



02 September 2015

## ASX ANNOUNCEMENT

By Electronic Lodgement

### MACKENZIE CAMPAIGN IDENTIFIES COKING COAL

The Board of Moreton Resources Limited (MRV) is pleased to advise that following an investment of approximately \$1 million, the next phase of the Mackenzie Coal Project (MDL 503, EPC 1445) has been completed. This phase, while delayed due to weather and operational difficulties, remained within the approved budget and the outcome has exceeded the expectations of the program in terms of washed coal quality characteristics, coal continuity, and also the depth of seams intersected within the deposit.

As the market is aware, the Mackenzie Asset is currently being transferred to MRV Bowen Basin Coal, as a fully owned subsidiary of Moreton Resources, in an effort to allow the advancement and singular focus on this asset, through the subsidiary operations.

Following this latest investment, the Company continues to be reassured that the Mackenzie Coal Project is extremely valuable and a cornerstone Asset for the Company into the future. This view has been supported by recent transactions such as the 20 January 2014 announcement by Wesfarmers to acquire nearby MDL 162 which contained a Coal Reserve of 67 million tonnes and a total in-situ Coal Resource of 255Mt (74Mt Measured, 86Mt Indicated and 95 Mt Inferred) from Peabody Energy Budjero Pty Ltd for \$70 million (formally sold for approximately \$350 million in 2010). Also the sale of Carabella Resources Limited in early 2014 for over \$50 million, clearly indicate the demand for Bowen Basin coal.

Of note, these recent sales in a depressed market relied upon Assets which had been advanced to a stage and level of confidence that added significant value to the project, but neither had advanced significantly into operational mines. What was important was the level of confidence and rigour put around the Resources and Reserves, to give a clear understanding of what is likely minable in the future. This same concept has been undertaken by the release of this Mackenzie JORC Coal Resource estimate, which focused considerable assessment of what is a likely to meet "Reasonable Prospects for Eventual Economic Extraction" for mining activities, as outlined by the JORC Code.

The total outcome of the drilling program recognised a significant increase in overall coal tonnes from the previously released JORC, however with the overlay of what has "Reasonable Prospects for Eventual Economic Extraction", through the application of exclusions of any seams less than 1 meter in thickness; any seams that have interburden of less than 10 meters between seams (taking into account one of those seams for mining purposes); in addition to applying a buffer zone of 40 meters either side of any identified major faulting areas. The total in-situ Coal Resource estimated and classified in accordance with the minimum reporting standards of the JORC Code (2012 edition) is **73 Mt Inferred** and **65.1 Mt Indicated** (refer to following table for a complete breakdown of this Resource classification on a seam basis with associated coal qualities).

Significant upside potential has also been recognised, over and above our interim project announcement for the Mackenzie Coal Project which identified low volatile PCI coal, we now are pleased to advise the market that the resource contains semi-soft metallurgical coking coal and low volatile PCI coal properties throughout the resource, and this is a significant advancement to the coal quality outcomes of the Asset, as to the marketability and profitability of a potential mining operation.

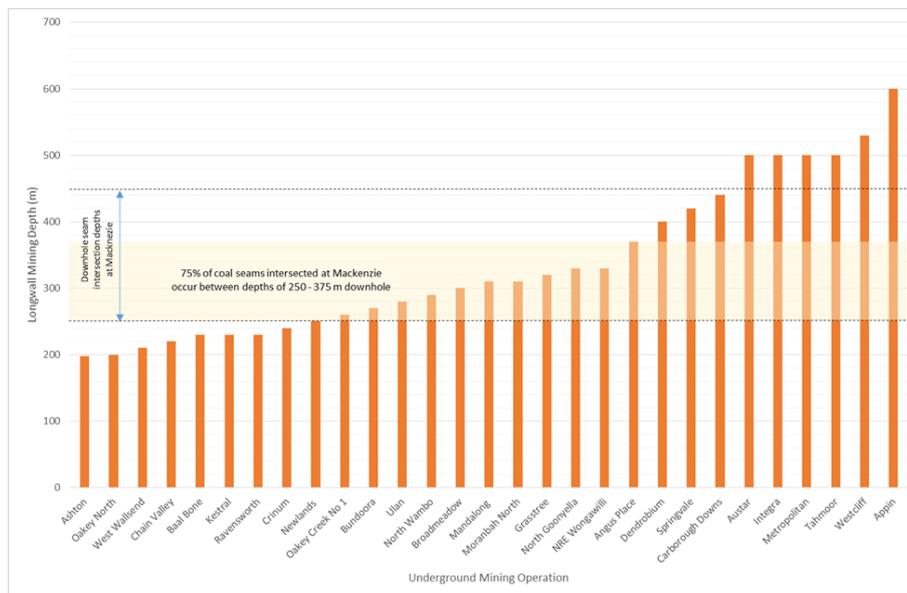
The above information is highly encouraging for MRV Bowen Basin Coal, as this specific Asset in the last 3 years has had multiple parties interested in the Asset and enter discussion with the Company, which also lead to data rooms being set up and advanced discussions and data sharing taking place with several parties.

