

Wide intervals of cobalt mineralisation intersected at Pyrite Hill

Summary

Drill testing during August and September has considerably added to known cobalt mineralisation at the Pyrite Hill Cobalt Deposit, south-west of Broken Hill in western NSW. The results show that thick and continuous horizons of cobalt mineralisation extend from surface outcrops of known mineralisation to at least 300m down dip. These remain open at depth. Cobalt mineralised drill intervals include:

- 108 metres of 520g/t cobalt (from 74m) in PHR002, including 1m of 4,230g/t Co
- 79 metres of 720g/t cobalt (from 150m) in PHR003, including 3m of 2,133g/t Co
- 49 metres of 1,037g/t cobalt (from 123m) in PHR004, including 4m of 2,388g/t Co
- 28 metres of 1,096g/t cobalt (from 192m) in PHR005
- 17 metres of 1,150g/t cobalt (from 104m) and 40 metres of 856g/t Co (from 131m) in PHR006, including 2m of 2,435g/t Co.
- 51 metres of 941g/t cobalt (from 96m) in PHR007
- 41 metres of 783g/t cobalt (from 103m) in PHR008

New resource calculations are being undertaken to update the current Inferred Resource for the Pyrite Hill Cobalt Deposit (10.6 MT of more than 2.1 pounds per tonne of cobalt). The study is being undertaken by Hellman & Schofield Pty Ltd and is expected to be completed in mid November.

An IP geophysical survey is currently mapping extensions to the cobalt mineralisation outside the drill area and this is expected to locate along-trend drill targets.

Future drilling for additional resource add-on and testing of pyrite target zones is planned.

Comment

Managing Director Dr Ian Pringle said: *“These consistent drill intersections show that the cobalt mineralisation is much more extensive than previously known, with thickness of the outcropping mineralisation generally increasing with depth.”*

“The pyrite can be readily upgraded into a pyrite concentrate and, because of the excellent road and rail access, future processing options could include offsite locations.”

*“Cobalt is fast becoming an important metal of the future through its widespread and growing use in batteries for new-generation electric and hybrid cars and in hardened metal and alloys. Some 60% of cobalt production in 2010 was from central Africa and, as demand for the metal increases, future security of supply will mean that BPL is well positioned to reach our goal to become a leading cobalt producer” **

