

**Broken Hill Prospecting Ltd  
(ASX: BPL)**

An Australian Exploration company  
focussed on the discovery & development  
of strategic technology mineral resources

**Commodity Exposure**

Heavy Mineral Sands  
Cobalt  
Base & Precious Metals

**Directors & Management**

Creagh O'Connor  
*Non-Executive Chairman*

Geoff Hill  
*Non-Executive Director*

Matt Hill  
*Non-Executive Director*

Denis Geldard  
*Non-Executive Director*

Trangie Johnston  
*Chief Executive Officer*

Ian Morgan  
*Company Secretary*

**Capital Structure**

Ordinary Shares on Issue (30/1/17) **148M**

Options: Listed **47M**

Market Cap (undiluted at 5.1cps) **\$7.5M**

**Broken Hill Prospecting Ltd**

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**Latest Thackaringa Project Results, Broken Hill****Base & Precious Metals: Exploration Ramps up**

- New sampling defines extensive Cu-Pb-Zn-Au-Ag mineralisation, setting targets for ongoing evaluation at Thackaringa
- Newly discovered prospects characterised by outcropping quartz gahnite - a key vector for Broken Hill Pb-Zn-Ag style deposits:
  - Zinc up to 2.2% reported in rock chips
- Updated geology model has provided renewed focus on previously explored prospects, with rocks chips defining extensive Cu-Pb-Zn-Au-Ag mineralisation:
  - Pyramid Hill
    - 7.5% Cu, 40g/t Ag, 1g/t Au, 0.1% Ni & 0.2% Pb
  - Old Coolgardie West
    - 5.2% Cu, 140g/t Ag, 0.2g/t Au, 0.2% Ni & 0.1% Pb
  - Himalaya North
    - 2.6% Cu, 5.9% Pb, 62g/t Ag & 0.8% Zn
- Planning underway to conduct detailed ground geophysics (Induced Polarisation) in early 2018 to define drill targets over key prospects
- Latest works based on major recent field mapping campaign and newly acquired geophysics that greatly enhanced targeting, identifying multiple base and precious metal targets

**Cobalt: Thackaringa JV Delivering Strong Drilling Results**

- The Thackaringa Cobalt Project in JV with Cobalt Blue (ASX: COB) delivers latest drilling results from an extensive 13,000m program designed to upgrade the resource classification - expected early 2018
  - 72m at 1,115ppm Co, 10.1% S & 9.8% Fe from 15m (17THR042)
  - 41m at 1,096ppm Co, 10.4% S & 10.0% Fe from 61m (17THR055)
- Cobalt mineralisation outcrops in prominent ridgelines that extend for 4.5km strike with widths ranging from 25 to 100m and open at depth. All deposits are undergoing extensive technical studies to support Pre-feasibility Studies due mid 2018

**BPL's CEO Trangie Johnston commented:**

*"We are focusing much more intensely than ever before on the considerable base and precious metal potential at Thackaringa. Substantial work is planned in the year ahead based on an improved understanding gained by combining new work with earlier results. The Thackaringa Project contains all the key ingredients that are used to target world class deposits such as the 300Mt Broken Hill ore body located 25km to the northeast. We will advance the understanding of the best targets by undertaking further field work before we move drill rigs on site in about six months."*

## Base & Precious Metals

Recent geological mapping combined with newly acquired high resolution geophysics has greatly enhanced base and precious metal exploration at the Thackaringa Project. BPL retains the rights to all lead, zinc, copper, silver and gold minerals at Thackaringa under the terms of the Thackaringa Joint Venture with Cobalt Blue Holdings.

These targets can be broadly defined by stratigraphic host comprising the Thackaringa and Broken Hill Groups of the Willyama Supergroup (Figure 1).

## The Broken Hill Group

The Broken Hill Group, hosts the world class Broken Hill Pb-Zn-Ag orebody comprising 300Mt of ore containing 30Mt Pb, 24Mt Zn, 1B oz Ag and 1M oz Au. This stratigraphic sequence is widely distributed across the Thackaringa Project with two prospects prioritised for further exploration (Figure 2):

### Pyramid Hill

Pyramid Hill is hosted within the lower Broken Hill Group and defined by outcropping 'lode rocks' persistent over 500m of strike. Rock chip assays confirm anomalous geochemistry; returning a maximum of 7.5% Cu, 40g/t Ag, 1g/t Au, 0.1% Ni, 0.2% Pb & 0.4% W. Shallow reconnaissance drilling tested some 150m of the mapped extent with intersections including 5m at

0.23% Cu, 1g/t Ag, 0.66g/t Au, 0.04% Zn, 103ppm Co & 569ppm Ni from 64m (11RCPM01).

### Himalaya North

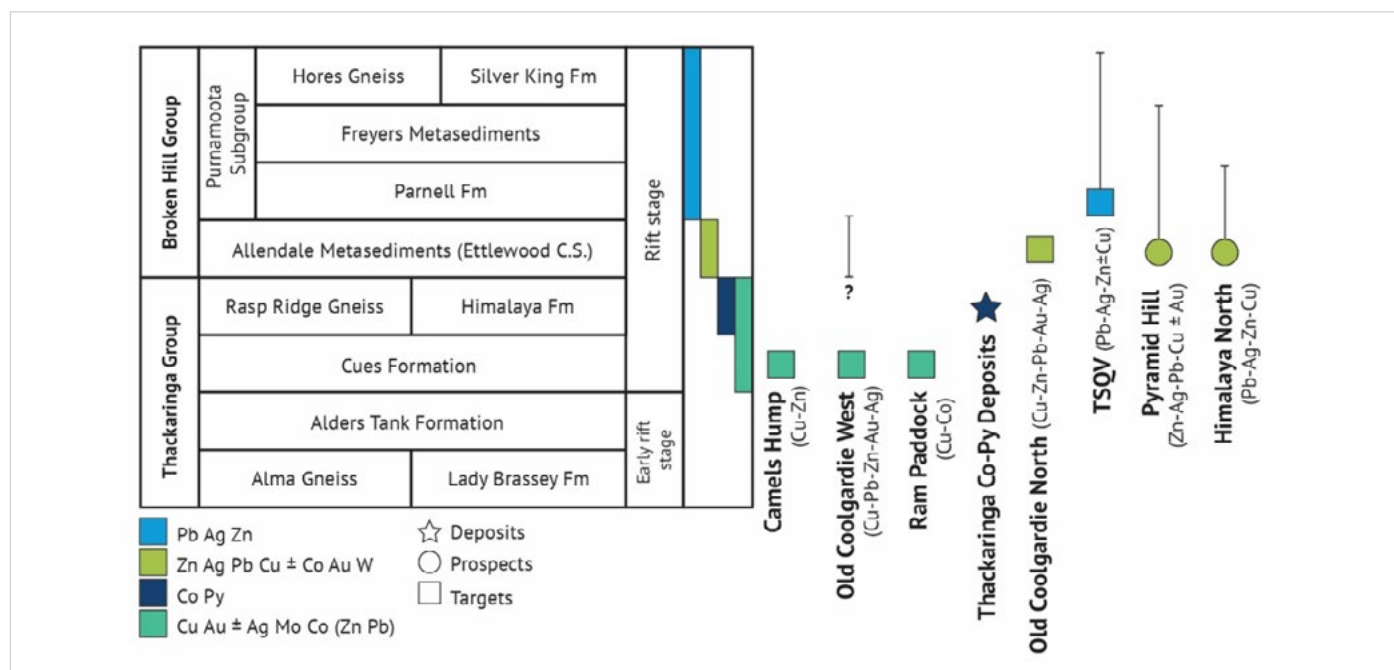
Himalaya North is also hosted within the lower Broken Hill Group and is characterised by a stacked sequence of 'lode rocks' mapped over 1,500m strike. Rock chip sampling has confirmed anomalous geochemistry returning a maximum 2.6% Cu, 5.9% Pb, 62g/t Ag & 0.8% Zn coincident with multiple quartz gahnite occurrences. Shallow reconnaissance drilling tested some 200m of the mapped extent with intersections including 2m at 0.17% Cu, 0.17% Zn, 0.04% Pb & 7g/t Ag from 41m (11RCHN3).

