ASX MEDIA RELEASE

Havilah Resources
A New Mining Force in South Australia

15 May 2018

North Portia Copper-Cobalt-Gold Resource Upgrade

HIGHLIGHTS

- **Supergene copper-cobalt-gold mineralisation in upper 150 metres of the North Portia deposit largely upgraded to Measured Resource.**
- **Maiden cobalt resource of 594 tonnes in cobaltian pyrite host.**
- **Additional 18,400 ounces of gold in the re-classified oxide gold zone lying above the sulphide mineralisation.**
- **Total resource (oxide and sulphide) contains copper metal of 101,400 tonnes, cobalt metal of 594 tonnes, gold of 258,800 ounces, and molybdenum metal of 5,630 tonnes.**
- **Metallurgical test work and future potential mining agreement with CMC advancing.**
- **Havilah now has three copper sulphide projects with cobalt and appreciable gold.**

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Havilah Resources Limited (**Havilah**) is pleased to report that it has updated the supergene copper-gold resource at North Portia as a result of three separate rounds of resource infill drilling over the last two years, with the addition of 56 new aircore (**AC**) and reverse circulation (**RC**) drillholes. The objective was to improve confidence levels in the upper part of the resource that lies within the five year conceptual open pit mine plan and to quantify the cobalt resource present. This corresponds to the top 150 metres of the deposit to approximately the base of weathered rock (Figure 1).

The new resource estimation incorporates assay data and logs for 168 Havilah drillholes totaling 21,309 metres and 128 Pasminco drillholes totaling 20,434 metres. Average drillhole spacing for the resource approximates 25 metres x 25 metres.

North Portia is on the same mining lease as Portia and the existing Portia infrastructure, processing plant, and mining partner (Consolidated Mining and Civil Pty Ltd (**CMC**), positions the project for a natural extension without having a significant impact on Havilah's ability to advance its higher priority Kalkaroo and Mutooroo projects.

Resource Category	Tonnes	Copper (%)	Gold (g/t)	Cobalt (ppm)	Moly (ppm)	Contained			
						Copper Metal (tonnes)	Gold (ounces)	Cobalt Metal (tonnes)	Moly Metal (tonnes)
Total Oxide Gold Inferred	**490,000**		**1.17**				**18,400**		
Supergene Sulphide Copper-Gold Measured	3,237,000	0.77	0.50	151	293				
Supergene Sulphide Copper-Gold Indicated	480,000	0.53	0.58	157	210				
Supergene Sulphide Copper-Gold Inferred	138,000	0.45	0.44	209	82				
Total Supergene Sulphide	**3,856,000**	**0.73**	**0.51**	**154**	**275**	**28,200**	**63,200**	**594**	**1,060**
Primary Sulphide Copper-Gold Inferred	8,610,000	0.85	0.64	ISD	531	73,200	177,200	ISD	4,570
Total Sulphide All Categories	**12,466,000**	**0.81**	**0.60**		**452**	**101,400**	**240,400**	**594**	**5,630**
Total Resource Oxide and Sulphide	**12,956,000**					**101,400**	**258,800**	**594**	**5,630**

Notes to table:

1. *The new oxide gold resource is estimated using a lower gold cut-off of 0.5 g/t.*
2. *The updated supergene sulphide copper-gold resources are estimated using a lower copper equivalent cut-off of 0.4%. The copper equivalent grade has been calculated using a gold price of US$1,279/oz and a copper price of US$2.91/lb with an exchange rate of AU$1=US$0.75. Comparable recoveries for both metals are applied based on metallurgical test results to date.*
3. *Primary sulphide copper-gold resource has not been re-estimated and relies on the previously published JORC resource estimate details released to the ASX on 23 November 2010. The Company confirms that it is not aware of any new information or data that materially affects the resource figures included in the above table and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.*
4. *ISD means insufficient data to make a reliable resource estimate due to the fact that this estimate relies largely on pre-Havilah exploration drillholes that were not always assayed for cobalt. All Havilah drillholes used for the updated supergene sulphide copper-gold resource estimate were assayed for cobalt, providing an adequate level of confidence in this case.*
5. *All numbers cited in the table have been rounded to no more than 5 significant figures. There may be minor differences in quantities due to rounding.*

The North Portia resource is now divided into three zones that are illustrated in Figure 1:

1. An upper **oxide gold** zone that comprises completely weathered and oxidized material. The new Inferred Resource estimate for this zone is **490,000 tonnes @ 1.17 g/t gold for 18,400 ounces of gold** (applying a lower cut-off of 0.5 g/t) and is estimated in accordance with the JORC 2012 code. The Inferred Resource category reflects the variability in shape and grade of this material between drill section lines.

