

15 October 2014

## MAIDEN JORC RESOURCE CONFIRMS SIGNIFICANT COAL DEPOSIT AT MARIOLA COAL PROJECT, POLAND

*Completion of maiden JORC Resource clears the way for consolidation of 100% ownership of Project*

Balamara Resources (ASX: BMB) ("Balamara" or the "Company") is pleased to announce a maiden JORC (2012) Coal Resource estimate and further Exploration Target\* for the advanced **Mariola Thermal Coal Project**, located in southern Poland.

The Company acquired a cornerstone 15% interest in the Mariola Project in July 2014, with the intention of moving to 100% ownership through an all-scrip merger with Carbon Investment Sp. Z.o.o., the private Polish company which holds the exploration concession. The completion of a maiden JORC Coal Resource estimate was considered to be the trigger for the finalisation of this merger.

The Mariola Project is located near the town of Katowice in southern Poland, where Balamara has its Polish offices, and lies in the heart of the Upper Silesian region – one of the largest coal-producing regions in Europe, where most Polish thermal power stations are strategically located to take advantage of nearby coal deposits (see Figure 1).

The maiden Coal Resource was calculated by experienced international coal consulting firm Wardell Armstrong International ("WAI"), based in the UK, who has significant expertise in coal exploration and mining engineering, particularly within Polish coal basins. **The Mariola Project Coal Resource comprises:**

JORC Category:	Million Tonnes (Mt)
Indicated Resource	43.6
Inferred Resource	33.5

**A separate additional Exploration Target\* of between 63.4 Mt to 80.6 Mt has been estimated in addition to the above Coal Resource, which represents considerable potential upside for the establishment of a further JORC Coal Resource at Mariola.**

*\* The potential coal quantity and quality (Table 1 below) within the Exploration Target is conceptual in nature as there has been insufficient exploration to date to define a Coal Resource and it is uncertain if further exploration will result in the determination of a Coal Resource.*

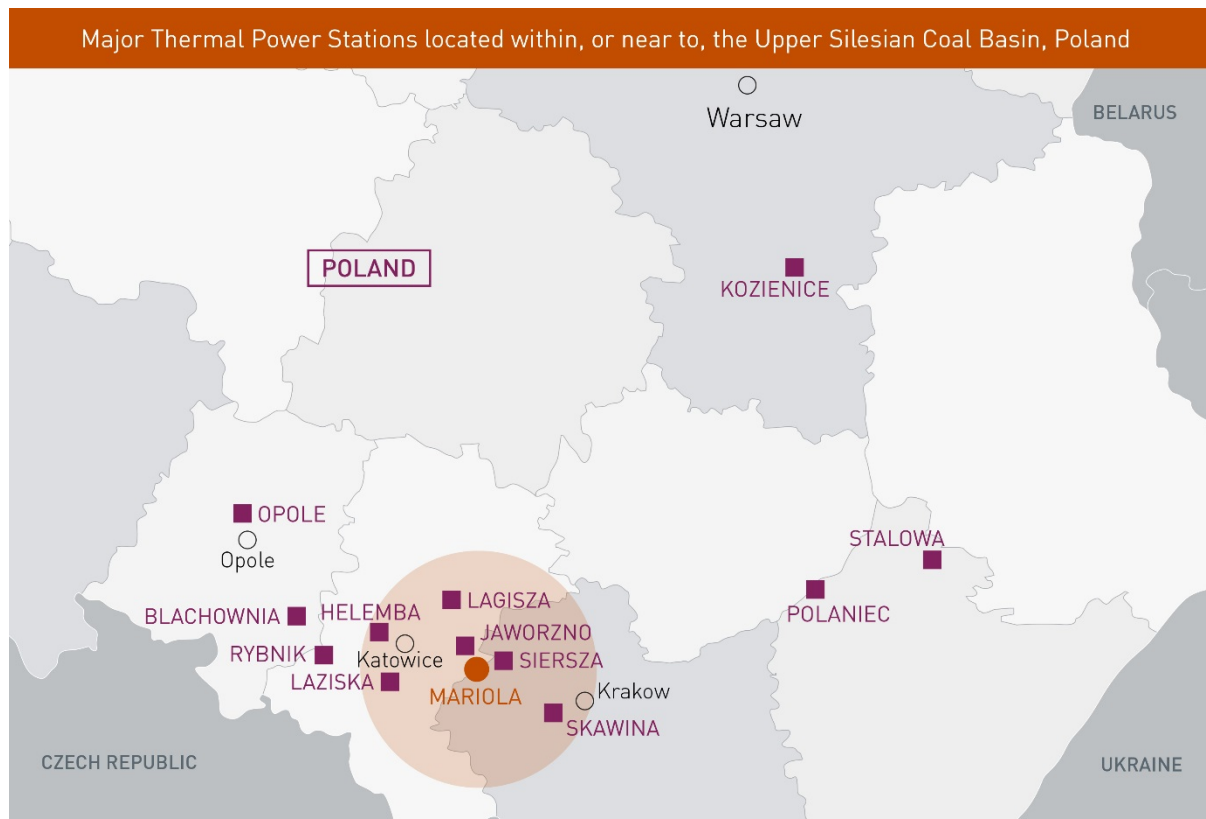


Figure 1 – Location of Mariola Project in southern Poland near to 12 operating power stations, including adjacent Siersza (Tauron) Power Station circa 2kms from the concession.