This latest round of drilling and the rigorous approach to the JORC on “Reasonable Prospects for Eventual Economic Extraction” allow the Board to consider how best to advance the Asset for shareholder value, as the release today has significantly de-risked the project, from the early stages of this Assets advancement and has significantly de-risked and alleviated many of those technical unknowns.

Table 1: Insitu Coal Resource for MDL 503 reported in accordance with the JORC Code (2012 edition)

JORC Resource Classification	Seam	Tonnes (Mt)	AVG. Thickness (m)	Raw RD @ insitu moisture	Raw Ash (% ad)	Clean coal composite Yield (% ad)
Indicated	Aries (upper)	19.1	1.9	1.4	12	84
	Castor	4.2	2.3	1.5	25	47
	Castor (upper)	15.6	1.5	1.5	20	55
	Pollux (upper)	26.2	2.2	1.5	21	50
	<b>SUBTOTAL</b>	<b>65.1</b>	<b>2.0</b>	<b>1.5</b>	<b>18</b>	<b>61</b>
Inferred	Aries (upper)	19	1.8	1.4	12	84
	Aries (upper 1)	0	1.1	1.5	23	55
	Castor	3	2.5	1.5	26	46
	Castor (upper)	12	1.5	1.5	21	53
	Pollux (upper)	25	2.4	1.5	21	51
	Pollux (lower)	14	1.7	1.5	21	48
	<b>SUBTOTAL</b>	<b>73</b>	<b>2.0</b>	<b>1.5</b>	<b>19</b>	<b>59</b>
<b>TOTAL</b>		<b>138.1</b>				

In addition to this, we refer to the below chart, and are pleased to advise that the confirmed depths of first coal seams are at approximately 250 meters with the final intercepted seam being found at 360 meters in depth in MCK005C through to 427meters in MCK009CR2. This is a significant outcome also for the quality and viability of this Asset, as that would rank the Mackenzie Coal Project on an average, if not slightly superior, coal depth in comparable terms, to some of the major underground mines within the Bowen Basin.



We are now in a position to continue to seek to advance the Mackenzie Coal Project with our internal understanding, modelling and decision making processes. This greater understanding of the Asset and a far greater level of confidence in the Asset and data, will allow fundamental decisions to be made by MRV Bowen Basin Coal, which in turn will benefit Moreton Resources Limited moving forward.

**Jason Elks**  
**Chief Executive Officer**  
**Moreton Resources Limited**

# Appendix A

JORC Table 1

JORC Table 1, attached to this release, provides a checklist of assessment and reporting criteria and provides information on drilling and sampling techniques and data QAQC according to JORC Code (2012) guidelines.

Criteria	Explanation	Comment
Sampling techniques	<p>Nature and quality of sampling (e.g. cut channels, random chips etc.) and measures taken to ensure sample representivity.</p> <p>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</p> <p>Aspects of the determination of mineralisation that are Material to the Public Report.</p> <p>In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1m 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.</p>	<p>Testing took place on all coal seams greater than 0.30m in thickness, and included partings up to 10cm in thickness. All samples were double bagged on site. Samples were assigned individual sample numbers and accompanied by a sample advice sheet. Whole cores were delivered to ALS Coal Division laboratory in Richlands Queensland for splitting, weighing and testing. Sampling was extensive, with standard tests including, but not limited to:</p> <ul style="list-style-type: none"> <li>• Total Moisture;</li> <li>• Inherent Moisture;</li> <li>• Ash Content;</li> <li>• Calorific Value;</li> <li>• CSN;</li> <li>• Sulphur Content</li> </ul> <p>Industry standard coring (HQ3) and sampling methods have been used. Sample representivity is ensured by careful observation of the core by a trained geologist during sampling in order to ensure that samples do not cross ply boundaries and by recording and tracking core recoveries and performing re-drills if core recoveries are unacceptably low.</p>
Drilling techniques	<p>Drill type (e.g.. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka 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.).</p>	<p>The current drilling programme involved the drilling of 21 drill holes across the tenement. These varied in depth from 200 m (abandoned hole MCK009C) to the deepest hole at 481.85 m (MCK001C), drilled between September 2014 and April 2015.</p> <p>The drilling was completed by rotary core drilling, using HQ3 (63mm) core. However the initial drill diameters varied from 99mm to 165mm where PCD bit was used for chipping. Several non-cored pilot holes were drilled as well.</p> <p>Prior to this drilling, Cougar Energy drilled 6 holes within the confines of the previous extent of EPC 1445 (details of this drilling are contained within ASX announcements made by Cougar Energy).</p>
Drill sample recovery	<p>Whether core and chip sample recoveries have been properly recorded and results assessed.</p> <p>Measures taken to maximise sample recovery and ensure representative nature of the samples.</p> <p>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.</p>	<p>Core loss has been documented in the field during logging and sampling of core. Calculations have been performed to accumulate total core loss over the sampled interval. The core recovery from most of Mackenzie project is &gt;90% however re-drills were performed for holes where recoveries obtained initially are less than 90% over the width of any of the seams. Detailed records have been kept of core recoveries which have allowed for analysis of the influence of core recovery on coal quality during resource estimation.</p>
Logging	<p>Whether core and chip samples have been</p>	<p>Detailed logging of chips and core was conducted. Chips and</p>