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2. A **supergene sulphide copper-cobalt-gold** zone that comprises predominantly weathered (clayey) chalcocite-rich, copper sulphide ore with associated recoverable cobalt and gold. The new resource, estimated in accordance with the JORC 2012 code and predominantly in the Measured category, is **3,856,000 tonnes @ 0.73% copper, 154 ppm cobalt and 0.51 g/t gold** (applying a 0.4% copper equivalent lower cut-off). The Measured category reflects the density of drilling and generally good continuity of mineralisation between drill section lines.
3. A **primary sulphide copper-gold** zone that comprises chalcopyrite – rich, copper sulphide ore in fresh host rock. Havilah has not updated the primary resource at this time due to a lack of additional drilling data and therefore the earlier 23 November 2010 Inferred Resource estimate of 8,610,000 tonnes @ 0.85% copper and 0.64 g/t gold continues to apply in accordance with the JORC 2004 code. It is noted that there is insufficient cobalt data to estimate a cobalt resource for the primary zone, although the pyrite in this zone is known to be cobalt bearing.

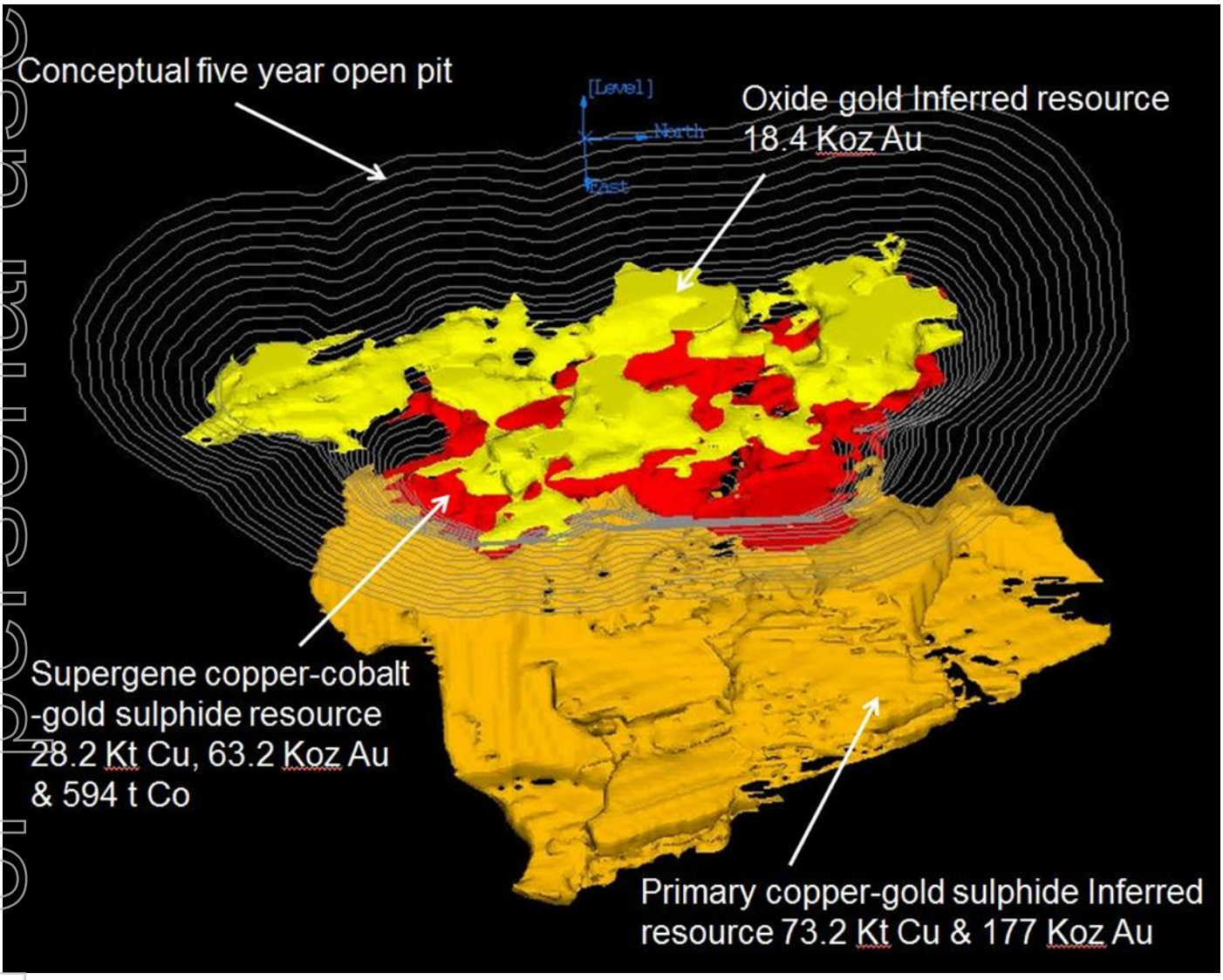


Figure 1 Showing the three mineralisation zones defined by geological controls and resource block modelling at North Portia. New resources are reported for the two upper zones, namely the oxide gold and supergene sulphide copper-cobalt-gold, which lie within the conceptual five year open pit design.

