

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
Industrial Metals

Directors & Management

Creagh O'Connor
Non-Executive Chairman

Trangie Johnston
Managing Director

Geoff Hill
Non-Executive Director

Matt Hill
Non-Executive Director

Denis Geldard
Non-Executive Director

Ian Morgan
Company Secretary

Capital Structure

Ordinary Shares on Issue (30/9/18) **148M**

Options: Listed **47M**

Market Cap (undiluted at 3cps) **\$4.4M**

Broken Hill Prospecting Ltd

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Highlights

Corporate

- Broken Hill Prospecting Limited (ASX: BPL) received notice on [24 October 2018](#) from Cobalt Blue Holdings Ltd (ASX: COB) that it would not proceed with its Stage 3 earn-in to the world class Thackaringa Cobalt Project.
- The equitable ownership interest in the project will remain at a 30% interest for BPL and a 70% interest for COB. This represents a considerable positive shift in value to BPL shareholders. BPL will retain 100% legal title, all base/precious metal rights and a 2% Net Smelter Royalty (NSR).
- Severe drought conditions across the tenement portfolio has restricted field activities until further notice. BPL has built strong relationships with all key stakeholders on-ground and continues to work with landowners in a professional manner.

Thackaringa Cobalt Project

- Since the Pre-feasibility Study (PFS) was released in mid-2018, BPL has actively sought to negotiate a sensible and agreed path with COB so that the Project can be advanced. Given the large common shareholder base between the companies, BPL will continue to do this and remains open to a commercial solution.
- On [24 November 2018](#), BPL released a 4-Step Action plan to restore shareholder value and confidence in Thackaringa and to ensure the Project's delivery. The Action Plan includes:
 1. Appoint a respected, professional and independent manager.
 2. Correct the deficiencies in the Pre-Feasibility Study (PFS) that was released last July.
 3. Jointly determine the appropriate scope and standard for the next stage of the Project.
 4. Use our available cash resources effectively and live within our means to achieve these goals.
- Five disputes related to a number of TJV matters are currently under negotiation with COB, and include: the recent drilling campaign, role of COB as manager, dilution formula, stage 2 satisfaction and the NSR calculation. These disputes are being worked through and remain unresolved.
- COB released Project updates on the 5 December 2018 and 16 January 2019 related to drilling and other technical programs. Due to a lack of reporting by COB, BPL is unable to provide any details on these programs, which are at the

sole risk and cost to COB.

Broken Hill Base and Precious Metals

- Significant Copper-Cobalt grades flagged by historical assay data at the Burt & Catterson's prospect were confirmed with re-assayed results including:
 - 4.7m at 690ppm Co and 0.18% Cu from 121.3m in 57BC-1;
 - 5.5m at 0.34% Cu from 234.2m in 57BC-2
- Detailed geological logging, additional sampling of historical core and inspection of key regional outcrops of the Thackaringa Group confirmed the Cu-Co mineralisation potential.
- Planned geophysical surveys at Thackaringa on advanced Broken Hill style prospects have been delayed due to the drought.

Murray Basin Heavy Mineral Sands

- Detailed interpretation on newly processed magnetic geophysical data, combined with known heavy mineral intersections from historical drilling on Ouyen and Tyrrell Ridge in Victoria, was completed. This included the systematic ranking of 150 linear magnetic anomalies, and 43 were prioritised for drilling.
- Planned field activities have been delayed due to the drought.

Thackaringa Joint Venture

COB announced on the 16 January 2019 that it had completed 9,561 metres of a drilling campaign originally planned to exceed 15,000 metres. Infill drilling was focused on the Pyrite Hill deposit (Figure 1), with initial assays confirming mineralisation continuity. Further assays are expected in February-March, with an updated Mineral Resource estimate due by the end of Q1 2019.

COB has paused drilling operations at the Thackaringa Project while rehabilitation continues. COB was unable to secure an extension to the land access agreement as it did not include BPL, as the 100% lease holder, in negotiations with the land owner.