## The Thackaringa Group

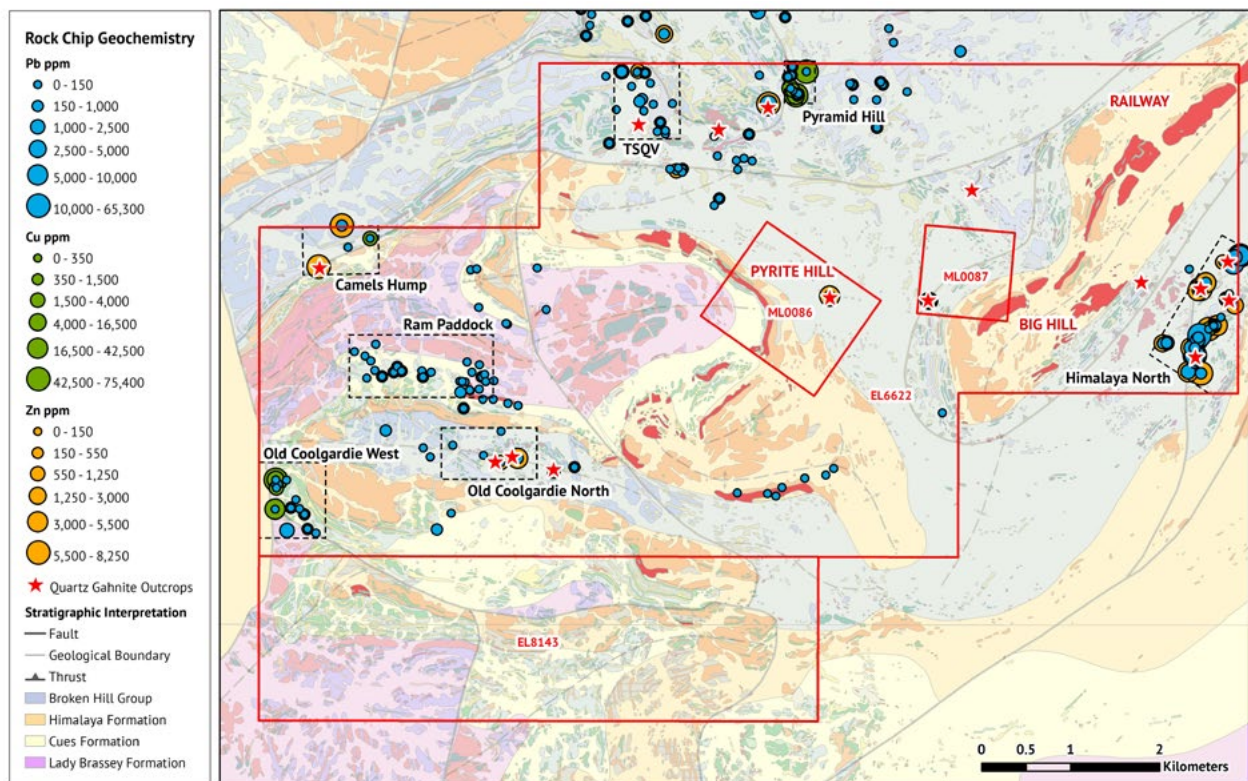
The Thackaringa Group hosts the Thackaringa Cobalt-Pyrite deposits currently under the Thackaringa Joint Venture with Cobalt Blue Holdings (see details below). Additionally, BPL has identified numerous copper rich Broken Hill type targets within the Cues Formation (Figure 2) of the Thackaringa Group including:

### Old Coolgardie West

Old Coolgardie West is defined by anomalous rock chip samples occurring over some 800m strike and returning a maximum 5.2% Cu, 140g/t Ag, 0.2g/t Au, 0.2% Ni & 0.1% Pb. The zone is broadly associated with extensive garnet amphibolites and laminated calc-silicates with strong magnetic signature.



**Figure 1.** Thackaringa base and precious metal targets classified by stratigraphy, mineralisation style, metal affinity and stage of development.



**Figure 2** Thackaringa base and precious metal targets defined by regional rock chip geochemistry (Pb, Cu & Zn), and quartz-gahnite outcrops which are a key vector for Broken Hill style ore deposits.

## Cobalt: Thackaringa Cobalt Project Delivering Strong Drilling Results (TJV)

The successful spin-off of Cobalt Blue Holdings Limited (ASX: COB) was completed in February 2017, with investors seeking shares exceeding the \$10 million maximum being offered. The deal was an important initiative for BPL to realise significant value from its Thackaringa Cobalt Project.

An important part of the spin-off was that BPL entered a detailed farm-in joint venture agreement with COB to finance and undertake an extensive exploration and development program at Thackaringa (the TJV).

Under the TJV, COB can earn 100% of the project if it completes a 4 stage farm-in by committing \$10.9 million project expenditure by 30 June 2020, and pays BPL \$7.5 million in cash. In addition, BPL will receive a 2% net smelter royalty on all cobalt produced from the Thackaringa tenements for the life of mine.

COB currently has 51% beneficial interest subject to completing Stage 1 milestones with BPL retaining 49% beneficial interest. In order for COB to retain 51% beneficial interest, key deliverables are a 40Mt Indicated Resource sufficient to support a Pre-feasibility

Study to JORC 2012 standard by 1 April 2018 and the Pre-feasibility study by 30 June 2018 (refer below for more details).

Importantly, under the terms of the TJV, BPL retains the rights to lead, zinc, copper, silver and gold minerals on the TJV tenements.

## Resource Definition & Geotechnical Drilling

A significant drilling campaign commenced at the Thackaringa project in October 2017 comprising 75 holes for approximately 13,000m. The program is designed to infill and confirm geological continuity to support improved Mineral Resource classification. The revised Mineral Resource estimate will underpin Ore Reserve estimation to be completed during the Pre-feasibility study.

A dedicated geotechnical drilling program has also commenced with results to inform detailed pit optimisation and mine planning.

Initial results from current drilling were released by COB on 4 November 2017 and include:

- 17THR042  
- 72m at 1,115ppm Co, 10.1% S & 9.8% Fe from 15m;
- 17THR045  
- 25m at 1,204ppm Co, 9.5% S & 10.6% Fe from 154m;



- 17THR047  
- 18m at 1,145ppm Co, 7.5% S & 7.5% Fe from 11m;
- 17THR049  
- 67m at 906ppm Co, 9.5% S & 9.1% Fe from 64m;
- 17THR052  
- 20m at 982ppm Co, 12.2% S & 11.4% Fe from 10m; and  
- 113m at 830ppm Co, 7.3% S & 7.8% Fe from 104m.
- 17THR055  
- 41m at 1,096ppm Co, 10.4% S & 10.0% Fe from 61m

### Pre-feasibility Study

The Thackaringa project Pre-feasibility study is well advanced with the continuation of metallurgical testwork and ongoing geotechnical, hydrological and environmental assessments. Results to date have been positive and the joint venture remains on track to complete Stage two deliverables by 30 June 2018 as announced by COB on 26 October 2017.

	Previous JV Agreement (31 October 2016)	New JV Agreement (30 June 2017)	Status
<b>Stage 1</b>	Requires at least \$2.0 million to be spent on an approved, in-ground exploration program to define an Inferred Mineral Resource of 100 Mt and completion of a Scoping Study by 30 June 2017 to hold a 51% beneficial interest in the project.	For COB to retain the 51% beneficial interest, then during the period ending no later than 1 April 2018, COB must:	
		(i) Complete prior to 30 June 2017 a minimum \$2.0 million exploration program to define an Inferred / Indicated Mineral Resource of 54.5 million tonnes	Completed
		(ii) Complete after 30 June 2017 a further \$1.2 million exploration program to achieve an Indicated Resource of 40 million tonnes or such other tonnage as may be agreed unanimously by the JV committee	
		(iii) Spend not less than \$0.2 million and not more than \$0.4 million to undertake an aerial geophysical survey of the JV mining tenements	
		(iv) Expenditure under (ii) and (iii) in aggregate must be not less than \$1.4 million and not greater than \$1.6 million	
		(v) Complete prior to 30 June 2017 a Scoping Study	Completed
<b>Stage 2</b>	Requires COB to fund a minimum \$2.5 million in-ground exploration program to define an Indicated Mineral Resource and complete a Pre-feasibility Study of the technical, commercial and economic feasibility of development and mining of cobalt by 30 June 2018. That work would earn COB an additional 19% interest.	For COB to earn an additional 19% interest, COB must have completed Stage 1 earning obligations during the period commencing on 1 July 2017 and ending no later than 30 June 2018:	
		(i) A \$2.5 million approved exploration program within the JV area	
		(ii) Complete a Pre-feasibility Study	
<b>Stage 3</b>	Stipulates COB can earn a further 15% interest by 30 June 2019 if it spends a minimum \$5 million on an in-ground exploration program to define a Measured Mineral Resource and Ore Reserve and complete a Bankable Feasibility Study.	No change	
<b>Stage 4</b>	Enables COB to earn the final 15% interest in Thackaringa if it makes a decision to mine; procures necessary project approvals including financing; achieves financial close; and pays BPL \$7.5 million in cash no later than 30 June 2020.	No change	
	BPL has also been granted a 2% net smelter royalty on all cobalt produced from the Thackaringa tenements for the life of the mine.	No change	



Anthony (Trangie) Johnston  
Chief Executive Officer

**For further information,  
please contact**

**Broken Hill**  
PROSPECTING

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## PREVIOUSLY RELEASED INFORMATION

This ASX announcement refers to information extracted from the following report, which is available for viewing on BPL's website <http://www.bhpl.biz>

- [22 November 2017 Multiple Large Base and Precious Metal Targets Found at Thackaringa Project](#)
- [31 October 2017 Quarterly Activities and Cash Flow Reports September 2017](#)
- [27 September 2017 Geophysical Survey and 3D Modelling Commences at Thackaringa](#)

BPL confirms it is not aware of any new information or data that materially affects the information included in the original market announcements, and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. BPL confirms that the form and context in which the Competent Person's findings presented have not been materially modified from the original market announcements.