* Useful cobalt statistics are listed on page 4 of this announcement

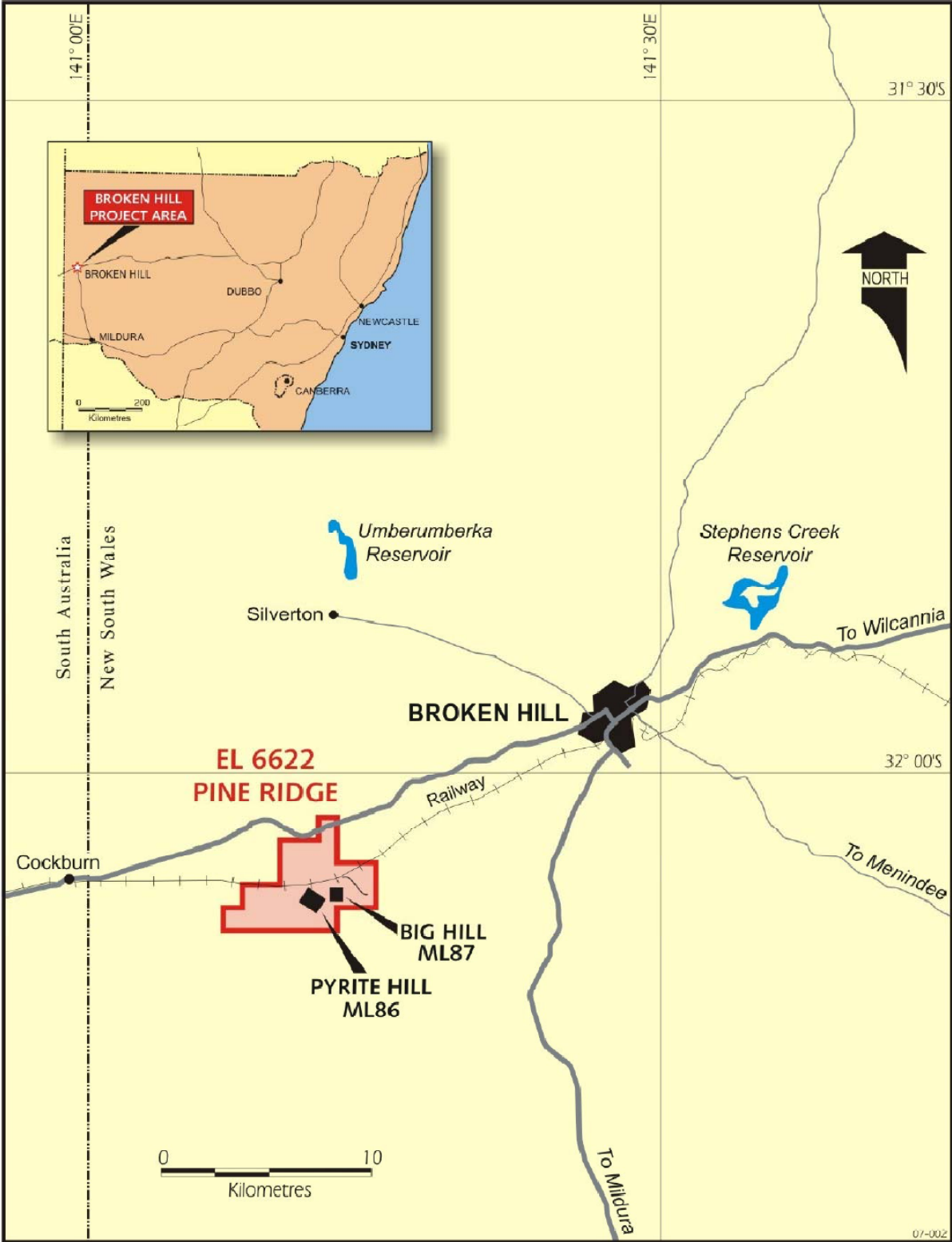


Figure 1. Project Location

Drill Results

Broken Hill Prospecting Limited (ASX, NZX code BPL) is pleased to report that drill results from the recently completed 11-hole reverse circulation (RC) drilling at BPL's 100% owned Pyrite Hill Cobalt Deposit near Broken Hill (Figure 1) have defined cobaltiferous pyrite mineralisation extending from surface outcrop to at least 300 metres down-dip and with thickness of up to 108 metres. The results show continuity of mineralisation along a 600-metre portion of the Pyrite Hill Cobalt Deposit where the mineralisation remains open at depth and along a strike trend of at least another 500 metres.

Eight drill holes (PHR001-8) were undertaken to test the central portion of the cobalt mineralised zone at Pyrite Hill (Figure 2) where limited drilling by previous explorers defined an Inferred Resource of 10.6 MT of more than 2.1 pounds per tonne of cobalt (998g/t Co).

BPL's drilling at Pyrite Hill was designed to test the deeper continuity of the mineralisation between 150-300 metres down dip beneath the boomerang-shaped ridge which extends north-west and south from Pyrite Hill. The angled drill holes were spaced at approximately 100 metre intervals along the eastern margin of the central part of the Pyrite Hill ridge and holes were located to intersect the shallow east-dipping cobaltiferous pyrite zone at depth. 1,811 metres of RC drilling was completed and all holes were angled at approximately 60 degrees (Table 1). Sample recovery was of a high standard and drill sampling and logging was undertaken on one-meter intervals.

The cobalt mineralisation occurs as coarse grained cobaltiferous pyrite disseminations and banding within a sodium feldspar-quartz-pyrite gneiss host rock within a sequence of gneiss, pelite, psammite and amphibolite. At Pyrite Hill, these rocks have been extensively deformed with thickening along the hinge of an east plunging anticline and generally dip between 40-60 degrees to the east (Figure 3).