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Key points from the updated resource estimation work, which are relevant to the future mining operation are:

1. Differentiation of an upper oxide gold zone has added 18,400 ounces of gold to the resource, which should be able to be mined selectively and processed in the existing Portia processing plant, with some modifications.
2. Total copper and gold metal tonnes in the supergene sulphide copper-gold part of the deposit has not changed greatly from the previous resource estimate, despite the differing estimation methodologies applied. However, the additional drilling has considerably improved confidence levels such that the JORC resource estimate has largely moved from the Indicated to the Measured category. Processing of this material will require the addition of a grinding and flotation circuit to the Portia processing plant for its recovery and a definitive metallurgical testing program is in progress.
3. In addition, it has been possible for the first time to release a cobalt resource estimate of 594 tonnes for the supergene sulphide copper-gold zone. As at Kalkaroo, all of this cobalt is contained in cobaltian pyrite that is expected to be recoverable during the copper sulphide flotation process, and it can potentially add material value to the deposit.

Commenting on the updated North Portia JORC resource, Havilah CEO, Mr Walter Richards said:
"Confirmation of the upgraded Measured Resource status of the supergene sulphide copper-cobalt-gold mineralisation is an important step for us in our future mining co-operation with CMC.
"This establishes, with a high level of confidence, sufficient JORC resources to sustain on-going mining operations at Portia with the addition of mining of the North Portia project.
"The metallurgical confirmation test work, using the recently acquired PQ diamond drill core samples, is progressing as planned, while negotiations relating to the future mining agreement with CMC are continuing.
"The presence of a material cobalt resource hosted in cobaltian pyrite, as we are seeing throughout the region, also potentially adds value to the deposit for a minimal expected additional capital outlay.
"As of today, Havilah has three copper projects with cobalt upside, and there are other prospects we have in sight to build on this copper-cobalt-gold portfolio", he said.

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Required information under Listing Rule 5.8.1

North Portia is a stratabound copper-gold deposit that occurs in the Mesoproterozoic Curnamona Craton of northeastern South Australia that was first discovered and drilled by Pasminco in the mid-to late-1990s. The copper-cobalt-gold mineralisation is 20 - 40 metres thick, dips approximately 45 degrees east and is continuous over 600 metres strike length. Mineralisation starts roughly 60 metres below the surface and the deepest intersection is approximately 350 metres below surface.

Mineralising processes introduced primary copper, gold and lesser cobalt and molybdenum which precipitated as various sulphide minerals in quartz-carbonate veins and bedding parallel replacements. Weathering processes superimposed on the primary sulphide mineralisation caused the dissolution and re-deposition of certain metals that has produced a horizontal stratification of mineralisation types comprising from top to bottom:

Oxide gold – gold, with very minor uneconomically recoverable copper and molybdenum.
Supergene sulphide copper-gold – dominated by the copper mineral chalcocite and cobaltian pyrite.
Primary sulphide copper-gold – dominated by the copper mineral, chalcopyrite and cobaltian pyrite.

Diamond drilling, reverse circulation percussion and aircore drilling techniques were used in the delineation of the deposit. For RC and AC drillholes 3 kg samples were taken every metre for assay while half diamond drill core was sampled nominally every metre for the assaying of diamond drillholes. Assaying followed a standard commercial laboratory methodology of grinding, acid digestion and ICP-MS analysis finish. Gold was determined by fire assay methods using a 50 gram sample.

Havilah's comparatively high density resource drilling was specifically targeted at the oxide gold and supergene sulphide copper-gold mineralisation. Moderate continuity of mineralisation between drillholes for the oxide gold dictated its categorisation as an Inferred resource. By contrast good continuity of mineralisation mostly supports the Measured resource category, with lesser Indicated and minor Inferred resources for the supergene sulphide copper-gold mineralisation using a 0.4% copper equivalent cut-off grade (refer to resource table above).

Resource estimation methodology involved construction of a block model in Vulcan 10.0 software with parent blocks of 5mE by 5mN by 5mRL and use of inverse distance techniques. Up to three estimation passes with increasing search neighbourhood size were used. A minimum of 4 and maximum of 32 composites were used per block estimate. Estimates and calculations were validated visually in Vulcan software to ensure blocks contained all required variables, default codes were correctly applied to blocks and that all domain and oxidation codes were represented. Various validation tests were conducted to check block estimation versus original sample grades.

The North Portia resources are expected to be mined as a conventional open pit mining operation using excavators and large trucks. No assumptions have been made about mining selectivity for specific material types or quality. No external mining dilution or other factors have been applied to the resource estimate. Metallurgical testwork to date indicates that gold and copper can be recovered satisfactorily.

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Cautionary Statement

This announcement contains certain statements which may constitute "forward-looking statements". Such statements are only predictions and are subject to inherent risks and uncertainties which could cause actual values, performance or achievements to differ materially from those expressed, implied or projected in any forward-looking statements. Investors are cautioned that forward-looking statements are not guarantees of future performance and investors are cautioned not to put undue reliance on forward-looking statements due to the inherent uncertainty therein.

Competent Persons Statement

The information in this announcement that relates to Mineral Resources is based on data and information compiled by geologist, Dr Chris Giles, a Competent Person who is a member of The Australian Institute of Geoscientists. Dr. Giles is Technical Director of the Company 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. The information relating to the primary sulphide copper-gold zone was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported. The other resource information reported here was compiled in accordance with the JORC Code 2012.

