

18 November 2013

## **MUMBWA PROJECT: ASSAY RESULTS AND PFS OPTIMISATION UPDATE**

### **KEY POINTS**

- **Assay results received for KITDD\_034 and extensions to S36\_026 and S36\_028**
- **KITDD\_034 has returned 58m @ 1.00% from 571m to 629m**
- **Kitumba PFS Optimisation study underway**
- **Results for satellite targets KITDD\_038, KITDD\_039 and KITDD\_040 are still pending**

Blackthorn Resources Limited (ASX: BTR) (“the Company” or “Blackthorn Resources”) is pleased to provide assay results for drill holes KITDD\_034 and the extensions to holes S36\_026 and S36\_028, as well as an update on the Kitumba Project PFS optimisation.

The location of these drill holes is shown in Figure 1. A section showing the holes against the April 2013 Mineral Resource model is contained in Figure 2.

### **PFS Optimisation**

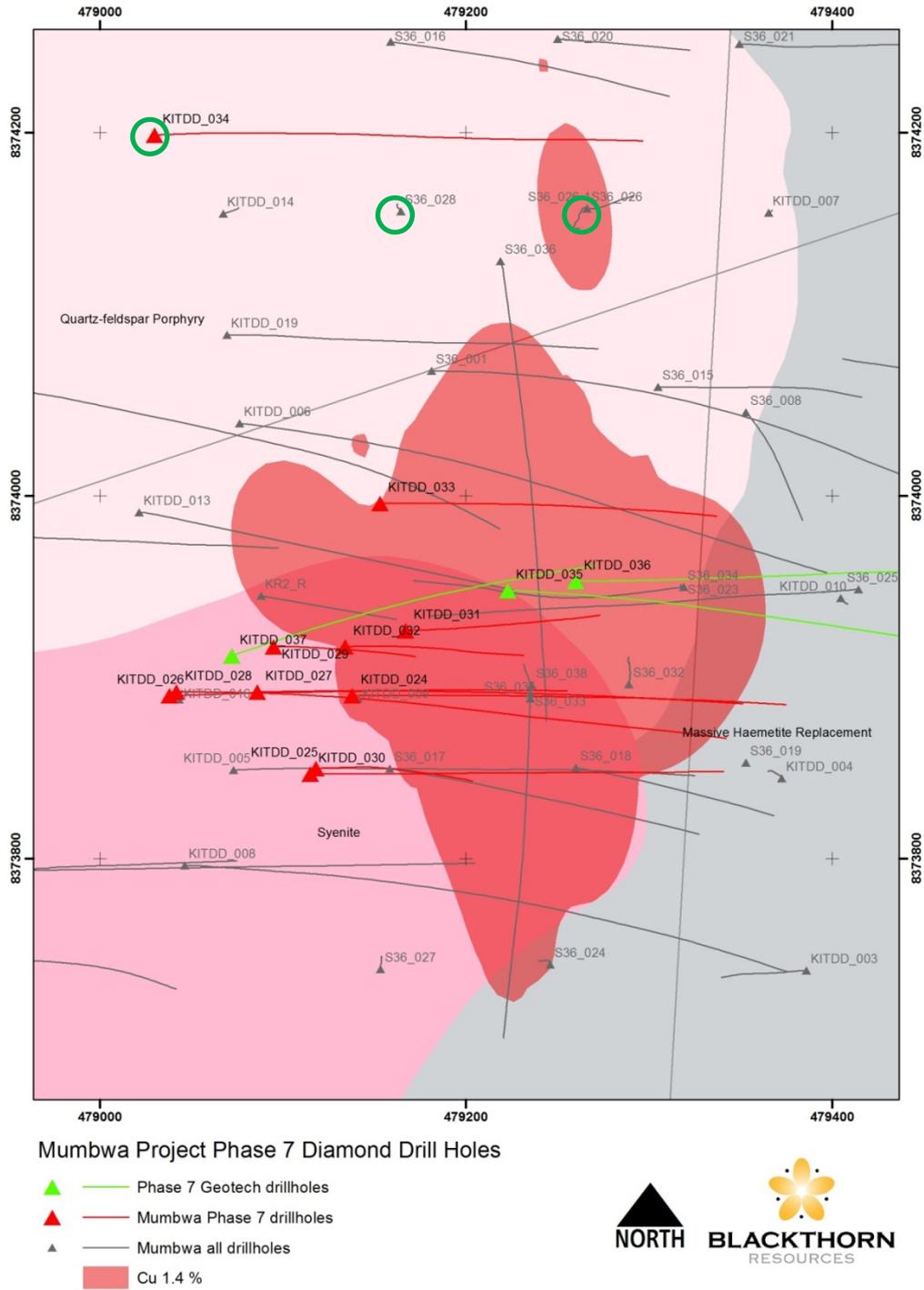
The Company is also pleased to advise that work on the PFS optimisation is now underway, with Perth-based Lycopodium Minerals Pty Ltd and Australian Mining Consultants (AMC), along with other specialist consultants, engaged to complete a series of optimisation studies (PFS-OS) on the September 2013 Kitumba Prefeasibility Study.