The JORC Coal Resource confirms Mariola as a significant thermal coal deposit in a low sovereign risk country, strategically located in the heart of a region that has a considerable number of thermal power stations that require this type of coal. The nature of the deposit, its location, the quality of its coal and the relatively shallow coal seams with simple geology allowing for easy mining reinforces Balamara’s plan to target mining a considerable tonnage of high grade thermal coal from Mariola by end 2016. The substantial JORC Indicated Coal Resource also allows Balamara to begin work on a Pre-Feasibility Study, expected to commence shortly.

This initial JORC Coal Resource and Exploration Target have been compiled from historical drilling data only, in accordance with the JORC (2012) code. This Coal Resource assessment has followed the Australian Guidelines 2003\*\* which suggest that core recoveries considered in the assessment should exceed 95% linear recovery. The Competent Person under the JORC (2012) Code has reduced this recovery percentage to 90% based on experience and knowledge, this excludes all coal intersections except those with the highest core recoveries of 90% or greater. Approximately 15% of the coal seam intersections qualified for use in the resource estimation and potential exists to upgrade this JORC assessment with additional work including confirmatory drilling and further geological interpretation.

Australian Guidelines 2003\*\* refers to the Australian Guidelines for Estimating and Reporting of Inventory Coal, Coal Resources and Coal Reserves, 2003 (Australian Guidelines 2003).



As the upper most coal seams are located only 80m below surface, Mariola is expected to be one of the lowest unit cost coal producers in Poland, which is generally acknowledged as one of the lower operating cost destinations for coal production by world standards.

Table 1 below shows the tonnage and coal quality data for the Indicated and Inferred Resource component, and the separate Exploration Target\*.

*Table 1: Coal Quality Data for Mariola Project, as per historical drilling data acquired by Balamara.*

Resource Classification		Ash (%)	Moisture %	Gross Calorific Value (kcal/kg)	Net Calorific Value (kcal/kg)	Total Sulphur (%)
Indicated	Min	4.28	5.02	2,983	2,842	0.59
	Max	56.39	16.06	7,010	7,039	4.10
	Weighted Average	17.77	11.95	5,942	5,542	1.51
Inferred	Min	12.18	9.66	4,921	4,649	0.59
	Max	29.25	15.30	6,544	7,017	7.70
	Weighted Average	19.14	12.37	5,781	5,475	1.23

Classification	Ash (%)	Moisture (%)	Gross Calorific Value (kcal/kg)	Net Calorific Value (kcal/kg)	Total Sulphur %
Exploration Target*	6.81-45.87	4.83-17.25	3,697-7,019	3,494-6,699	0.59-7.70

Washed (enriched) coal quality data was available for a number of samples across the concession area. **Analysis of the samples within the modelling constraints indicates that following washing the ash content is approximately 6%.**

The Coal Resource and Exploration Target for Mariola is based on historical drilling comprising 178 drill holes, of which 150 drill holes intersected coal and have a total length of 26,275m.

Drilling was by rotary core methods and sampling was point sampling of the core. JORC (2012) Table 1 provides a checklist of assessment and reporting criteria and provides information on sampling techniques and data, reporting of the exploration results and the estimation and reporting of Coal Resources. JORC (2012) Table 1 is contained in Appendix 1. The resource is based on a digital database produced by Carbon Investment Sp. Z.o.o.

WAI undertook two site visits during June and August 2014 to the Mariola Project and comprehensively reviewed the electronic database as well as a selection of primary source data. Database validation was undertaken at WAI's UK head office and this generated further data checking until a robust database was created.



The coal seams were modelled with the following cut offs; an 80m 'buffer' zone from surface and a maximum depth of 550m below surface; a coal quality cut-off parameter has not been used to limit the coal resource, however, a thickness cut-off of 0.60m was used within the modelling and the resource estimation, as is applicable in Poland.

The Resource Model was produced using a three-dimensional computer modelling software, Maptek's Vulcan (Version 9.1). Inverse Distance Weighting methodology with a maximum search radius of 1,500m methodology was used to create a block model on 100m by 100m.

An initial model was created which included 20 seams present to a depth of 550m below surface, which upon review of data quality and seam thicknesses were reduced to 11 'key' seams, namely; 207/1, 207/2, 208, 209, 210, 214, 301, 302, 303, 306 and 324 seams. These 11 seams present the bulk of the coal at Mariola and they are locally intersected by faults that are later than the deposition of the coal and do not appear to have greatly influenced the coal seam thicknesses.

Together these seams indicate a relatively shallow dipping coal deposit with good continuity. In particular the average thickness of the coal that has been classified as Indicated Resources is 2.55m and this material is likely to be suitable for a cost-effective longwall mining strategy. See Figure 2 below for the stratigraphic column, seam correlation showing thicknesses of individual coal seams and the lease area and borehole location plan.

The resource model estimates were cross-checked against the official Polish Geological Resource Report for the Mariola Project. The calculated Coal Resource (inclusive of the Exploration Target) figures differ by virtue of the Polish Report not allowing for the 80m 'buffer' zone from surface. To enable a comparison to be made between the two models WAI ran a total coal volume calculation using the geological the model including the 80m near surface buffer zone and there was less than 5% difference, which provides further verification of these figures.

