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9 August 2023

#### **ASX ANNOUNCEMENT**

## Shipping Update and Hillalong South Resource Upgrade

#### Highlights

- Target shipping tempo of four vessels/month achieved in July 2023 across mining operations
- Resource estimate for Hillalong South upgraded by 45%
- Hillalong Project resource now 106 Mt (56 Mt classified as Indicated and 50 Mt as Inferred).

**Bowen Coking Coal Ltd** (ASX: BCB) achieved its monthly goal of shipping four vessels in July 2023, exporting ~179 kilotonnes (Kt) of coal from its Bluff Mine (PCI) near Blackwater, and Broadmeadow East Pit (coking), part of the Company's Burton Mine Complex near Moranbah.

"Our July shipping performance follows 199Kt being shipped in June across four vessels," said Bowen Coking Coal chief executive Mr Mark Ruston.

"External coal supply chain issues have eased and the Company is confident recent momentum will continue in the near-term with an increase in coal tonnes for the quarter, and a higher percentage of metallurgical coal over time."

#### **Hillalong South Resource Upgrade**

Bowen Coking Coal reports a 45% upgrade in the resource estimate for its Hillalong South Project near Glenden on the back of the 2022 exploration program. Hillalong South is the southern part of the Company's Hillalong Project owned 85% by Bowen and 15% by Japanese conglomerate, Sumitomo Corporation ("Sumitomo"). The 64 Mt Hillalong South resource was estimated in accordance with the JORC Code (2012) and is classified as 35 Mt in the Indicated category and 28 Mt in the Inferred category.

The total resource of the Hillalong Project now stands at 106 Mt of which 56 Mt is classified in the Indicated category and 50 Mt as Inferred. The 2022 exploration program defined more resources to the immediate North of the Hillalong South deposit whilst providing valuable information on the interpreted intruded areas in the Resource.

In June 2023 the Company announced that Sumitomo agreed to proceed with Phase 2B of the Farm-In Agreement where Sumitomo will contribute a further \$2.5m plus GST to the Work Program and may then exercise an option to acquire a further 5% interest in the Hillalong Coal Project (EPC1824 and EPC2141), taking their total interest to 20%. BCB will hold 80% interest post the completion of the farm-in arrangements.

The funding provided by Sumitomo for the Phase 2B Work Program will build on the positive outcomes of the Phase 2A program and resources will be focussed on additional exploration drilling, firming up the resource and advancing the project towards feasibility studies and environmental approvals.



"The Hillalong Project is another strategic block in Bowen's regional plan for the Burton Complex," Mr Ruston said.

"Hillalong is in relatively close proximity to the Burton infrastructure which could create a low cost start up option, similar to how we commenced operations with Broadmeadow East. The significant upgrade in the resource is not only great news, but also gives us confidence to invest further in this valuable deposit to work towards a development decision."



Figure1. Location of the Hillalong Project, and its southern and northern areas



South	Measured (Mt)	Indicated (Mt)	Inferred (Mt)	Total (Mt)
ELP	-	20.0	15.5	35.5
HYDU	-	8.8	7.3	16.1
HYDM	-	6.7	5.2	11.9
TOTAL	-	35	28	64

#### Table 1. Summary of the resource estimate for Hillalong South

*Note – Some rounding to the nearest significant figure has occurred and this may reflect in minor differences in the overall reported resource.* 

TOTAL	Measured (Mt)	Indicated (Mt)	Inferred (Mt)	Total (Mt)
ELP	-	24.0	20.0	44.0
HYDU	-	25.6	25.1	50.7
HYDM	-	6.7	5.2	11.9
TOTAL		56	50	106

#### Table 2. Summary of the total Hillalong resource estimate post the recent drilling program

Note – Some rounding to the nearest significant figure has occurred and this may reflect in minor differences in the overall reported resource.

#### Summary of the key information of the Hillalong South resource estimate:

#### Location

The Hillalong Project comprises EPC2141 and EPC 1824, which are located in the northern Bowen Basin, in central Queensland approximately 100km west-south-west of Mackay and 5km east of Glenden. The Project is 10km by road southeast of Glenden and approximately 65 km by road northwest of Nebo. Access is via the sealed Suttor Development and Collinsville-Elphinstone roads and then via unsealed access roads through pastoral properties.