Drilling campaign breakdown and initial results include:

Deposit	Reverse Circulation Drilling		Diamond Drilling	
	No. Drill Holes	No. Metres	No. Drill Holes	No. Metres
Pyrite Hill	42	6,350	22	2,337
Railway	6	874	-	-
TOTAL	48	7,224	22	2,337

- 18THR001: 56m at 824ppm Co, 11.1% Fe & 9.4% S from 146m
- 18THR002: 68m at 1218ppm Co, 13.4% Fe & 13.4% S from 116m
- 18THR003: 52m at 1042ppm Co, 11.1% Fe & 11.2% S from 93m
- 18THR004: 91m at 826ppm Co, 12.8% Fe & 10.2% S from 67m
- 18THD001: 24m at 673ppm Co, 9.8% Fe & 7.1% S from 6.9m
- 18THD003: 15.05m at 658ppm Co, 11.3% Fe & 7.6% S from 18.65m

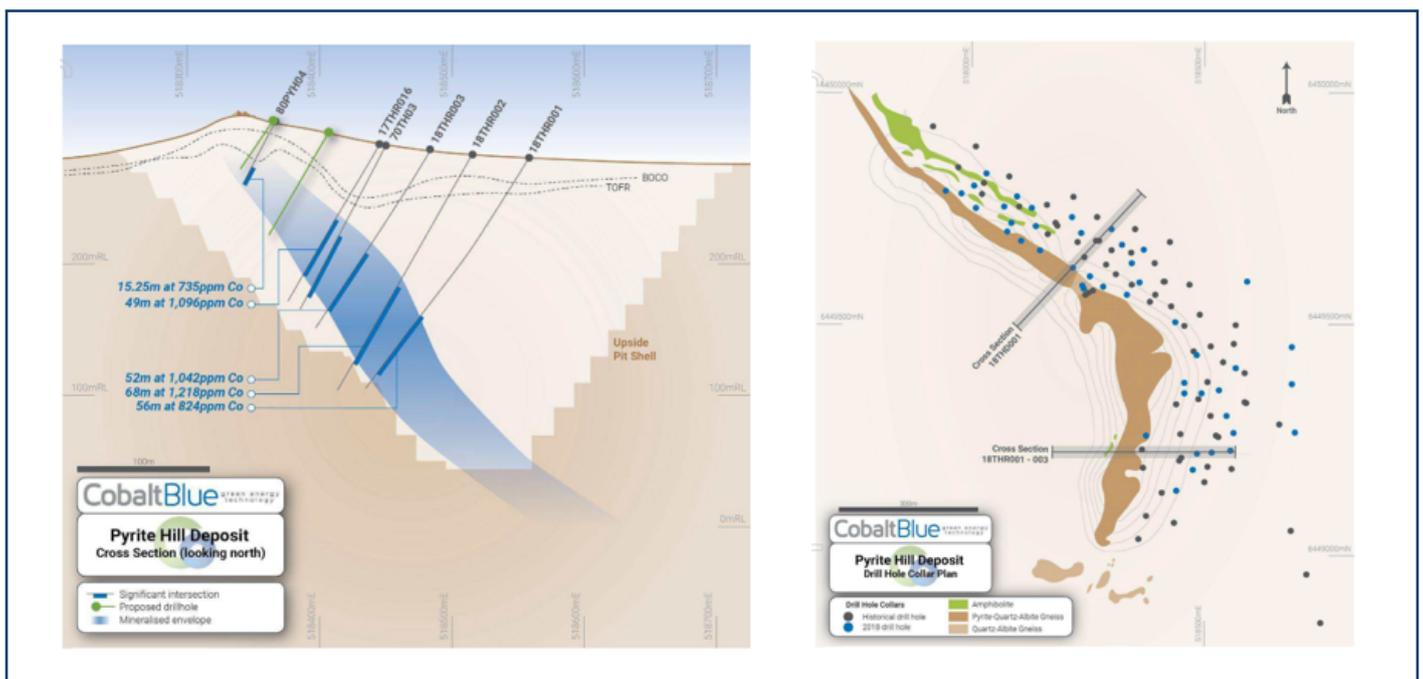


Figure 1. Plan and cross sections of the Pyrite Hill deposit with recent drilling results.

Essential Water confirmed 1.5GL per annum was available for the Thackaringa Project for commercial process plant operations, with this water to be supplied from the new Wentworth-Broken Hill Pipeline that is being commissioned during Q1 2019. The Process Plant Water Balance developed in the Pre-Feasibility Study identified a water supply requirement of 1.22 GL per annum, which included a 5% allowance for evaporation. With a 20% contingency, the processing water supply requirement is 1.5 GL per annum.