Metallurgical testing on samples collected during the recent Phase 7 drilling program is currently underway at **hrl** testing Pty Ltd in Brisbane.

The optimisation study is expected to be completed by the end of March 2014.

Acting CEO, Mr Mike Oppenheimer said:

*“KITDD\_034, which was drilled to target primary sulphides at depth, has confirmed the northwards extension of the hypogene zone identified in drill hole S36\_026 (41m at 2.31% Cu). This mineralised zone represents a separate mineralised zone to the main Kitumba mineralisation. This zone will be considered during the PFS Optimisation study to determine whether it could be accessed from the bottom of the proposed underground mine development and add further value to the project.”*



**Figure 1.** Phase 7 drill hole location plan showing collar locations for KITDD\_034, S36\_026 and S36\_028 (green circles) on surface geology and the surface projection of the 1.4% Cu shell.

**Table 1.** Completed Phase 7 drill holes

<b>BH_ID</b>	<b>X</b>	<b>Y</b>	<b>Z</b>	<b>Azimuth</b>	<b>Dip</b>	<b>EOH</b>
KITDD_024	479141	8373889	1423.8	90	60	449.7
KITDD_025	479113	8373848	1421.6	90	81	530.6
KITDD_026	479044	8373889	1410	90	68	557.6
KITDD_027	479093	8373889	1416.4	90	60	539.9
KITDD_028	479044	8373889	1410	90	60	562.4
KITDD_029	479092	8373920	1413.5	90	80	419.7
KITDD_030	479113	8373848	1421.6	90	68	575.8
KITDD_031	479173	8373920	1426.4	90	80	539.6
KITDD_032	479132	8373920	1420	90	80	581.6
S36_026-2	479266	8374158	1439	0	90	614.8-707.2
S36_028-1	479164	8374157	1428	0	90	524.5-986.3
KITDD_033	479150	8373998	1415.6	90	70	527.5
KITDD_034	479025	8374200	1416	90	70	728.5
KITDD_035	479223	8373948	1435	90	65	651
KITDD_036	479260	8373948	1452	90	65	449.5
KITDD_037	479081	8373914	1413	70	70	563.4

Sampling and assaying of the drill core collected follows a standard site protocol with samples of half core being submitted to the Intertek Genalysis Laboratory preparation facility in Chingola, Zambia before being shipped to South Africa for analysis (4-acid digest with an ICP finish).

A cut-off grade of 0.25% Cu and a maximum internal dilution of 2m (drilled width) are used as a guideline when delineating the drilled thickness intervals of mineralisation, with length-weighted average grades reported. True-widths are not quoted, as the mineralised zone is associated with a sub-vertical “pipe” shaped zone of brecciation. No upper limit has been applied to copper grades in these exploration results.

## KITDD\_034 – Assay Results

KITDD\_034 was drilled on an azimuth of 090, inclined 70 degrees to a depth of 728.5 meters. This hole was drilled targeting hypogene sulphides at depth as seen in S36\_026 to the north of the main Kitumba mineralised zone.

A series of 359 samples, including quality control samples, were submitted to the laboratory for analysis.

Final results having passed QA/QC are summarised here.

**Table 2.** Summary of assay results for drill hole KITDD\_034 (azi 090, dip 70 EOH 728.5m)

From	To	Interval	Cu %	ASCu %
191	194	3	0.26	0.05
212	220	8	0.57	0.05
282	288	6	0.26	0.13
298	324	26	0.38	0.13
332	336	4	0.27	0.14
340	342	2	0.47	0.14
360	362	2	0.32	0.07
388	390	2	0.37	0.05
406	412	6	0.36	0.11
438	440	2	0.28	0.13
458	460	2	0.25	0.11
472	474	2	0.29	0.12
488	496	8	0.27	0.08
506	516	10	0.52	0.14
543	548	5	0.59	0.16
561	566	5	0.30	0.13
569	633	64	0.94	0.18
<i>Including</i>				
<b>571</b>	<b>629</b>	<b>58</b>	<b>1.00</b>	<b>0.19</b>
680	682	2	0.26	0.10
694	696	2	0.44	0.10

### S36\_026-2 – Assay Results

S36\_026-2 extended S36\_026 from 614.82m to 707.2 meters. This extension was drilled to extend the hole below the 41m at 2.31% Cu chalcopyrite mineralisation identified in this hole from 569 meters.