Criteria	Explanation	Comment
	<p>logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</p> <p>Whether logging is qualitative or quantitative in nature. Core (or costean, channel etc.) photography.</p> <p>The total length and percentage of the relevant intersections logged.</p>	<p>core photographs were taken as well. All cores were geologically logged, marked and geotechnical features were identified.</p> <p>Final drill logs include information on detailed lithological logging of the drill core, geophysical logging, core recoveries, coal quality and the initial interpretation in terms of seam stratigraphy. All drill hole logs were corrected to down hole geophysics.</p> <p>The detail contained in these logs is considered sufficient for the purpose of resource estimation.</p>
<p>Sub-sampling techniques and sample preparation</p>	<p>If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split etc. and whether sampled wet or dry.</p> <p>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</p> <p>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</p> <p>Measures taken to ensure that the sampling is representative of the in situ material collected.</p> <p>Whether sample sizes are appropriate to the grainsize of the material being sampled.</p>	<p>No sub-sampling of the core.</p> <p>All core coal samples were double bagged on site and transported to the laboratory for testing. The lab, ALS complies with Australian Standards for sample preparation and sub sampling. All coal samples will be crushed to a top size of 11.2 mm before analysis, which is common in the industry for HQ3 core.</p>
<p>Quality of assay data and laboratory tests</p>	<p>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</p> <p>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.</p> <p>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</p>	<p>Coal quality Laboratory (ALS Coal Division laboratory in Richlands Queensland) adheres to internal QAQC and inter-laboratory QAQC checks. All determinations performed adhere to the American Society for Testing and Materials (ASTM) guidelines.</p> <p>ALS complies with ASTM standards for all coal quality tests and is certified by the National Association of Testing Authorities Australia (NATA). ALS laboratories are regularly benchmarked by external auditors against the highest professional laboratory standard – ISO 17025.</p> <p>Accreditation to this standard provides assurance that the laboratory systems are robust and maintained at world-class level.</p> <p>Surtron Wireline Services performed all downhole geophysical logging. Down hole sample spacing for all tools is 1 cm. Density, gamma, calliper, sonic, verticality, resistivity and ATV</p>

Criteria	Explanation	Comment
	<p>precision have been established.</p>	<p>tools were run (although all tools were not used for all holes).            Surtron Technologies is ISO9001 certified and uses numerous Quality Control procedures, from the set-up and calibration of down hole tools to the final delivery of client data.</p>
<p>Verification of sampling and assaying</p>	<p>The verification of significant intersections by either independent or alternative company personnel.</p> <p>The use of twinned holes.</p> <p>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</p> <p>Discuss any adjustment to assay data.</p>	<p>There are no twinned intersections apart from where re-drills had to be performed to obtain better core recoveries for certain seams. In these cases coal seam intersections between adjacent holes show good agreement. The only exception to this is in the case of holes MCK007C and MCK007CR where the ARU seam is faulted out in the re-drill, indicating the presence of a normal fault intersection this hole (MCK007CR). No verification sampling of significant intersections was conducted.</p>
<p>Location of data points</p>	<p>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.</p> <p>Specification of the grid system used.</p> <p>Quality and adequacy of topographic control.</p>	<p>A differential GPS survey of all collars has been conducted upon completion of drilling by registered surveyors, T.R Baillie. Vertical accuracy of +/- 0.018 m</p> <p>The topography surface was generated from ASTER Global Digital Elevation Model ("ASTER GDEM") survey. It has been captured with 1.5 arc-second resolution, equivalent to approximately 32.0 m.</p>
<p>Data spacing and Distribution</p>	<p>Data spacing for reporting of Exploration Results.</p> <p>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.</p> <p>Whether sample compositing has been applied.</p>	<p>Data spacing is sufficient to establish continuity in both thickness and coal quality. Full seam/ working section composites of coal quality have been used in resource estimation.</p>