A lack of reporting by COB on TJV matters has restricted BPL's ability to convey more details.

Broken Hill Base and Precious Metals

Exploration in the Broken Hill region was limited due to the severe drought conditions and requests by landowners to defer programs until conditions improved. BPL is working closely with landowners and appreciates the difficult current situation, especially after a number of recent intense heat waves affecting the region.

Planned on-ground geophysical programs at the high priority Broken Hill style Himalaya North and Pyramid Hill prospects on EL 6622 and EL 8143 have been deferred.

Work instead commenced on the Company's regional exploration program on three exploration licences acquired in 2018 covering

209 km² of prospective terrain in the Broken Hill district (Figure 2). The tenements cover under-explored Broken Hill and Thackaringa group rocks, with numerous base and precious metals, and industrial mineral prospects. These tenements significantly increase the Company's holdings in this world class mineral province.

EL8773 (Main Line) contains Cu-Co mineralisation hosted in rocks of the Thackaringa Group at the historical Burt & Catterson's Prospect. As announced [4 October 2018](#), significant Copper-Cobalt grades flagged by historical assay data at the prospect were confirmed with re-assayed results including:

- 4.7m at 690ppm Co and 0.18% Cu from 121.3m in 57BC-1;
- 5.5m at 0.34% Cu from 234.2m in 57BC-2

Following receipt of the assays, detailed geological logging and further sampling of historical core was undertaken and has resulted in an improved understanding of the mineralisation and host sequence, allowing comparison with BPL's targets on the Thackaringa leases (EL6622 and EL8143) and other regionally significant prospects. Other deposits in Thackaringa Group rocks include the Big Hill, Pyrite Hill and Railway pyrite-cobalt deposits and Silver City Minerals Ltd's Copper Blow project.