Significant mineralised intervals in each drill hole are summarised in Table 2. Cobalt is associated with elevated nickel contents (typically less than 300ppm but ranging up to 702ppm Ni). Contents of other metals are negligible (no gold and silver, contents of copper, lead, zinc and arsenic are mostly less than 200ppm).

Almost all of the cobalt is contained as solid solution within the pyrite (iron sulphide) lattice and, since pyrite is the only sulphide of any significance, the percentage of pyrite in the rock has been calculated from sulphur analyses of each sample. Average pyrite content of the mineralised intersections ranges between 14.9–23.7%, although rare zones, generally less than 2 metres wide of massive sulphide contain over 80% pyrite content.

Estimated cobalt contents of the cobaltiferous pyrite within each mineralised interval is also listed in Table 2 and these are close to 0.5% cobalt (range of averaged intersections is 0.35%-0.56% Co). Metallurgical test work has shown that the cobaltiferous pyrite can be readily concentrated through either routine gravity or flotation processing to produce a pyrite concentrate which contains between 0.4-0.5% cobalt.

Three scout holes (PSR001-3) drilled to the south east of Pyrite Hill at the Pyrite Hill South Prospect also intersected anomalous mineralisation (Tables 1 and 2). Anomalous cobalt was intersected between 31-37 metres in PSR003 (259g/t Co) and zinc values ranged up to

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Figure 2.
Geology map of Pyrite Hill showing locations of drill holes and cross sections shown in Figure 3 (blue lines).