Criteria	Explanation	Comment
Orientation of data in relation to geological structure	<p>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</p> <p>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.</p>	<p>Full seam composites used, therefore orientation of sampling not seen to introduce bias as all drilling is sub-vertical and seams mostly gently dipping.</p> <p>No bias introduced by orientation of drill holes – Minescape, the 3D modelling software used, takes into account the orientation of the seams in relation to the drilling and determines both true and vertical thickness for the seams.</p>
Sample Security	The measures taken to ensure sample security.	Sample security was ensured under a chain of custody between HDR personnel on site and the ALS lab.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits and reviews conducted on sampling techniques and data other than normal data checks conducted prior to loading data into Ventyx's Geological data base by HDR.
Mineral tenement and land tenure status	<p>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.</p> <p>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.</p>	<p>Moreton Resources have been awarded the exploration concession for EPC 1445, a large portion of which is now held under MDL 503. Both leases cover an area of 22 km<sup>2</sup>. A digital version of this concession boundary was provided to HDR via a data pack from Moreton Resources.</p> <p>HDR has checked this tenure against the Queensland Government Mines Online website and found the tenure size and tenure period to be correct as quoted in this report.</p>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<p>In 2010 Bow Energy Ltd. drilled a series of exploration holes within the overlapping tenement, EPP 1025, for the measurement of gas content, gas desorption and net coal thickness within the target formations of the Rangals and Fort Cooper Coal Measures. The drill holes reached a total depth of between 400 m and 700 m, intersecting the Aries seam between 181 to 294 m and the Pisces seam between 342 to 375 m.</p> <p>In 2013 Cougar Energy conducted a drilling programme. Six holes were drilled during the 2013 field program on three sites including two HQ size core holes, one redrill of the Aries seam, one rotary chip hole and two pilot holes. Although the main targets were the Aries, Pollux Upper and the Pisces seams, the Pollux Lower and Castor seams were also sampled in some holes.</p> <p>Both sets of drill holes were used by Cougar Energy to determine an Inferred Coal Resource of 201 Mt in 2013.</p>
Geology	Deposit type, geological setting and style of mineralisation.	Coal, Bowen Basin Late Permian Rangal Coal Measures, sedimentary type deposit. Structurally the Mackenzie Project