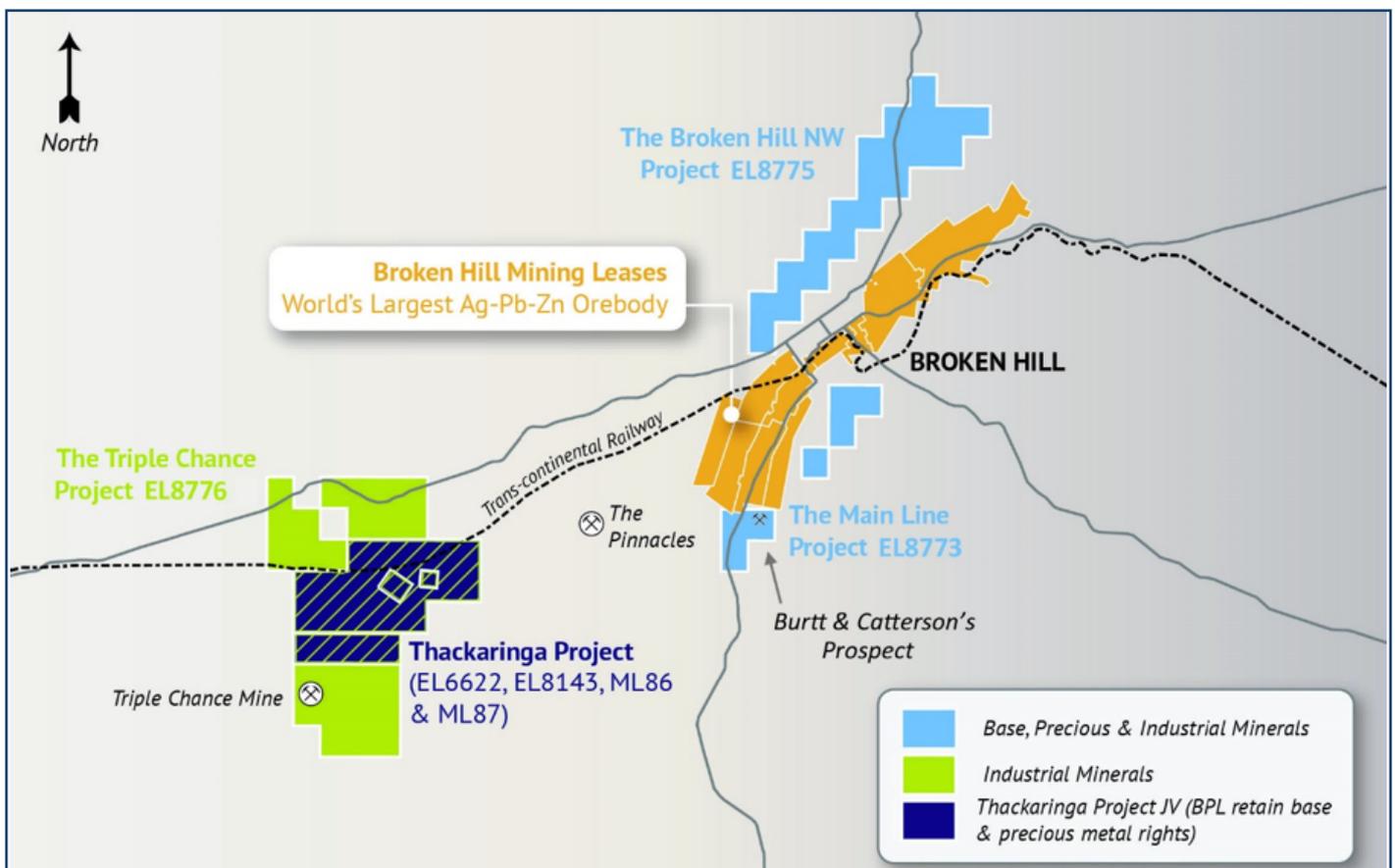


Figure 2. BPL's extensive tenement portfolio in the world-class Broken Hill Province

The Burt & Catterson's mineralisation occurs in rocks of the Cues Formation (Thackaringa Group), and is regarded as 'Great Eastern' type, where copper and cobalt sulphides are associated with metamorphosed chemical sediments including pyritic siliceous ironstone and blue quartz-gahnite rocks. Three 1957 holes (including 57BC-3) have been geologically logged in detail, with mineralisation confirmed to be associated with blue quartz-garnet horizons within Fe-rich lithologies of the Cues Formation (Figure 3). The host metasediments are particularly garnet-rich with disseminated pyrite.

The next stage of work in 2019 will involve compiling the original company mapping after establishing accurate GPS ground control points at the prospect, including the location of the original drill collars. Site reconnaissance will be followed by geological traversing; 3D interpretation and modelling; near-surface sampling programs; and exploration drilling will follow if warranted. The lode zone is open at depth and along strike where alluvial cover to the south-west has hampered historical exploration.

Broken Hill Region Copper-Cobalt – A Change in Exploration Focus for the District

Apart from rare cases such as the Thackaringa Pyrite-Cobalt deposits (BPL and Cobalt Blue Holdings Ltd) and Copper Blow (Silver City Minerals Ltd), exploration for deposits hosted by the Thackaringa Group rocks were for many years discounted in favour of nearby Broken Hill-type Pb-Zn-Ag prospects. An upsurge in world demand for cobalt has changed this perspective and sparked a revival of exploration for economic copper and strategic metals in the iron-rich (pyrite or hematite/magnetite-bearing) horizons that occur throughout the Thackaringa Group.

Rock chip sampling by BPL at Thackaringa, and Silver City Minerals and others around Broken Hill, has demonstrated that widespread Cu-Co geochemical anomalies at surface are associated with the Thackaringa Group rocks. Current work is aimed at defining these anomalies through more comprehensive sampling and ground-based geophysical techniques such as induced polarisation (IP).

Heavy Mineral Sands (HMS), Murray Basin

Newly-developed mobile mining and processing technologies have created an imperative to reassess the economics of a broad range of high-grade heavy mineral sands strandline deposits where potential production has been discounted or indefinitely deferred by major HMS producers.

Strong market conditions for Rutile, Zircon and Ilmenite feedstocks existed in 2018 and the outlook continues for steadily strengthening demand and commodity prices.

BPL has commenced a new phase of low-cost mineral sands exploration in the Murray Basin of south-eastern Australia, using as a springboard the huge exploration investment already made by major companies since emergence of the basin in the 1990s as a world-class HMS province. The Company holds title over some of the most prospective exploration ground in NSW and VIC, areas that are close to infrastructure that is crucial to bring any HMS discovery into production.