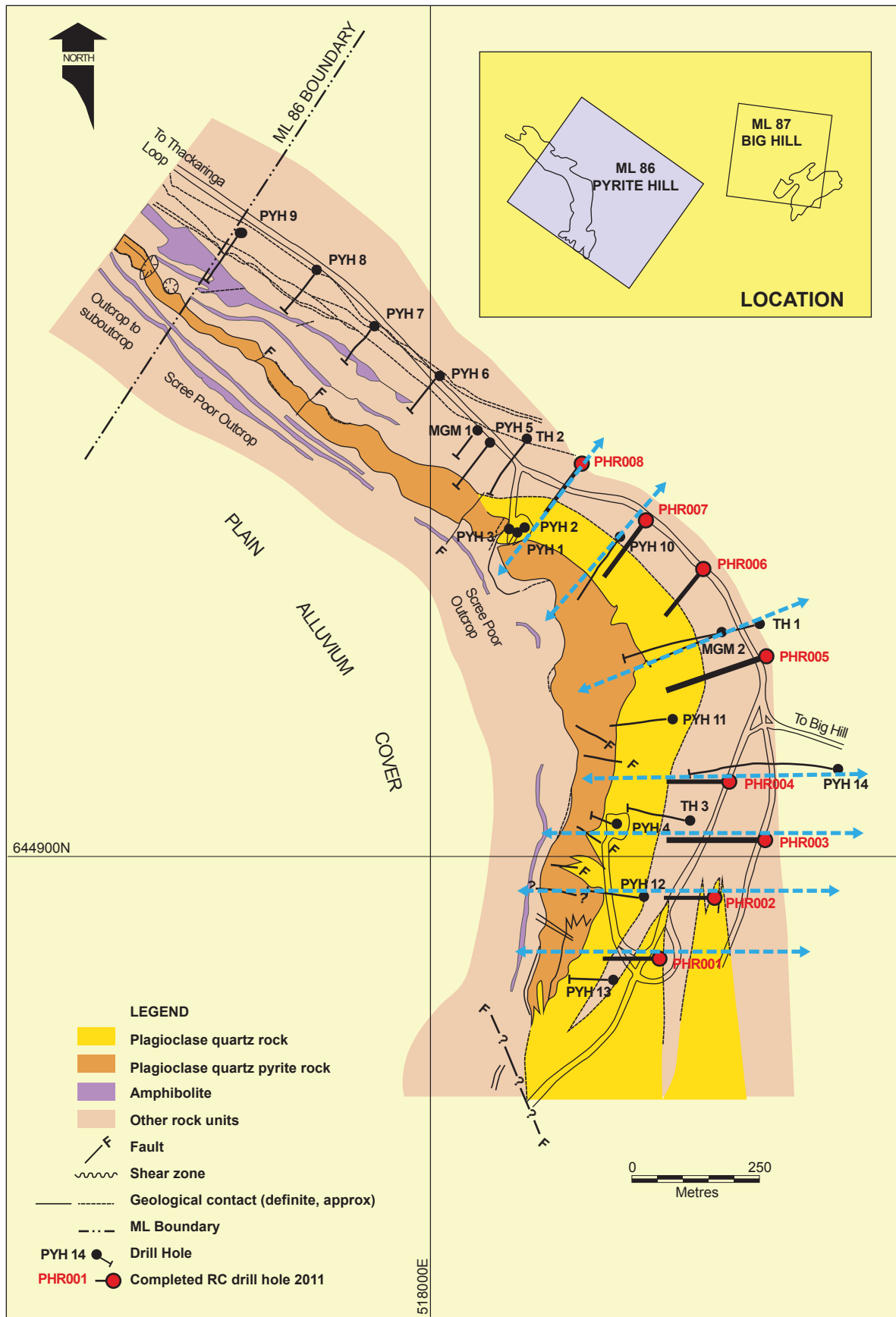
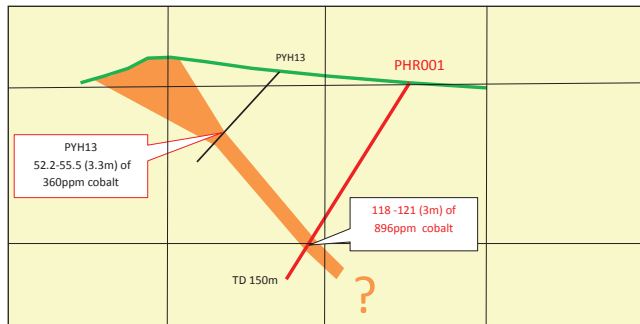
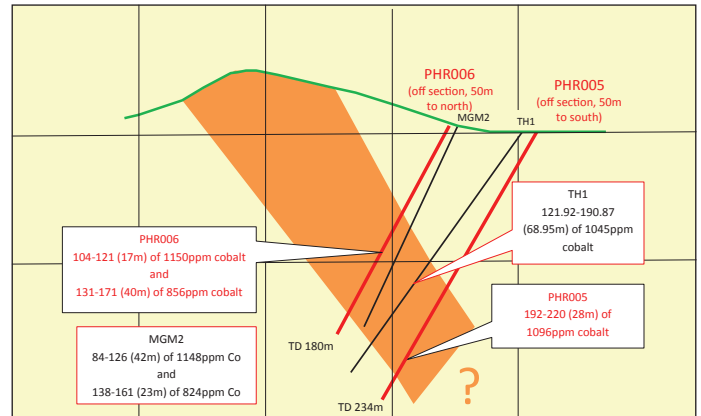


Figure 3.
 Summary drill hole sections of holes PHR001-8 showing mineralisation (orange) and drill hole traces.
 Locations of sections are shown in Figure 2.