The JORC Resource figures are based on *in-situ* net coal tonnage, and the influence of partings within coal seams has been removed. The coal quality used within the modelling and the tonnage calculated and its corresponding density values are based on an air-dried basis (ADB) as determined in the Katowice laboratory.

WAI has at this stage not applied any geological uncertainty losses to the coal resources, these however, would likely be in the order of:

- 10% loss for Measured Coal Resources;
- 15% loss for Indicated Coal Resources;
- 20% loss for Inferred Coal Resources;
- 25% loss for Exploration Target Tonnage.

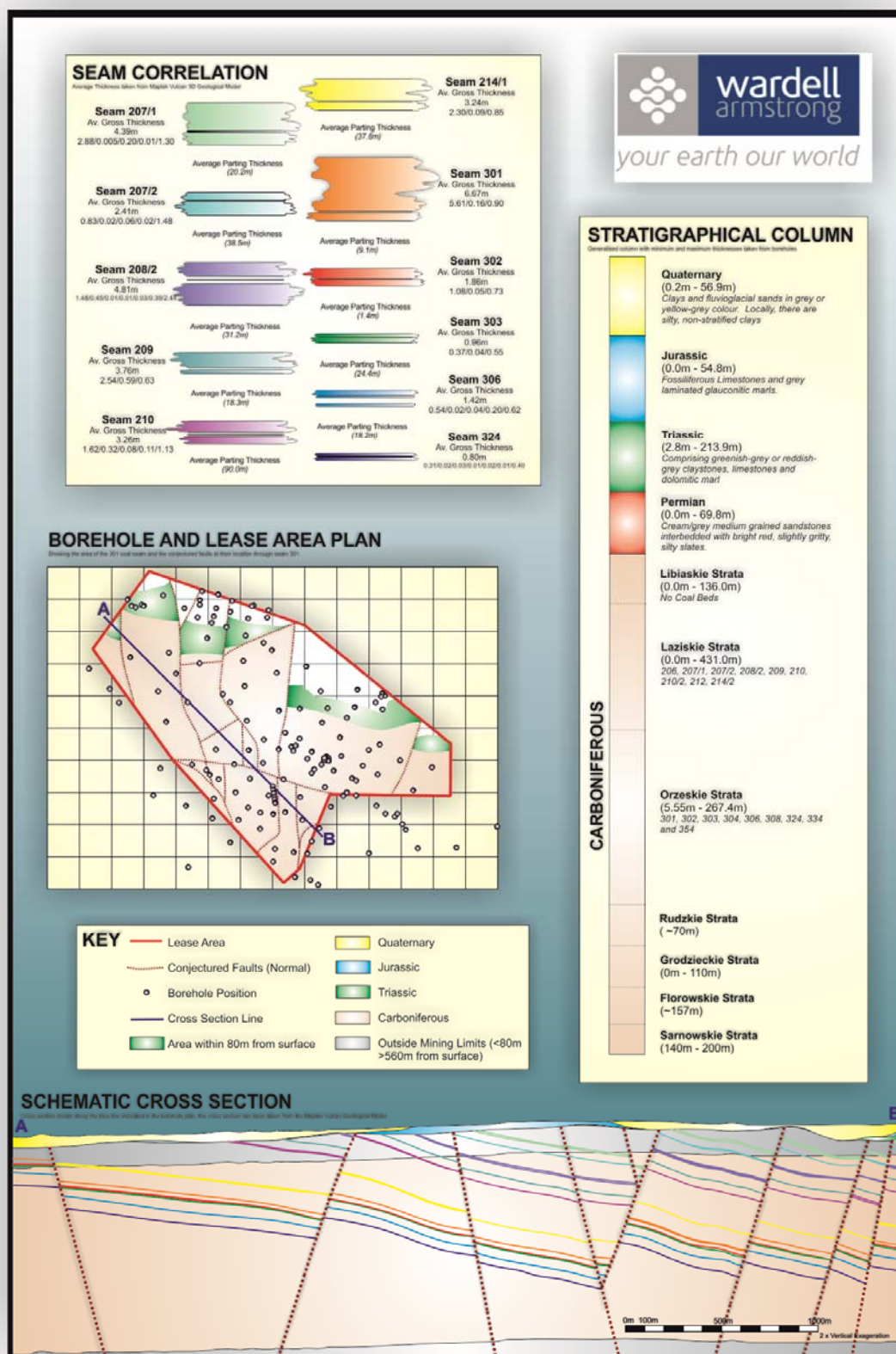


Figure 2: Stratigraphic column, seam correlation and thicknesses and borehole location plan.



Balamara's Managing Director Mike Ralston said the completion of a significant initial JORC compliant resource for the Mariola Project, based purely on historical drilling data only, was an important milestone for the Company, clearing the way for Balamara to consolidate 100% ownership of the asset.

"Balamara selected this advanced stage asset for its size and scale, its coal quality, the shallow nature of the coal seams and its close proximity to a large market for thermal coal," Mr Ralston said. "The completion of a maiden JORC resource provides further evidence to support our rationale".