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APPENDIX 1: TABLE 1 OF THE 2012 EDITION OF THE JORC CODE

The table below is a description of the assessment and reporting criteria for the saprolite gold resource and supergene sulphide copper-cobalt-gold resource at North Portia, in accordance with Table 1 of The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves

Section 1 Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	• Havilah AC & RC samples were collected at 1 m intervals. In earlier holes an initial 3m grab composite assay samples outlined anomalous intervals, which were then re-sampled by riffle splitting on a 1m basis to produce 2-3kg assay samples. In later rounds of drilling 1m sampling intervals were selected using Niton XRF copper assays. • Pasminco AC samples were collected at 1m intervals. Initial 3m grab composite assay sampling outlined anomalous intervals, approx 50% being re-sampled by riffle splitting on a 1m basis to produce 2-3kg assay samples. • Approx. 50% of the complete samples were taken to the lab, prepared in total and rotary split at the lab. • All drill core was sampled using a diamond saw. Havilah sampled ¼ core on a 1m basis. Pasminco sampled ½ core on a 1m basis where mineralised, otherwise on a 2m basis unless the geological boundaries dictated otherwise. • All Havilah samples were collected into pre-numbered calico bags and packed into polyweave bags by Havilah staff for shipment (usually by Havilah staff) to the assay lab in Adelaide.
Drilling techniques	• All Havilah RC holes were drilled using standard face-sampling bits, with bit sizes ranging from 120mm to 136mm. All samples were collected via riffle splitting directly from the cyclone. • All Havilah AC holes used a 121mm blade bit. • Pasminco AC holes are in the ratio of approx. 50:50 NQ (76mm hole) & HQ (96mm hole) sizes and used specially designed trumpet bits in most cases. • 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 recovery	• Havilah AC & RC sample quality & recovery was routinely logged and overall considered adequate. Holes were generally stopped if sample quality became unacceptable (small, wet or contaminated). • No evidence of RC sample bias due to preferential concentration of fine or coarse material was observed. • Core recovery was routinely recorded by both Havilah & Pasminco. • Core recovery for the mineralised intersection in the supergene zone of the only Havilah diamond hole (NPDD034) used in the estimate, averaged 93%. Core recoveries overall averaged 92% in the supergene zone & 100% in fresh rock for this hole. Averages for hole NPDD035 (not used) were

Criteria	Commentary
	57% in supergene & 97% in fresh core. • Core recovery for the mineralised intersections of the Pasminco holes used in the estimate averaged 64% in saprolite (1 hole only, BEN395) & 98% in fresh rock for all the other holes. • 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 recoveries were considered to be quite acceptable for interpretation and modelling purposes.
Logging	• All RC and AC samples and drillcore was logged by experienced geologists directly into a digital logging system with data uploaded directly into a Microsoft XL spreadsheet and transferred to a laptop computer. • All drillcore and RC chip trays have been photographed. • All drillcore and RC chip sample trays and some back-up samples are stored on site at Havilah's exploration base camp at Kalkaroo. • Logging is semi-quantitative and 100% of reported intersections have been logged. • Logging is of a sufficiently high standard to support any subsequent interpretations, resource estimations and mining and metallurgical studies.
Sub-sampling techniques and sample preparation	• RC or AC drill chips received directly from the drilling rig via a cyclone were riffle split if dry as 1-2m intervals to obtain 2-3kg samples. Damp samples were left to dry before riffle splitting. • Half core samples were collected at 1m intervals, unless otherwise dictated by the geology. • 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. • All Havilah samples were collected in numbered calico bags that were sent to ALS assay lab in Adelaide. • At Amdel and ALS assay labs the samples are crushed in a jaw crusher to a nominal 6mm from which a 3 kg split is obtained using a riffle splitter. The split is pulverized in an LM5 to 85% passing 75 microns. These pulps are stored in paper bags.
Quality of assay data and laboratory tests	• Havilah samples were assayed by Amdel from 2005-2006. Initial 3m composites were assayed for Au & base metals by aqua regia digest & ICP MS finish (ARM3), with Cu & Mo also by perchloric-HCL digest & AAS finish (AA1R). Follow up 1m riffle split samples were assayed for Au by 40g fire assay (FA1) & base metals by perchloric-HCL digest with ICP finish (MET1). • Havilah samples were assayed by ALS from 2007 to the present. Samples were assayed for Au by 50g fire assay (Au-AA26) & base metals by multi-acid (inc HF) digest with ICP AES finish (ME-ICP61). Over range samples were assayed by 'ore grade' 4 acid digest method with ICP AES finish (ME-OG62). Follow up 1m riffle split samples were only assayed for Au, Cu & Mo for holes NPAC036 to 062. • Pasminco AC samples for holes up to BEN419 were assayed by ALS for Au by 50g fire assay with AAS finish (PM209) & base metals by multi-acid (inc HF) digest with ICP AES finish (IC587). Most other AC holes were assayed for Au by Amdel using the 1kg leachwell assisted cyanide leach bottle roll method (LW4) & for base metals by multi-acid (inc HF) digest with ICP MS finish (IC3M). Minor AC holes were assayed for Au by Aminya Labs using the cyanide leach bottle roll method. Cyanide leach was used to negate any potential coarse Au problem, as seen at Portia. • Pasminco core holes BEN394 & 395 were assayed by ALS for Au by 50g fire assay with AAS finish (PM209) & base metals by multi-acid (inc HF) digest with ICP AES finish (IC587). All other core holes were assayed by Amdel for Au by 50g fire assay with AAS finish (FA3, FA1)) & base metals by multi-acid (incl. HF) digest with ICP OES finish (IC3E). Appropriate methods (eg MET1) were used for over range results. • The methods used are considered to be appropriate. • Havilah monitored assay data accuracy and precision by the submission of standard, blank or duplicate samples at a nominal rate of 1 per 25 drill samples, in a rotating sequence. • Pasminco monitored assay data accuracy and precision by the submission of a standard at a nominal rate of 1 per 50 & a duplicate at 1 per 20 drill samples. • No data quality issues of significance were identified. • Assay data for laboratory standards and repeats were statistically analysed and any samples that lay outside of a two standard deviation benchmark were re-assayed. No systematic data quality