#### **Geology and Geological Interpretation**

The Hillalong project area lies within the Permo-Triassic Bowen Basin. Coal seams occur within the Rangal Coal Measures and underlying Fort Cooper Coal Measures which are Late Permian in age. Coal seams in the Hillalong South deposit generally dip to the west at with dips from 10 - 45 degrees. The main target seams are the Elphinstone and Hynds Upper seams in the Rangal Coal Measures, which are extensively mined in the area. The drill hole density (core and chip) and a 2D seismic program in the Hillalong South deposit allow for a good level of confidence in seam splitting, seam thickness, coal quality and location of sub-crop lines.

#### **Drilling and Sampling Techniques**

Open drill holes in the 2020, 2021 and 2022 programs were completed with blade, PCD and hammer bits. Each core hole was drilled at a diameter of 124 mm and core was extracted with a conventional 102 mm core barrel. Chip holes were geologically logged and geotechnical features reported. All holes were



geophysically logged and core samples were taken at 0.5 m intervals including roof and floor samples before being dispatched to Bureau Veritas' coal quality laboratory in Mackay. Linear core recoveries of >95% were generally achieved.

#### Sample Analysis

Samples were analysed by Bureau Veritas according to Australian standards for coal quality testing including raw qualities for moisture, ash, volatile matter, sulphur, CSN and calorific value. Further fast float and washability tests are underway to test potential product qualities.

#### Resource estimation and modifying factors (Including cut-off grades)

The coal resource has been estimated in accordance with the JORC Code (JORC 2012) and utilising the Australian Guidelines for Estimating and Reporting of Inventory Coal, Coal Resources and Coal Reserves (Coalfields Geology Council of NSW and the Queensland Mining Council, 2014).

Six partly cored boreholes within the Hillalong South area qualified as Points of Observation. Coal quality drilling is located with the maximum distance between Points of Observation of ~500m.

For the coal resource, qualification for a Point of Observation includes:

- A cored target coal seam,
- Geophysically logged,
- Data points that sufficiently establish seam thickness and quality continuity,
- Raw coal quality data, and
- Coal core recovery generally >90%.

The seam structural continuity is well supported by the structural drilling and structural interpretation, resulting from the seismic program undertaken by Rio Tinto (2013) and recently by the Company in 2021 and 2022. The base of weathering is observed between 25m and 30m.

The Resource estimate was constrained (cut-off) according to:

- Spatial distribution of Points of Observation,
- Confidence in seam structure and coal quality continuity,
- Lease boundaries,
- Depth to seam floor constraints determining potential industry standard extraction method (<200m depth from topography opencut assumption, > 200m to 300m underground assumption),
- Raw ash values less than 50% adb,
- Seam thickness greater than 0.3 m for Opencut Resource.

Two resource categories (Indicated and Inferred) have been identified within the Hillalong South area, depending on the level of confidence in the seam structure and continuity plus the level of variability in the coal quality data and depth of cover.

#### Mining and Metallurgical considerations

The assessment of reasonable prospects for eventual economic extraction have been based on a likely scenario of opencut strip mining transitioning to underground mining over time. There appears to be adequate room for all required spoil dumps and on-site infrastructure. The same coal seams have been exploited in numerous surrounding mines and their quality characteristics are very well understood.



The Board of the Company has authorised the release of this announcement to the market. For further information please contact:

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#### **Competent Person Statement**

The information in this announcement that relates to the Hillalong coal deposit (EPC1824 and EPC2141), is based on information compiled and reviewed by Mr Troy Turner, who is a Member of the Australian Institute of Mining & Metallurgy. Mr Turner, Managing Director and a fulltime employee of Xenith Consulting Pty Ltd, has sufficient experience that is relevant to the styles of mineralisation under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Turner consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

#### About Bowen Coking Coal

Bowen Coking Coal is a Queensland based coking coal company which operates the Burton and Bluff metallurgical coal mines, with the Isaac River mine in development and a number of advanced exploration assets. Bowen fully owns the Bluff PCI and Broadmeadow East mines as well as the Isaac River, Cooroorah, Hillalong (85%) and Comet Ridge coking coal projects in the world-renowned Bowen Basin in Queensland, Australia. The Company also holds a 90% interest in the Lenton Joint Venture which owns the Burton Mine and Lenton Project in the northern Bowen Basin, which has been recommissioned and is currently under mine development. Bowen has agreed with the JV partner to incorporate the Broadmeadow East mine into the Joint Venture. Bowen is also a joint venture partner in the Lilyvale (15% interest) and Mackenzie (5% interest) coking coal projects with Stanmore Resources Limited.