## COMPETENT PERSON'S STATEMENT

The information in this report that relates to Mineral Resources and Exploration Targets is based on information compiled by Mr Anthony Johnston, BSc (Hons), who is a Member of the Australian Institute of Mining and Metallurgy and is a full time employee of the Company. Mr Johnston has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 & 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.' Mr Johnston consents to the inclusion in the announcement of the matters based on his information in the form and context that the information appears.

## ABOUT BROKEN HILL PROSPECTING LIMITED

Broken Hill Prospecting Limited (BPL) is an Australian exploration company focussed on the discovery and development of strategic mineral resources across two primary projects the Murray Basin Heavy Mineral Sands Project and the Thackaringa Cobalt & Base/Precious Metal Project.

## MURRAY BASIN HEAVY MINERAL SANDS PROJECT

BPL has built a substantial portfolio of Heavy Mineral Sands (HMS; titanium & zircon) Projects within the world-class Murray Basin. BPL now holds the largest tenement portfolio in the Murray Basin.

Additional tenement applications and potential project acquisitions under review will continue to position the Company to take advantage of improving market conditions.

BPL is targeting the establishment of a sustainable pipeline of high grade, low tonnage deposits amenable to processing through mobile plant equipment that could be deployed across the broader project area.

## THACKARINGA PROJECT

The Thackaringa Cobalt Project is strategically located 25km south-west of Broken Hill, New South Wales, adjacent to the main transcontinental railway line. Mineralised outcrop extends for over 10km, with less than a quarter of this trend having been drill tested. The project is currently undergoing Pre-feasibility Studies.

The Thackaringa Cobalt Project is under a Farm In and Royalty Agreement with Cobalt Blue Holdings Ltd (COB). COB

can earn 100% of the project if it completes a 4 stage farm-in by committing \$10.9 million project expenditure by 30 June 2020, and pays BPL \$7.5 million in cash.

In addition, BPL will receive a 2% net smelter royalty on all cobalt produced from the Thackaringa tenements for the life of mine. BPL retains the base and precious metal exploration rights over the Thackaringa tenements, where it is actively exploring for Broken Hill (Pb-Zn-Ag) style mineralisation.

Cobalt is a necessary metal for the production of the latest generation, high density Lithium-ion batteries. Due to its high run-time properties, the use of cobalt has risen dramatically as portable Li-ion battery usage accelerates and electric vehicles become a reality.

## TENEMENT HOLDING

The interests in tenements held by Broken Hill Prospecting Limited (and fully owned subsidiaries) and the related percentage of ownership:

### Thackaringa Cobalt Project

EL 6622	100% legal interest Broken Hill Prospecting Ltd
EL 8143	100% legal interest Broken Hill Prospecting Ltd
ML 86	100% legal interest Broken Hill Prospecting Ltd
ML 87	100% legal interest Broken Hill Prospecting Ltd

### Murray Basin Heavy Mineral Sands (HMS) Project

EL 8558	100% Murray Basin Minerals Pty Ltd
EL 8559	100% Murray Basin Minerals Pty Ltd
EL 8649	100% Murray Basin Minerals Pty Ltd
EL 8650	100% Murray Basin Minerals Pty Ltd
EL006583	100% Murray Basin Minerals Pty Ltd
EL006584	100% Murray Basin Minerals Pty Ltd
EL006585	100% Murray Basin Minerals Pty Ltd
ELA 2017/00201	100% Murray Basin Minerals Pty Ltd

## Appendix - JORC Code, 2012 Edition – Table 1

### SECTION 1 SAMPLING TECHNIQUES AND DATA

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

#### SAMPLING TECHNIQUES

- *Nature and quality of sampling (e.g. 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 (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information.*

#### Thackaringa Diamond Drilling (DDH)

##### Pre-1990

- Diamond drilling was used to obtain core from which irregular intervals, reflecting visual mineralisation and geological logging were hand-split or sawn. Samples were submitted for analysis using a mixed acid digestion and AAS methodology

##### Post-1990

- Diamond drilling (one drill hole) was used to obtain core from which irregular intervals, reflecting visual mineralisation and geological logging were sawn (quarter core for HQ). Samples were submitted for analysis using a mixed acid digestion and ICP-OES methodology

##### 2016 Metallurgical Drilling

- Eight (8) HQ diameter diamond drill holes (DDH) were completed at the Thackaringa project in late 2016. They were

used as metallurgical reference holes and were designed to twin some of the previous reverse circulation percussion (RC) holes for QA/QC and assay comparison between DDH and RC. There were two (2) holes drilled at Pyrite Hill, two (2) at Big Hill and four (4) at Railway:

- Diamond drilling was used to obtain core from which regular (one-metre) intervals were sawn with:
  - one half core dispatched for analysis using a mixed acid digestion and ICP-MS methodology
  - the other half was further sawn such that one quarter-core was sent for metallurgical test work and the other quarter-core retained for archival purposes

#### Thackaringa Historical Reverse Circulation (RC) Drilling

- RC drilling was used to obtain a representative sample by means of riffle splitting with samples submitted for analysis using the above-mentioned methodologies
- Pre-2000 drill samples were assayed for a small and variable suite of elements (sometimes only cobalt). The post-2000 drill samples (5,095 samples) are all assayed by ICP-MS for a suite of 33 elements.

#### Thackaringa FY2017 Diamond Drilling Program

- Fourteen HQ diameter diamond drill holes (DDH) were completed and assayed. They were used as metallurgical reference holes designed to twin some historical reverse circulation percussion (RC) holes for QA/QC and assay comparison between DDH and RC. There were four (4) holes drilled at Pyrite Hill, two (2) at Big Hill and eight (8) at Railway:
- Diamond drilling (17THD01-03) was used to obtain core from which regular (one-metre) intervals were sawn with:
  - one half core dispatched for analysis using a mixed acid digestion and ICP-MS methodology for a suite of 48 elements
  - the other half was retained for future metallurgical test work and archival purposes
- Diamond drilling (17THD04-14) was used to obtain core from which regular (one-metre) intervals were sawn with:

- one quarter core dispatched for analysis using a mixed acid digestion and ICP-MS methodology or a suite of 48 elements
- the other three quarters was retained for future metallurgical test work and archival purposes

### **Thackaringa FY2017 RC Drilling Program**

- Thirty-eight (38) RC drill holes were completed and assayed to infill historic holes and allow re-estimation of the existing Mineral Resources. There were twelve (12) holes drilled at Pyrite Hill, three (3) at Big Hill and 23 at Railway:
  - RC drilling was used to obtain a representative sample by means of riffle splitting with samples submitted for analysis by ICP-MS for a suite of 48 elements

### **Thackaringa FY2018 RC Drilling Program**

- Eighteen (18) RC drill holes were completed and assayed to infill historical holes and support re-estimation of the existing Mineral Resources. All completed drill holes were at the Railway deposit:
  - RC drilling was used to obtain a representative sample by means of riffle splitting with samples submitted for analysis by ICP-MS for a suite of 48 elements.
- These drill holes form part of an extensive resource definition drilling program currently being completed at the Thackaringa deposits. Additional results will be released in due course.

### **Pyramid Hill RC Drilling Program (2011)**

- Six (6) RC drill holes were completed and assayed at the Pyramid Hill prospect:
  - RC drilling was used to obtain a representative sample by means of riffle splitting with samples submitted for analysis by ICP-MS for a reported suite of 8 elements

### **Himalaya North RC Drilling Program (2011)**

- Six (6) RC drill holes were completed and assayed at the Himalaya North prospect:
  - RC drilling was used to obtain a representative sample by means of riffle splitting with samples submitted for analysis by ICP-MS for a reported suite of 8 elements

### **Rock Chip Sampling**

- Reconnaissance geochemical sampling was undertaken in parallel with detailed geological mapping to obtain samples of a variable nature (gossan, sub-crop, out-crop) submitted for analysis using mixed acid digestion and ICP-OES methodology. Fire assay techniques were used for gold analysis where results for gold are reported.
- Rock chip samples are selective in nature and therefore not wholly representative of the underlying geology
- These sampling techniques are considered 'industry standard' for the respective periods.

### **DRILLING TECHNIQUES**

- *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. 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).*

### **Thackaringa Drilling**

- The Thackaringa drilling database comprises a total of sixty-four (64) diamond drill holes and 120 reverse circulation (RC) drill holes. The current resource definition drilling program (FY2018) is ongoing with details provided below incorporating drilling completed up to 28 November 2017. Diamond drilling was predominantly completed with standard diameter, conventional HQ and NQ with historical holes typically utilising RC and percussion pre-collars to an average 25 metres (see Drill hole Information for further details). Early (1960-1970) drill holes utilised HX – AX diameters dependent on drilling depth. Reverse circulation drilling utilised standard hole diameters (4.8"-5.5") with a face sampling hammer.
- During 2013, a single diamond drill hole (13BED01) was completed at the Railway deposit using a triple tube system with a HQ3 diameter
- During 2016-2017, diamond drilling was completed using a triple tube system with a HQ3 diameter. Holes were drilled at angles between 40 and 60 degrees from horizontal and the resulting core was oriented as part of the logging process.