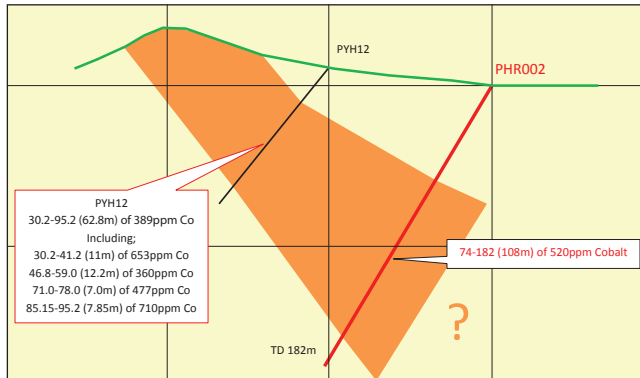
PHR001



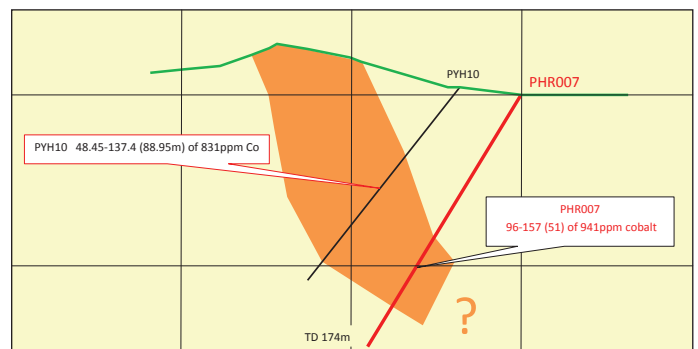
PHR005 and PHR006



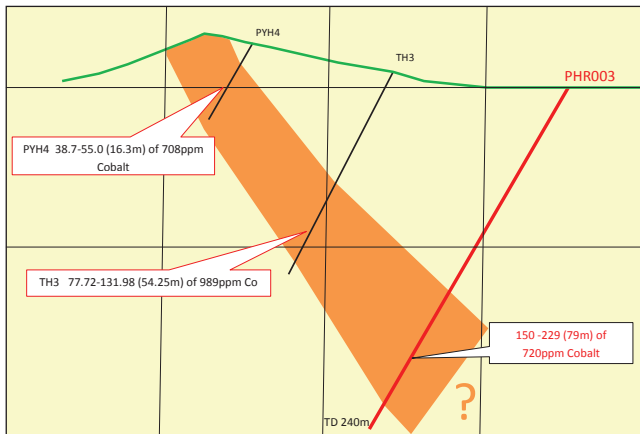
PHR002



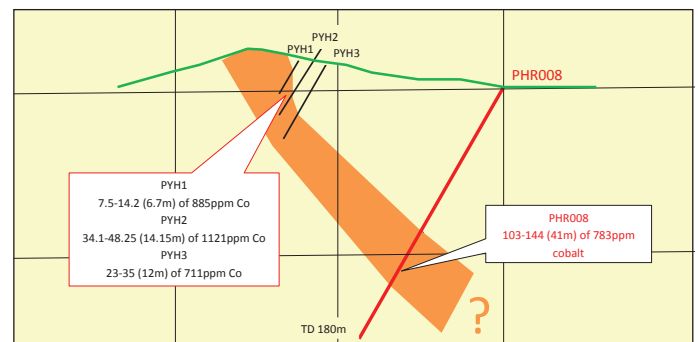
PHR007



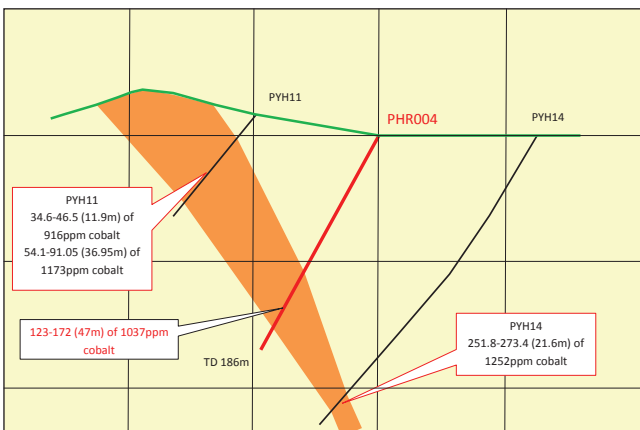
PHR003



PHR008



PHR004



1,565ppm Zn in PSR002. Elevated barium contents (up to 940ppm Ba) are typical of all three Pyrite Hill South holes.