A series of 59 samples, including quality control samples, were submitted to the laboratory for analysis.

Final results having passed QA/QC are summarised here.

**Table 3.** Summary of assay results for drill hole S36\_026-2 (vertical, EOH 707.2m)

From	To	Interval	Cu %	ASCu %
663	665	2	0.44	0.09

### S36\_028-1 – Assay Results

S36\_028-1 extended S36\_028 from 524.46m to 986.3 meters. This extension was drilled to test a possible steeply west dipping structure interpreted to have hosted the mineralisation drilled in S36\_026 to the east.

A series of 285 samples, including quality control samples, were submitted to the laboratory for analysis.

Final results having passed QA/QC are summarised here.

**Table 3.** Summary of assay results for drill hole S36\_028-1 (vertical, EOH 986.3m)

From	To	Interval	Cu %	ASCu %
528	529	1	0.26	0.07
538	543	5	0.49	0.15
580	582	2	0.30	0.01
716	718	2	0.27	0.04
776	780	4	0.28	0.06
816	818	2	0.29	0.12
822	824	2	0.28	0.09
924	926	2	0.32	0.05

## **About The Phase 7 Drilling Program**

Drilling restarted on Kitumba in June 2013. The drill pattern was designed to focus on the conversion of material in the “Indicated Mineral Resource” category to “Measured Mineral Resource” in the high-grade core. A total of 10 infill holes and 3 geotechnical holes were planned focusing on the Kitumba Mineral Resource area.

The extension of holes S36-026 and S36-028 as well as a single angled hole from surface (KITDD\_034) were also drilled to assess the potential for further deep hypogene mineralisation as drilled in S36-026 (41m at 2.31% Cu from 569m) immediately to the north of Kitumba.

Geotechnical holes were designed to further characterise the structural and engineering properties of material within the current extent of any potential future underground mining operations.

Samples representative of material for an underground operation have been collected for further metallurgical assessment. A selection of holes has been probed with an Acoustic Televiwer (ATV) for the collection of detailed geotechnical data. Down hole Electro-Magnetics (DHEM) has been completed on selected holes to characterise the electrical properties of the deposit to aid further exploration.

Phase 7 drilling is now complete with a total of 8,231m of diamond drill core completed, including all infill holes, the extensions on S36-026 and S36-028, KITDD\_034 and the geotech holes.

The additional holes drilled at the end of the Phase 7 drilling program (KITDD\_038, KITDD039 and KITDD\_040), which were designed to test three prospective targets outside the main Kitumba mineralisation, have also been completed. Results from these drill holes will be reported in the coming weeks.

### **Notes:**

A total of 8 elements were analysed. Multi-element analyses (including copper) were performed using Inductively Coupled Plasma – Mass Spectrometry (ICP-MS) and Inductively Coupled Plasma – Optical Emission Spectroscopy (ICP-OES) analyses by the fully NATA accredited Intertek Genalysis Laboratory in Johannesburg, South Africa. Samples were analysed for total copper and Ca, Fe, K, Mn and S by 4-acid digest with an ICP-OES finish, and acid-soluble copper (ASCu) by cold acid leach with an AAS finish and U by 4-acid digest with an ICP-MS finish.

A Quality Assurance/Quality Control (QA/QC) program includes chain of custody protocol, a systematic submittal of 20% QA/QC samples including field duplicates, field blanks and certified reference samples into the flow of samples submitted to the laboratory as well as

re-assaying of the mineralised zones and submission of samples for umpire analysis by a second accredited laboratory.

**ATTRIBUTION**

The information in this report which relates to exploration results at the Mumbwa Project in Zambia is based on information compiled by Mr Michael J Robertson, MSc, Pr.Sci.Nat., MSAIMM who is a member of The South African Institute of Mining and Metallurgy, which is a Recognised Overseas Professional Organisation ('ROPO'). Mr Robertson has 22 years' experience in mineral exploration and is a full-time employee of the MSA Group. Mr Robertson has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which is being undertaken to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Robertson consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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**Figure 2.** Section showing KITDD\_034, S36\_026 and S36\_028 drill hole traces on the April 2013 Kitumba Mineral Resource block model.