#### *Pyramid Hill RC Drilling Program (2011)*

- Reverse circulation drilling utilised standard hole diameters (4.8"-5.5") with a face sampling hammer.



Year	Drilling	Metres
1967	1 diamond drill hole	304.2
1970	4 diamond drill holes	496.6
1980	18 diamond and 1 RC drill hole	1,711.23
1993	2 diamond drill holes	250
1998	11 RC drill holes	1,093.25
2011	11 RC drill holes	1,811
2012	20 RC drill holes	2,874.25
2013	1 diamond drill hole	349.2
2016	8 diamond drill holes	1,484.8
FY2017	14 diamond drill holes and 38 RC drill holes	6,467.5
FY2018	16 diamond drill holes and 39 RC drill holes (completed to date)	9,189.2 (completed to date)
<b>Total</b>	<b>64 diamond and 120 RC drill holes</b>	<b>26,031.23</b>

#### *Himalaya North RC Drilling Program (2011)*

- Reverse circulation drilling utilised standard hole diameters (4.8"-5.5") with a face sampling hammer.

### **DRILL SAMPLE RECOVERY**

- Method of recording and assessing core and chip sample recoveries and results assessed.*
- Measures taken to maximise sample recovery and ensure representative nature of the samples.*
- Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*

### **Diamond Drilling**

- Historical core recoveries were accurately quantified through measurement of actual core recovered versus drilled intervals
- Historical diamond drilling employed conventional drilling techniques while diamond drilling completed by Broken Hill Prospecting utilised a triple-tube system to maximise sample recovery
- Core recovery of 99.7% was achieved during completion of drill hole 13BED01

- Core recovery of 98% was achieved during the 2016 diamond drilling program

- Core recovery of 93.3% was achieved during the 2017 (January – June) diamond drilling program

- No relationship between sample recovery and grade has been observed

### **Reverse Circulation Drilling**

- Reverse circulation sample recoveries were visually estimated during drilling programs. Where the estimated sample recovery was below 100% this was recorded in field logs by means of qualitative observation
- Reverse circulation drilling employed adequate air (using a compressor and booster) to maximise sample recovery
- No relationship between sample 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.*

- A qualified geoscientist has logged all reported drill holes in their entirety. This logging has been completed to a level of detail considered to accurately support Mineral Resource estimation and metallurgical studies. The parameters logged include lithology, alteration, mineralisation and oxidation. These parameters are both qualitative and quantitative in nature.

- Diamond drilling completed in FY2017 by Broken Hill Prospecting/Cobalt Blue Holdings has been subject to geotechnical logging with parameters recorded including rock-quality designation (RQD), fracture frequency and hardness
- During 2013, a considerable amount of historical drilling was re-logged through review of available core stored at Broken Hill as well the re-interpretation of historical reports where core or percussion samples no longer exist. A total of eight (8) diamond drill holes and sixteen (16) diamond drill holes with pre-collars were re-logged as detailed below:

Hole ID	Deposit	Max Depth	Hole Type	Pre-Collar Depth (m)
67TH01	Pyrite Hill	304.2	DDH	
70TH02	Pyrite Hill	148.6	DDH	
70TH03	Pyrite Hill	141.4	DDH	
70BH01	Big Hill	102.7	DDH	
70BH02	Big Hill	103.9	DDH	
80PYH13	Pyrite Hill	77	DDH	
80PYH14	Pyrite Hill	300.3	DDH	
80BGH09	Big Hill	100.5	DDH	
80PYH01	Pyrite Hill	24.53	PDDH	6
80PYH02	Pyrite Hill	51.3	PDDH	33.58
80PYH04	Pyrite Hill	55	PDDH	38.7
80PYH05	Pyrite Hill	93.6	PDDH	18
80PYH06	Pyrite Hill	85.5	PDDH	18
80PYH07	Pyrite Hill	94.5	PDDH	12
80PYH08	Pyrite Hill	110	PDDH	8
80PYH09	Pyrite Hill	100.5	PDDH	8
80PYH10	Pyrite Hill	145.3	PDDH	25.5
80PYH11	Pyrite Hill	103.1	PDDH	18
80PYH12	Pyrite Hill	109.5	PDDH	4.2
80BGH05	Big Hill	54.86	RCDDH	45.5
80BGH06	Big Hill	68.04	RCDDH	58
80BGH08	Big Hill	79.7	RCDDH	69.9
93MGM01	Pyrite Hill	70	RDDH	24
93MGM02	Pyrite Hill	180	RDDH	48

DDH - Diamond drill hole  
PDDH - Diamond drill hole with percussion pre-collar  
RCDDH - Diamond drill hole with reverse circulation pre-collar  
RDDH - Diamond drill hole with rotary air blast pre-collar  
RC - Reverse Circulation drill hole

- Litho-geochemistry has been used to verify geological logging where available for drilling completed by Broken Hill Prospecting post 2010
- Representative reference trays of chips from reverse circulation drilling completed post 2010 have been retained by Broken Hill Prospecting

### Rock Chip Sampling

- A qualified geoscientist has reviewed all reported rock chip samples during collection. Geological observations are general in nature and considered appropriate for the sample type. Typically, geological parameters recorded include lithology, alteration, mineralisation and oxidation
- Rock chip samples are NOT included or considered during Mineral Resource estimation

### 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.*

### Thackaringa Diamond Drilling (DDH)

#### Pre-1990

- Core samples were hand-split or sawn with re-logging of available historical core (see Logging) indicating a 70:30 (retained:assayed) split was typical. The variation of sample ratios noted are considered consistent with the sub-sampling technique (hand-splitting)
- No second half samples were submitted for analysis
- It is considered water used for core cutting is unprocessed

and unlikely to have introduced sample contamination

- Procedures relating to the definition of the line of cutting or splitting are not available. It is expected that 'standard industry practice' for the period was applied to maximize sample representivity

#### Post-1990

- NQ drilling core was sawn with half core submitted for assay
- HQ drilling core was sawn with quarter core submitted for assay
- No second half samples were submitted for analysis
- It is considered water used for core cutting is unprocessed and unlikely to have introduced sample contamination
- Procedures relating to the definition of the line of cutting or splitting are not available. It is expected that 'standard industry practice' for the period was applied to maximise sample representivity

#### 2016 Metallurgical Drilling

- All HQ drill core was sawn into halves, with each half then re-sawn to provide 4 lengths of quarter core for each interval.
- One half core was submitted for assay
- One quarter core was submitted for metallurgical test work
- One quarter core was retained for archive
- It is considered that the water used for core cutting is most unlikely to have introduced sample contamination
- Sample sawing and processing for test work were undertaken according to 'standard industry practice' to maximise sample representivity

#### 2017 Diamond Drilling

- All HQ drill core was sawn into halves, with each half then re-sawn to provide 4 lengths of quarter core for each interval.
- One quarter – one half core was submitted for assay
- One quarter – three quarter core was retained for archive
- It is considered that the water used for core cutting is most unlikely to have introduced sample contamination
- Sample sawing and processing for test work were undertaken according to 'standard industry practice' to maximise sample representivity

### Thackaringa Historical Reverse Circulation Drilling

- Sub-sampling of reverse circulation/percussion chips was achieved using a cyclone with cone or riffle splitter
- During drilling operations, the sample cyclone and splitter were regularly cleaned to prevent down hole sample contamination
- Dry sampling was achieved with the use of adequate air, using a compressor and booster, where groundwater was encountered
- During reverse circulation drilling completed by Broken Hill Prospecting, duplicate samples were collected at the time of drilling. These were obtained by spearing the bulk material held in the PVC sacks using a spear made of 40mm diameter PVC pipe; three samples were speared through the full depth of the bulk material and these were combined to form one sample
- The Thackaringa drilling database includes a total of 139 historical field duplicates collected during reverse circulation drilling. This reflects a ratio of approximately one field duplicate in every 32 samples (3.1%) for drill holes where duplicates were collected (31 drill holes for 4469 metres) and an overall ratio of one field duplicate in every 42 samples (2.4%) for all reverse circulation drill holes (43 drill holes for 5801.5 metres).
- o Statistical analysis of field duplicates collected during drilling completed by Broken Hill Prospecting (119 duplicates representing 86% of all field duplicates) considered 18 elements of which only chromium, lanthanum and titanium show some bias in the duplicate samples. For cobalt, the confidence limits were evenly placed either side of zero and the duplicates are deemed to be representative of the original samples.