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		<p>lies east of Dingo Fold Belt/Jellinbah Thrust Belt to the west. The majority of the faults dip at shallow angles to the east and sole out within the Permian sediments, as bedding-plane shears in the weaker lower coal seams (Sliwa, R., Hamilton, S., Hodgkinson, J., Draper, J., 2008).</p> <p>The Jellinbah Fault defines the western margin of the Jellinbah Thrust Belt and runs approximately 4 km to the north-west of EPC1445 where the Rangal Coal Measures are uplifted to the east.</p> <p>The Yarrabee thrust fault is just outside the eastern boundary of the tenement and runs approximately one to 4 km north east of the EPC, where the Rangal Coal Measures are uplifted to the east of the fault, and deeper to the west of the fault.</p>																																																																																																														
Drill hole information	<p>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:</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>	<table border="1"> <thead> <tr> <th>BH Number</th> <th>X</th> <th>Y</th> <th>Z</th> <th>Depth</th> </tr> </thead> <tbody> <tr><td>MCK001P</td><td>701683.780</td><td>7421091.655</td><td>128.404</td><td>420</td></tr> <tr><td>MCK002P</td><td>701839.010</td><td>7417715.879</td><td>143.893</td><td>447</td></tr> <tr><td>MCK003P</td><td>701730.860</td><td>7419508.774</td><td>135.772</td><td>432</td></tr> <tr><td>MCK003PR</td><td>701727.240</td><td>7419508.265</td><td>135.702</td><td>432</td></tr> <tr><td>MCK004C</td><td>702337.180</td><td>7420854.592</td><td>134.247</td><td>444.9</td></tr> <tr><td>MCK005C</td><td>701809.070</td><td>7420364.898</td><td>133.061</td><td>372.42</td></tr> <tr><td>MCK005CR</td><td>701811.600</td><td>7420365.866</td><td>133.201</td><td>320.7</td></tr> <tr><td>MCK006C</td><td>702583.300</td><td>7419650.206</td><td>139.073</td><td>405.71</td></tr> <tr><td>MCK006P</td><td>702581.900</td><td>7419647.976</td><td>139.016</td><td>399</td></tr> <tr><td>MCK007C</td><td>701825.140</td><td>7417033.978</td><td>141.515</td><td>417.4</td></tr> <tr><td>MCK007CR</td><td>701824.540</td><td>7417032.317</td><td>141.463</td><td>345.3</td></tr> <tr><td>MCK008C</td><td>702553.290</td><td>7417864.415</td><td>140.450</td><td>450.31</td></tr> <tr><td>MCK008CR</td><td>702551.500</td><td>7417865.008</td><td>140.501</td><td>438.4</td></tr> <tr><td>MCK009C</td><td>701553.950</td><td>7418537.798</td><td>139.199</td><td>200.000</td></tr> <tr><td>MCK009CR</td><td>701554.220</td><td>7418539.729</td><td>139.217</td><td>433.5</td></tr> <tr><td>MCK009CR2</td><td>701553.930</td><td>7418542.601</td><td>139.216</td><td>435.36</td></tr> <tr><td>MCK010C</td><td>703308.260</td><td>7415357.700</td><td>141.456</td><td>435.5</td></tr> <tr><td>MCK011C</td><td>704042.950</td><td>7416562.300</td><td>137.248</td><td>481.85</td></tr> <tr><td>MCK012C</td><td>703246.240</td><td>7417293.930</td><td>137.288</td><td>417.5</td></tr> <tr><td>MCK012CR</td><td>703245.420</td><td>7417291.970</td><td>137.340</td><td>384.4</td></tr> <tr><td>MCK013C</td><td>703449.740</td><td>7417938.230</td><td>136.864</td><td>414.4</td></tr> </tbody> </table> <p>The table above provides all information pertaining to holes recently drilled except of dip and azimuth. Dip and azimuth of holes is not provided due to space constraints and due to the fact that it is not considered material to the understanding of this report. All holes drilled are sub-vertical and deviations from the vertical during drilling do not result in displacement of the end of hole from the collar in plan view, by more than around 70 m, over drilled depths of over 400 m in most cases.</p>	BH Number	X	Y	Z	Depth	MCK001P	701683.780	7421091.655	128.404	420	MCK002P	701839.010	7417715.879	143.893	447	MCK003P	701730.860	7419508.774	135.772	432	MCK003PR	701727.240	7419508.265	135.702	432	MCK004C	702337.180	7420854.592	134.247	444.9	MCK005C	701809.070	7420364.898	133.061	372.42	MCK005CR	701811.600	7420365.866	133.201	320.7	MCK006C	702583.300	7419650.206	139.073	405.71	MCK006P	702581.900	7419647.976	139.016	399	MCK007C	701825.140	7417033.978	141.515	417.4	MCK007CR	701824.540	7417032.317	141.463	345.3	MCK008C	702553.290	7417864.415	140.450	450.31	MCK008CR	702551.500	7417865.008	140.501	438.4	MCK009C	701553.950	7418537.798	139.199	200.000	MCK009CR	701554.220	7418539.729	139.217	433.5	MCK009CR2	701553.930	7418542.601	139.216	435.36	MCK010C	703308.260	7415357.700	141.456	435.5	MCK011C	704042.950	7416562.300	137.248	481.85	MCK012C	703246.240	7417293.930	137.288	417.5	MCK012CR	703245.420	7417291.970	137.340	384.4	MCK013C	703449.740	7417938.230	136.864	414.4
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Data aggregation methods	<p>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations and cut-off grades are usually material and should be stated.</p> <p>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.</p>	<p>Clean Coal Composite sample results have been composited over full seam thickness using length and density weighting.</p> <p>Raw coal quality reported on a sample by sample (non-aggregated) basis. Care is taken to prevent sampling gaps within the seam with the unavoidable exception of core loss. No metal equivalents used.</p>																																																																																																														

Criteria	Explanation	Comment
	<p>The assumptions used for any reporting of metal equivalent values should be clearly stated.</p>	
<p>Relationship between mineralisation widths and intercept lengths</p>	<p>These relationships are particularly important in the reporting of Exploration Results.</p> <p>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</p> <p>If it is not known and only the down-hole lengths are reported, there should be a clear statement to this effect (e.g. 'downhole length, true width not known').</p>	<p>The orientation of drilling/sampling (sub-vertical) is not seen to introduce any bias as all drilling is vertical and seams mostly gently dipping.</p>
<p>Diagrams</p>	<p>Where possible, maps and sections (with scales) and tabulations of intercepts should be included for any material discovery being reported if such diagrams significantly clarify the report.</p>	<p>See figures in this report</p>
<p>Balanced reporting</p>	<p>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practised to avoid misleading reporting of Exploration Results.</p>	<p>All exploration results pertaining to holes drilled during Phase 2 drilling at Mackenzie have been fully reported by HDR in this report. Holes drilled previously (Phase 1) have been reported in previous ASX releases by Cougar Energy.</p>
<p>Other substantive exploration data</p>	<p>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.</p>	<p>Geotechnical logging, sampling and testing from the overburden, interburden, seam roof/floor and coal (such as defect logging, field point load testing and laboratory testing) has been undertaken.</p>
<p>Further work</p>	<p>The nature and scale of planned further work</p>	<p>Additional detailed exploration work inclusive of additional</p>