The highly experienced Board and management team aim to grow the value of the company's coking coal projects to benefit shareholders. An aggressive exploration, development and growth focused approach underpins the business strategy.



#### APPENDIX A: JORC CODE, 2012 EDITION – TABLE 1

This Appendix details sections 1, 2 of the JORC Code 2012 Edition Table 1. Section 3 'Estimation and Reporting of Mineral Resources', Section 4 'Estimation and Reporting of Ore Reserves' and Section 5 'Estimation and Report of Diamonds and Other Gemstones' have been excluded as they are not applicable to this deposit, and they are not applicable to this ASX announcement. It includes Hillalong South drill hole and coal quality tables.

#### Section 1 Sampling Techniques and Data

Criteria	JORC Code Explanation	CP Comments
Sampling Techniques	<ul> <li>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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.</li> </ul>	<ul> <li>Nine cored holes were drilled on the project.</li> <li>Core was extracted utilising a 4C (100 mm) core barrel at a maximum of 4.5 m per run of core.</li> <li>Each core was brought to the surface, measure, moved to the core table and measured again recording any loss or pickup. The core was marked up for depth and samples and photographed at 50cm intervals. The lithology was logged, and samples taken. Samples were placed into double-bagged 400x600 mm UV stabilised bags and an individual sample number corresponding to what was logged on the table was placed in between the two sample bags. The sample was zipped tied and subsequently placed into a poly weave bag.</li> <li>Coal core samples were taken by field personnel to Bureau Veritas, Mackay at the end of the shift immediately after each core hole was completed.</li> <li>Geophysical surveys were run on the pilot and the core holes recording density, natural gamma, sonic (where possible), resistivity and hole verticality.</li> </ul>
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.).	<ul> <li>Open non-cored holes were fully chipped using a combination blade, PCD and hammer bits with air/water injection. The types of bits used depended on prevailing ground conditions.</li> <li>Core holes were partial core 102 mm (4C) diameter.</li> </ul>

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



Drill Sample Recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul> <li>Drill core was logged on site by experienced geologists and was measured before and after being placed on the table to account for handling discrepancies.</li> <li>Loss and gain were carefully recorded at the rig.</li> <li>Once borehole geophysical data was obtained the drill holes were corrected to geophysics. Core loss was reconciled against geophysics if it occurred.</li> </ul>
Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>All holes were geophysical logged with a minimum density, caliper, gamma, resistivity, sonic and verticality unless operational difficulties prevented logging or part logging of a hole.</li> <li>All drill holes were geologically logged by experienced geologists.</li> </ul>
Sub- Sampling Techniques and Sample Preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality, and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>The laboratory BV (Mackay) complies with Australian Standards for sample preparation and sub sampling.</li> <li>Coal core sampling</li> <li>Coal samples were taken on an approximate 0.3 m interval throughout the target seams where possible or based on observable variations in coal quality. The immediate 0.20 m to 0.30 m above and below the coal seams were taken for analysis for roof and floor dilution testing.</li> </ul>
Quality of Assay Data and Laboratory Tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> </ul>	<ul> <li>The coal quality laboratory BV (Mackay) complies with Australian Standards for all coal quality tests and is certified by the National Association of Testing Authorities, Australia (NATA).</li> <li>MResources designed the analytical program, QA/QC-ed the analytical processes and validated the coal quality results</li> <li>Geophysical tools were calibrated by the engaged geophysical logging contractor.</li> </ul>