### FY2017/18 RC Drilling

- Sub-sampling of reverse circulation chips was achieved using a riffle splitter
- During drilling operations, the splitter was regularly cleaned to prevent down hole sample contamination
- Dry sampling was achieved with the use of adequate air, using a compressor and booster, where groundwater was encountered

- During reverse circulation drilling completed by Broken Hill Prospecting/Cobalt Blue Holdings, duplicate samples were collected at the time of drilling. These were obtained by riffle splitting the remnant bulk sample following collection of the primary split
- During the current program (FY2018), field duplicate samples were collected at a rate of 1:25

### Historical Pyramid Hill & Himalaya North RC Drilling (2011)

- Sub-sampling of reverse circulation chips was achieved using a riffle splitter
- During drilling operations, the splitter was regularly cleaned to prevent down hole sample contamination
- Dry sampling was achieved with the use of adequate air, using a compressor and booster, where groundwater was encountered
- No field duplicates were collected during the Pyramid Hill and Himalaya North RC drilling

### Rock Chip Sampling

- No sub-sampling techniques are implemented during preparation of rock chip samples
- The nature of rock chip sampling does not support field duplicates and no second half samples were submitted for analysis
- Sample sizes for the above-mentioned techniques are considered appropriate for the targeted mineralisation and intended data application

### 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 (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*



### Thackaringa DDH & RC Drilling Samples

- The nature and quality of all assaying and laboratory procedures employed for samples obtained through drilling (diamond and reverse circulation) are considered 'industry standard' for the respective periods
- The assay techniques employed for drilling (diamond and reverse circulation) include mixed acid digestion with ICP-OES and AAS finishes. These methods are considered appropriate for the targeted mineralisation and regarded as a 'near total' digestion technique with resistive phases not expected to affect cobalt analyses
- All samples have been processed at independent commercial laboratories including AMDEL, Australian Laboratory Services (ALS), Analabs and Genalabs

- All samples from drilling completed by Broken Hill Prospecting during 2011-2012 were processed at ALS in Orange, New South Wales. All samples from drilling completed by Broken Hill Prospecting/Cobalt Blue Holdings during 2016-2017 were processed at ALS Adelaide, South Australia. ALS is a NATA Accredited Laboratory and qualifies for JAS/ANZ ISO9001:2008 quality systems. ALS maintains robust internal QA/QC procedures (including analysis of standards, repeats and blanks).
- To monitor the accuracy of assay results from the FY2017/18 Thackaringa drilling, CRM standards were included in the assay sample stream at an average rate of 1:25. The CRM samples were purchased from Ore Research & Exploration Pty Ltd and the results are summarised below:

Standard Count	Cobalt		Iron		Sulphur	
	± 5%	± 10%	± 5%	± 10%	± 5%	± 10%
496	75%	18%	44%	46%	57%	27%

### Pyramid Hill & Himalaya North RC Drilling Samples (2011)

- The nature and quality of all assaying and laboratory procedures employed for samples obtained through drilling (diamond and reverse circulation) are considered 'industry standard' for the respective periods
- The assay techniques employed for drilling include mixed acid digestion with ICP-OES and AAS finishes. These methods are considered appropriate for the targeted mineralisation and regarded as a 'near total' digestion technique with resistive phases not expected to affect targeted elements
- All samples have been processed at AMDEL; an independent commercial laboratory

- Rock chip samples collected in 2017 were submitted for analysis using a mixed acid digestion and ICP-MS methodology. Samples were processed at ALS in Orange, New South Wales.
- The assay methodologies used for the rock chip samples are considered appropriate for the targeted mineralisation and regarded as 'near total' digestion techniques; however, it is noted digestion may not be complete for garnet and gahnite.
- ALS is a NATA Accredited Laboratory and qualifies for JAS/ANZ ISO9001:2008 quality systems. ALS maintains robust internal QA/QC procedures (including analysis of standards, repeats and blanks).

### Rock Chip Samples

- Historical rock chip samples were submitted for analysis using a mixed acid digestion and ICP-OES methodology. Fire assay techniques were used for gold analysis where results for gold are reported. Samples collected in 2007 - 2011 were processed at AMDEL Laboratories in Adelaide, South Australia while samples collected during 2012 were processed at ALS with the laboratory location not recorded.

### 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.*

- Historical drilling intersections and rock chip results were internally verified by personnel employed by previous explorers including CRAE Pty Limited, Central Austin Pty Limited, Hunter Resources and Broken Hill Prospecting. Broken Hill Prospecting has completed a systematic review of the related data.
- The Thackaringa drilling database exists in electronic form as a Microsoft Access database. Information related to individual drill holes and rock chip samples is stored in digital files as extracted from historical reports (typically including location plan, section, logs, photos, surveys, assays and petrology as appropriate to the sample type)
- Historical drilling data available in electronic form has been re-formatted and imported into the drilling database.
- Samples returning assays below detection limits are assigned half detection limit values in the database.
- Historical rock chip data available in electronic form has been re-formatted and compiled by an independent geological consultant
- Quantitative historical drilling and rock chip data, including assays, have been captured electronically during systematic data compilation and validation completed by Broken Hill Prospecting
- All significant intersections/results are verified by the Company's Exploration Manager and an independent geological consultant

## 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.*

## Thackaringa Drilling

- Historical drill collars have been relocated and surveyed using a differential GPS (DGPS). In the instances where no collar could be located the position has been derived from georeferenced historical plans.
- During systematic data validation completed in 2016, three (3) drill holes at Big Hill were found to be incorrectly located. One collar was located and surveyed by GPS and two were digitised from georeferenced historical plans (reported to the nearest metre) as the collars had been destroyed.

- Down hole surveys using digital cameras were completed on all post 2000 drilling. Down hole surveys for some earlier drilling were estimated from hole trace and section data where raw survey data was not reported
- All FY2017 drill hole collars were located and surveyed with DGPS by an independent surveyor with reported accuracy of  $\pm 0.05\text{m}$  in horizontal and vertical measurement
- All FY2018 drill hole collars presented in this release (17THR039-56) have been located by handheld GPS with reported accuracy of  $\pm 5\text{m}$  pending final survey at the completion of the program
- Downhole surveys using digital cameras were completed on all FY2017/18 drill-holes.
- All data is recorded in the GDA94 datum; UTM Zone 54 (MGA54).
- 3D validation of drilling data has been completed by independent geological consultants to support detailed geological modelling in Micromine™ software
- The quality of topographic control is deemed adequate in consideration of the results presented in this release

## Pyramid Hill & Himalaya North RC Drilling (2011)

- All 2011 Pyramid Hill & Himalaya North drilling is assumed to have been located by handheld GPS deemed standard industry practice for the respective period
- The quality of topographic control is deemed adequate in consideration of the results presented in this release
- No downhole surveys were recorded
- All data is recorded in the GDA94 datum; UTM Zone 54 (MGA54).
- No Mineral Resources have been estimated.

## Rock Chip Samples

- All rock chip samples were located by handheld GPS with reported accuracy of  $\pm 5\text{m}$
- All data is recorded in the GDA94 datum; UTM Zone 54 (MGA54).
- The quality of topographic control is deemed adequate in consideration of the results presented in this release
- Rock chip samples are NOT included or considered during Mineral Resource estimation

## 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.*

### Thackaringa Drilling

- The data density of existing drill holes at Thackaringa has been materially increased by the FY2018 drilling program
- Detailed geological mapping is supported by drillhole data of sufficient spacing and distribution to establish a 3D geological model.
- No sample compositing has been applied to reported intersections

### Pyramid Hill & Himalaya North RC Drilling (2011)

- The data density of drilling at the Pyramid Hill and Himalaya North prospects is insufficient to establish a degree of geological and grade continuity appropriate for the Mineral Resource
- No sample compositing has been applied to reported intersections

### Rock Chip Samples

- Rock chip sampling is selective in nature; the distribution of sampling is primarily influenced by the occurrence of outcrop
- No sample compositing has been applied to reported intersections
- Rock chip samples are NOT included or considered during Mineral Resource estimation

## 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.

### Thackaringa Drilling

- The FY2018 drill holes at the Thackaringa project were typically angled at -550 or -600 to the horizontal and drilled perpendicular to the mineralised trend.
- Drilling orientations are adjusted along strike to accommodate folded geological sequences.
- Mineralisation at the Big Hill and Railway prospects is steeply dipping and consequently mineralised intersections will be greater than true width. At Pyrite Hill mineralisation is gently dipping and mineralised intersections will be close to true width.
- The drilling orientation is not considered to have introduced a sampling bias on assessment of the current geological interpretation

### Pyramid Hill & Himalaya North RC Drilling (2011)

- The drill holes at the Pyramid Hill & Himalaya North prospects were typically angled at -600 or -700 to the horizontal and drilled perpendicular to the mineralised trend.
- Mineralisation at Pyramid Hill is moderately-steeply dipping and consequently drilling intersections are potentially greater than true width
- Mineralisation at Himalaya North is steeply dipping and consequently drilling intersections are potentially greater than true width
- The drilling orientation is not considered to have introduced a sampling bias on assessment of the current geological interpretation

### Rock Chip Samples

- Rock chip samples are selective in nature and therefore not wholly representative of the underlying geology

### Sample security

- *The measures taken to ensure sample security.*
- Sample security procedures are considered to be 'industry standard' for the respective periods
- Following recent drilling completed by Broken Hill Prospecting/Cobalt Blue Holdings, samples were trucked by an independent courier directly from Broken Hill to ALS, Adelaide.