"The significant Indicated Resource in particular will allow Balamara to move ahead with pre-feasibility studies on Mariola in the near term without the need for further verification drilling, although we will still consider cost-effective means by which we can raise the Coal Resource ahead. Our next step is to move to 100% ownership of this Project and thereafter we will continue to develop the asset towards licensing and production."

## **ENDS**

For further information contact:

Mike Ralston  
Managing Director  
Balamara Resources  
(08) 6365 4519

Nicholas Read/Paul Armstrong  
Read Corporate  
(08) 9388 1474

### **Competent Persons Statement:**

Information in this announcement that relates to Coal Resources and Exploration Target is based on information compiled by Mr Julian Spears who is an employee of independent consultant Wardell Armstrong International and who is a Member of the Institution of Materials, Minerals and Mining, London, UK. Mr Spears has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and to the activity in which he is undertaking to qualify as a Competent Person under the JORC (2012) Code edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Spears consents to the inclusion of the data in the form and context in which it appears.



## JORC Code, 2012 Edition – Table 1 – Mariola I Coal Project – Maiden JORC Report 2014

### Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>• <i>Nature and quality of sampling (eg 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.</i></li> <li>• <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li>• <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></li> <li>• <i>In cases where 'industry standard' work has been done this would be relatively simple (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.</i></li> </ul>	<ul style="list-style-type: none"> <li>• 204no. boreholes were drilled within or adjacent to the concession area with a total drilling length of over 34,000m, drilled between 1914-1968. Of the 204no. drilled (of which we have the original data for 178no.), 150no. have coal seam intercepts and were consequently used in geological modelling.</li> <li>• Assessment of mineral quality and type was based on results of laboratory tests of coal samples taken from drill cores.</li> <li>• Testing and sampling were assumed to be consistent with the 'Instructions of the simplified classification of rocks for underground mining in geological and engineering documentation of bituminous coal deposits' developed by the Central Mining Institute of Poland.</li> <li>• Testing took place on all coal seams greater than 0.40m in thickness, and included partings up to 5cm in thickness. Whole cores were delivered to the laboratory in Katowice for splitting, weighing and testing. Sampling was extensive, with standard tests including, but not limited to: <ul style="list-style-type: none"> <li>• Ash Content;</li> <li>• Calorific Value;</li> <li>• Coal Type;</li> <li>• Sulphur Content.</li> </ul> </li> <li>• Coal quality analysis was undertaken on Raw, Air-dried, Dry Ash Free, Enriched and As-Received basis.</li> <li>• A total of 354no. coal quality samples were taken from seams across the area. These samples were taken from between the years of 1955-1968.</li> <li>• All chemical analyses of coal from the boreholes were performed by the Analytical Tests Department of Katowice Geological Enterprise.</li> <li>• Tests and measurements in the roofs and floors of economical coal seams were performed continuously over a distance of 10m and 3m, respectively.</li> </ul>

Criteria	JORC Code explanation	Commentary
		These floor and roof strata were conducted in sections of c. 1.00m or in lithologically homogenous strata of smaller thicknesses.
<i>Drilling techniques</i>	<ul style="list-style-type: none"> <li><i>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).</i></li> </ul>	<ul style="list-style-type: none"> <li>204no. boreholes were drilled across the site and in its immediate vicinity. These boreholes varied in depth from 14.50m to 1016.50m and were drilled between 1914 and 1968.</li> <li>The drilling took place under the auspices of either the Agency of the Geological Documentation of the Coal Mining in Katowice or the adjacent Sierzsa Coal Mine. These drilling campaigns were conducted by either the Sierzsa Coal Mine or the Geological and Raw Rock Materials Company of Katowice.</li> <li>The majority of the drilling was completed by rotary core drilling, using core diameters which varied in width from 470mm for the initial meterage to 86mm at significantly deeper depths (however, the majority of drill diameters were between 160mm and 86mm).</li> <li>A table of drilling systems and core diameters is attached in Appendix 1.1.</li> </ul>
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> <li><i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> <li><i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></li> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>The collection of core samples followed the standard Polish procedures.</li> <li>During the drilling of the boreholes, samples were collected from drill core using methods that are standard for the coal industry in Poland.</li> <li>Core recovery was determined by measuring the lengths of recovered core and weighing very broken and fragmented cored (a formulae was used to convert the core weight to core lengths), to provide an overall core recovery length and %, as an expression of the thickness of coal seams, based on drilling depths. The recovered core was also compared to the coal interval thickness and depths determined from the geophysical logs.</li> <li>Poor recovery in some boreholes was considered to be related to inappropriate drilling tools and poor technical conditions of the boreholes.</li> <li>It is unclear as to whether any other measures were undertaken to maximize sample recovery due to the historic nature of the drilling data.</li> </ul>



Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>The samples were stored in a number of locations dependent on drilling campaign, these included: <ul style="list-style-type: none"> <li>Samples warehouse in Brzezinka;</li> <li>Warehouse of the Geological Company of Katowice;</li> <li>Warehouse of the Katowickie Geological Company; and</li> <li>Warehouse of the Sierzsa Coal Mine.</li> </ul> </li> </ul>
Logging	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li><i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<ul style="list-style-type: none"> <li>In all boreholes all core was geologically logged prior to sampling, which included assessment of lithology and lithology dip. No photographs of the cores were taken as this was not common practice at the time of drilling.</li> <li>Geotechnical features of cores were not logged.</li> <li>Detailed geological logs have been produced for the boreholes, which include geological and some geotechnical descriptions, and the core recovery relating to the coal seams and burden. The logs are presented as graphic logs with a detailed description. The logs also show three options relating to the depths and thicknesses of the coal seams (based on drilling depth, based on geophysical logs, and a combination of the drilling depths and geophysical logs).</li> <li>It is assumed that operational difficulties may have prevented full or partial logging of the boreholes in some cases.</li> <li>22% of the 150no. boreholes were geophysically logged, interpretation of these geophysical logs was undertaken by a number of supervising geologists, whose names are reported on each borehole card.</li> <li>WAI have not received any raw data evidence of these geophysical records.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li><i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li><i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li><i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li><i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> </ul>	<ul style="list-style-type: none"> <li>Due to the historical nature of the available data, sub-sampling techniques and sample preparation procedures are not known to WAI.</li> <li>Due to the historical nature of the available data, quality control procedures for maximizing sample representivity are not known to WAI.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <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>	
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <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> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>Due to insufficient information and the historical nature of the sampling, WAI cannot confirm if the laboratories used for chemical analyses during the drilling, complied with International Standards and best practice procedures.</li> <li>Information regarding geophysical tools and other instrument are not known to WAI.</li> <li>Sending duplicate samples to differing laboratories for testing for QA/QC checking was common place in the region during the period of exploration, however, due to the historical nature of the data, further information on the QA/QC procedures in place are not available.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>No information is available regarding the verification of sampling intersections by either independent or alternative company personnel.</li> <li>There is no evidence of twinned boreholes, however, the hydrogeological holes were drilled on a 15-20m spacing allowing for small scale variability in the thickness and structure of seam to be determined.</li> <li>There was no information relating to the procedures and verifications that were undertaken.</li> <li>WAI are unaware of any adjustments made to the coal quality data.</li> </ul>
Location of data points	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>No information is available regarding the surveying organization and equipment used to survey the borehole locations.</li> <li>The Polish CS1992 coordinate system (Lwowski Geodetic System) was used within the modelling and all subsequent plans.</li> <li>The topography for the concession area was provided, by means of a image to WAI, who converted the contours into a digital format, prior to their use</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>within the mining software. Using a 'locate collars on topography' (a function within the modelling software) WAI were able to check during the data during validation stage, to ensure that all collar files were within 2 metres of the created topography file. The topography file was then adjusted where required to match the collar files.</p>
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <i>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.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• There are a large number of boreholes across the site, 150no. of which, have been utilised within the 3D geological model. Of these 150no. boreholes, 115no. have coal seam information and are found within the lease area, these 115no. boreholes are spread across a lease area of 13.33km<sup>2</sup>, giving an average of approximately 9 boreholes per square kilometre, giving good coverage. The spacing varies from approximately 15m to 800m between boreholes. The boreholes, however, have mostly been drilled in the 1960's, and show low core recoveries.</li> <li>• The relatively low variation in seam thickness and coal quality across the site were considered by the CP when the resources were determined in accordance with JORC.</li> <li>• No sample compositing has been undertaken, all data has been taken into the model and utilised within the coal quality modelling. Where the upper and lower leaves of a seam have varying coal qualities within the model output a weighted (thickness and density) average of the two has been determined, these weighted values being those stated in the ASX statement.</li> </ul>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li>• <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• It is understood that all boreholes were drilled vertically with no pre-determined orientation or drilling angle. Precise details regarding verticality are unknown, however for the purpose of computer modelling, all the boreholes have been assumed to be vertical.</li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li>• <i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No documentation is available to review the sample security measures, which may have taken place during drilling.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No audits or reviews were carried out by WAI.</li> </ul>

## Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Carbon Investments have been awarded the exploration concession for the Sierza II, Mariola I deposit area in 2013 (23/2013/p) covering an area of 13.33km<sup>2</sup>. A digital version of this concession boundary was provided to WAI by Carbon Investments on 24<sup>th</sup> June 2014.</li> <li>A copy of exploration concession is attached as an Appendix (Appendix 1.2) to this report.</li> </ul> <p><b>WAI have not independently verified this documentation, but consider the documentation appropriate for this resource estimation.</b></p>
Exploration done by other parties	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>A total of 204no. historical exploration boreholes have been drilled and immediately surrounding the concession area, of these 178no. have original records available. The Polish State Geological Institute undertook the drilling and documentation of these boreholes, which were drilled between 1914 and 1970, with the majority of the boreholes drilled during the 1950's and 1960's.</li> <li>A further confirmation exploratory borehole has been drilled by Carbon Investments during 2014. The coal quality results from this borehole were not available during the start of the resource estimation, this borehole has therefore not been used within this resource estimation.</li> </ul>
Geology	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The mineralization comprises a stratified Upper Carboniferous coal deposit, comprising some 20no. seams of coal, which include a number of primary target seams, in particular the 214, 301, 302 and 303 seams. The coal seams are interbedded within sequences of siltstones, shales, mudstones and conglomerates.</li> <li>In accordance with Polish Classification, these coal seams have been categorized as a Group II deposit in terms of structural complexity.</li> <li>Due to the depth of the economic coal seams, they are potentially mineable by underground longwall mining methods.</li> </ul>
Drill hole	<ul style="list-style-type: none"> <li>A summary of all information material to the understanding of the</li> </ul>	<ul style="list-style-type: none"> <li>A detailed list of the surface boreholes used to define the resource within</li> </ul>