	• 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.	
Verification of Sampling and Assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Primary data entry was undertaken in the field on a tablet.</li> <li>All lithology data was exported into Task Manager 2014 borehole logging software.</li> <li>All core photos were renamed to depth in Task Manager 2014 and each hole was corrected to borehole geophysics.</li> <li>All data is stored on Xenith Servers that are continuously backed up and archived.</li> </ul>
Location of Data Points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>All pilot holes and core holes were surveyed by a qualified surveyor from JTH Surveys. Base stations were placed/calibrated at known survey marks in proximity to the project area. Borehole pick-up was undertaken using a Differential GNSS system with an accuracy of +/- 5 cm</li> <li>Project datum and projection is GDA 2020 (MGA zone 55).</li> <li>Collars – and any other data which had been recorded or stored in GDA94 were transformed to GDA2020 for the 2023 geological model and resource report.</li> </ul>
Data Spacing and Distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	• Approximate drill site spacing is ~500 m.
Orientation of Data in Relation to Geological Structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	The full coal seams were sampled without structural bias.
Sample Security	• The measures taken to ensure sample security.	<ul> <li>Sample dispatch was carried out by contracted geological personnel. Samples were taken immediately to the Bureau</li> </ul>



				Veritas lab in Mackay by field personnel once all coal core samples were obtained from each hole.
Audits or Reviews	•	The results of any audits or reviews of sampling techniques and data.	•	Xenith Consulting was responsible for in- field data and sample collection for the BCC drilling programs. Lab Analysis protocols were developed by M Resources in discussion with Xenith Consulting, BV, and Bowen Coking Coal. M Resources consulted regularly with Bureau Veritas to ensure there were no issues in the analysis of coal core.



#### Table 1 – Borehole Locations

Hole	Easting	Northing	Collar RL	Hole	Hole	Total	Year
ID	MGA	94 z55	(AHD)	Туре	Purpose	Depth (m)	Drilled
HILL0003	622992	7631352	403	Open	Structure	280	2013
HIL010	623187	7631276	397	Open	Structure	241	2019
HIL011	623521	7630968	390	Open	Structure	235	2019
HIL012	623672	7631270	402	Open	Structure	244	2019
HIL013	623770	7630781	388	Open	Structure	271	2019
HIL014	623835	7630278	380	Open	Structure	253	2019
HIL015C	623191	7631279	397	Core	CQ	173	2019
HIL016C	623674	7631265	401	Core	CQ	171	2019
HIL017C	623776	7630773	388	Core	CQ	180	2019
HIL018C	623834	7630285	380	Core	CQ	144	2019
HIL019	624215	7631277	400	Open	Structure	199	2019
HIL020	624241	7630663	388	Open	Structure	199	2019
HIL054	623797	7629758	373	Open	Structure	267	2021
HIL055	623436	7631073	393	Open	Structure	250	2021
HIL056	624225	7630413	382	Open	Structure	255	2021
HIL057	624638	7632005	417	Open	Structure	255	2021
HIL058	625795	7631499	416	Open	Structure	252	2021
HIL059	625699	7630693	402	Open	Structure	229	2021
HIL060	625090	7630586	394	Open	Structure	240	2021
HILO61	625785	7629398	376	Open	Structure	199	2021
HIL062C	623798	7629750	373	Core	CQ	46	2021
HIL063C	623443	7631070	393	Core	CQ	196	2021
HIL068	623448	7631706	407	Open	Structure	137	2022
HIL069	622921	7631822	396	Open	Structure	187	2022
HIL070_EDITED*	623321	7632196	401	Open	Structure	162	2022
HIL071C	622922	7631830	396	Core	CQ	182	2022
HIL072C	623324	7632203	401	Core	CQ	128	2022
HIL073C	623454	7631699	407	Core	CQ	116	2022

\*: HIL070\_EDITED replaced the original HIL070 log. For modelling purposes HYDU and HYDM depths were defined although igneous intrusions displaced the seams in the drill hole.



## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code Explanation	CP Comments
Mineral Tenement and Land Tenure Status	<ul> <li>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.</li> <li>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.</li> </ul>	<ul> <li>The Hillalong South project (project) is in the southern parts of EPCs 1824 &amp; 2141 which are located approximately 5 km east of Glenden and lies immediately north of the western portion of Glencore's Hail Creek Coal Mine.</li> <li>They are held by Coking Coal One Pty Ltd (85%), a subsidiary of Bowen Coking Coal Pty Ltd (BCC) and SCAP Hillalong Pty Ltd (15%).</li> <li>The project area is currently used for livestock grazing.</li> </ul>
Exploration Done by Other Parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Historic drilling has been undertaken by other parties in the lease area (see report for details) but only one hole (HILL0003) with RCM seam intersections.</li> <li>Explored since the 1960's, Griffin Queensland Exploration held the historic tenure of ATP48C between 1970 and 1973, drilling a total of 34 holes focusing on exploration and morphology along the Hillalong Anticline.</li> <li>CRA Exploration Pty Ltd conducted extensive drilling of boreholes with depths up to 500 m revealing thin seams and widespread intrusives within Mt Hillalong (ATP 158C) for a 3-year period from 1974.</li> <li>Rio Tinto drilled HILL003 into the southern portion of EPC 1824 and extended 3 seismic lines from the adjacent EPC 2141 into EPC 1824 during 2013 with an associated ground magnetics survey.</li> <li>BCC drilled 22 holes, including 9 cored holes, on 13 sites in the project area.</li> </ul>
Geology	<ul> <li>Deposit type, geological setting, and style of mineralisation.</li> </ul>	<ul> <li>EPCs 1824 &amp; 2141 are in the northern part of the Bowen Basin. The main regional structural feature in the area is the northwest-southeast fold structures, including the Hillalong Anticline and Nebo Synclinorium, with possible north-south zones of thrust faulting on the EPCs. Generally, the fold structures are north-northwest trending, broad, open structures. The Synclinorium houses low angle thrust faults, some with offsets of up to 1000 m.</li> <li>The project is located to the west of the Hillalong Anticline. The seams are dipping to the west.</li> </ul>



		• The coal bearing formations of interest within EPC 2141 are held within the Blackwater Group, an upper Permian package of generally uniform sandstones, mud, and siltstones, tuffaceous lithotypes and coal seams ranging in thickness. The Blackwater Group contains the Moranbah Coal Measures (MCM), Fort Cooper Coal Measures (FCCM) and the Rangal Coal Measures (FCCM). Seams of particular interest in this EPC are the Elphinstone seam, in the RCM and the Hynds seam which are corelative to the Leichhardt and Vermont seams respectively.
Drill Hole Information	<ul> <li>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:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul> <li>Table 1 shows drill hole (collar) details. Coordinates are DGPS surveyed using the MGA 94 zone 55 projection.</li> <li>Table 2 provides corrected seam intersections and</li> <li>Table 3 lists the intrusion intersections.</li> </ul>
Data Aggregation Methods	<ul> <li>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.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>Lithology logs were corrected to geophysics and sample data exported and provided to M Resources to composite samples and present lab instructions to BV, Mackay.</li> </ul>
Relationship Between Mineralisation	• These relationships are particularly important in the reporting of Exploration Results.	<ul> <li>All holes were drilled vertical.</li> <li>Holes have been logged with a verticality geophysical tool to record hole deviation and to provide the ability to correct the</li> </ul>



Widths and Intercept Lengths	<ul> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	deviated depth of the seams to vertical (- 90) in the geological model.
Diagrams	<ul> <li>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.</li> </ul>	<ul> <li>Map(s) are included in the resource report and/or with announcement</li> </ul>
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 avoiding misleading reporting of Exploration Results.	Seam and coal quality contours are provided in the resource report.
Other Substantive Exploration Data	<ul> <li>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.</li> </ul>	<ul> <li>Seismic Surveys were conducted by the previous holder Rio Tinto in 2013. 3 lines orientated (roughly) ENE-WSW were shot. Lines 1 and 2 are located north of the project; line 3 on the project.</li> <li>BCC conducted approximately 13 km (5 lines) of seismic survey across EPC 1824 and EPC 2141 in March of 2021.</li> </ul>
Further Work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	Further work may include additional coal quality coring and structure holes.