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Criteria	Commentary
	issues of significance were identified.
Verification of drilling sampling and assaying	• There is moderate variability of assays between average spaced (30-50m) holes in the supergene zone, which led to the original 2010 Indicated JORC resource classification. Several rounds of Havilah drilling have established much improved continuity of mineralisation, with generally good correlation between individual drill holes and drill section lines. • Although no specific twin holes were drilled, a small number of holes either cross or come within a few metres of others and have been used for comparison. • Four examples involving AC or RC holes only were investigated (BEN1033 vs NPAC005 vs NPAC053, BEN386 vs BEN1050, BEN387 vs NPRC027, BEN1025 vs NPRC028). • Three examples of DD holes very close to or crossing AC/RC holes or pre-collars were investigated (BEN395 vs BEN389, BEN394 vs BEN1051, BEN394 vs BEN1050. • Three examples of DD holes very close to or crossing other DD holes were investigated (BEN600 vs BEN1051, BEN592 vs BEN1051, BEN597 vs BEN1051). • The available data suggests there appears to be generally good agreement in the order of magnitude of the grades and the intersection widths between crossing or very close spaced holes, both for Havilah's and Pasminco's drilling. • Although data is limited, no significant bias between the drill methods or differences in intersection widths, was observed. No issues that could significantly affect the resource calculation were identified. • Rigorous internal QC procedures are followed to check all assay results (see section 3) • All data entry is under control of the responsible geologist, who is responsible for data management, storage and security. • No adjustments to assay data are carried out.
Location of drillholes	• Havilah and Pasminco's drillhole collar coordinates were surveyed in UTM coordinates using a differential GPS system with an x:y:z accuracy of 20cm:20cm:40cm and are quoted in AGD 66 datum. • From hole 36 onwards, Havilah's holes were surveyed using a digital multi shot survey camera, at 30 to 50m intervals downhole. Earlier Havilah holes were not surveyed and were assumed not to have deviated significantly from their collar azimuth and inclination, as supported by subsequent downhole surveys. • Havilah's 2 diamond holes were surveyed at 30m intervals downhole using a digital multi shot survey camera. • Pasminco's AC holes were vertical and were not surveyed. • Pasminco's diamond holes were surveyed at 30 to 50m intervals downhole, using Eastman or digital multi shot survey cameras.
Data spacing and distribution	• The original drilling by Pasminco was completed on 100m spaced sections, approx. perpendicular to the strike of the stratigraphy and mineralisation. Initial vertical 100m spaced AC holes along each section were infilled to 50m over the supergene mineralisation. • Pasminco's diamond holes mainly targeted the primary mineralisation at depth, down dip and along strike from the initial discovery. The holes were drilled at a dip of -60° to -70° to the west, approx. perpendicular (70-80°) to the dip (-40° east) of the stratigraphy and stratabound mineralisation. Several holes were drilled on the main sections 6522600N & 6522700N, at spacings of 50 to 100m, to a depth of approx. 400m down dip from the base of the supergene mineralisation (520m vertically from surface). Similarly, oriented single holes were drilled on other 100m spaced sections to the north and south, 150m to 300m down dip from the base of the AC holes and supergene zone. One hole (BEN1051) was drilled approx. down dip (-60°) to the east, to test structurally controlled mineralisation targets. • Havilah's AC & RC drilling was aimed at better defining the supergene resource. It essentially infilled Pasminco's 100m x 50m pattern of vertical AC holes to produce an approx. 25m x 25m pattern over the supergene resource. Most of the holes were steeply dipping at 75° – 80° to the west. A small number were spaced at 40-50m on the 50m infill sections. Some holes are as close as 15m apart. • Resource drilling is predominantly concentrated between 447730E and 448453E and between 6522375N and 6522875N.