Criteria	JORC Code explanation	Commentary
Information	<p>exploration results including a tabulation of the following information for all Material drill holes:</p> <ul style="list-style-type: none"> <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> <p>• 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.</p>	<p>the Mariola I concession area can be found in an Appendix 1.1 attached to this report.</p>
Data aggregation methods	<ul style="list-style-type: none"> <li>• In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg 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 style="list-style-type: none"> <li>• Due to the limited variability of stratified deposits, no top cutting was required prior to modelling.</li> <li>• Coal quality samples were composited by weighted thickness across the seams within the Vulcan modelling software prior to their addition into the model.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <li>• These relationships are particularly important in the reporting of Exploration Results.</li> <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 (eg ‘down hole length, true width not known’).</li> </ul>	<ul style="list-style-type: none"> <li>• The coal seams are tabular, but cannot be assumed to continue laterally, due to possible thinning and faulting. The only reliable means to ensure the continuity of the coal seams is by verifying their positions, thicknesses and correlations at Points of Observations.</li> <li>• All boreholes have been modelled as vertical. Down-hole survey data to record any deviation from vertical is unavailable.</li> </ul>
Diagrams	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>• All appropriate and relevant diagrams are included within the main body of this report or the appendices. These include location maps, geological plans, geological cross sections, resources and seam quality plans.</li> </ul> <p><b>The borehole locations and a diagrammatical cross section are shown as Figure 2 of the ASX announcement.</b></p>
Balanced	<ul style="list-style-type: none"> <li>• Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should</li> </ul>	<ul style="list-style-type: none"> <li>• All of the data and information made available to WAI has been collated, analysed and reported.</li> </ul>

Criteria	JORC Code explanation	Commentary
reporting	<i>be practiced to avoid misleading reporting of Exploration Results.</i>	<ul style="list-style-type: none"> <li>Additional data and information may exist in Poland, however, this was not available to WAI, i.e. original geophysical traces.</li> </ul>
Other substantive exploration data	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>No additional, relevant or material exploration data and information was provided for the purposes of resource estimations.</li> </ul>
Further work	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>A future small-scale drilling campaign may be required to increase the confidence in the resources and thus increase the volumes within the resource classification categories.</li> <li>The details of the drilling campaign will be determined following this initial JORC report.</li> </ul>

### Section 3 Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
Database integrity	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>Data validation procedures used.</i></li> </ul>	<ul style="list-style-type: none"> <li>A borehole database was provided to WAI, which was constructed and developed by Carbon Investments from the original hardcopy data. This complex database included information from the boreholes within and surrounding the deposit area, as well as including the coal quality information available.</li> <li>WAI took measures to verify the database by assessing the original borehole logs and coal laboratory sheets against the database. This allowed WAI to verify that the data inputted in the database was correct and that if any errors had occurred (human input errors) these could be amended.</li> <li>Approximately 50% of the coal quality information was externally verified by WAI, along with 20% of geological structural information from the borehole logs.</li> <li>The database underwent validation procedures within the Vulcan geological software, including, but not limited to; collar location checks to surface,</li> </ul>

Criteria	JORC Code explanation	Commentary
		unique collar locations, down-hole seam correlation checks, and duplicate sample checks.
Site visits	<ul style="list-style-type: none"> <li>• <i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</i></li> <li>• <i>If no site visits have been undertaken indicate why this is the case.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Two site visits have been undertaken by staff employed by WAI.</li> <li>• The initial visit took place prior to the award of the contract of work between the 23-25<sup>th</sup> June 2014, this visit included: <ul style="list-style-type: none"> <li>• A site visit around the proposed site;</li> <li>• Reviewing the extent of documentation held by Carbon Investments, such as borehole logs, cross sections etc...</li> </ul> </li> <li>• The second visit took place 4-6<sup>th</sup> August 2014, with the Competent Person present on this occasion, this visit included: <ul style="list-style-type: none"> <li>• A site visit around the proposed site;</li> <li>• A trip to the recently drilled borehole site and discussion with the drilling chief geologist;</li> <li>• A full review the geological graphical logs and coal quality information held by Carbon Investments against the softcopy databases received from Carbon Investments.</li> <li>• Visit to the Polish Geological Institute in Warsaw to validate the original data.</li> </ul> </li> </ul>
Geological interpretation	<ul style="list-style-type: none"> <li>• <i>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</i></li> <li>• <i>Nature of the data used and of any assumptions made.</i></li> <li>• <i>The effect, if any, of alternative interpretations on Mineral Resource estimation.</i></li> <li>• <i>The use of geology in guiding and controlling Mineral Resource estimation.</i></li> <li>• <i>The factors affecting continuity both of grade and geology.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The geological structure for the concession area was provided on a plan by Carbon Investments, originally produced by the Polish Government. This detailed structure plan, with no new information since its development, was used by WAI to create the 3D geological model of the faults, the further structure within the faulted areas was developed by WAI modelling software using the large number of boreholes within these areas. The completed WAI model is similar to that originally developed by the Polish Government.</li> <li>• Due to the high volume of drillhole data available across the site, WAI have been able to classify the coal resources as Indicated and Inferred resources in accordance with the JORC 2012 Code.</li> <li>• No allowances have currently been made for geological uncertainty.</li> </ul>



Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>A higher level of confidence in regard to the seam thicknesses used in geological modelling could be obtained following a review of any geophysical logs which are provided by Carbon Investment.</li> <li>It is recommended that further drilling is undertaken to provide more information and to assist with the accurate understanding of the geology including coal seam continuity and correlations, coal quality, and faulting.</li> </ul>
Dimensions	<ul style="list-style-type: none"> <li><i>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</i></li> </ul>	<ul style="list-style-type: none"> <li>The Sierzsa II, Mariola I deposit area is the northwestern most third of a elongated oval resource block within the Upper Silesian Coal Basin, centered on the Polish city of Katowice, trending northwest-southeast, Sierzsa. The southeastern section of this resource block has been previously mined.</li> <li>The concession area is shown on Figure 1 of the ASX announcement dated 15 October, 2014.</li> <li>The concession covers an area of 13.33km<sup>2</sup>, approximately 4.5km by 3.0km.</li> <li>The resource estimate covers those seams, deemed to be economical within the concession area, from a depth of 80m below ground level and above 560m below ground level.</li> </ul>
Estimation and modelling techniques	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i></li> <li><i>The assumptions made regarding recovery of by-products.</i></li> <li><i>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</i></li> <li><i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i></li> <li><i>Any assumptions behind modelling of selective mining units.</i></li> <li><i>Any assumptions about correlation between variables.</i></li> </ul>	<ul style="list-style-type: none"> <li>The Resource Model was produced using a 3 Dimensional computer modelling software, Maptek's Vulcan (Version 9.1)</li> </ul> <p>The initial model was created with all 20 seams, which upon review of data quality and seam thicknesses was reduced to 11 'key' seams, namely; 207/1, 207/2, 208, 209, 210, 214, 301, 302, 303, 306 and 324.</p> <p>The major faults (faults with a throw greater than 10m) were taken from the 2012 Carbon Investments Resource Estimate. These faults were checked by an initial geological model taking no faulting into account, where variations in contours generally indicate a break in the coal seam. 17no. faults were modelled which split the initial lease area block into 19no. domains, which were modelled separately.</p> <p>The faults were shown to affect not only Carboniferous strata, but</p>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>• <i>Description of how the geological interpretation was used to control the resource estimates.</i></li> <li>• <i>Discussion of basis for using or not using grade cutting or capping.</i></li> <li>• <i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i></li> </ul>	<p>overlying younger strata, indicating the tectonic deformation to occur post coal deposition. Coal seam thicknesses and qualities do not substantially vary across faults, as such, modelling techniques for each domain block remain the same.</p> <ul style="list-style-type: none"> <li>• The seams were modelled using Vulcan's stratigraphical modelling module, Inverse Distance Weighting methodology with a maximum search radius of 1,500m. This established the seam surfaces and thicknesses using a search ellipse of three times the average borehole spacing.</li> </ul> <p>The Inverse Distance Weighting technique also used the surface stacking technique present in Vulcan which allows the user to select a key seam, or seam with the greatest data points to be modelled prior to the other seams, therefore allowing other seams with maybe more limited data points to model against a seam trend.</p> <p>Coal quality grids were again created using the Inverse Distance Weighting methodology. The coal quality grids are produced irrespective of structure.</p> <p>The coal thickness and elevation model was created separately to the coal quality grids, with the two being superimposed together at HARP model stage (Vulcan block model), to allow the production of both tonnages and the relevant coal quality grades.</p> <ul style="list-style-type: none"> <li>• The grids were produced on a grid size of 50m x 50m. The block model was then created on a 100m x 100m with a 2x sub block.</li> <li>• The database prior to modelling was assessed statistically to determine the variability of data, using a standard cut-off parameter of 3no. standard deviations from the mean – no top cutting within the database was required.</li> <li>• Spot checks against various variables in the database against the model were undertaken including seam elevations, thickness and quality parameters. In built validation procedures in Vulcan were ran to ensure no duplicates, overlaps or extreme values were included within the modelling.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>The resource model estimates were produced, these were then checked against the Carbon Investments Polish Resource Report. Note the Carbon Investments volumes do not consider the 80m 'buffer' zone from surface. WAI's calculated the total coal volume, not taking into account a minimum seam thickness cut off (&lt;0.60m) or the 80m buffer zone, then ran a further calculation of total coal volume, again, not taking into account a minimum seam thickness, however, including the 80m buffer zone. The percentage difference between the two volume calculations was 24%, if we use this percentage difference to WAI's resource total including a 80m buffer zone, against the original Carbon Investment resource total excluding this buffer zone, there is an overall difference of less than 5% of the original estimate.</li> <li>The resource figures are based on <i>in situ</i> net coal tonnage.</li> <li>The Point of Observation Criteria was determined to be &gt;90% core recovery and containing coal quality information. The resource areas were then determined on a point-to-point basis with half distance extrapolation, the distances for each resource category were set as follows: <ul style="list-style-type: none"> <li>Up to 500m Measured</li> <li>500m – 1000m Indicated</li> <li>1000m – 3000m Inferred</li> </ul> </li> </ul>
Moisture	<ul style="list-style-type: none"> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	<ul style="list-style-type: none"> <li>The coal quality used within the modeling, the tonnage calculated and its corresponding density values are based on an air-dried basis determined in the Katowice laboratory.</li> </ul>