Criteria	Explanation	Comment
	(e.g.. tests for lateral extensions or depth extensions or large-scale step-out drilling).	drilling and detailed 3D seismic surveys will be required to increase confidence in local estimates of tonnes and coal quality.
Database integrity	<p>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.</p> <p>Data validation procedures used.</p>	<p>HDR was contracted to provide database management services to the project. Corrected lithological logs (which includes sampling information) were provided to the HDR database geologist, along with geophysical logs, core photos and defect sheets. This information was imported into a Minescape GDB database. Seam picks were verified against geophysics and core photos and corrections made where appropriate.</p> <p>Corrected sample sheets were produced and actual core recoveries over the seam interval calculated. Where recoveries per seam exceeded 90%, requests for analysis (RFA's) were compiled and sent to ALS for Stage 1 (raw ply), Stage 2 (float sink) and Stage 3 (clean coal comp) testing.</p> <p>Results were received back from the laboratory, loaded into GDB and values out of expected ranges were flagged and queried with the laboratory.</p> <p>During resource estimation, seam picks and coal quality data was exported from GDB into csv format. This data was imported into Datamine where the Holes3d (combine lith and sample tables) and Compdh (produce seam coal quality composites) routines were run. This process was able to identify a few instances of incorrect sample intervals and outlier values for sulphur and CV. These errors were amended and a final seam composite table produced. Seam composites imported into SGeMS geostatistical modelling software to produce histograms of seam thickness and raw ash. These histograms were evaluated and outlier values identified and removed. In the case of raw ash histograms, outlier values associated with low percentage sampling over the seam width were identified and removed. In some instances low percentage sampling was shown not to be associated with anomalous raw ash and in these instances these samples were not removed.</p> <p>After completion of these data validation processes, data was considered acceptable for resource estimation purposes and imported into Minescape for 3D seam modelling and coal quality gridding.</p>
Site Visits	<p>Site Visits undertaken by the Competent Person and the outcome of these visits.</p> <p>If no site visits have been undertaken, indicate why this is the case</p>	<p>Craig Williams, geologist and Competent Person for the Resource visited the site from 8 October to 9 October, 2014.</p> <p>The site visit entailed observation of coal logging and sampling practice during drilling and coring of hole MCK004C. Field logging and sampling standards are considered acceptable and meet current industry standard practice.</p>

Criteria	Explanation	Comment
Geological interpretation	<p>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</p> <p>Nature of the data used and of any assumptions made.</p> <p>The effect, if any, of alternative interpretations on Mineral Resource estimation.</p> <p>The use of geology in guiding and controlling Mineral Resource estimation.</p> <p>The factors affecting continuity both of grade and geology.</p>	<p>The main data sources used in the estimate are the seam picks, which in turn are based on down hole geophysical logging, and coal quality testing for both raw and product coal qualities and yields. Other data sources relied upon include the latest regional structural geological interpretation for the Bowen Basin which shows a major regional thrust zone passes through the tenement in a NNw –SSE direction (considered to be part of the Jellinbah Thrust Belt).</p> <p>Confidence in the seam correlations is considered high as they are based on geophysics and confirmed and refined by 3D modelling. The current drilling density is considered sufficient for seam thickness and coal quality and has been confirmed with geostatistics. However confidence in the position of faults is not high as the drilling density is not able to definitively identify fault positions. The exceptions to this are the two fault intersections in drill holes 12C and 7C as the intersection of faults in these holes is considered definitive based on fault repeats in the case of 12C and fault loss in the case of 7C. Lack of confidence in the position of faults impacts on the confidence in seam elevation which is considered to be low to moderate at best. This is the main reason why to Measured Resources have been classified for the project. Additional data in terms of seismic surveys will need to be collected to confirm fault positions.</p>
Dimensions	<p>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.</p>	<p>See figures in report.</p> <p>Target seams for the Resource (Aries, Castor and Pollux) extent over a strike length or around 10 km in the NNE direction across both the EPC and MDL. Across strike width is around 3.7 km at its widest point. Target seams are found at depths of between 210 m and 480 m below surface.</p>
Estimation and modelling techniques	<p>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.</p> <p>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</p> <p>The assumptions made regarding recovery of by-products.</p> <p>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</p> <p>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</p> <p>Any assumptions behind modelling of</p>	<p>The FEM interpolator used for surface elevation and thickness and the Planar interpolator for trend. The Inverse distance squared interpolator used for coal quality throughout.</p> <p>Based on experience gained in the modelling of over 40 coal deposits around the world, the FEM interpolator is considered to be the most appropriate for structure and inverse distance the most appropriate for coal quality. Given the structural complexity of this deposit, the Planar interpolator was considered more appropriate for trend.</p> <p>Grid cell sizes of 25 m for the topographic model, 100 m for the structural model and 100 m for the coal quality model were used.</p> <p>A previous estimate has been made over the deposit by Xenith Consulting. This estimate is in broad agreement with the previous estimate.</p> <p>No block model was used – all calculation based on grids.</p> <p>No assumptions made regarding correlation or selective mining units.</p> <p>Visual validation of all model grids performed to ensure no extreme values have influenced any of the grids. The entire</p>