- The Company considers that risks associated with sample security are limited given the nature of the targeted mineralisation

## AUDITS OR REVIEWS

- *The results of any audits or reviews of sampling techniques and data.*
- In late 2016 an independent validation of the Thackaringa drilling database was completed:
  - The data validation process consisted of systematic review of drilling data (collars, assays and surveys) for identification of transcription errors
  - Following review, historical drill hole locations were also validated against georeferenced historical maps to confirm their location
  - Three (3) drill holes at Big Hill were found to be incorrectly located. One collar was located and surveyed by GPS and two were digitised from georeferenced historical plans (reported to the nearest metre) as the collars had been destroyed. These corrections were captured in the Big Hill Mineral Resource estimate
  - Total depths for all holes were checked against original reports
  - Final 3D validation of drilling data has been completed by independent geological consultants to support detailed geological modelling in Micromine™ software
- Audits and reviews of QAQC results and procedures are further described in preceding sections of this table including Quality of assay data and laboratory tests, Sub-sampling techniques and sample preparation and Logging

## Section 2 Reporting of Exploration Results

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

### 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 Thackaringa Cobalt project is located approximately 25 kilometres west-southwest of Broken Hill and comprises four tenements with a total area of 63 km2:

Tenement	Grant Date	Expiry Date
EL6622	30/08/2006	30/08/2020
EL 8143	26/07/2013	26/07/2020
ML86	05/11/1975	05/11/2022
ML87	05/11/1975	05/11/2022

- The project tenure is subject to a Farm-In agreement between Cobalt Blue Holdings Limited (COB) and Broken Hill Prospecting Limited (BPL). The nature of this agreement is detailed in the COB Replacement Prospectus (as released 4 January 2017).
- The nearest residence (Thackaringa Station) is located approximately three kilometres west of EL6622.
- EL6622 is transected by the Transcontinental Railway; the Barrier Highway is located the north of the licence boundaries.
- The majority of the project tenure is covered by Western Lands Lease which is considered to extinguish native title interest. However, Native Title Determination NC97/32 (Barkandji Traditional Owners 8) is current over the area and may be relevant to Crown Land parcels (e.g. public roads) within the project area.
- The project tenure is more than 90 kilometres from the nearest National Park and or Wilderness Area (Kinchega National Park) and approximately 20 kilometres south of



the nearest Water Supply Reserve (Umberumberka Reservoir Water Supply Reserve)

- The Company is not aware of any impediments to obtaining a licence to operate in the area

## EXPLORATION DONE BY OTHER PARTIES

- *Acknowledgment and appraisal of exploration by other parties.*
- A detailed and complete record of all exploration activities is appended to the JORC Table 1 which forms part of the Cobalt Blue Prospectus Document, available on the BPL website.

## GEOLOGY

- *Deposit type, geological setting and style of mineralisation.*

### Regional Geological Setting

- The Thackaringa project is located in a deformed and metamorphosed Proterozoic supracrustal succession named the Willyama Supergroup, which crops out as several inliers in western New South Wales, including the Broken Hill Block (Willis, et al., 1982).
- Exploration by BPL Limited has been focused on the discovery of cobaltiferous pyrite deposits and Broken Hill type base-metal mineralisation both of which are known from historical exploration in the district.
- The project area covers portions of the Broken Hill and Thackaringa group successions which host the majority of mineralisation in the region, including the Broken Hill base-metal deposit. The Sundown Group suite is also present. The extensive sequence of quartz-albite-plagioclase rock that hosts the cobaltiferous pyrite mineralisation is interpreted as belonging to the Himalaya Formation, which is stratigraphically at the top of the Thackaringa Group.

### Local Geological Setting

- The oldest rocks in the region belong to the Curnamona Craton which outcrops on the Broken Hill and Euriowie blocks.
- The overlying Proterozoic rocks have been broadly subdivided into three major groupings, of which the oldest groups are the highly deformed metasediments and igneous derived rocks of the Thackaringa and Broken Hill groups. They comprise a major part of the Willyama Supergroup and host the giant Broken Hill massive Pb-Zn-Ag sulphide ore body. EL6622 is

within the Broken Hill block of the Curnamona Craton.

## Mineralisation Style

- The Thackaringa Mineral deposits (Pyrite Hill, Big Hill and Railway) are characterised by large tonnage cobaltiferous-pyrite mineralisation hosted within siliceous albitic gneisses and schists of the Himalaya Formation
- Cobalt mineralisation exists within stratabound pyritic horizons where cobalt is present within the pyrite lattice. Mineralogical studies have indicated the majority of cobalt (~85%) is found in solid solution with primary pyrite (Henley 1998).
- A strong correlation between pyrite content and cobalt grade is observed
- The regional geological setting indicates additional mineralisation targets such as that intersected at Pyramid Hill and Himalaya North, including:
  - Stratiform Broken Hill Type (BHT) Copper-Lead-Zinc-Silver deposits
  - Copper-rich BHT deposits
  - Stratiform to stratabound Copper-Cobalt-Gold deposits
  - Epigenetic Gold and Base metal deposits

## 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 ID	Deposit	Max Depth (m)	NAT Grid ID	Easting	Northing	RL	Dip	Azimuth	Hole Type	Pre-Collar Depth
67TH01	Pyrite Hill	304.2	MGA94_54	518565	6449460	281	-55	261	DDH	
70TH02	Pyrite Hill	148.6	MGA94_54	518272	6449681	284	-61	219	DDH	
70TH03	Pyrite Hill	141.4	MGA94_54	518450	6449212	290	-62	284	DDH	
70BH01	Big Hill	102.7	MGA94_54	520851	6449309	285	-47	319	DDH	
70BH02	Big Hill	103.9	MGA94_54	520786	6449264	280	-50	319	DDH	
80PYH13	Pyrite Hill	77	MGA94_54	518358	6449038	290	-50	281	DDH	
80PYH14	Pyrite Hill	300.3	MGA94_54	518661	6449288	278	-60	281	DDH	
80PYH03	Pyrite Hill	35	MGA94_54	518252	6449570	299	-60	221	PDDH	22
80BGH09	Big Hill	100.5	MGA94_54	520657	6449293	273	-50	145	DDH	
80PYH01	Pyrite Hill	24.53	MGA94_54	518246	6449566	301	-60	203	PDDH	6
80PYH02	Pyrite Hill	51.3	MGA94_54	518261	6449574	298	-60	221	PDDH	33.58
80PYH04	Pyrite Hill	55	MGA94_54	518367	6449232	308	-60	296	PDDH	38.7
80PYH05	Pyrite Hill	93.6	MGA94_54	518227	6449678	285	-49	223	PDDH	18
80PYH06	Pyrite Hill	85.5	MGA94_54	518163	6449757	284	-54.4	223	PDDH	18
80PYH07	Pyrite Hill	94.5	MGA94_54	518084	6449818	285	-55	223	PDDH	12
80PYH08	Pyrite Hill	110	MGA94_54	518010	6449885	286	-60	223	PDDH	8
80PYH09	Pyrite Hill	100.5	MGA94_54	517917	6449932	287	-48.5	223	PDDH	8
80PYH10	Pyrite Hill	145.3	MGA94_54	518393	6449566	286	-50	223	PDDH	25.5
80PYH11	Pyrite Hill	103.1	MGA94_54	518441	6449330	297	-50	281	PDDH	18
80PYH12	Pyrite Hill	109.5	MGA94_54	518407	6449137	293	-50	281	PDDH	4.2
80BGH05	Big Hill	54.86	MGA94_54	520955	6449534	289	-60	164	RCDDH	45.5
98TC01	Railway	100	MGA94_54	522750	6451340	267	-60	159	RC	
98TC02	Railway	100	MGA94_54	522392	6451387	267	-60	141	RC	
98TC03	Big Hill	84	MGA94_54	520816	6449369	313	-60	136	RC	
98TC04	Big Hill	138.25	MGA94_54	520860	6449451	304	-60	141	RC	
98TC05	Big Hill	70	MGA94_54	520728	6449328	289	-50	123	RC	
98TC06	Big Hill	108	MGA94_54	520715	6449343	285	-60	126	RC	
98TC07	Big Hill	120	MGA94_54	520786	6449388	299	-50	134	RC	
98TC08	Big Hill	90	MGA94_54	520802	6449478	291	-60	151	RC	
98TC09	Big Hill	114	MGA94_54	520822	6449461	296	-60	134	RC	
98TC10	Big Hill	134	MGA94_54	521018	6449576	282	-50	173	RC	
98TC11	Railway	35	MGA94_54	522411	6451374	267	-60	133	RC	
80BGH06	Big Hill	68.04	MGA94_54	520880	6449472	299	-60	171	RCDDH	58
80BGH08	Big Hill	79.7	MGA94_54	520769	6449391	296	-60	127	RCDDH	69.9
80BGH07	Big Hill	23	MGA94_54	521137	6449599	274	-60	178	RC	
93MGM01	Pyrite Hill	70	MGA94_54	518185	6449714	286	-60	223	RDDH	24
93MGM02	Pyrite Hill	180	MGA94_54	518515	6449455	285	-60	259	RDDH	48
11PHR01	Pyrite Hill	150	MGA94_54	518435	6449073	285	-60	279	RC	