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Criteria	Commentary
Orientation of data in relation to geological structure	• The drillhole azimuth and dip was chosen to intersect the mineralized zones as close as possible to right angles and at the desired positions to maximize the value of the drilling data. • At this stage, no material sampling bias is known to have been introduced by the drilling direction.
Sample security	• RC and AC 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 occurred during the drilling programs
Audits, reviews	• Ongoing internal auditing of sampling techniques and assay data has not revealed any material issues.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	Commentary
Mineral tenement and land tenure status	• The North Portia resource lies within current mining lease ML 6347 owned 100% by Benagerie Gold Pty Ltd, a 100% owned subsidiary of Havilah.
Exploration done by other parties	• North Portia was discovered and initially drilled by Pasminco who completed 130 drilloles for a total of 20,553 metres. • All previous exploration data has been integrated into Havilah's databases.
Geology	• North Portia consists of stratabound replacement and vein style copper-gold mineralisation within Willyama Supergroup rocks of the Curnamona Craton • The stratabound mineralization is uniformly distributed along more than 500m on the east-dipping, eastern limb of the regional Benagerie dome. It is hosted by an 80m – 120m thick mineralised horizon that is sandwiched between psammitic footwall rocks and a thick pelitic hangingwall sequence. • The mineralising events were associated with iron-rich and sodium-rich alteration fronts, which are manifest as widespread fine-grained magnetite in the footwall lower sandy formations and as pervasive albite alteration. • Erosion in the Mesozoic and Tertiary period exposed the North Portia 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 three main ore types as follows: 1. Oxide gold in saprolite, with generally minor copper. 3. Supergene chalcocite dominant copper sulphides with gold and cobaltian pyrite. 4. Primary sulphide, chalcopyrite dominant copper sulphides with gold and cobaltian pyrite and locally rich molybdenite.
Drill hole Information	• 168 Havilah holes totaling 21,309m, comprising 128 AC (14,681m), 38 RC (5,754m). 5 RM (450m) & 2 DD (424m including pre-collars) holes, were used in the resource estimation. One of the DD hole was not assayed, so was excluded from the estimation. • 128 Pasminco holes totaling 20,434m, were also used in the resource estimation.

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Criteria	Commentary
	• There is good correlation of the geology and assay data between these earlier drillholes and Havilah drillholes.
Data aggregation methods	• Exploration drilling results are not being reported for the Mineral Resource area.
Relationship between mineralisation widths and intercept lengths	• Down-hole lengths are reported. Drillholes are always oriented with the objective of intersecting mineralisation as near as possible to right angles, and hence down-hole intersections in general are as near as possible to true width. • For the purposes of the geological interpretations and resource calculations the true widths are always used.
Diagrams	• Refer to figures in the accompanying text.
Balanced reporting	• Exploration drilling results are not being reported for the Mineral Resource area.
Other substantive exploration data	• Exploration drilling results are not being reported for the Mineral Resource area.
Further work	• Additional infill drilling may be carried out in the future to upgrade Inferred and Indicated Resources to Measured Resources and also to explore strike and depth extensions outside of the current resource envelope

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	Commentary
Database integrity	• All drill data is directly logged into a field based digital logging system and then uploaded to an Access database by the responsible geologist, who also carries out verification and data checking at the time. • Laboratory assay data is received digitally and uploaded to the database electronically with relevant QC checks. • All data in the database is validated for consistency and accuracy. Various powerful QC checks for overlapping data, missing assays and other errors are performed at the time the data is transferred into the Vulcan 3D database for the resource modelling work. Errors identified are immediately fixed and cross-checked to ensure there are no systemic errors. • All original assay data sheets, logging files, drill chips and half or quarter core are retained for validation purposes. • Standard deviation plots of all data (eg assays, densities, recoveries, sample quality) were used to identify outliers for subsequent investigation for errors. • Drillhole collar locations were checked for consistency on cross sections. • Drillhole plots were examined to ensure consistency of surveys. • Examination of the database has not revealed any systemic issues of concern that could significantly affect the current resource estimation.
Site visits	• The Competent Person has worked on this project for the past decade and is very familiar with the drilling, sampling, geology and modelling of the North Portia project. • The copper-gold mineralisation does not outcrop at surface, so much information comes from drillcore inspection and logging, which the competent person has been closely involved with.
Geological interpretation	• There is a high level of confidence in the geological interpretation of the North Portia deposit, in large part because of the detailed logging undertaken and the experience of the geologists involved. This has allowed a consistent picture of the stratigraphic and structural controls on alteration and mineralisation

