore types. Metallurgucal information has been obtained over a number of tests and samples within the different ore types defined. Recoveries have been based on these tests. Cost inputs for the optimisation were obtained from a number of sources and compared to similar operations. Modifying factors defined were modelled from the geometry of the orebody and the definition of the different material types contained within. • Extensive metallurgical tests on representative composite drillcore samples show that all of these ore types show acceptable copper and gold recoveries by conventional processing methods. • The 2010 feasibility study proposed treatment of all ore types in a single processing plant. • The updated feasibility study recognised that the four ore types can be mined and treated separately, thereby potentially improving metal recoveries by using the processing method that is most appropriate to the style of mineralisation (eg gold in the sulphide ores by cyanide leaching pyrite concentrates). • The metallurgical recovery factors applied to the various ore types in the economic modelling were obtained directly from the metallurgical test results. • No deleterious elements are at levels that are likely to cause penalties (eg uranium, arsenic).

Criteria	Explanation
Environmental	• A comprehensive (1400 page) mining lease proposal document has been prepared, which addresses a range of environmental issues connected with the proposed Kalkaroo mining operation in some detail. This document has passed DSD's stringent adequacy check and is currently posted on DSD's website for public comment. • Site specific environmental information is provided in this document, including baseline flora and fauna surveys, groundwater studies, flood mitigation and comprehensive syn-and post-mining rehabilitation strategies. • The document shows the proposed site layout and includes sections on waste dump (including waste rock characterisation), tailings and water storage.
Infrastructure	• Havilah has recently purchased Kalkaroo station in order to secure land access over the deposit and for associated infrastructure including the processing plant, camp and emergency airstrip • The deposit is well located, lying approximately 50 km north of the Barrier Highway and the Transcontinental Railway to which it is connected by a maintained gravel road. Concentrates will be moved via this transport route to the coast (about 300km west), and thence shipment. • There is abundant water from open pit dewatering and telecommunications is available via the 3G network that is accessed via high gain yagi antennas. • Accommodation will be onsite and it is expected labour will be largely drawn from the surrounding rural areas in the north of South Australia and Broken Hill.
Costs	• Capital and operating costs for processing equipment were mainly obtained from contractor quotes, consultants' studies and benchmarked against published costs. • Mining costs were derived directly from contractors' quotes. • Metal prices and exchange rates applied were typically at a small discount to those currently prevailing or prevailing over the short term (1-2 years) given that published long term predictions have proven to be notoriously inaccurate over the last decade. • Transportation charges are based on quotes received. • TCs and RCs are based on currently prevailing rates, with no penalties given the expected high quality of the concentrates. • Government royalties have been incorporated in all financial models.
Revenue factors	• Revenues have incorporated the metal price and exchange rate assumptions above, the metal recoveries as derived from metallurgical studies and all other cost assumptions as outlined above. • Financial models were created that allowed the key cost and price assumptions and variables to be altered at will. This provided a good indication of the robustness of the project in the face of unusually adverse conditions. The project was found to have a strong buffer against most adverse costing and pricing moves.
Market assessment	• Havilah is not qualified to make any market assessment, and notes that for the period it has been carrying out studies of the economics of the Kalkaroo deposit, few expert