### SECTION 3 ESTIMATION AND REPORTING OF MINERAL RESOURCES

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code Explanation	CP Comments
Database Integrity	<ul> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul> <li>Data was entered in the field by the field geologist into Task Manager 2014 software.</li> <li>All lithological logs, and coal intersection depths have been reconciled and corrected to the geophysical log.</li> <li>All drilling data was reviewed by resource geologists post correction by exploration geologists.</li> <li>Borehole collars were checked against the natural topographic surface and adjusted to the topography where relevant.</li> <li>Coal Quality data has been checked against lab reports and cross referenced with lithology and coal ply logs.</li> </ul>
Site Visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul> <li>Mr Troy Turner, as Competent Person, sent delegates on his behalf to conduct site visits to monitor drilling and coring activities.</li> <li>The Competent Person's familiarity with the regional operating coal projects and stratigraphy is thorough and sufficient. Review of the exploration data indicates that the geology is typical of the area.</li> <li>Xenith personnel have overseen all exploration campaigns since 2019 and are familiar with the coal seams and geology of the project area.</li> </ul>
Geological Interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul> <li>The drill hole density (core and chip) in the project allows a reasonable level of confidence for seam elevation/depth, thickness, coal quality, and the location of sub-crops.</li> </ul>
Dimensions	<ul> <li>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below</li> </ul>	• The project covers approximately 1000 ha. The N-S extent is approximately 3.5 km, the E-W extent 3 km.



	surface to the upper and lower limits of the Mineral Resource.	<ul> <li>Resources have been limited to a maximum depth of 300 m, a nominal limit of opencut mining.</li> <li>The resources area is limited by <ul> <li>The sub-crops in the east.</li> <li>The EPC boundary in the south.</li> <li>An intrusive body in the north(-east).</li> <li>The resources polygons in the north-west and west.</li> </ul> </li> </ul>
Estimation and Modelling Techniques	<ul> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (e.g., sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<ul> <li>Different modelling algorithms for structure and coal quality parameters were used.</li> <li>The Finite Element Method (FEM) interpolator with Order: 0 for thickness, 1 for surface and 0 for trend.</li> <li>The inverse distance interpolator was used for raw coal quality modelling.</li> <li>The structural model validation included <ul> <li>LAS files for drill holes seam picks.</li> <li>Cross-sections and contour maps for correlations and interpretations between drill holes.</li> </ul> </li> <li>The coal quality model validation included <ul> <li>Seam pick and sample interval comparisons.</li> <li>Contour maps of the coal quality parameter.</li> </ul> </li> <li>The previous (and maiden) resource estimate is from November 2021. Results of the two estimates are compared in the resource report.</li> </ul>



Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	<ul> <li>Coal resource tonnages were estimated using a calculated in situ relative density, see 'Bulk Density'.</li> <li>Coal qualities are reported on an air- dried basis.</li> </ul>
Cut-Off Parameters	<ul> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<ul> <li>A 7% minimum air-dried volatile matter cut-off grade has been applied. The coal seams show raw ash contents of less than 50%.</li> <li>Limits were placed on the Resource Estimate with cut-offs at 0.30 m thickness for all coal seams within resource area.</li> <li>Only full seams were modelled, and no ply parting constraints have been applied.</li> </ul>
Mining Factors or Assumptions	<ul> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</li> </ul>	<ul> <li>A maximum depth of 300 m was applied as nominal limit of opencut mining.</li> <li>Resources have been calculated for depth of cover subsets of &lt; 100 m, 100 - 200 m and 200 - 300 m.</li> </ul>
Metallurgical Factors or Assumptions	• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	<ul> <li>It is the CP's opinion that at this stage of the project that there are no limiting metallurgical factors.</li> <li>The coal, after appropriate coal preparation, can produce either a semi-soft coking coal, a PCI, or a thermal product coal.</li> <li>The resource area is in the vicinity of intrusives. Evidence of intrusions (heat affected coal and/or intrusive material) has been interpreted as a sill below the Rangal seams in the north-west and transgressing the seams towards the east.</li> <li>Reduced volatiles can be expected from intrusion intersection the seams and/or from vicinity to the sill.</li> <li>Testing data show that the coal will be amenable to upgrading on both a</li> </ul>