Hole ID	Deposit	Max Depth (m)	NAT Grid ID	Easting	Northing	RL	Dip	Azimuth	Hole Type	Pre-Collar Depth
11PHR02	Pyrite Hill	198	MGA94_54	518500	6449159	284	-60	279	RC	
11PHR03	Pyrite Hill	240	MGA94_54	518560	6449190	280	-60	279	RC	
11PHR04	Pyrite Hill	186	MGA94_54	518529	6449257	284	-60	279	RC	
11PHR05	Pyrite Hill	234	MGA94_54	518584	6449398	280	-60	259	RC	
11PHR06	Pyrite Hill	180	MGA94_54	518491	6449523	284	-60	234	RC	
11PHR07	Pyrite Hill	174	MGA94_54	518413	6449593	283	-60	219	RC	
11PHR08	Pyrite Hill	180	MGA94_54	518343	6449656	283	-60	218	RC	
11PSR01	Pyrite Hill	59	MGA94_54	518743	6448864	268	-60	258	RC	
11PSR02	Pyrite Hill	132	MGA94_54	518719	6448960	270	-60	255	RC	
11PSR03	Pyrite Hill	78	MGA94_54	518687	6449055	273	-60	255	RC	
12BER01	Railway	157	MGA94_54	521667	6449893	278	-60	141	RC	
12BER02	Railway	132	MGA94_54	521213	6449691	274	-60	162	RC	
12BER03	Railway	151	MGA94_54	521879	6450435	289	-60	102	RC	
12BER04	Railway	148	MGA94_54	522354	6451268	274	-60	131	RC	
12BER05	Railway	145	MGA94_54	522439	6451168	300	-60	124	RC	
12BER06	Railway	169	MGA94_54	522481	6451091	296	-60	118	RC	
12BER07	Railway	115	MGA94_54	522324	6450749	278	-60	144	RC	
12BER08	Railway	193	MGA94_54	522221	6450812	273	-60	129	RC	
12BER09	Railway	139.75	MGA94_54	522101	6450881	276	-60	129	RC	
12BER10	Railway	151	MGA94_54	521953	6450716	284	-60	129	RC	
12BER11	Railway	193	MGA94_54	522737	6451377	266	-60	153	RC	
12BER12	Railway	111	MGA94_54	522910	6451517	277	-60	153	RC	
12BER13	Railway	205	MGA94_54	522884	6451558	271	-60	156	RC	
12BER14	Railway	151	MGA94_54	523125	6451637	288	-60	152	RC	
12BER15	Railway	109	MGA94_54	523311	6451842	284	-60	154	RC	
12BER16	Railway	115	MGA94_54	522994	6451592	276	-60	156	RC	
12BER17	Railway	115.5	MGA94_54	522517	6451315	269	-60	153	RC	
12BER18	Railway	157	MGA94_54	522333	6451281	272	-60	129	RC	
12BER19	Railway	97	MGA94_54	522241	6451067	276	-60	135	RC	
12BER20	Railway	120	MGA94_54	521292	6449734	277	-60	165	RC	
13BED01	Railway	349.2	MGA94_54	522480	6451092	296	-60	301	DDH	
16DM01	Pyrite Hill	161.6	MGA94_54	518411	6449594	283	-60	216	DDH	
16DM02	Pyrite Hill	183.4	MGA94_54	518527	6449262	284	-60	285	DDH	
16DM03	Big Hill	126.5	MGA94_54	521037	6449567	283	-60	159	DDH	
16DM04	Big Hill	105.4	MGA94_54	520815	6449464	296	-55	129	DDH	
16DM05	Railway	246.5	MGA94_54	522104	6450882	277	-60	129	DDH	
16DM06	Railway	160.4	MGA94_54	522912	6451519	279	-60	153	DDH	
16DM07	Railway	242.5	MGA94_54	522995	6451598	276	-60	156	DDH	

Hole ID	Deposit	Max Depth (m)	NAT Grid ID	Easting	Northing	RL	Dip	Azimuth	Hole Type	Pre-Collar Depth
16DM08	Railway	258.5	MGA94_54	522351	6451273	274	-60	131	DDH	
17THD01	Pyrite Hill	124.2	MGA94_54	518382	6449551	289	-40	222	DDH	
17THD02	Pyrite Hill	149.7	MGA94_54	518475	6449445	291	-40	258	DDH	
17THD03	Pyrite Hill	78.5	MGA94_54	518370	6449190	303	-40	285	DDH	
17THD04	Big Hill	119.8	MGA94_54	521078	6449589	278	-45	155	DDH	
17THD05	Big Hill	99.5	MGA94_54	521669	6449889	279	-40	131	DDH	
17THD06	Railway	165.5	MGA94_54	521970	6450705	287	-45	128	DDH	
17THD07	Railway	274.6	MGA94_54	522569	6451282	271	-45	157	DDH	
17THD08	Railway	132.5	MGA94_54	522784	6451280	269	-45	326	DDH	
17THD09	Railway	120.5	MGA94_54	522905	6451511	278	-40	153	DDH	
17THD10	Railway	84.2	MGA94_54	522992	6451569	280	-45	130	DDH	
17THD11	Railway	111.5	MGA94_54	523109	6451682	281	-40	161	DDH	
17THD12	Railway	126.5	MGA94_54	522796	6451419	273	-40	141	DDH	
17THD13	Railway	105.5	MGA94_54	522836	6451456	277	-40	139	DDH	
17THD14	Pyrite Hill	99	MGA94_54	518375	6449089	294	-60	285	DDH	
17THR001	Railway	156	MGA94_54	522615	6451277	268	-60	120	RC	
17THR002	Railway	160	MGA94_54	522573	6451299	269	-60	120	RC	
17THR003	Railway	96	MGA94_54	522124	6450868	277	-60	130	RC	
17THR004	Railway	150	MGA94_54	522387	6451319	271	-60	120	RC	
17THR005	Railway	72	MGA94_54	522024	6450783	282	-60	120	RC	
17THR006	Railway	114	MGA94_54	522049	6450780	284	-58	125	RC	
17THR007	Railway	180	MGA94_54	521965	6450699	287	-59	125	RC	
17THR008	Railway	132	MGA94_54	521917	6450562	292	-56	105	RC	
17THR009	Railway	120	MGA94_54	521906	6450496	293	-58	105	RC	
17THR010	Railway	72	MGA94_54	521959	6450398	286	-56	285	RC	
17THR011	Railway	126	MGA94_54	522302	6451169	277	-56	120	RC	
17THR012	Railway	180	MGA94_54	522440	6451304	275	-58	173	RC	
17THR013	Big Hill	102	MGA94_54	521750	6449942	285	-60	131	RC	
17THR014	Big Hill	104	MGA94_54	521628	6449796	278	-53	130	RC	
17THR015	Big Hill	108	MGA94_54	521793	6449918	285	-58	310	RC	
17THR016	Pyrite Hill	138	MGA94_54	518446	6449209	290	-57	283	RC	
17THR017	Pyrite Hill	120	MGA94_54	518449	6449263	293	-56	282	RC	
17THR018	Pyrite Hill	78	MGA94_54	518027	6449806	290	-60	222	RC	
17THR019	Pyrite Hill	72	MGA94_54	518105	6449754	288	-55	222	RC	
17THR020	Pyrite Hill	66	MGA94_54	518166	6449695	289	-60	222	RC	
17THR021	Pyrite Hill	78	MGA94_54	518183	6449717	286	-60	222	RC	
17THR022	Pyrite Hill	156	MGA94_54	518510	6449306	287	-55	281	RC	
17THR023	Pyrite Hill	150	MGA94_54	518506	6449377	289	-57	265	RC	



Hole ID	Deposit	Max Depth (m)	NAT Grid ID	Easting	Northing	RL	Dip	Azimuth	Hole Type	Pre-Collar Depth
17THR024	Pyrite Hill	150	MGA94_54	518457	6449498	288	-59.5	229	RC	
17THR025	Pyrite Hill	114	MGA94_54	518311	6449609	287	-60	222	RC	
17THR026	Pyrite Hill	114	MGA94_54	518268	6449681	284	-60	222	RC	
17THR027	Pyrite Hill	72	MGA94_54	518243	6449646	287	-60	222	RC	
17THR028	Railway	150	MGA94_54	522457	6451167	301	-60	350	RC	
17THR029	Railway	162	MGA94_54	522482	6451084	296	-60	175	RC	
17THR030	Railway	138	MGA94_54	522783	6451423	271	-55	140	RC	
17THR031	Railway	120	MGA94_54	522945	6451566	276	-55	145	RC	
17THR032	Railway	132	MGA94_54	522819	6451473	274	-53	140	RC	
17THR033	Railway	120	MGA94_54	522501	6451315	270	-60	175	RC	
17THR034	Railway	132	MGA94_54	522321	6451214	276	-55	127	RC	
17THR035	Railway	156	MGA94_54	522259	6451120	276	-55.2	130	RC	
17THR036	Railway	92	MGA94_54	522186	6450998	275	-61.2	130	RC	
17THR037	Railway	126	MGA94_54	522148	6450941	274	-55	126	RC	
17THR038	Railway	168	MGA94_54	521927	6450619	290	-55	108	RC	
17THR039	Railway	210	MGA94_54	522475	6451299	274	-55.8	162	RC	
17THR040	Railway	276	MGA94_54	522530	6451304	269	-55	156	RC	
17THR041	Railway	210	MGA94_54	522689	6451245	265	-55	331	RC	
17THR042	Railway	234	MGA94_54	522586	6451163	283	-55	336	RC	
17THR043	Railway	200	MGA94_54	522535	6451185	289	-55	341	RC	
17THR044	Railway	180	MGA94_54	522419	6451168	297	-55	311	RC	
17THR045	Railway	210	MGA94_54	522529	6451172	290	-55	311	RC	
17THR046	Railway	216	MGA94_54	522502	6451202	291	-56	311	RC	
17THR047	Railway	246	MGA94_54	522432	6451124	296	-55	311	RC	
17THR048	Railway	122	MGA94_54	522482	6451125	297	-55	310	RC	
17THR049	Railway	138	MGA94_54	522379	6451135	292	-55	310	RC	
17THR050	Railway	154	MGA94_54	522655	6451138	274	-63	344	RC	
17THR051	Railway	174	MGA94_54	522367	6451073	285	-55	308	RC	
17THR052	Railway	246	MGA94_54	522644	6451175	275	-55	334	RC	
17THR053	Railway	156	MGA94_54	522315	6451031	278	-55	314	RC	
17THR054	Railway	180	MGA94_54	522671	6451232	268	-60	333	RC	
17THR055	Railway	114	MGA94_54	522259	6450991	278	-55	313	RC	
17THR056	Railway	102	MGA94_54	522555	6451285	272	-55	158	RC	