Criteria	Explanation
	analysts predictions have proven accurate. • Havilah has therefore applied near to current metal prices and exchange rates in its financial models and is prepared to adjust them in the future as A$ metal prices continue to fluctuate.
Economic	• The financial models are at the level of a conceptual study, with an implied accuracy of ±30%. Capex and opex costs have been derived from contractor quotes, consultants' studies and cross-checked by benchmarking against similar projects. • The financial models presented have used a copper price of US$2.80/lb, gold price of US$1300/oz and a US$:A$ exchange rate of 0.80. • C1 cash costs and breakeven copper prices are presented because they are less affected by metal prices and are accepted industry benchmarks. • NPVs and other related financial metrics have not been presented owing to the more subjective inputs (eg discount rate, gearing, metal prices, exchange rates) and hence greater assumptions involved in their calculation.
Social	• Havilah owns the land on which the Kalkaroo mine will be operating, which removes one major potential obstacle to development. • It is proposed to carry out environmental conservation and improvement programs on Kalkaroo in fulfilment of environmental offset benefit programs relating to the disturbance of native vegetation caused by Havilah's mining operations in the region. • Havilah has a good relationship with the Adnyamathanha people who hold a native title claim over the region and is in process of negotiating native title mining agreement. The status of agreements with key stakeholders and matters leading to social licence to operate. • Havilah has operated in the region for more than ten years and has developed good working relationships with adjoining landholders.
Other	• Havilah has prepared a comprehensive mining lease proposal document, which has passed DSD's stringent adequacy check and is now posted on their website for public comment. This is the first key milestone towards grant of a mining lease over the deposit. • Prior to grant of a mining lease, a native title mining agreement with the Adnyamathanha people is required to be negotiated, executed and registered. There is a risk that if commercially reasonable terms are not agreed, negotiations may be protracted, which would cause delays in commencement of the Project. • A further comprehensive document termed a PEPR (Program for Environmental Protection and Rehabilitation) relating to the environmental management during mining and subsequent closure and rehabilitation of the mine site post-mining is required to be submitted and approved by DSD in order to obtain full mining approval. Havilah has reasonable expectation, based on its recent successful experience in obtaining mining approvals for the nearby Portia gold mine, that it will be able to secure the relevant government approvals during the course of 2015, subject to finalisation of a native title mining agreement.

Criteria	Explanation
	• During the course of preparation of the mining lease proposal, no material naturally occurring risks were identified that would prevent the mining operation proceeding. • All tenements over the deposit and applications for mining leases are in order and good standing. • There are no legal agreements or third party arrangements in place that would prevent the Kalkaroo project proceeding as planned.
Audits or reviews	• The Resource estimates and mining design were carried out by experienced independent consultants using Vulcan 3D mining software, who are Competent Persons. • The author of this report, who is also a Competent Person and who has had long involvement with the project at a technical level, has reviewed this work with the consultants in order to satisfy himself that the results are of a suitable standard be released in this report.

Cautionary Statement

- The information contained in this report is not financial product advice. The report is for information purposes and is of a general and summary nature only. Havilah Resources NL (Havilah) nor any member of the Havilah Group of companies, gives no warranties in relation to the statements and information in this report. Investors should seek appropriate advice on their own objectives, financial situation and needs.
- This report 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.
- Havilah disclaims any intent or obligation to update publicly any forward-looking statements, whether as a result of new information, future events or results or otherwise.
- 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 Statement

The information in this report that relates to Exploration Targets, Exploration Results or Mineral Resources is based on data compiled by geologist, Dr Chris Giles, a Competent Person who is a member of The Australian Institute of Geoscientists. Dr. Giles is a director of the Company and is employed by the Company on a consulting contract. Dr. Giles has sufficient experience, which is relevant to the style of mineralisation and type of deposit and activities described herein 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 presentation of the matters based on his information in the form and context in which it appears. This information was prepared and first disclosed under the JORC Code 2004. Although the information has not materially changed since it was last reported, it has been re-stated here in accordance with the JORC Code 2012 in order to comply with clause 24 of the JORC Frequently Asked Questions published on ASX's website, which states :

"Listing Rules 5.15 to 5.19 address the circumstances and disclosure obligations for reporting Production Targets and forecast financial information, depending on whether they are based on Ore Reserves, Mineral Resources, Exploration Targets and Qualifying Foreign Estimates. These Listing Rules:

- *require, among other things, the disclosure of all material assumptions on which the Production Target is based, and a statement that the estimated Ore Reserves and/or Mineral Resources underpinning the Production Target have been prepared by a Competent Person or Persons in accordance with the requirements the JORC Code 2012 "*