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Criteria	Commentary
	to be developed for the entire deposit, that accords with a comprehensive regional geological understanding, as described in Section 2. • It is important to note that the North Portia mineralisation does not outcrop, so virtually all geological information about the deposit is either gained from drilling data or geophysics. • The copper-cobalt-gold mineralisation at North Portia is located on the easterly dipping, far north easterly limb of the 'Benagerie Dome', which is a major elongate N-NNE trending, double plunging antiformal structure. • The mineralisation is restricted to, and hosted within, a distinct 150m thick package of strongly albitised, variably evaporitic & calcareous pelites, with scattered thin carbonates, collectively termed the 'Prospective Sequence' (PS Units 2 - 6). • The 'Footwall Sequence' (Unit 1), generally consists of variably magnetic, scapolitic, flaser bedded & 'red rock altered' albitites. The 'Hangingwall Sequence' (Unit 7+), consists largely of variably graphitic pelites, with minor evaporitic & carbonate bearing horizons. • In general, the stratigraphy and sulphide mineralisation of the North Portia deposit is moderately consistent over the strike length of the deposit, consisting of ubiquitous sulphide mineralisation in the lower carbonate unit and a considerable secondary supergene halo above that. • In detail, the PS & mineralisation appears to have been disrupted by a number of roughly NS striking subvertical (predom E side up) faults. The Proterozoic basement, which hosts the mineralisation, is overlain by approx 40m of Tertiary age clay of the Namba Fm. plus 20m of Quaternary to Recent sands and clay. • **Primary sulphide copper-cobalt-gold mineralisation** consisting predominantly of chalcopyrite, pyrite & molybdenite, occurs as two main styles: 1) Stratabound replacement style (dominant style) – hosted within the PS, particularly the 'Lower Carbonate Unit' (Unit 2) & Unit 3. May include some bedding parallel vein style. 2) Vein & breccia style (subordinate style)– hosted within and closely associated with thin quartz-carbonate veins, the main set of which dip to the west, roughly orthogonal to bedding. Some is hosted within steeply dipping breccias or faults, some of which might be 'remobilised' feeder structures. • **Supergene sulphide copper-cobalt-gold mineralisation** is developed in the weathering profile, above the primary mineralisation. The profile consists of a totally oxidised saprolite zone, overlying a non-oxidised sulphide bearing saprolite zone, which grades through saprock to fresh rock. The supergene sulphide ore consist predominantly of cobaltian pyrite & chalcocite, with lesser bornite, chalcopyrite & molybdenite. • **Oxide Gold** - The upper oxidised saprolite zone contains potentially economic levels of gold. • Note that Havilah has not updated the primary copper-gold JORC resource in this study due to lack of additional drilling data and therefore the earlier JORC 2004 code 23 November 2010 Inferred Resource of 8,610,000 tonnes @ 0.85 % copper and 0.64 g/t gold continues to apply. • For the **supergene sulphide copper-cobalt-gold mineralisation,** an unconstrained block model was employed, using a lower cut-off of 0.4% Cu equivalent. • For the **oxide gold mineralisation** an unconstrained block model was employed using a low cut-off of 0.5g/t Au. • Along strike mineralisation outlines were generally terminated at half the drill hole spacing beyond the last known section of mineralisation. • The interpreted geological domains are used to control the resource estimation process. • The geology is a major control in guiding the resource estimation. Firstly, in guiding the search ellipsoid orientations and secondly, in outlining different ore types and domains within the overall deposit.
Dimensions	• The North Portia mineralisation occurs in an approximately 45 degree east-dipping stratabound zone. Copper-cobalt-gold mineralisation is continuous over approximately 600 metres strike length and is open at depth on most central sections. • The true width of mineralisation ranges from 20-40 metres thick. • Mineralisation generally has an upper bound 60 metres below the surface and the deepest intersection is approximately 350 metres below surface.

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Estimation and modelling techniques	• Note that the current resource estimation Polygons and hence triangulations are based on interpretations completed on nominal 25m sections. Sectional interpretations are made perpendicular to the strike. • Triangulated interpretations have been generated for the following lithological domains: ➢ Namba ➢ Saprolite ➢ Saprock ➢ Hangingwall ➢ Footwall ➢ Oxidation ➢ Lower Carbonate unit top • Lithological logging of drill cuttings and core defined different weathering and oxidation levels with increasing depth. These observations have been used to divide mineralisation into discrete domains. From top down these are: oxide gold, supergene sulphide and primary. • Statistical analysis was completed for each domain to ascertain the distribution of grades and examine whether any extreme values/outliers existed. Extreme values were investigated and were found to be minimal in number and not deemed to have a material impact on estimated grades. Variogram modelling was completed for each element in each domain. • The block model was constructed in Vulcan 10.0 software with parent blocks of 5mE by 5mN by 5mRL. • Compositing used 1m downhole sample lengths with length weighted assay composites used during estimation to account for small composite intervals at domain boundaries. • Estimation was performed using inverse distance techniques. • Estimation passes for the North Portia deposit were generally as follows: First pass search was 50 metres. If interpolation did not fill all blocks on the first pass, then the search ellipsoid was increased to 100m. If interpolation did not fill all blocks on the second pass, then the search ellipsoid was increased to 200m. • Cu, Au, Co and Mo were estimated separately for each combination of lithology and oxidation domains. Estimation domain boundaries relate to mineralised boundaries and were used as hard estimation boundaries. • Up to three estimation passes with increasing search neighborhood size was used. • An octant based search was used for sample selection during grade estimation. • A minimum of 4 and maximum of 32 composites were used per block estimate. • Estimates and calculations were validated visually in Vulcan software to ensure blocks contained all required variables, default codes were correctly applied to blocks and that all domain and oxidation codes were represented. The domain variables were correctly assigned according to priority order within defined triangulations, examination of code allocation within overlapping areas to ensure proper priority order application, inspection for evidence of blocks leaking from a domain due to triangulation errors such as openings, crossing or inconsistency and comparison of domain wireframe volumes to block model domain volumes to ensure block parent size is appropriate. • Statistical comparisons of raw sample data versus declustered data versus block model data were completed. Drift plots were generated on 200 metre section spacing to check block estimation versus original drill sample grade.
Moisture	• Tonnes have been estimated on a dry basis through the determination of dry specific gravity using the Archimedes principle.
Cut-off parameters	• The oxide gold resource has been calculated using a 0.5g/t gold lower cutoff grade. • For the supergene sulphide copper-cobalt-gold resource a 0.4% copper equivalent lower cutoff grade was applied. Mineral resources have been reported using a copper equivalent grade calculated using gold price set at US$1,279/oz and a copper price of US$2.91/lb with an exchange rate of AU$1=US$0.75 and assuming comparable recoveries for both metals. Copper equivalent grades in the saprolite gold mineralisation have been set to zero.