There is considerable opportunity for valuable new discoveries by testing new geophysical targets, including interpreted extensions to known deposits, and through the follow up of isolated and/or poorly understood HM intercepts from historical drill programs. Exploration programs will require a relatively small component of targeted aircore drilling to test the most promising anomalies, with the ability to immediately infill adjacent to any high-grade intersections.

BPL has demonstrated an ability to define new JORC 2012 compatible HMS resources, for example, at the Jaws and Gilligans strandlines of the Central Para district in NSW. Current data density allowed the estimation of Inferred Resources by external industry consultants IHC Robbins without the need for additional drilling.

The Company aims to similarly define and upgrade Mineral Resources at existing and newly discovered deposits on the other NSW and VIC leases. It is proposed that this can be achieved through a modest component of infill drilling, guided by the existing high-quality drilling databases and geophysics.

Both the Euston and Ouyen project areas present a significant exploration opportunity, with favourable economic parameters introduced by the new mobile production model adopted by BPL.

The recent application of geophysical filters developed for HMS exploration but not available during earlier exploration campaigns has greatly enhanced the potential for new geophysical discoveries. Even in the initial phase of HMS exploration, magnetics was used with considerable success by RGC and Iluka in Victorian HMS districts, probably owing to a higher ilmenite content in these deposits. Newly reprocessed aeromagnetic data now covers more than 60% of BPL's Victorian HMS tenements (Figure 5).

Interpretation of the filtered magnetics has generated a total of 150 linear magnetic anomalies, with 43 being prioritised for drilling. It is proposed to test 11 of these with an estimated 6,000 metres of aircore drilling in 14 focused traverses (Figure 5). The highest priority targets include:

- Extensions to the Pirro deposit mined by Iluka Resources.
- Extensions of the Gypsum and Tempy strands south of Ouyen.
- Testing of the Roselyn and Curyo strandlines of the Curyo area.