		<ul> <li>density and size basis - which is typical for the Rangal coal measures.</li> <li>From a coal processing viewpoint, the project's coals display predictable features with few if any changes expected from standard and well- proven testing and processing pathways.</li> </ul>
Environmental Factors or Assumptions	<ul> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</li> </ul>	<ul> <li>It is Xenith's opinion that at this stage of the project that there are no limiting environmental factors.</li> </ul>
Bulk Density	<ul> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size, and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul> <li>Coal resource tonnages were estimated using a calculated in situ relative density.</li> <li>Tonnes were calculated for an in situ Relative Density which was calculated using the Preston Sanders method.</li> <li>The average in-situ moisture used for Preston Sanders was 4.3 % derived from the analysed Moisture Holding Capacity.</li> </ul>
Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (i.e., relative confidence in tonnage/grade estimations, reliability of input data,</li> </ul>	<ul> <li>Indicated and Inferred resource categories have been identified within the project area, depending on the level of confidence in the seam structure and continuity plus the level of variability in the coal quality data</li> <li>Seams below the Yarrabee Tuff (Hynds Lower and Fort Cooper seams) have</li> </ul>



	confidence in continuity of	been evoluded from the resources due
	geology and metal values, quality, quantity, and distribution of the data).	to intrusions and high ash coals respectively.
	<ul> <li>Whether the result appropriately reflects the Competent Person's</li> </ul>	<ul> <li>Drill holes and seismic surveys provide the basis for structural/thickness continuity.</li> </ul>
	view of the deposit.	<ul> <li>Points of Observation have been used to establish coal quality continuity.</li> </ul>
		Other drilling information assisted with the classification of resource categories.
		<ul> <li>Resources were calculated from Points of Observations (PoO) and distances from them.</li> </ul>
		<ul> <li>In this resource estimate, for a drill hole to be classified as a Point of Observation ("PoO") for a seam or ply, it must be a cored hole and have:</li> </ul>
		<ul> <li>A geophysical log for the cored hole (or its pilot hole), including density and gamma-ray data.</li> </ul>
		<ul> <li>Greater than 90% core recovery across a seam or accepted by CP as being representative of the seam through analysis of the coal quality results, geophysical signature, and geological logging notes.</li> </ul>
		<ul> <li>Raw coal quality data, including at least Relative Density and Ash.</li> </ul>
		• Two resource categories have been identified for the project, based on the level of confidence in the seam structure and continuity plus the level of variability in the coal quality data, in accordance with the JORC Code. The nominal spacing between PoO's used for the classification is
		<ul> <li>1,000 m for Indicated, and</li> <li>0,000 m for Informal</li> </ul>
		<ul> <li>Resources with the nominal 500 m spacing between were re-classified as Indicated resources due to the relatively steep dip of up 35 degrees near the subcrop.</li> </ul>
		• The resources have been extrapolated beyond the last drill hole for the above nominal distances.
Audits or Reviews	• The results of any audits or reviews of Mineral Resource estimates.	• No external audits have been performed on the Mineral Resource estimate, but internal QA/QC protocols have been followed.
Discussion of Relative Accuracy/ Confidence	• Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an	• Xenith have assigned different levels of confidence to the coal resource estimate, depending on the seam and



approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.

•

- The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.
- These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.

the drill hole spacing, as described in the 2021 JORC Resource report.

Factors that could affect accuracy include unknown structures between completed drill holes, further igneous intrusions and/or heat affected coal or inseam stone bands developing.



#### Table 2 – Hillalong South Resource Estimate Summary by Seam

Coom	Measured	Indicated	Inferred	Total
Seam	(Mt)	(Mt)	(Mt)	(Mt)
ELP	-	20.0	15.5	36
HYDU	-	8.8	7.3	16
HYDM	-	6.7	5.2	12
TOTAL	-	35	28	64

\*Note – Some rounding to the nearest significant figure has occurred and this may reflect in minor differences in the overall reported resource.

#### Table 3 – Hillalong South Resource Summary by Depth

Seam	< 100 m	100 m to 200 m	200 m to 300 m	TOTAL
ELP	3.4	15.3	16.7	35.5
HYDU	1.1	6.0	9.0	16.1
HYDM	0.9	3.7	7.3	11.9
TOTAL	5	16	19	64

\*Note – Some rounding to the nearest significant figure has occurred and this may reflect in minor differences in the overall reported resource.