DDH - Diamond drill hole  
PDDH - Diamond drill hole with percussion pre-collar  
RCDDH - Diamond drill hole with reverse circulation pre-collar  
RDDH - Diamond drill hole with rotary air blast pre-collar  
RC - Reverse Circulation drill hole

## Pyramid Hill & Himalaya North RC Drillholes (2011)

Hole ID	Deposit	Max Depth (m)	NAT Grid ID	Easting	Northing	RL	Dip	Azimuth	Hole Type	Pre-Collar Depth
11RCPM1	Pyramid Hill	91	MGA94_54	518724	6451806	299	-60	225	RC	
11RCPM2	Pyramid Hill	88	MGA94_54	518699	6451832	299	-60	225	RC	
11RCPM3	Pyramid Hill	91	MGA94_54	518670	6451861	298	-60	225	RC	
11RCPM4	Pyramid Hill	85	MGA94_54	518653	6451903	299	-60	225	RC	
11RCPM5	Pyramid Hill	88	MGA94_54	518623	6451936	300	-60	225	RC	
11RCPM6	Pyramid Hill	46	MGA94_54	518747	6452083	310	-70	270	RC	
11RCHN1	Himalaya North	94	MGA94_54	523053	6448949	253	-60	110	RC	
11RCHN2	Himalaya North	97	MGA94_54	523069	6448983	255	-60	110	RC	
11RCHN3	Himalaya North	96	MGA94_54	523083	6449023	256	-60	110	RC	
11RCHN4	Himalaya North	97	MGA94_54	523099	6449059	255	-60	110	RC	
11RCHN5	Himalaya North	94	MGA94_54	523108	6449099	254	-60	110	RC	
11RCHN6	Himalaya North	97	MGA94_54	523123	6449135	254	-60	110	RC	

RC - Reverse Circulation drill hole

## Rock Chip Samples

Sample ID	Target/Prospect	NAT Grid ID	Easting	Northing
R131	Himalaya North	MGA94_54	523155	6449103
R134	Himalaya North	MGA94_54	523136	6449052
R137	Himalaya North	MGA94_54	523103	6448880
R025	Old Coolgardie West	MGA94_54	512768	6447481
R196	Old Coolgardie West	MGA94_54	512782	6447428
R200	Old Coolgardie West	MGA94_54	512897	6446913
R082	Pyramid Hill	MGA94_54	518617	6451794
R084	Pyramid Hill	MGA94_54	518558	6451880
R085	Pyramid Hill	MGA94_54	518735	6452067
R155	Pyramid Hill	MGA94_54	518193	6452740
RA14109	Quartz-Gahnite Outcrop	MGA94_54	518945	6449597

## Relevant Significant Intersections

Hole ID	From (m)	To (m)	Interval (m)	Co (ppm)	S (%)	Fe (%)
<b>12BER06</b>	<b>131</b>	<b>169</b>	<b>38</b>	<b>844</b>	<b>8.3</b>	<b>12.8</b>
13BED01	266	291.5	25.5	872	8.5	7.8
17THR011	30	83	53	1116	12	10.9
<i>including</i>	31	62	31	1423	15.5	13.5
17THR029	18	90	72	766	7.4	9.5
<i>including</i>	43	75	32	1043	9.2	12.3
17THR034	38	94	56	1036	10.2	10.6
<i>including</i>	38	74	36	1217	12.1	11.5
17THR039	16	62	46	719	6.5	6.7
	157	183	26	693	5.3	7.9

17THR040	47	86	39	852	7.6	7.6
	169	174	5	863	7.9	9.1
17THR041	48	54	6	791	9.8	14.5
	164	178	14	710	7.8	11.9
	194	204	10	870	7.9	10.0
17THR042	15	87	72	1115	10.1	9.8
	135	146	11	794	8.1	10.2
17THR043	176	188	12	732	6.6	6.7
17THR044	116	135	19	663	5.7	9.6
	145	167	22	715	9.1	11.7
17THR045	154	179	25	1204	9.5	10.6
17THR046	100	106	6	981	6.7	7.3
	119	146	27	744	7.7	9.4
17THR047	11	29	18	1145	7.5	7.5
	205	246	41	682	7.6	8.4
17THR049	64	131	67	906	9.5	9.1
17THR050	25	49	24	851	8.5	14.1
17THR051	107	161	54	792	8.0	7.8
17THR052	10	30	20	982	12.2	11.4
	104	217	113	830	7.3	7.8
17THR053	21	28	7	765	6.7	6.1
	103	143	40	886	9.2	9.8
17THR054	84	92	8	838	9.2	13.6
	138	152	14	637	6.8	11.2
	160	166	6	711	7.4	9.2
17THR055	61	102	41	1096	10.4	10.0
17THR056	19	34	15	842	6.5	7.8
	75	102	27	787	7.8	7.6

## DATA AGGREGATION METHODS

- In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.
- Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.
- The assumptions used for any reporting of metal equivalent values should be clearly stated.

## Drilling

- Drill hole intercept grades are typically reported as down-hole length-weighted averages with any non-recovered sample within the reported intervals treated as no grade. The cut-off used for selecting significant intersections is selected to reflect the overall tenor of mineralisation

- No top cuts have been applied when calculating average grades for reported significant intersections

- No metal equivalent values are reported

## Rock Chip Sampling

- Where sample results have been reported as 'returning maxima' or 'maximum values', results may be aggregated from multiple samples and reflect the maximum assay for each reported element within the context of the sampling programs (i.e. per individual prospect)
- Example: 'Old Coolgardie West is defined by anomalous rock chip samples occurring over some 800m strike and returning a maximum 5.2% Cu, 140g/t Ag, 0.2g/t Au, 0.2% Ni & 0.1% Pb'. These 'maxima' results have been aggregated from three individual samples:
  - R025: 5.2% Cu, 0.2g/t Au & 0.2% Ni and
  - R196: 140g/t Ag and
  - R200: 0.1% Pb'

## 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 drillhole angle is known, its nature should be reported.
- If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').

## Thackaringa Drilling

- Drill holes at the Thackaringa project are typically angled at 50° or 60° and drilled perpendicular to the mineralised trend with drilling orientations adjusted along strike to accommodate folded geological sequences
- Mineralisation at the Big Hill and Railway prospects is steeply dipping and consequently mineralised intersections will be greater than true width. At Pyrite Hill mineralisation is gently dipping and mineralised intersections will be close to true width.
- There is insufficient geological knowledge to accurately estimate true widths and as such all drill intersections are reported as down hole lengths

## Pyramid Hill & Himalaya North RC Drilling (2011)

- The drill holes at the Pyramid Hill & Himalaya North prospects were typically angled at -60° or -70° to the horizontal and drilled perpendicular to the mineralised trend.
- Mineralisation at Pyramid Hill is moderately-steeply dipping and consequently drilling intersections are potentially greater than true width
- Mineralisation at Himalaya North is steeply dipping and consequently drilling intersections are potentially greater than true width
- There is insufficient geological knowledge to accurately estimate true widths and as such all drill intersections are reported as down hole lengths

## 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

- Appropriate maps and sections are presented in the accompanying ASX release.

- Rock chip samples in Figure 2 have been filtered to show only the samples collected across the base and metal targets/prospects. Samples collected from Pyrite Hill, Big Hill and Railway are not shown.

## 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.
- Only mineralised drill hole intersections regarded as highly anomalous and of economic interest are reported. The proportion of each hole represented by the reported intervals can be ascertained from the sum of the reported intervals divided by the total drill hole depth.
- Only rock chip sample results regarded as anomalous and indicating potential prospectivity are reported whereby these results are NOT considered during Mineral Resource estimation

## 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.
- Shallow reconnaissance drilling material to the Pyramid Hill and Himalaya North prospects is further described in preceding sections of this table

## Further work

- The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).
- Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.
- The nature and scale of planned further work is outlined in the accompanying ASX release.