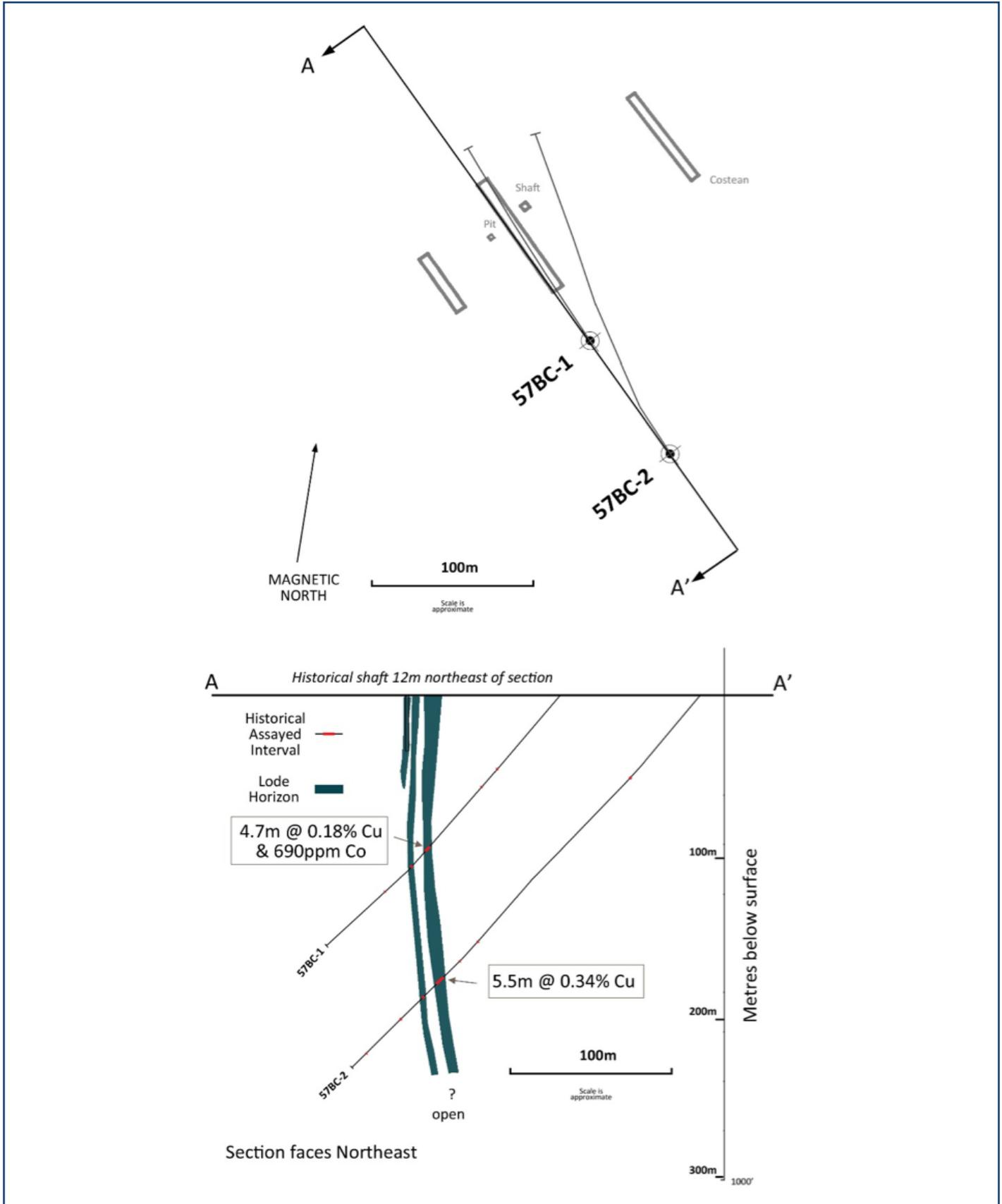


Figure 3. Plan and drill hole section from the Burt & Catterson's prospect showing holes 57BC-1 and 57BC-2 with selected re-assayed intervals. Modified from Geological Survey of NSW Report GS1958/094 (Australian Mining and Smelting Co Ltd). Scale is approximate only.