Cut-off parameters	<ul style="list-style-type: none"> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<ul style="list-style-type: none"> <li>At this stage, a coal quality cut-off parameter has not been used to limit the coal resource, however, a thickness cut-off of less than 0.60m has been used within the modelling and the resource estimation.</li> </ul>
Mining factors or assumptions	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>WAI has not conducted any mining assessments in the concession area.</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>Metallurgical factors or assumptions</i>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>WAI has not conducted any metallurgical (coal processing) assessments in the concession area.</li> </ul>
<i>Environmental factors or assumptions</i>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>WAI has not conducted any environmental assessments in the concession area.</li> </ul>
<i>Bulk density</i>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>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.</i></li> <li><i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i></li> </ul>	<ul style="list-style-type: none"> <li>The bulk density of the coal was determined for each individual 50m x 50m block using the coal quality information available for each seam. The density for any partings within the coal was assumed as 2t/m<sup>3</sup> until further quality test work can be undertaken to allow an accurate tonnage calculation for the gross seam tonnages.</li> <li>The density for the area is calculated using Inverse Distance Weighting on a 1500m search radius using a density determined on an air dried basis. Where insufficient data points are present a default of 1.4t/m<sup>3</sup> has been used.</li> </ul>
<i>Classification</i>	<ul style="list-style-type: none"> <li><i>The basis for the classification of the Mineral Resources into varying confidence categories.</i></li> <li><i>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</i></li> <li><i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i></li> </ul>	<ul style="list-style-type: none"> <li>There are a large number of boreholes across the site, 150no. of which, have been utilised within the 3D geological model. Of these 150no. boreholes, 115no. have coal seam information and are found within the concession area, these 115no. boreholes are spread across a concession area of 13.33km<sup>2</sup>, giving an average of approximately 9 boreholes per square kilometre, giving good coverage. The boreholes, however, have mostly been drilled in the 1960's, and show to have low core recoveries.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>At the time of drilling, geophysical logging was used to provide consolidated logs and thicknesses, although, at this stage the original geophysical traces have not been made available. As there is limited thickness and quality variations across the site, along with the good borehole coverage, the CP has deemed it acceptable to reduce the Point of Observation criteria from 95% to 90%.</p> <ul style="list-style-type: none"> <li>Although a large number of faults have been shown to run across the site, these faults are post Carboniferous in age leading to limited variation in seam thickness and coal quality across these faults. Due to this minimal variation, the CP has deemed it appropriate that the resource area can cross these fault boundaries, where further coal seam information is available on the opposite side of the fault, showing continuity.</li> <li>The resource areas were determined on a point-to-point basis with half distance extrapolation, the distances for each resource category were set as follows: <ul style="list-style-type: none"> <li>Up to 500m Measured</li> <li>500m – 1000m Indicated</li> <li>1000m – 3000m Inferred</li> </ul> </li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of Mineral Resource estimates.</i></li> </ul>	<ul style="list-style-type: none"> <li>The resource model estimates created by WAI were checked against the figures released by Carbon Investments Polish Resource Report. The resource figures are on differing basis, with Carbon Investments do not allow a 80m 'buffer' zone from surface, as considered by WAI.</li> <li>To correlate for this, WAI ran a total coal volume calculation on the model, not taking into account a minimum seam thickness cut off or the 80m buffer zone, then ran a total coal volume calculation on the model, again, not taking into account a minimum seam thickness, however, including the 80m buffer zone.</li> <li>The percentage difference between the two volume calculations was 24%, if we use this same percentage difference to WAI's resource total including a 80m buffer zone, against the original Carbon Investment resource total excluding this buffer zone, there is an overall difference of less than 5% of the original estimate.</li> </ul>
Discussion of	<ul style="list-style-type: none"> <li><i>Where appropriate a statement of the relative accuracy and confidence</i></li> </ul>	<ul style="list-style-type: none"> <li>QA/QC checks have been undertaken at every stage, during database</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>relative accuracy/ confidence</i>	<p><i>level in the Mineral Resource estimate using an 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.</i></p> <ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul>	<p>creation and modelling checking the output data and contour plans against the original hardcopy and softcopy data.</p> <ul style="list-style-type: none"> <li>Advanced geostatistical modelling was not deemed applicable for this deposit, as such, no error variances have been determined through kriging or conditional simulation methods. WAI have therefore made a judgment of reasonable geological losses to apply to the coal resources and coal tonnage, taking into account confidence in the geological structure, coal quality and thickness variations and seam correlations and continuity.</li> <li>WAI has at this stage not applied any geological uncertainty losses to the coal resources, these however, would likely be in the order of: <ul style="list-style-type: none"> <li>10% loss for Measured Coal Resources;</li> <li>15% loss for Indicated Coal Resources;</li> <li>20% loss for Inferred Coal Resources;</li> <li>25% loss for Exploration Target Tonnage.</li> </ul> </li> </ul>