Criteria	Explanation	Comment
	<p>selective mining units.</p> <p>Any assumptions about correlation between variables.</p> <p>Description of how the geological interpretation was used to control the resource estimates.</p> <p>Discussion of basis for using or not using grade cutting or capping.</p> <p>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</p>	<p>deposit is considered a single domain for each seam in terms of seam thickness and coal quality. Several structural domains for seam elevation exist due to faulting and this is modelled by the estimation of fault positions from available drilling information.</p>
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages are estimated on the basis of Insitu density using the Preston Sanders formula. In situ moistures calculated from MHC data using a formula recommended by ACARP report C10041.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	<p>Resources based on a minimum seam thickness of 1 m, seen to be the minimum economically exploitable seam thickness for underground coal mining in Australia. In addition to this an average interburden of over 10 m and a minimum interburden of 10 m for seams with a greater than 10 m average interburden was used to classify coal seams as Coal Resources, as seams closer than this are not considered to be economically exploitable for underground coal mining in Australia.</p> <p>No coal quality cut-off parameters have been applied as resource averages are considered to be within acceptable limits. Clean Coal Comp yields for some seams are as low as around 30% but on average these same seams have yields of around 50%, therefore it is considered that there is an opportunity to blend low yielding areas. There is also the option to wash the coal at higher densities for these seams to produce a thermal product instead of the targeted PCI product.</p> <p>Coal quality cut-offs for resource classification have been applied in a general sense in the case of the Pisces seams. The Pisces Upper (PIU) seam is of acceptable quality however it is contiguous with the Yarrabee Tuff (YT) and underground mining of the PIU with the YT as a floor is not considered feasible. The PIU would need to be taken together with the Pisces lower seam (PIL) with the Yarrabee Tuff between these two seams taken as well. This would result in a mining section which is too high ash to be economic and hence the Pisces seams have not been included in the Coal resource.</p> <p>An approximate 40 m buffer zone around the modelled position of major faults has been used to exclude coal from the Coal Resource estimate. This is done due to the fact that coal</p>

Criteria	Explanation	Comment
		<p>within heavily faulted areas is unlikely to be mined.</p> <p>Coal seams which do not meet the above criteria, designed to meet the JORC Code (2012) requirement that Coal Resources have demonstrated prospects of eventual economic extraction, have been included in the Inventory Coal Estimate. According to JORC Code (2012) guidelines the amount of Inventory Coal cannot be publicly reported.</p>
Mining factors or assumptions	<p>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It may not always be possible to make assumptions regarding mining methods and parameters when estimating Mineral Resources. Where no assumptions have been made, this should be reported.</p>	<p>Apart from the above cut-offs applied, not considered relevant to Coal Resource estimation.</p>
Metallurgical factors or assumptions	<p>The basis for assumptions or predictions regarding metallurgical amenability. It may not always be possible to make assumptions regarding metallurgical treatment processes and parameters when reporting Mineral Resources. Where no assumptions have been made, this should be reported.</p>	<p>Clean Coal Composite testing results are indicative of a low volatile PCI product coal quality with low volatile contents ranging between 12-16% and product ash contents below 10%. In some areas of the ARU seam, CSN values in the CCC seam composite data of up to 5.0 (Product CSN of 2.0 on average for the ARU) may make a semi-soft product possible as well.</p> <p>In the case of first hole submitted for coal quality, MCK004C, clean coal comps were made from F1.4 density fractions for both the course (+2mm) and fine (+0.125 mm) fractions. On advice from metallurgical consulting firm Protocoal, all subsequent clean coal comps were made from a course fraction F1.4 and a fine fraction F1.6 mixture. This is due to the fact that the F1.6 density cut-off is more realistic compared to what is actually achievable in a coal prep plant for the fine coal (-2mm) fraction. Protocoal provided an adjustment of the existing lab F1.4/F1.4 clean coal comp data for this hole to an estimated yield and ash for a F1.4/F1.6 course and fine CCC mix. This was done so that all CCC data used in the estimate is based on the same CCC mixture parameters.</p>
Environmental	<p>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 greenfield 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.</p>	<p>HDR has not conducted any environmental assessment in the concession area and has not taken any environmental factors into account when estimating the Coal Resource.</p>