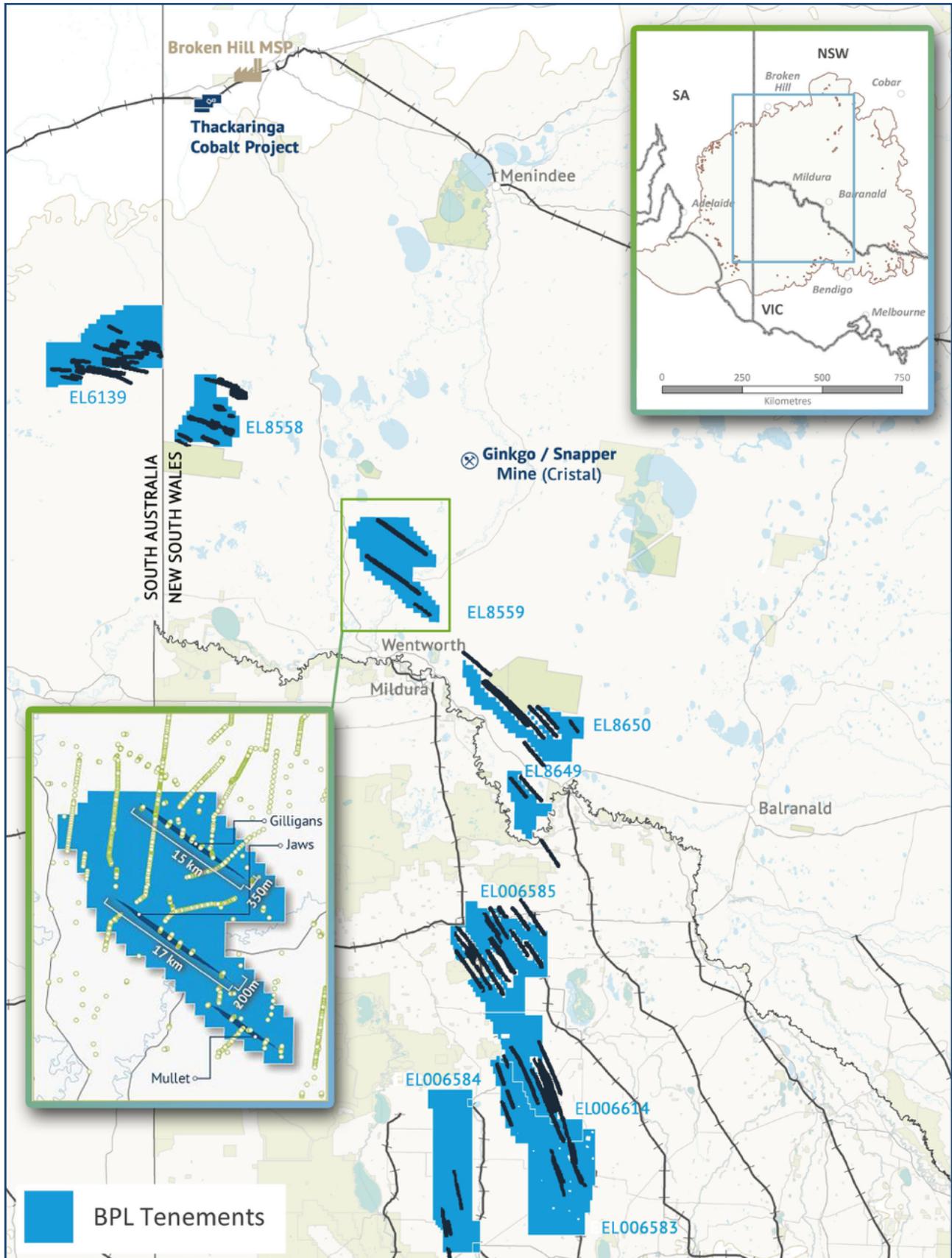


Figure 4. BPL has the largest tenement holding in the world class Murray Basin HMS province.