# Table 4 – Hillalong South Resource Estimate Summary by Resource Category and Depth of Cover

Seam	Area	<100 m	100 m to 200 m	200 m to 300 m	TOTAL
ELP	Measured	-	-	-	-
	Indicated	3.4	11.6	5.0	20.0
	Inferred	0.0	3.8	11.8	15.5
	Total	3.4	15.3	16.7	35.5
HYDU	Measured	-	-	-	-
	Indicated	1.1	5.1	2.5	8.8
	Inferred	0.0	0.9	6.4	7.3
	Total	1.1	6.0	9.0	16.1
HYDM	Measured	-	-	-	-
	Indicated	0.7	3.4	2.6	6.7
	Inferred	0.2	0.3	4.7	5.2
	Total	0.9	3.7	7.3	11.9
TOTAL	Measured	-	-	-	-
	Indicated	5.3	20.1	10.1	35.4
	Inferred	0.2	5.0	22.9	28.1
GRAND	TOTAL	5	16	19	64

\*Note – Some rounding to the nearest significant figure has occurred and this may reflect in minor differences in the overall reported resource.

#### Table 5 – Hillalong South Resource Seam Raw Quality

			RD	IM	Ash	VM	FC	TS	SE	CSN
Seam	Mt	Thick	In -Situ	adb	adb	adb	adb	adb	adb	adb
		m	g/cm <sup>3</sup>	%	%	%	%	%	kcal/kg	
					INDICATED					
ELP	20.0	4.6	1.62	2.9	29.9	16.9	50.3	0.36	5300	1.0
HYDU	8.8	2.4	1.59	3.4	24.3	18.1	54.2	0.40	5829	2.5
HYDM	6.7	1.7	1.69	3.7	37.7	16.6	42.0	0.32	4666	1.0
					INFERRED					
ELP	15.5	4.7	1.63	2.9	31.0	17.2	50.3	0.36	5205	1.1
HYDU	7.3	2.3	1.59	3.2	25.3	19.0	54.2	0.41	5762	2.6
HYDM	5.2	1.7	1.69	3.8	37.2	16.3	42.0	0.32	4685	0.8
					TOTAL					
ELP	35.5	4.7	1.62	2.9	29.9	16.9	50.3	0.36	5300	1.0
HYDU	16.1	2.4	1.59	3.4	24.3	18.1	54.2	0.40	5829	2.6
HYDM	11.9	1.7	1.69	3.7	37.7	16.6	42.0	0.32	4666	0.8



			RD	IM	Ash	VM	FC	TS	SE	CSN
Seam	Mt	Thick	In -Situ	adb	adb	adb	adb	adb	adb	adb
		m	g/cm <sup>3</sup>	%	%	%	%	%	kcal/kg	
<100m										
ELP	3.4	4.4	1.65	3.0	30.8	14.3	51.9	0.36	5187	0.5
HYDU	1.1	2.5	1.61	4.1	22.0	14.1	59.8	0.43	5925	2.5
HYDM	0.9	1.8	1.70	3.8	38.9	17.5	39.8	0.37	4596	0.5
					100-200m					
ELP	15.3	4.4	1.66	2.8	34.2	16.0	47.0	0.37	4909	1.0
HYDU	6.0	2.3	1.61	3.3	27.2	18.1	51.4	0.42	5567	2.5
HYDM	3.7	1.6	1.70	4.0	37.8	16.0	42.2	0.32	4622	1.0
					200-300m					
ELP	16.7	5.0	1.58	3.0	25.8	18.2	53.0	0.35	5681	1.0
HYDU	9.0	2.4	1.57	3.3	22.7	18.6	55.4	0.39	5992	2.5
HYDM	7.3	1.7	1.68	3.5	37.5	16.7	42.2	0.31	4696	1.0
					TOTAL					
ELP	35.5	4.7	1.62	2.9	29.9	16.9	50.3	0.36	5300	1.0
HYDU	16.1	2.4	1.59	3.4	24.3	18.1	54.2	0.40	5829	2.5
HYDM	11.9	1.7	1.69	3.7	37.7	16.6	42.0	0.32	4666	1.0

## Table 6 – Hillalong South Resource Seam Raw Qualities by Depth





#### Figure 1 – Hillalong South Topographical Map and Exploration Data





#### Figure 2 – ELP Seam Resource Classification





#### Figure 3 – HYDU Seam Resource Classification





#### Figure 4 – HYDM Seam Resource Classification