A dipole-dipole IP geophysical survey is currently underway at Pyrite Hill and Pyrite Hill South in order to map potential extensions of cobaltiferous pyrite mineralisation beneath soil and transported overburden and along trend from the known resource. This work will also extend over the Big Hill Pyrite Deposit (ML87 in Figure 1) and the north western extension of the Big Hill trend where anomalous cobalt in surface gossan has been sampled and mapped. It is anticipated that the geophysical survey will be completed in late October and it is expected to define further targets for drill testing.

Yours faithfully,



Ian J Pringle
(Managing Director)

Competent Person Statement

*The review of exploration activities and results contained in this report is based on information compiled by **Dr Ian Pringle**, a Member of the Australasian Institute of Mining and Metallurgy. Dr Pringle is the Managing Director of Broken Hill Prospecting Ltd and also a Principle of Ian J Pringle & Associates Pty Ltd, a consultancy company in minerals exploration. He has sufficient experience which is relevant to the style of mineralisation and types of deposits under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the December 2004 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code). Dr Pringle has consented to the inclusion in this report of the matters based on his information in the form and context in which it appears.*

About Broken Hill Prospecting Limited (“BPL”)

BPL is seeking to explore, evaluate and develop cobalt deposits in the Broken Hill area. Within its two mining leases BPL has inferred cobalt mineral resources which total 15 million tonnes at a combined average grade of more than 2.1 lb/tonne (Pyrite Hill and Big Hill deposits). These are a unique type of cobalt deposit and BPL is in an excellent position to take advantage of an increasing demand for cobalt to meet growth in environmental and industrial uses such as rechargeable batteries in automobiles.

BPL is one of the next generation of companies that is exploring for major new mineral deposits near the historic NSW mining centre of Broken Hill, where more than 200 million tonnes of high-grade base metal ore worth an estimated \$80 billion has been produced during the past 127 years. BPL has identified 13 Broken Hill-type base metal prospects on its exploration tenements at Thackaringa.

BPL raised \$4.47 million in an initial public offering, and in February 2011 its securities are quoted on both the Australian and New Zealand stock exchanges.

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Cobalt Statistics

- Cobalt price (LME): US\$31,500 per tonne (US\$31.5 per kilogram).
- Mines in Central Africa accounted for 60% of cobalt production in 2010 and most came from the Democratic Republic of Congo.
- The USA accounted for 58% of cobalt consumption in 2010.
- The USA, Japan, European Union and China have no producing cobalt mines.
- China imported ore from Africa and produced 43% of refined cobalt production in 2010.
- More than 95% of cobalt production is a by-product of copper or nickel mining.
- Lithium-ion batteries contain 60% cobalt and will be widely used in the new generation of electric vehicles.
- Cobalt is used in a wide range of industries including production of; super alloys and hardened metals where high heat and wear tolerance is required (aircraft, turbines, windmills, military hardware), high-strength magnets, carbides and diamond tools, catalysts (petroleum production), colouring (cobalt blue), adhesive, soaps, driers and food supplements (vitamin B12).

For further information contact;

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The Company has recently reformatted and updated its website which covers or links to recent news, metal prices, share price as well as project and Company information. Please visit our site at www.bhpl.biz

Table 1. Location and survey data of RC drill holes

Drill hole (RC)	Dip (degrees)	Azimuth magnetic (degrees)	Depth of hole (metres)	Easting EMGA94	Northing NMGA94	height (RL) (metres)
PHR001	-59.6	262.8	150	518435.466	6449072.759	285.338
PHR002	-60.3	276.5	198	518499.919	6449159.307	283.790
PHR003	-60.7	271.9	240	518560.301	6449189.609	280.257
PHR004	-60.3	266.8	186	518528.628	6449257.001	284.027
PHR005	-61.2	251	234	518584.253	6449397.618	280.224
PHR006	-59.9	225.8	180	518490.904	6449522.594	284.024
PHR007	-61.4	207	174	518413.475	6449592.897	282.857
PHR008	-59.3	208.7	180	518342.741	6449655.851	282.883
PSR001	-60	249	59	518742.729	6448864.003	268.380
PSR002	-61	246.7	132	518719.381	6448960.013	270.412
PSR003	-61	246.1	78	518686.992	6449055.352	272.789