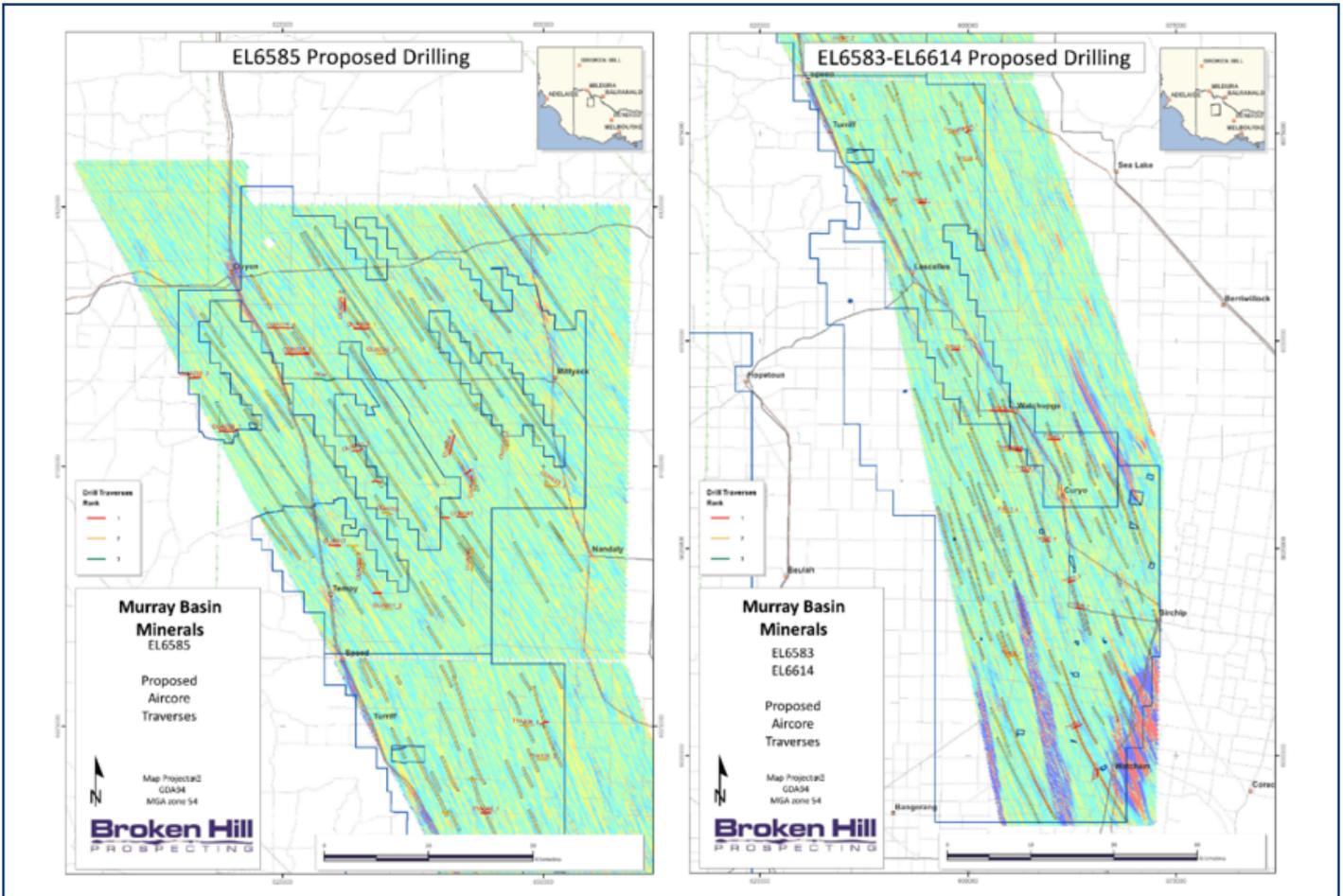


Figure 5. Interpreted magnetic anomalies for the Ouyen and Tyrrell Ridge HMS districts with high priority drill traverses

Corporate

Cash Position

The Company's consolidated statement of cash flows for the Quarter is set out in Appendix 5B. At the end of the Quarter the consolidated entity had \$1.3 million cash and no debt.

Anthony (Trangie) Johnston
Managing Director

Broken Hill
PROSPECTING

Diversified Exploration & Development Company

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Previously Released Information

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

- 21 November 2018 [CEO's Letter to Shareholders](#)
- 31 October 2018 [Quarterly Activities and Cash Flow Report Sept 2018](#)
- 30 October 2018 [Thackaringa Cobalt Project Update](#)
- 4 October 2018 [New Assays Confirm Copper-Cobalt Mineralisation](#)
- 28 September 2018 [Annual Report 2018](#)
- 20 August 2018 [Broken Hill Exploration expansion & Cobalt Update](#)
- 4 July 2018 [Thackaringa Cobalt Project Pre-feasibility Study](#)

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 exploration results, Mineral Resources and 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 who is the Managing Director and Chief Executive Officer of Broken Hill Prospecting Limited. 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 a diversified Australian exploration company focused on the discovery and development of strategic mineral resources across two primary geographical areas; the Broken Hill Region (industrial, base and precious metals, including the Thackaringa Cobalt & Base/Precious Metal Project) and the Murray Basin Region (Heavy Mineral Sands).

BROKEN HILL REGION

BPL has a number of project interests in the Broken Hill region and is actively expanding its exposure to this world class mineral province.

The Thackaringa Cobalt Project is strategically located 25km south-west of Broken Hill, New South Wales, adjacent to the main transcontinental railway line. Current deposits are open at depth and account for 4.5km strike of mineralised outcropping ridges with excellent potential for resource expansion.

The Thackaringa Cobalt Project is under a Farm In and Royalty Agreement with Cobalt Blue Holdings Ltd (ASX:COB). Under that agreement, COB could 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 paying BPL \$7.5 million in cash. During the Quarter, COB elected not to proceed with the Stage 3 Earnin resulting in BPL retaining 30% equity in the project and 100% legal title.

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.

MURRAY BASIN REGION

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.

Value adding exploration and potential project acquisitions 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 amendable to processing through mobile plant equipment that could be deployed across the broader project area.

TENEMENT HOLDING

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

Broken Hill Region

EL 6622*	100% legal, 30% beneficial Broken Hill Prospecting Ltd
EL 8143*	100% legal, 30% beneficial Broken Hill Prospecting Ltd
ML 86*	100% legal, 30% beneficial Broken Hill Prospecting Ltd
ML 87*	100% legal, 30% beneficial Broken Hill Prospecting Ltd
EL 8773	100% Broken Hill Chemicals Ltd
EL 8774	100% Broken Hill Chemicals Ltd
EL 8775	100% Broken Hill Chemicals Ltd

Murray Basin Region

EL 6614	100% Murray Basin Minerals Pty Ltd
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
EL 006583	100% Murray Basin Minerals Pty Ltd
EL 006584	100% Murray Basin Minerals Pty Ltd
EL 006585	100% Murray Basin Minerals Pty Ltd
EL 6139	100% Murray Basin Minerals Pty Ltd

* These tenements are subject to the Thackaringa Joint Venture with COB.