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Mining factors or assumptions	• The North Portia resources are expected to be mined as a conventional open pit mining operation using excavators and large trucks. • The broad nature of the mineralisation lends itself to an open pit mining operation, initially as a free dig operation due to soft and weathered nature of the host material, as evidenced in the neighbouring Portia gold mine. • No assumptions have been made about mining selectivity for specific material types or quality. • No external mining dilution or other factors have been applied to the resource estimate. • Previously reported prefeasibility studies indicate that there is a sound basis for determining reasonable prospects for eventual economic extraction of the North Portia copper-cobalt -gold mineralisation.
Metallurgical factors or assumptions	• No metallurgical assumptions have been applied to the resource model. • Metallurgical testwork to date indicates that gold and copper can be recovered satisfactorily from the three main ore types. Acceptable sulphide concentrate grades can be achieved, without any penalty element issues
Environmental factors or assumptions	• A comprehensive mining lease proposal document, which addresses a range of environmental issues connected with the adjacent Portia gold mining operation in some detail has been approved by DEM, and is generally applicable to North Portia, which lies on the same mining lease. • Mining development is subject to the approval of a Program for Environmental Protection and Rehabilitation (PEPR) by the Department for State Development. • This study, in preparation, will comprehensively address all environmental and social impacts and the risk mitigation methodologies to be employed during mining of North Portia.
Bulk density	• Density of the ore material generally decreases with increasing weathering and this has been taken into account when estimating tonnages for the various ore types. • Density values of 1.72 for oxidised saprolite, 1.89 for unoxidised saprolite, 2.27 for saprock & 2.65 for fresh rock, were assigned to blocks in the corresponding domains in the block model. • Density values for the saprolite were based on 71 measurements (30 ox sap, 41 unox sap, weight in air vs weight in water method) of what is considered to be the same material, in 12 PQ diamond core holes from the Portia Prospect, located several hundred metres along strike to the south. • The density value for saprock was taken to be mid-way between the saprolite and fresh rock values, the material being essentially a transition from one to the other. • The only density data directly available for North Portia was in the form of Pasminco's down hole gamma-gamma compensated density logs of most of their diamond holes, plus a small number of AC holes. These suggest values of approx. 2.05 for saprolite in general, 2.4 for saprock & 2.7 for fresh rock.
Classification	• The estimates have been classified into Measured, Indicated and Inferred Mineral Resources according to the JORC 2012 code, taking into account drilling density, geological confidence, estimation pass and confidence and continuity of the mineralisation around the likely economic cut-off grades. • Classification of mineralisation for the North Portia resource project was based on confidence of geological interpretation driven by drill density: ➢ Measured Mineral Resources are restricted to where drill spacing is less than 50 metres and there is good continuity of mineralisation between drill sections. ➢ Indicated Mineral Resources are defined where drill spacing is between 50 and 100 metres with less certain continuity of mineralisation between drill sections. ➢ Inferred Mineral Resources are defined where drill spacing is between 100 and 200 metres and there is limited continuity of mineralisation. • The boundary between the Inferred resource of the primary copper-cobalt-gold sulphide mineralisation and the predominantly Measured resource of the supergene sulphide copper-cobalt-gold mineralisation coincides with the base of the saprock, which is the base of the weathering zone and most of the AC (+-RC) holes stopped at or before this surface. • The current classification of the resource estimation assignment reflects the view of the Competent Person and the resource geology consultant.
Audits or reviews	• The resource estimation work was undertaken by independent Maptek resource geologist, Mr Steve Sullivan who has had more than 30 years experience in the mining industry, the majority of which has been spent in resource estimation.

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	• All drilling data and relevant interpretations were supplied to Maptek by Havilah and there were extensive technical discussions during the estimation process between Havilah geologists and Maptek to ensure that all of Havilah's geological knowledge and interpretations were taken into account in generating the block model. • Havilah conducted internal peer review of the resource processes and reporting outcomes numerous times throughout the resource estimation work.
Discussion of relative accuracy/ confidence	• The relative accuracy of the Mineral Resource is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC Code. • Geological and block models have been validated visually against drilling and statistically against input data sets on a domain and swath basis. • The Mineral Resource estimate is based on the assumption that open cut mining methods will be applied and that grade control sampling will be available for selective material delineation. As such the resource estimate should be considered to represent a global resource estimate. • No production data is available to reconcile results.

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