Criteria	Explanation	Comment
Bulk density	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.	See discussion on density with regard to moisture basis.
Classification	<p>The basis for the classification of the Mineral Resources into varying confidence categories.</p> <p>Whether appropriate account has been taken of all relevant factors i.e. relative confidence in tonnage/grade computations, confidence in continuity of geology and metal values, quality, quantity and distribution of the data.</p> <p>Whether the result appropriately reflects the Competent Person(s)' view of the deposit.</p>	<p>Resource Classification is based on an assessment of the variability of critical variables (raw ash% and seam thickness) through statistical analysis, geostatistical analysis and by an assessment of the degree of geological complexity (general seam dip and structure).</p> <p>A limited geostatistical study, which looked at the spatial continuity of the composite raw ash% and seam thickness of one of the main seams in the resource (PLU), was conducted to identify the relationship between data spacing and confidence in the estimate.</p> <p>Results from the variography and population statistics for the PLU seam thickness were used to perform a Drill Hole Spacing Analysis (DHSA) study. Seam thickness was used over Raw ash% as the population statistics and variography show thickness to exhibit a lower degree of continuity than raw ash% over the deposit. Hence seam thickness is likely to have higher associated estimation errors than raw ash% and hence the most variable critical variable has been used to classify the resource.</p> <p>This study shows that the relative error in the estimation of seam thickness for this seam is likely to be in the order of up to 20% for a spacing of up to 1000 m and up to 50% for a spacing of up to 2000 m, on a global basis over a 5 year mining period, assuming a production rate of around 5 Mtpa (Note this assumed production rate is a rough estimate for the purpose of the DHSA and should in no way be used for reserving or valuation purposes).</p> <p>It is considered on this basis that the following distances between points of observation should be used for resource classification purposes:</p> <ul style="list-style-type: none"> <li>• Indicated: 1000m</li> <li>• Inferred: 2000m</li> </ul> <p>Due to uncertainty in the seam elevation, due to the low to medium level of confidence in the position of faults within the tenements, it is considered that up to a 10% level of relative error in terms of tonnage and quality is not achievable at the present time. For this reason, no Measured Resources have been estimated. Due to uncertainty in fault positions and associated seam elevations, structural points of observation were not used to define Indicated Resources across major faulted block domains in the model. At least 3 structural points of observation were required to be present in a faulted block in order to allow for Indicated Resources to be defined within that structural block.</p> <p>The data spacing ranges for the other two resource categories (Indicated and Inferred) are considered to adequately reflect the current degree of confidence in the underlying estimate of</p>

Criteria	Explanation	Comment
		tonnes and coal quality on a global basis using the data provided to date. However, significant local variation to estimated values may arise which should be addressed by adequate grade control procedures, additional surface drilling and or detailed seismic surveys.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	No audits or reviews of this estimate have been done to date.
Discussion of relative accuracy/confidence	<p>Where appropriate a statement of the relative accuracy and/or confidence 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 which could affect the relative accuracy and confidence of the estimate.</p> <p>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages or volumes, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</p> <p>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</p>	<p>Results from the variography and population statistics for the PLU seam thickness were used to perform a Drill Hole Spacing Analysis (DHSA) study. This study shows that the relative error in the estimation of seam thickness for this seam is likely to be in the order of up to 20% for a spacing of up to 1000 m and up to 50% for a spacing of up to 2000 m, on a global basis over a 5 year mining period, assuming a production rate of around 5 Mtpa (Note this assumed production rate is a rough estimate for the purpose of the DHSA and should in no way be used for reserving or valuation purposes).</p> <p>There is considered to be additional uncertainty in the estimate resulting from the low to medium level of confidence in the position of faults within the tenements. This is considered to preclude the ability to achieve estimates of tonnage and quality within a relative error of 10% on a global basis. Global relative estimation errors of 10% and above are considered achievable on a global basis based on the results of the DHSA study conducted. However significant local tonnage and quality variation above the predicted global maximum of 20% for Indicated Resources is possible as relative errors are based on average errors over a 5 year mining period (25 Mt of production). Additional detailed exploration work inclusive of additional drilling and detailed 3D seismic surveys will be required to increase confidence in local estimates of tonnes and coal quality.</p>

## 2 Independent Competent Persons and Experts Statement

The information in the report, to which this Statement is attached, that relates to the Exploration Results and Coal Resources of the Mackenzie Project, is based on information compiled and reviewed by Mr Craig Williams , who is a Member of the Australian Institute of Mining & Metallurgy and works full time for Salva Resources Pty Ltd (“HDR”).

Mr Williams, a Principal Geologist and full-time employee of HDR, has sufficient experience that is relevant to the styles of mineralisation under consideration and to the activities 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” (the JORC Code).



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Principal Consultant - Geology

HDR

The above mentioned person(s) have no interest whatsoever in the mining assets reviewed and will gain no reward for the provision of this Coal Resource Statement.