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Table 2. Summary of significant drill hole intersections.

hole number	depth from	depth to	interval	cobalt	cobalt	nickel	sulphur	iron	calculated pyrite content of rock	calculated cobalt content of pyrite
	<i>metres</i>	<i>metres</i>	<i>metres</i>	<i>grams per ton *1</i>	<i>pounds per ton *2</i>	<i>grams per ton *1</i>	<i>% *1</i>	<i>% *1</i>	<i>% *3</i>	<i>% *4</i>
PHR001	118	121	3	896	1.98	172	9.0	9.8	16.9	0.53
PHR002	74	182	108	520	1.15	143	8.0	9.5	14.9	0.35
	74	84	10	849	1.87	259	9.7	10.3	18.2	0.47
	87	114	27	974	2.15	191	11.5	12.5	21.4	0.46
	88	89	1	4230	9.30	160	43	37	80	0.53
PHR003	150	229	79	720	1.59	180	9.5	11.2	17.7	0.41
	172	181	9	1117	2.46	174	14.0	14.5	26	0.43
	218	226	8	1350	2.98	210	10.6	14.0	19.9	0.68
	218	222	3	2133	4.70	196	18.3	17.1	34	0.63
PHR004	123	172	49	1037	2.29	226	12.7	12.8	23.7	0.44
	137	146	9	1914	4.22	264	24	20.5	44	0.46
	142	146	4	2388	5.26	265	33	27.8	62	0.39
PHR005	192	220	28	1096	2.42	223	10.5	13.1	19.7	0.56
	207	214	7	1453	3.20	163	11.7	13.7	22	0.65
PHR006	104	121	17	1150	2.53	262	11.7	13.5	21.9	0.52
	131	171	40	856	1.89	137	8.4	9.3	15.7	0.51
	155	171	16	1315	2.90	209	12.0	12.2	22.5	0.62
	168	170	2	2435	5.37	702	29	26.3	54	0.47
PHR007	96	147	51	941	2.08	127	9.5	9.9	17.8	0.51
	96	108	12	1134	2.50	146	11.7	12.0	21.8	0.52
	125	128	3	1978	4.36	210	18.1	16.6	34	0.58
	136	147	11	1374	3.03	195	12.9	13.5	24.2	0.57
	144	147	3	1912	4.21	360	18.7	19.0	35	0.54
PHR008	103	144	41	783	1.73	211	8.8	11.0	16.5	0.48
	103	115	12	1417	3.12	272	13.9	14.8	26	0.56
	126	144	18	1048	2.31	294	12.6	14.2	23.5	0.44
<i>PSR001</i>	<i>Maximum values:</i>			<i>82</i>	<i>0.18</i>	<i>103</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>
<i>PSR002</i>	<i>Maximum values:</i>			<i>115</i>	<i>0.25</i>	<i>81</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>
<i>PSR003</i>	<i>31</i>	<i>37</i>	<i>6</i>	<i>259</i>	<i>0.57</i>	<i>63</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>

Notes: Samples were collected every metre using a cyclone splitter. Control samples including blanks, duplicates and international standards were inserted for quality control.

- *1 Analyses by Australian Laboratory Services Pty Ltd, method ME-ICP61. Averages of analysed intervals for PHR001-8 (bold type) used a cut-off grade of 400ppm cobalt.
- *2 1 kilogram equals 2.20462 pounds
- *3 The rock pyrite content assumes that all sulphur is in pyrite (calculated as sulphur (%) x 1.869)
- *4 The cobalt content of pyrite assumes that all of the cobalt is held in pyrite (calculated as cobalt (ppm) divided by the pyrite content of rock divided by 100)

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